

# Operator panels



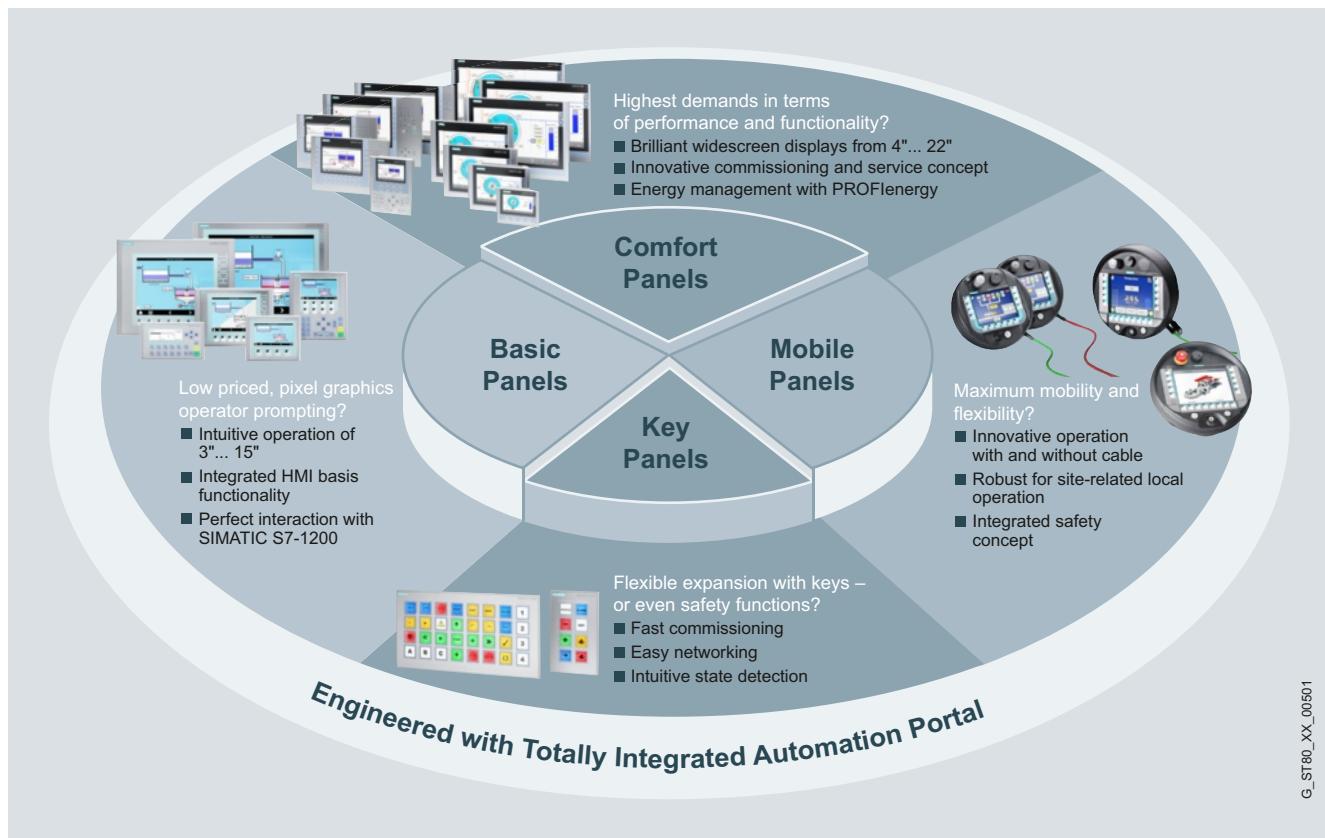
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# Operator panels

## Introduction

### Introduction

#### Overview



A finely graded range of HMI devices is available for local operator control and monitoring: From Key Panels and Basic Panels to Comfort Panels and Mobile Panels. HMI devices with all-round IP65/NEMA 4 protection for distributed configurations are available for applications with especially high requirements with regard to ruggedness.

#### Key Panels

Key Panels (KP) are the innovative alternative to conventionally wired operator keypads. Supplied pre-assembled and ready for installation, the bus-compatible operator panels are the key to drastically reducing wiring times when compared with conventional methods.

#### Basic Panels

Basic Panels offer basic HMI functionality for small machines and applications. They are available in 3" and 4" sizes as a pure Key Panel (KP), from 4" to 10" with touch screen and additional keys (KTP), and as a pure Touch Panel (TP) in size 15". Variants can be selected for connection to PROFINET/Ethernet or PROFIBUS DP/MPI.

#### Comfort Panels

Comfort Panels offer high-end functionality for demanding applications. They offer high-resolution widescreen displays in sizes from 4" to 22", alternatively for touch screen operation (TP) or key operation (KP). In size 4" also with touch screen and additional keys (KTP).

The Comfort Panels are equipped with PROFINET/Ethernet as well as PROFIBUS DP/MPI interfaces.

#### Mobile Panels

The portable operator panels facilitate operator control and monitoring at the actual scene of the event with direct access and visual contact to the process. They provide simple and safe reconnection during operation (Mobile Panel 177 and Mobile Panel 277) or wireless freedom (Mobile Panel 277 (F) WLAN) and can therefore be used flexibly on a machine or system.

### Introduction

#### Overview (continued)

##### **Rugged and compact for use at machine level**

With IP65/NEMA 4 degree of protection at the front, high EMC and extreme vibration resistance, the SIMATIC HMI operator panels are ideally suited for use at machine level in rough industrial environments. Thanks to their compact design with a shallow mounting depth, the stationary HMI devices can be fitted anywhere, even where only restricted space is available. For distributed configurations, there are also devices available with all-round IP65/NEMA 4 protection.

The extremely rugged and shock-proof enclosure with degree of protection IP65 makes the Mobile Panels especially suitable for industrial applications. Their low weight and ergonomic design means that they are user-friendly and easy to operate.

##### **One configuration software for everything**

SIMATIC WinCC (TIA Portal) is a tool for the uniform configuration of all SIMATIC HMI Panels as well as PC-based systems. Graded variants are available for every task. The software permits simple and efficient configuration. Programming experience is not required.

Once created, configurations can be reused within the family.

##### **Component of Totally Integrated Automation**

Siemens provides the complete modular system of matched components for automation solutions from one source and — with Totally Integrated Automation — one of the most globally successful automation concepts. SIMATIC WinCC (TIA Portal) is an integral component of this world. It offers crucial advantages. Thanks to the triple uniformity in configuration/programming, data management and communication, automation solution engineering costs are significantly reduced.

##### **Open for a wide variety of automation systems**

Despite being consistently incorporated into the SIMATIC world, the Panels are nevertheless open for connection to PLCs from many different vendors. The standard delivery includes a comprehensive range of user-friendly drivers.

##### **Innovative operator control and monitoring**

The SIMATIC HMI Panels facilitate innovative operator control and monitoring combined with ruggedness, stability and simplicity. On the Comfort Panels in particular, standard hardware and software interfaces, e.g. the Multimedia Card/SD Card, USB, Ethernet, PROFIBUS DP and Visual Basic scripts, provide more flexibility and openness as well as access to the office world.

##### **Worldwide application**

The SIMATIC HMI Panels are ideally equipped for global use. Online language switching permits selection of up to 32 languages during operation simply by pressing a button. The wide variety available also includes, for example, Asian logographic languages (Chinese, Taiwanese, Korean, Japanese) or Russian. The configuration interface of WinCC (TIA Portal) including the online help and the complete documentation is also multilingual. Up to 32 languages can be used in one project. And all this is complemented by global service and support from Siemens.

# Operator panels

## Introduction

### Introduction

#### Overview (continued)

##### **Configuration at a Glance**

| WinCC (TIA Portal) engineering software |                 |                 |                 |                 |
|---|-----------------|-----------------|-----------------|-----------------|
|   | Basic           | Comfort         | Advanced        | Professional    |
| <b>Basic Panels</b>                     |                 |                 |                 |                 |
| KP300 Basic                             | •               | •               | •               | •               |
| KTP400 Basic mono PN                    | •               | •               | •               | •               |
| KTP400/KP400 Basic color PN             | • <sup>2)</sup> | • <sup>2)</sup> | • <sup>2)</sup> | • <sup>2)</sup> |
| KTP600 Basic                            | •               | •               | •               | •               |
| KTP1000 Basic                           | •               | •               | •               | •               |
| TP1500 Basic                            | •               | •               | •               | •               |
| <b>Comfort Panels</b>                   |                 |                 |                 |                 |
| KTP400/KP400 Comfort                    |                 | •               | •               | •               |
| TP700/KP700 Comfort                     |                 | •               | •               | •               |
| TP900/KP900 Comfort                     |                 | •               | •               | •               |
| TP1200/KP1200 Comfort                   |                 | •               | •               | •               |
| TP1500/KP1500 Comfort                   |                 | • <sup>2)</sup> | • <sup>2)</sup> | • <sup>2)</sup> |
| TP1900 Comfort                          |                 | • <sup>2)</sup> | • <sup>2)</sup> | • <sup>2)</sup> |
| TP2200 Comfort                          |                 | • <sup>2)</sup> | • <sup>2)</sup> | • <sup>2)</sup> |
| <b>Mobile Panels</b>                    |                 |                 |                 |                 |
| Mobile Panel 177                        |                 | •               | •               | •               |
| Mobile Panel 277                        |                 | •               | •               | •               |
| Mobile Panel 277(F) WLAN                |                 | • <sup>3)</sup> | • <sup>3)</sup> | • <sup>3)</sup> |
| <b>Panels – 70 series</b>               |                 |                 |                 |                 |
| OP73                                    |                 | •               | •               | •               |
| OP77A                                   |                 | •               | •               | •               |
| OP77B                                   |                 | •               | •               | •               |
| <b>Panels – 170 series</b>              |                 |                 |                 |                 |
| TP 177A                                 |                 | •               | •               | •               |
| TP/OP 177B                              |                 | •               | •               | •               |
| <b>Panels – 270 series</b>              |                 |                 |                 |                 |
| TP 277/OP 277                           |                 | •               | •               | •               |
| <b>Multi Panels – 170 series</b>        |                 |                 |                 |                 |
| MP 177                                  |                 | •               | •               | •               |
| <b>Multi Panels – 270 series</b>        |                 |                 |                 |                 |
| MP 277                                  |                 | •               | •               | •               |
| <b>Multi Panels – 370 series</b>        |                 |                 |                 |                 |
| MP 377                                  |                 | •               | •               | •               |
| <b>WinAC MP</b>                         |                 |                 |                 |                 |
| WinAC MP 177                            |                 | • <sup>1)</sup> | • <sup>1)</sup> | • <sup>1)</sup> |
| WinAC MP 277                            |                 | • <sup>1)</sup> | • <sup>1)</sup> | • <sup>1)</sup> |
| WinAC MP 377                            |                 | • <sup>1)</sup> | • <sup>1)</sup> | • <sup>1)</sup> |

• Possible

<sup>1)</sup> from WinCC (TIA Portal) V11 SP1

<sup>2)</sup> from WinCC (TIA Portal) V11 SP2 Update 2

<sup>3)</sup> from WinCC (TIA Portal) V11 SP2

### Introduction

#### Overview (continued)

| WinCC flexible engineering software |       |                 |                    |                    |
|-------------------------------------|-------|-----------------|--------------------|--------------------|
|                                     | Micro | Compact         | Standard           | Advanced           |
| <b>Basic Panels</b>                 |       |                 |                    |                    |
| KTP400 Basic mono PN                |       | • <sup>5)</sup> | • <sup>5)</sup>    | • <sup>5)</sup>    |
| KTP600 Basic                        |       | • <sup>5)</sup> | • <sup>5)</sup>    | • <sup>5)</sup>    |
| KTP1000 Basic                       |       | • <sup>4)</sup> | • <sup>4)</sup>    | • <sup>4)</sup>    |
| TP1500 Basic                        |       | • <sup>4)</sup> | • <sup>4)</sup>    | • <sup>4)</sup>    |
| <b>Mobile Panels</b>                |       |                 |                    |                    |
| Mobile Panel 177                    |       | • <sup>1)</sup> | • <sup>1)</sup>    | • <sup>1)</sup>    |
| Mobile Panel 277                    |       |                 | • <sup>2) 4)</sup> | • <sup>2) 4)</sup> |
| Mobile Panel 277(F) IWLAN           |       |                 | • <sup>3)</sup>    | • <sup>3)</sup>    |
| <b>Micro Panels</b>                 |       |                 |                    |                    |
| OP 73micro                          | •     | •               | •                  | •                  |
| TP 177micro                         | •     | •               | •                  | •                  |
| <b>Panels – 70 series</b>           |       |                 |                    |                    |
| OP 73                               |       | •               | •                  | •                  |
| OP 77A/B                            |       | •               | •                  | •                  |
| <b>Panels – 170 series</b>          |       |                 |                    |                    |
| TP 177A                             |       | •               | •                  | •                  |
| TP/OP 177B                          |       | • <sup>1)</sup> | • <sup>1)</sup>    | • <sup>1)</sup>    |
| <b>Panels – 270 series</b>          |       |                 |                    |                    |
| TP 277/OP 277                       |       |                 | • <sup>2)</sup>    | • <sup>2)</sup>    |
| <b>Multi Panels – 170 series</b>    |       |                 |                    |                    |
| MP 177                              |       | • <sup>5)</sup> | • <sup>4)</sup>    | • <sup>4)</sup>    |
| <b>Multi Panels – 270 series</b>    |       |                 |                    |                    |
| MP 277                              |       |                 | •                  | •                  |
| <b>Multi Panels – 370 series</b>    |       |                 |                    |                    |
| MP 377                              |       |                 | • <sup>3)</sup>    | • <sup>3)</sup>    |
| <b>WinAC MP</b>                     |       |                 |                    |                    |
| WinAC MP 177                        |       | • <sup>5)</sup> | • <sup>5)</sup>    | • <sup>5)</sup>    |
| WinAC MP 277                        |       |                 | • <sup>5)</sup>    | • <sup>5)</sup>    |
| WinAC MP 377                        |       |                 | • <sup>5)</sup>    | • <sup>5)</sup>    |

• Possible

1) WinCC flexible 2005 or higher and TP 177B 4" with WinCC flexible 2008 and higher

2) WinCC flexible 2005 SP1 and higher

3) WinCC flexible 2007 and higher: Mobile Panel 277(F) IWLAN V1; WinCC flexible 2008 SP2 and higher: Mobile Panel 277(F) IWLAN V2

4) WinCC flexible 2008 and higher

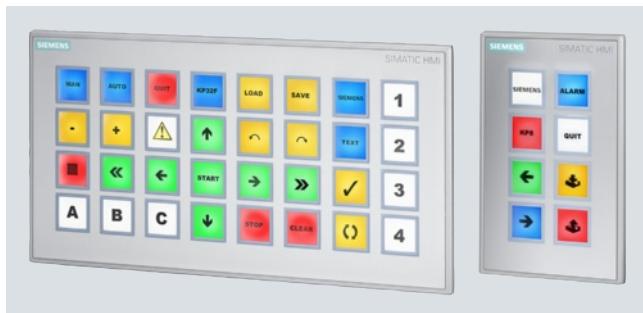
5) WinCC flexible 2008 SP1 and higher

# Operator panels

## Key Panels

### SIMATIC HMI KP8/KP8F/32F

#### Overview



SIMATIC HMI KP32F and HMI KP8



Empty front (similar to figure)



Empty front (similar to figure)

#### **SIMATIC HMI Key Panels**

- Optimum operability thanks to large mechanical keys and multi-colored LED backlighting (daylight readable)
- Over 60% time savings for wiring and installation (Plug&Play)
- More than 30% savings in material costs compared to conventional keypad operator panels
- 2 PROFINET ports (incl. switch) already integrated for setting up line and ring topologies
- Freely configurable digital I/Os on the rear for connecting key-operated switches, indicator lamps, etc.
- Connection of fail-safe emergency stop buttons or other fail-safe signals with KP8F and KP32F (in SIL2 or SIL3)
- Functionally compatible with all standard PROFINET master CPUs, also non-Siemens
- KP8 and empty front design, also optimized for installation in IPC Extension Units in IP65
- Maximum flexibility due to parameterization
- Empty front design for standardized assembly of flexible operator panels
- KP8 and empty front design, also optimized for installation in IPC Extension Units in IP66

### Technical specifications

|   | 6AV3688-3AY36-0AX0<br>SIMATIC HMI KP8 PN       | 6AV3688-3AF37-0AX0<br>SIMATIC HMI KP8F PN      | 6AV3688-3EH47-0AX0<br>SIMATIC HMI KP32F PN | 6AV3688-3XY38-3AX0<br>SIMATIC HMI<br>design empty front |
|---|--|--|--|---|
| <b>Control elements</b>                                 |  |  |  |   |
| With parameterizable keys                               | Yes  | Yes  | Yes  | No  |
| With key and signal lamp test                           | Yes; Automatically when switching on           | Yes; Automatically when switching on           | Yes; Automatically when switching on       | No  |
| Keyboard fonts  |  |  |  |   |
| • freely inscribable membrane keys                      | Yes  | Yes  | Yes  | No  |
| • Short stroke keys                                     |  |  |  |   |
| - Number of short-stroke keys                           | 8  | 8  | 32   | 0   |
| Expansions for operator control of the process          |  |  |  |   |
| • Number/LEDs   | 8  | 8  | 32   | 0   |
| • Number of color modes for LED                         | 5; Red, green, blue, white, yellow             | 5; Red, green, blue, white, yellow             | 5; Red, green, blue, white, yellow         | 0   |
| • Number/keys   | 8  | 8  | 32   | 0   |
| <b>Installation type/mounting</b>                       |  |  |  |   |
| Rack mounting possible                                  | No   | No   | No   | No  |
| Design/front/fastening                                  | Yes; Compatible with extension unit dimensions | Yes; Compatible with extension unit dimensions | Yes  | Yes; Compatible with extension unit dimensions          |
| Mounting rail installation possible                     | No   | No   | No   | No  |
| Wall mounting/direct mounting possible                  | No   | No   | No   | No  |
| Mounting in portrait format possible                    | Yes  | Yes  | Yes  | Yes   |
| Mounting in landscape format possible                   | Yes  | Yes  | Yes  | Yes   |
| Mounting technology                                     |  |  |  |   |
| • Clamp terminals                                       | Yes  | Yes  | Yes  | Yes   |
| Number of slots for command devices and signaling units | 0  | 0  | 0  | 5; Max. 5 possible                                      |
| <b>Supply voltage</b>                                   |  |  |  |   |
| Type of supply voltage                                  | DC   | DC   | DC   | external  |
| Rated voltage/DC  | 24 V   | 24 V   | 24 V                                       |   |
| permissible range, lower limit (DC)                     | 20.4 V   | 20.4 V   | 20.4 V                                     |   |
| permissible range, upper limit (DC)                     | 28.8 V   | 28.8 V   | 28.8 V                                     |   |
| <b>Type of output</b>                                   |  |  |  |   |
| LED colors  |  |  |  |   |
| • Red   | Yes  | Yes  | Yes  | No  |
| • Yellow  | Yes  | Yes  | Yes  | No  |
| • Green   | Yes  | Yes  | Yes  | No  |
| • white   | Yes  | Yes  | Yes  | No  |
| • blue  | Yes  | Yes  | Yes  | No  |
| <b>Digital inputs</b>                                   |  |  |  |   |
| Number/binary inputs                                    | 8; Max. 8 inputs and outputs (total)           | 8; Max. 32 inputs and outputs (total)          | 32; Max. 32 inputs and outputs (total)     | 0   |
| <b>Digital outputs</b>                                  |  |  |  |   |
| Number/binary outputs                                   | 8; Max. 8 inputs and outputs (total)           | 8; Max. 8 inputs and outputs (total)           | 16; Max. 32 inputs and outputs (total)     | 0   |
| Load "resistive"  | 100 mA   | 100 mA   | 100 mA                                     |   |
| Voltage (DC)  | 24 V; Non-isolated                             | 24 V; Non-isolated                             | 24 V; Non-isolated                         |   |
| Number of digital outputs                               |  |  |  |   |
| • Output current (per output) max.                      | 100 mA   | 100 mA   | 100 mA                                     |   |
| • Total current (per group), max.                       | 800 mA   | 800 mA   | 800 mA                                     |   |
| • Short-circuit protection                              | Yes  | Yes  | Yes  | No  |

# Operator panels

## Key Panels

### SIMATIC HMI KP8/KP8F/32F

#### Technical specifications (continued)

|   | <b>6AV3688-3AY36-0AX0<br/>SIMATIC HMI KP8 PN</b>                   | <b>6AV3688-3AF37-0AX0<br/>SIMATIC HMI KP8F PN</b>                  | <b>6AV3688-3EH47-0AX0<br/>SIMATIC HMI KP32F PN</b>                 | <b>6AV3688-3XY38-3AX0<br/>SIMATIC HMI<br/>design empty front</b> |
|---|--|--|--|--|
| <b>Interfaces</b>   |  |  |  |  |
| Supports protocol for PROFINET IO                                   |  |  |  |  |
| • Number of PROFINET interfaces                                     | 2; Incl. switch  | 2; Incl. switch  | 2; Incl. switch  | 0  |
| Industrial Ethernet   |  |  |  |  |
| • Number of industrial Ethernet interfaces                          | 2; For the construction of lines and rings without external switch | 2; For the construction of lines and rings without external switch | 2; For the construction of lines and rings without external switch | 0  |
| • Industrial Ethernet status LED                                    | 2; Per port  | 2; Per port  | 2; Per port  | 0  |
| • Number of ports of the integrated switch                          | 2; Per port  | 2; Per port  | 2; Per port  | 0  |
| <b>Protocols</b>  |  |  |  |  |
| PROFINET  | Yes; Incl. shared device   | Yes; Incl. shared device   | Yes; Incl. shared device   | No   |
| Supports protocol for PROFINET IO                                   | Yes  | Yes  | Yes  | No   |
| IRT supported   | Yes  | Yes  | Yes  | No   |
| MRP supported   | Yes  | Yes  | Yes  | No   |
| PROFINET CBA  | No   | No   | No   | No   |
| Supports protocol for PROFIsafe                                     | No   | Yes; Mode V2.0; 2 inputs can be used                               | Yes; Mode V2.0; 4 inputs can be used                               | No   |
| PROFIBUS  | No   | No   | No   | No   |
| <b>Test commissioning functions</b>                                 |  |  |  |  |
| Illuminant test   | Yes; During switch on  | Yes; During switch on  | Yes; During switch on  | No   |
| Pushbutton and lamp test  | Yes; During switch on  | Yes; During switch on  | Yes; During switch on  | No   |
| <b>EMC</b>  |  |  |  |  |
| Emission of radio interference acc. to EN 55 011                    |  |  |  |  |
| • Emission of radio interferences acc. to EN 55 011 (limit class A) | Yes; Group 1, measured at a distance of 10 m                       | Yes; Group 1, measured at a distance of 10 m                       | Yes; Group 1, measured at a distance of 10 m                       | No   |
| • Emission of radio interference acc. to EN 55 011 (limit class B)  | No   | No   | No   | No   |
| <b>Degree and class of protection</b>                               |  |  |  |  |
| Type of protection  | IP20   | IP20   | IP20   | IP20   |
| IP (at the front)   | IP65   | IP65   | IP65   | IP65   |
| Enclosure type 4x at the front                                      | Yes; Incl. NEMA12  | Yes; Incl. NEMA12  | Yes; Incl. NEMA12  | No   |
| <b>Standards, approvals, certificates</b>                           |  |  |  |  |
| CE  | Yes  | Yes  | Yes  | Yes  |
| KC approval   | Yes  | Yes  | Yes  | No   |
| cULus   | Yes  | Yes  | Yes  | No   |
| C-TICK  | Yes  | Yes  | Yes  | No   |
| GL  | No   | No   | No   | No   |
| ABS   | No   | No   | No   | No   |
| BV  | No   | No   | No   | No   |
| DNV   | No   | No   | No   | No   |
| LRS   | No   | No   | No   | No   |
| Class NK  | No   | No   | No   | No   |
| PRS   | No   | No   | No   | No   |
| Suitable for safety functions                                       | No   | Yes  | Yes  | Yes; e.g. installation of emergency stop                         |
| Use in hazardous areas  |  |  |  |  |
| • ATEX Zone 2   | Yes  | Yes  | No; On request   | No   |
| • ATEX Zone 22  | Yes  | Yes  | No; On request   | No   |
| • cULus Class I Zone 1  | No   | No   | No   | No   |
| • cULus Class I Zone 2, Division 2                                  | Yes  | Yes  | Yes  | No   |
| • FM Class I Division 2   | Yes  | Yes; Available soon  | Yes  | No   |

**Technical specifications (continued)**

|   | <b>6AV3688-3AY36-0AX0<br/>SIMATIC HMI KP8 PN</b> | <b>6AV3688-3AF37-0AX0<br/>SIMATIC HMI KP8F PN</b> | <b>6AV3688-3EH47-0AX0<br/>SIMATIC HMI KP32F PN</b> | <b>6AV3688-3XY38-3AX0<br/>SIMATIC HMI<br/>design empty front</b> |
|---|--|---|--|--|
| <b>Ambient conditions</b>   |  |   |  |  |
| Mounting position   | vertical   | vertical  | vertical   | Any  |
| maximum permissible angle of inclination without external ventilation | 30°; To the front/rear                           | 30°; To the front/rear                            | 30°; To the front/rear                             | 180°; To the front/rear  |
| Operating temperature   |  |   |  |  |
| • Operating temperature range, max.                                   | 55 °C  | 55 °C   | 55 °C  | 55 °C  |
| • Operating temperature range, min.                                   | 0 °C   | 0 °C  | 0 °C   | 0 °C   |
| • Operation (vertical installation)                                   |  |   |  |  |
| - in vertical mounting position/ minimum                              | 0 °C   | 0 °C  | 0 °C   | 0 °C   |
| - in vertical mounting position/ maximum                              | 55 °C  | 55 °C   | 55 °C  | 55 °C  |
| • Operation (max. tilt angle)   |  |   |  |  |
| - at maximum tilt angle/ minimum                                      | 0 °C   | 0 °C  | 0 °C   | 0 °C   |
| - at maximum tilt angle/ maximum                                      | 45 °C  | 45 °C   | 45 °C  | 45 °C  |
| • Operation (vertical installation, portrait format)                  |  |   |  |  |
| - in vertical mounting position/ minimum                              | 0 °C   | 0 °C  | 0 °C   | 0 °C   |
| - in vertical mounting position/ maximum                              | 45 °C  | 45 °C   | 45 °C  | 45 °C  |
| • Operation (max. tilt angle, portrait format)                        |  |   |  |  |
| - at maximum tilt angle/ minimum                                      | 0 °C   | 0 °C  | 0 °C   | 0 °C   |
| - at maximum tilt angle/ maximum                                      | 45 °C  | 45 °C   | 45 °C  | 45 °C  |
| Storage/transport temperature   |  |   |  |  |
| • Min.  | -20 °C   | -20 °C  | -20 °C   | -20 °C   |
| • max.  | 60 °C  | 60 °C   | 60 °C  | 60 °C  |
| Relative humidity   |  |   |  |  |
| • max. relative humidity  | 95 %   | 95 %  | 95 %   | 95 %   |
| <b>Configuration</b>  |  |   |  |  |
| Configuration software  |  |   |  |  |
| • STEP 7 Basic (TIA Portal)   | Yes  | Yes   | Yes  | No   |
| • STEP 7 Professional (TIA Portal)                                    | Yes  | Yes   | Yes  | No   |
| <b>Functionality under WinCC (TIA Portal)</b>                         |  |   |  |  |
| Process coupling  |  |   |  |  |
| • S7-1200   | Yes  | Yes   | Yes  | Yes  |
| • S7-1500   | Yes  | Yes   | Yes  | Yes  |
| • S7-200  | No   | No  | No   | No   |
| • S7-300/400  | Yes  | Yes   | Yes  | Yes  |
| • LOGO!   | No   | No  | No   | No   |
| • Win AC  | Yes  | Yes   | Yes  | Yes  |
| • SINUMERIK   | No   | No  | No   | No   |
| • SIMOTION  | No   | No  | No   | No   |
| • Allen Bradley (EtherNet/IP)   | No   | No  | No   | No   |
| • Allen Bradley (DF1)   | No   | No  | No   | No   |
| • Mitsubishi (MC TCP/IP)  | No   | No  | No   | No   |
| • Mitsubishi (FX)   | No   | No  | No   | No   |
| • OMRON (FINS TCP)  | No   | No  | No   | No   |
| • OMRON (LINK/Multilink)  | No   | No  | No   | No   |
| • Modicon (Modbus TCP/IP)   | No   | No  | No   | No   |
| • Modicon (Modbus)  | No   | No  | No   | No   |

# Operator panels

## Key Panels

### SIMATIC HMI KP8/KP8F/32F

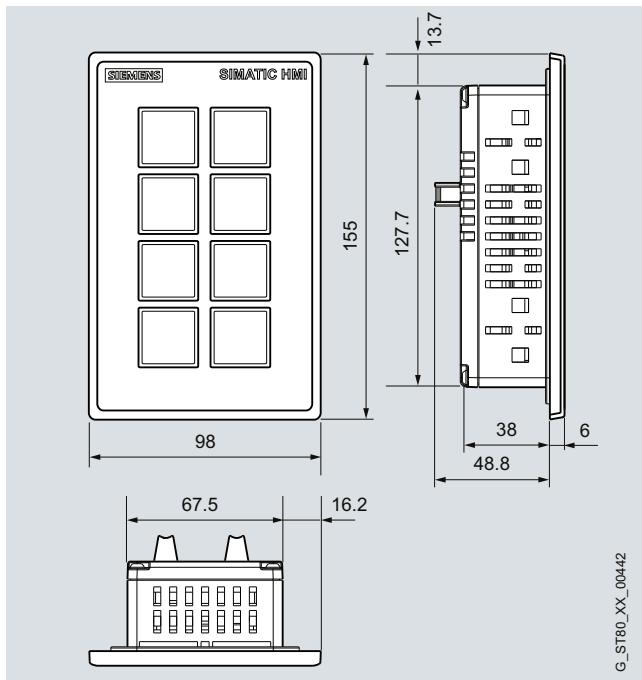
#### Technical specifications (continued)

|  | 6AV3688-3AY36-0AX0<br>SIMATIC HMI KP8 PN       | 6AV3688-3AF37-0AX0<br>SIMATIC HMI KP8F PN      | 6AV3688-3EH47-0AX0<br>SIMATIC HMI KP32F PN      | 6AV3688-3XY38-3AX0<br>SIMATIC HMI<br>design empty front |
|--|--|--|---|---|
| <b>Mechanics/material</b>                    |  |  |   |   |
| Type of housing (front)                      |  |  |   |   |
| • Plastic                                    | Yes  | Yes  | No  | No  |
| • Aluminum                                   | No   | No   | Yes   | Yes   |
| Lifetime, typ.                               |  |  |   |   |
| • Short-stroke keys<br>(in switching cycles) | 1500000  | 1500000  | 1500000   |   |
| <b>Dimensions</b>                            |  |  |   |   |
| Width of the housing front                   | 98 mm  | 98 mm  | 295 mm  | 98 mm   |
| Height of housing front                      | 155 mm   | 155 mm   | 155 mm  | 155 mm  |
| Mounting cutout (W x H x D)                  |  |  |   |   |
| • Mounting cutout, width                     | 68 mm; Max. thickness of mounting plate 2-6 mm | 68 mm; Max. thickness of mounting plate 2-6 mm | 277 mm; Max. thickness of mounting plate 2-6 mm | 68 mm; Max. thickness of mounting plate 2-6 mm          |
| • Mounting cutout, height                    | 129 mm   | 129 mm   | 137 mm  | 129 mm  |
| Depth/installation dimension                 | 49 mm; Incl. angled SIMATIC Ethernet connector | 49 mm; Incl. angled SIMATIC Ethernet connector | 69 mm; Incl. angled SIMATIC Ethernet connector  | 49 mm   |
| <b>Weight</b>                                |  |  |   |   |
| Weight without packaging                     | 270 g  | 280 g  | 1 220 g   | 240 g   |

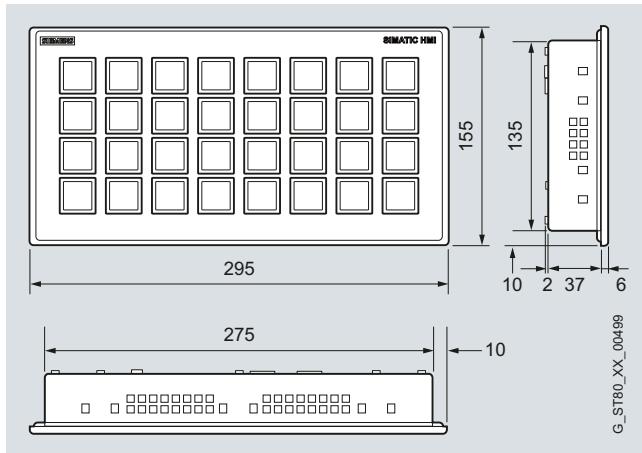
| Ordering data  | Order No.  | Order No.   |
|--|--|---|
| <b>SIMATIC HMI KP8 PN</b><br><br>Key Panel, 8 short-stroke keys with multicolored LEDs, PROFINET interfaces, 2 x parameterizable with STEP 7 V5.5 or higher  | <b>6AV3688-3AY36-0AX0</b>  | <b>Documentation</b><br><br>You can find the manual for the Key Panels on the Internet at:<br><a href="http://support.automation.siemens.com/WW/view/en/56652789">http://support.automation.siemens.com/WW/view/en/56652789</a> |
| <b>SIMATIC HMI KP8F PN</b><br><br>Key Panel, 8 short-stroke keys with multicolored LEDs, PROFINET interfaces with PROFIsafe, parameterizable with STEP 7 V5.5 or higher; 4 additional fail-safe inputs. Can be used as 2 x SIL 2 or 1 x SIL 3  | <b>6AV3688-3AF37-0AX0</b>  | <b>Accessories</b><br><br>See SIMATIC HMI accessories, from page 2/96   |
| <b>SIMATIC HMI KP32F PN</b><br><br>Key Panel, 32 short-stroke keys with multicolored LEDs, PROFINET interfaces with PROFIsafe, parameterizable with STEP 7 V5.5 or higher; including 8 fail-safe inputs. Can be used as 4 x SIL 2 or 2 x SIL 3 | <b>6AV3688-3EH47-0AX0</b>  |   |
| <b>Empty front design</b><br><br>for standard 22.5 mm operator controls, same mounting dimensions as KP8   | <b>6AV3688-3XY38-3AX0</b>  |   |
| <b>Demo case</b><br><br>SIMATIC HMI Key Panel – low-cost demo and experiment case  | <b>A5E31477788</b><br><br>Only by fax to<br>Siemens AG,<br>Mr. Michael Christ<br>Industry Sector,<br>I IA CE SE MF RS FDS<br>Wuerzburger Str. 121,<br>90766 Fuerth, Germany<br>Tel.: +49 911 750-4128<br>Fax: +49 911 750-2411 |   |

### Dimensional drawings

All dimensions in mm. For installation cutout, see technical specifications.



SIMATIC HMI Key Panel KP8; installation dimensions also valid for empty front design



SIMATIC HMI Key Panel KP32F

### More information

Additional information is available on the Internet at:  
<http://www.siemens.com/simatic-key-panels>

#### Note:

Do you need a specific modification or extension to the products described here? If so, refer to "Customized Automation". There you will find information about additional and generally available sector-specific products as well as options for customer-specific modification and adaptation.

#### Demo case

Can be ordered by fax:

Siemens AG, Mr. Michael Christ  
Industry Sector, I IA CE SE MF RS FDS  
Wuerzburger Str. 121, 90766 Fuerth, Germany  
Phone: +49 911 750-4128  
Fax: +49 911 750-2411

# Operator panels

## Basic Panels

### Basic Panels – Standard

#### Overview



- Ideal entry-level series from 3" to 15" for operating and monitoring compact machines and systems
- Clear process representation thanks to use of pixel-graphics displays
- Intuitive operation using Touch and tactile function keys
- Equipped with all the necessary basic functions such as alarm logging, recipe management, plots, vector graphics, and language switching
- Simple connection to the controller via integral Ethernet interface or separate version with RS 485/422
- Faster commissioning thanks to integrated diagnostics viewer and IP setting for SIMATIC S7-1200 and S7-1500 PLCs

#### Technical specifications

|  | <b>6AV6647-0AA11-3AX0<br/>SIMATIC HMI KTP400<br/>Basic mono PN</b> | <b>6AV6647-0AK11-3AX0<br/>SIMATIC HMI KTP400<br/>Basic color PN</b> | <b>6AV6647-0AB11-3AX0<br/>SIMATIC HMI KTP600<br/>Basic mono PN</b> | <b>6AV6647-0AC11-3AX0<br/>SIMATIC HMI KTP600<br/>Basic color DP</b> |
|--|--|---|--|---|
| <b>Display</b>                             |  |   |  |   |
| Design of display                          | STN  | TFT   | STN  | TFT   |
| Screen diagonal                            | 3.8 in   | 4.3 in  | 5.7 in   | 5.7 in  |
| Number of colors                           | 4; Grayscale   | 256   | 4; Grayscale   | 256   |
| Resolution (pixels)                        |  |   |  |   |
| • Horizontal image resolution              | 320  | 480   | 320  | 320   |
| • Vertical image resolution                | 240  | 272   | 240  | 240   |
| Backlighting                               |  |   |  |   |
| • MTBF backlighting (at 25 °C)             | 30 000 h   | 50 000 h  | 50 000 h   | 50 000 h  |
| • Dimmable backlight                       | No   | No  | No   | No  |
| <b>Control elements</b>                    |  |   |  |   |
| Keyboard fonts                             |  |   |  |   |
| • Number of function keys                  | 4  | 4   | 6  | 6   |
| Touch operation                            |  |   |  |   |
| • Design as touch screen                   | Yes  | Yes   | Yes  | Yes   |
| <b>Installation type/mounting</b>          |  |   |  |   |
| Mounting in portrait format possible       | Yes  | Yes   | Yes  | Yes   |
| <b>Supply voltage</b>                      |  |   |  |   |
| Type of supply voltage                     | DC   | DC  | DC   | DC  |
| Rated voltage/DC                           | 24 V   | 24 V  | 24 V   | 24 V  |
| <b>Memory</b>                              |  |   |  |   |
| Usable memory for user data                | 1 Mbyte  | 1 Mbyte   | 1 Mbyte  | 1 Mbyte   |
| <b>Type of output</b>                      |  |   |  |   |
| Acoustics                                  |  |   |  |   |
| • Buzzer                                   | Yes  | Yes   | Yes  | Yes   |
| <b>Time of day</b>                         |  |   |  |   |
| Clock                                      |  |   |  |   |
| • Software clock                           | Yes  | Yes   | Yes  | Yes   |
| • Battery-backed                           | No   | No  | No   | No  |
| • Synchronizable                           | Yes  | Yes   | Yes  | Yes   |
| <b>Interfaces</b>                          |  |   |  |   |
| Number of RS 485 interfaces                | 0  | 0   | 0  | 1   |
| Number of USB interfaces                   | 0  | 0   | 0  | 0   |
| Number of SD card slots                    | 0  | 0   | 0  | 0   |
| Industrial Ethernet                        |  |   |  |   |
| • Number of industrial Ethernet interfaces | 1  | 1   | 1  | 0   |

### Basic Panels – Standard

#### Technical specifications (continued)

|   | <b>6AV6647-0AA11-3AX0<br/>SIMATIC HMI KTP400<br/>Basic mono PN</b> | <b>6AV6647-0AK11-3AX0<br/>SIMATIC HMI KTP400<br/>Basic color PN</b> | <b>6AV6647-0AB11-3AX0<br/>SIMATIC HMI KTP600<br/>Basic mono PN</b> | <b>6AV6647-0AC11-3AX0<br/>SIMATIC HMI KTP600<br/>Basic color DP</b> |
|---|--|---|--|---|
| <b>Protocols</b>  |  |   |  |   |
| PROFINET  | Yes  | Yes   | Yes  | No  |
| PROFIBUS  | No   | No  | No   | Yes   |
| MPI   | No   | No  | No   | Yes   |
| <b>Degree and class of protection</b>                       |  |   |  |   |
| Type of protection  | IP20   | IP20  | IP20   | IP20  |
| IP (at the front)   | IP65   | IP65  | IP65   | IP65  |
| Enclosure type 4x at the front                              | Yes  | Yes   | Yes  | Yes   |
| <b>Standards, approvals, certificates</b>                   |  |   |  |   |
| CE  | Yes  | Yes   | Yes  | Yes   |
| cULus   | Yes  | Yes   | Yes  | Yes   |
| GL  | Yes  | Yes   | Yes  | Yes   |
| ABS   | Yes  | Yes   | Yes  | Yes   |
| BV  | Yes  | Yes   | Yes  | Yes   |
| DNV   | Yes  | Yes   | Yes  | Yes   |
| LRS   | Yes  | Yes   | Yes  | Yes   |
| Class NK  | Yes  | Yes   | Yes  | Yes   |
| Use in hazardous areas                                      |  |   |  |   |
| • ATEX Zone 2   | No   | No  | No   | No  |
| • ATEX Zone 22  | No   | No  | No   | No  |
| • cULus Class I Zone 2, Division 2                          | No   | No  | No   | No  |
| • FM Class I Division 2                                     | No   | No  | No   | No  |
| <b>Ambient conditions</b>                                   |  |   |  |   |
| Operating temperature                                       |  |   |  |   |
| • Operation (vertical installation)                         |  |   |  |   |
| - in vertical mounting position/ minimum                    | 0 °C   | 0 °C  | 0 °C   | 0 °C  |
| - in vertical mounting position/ maximum                    | 50 °C  | 50 °C   | 50 °C  | 50 °C   |
| Relative humidity   |  |   |  |   |
| • max. relative humidity                                    | 90 %   | 90 %  | 90 %   | 90 %  |
| <b>Configuration</b>  |  |   |  |   |
| Configuration software                                      |  |   |  |   |
| • STEP 7 Basic (TIA Portal)                                 | Yes; via integrated WinCC Basic (TIA Portal)                       | Yes; via integrated WinCC Basic (TIA Portal)                        | Yes; via integrated WinCC Basic (TIA Portal)                       | Yes; via integrated WinCC Basic (TIA Portal)                        |
| • WinCC flexible Compact                                    | Yes  | No  | Yes  | Yes   |
| • WinCC Basic (TIA Portal)                                  | Yes  | Yes   | Yes  | Yes   |
| <b>Languages</b>  |  |   |  |   |
| Online languages  |  |   |  |   |
| • Number of online/runtime languages                        | 5  | 5   | 5  | 5   |
| <b>Functionality under WinCC (TIA Portal)</b>               |  |   |  |   |
| Task planner  |  |   |  |   |
| • time-controlled   | No   | No  | No   | No  |
| • task-controlled   | Yes  | Yes   | Yes  | Yes   |
| With alarm logging system (incl. buffer and acknowledgment) |  |   |  |   |
| • Number of bit messages                                    | 200  | 200   | 200  | 200   |
| • Number of analog messages                                 | 15   | 15  | 15   | 15  |
| • Message buffer  |  |   |  |   |
| - Number of entries   | 256  | 256   | 256  | 256   |
| - Circulating buffer  | Yes  | Yes   | Yes  | Yes   |
| - retentive   | Yes  | Yes   | Yes  | Yes   |
| Recipes   |  |   |  |   |
| • Number of recipes   | 5  | 5   | 5  | 5   |
| • Size of internal recipe memory                            | 40 kbyte   | 40 kbyte  | 40 kbyte   | 40 kbyte  |
| • Recipe memory expandable                                  | No   | No  | No   | No  |

# Operator panels

## Basic Panels

### Basic Panels – Standard

2

#### Technical specifications (continued)

|                                   | <b>6AV6647-0AA11-3AX0<br/>SIMATIC HMI KTP400<br/>Basic mono PN</b> | <b>6AV6647-0AK11-3AX0<br/>SIMATIC HMI KTP400<br/>Basic color PN</b> | <b>6AV6647-0AB11-3AX0<br/>SIMATIC HMI KTP600<br/>Basic mono PN</b> | <b>6AV6647-0AC11-3AX0<br/>SIMATIC HMI KTP600<br/>Basic color DP</b> |
|-----------------------------------|--|---|--|---|
| <b>Variables</b>                  |  |   |  |   |
| • Number of variables per device  | 250  | 500   | 500  | 500   |
| • Number of variables per screen  | 30   | 30  | 30   | 30  |
| <b>Images</b>                     |  |   |  |   |
| • Number of configurable images   | 50   | 50  | 50   | 50  |
| <b>Archiving</b>                  |  |   |  |   |
| • Number of archives per device   | 0  | 0   | 0  | 0   |
| <b>Security</b>                   |  |   |  |   |
| • Number of user groups           | 50   | 50  | 50   | 50  |
| • Number of users                 | 50   | 50  | 50   | 50  |
| <b>Transfer (upload/download)</b> |  |   |  |   |
| • MPI/PROFIBUS DP                 | No   | No  | No   | Yes   |
| • Ethernet                        | Yes  | Yes   | Yes  | No  |
| <b>Process coupling</b>           |  |   |  |   |
| • S7-1200                         | Yes  | Yes   | Yes  | Yes   |
| • S7-1500                         | Yes  | Yes   | Yes  | Yes   |
| • S7-200                          | Yes  | Yes   | Yes  | Yes   |
| • S7-300/400                      | Yes  | Yes   | Yes  | Yes   |
| • LOGO!                           | Yes  | Yes   | Yes  | Yes   |
| • Win AC                          | Yes  | No  | Yes  | Yes   |
| • SIMOTION                        | No   | No  | No   | No  |
| • Allen Bradley (EtherNet/IP)     | Yes  | Yes   | Yes  | No  |
| • Allen Bradley (DF1)             | No   | No  | No   | Yes   |
| • Mitsubishi (MC TCP/IP)          | Yes  | Yes   | Yes  | No  |
| • Mitsubishi (FX)                 | No   | No  | No   | Yes   |
| • OMRON (FINS TCP)                | No   | No  | No   | No  |
| • OMRON (LINK/Multilink)          | No   | No  | No   | Yes   |
| • Modicon (Modbus TCP/IP)         | Yes  | Yes   | Yes  | No  |
| • Modicon (Modbus)                | No   | No  | No   | Yes   |
| <b>I/O</b>                        |  |   |  |   |
| <b>I/O devices</b>                |  |   |  |   |
| • Printer                         | No   | No  | No   | No  |
| • Multi Media Card                | No   | No  | No   | No  |
| • SD card                         | No   | No  | No   | No  |
| • USB memory                      | No   | No  | No   | No  |
| <b>Mechanics/material</b>         |  |   |  |   |
| Type of housing (front)           |  |   |  |   |
| • Plastic                         | Yes  | Yes   | Yes  | Yes   |
| <b>Dimensions</b>                 |  |   |  |   |
| Width of the housing front        | 140 mm   | 140 mm  | 214 mm   | 214 mm  |
| Height of housing front           | 116 mm   | 116 mm  | 158 mm   | 158 mm  |
| Mounting cutout (W x H x D)       |  |   |  |   |
| • Mounting cutout, width          | 123 mm   | 123 mm  | 197 mm   | 197 mm  |
| • Mounting cutout, height         | 99 mm  | 99 mm   | 141 mm   | 141 mm  |
| <b>Weight</b>                     |  |   |  |   |
| Weight without packaging          | 0.32 kg  | 0.34 kg   | 1.07 kg  | 1.07 kg   |

### Basic Panels – Standard

#### Technical specifications (continued)

|  | <b>6AV6647-0AD11-3AX0<br/>SIMATIC HMI KTP600<br/>Basic color PN</b> | <b>6AV6647-0AE11-3AX0<br/>SIMATIC HMI KTP1000<br/>Basic color DP</b> | <b>6AV6647-0AF11-3AX0<br/>SIMATIC HMI KTP1000<br/>Basic color PN</b> |
|--|---|--|--|
| <b>Display</b>                             |   |  |  |
| Design of display                          | TFT   | TFT  | TFT  |
| Screen diagonal                            | 5.7 in  | 10.4 in  | 10.4 in  |
| Number of colors                           | 256   | 256  | 256  |
| Resolution (pixels)                        |   |  |  |
| • Horizontal image resolution              | 320   | 640  | 640  |
| • Vertical image resolution                | 240   | 480  | 480  |
| Backlighting                               |   |  |  |
| • MTBF backlighting (at 25 °C)             | 50 000 h  | 50 000 h   | 50 000 h   |
| • Dimmable backlight                       | No  | No   | No   |
| <b>Control elements</b>                    |   |  |  |
| Keyboard fonts                             |   |  |  |
| • Number of function keys                  | 6   | 8  | 8  |
| Touch operation                            |   |  |  |
| • Design as touch screen                   | Yes   | Yes  | Yes  |
| <b>Installation type/mounting</b>          |   |  |  |
| Mounting in portrait format possible       | Yes   | No   | No   |
| <b>Supply voltage</b>                      |   |  |  |
| Type of supply voltage                     | DC  | DC   | DC   |
| Rated voltage/DC                           | 24 V  | 24 V   | 24 V   |
| <b>Memory</b>                              |   |  |  |
| Usable memory for user data                | 1 Mbyte   | 2 Mbyte  | 2 Mbyte  |
| <b>Type of output</b>                      |   |  |  |
| Acoustics                                  |   |  |  |
| • Buzzer                                   | Yes   | Yes  | Yes  |
| <b>Time of day</b>                         |   |  |  |
| Clock                                      |   |  |  |
| • Software clock                           | Yes   | Yes  | Yes  |
| • Battery-backed                           | No  | No   | No   |
| • Synchronizable                           | Yes   | Yes  | Yes  |
| <b>Interfaces</b>                          |   |  |  |
| Number of RS 485 interfaces                | 0   | 1  | 0  |
| Number of USB interfaces                   | 0   | 0  | 0  |
| Number of SD card slots                    | 0   | 0  | 0  |
| Industrial Ethernet                        |   |  |  |
| • Number of industrial Ethernet interfaces | 1   | 0  | 1  |
| <b>Protocols</b>                           |   |  |  |
| PROFINET                                   | Yes   | No   | Yes  |
| PROFIBUS                                   | No  | Yes  | No   |
| MPI  | No  | Yes  | No   |
| <b>Degree and class of protection</b>      |   |  |  |
| Type of protection                         | IP20  | IP20   | IP20   |
| IP (at the front)                          | IP65  | IP65   | IP65   |
| Enclosure type 4x at the front             | Yes   | Yes  | Yes  |
| <b>Standards, approvals, certificates</b>  |   |  |  |
| CE   | Yes   | Yes  | Yes  |
| cULus                                      | Yes   | Yes  | Yes  |
| GL   | Yes   | Yes  | Yes  |
| ABS  | Yes   | Yes  | Yes  |
| BV   | Yes   | Yes  | Yes  |
| DNV  | Yes   | Yes  | Yes  |
| LRS  | Yes   | Yes  | Yes  |
| Class NK                                   | Yes   | Yes  | Yes  |

# Operator panels

## Basic Panels

### Basic Panels – Standard

2

#### Technical specifications (continued)

|   | <b>6AV6647-0AD11-3AX0<br/>SIMATIC HMI KTP600<br/>Basic color PN</b> | <b>6AV6647-0AE11-3AX0<br/>SIMATIC HMI KTP1000<br/>Basic color DP</b> | <b>6AV6647-0AF11-3AX0<br/>SIMATIC HMI KTP1000<br/>Basic color PN</b> |
|---|---|--|--|
| Use in hazardous areas                                      |   |  |  |
| • ATEX Zone 2   | No  | No   | No   |
| • ATEX Zone 22  | No  | No   | No   |
| • cULus Class I Zone 2, Division 2                          | No  | No   | No   |
| • FM Class I Division 2                                     | No  | No   | No   |
| <b>Ambient conditions</b>                                   |   |  |  |
| Operating temperature                                       |   |  |  |
| • Operation (vertical installation)                         |   |  |  |
| - in vertical mounting position/ minimum                    | 0 °C  | 0 °C   | 0 °C   |
| - in vertical mounting position/ maximum                    | 50 °C   | 50 °C  | 50 °C  |
| Relative humidity   |   |  |  |
| • max. relative humidity                                    | 90 %  | 90 %   | 90 %   |
| <b>Configuration</b>  |   |  |  |
| Configuration software                                      |   |  |  |
| • STEP 7 Basic (TIA Portal)                                 | Yes; via integrated WinCC Basic (TIA Portal)                        | Yes; via integrated WinCC Basic (TIA Portal)                         | Yes; via integrated WinCC Basic (TIA Portal)                         |
| • WinCC flexible Compact                                    | Yes   | Yes  | Yes  |
| • WinCC Basic (TIA Portal)                                  | Yes   | Yes  | Yes  |
| <b>Languages</b>  |   |  |  |
| Online languages  |   |  |  |
| • Number of online/runtime languages                        | 5   | 5  | 5  |
| <b>Functionality under WinCC (TIA Portal)</b>               |   |  |  |
| Task planner  |   |  |  |
| • time-controlled   | No  | No   | No   |
| • task-controlled   | Yes   | Yes  | Yes  |
| With alarm logging system (incl. buffer and acknowledgment) |   |  |  |
| • Number of bit messages                                    | 200   | 200  | 200  |
| • Number of analog messages                                 | 15  | 15   | 15   |
| • Message buffer  |   |  |  |
| - Number of entries   | 256   | 256  | 256  |
| - Circulating buffer  | Yes   | Yes  | Yes  |
| - retentive   | Yes   | Yes  | Yes  |
| Recipes   |   |  |  |
| • Number of recipes   | 5   | 5  | 5  |
| • Size of internal recipe memory                            | 40 kbyte  | 40 kbyte   | 40 kbyte   |
| • Recipe memory expandable                                  | No  | No   | No   |
| Variables   |   |  |  |
| • Number of variables per device                            | 500   | 500  | 500  |
| • Number of variables per screen                            | 30  | 30   | 30   |
| Images  |   |  |  |
| • Number of configurable images                             | 50  | 50   | 50   |
| Archiving   |   |  |  |
| • Number of archives per device                             | 0   | 0  | 0  |
| Security  |   |  |  |
| • Number of user groups                                     | 50  | 50   | 50   |
| • Number of users   | 50  | 50   | 50   |
| Transfer (upload/download)                                  |   |  |  |
| • MPI/PROFIBUS DP   | No  | Yes  | No   |
| • Ethernet  | Yes   | No   | Yes  |

### Basic Panels – Standard

#### Technical specifications (continued)

|                               | <b>6AV6647-0AD11-3AX0</b><br><b>SIMATIC HMI KTP600</b><br><b>Basic color PN</b> | <b>6AV6647-0AE11-3AX0</b><br><b>SIMATIC HMI KTP1000</b><br><b>Basic color DP</b> | <b>6AV6647-0AF11-3AX0</b><br><b>SIMATIC HMI KTP1000</b><br><b>Basic color PN</b> |
|-------------------------------|---|--|--|
| Process coupling              |   |  |  |
| • S7-1200                     | Yes   | Yes  | Yes  |
| • S7-1500                     | Yes   | Yes  | Yes  |
| • S7-200                      | Yes   | Yes  | Yes  |
| • S7-300/400                  | Yes   | Yes  | Yes  |
| • LOGO!                       | Yes   | Yes  | Yes  |
| • Win AC                      | Yes   | Yes  | Yes  |
| • SIMOTION                    | No  | No   | No   |
| • Allen Bradley (EtherNet/IP) | Yes   | No   | Yes  |
| • Allen Bradley (DF1)         | No  | Yes  | No   |
| • Mitsubishi (MC TCP/IP)      | Yes   | No   | Yes  |
| • Mitsubishi (FX)             | No  | Yes  | No   |
| • OMRON (FINS TCP)            | No  | No   | No   |
| • OMRON (LINK/Multilink)      | No  | Yes  | No   |
| • Modicon (Modbus TCP/IP)     | Yes   | No   | Yes  |
| • Modicon (Modbus)            | No  | Yes  | Yes  |
| <b>I/O</b>                    |   |  |  |
| I/O devices                   |   |  |  |
| • Printer                     | No  | No   | No   |
| • Multi Media Card            | No  | No   | No   |
| • SD card                     | No  | No   | No   |
| • USB memory                  | No  | No   | No   |
| <b>Mechanics/material</b>     |   |  |  |
| Type of housing (front)       |   |  |  |
| • Plastic                     | Yes   | Yes  | Yes  |
| <b>Dimensions</b>             |   |  |  |
| Width of the housing front    | 214 mm  | 335 mm   | 335 mm   |
| Height of housing front       | 158 mm  | 275 mm   | 275 mm   |
| Mounting cutout (W x H x D)   |   |  |  |
| • Mounting cutout, width      | 197 mm  | 310 mm   | 310 mm   |
| • Mounting cutout, height     | 141 mm  | 248 mm   | 248 mm   |
| <b>Weight</b>                 |   |  |  |
| Weight without packaging      | 1.07 kg   | 2.65 kg  | 2.65 kg  |

# Operator panels

## Basic Panels

### Basic Panels – Standard

#### Technical specifications (continued)

|  | <b>6AV6647-0AH11-3AX0<br/>SIMATIC HMI KP300<br/>Basic mono PN</b> | <b>6AV6647-0AJ11-3AX0<br/>SIMATIC HMI KP400<br/>Basic color PN</b> | <b>6AV6647-0AG11-3AX0<br/>SIMATIC HMI TP1500<br/>Basic color PN</b> |
|--|---|--|---|
| <b>Display</b>                             |   |  |   |
| Design of display                          | FSTN  | TFT  | TFT   |
| Screen diagonal                            | 3.6 in  | 4.3 in   | 15 in   |
| Number of colors                           | 4; Backlit display only<br>(white, red, green, yellow)            | 256  | 256   |
| Resolution (pixels)                        |   |  |   |
| • Horizontal image resolution              | 240   | 480  | 1 024   |
| • Vertical image resolution                | 80  | 272  | 768   |
| Backlighting                               |   |  |   |
| • MTBF backlighting (at 25 °C)             | 50 000 h  | 50 000 h   | 50 000 h  |
| • Dimmable backlight                       | No  | No   | No  |
| <b>Control elements</b>                    |   |  |   |
| Keyboard fonts                             |   |  |   |
| • Number of function keys                  | 10  | 8  | 0   |
| Touch operation                            |   |  |   |
| • Design as touch screen                   | No  | No   | Yes   |
| <b>Installation type/mounting</b>          |   |  |   |
| Mounting in portrait format possible       | No  | No   | No  |
| <b>Supply voltage</b>                      |   |  |   |
| Type of supply voltage                     | DC  | DC   | DC  |
| Rated voltage/DC                           | 24 V  | 24 V   | 24 V  |
| <b>Memory</b>                              |   |  |   |
| Usable memory for user data                | 1 Mbyte   | 1 Mbyte  | 2 Mbyte   |
| <b>Type of output</b>                      |   |  |   |
| Acoustics                                  |   |  |   |
| • Buzzer                                   | No  | No   | Yes   |
| <b>Time of day</b>                         |   |  |   |
| Clock                                      |   |  |   |
| • Software clock                           | Yes   | Yes  | Yes   |
| • Battery-backed                           | No  | No   | No  |
| • Synchronizable                           | Yes   | Yes  | Yes   |
| <b>Interfaces</b>                          |   |  |   |
| Number of RS 485 interfaces                | 0   | 0  | 0   |
| Number of USB interfaces                   | 0   | 0  | 0   |
| Number of SD card slots                    | 0   | 0  | 0   |
| Industrial Ethernet                        |   |  |   |
| • Number of industrial Ethernet interfaces | 1   | 1  | 1   |
| <b>Protocols</b>                           |   |  |   |
| PROFINET                                   | Yes   | Yes  | Yes   |
| PROFIBUS                                   | No  | No   | No  |
| MPI  | No  | No   | No  |
| <b>Degree and class of protection</b>      |   |  |   |
| Type of protection                         | IP20  | IP20   | IP20  |
| IP (at the front)                          | IP65  | IP65   | IP65  |
| Enclosure type 4x at the front             | Yes   | Yes  | Yes   |
| <b>Standards, approvals, certificates</b>  |   |  |   |
| CE   | Yes   | Yes  | Yes   |
| cULus                                      | Yes   | Yes  | Yes   |
| GL   | Yes   | No   | No  |
| ABS  | Yes   | No   | No  |
| BV   | Yes   | No   | No  |
| DNV  | Yes   | No   | No  |
| LRS  | Yes   | No   | No  |
| Class NK                                   | Yes   | No   | No  |

### Basic Panels – Standard

#### Technical specifications (continued)

|   | <b>6AV6647-0AH11-3AX0<br/>SIMATIC HMI KP300<br/>Basic mono PN</b> | <b>6AV6647-0AJ11-3AX0<br/>SIMATIC HMI KP400<br/>Basic color PN</b> | <b>6AV6647-0AG11-3AX0<br/>SIMATIC HMI TP1500<br/>Basic color PN</b> |
|---|---|--|---|
| Use in hazardous areas                                      |   |  |   |
| • ATEX Zone 2   | No  | No   | No  |
| • ATEX Zone 22  | No  | No   | No  |
| • cULus Class I Zone 2, Division 2                          | Yes   | No   | No  |
| • FM Class I Division 2                                     | No  | No   | No  |
| <b>Ambient conditions</b>                                   |   |  |   |
| Operating temperature                                       |   |  |   |
| • Operation (vertical installation)                         |   |  |   |
| - in vertical mounting position/<br>minimum                 | 0 °C  | 0 °C   | 0 °C  |
| - in vertical mounting position/<br>maximum                 | 50 °C   | 50 °C  | 50 °C   |
| Relative humidity   |   |  |   |
| • max. relative humidity                                    | 90 %  | 90 %   | 90 %  |
| <b>Configuration</b>  |   |  |   |
| Configuration software                                      |   |  |   |
| • STEP 7 Basic (TIA Portal)                                 | Yes; via integrated WinCC Basic (TIA Portal)                      | Yes; via integrated WinCC Basic (TIA Portal)                       | Yes; via integrated WinCC Basic (TIA Portal)                        |
| • WinCC flexible Compact                                    | No  | No   | Yes   |
| • WinCC Basic (TIA Portal)                                  | Yes   | Yes  | Yes   |
| <b>Languages</b>  |   |  |   |
| Online languages  |   |  |   |
| • Number of online/runtime languages                        | 5   | 5  | 5   |
| <b>Functionality under WinCC (TIA Portal)</b>               |   |  |   |
| Task planner  |   |  |   |
| • time-controlled   | No  | No   | No  |
| • task-controlled   | Yes   | Yes  | Yes   |
| With alarm logging system (incl. buffer and acknowledgment) |   |  |   |
| • Number of bit messages                                    | 200   | 200  | 200   |
| • Number of analog messages                                 | 15  | 15   | 15  |
| • Message buffer  |   |  |   |
| - Number of entries   | 256   | 256  | 256   |
| - Circulating buffer  | Yes   | Yes  | Yes   |
| - retentive   | Yes   | Yes  | Yes   |
| Recipes   |   |  |   |
| • Number of recipes   | 5   | 5  | 5   |
| • Size of internal recipe memory                            | 40 kbyte  | 40 kbyte   | 40 kbyte  |
| • Recipe memory expandable                                  | No  | No   | No  |
| Variables   |   |  |   |
| • Number of variables per device                            | 250   | 500  | 500   |
| • Number of variables per screen                            | 30  | 30   | 30  |
| Images  |   |  |   |
| • Number of configurable images                             | 50  | 50   | 50  |
| Archiving   |   |  |   |
| • Number of archives per device                             | 0   | 0  | 0   |
| Security  |   |  |   |
| • Number of user groups                                     | 50  | 50   | 50  |
| • Number of users   | 50  | 50   | 50  |
| Transfer (upload/download)                                  |   |  |   |
| • MPI/PROFIBUS DP   | No  | No   | No  |
| • Ethernet  | Yes   | Yes  | Yes   |

# Operator panels

## Basic Panels

### Basic Panels – Standard

#### Technical specifications (continued)

|                               | <b>6AV6647-0AH11-3AX0</b><br><b>SIMATIC HMI KP300</b><br><b>Basic mono PN</b> | <b>6AV6647-0AJ11-3AX0</b><br><b>SIMATIC HMI KP400</b><br><b>Basic color PN</b> | <b>6AV6647-0AG11-3AX0</b><br><b>SIMATIC HMI TP1500</b><br><b>Basic color PN</b> |
|-------------------------------|---|--|---|
| Process coupling              |   |  |   |
| • S7-1200                     | Yes   | Yes  | Yes   |
| • S7-1500                     | Yes   | Yes  | Yes   |
| • S7-200                      | Yes   | Yes  | Yes   |
| • S7-300/400                  | Yes   | Yes  | Yes   |
| • LOGO!                       | Yes   | Yes  | Yes   |
| • Win AC                      | Yes   | No   | Yes   |
| • SIMOTION                    | No  | No   | No  |
| • Allen Bradley (EtherNet/IP) | Yes   | Yes  | Yes   |
| • Allen Bradley (DF1)         | No  | No   | No  |
| • Mitsubishi (MC TCP/IP)      | Yes   | Yes  | Yes   |
| • Mitsubishi (FX)             | No  | No   | No  |
| • OMRON (FINS TCP)            | No  | No   | No  |
| • OMRON (LINK/Multilink)      | No  | No   | No  |
| • Modicon (Modbus TCP/IP)     | Yes   | Yes  | Yes   |
| • Modicon (Modbus)            | No  | No   | Yes   |
| <b>I/O</b>                    |   |  |   |
| I/O devices                   |   |  |   |
| • Printer                     | No  | No   | No  |
| • Multi Media Card            | No  | No   | No  |
| • SD card                     | No  | No   | No  |
| • USB memory                  | No  | No   | No  |
| <b>Mechanics/material</b>     |   |  |   |
| Type of housing (front)       |   |  |   |
| • Plastic                     | Yes   | Yes  | Yes   |
| <b>Dimensions</b>             |   |  |   |
| Width of the housing front    | 165 mm  | 162 mm   | 400 mm  |
| Height of housing front       | 97 mm   | 189 mm   | 310 mm  |
| Mounting cutout (W x H x D)   |   |  |   |
| • Mounting cutout, width      | 149 mm  | 135 mm   | 367 mm  |
| • Mounting cutout, height     | 82 mm   | 171 mm   | 289 mm  |
| <b>Weight</b>                 |   |  |   |
| Weight without packaging      | 0.25 kg   | 0.51 kg  | 4.2 kg  |

### Basic Panels – Standard

| Ordering data                              | Order No.                 | Order No.  |
|--|---------------------------|--|
| SIMATIC HMI Basic Panels,<br>Key and Touch |                           |  |
| SIMATIC HMI KTP400<br>Basic mono PN        | <b>6AV6647-0AA11-3AX0</b> | <b>Starter kits</b>  |
| SIMATIC HMI KTP400<br>Basic color PN       | <b>6AV6647-0AK11-3AX0</b> | <b>Starter kit SIMATIC S7-1200 + KP300 Basic mono PN</b>   |
| SIMATIC HMI KTP600<br>Basic mono PN        | <b>6AV6647-0AB11-3AX0</b> | <b>Starter kit SIMATIC S7-1200 + KTP400 Basic color PN</b>   |
| SIMATIC HMI KTP600<br>Basic color DP       | <b>6AV6647-0AC11-3AX0</b> | <b>Starter kit SIMATIC S7-1200 + KTP600 Basic color PN</b>   |
| SIMATIC HMI KTP600<br>Basic color PN       | <b>6AV6647-0AD11-3AX0</b> | Starter kits with an S7-1200 consist of:<br><ul style="list-style-type: none"> <li>• the respective SIMATIC HMI Basic Panel           <ul style="list-style-type: none"> <li>- SIMATIC HMI KP300 Basic mono PN</li> <li>- SIMATIC HMI KTP400 Basic color PN</li> <li>- SIMATIC HMI KTP600 Basic color PN</li> </ul> </li> <li>• SIMATIC S7-1200 CPU 1212C AC/DC/Rly</li> <li>• SIMATIC S7-1200 Simulator Module SIM 1274</li> <li>• SIMATIC STEP 7 BASIC CD</li> <li>• SIMATIC S7-1200 HMI Manual Collection CD</li> <li>• Ethernet CAT5 cable, 2 m</li> </ul> |
| SIMATIC HMI KTP1000<br>Basic color DP      | <b>6AV6647-0AE11-3AX0</b> |  |
| SIMATIC HMI KTP1000<br>Basic color PN      | <b>6AV6647-0AF11-3AX0</b> |  |
| SIMATIC HMI Basic Panels, Key              |                           |  |
| SIMATIC HMI KP300<br>Basic mono PN         | <b>6AV6647-0AH11-3AX0</b> | <b>LOGO! starter kit + KP300 Basic mono PN</b>   |
| SIMATIC HMI KP400<br>Basic color PN        | <b>6AV6647-0AJ11-3AX0</b> | <b>LOGO! starter kit + KTP400 Basic color PN</b>   |
| SIMATIC HMI Basic Panels, Touch            |                           | Starter kits with a LOGO! consist of:<br><ul style="list-style-type: none"> <li>• the respective SIMATIC HMI Basic Panel           <ul style="list-style-type: none"> <li>- SIMATIC HMI KP300 Basic mono PN</li> <li>- SIMATIC HMI KTP400 Basic color PN</li> </ul> </li> <li>• LOGO! 12/24 RCE</li> <li>• LOGO! POWER 24 V 1.3 A</li> <li>• LOGO! SOFT COMFORT V7</li> <li>• WINCC BASIC (TIA Portal)</li> <li>• Ethernet CAT5 cable, 2 m</li> </ul>  |
| SIMATIC HMI TP1500<br>Basic color PN       | <b>6AV6647-0AG11-3AX0</b> |  |
|  |                           | <b>Documentation</b>   |
|  |                           | You can find the manual for the Basic Panels on the Internet at: <a href="http://support.automation.siemens.com">http://support.automation.siemens.com</a>   |
|  |                           | <b>Accessories</b>   |
|  |                           | See HMI accessories, from page 2/96  |

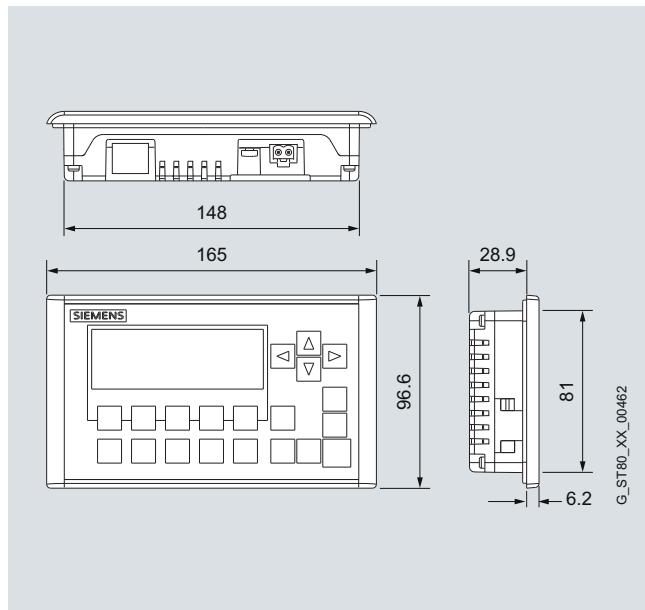
# Operator panels

## Basic Panels

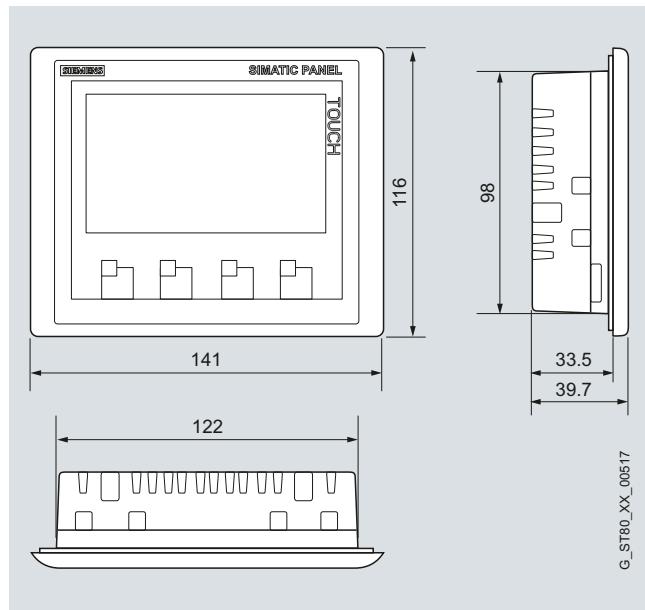
### Basic Panels – Standard

#### Dimensional drawings

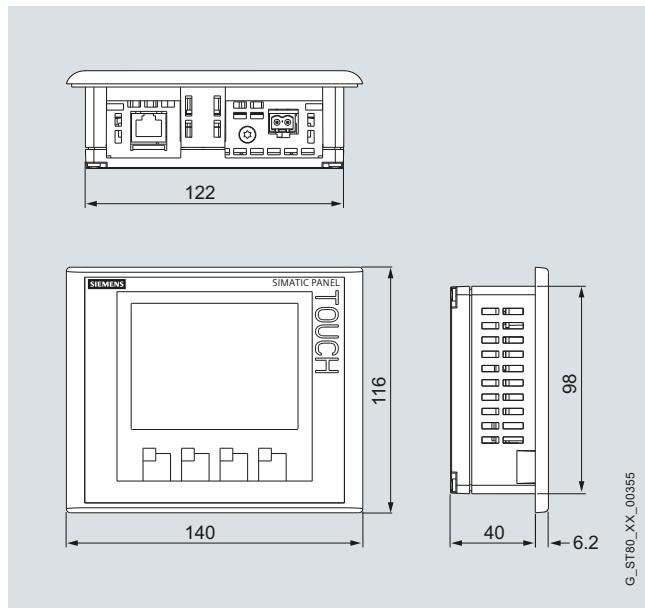
All dimensions in mm. For installation cutout, see technical specifications.



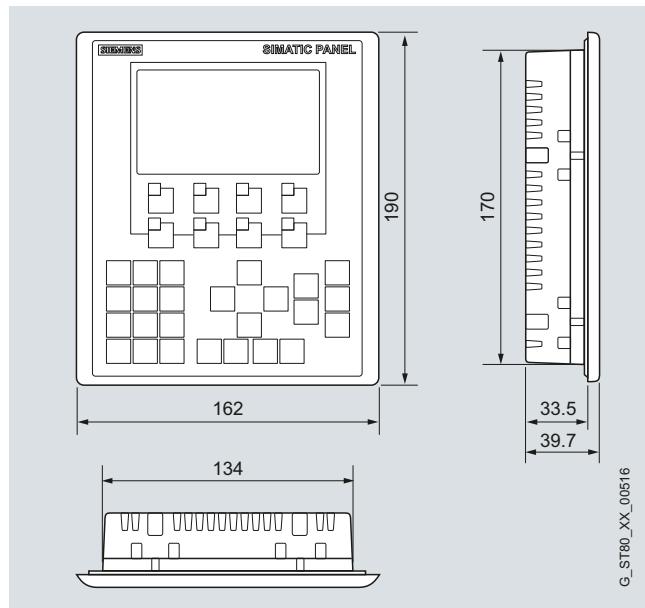
KP300 Basic



KTP400 Basic color PN



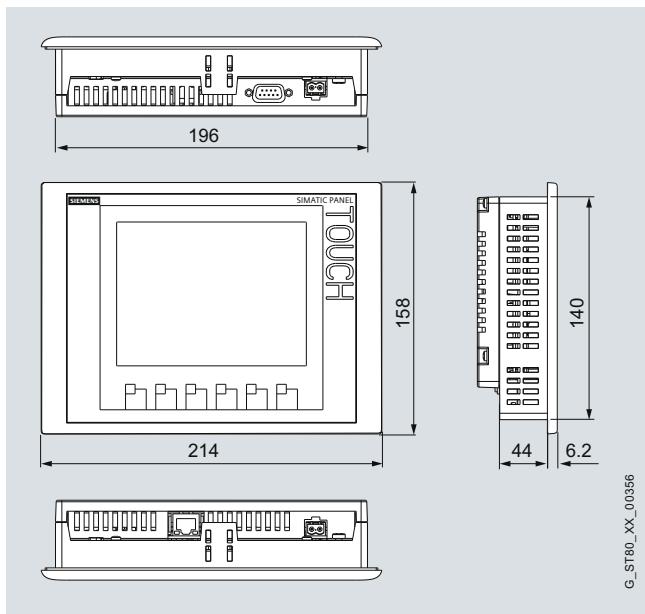
KTP400 Basic mono PN



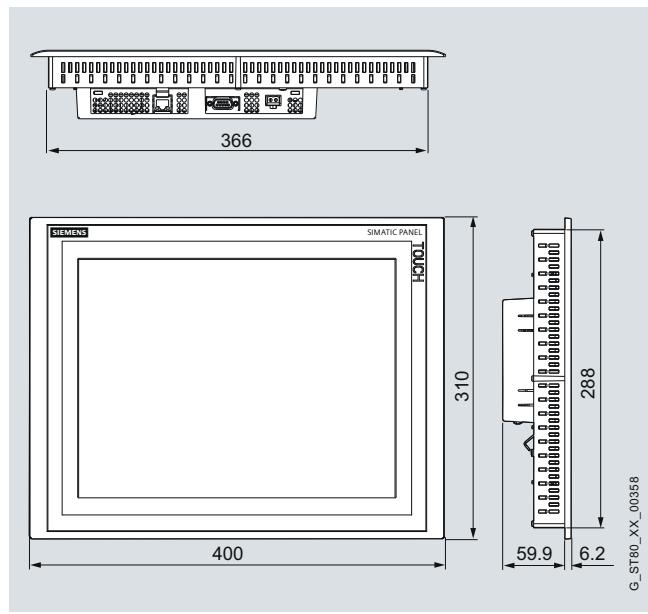
KP400 Basic

### Basic Panels – Standard

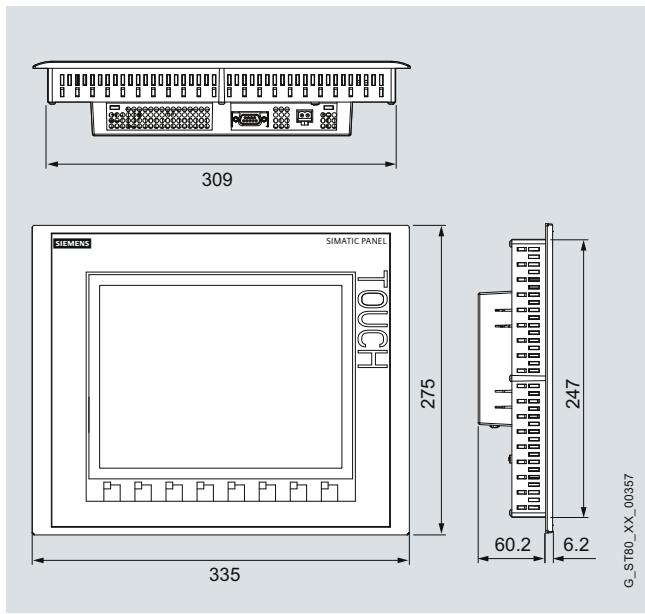
#### Dimensional drawings (continued)



KTP600 Basic



TP1500 Basic



KTP1000 Basic

#### More information

Additional information is available in the Internet under:  
<http://www.siemens.com/simatic-basic-panels>

#### Note

Do you require a specific modification to or supplement for the products described here? Look under "Customized products". We provide information there about additional and generally available sector products, and about the customer-specific modification and adaptation options.

# Operator panels

## SIPLUS Basic Panels

### SIPLUS Basic Panels

#### Overview



- Ideal entry-level series of 3.8 inches to 15 inches for operating and monitoring compact machines and systems
- Clear process representation through the use of full-graphic displays
- Intuitive operation via touch and tactile function keys
- Equipped with all the necessary basic functions such as reporting, recipe management, curve representation, vector graphics, and language selection
- Easy connection to the controller via integrated Ethernet interface or a separate version with RS485/422

**Note:**

SIPLUS extreme products are based on Siemens Industry standard products. The contents listed here were taken from the respective standard products. SIPLUS extreme specific information was added.

|  | SIPLUS HMI<br>KTP300 BASIC<br>MONO PN   | SIPLUS HMI<br>KTP400 BASIC<br>MONO PN | SIPLUS HMI<br>KTP600 BASIC<br>COLOR PN | SIPLUS HMI<br>KTP1000 BASIC<br>COLOR DP | SIPLUS HMI<br>KTP1000 BASIC<br>COLOR PN | SIPLUS HMI<br>TP1500 BASIC<br>COLOR PN |
|--|---|---------------------------------------|--|---|---|--|
| <b>Order number</b>  | 6AG1647-0AH11-2AX0  | 6AG1647-0AA11-2AX0                    | 6AG1647-0AD11-2AX0                     | 6AG1647-0AE11-4AX0                      | 6AG1647-0AF11-4AX0                      | 6AG1647-0AG11-4AX0                     |
| <b>Order No. based on</b>  | 6AV6647-0AH11-3AX0  | 6AV6647-0AA11-3AX0                    | 6AV6647-0AD11-3AX0                     | 6AV6647-0AE11-3AX0                      | 6AV6647-0AF11-3AX0                      | 6AV6647-0AG11-3AX0                     |
| Ambient temperature range  | -25 ... +60 °C  | -10 ... +60 °C                        | -25 ... +60 °C                         | 0 ... +50 °C                            | 0 ... +50 °C                            | 0 ... +50 °C                           |
| Conformal coating  | Coating of the printed circuit boards and the electronic components   |                                       |  |   |   |  |
| Technical data   | The technical data of the standard product applies except for the ambient conditions.   |                                       |  |   |   |  |
| <b>Ambient conditions</b>  |   |                                       |  |   |   |  |
| Relative humidity  | 100 %, condensation/frost permissible. No commissioning if condensation present.  |                                       |  |   |   |  |
| Biologically active substances, compliance with EN 60721-3-3                 | Class 3B2 mold and fungal spores (excluding fauna).<br>The supplied plug covers must remain in place over the unused interfaces during operation!   |                                       |  |   |   |  |
| Chemically active substances, compliance with EN 60721-3-3                   | Class 3C4 incl. salt spray in accordance with EN60068-2-52 (degree of severity 3).<br>The supplied plug covers must remain in place over the unused interfaces during operation!          |                                       |  |   |   |  |
| Mechanically active substances, compliance with EN 60721-3-3                 | Class 3S4 incl. sand, dust. The supplied plug covers must remain in place over the unused interfaces during operation!  |                                       |  |   |   |  |
| Air pressure (depending on the highest positive temperature range specified) | 1 080 ... 795 hPa (-1 000 ... +2 000 m)<br>see ambient temperature range<br>795 ... 658 hPa (+2000 ... +3500 m)<br>derating 10 K658 ... 540 hPa<br>(+3 500 ... +5 000 m)<br>derating 20 K |                                       |  |   |   |  |

For technical documentation on SIPLUS, see:

<http://www.siemens.com/siplus-extreme>

### SIPLUS Basic Panels

| Ordering data   | Order No.                 | Order No.  |
|---|---------------------------|--|
| <b>SIPLUS HMI KTP300<br/>Basic mono PN</b><br><br>For areas with extreme medial exposure (conformal coating); ambient temperature -25 ... +60 °C  | <b>6AG1647-0AH11-2AX0</b> | <b>SIPLUS HMI KTP1000<br/>Basic Color DP</b><br><br>For areas with extreme medial exposure (conformal coating); ambient temperature 0 ... +50 °C |
| <b>SIPLUS HMI KTP400<br/>Basic mono PN</b><br><br>For areas with extreme medial exposure (conformal coating); ambient temperature -10 ... +60 °C  | <b>6AG1647-0AA11-2AX0</b> | <b>SIPLUS HMI KTP1000<br/>Basic Color PN</b><br><br>For areas with extreme medial exposure (conformal coating); ambient temperature 0 ... +50 °C |
| <b>SIPLUS HMI KTP600<br/>Basic color PN</b><br><br>For areas with extreme medial exposure (conformal coating); ambient temperature -25 ... +60 °C | <b>6AG1647-0AD11-2AX0</b> | <b>SIPLUS HMI TP1500<br/>Basic Color PN</b><br><br>For areas with extreme medial exposure (conformal coating); ambient temperature 0 ... +50 °C  |
| <b>Accessories</b>  |                           | See SIMATIC Basic Panels, from page 2/12   |

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Additional information is available in the Internet under:  
<http://www.siemens.com/simatic-basic-panels>

#### Note

Do you require a specific modification to or supplement for the products described here? Look under "Customized products". We provide information there about additional and generally available sector products, and about the customer-specific modification and adaptation options.

# Operator panels

## Comfort Panels

### Comfort Panels – Standard

#### Overview



- Excellent HMI functionality for demanding applications
- Widescreen TFT displays with 4", 7", 9", 12", 15", 19" and 22" diagonals (all 16 million colors) with up to 40% more visualization area as compared to the predecessor devices
- Integrated high-end functionality with archives, scripts, PDF/Word/Excel viewer, Internet Explorer, Media Player and Web Server
- Dimmable displays from 0 to 100% via PROFlenergy, via the HMI project or via a controller

- Modern industrial design, cast aluminum fronts for 7" upwards
- Upright installation for all touch devices
- Optimal selection option: seven touch and five key versions are available
- Data security in the event of a power failure for the device and for the SIMATIC HMI Memory Card
- Innovative service and commissioning concept through second SD card (automatic backup)
- Easy project transfer via standard cable (standard Ethernet cable, standard USB cable)
- Maximum performance with short screen refresh times
- Suitable for extremely harsh industrial environments thanks to extended approvals such as ATEX 2/22 and marine approvals
- Wide range of communication options: PROFIBUS and PROFINET onboard; 2 x PROFINET with integrated switch for 7" models or larger; plus 1 x PROFINET with Gigabit support for 15" models or larger
- All variants can be used as an OPC UA client or as an OPC DA server
- Key-operated devices with LED in every function key and new text input mechanism, similar to the keypads of mobile phones
- All keys have a service life of 2 million operations
- Configuring with the WinCC engineering software of the TIA Portal

#### Technical specifications

|                                      | <b>6AV2124-2DC01-0AX0<br/>SIMATIC HMI KTP400<br/>Comfort</b> | <b>6AV2124-0GC01-0AX0<br/>SIMATIC HMI TP700<br/>Comfort</b> | <b>6AV2124-0JC01-0AX0<br/>SIMATIC HMI TP900<br/>Comfort</b> | <b>6AV2124-0MC01-0AX0<br/>SIMATIC HMI TP1200<br/>Comfort</b> |
|--------------------------------------|--|---|---|--|
| <b>Display</b>                       |  |   |   |  |
| Design of display                    | TFT  | TFT   | TFT   | TFT  |
| Screen diagonal                      | 4.3 in   | 7 in  | 9 in  | 12.1 in  |
| Number of colors                     | 16 777 200   | 16 777 200  | 16 777 200  | 16 777 200   |
| Resolution (pixels)                  |  |   |   |  |
| • Horizontal image resolution        | 480  | 800   | 800   | 1 280  |
| • Vertical image resolution          | 272  | 480   | 480   | 800  |
| Backlighting                         |  |   |   |  |
| • MTBF backlighting (at 25 °C)       | 80 000 h   | 80 000 h  | 80 000 h  | 80 000 h   |
| • Dimmable backlight                 | Yes; 0-100 %   | Yes; 0-100 %  | Yes; 0-100 %  | Yes; 0-100 %   |
| <b>Control elements</b>              |  |   |   |  |
| Keyboard fonts                       |  |   |   |  |
| • Number of function keys            | 4  | 0   | 0   | 0  |
| Touch operation                      |  |   |   |  |
| • Design as touch screen             | Yes  | Yes   | Yes   | Yes  |
| <b>Installation type/mounting</b>    |  |   |   |  |
| Mounting in portrait format possible | Yes  | Yes   | Yes   | Yes  |
| <b>Supply voltage</b>                |  |   |   |  |
| Type of supply voltage               | DC   | DC  | DC  | DC   |
| Rated voltage/DC                     | 24 V   | 24 V  | 24 V  | 24 V   |
| <b>Memory</b>                        |  |   |   |  |
| Usable memory for user data          | 4 Mbyte  | 12 Mbyte  | 12 Mbyte  | 12 Mbyte   |
| <b>Type of output</b>                |  |   |   |  |
| Acoustics                            | No   | Yes   | Yes   | Yes  |
| • Speaker                            |  |   |   |  |

### Comfort Panels – Standard

#### Technical specifications (continued)

|  | <b>6AV2124-2DC01-0AX0<br/>SIMATIC HMI KTP400<br/>Comfort</b> | <b>6AV2124-0GC01-0AX0<br/>SIMATIC HMI TP700<br/>Comfort</b> | <b>6AV2124-0JC01-0AX0<br/>SIMATIC HMI TP900<br/>Comfort</b> | <b>6AV2124-0MC01-0AX0<br/>SIMATIC HMI TP1200<br/>Comfort</b> |
|--|--|---|---|--|
| <b>Time of day</b>                         |  |   |   |  |
| Clock                                      |  |   |   |  |
| • Hardware clock (real-time clock)         | Yes  | Yes   | Yes   | Yes  |
| • Battery-backed                           | Yes  | Yes   | Yes   | Yes  |
| • Synchronizable                           | Yes  | Yes   | Yes   | Yes  |
| <b>Interfaces</b>                          |  |   |   |  |
| Number of RS 485 interfaces                | 1; RS 422/485 combined                                       | 1; RS 422/485 combined                                      | 1; RS 422/485 combined                                      | 1; RS 422/485 combined                                       |
| Number of USB interfaces                   | 1; USB 2.0   | 2; USB 2.0  | 2; USB 2.0  | 2; USB 2.0   |
| Number of USB Mini B interfaces            | 1; 5-pole  | 1; 5-pole   | 1; 5-pole   | 1; 5-pole  |
| Number of SD card slots                    | 2  | 2   | 2   | 2  |
| Industrial Ethernet                        |  |   |   |  |
| • Number of industrial Ethernet interfaces | 1  | 2   | 2   | 2  |
| • Number of ports of the integrated switch | 1  | 2   | 2   | 2  |
| <b>Protocols</b>                           |  |   |   |  |
| PROFINET                                   | Yes  | Yes   | Yes   | Yes  |
| IRT supported                              | No   | Yes   | Yes   | Yes  |
| MRP supported                              | No   | Yes   | Yes   | Yes  |
| PROFIBUS                                   | Yes  | Yes   | Yes   | Yes  |
| MPI  | Yes  | Yes   | Yes   | Yes  |
| <b>Degree and class of protection</b>      |  |   |   |  |
| Type of protection                         | IP20   | IP20  | IP20  | IP20   |
| IP (at the front)                          | IP65   | IP65  | IP65  | IP65   |
| Enclosure type 4x at the front             | Yes  | Yes   | Yes   | Yes  |
| <b>Standards, approvals, certificates</b>  |  |   |   |  |
| CE   | Yes  | Yes   | Yes   | Yes  |
| cULus                                      | Yes  | Yes   | Yes   | Yes  |
| GL   | Yes  | Yes   | Yes   | Yes  |
| ABS  | Yes  | Yes   | Yes   | Yes  |
| BV   | Yes  | Yes   | Yes   | Yes  |
| DNV  | Yes  | Yes   | Yes   | Yes  |
| LRS  | Yes  | Yes   | Yes   | Yes  |
| Class NK                                   | No; Available soon   | No; Available soon  | No; Available soon  | No; Available soon   |
| PRS  | No   | No  | No  | No   |
| Use in hazardous areas                     |  |   |   |  |
| • ATEX Zone 2                              | Yes  | Yes   | Yes   | Yes  |
| • ATEX Zone 22                             | Yes  | Yes   | Yes   | Yes  |
| • cULus Class I Zone 2, Division 2         | Yes  | Yes   | Yes   | Yes  |
| • FM Class I Division 2                    | Yes  | Yes   | Yes   | Yes  |
| <b>Ambient conditions</b>                  |  |   |   |  |
| Operating temperature                      |  |   |   |  |
| • Operation (vertical installation)        |  |   |   |  |
| - in vertical mounting position/ minimum   | 0 °C   | 0 °C  | 0 °C  | 0 °C   |
| - in vertical mounting position/ maximum   | 50 °C  | 50 °C   | 50 °C   | 50 °C  |
| Relative humidity                          |  |   |   |  |
| • max. relative humidity                   | 90 %   | 90 %  | 90 %  | 90 %   |
| <b>Configuration</b>                       |  |   |   |  |
| Configuration software                     |  |   |   |  |
| • WinCC Comfort (TIA Portal)               | Yes; from V11  | Yes; from V11   | Yes; from V11   | Yes; from V11  |

# Operator panels

## Comfort Panels

### Comfort Panels – Standard

#### Technical specifications (continued)

|   | <b>6AV2124-2DC01-0AX0<br/>SIMATIC HMI KTP400<br/>Comfort</b> | <b>6AV2124-0GC01-0AX0<br/>SIMATIC HMI TP700<br/>Comfort</b> | <b>6AV2124-0JC01-0AX0<br/>SIMATIC HMI TP900<br/>Comfort</b> | <b>6AV2124-0MC01-0AX0<br/>SIMATIC HMI TP1200<br/>Comfort</b> |
|---|--|---|---|--|
| <b>Languages</b>  |  |   |   |  |
| Online languages  |  |   |   |  |
| • Number of online/runtime languages                        | 32   | 32  | 32  | 32   |
| <b>Functionality under WinCC (TIA Portal)</b>               |  |   |   |  |
| Applications/options  |  |   |   |  |
| • Internet Explorer   | Yes  | Yes   | Yes   | Yes  |
| • Pocket Word   | Yes  | Yes   | Yes   | Yes  |
| • Pocket Excel  | Yes  | Yes   | Yes   | Yes  |
| • PDF Viewer  | Yes  | Yes   | Yes   | Yes  |
| • Media Player  | Yes  | Yes   | Yes   | Yes  |
| • SIMATIC WinCC Sm@rtServer                                 | Yes  | Yes   | Yes   | Yes  |
| Visual Basic Scripts  | Yes  | Yes   | Yes   | Yes  |
| Task planner  |  |   |   |  |
| • time-controlled   | Yes  | Yes   | Yes   | Yes  |
| • task-controlled   | Yes  | Yes   | Yes   | Yes  |
| With alarm logging system (incl. buffer and acknowledgment) |  |   |   |  |
| • Number of bit messages                                    | 2 000  | 4 000   | 4 000   | 4 000  |
| • Number of analog messages                                 | 50   | 200   | 200   | 200  |
| • Message buffer  |  |   |   |  |
| - Number of entries   | 256  | 1 024   | 1 024   | 1 024  |
| - Circulating buffer  | Yes  | Yes   | Yes   | Yes  |
| - retentive   | Yes  | Yes   | Yes   | Yes  |
| Recipes   |  |   |   |  |
| • Number of recipes   | 100  | 300   | 300   | 300  |
| • Size of internal recipe memory                            | 512 kbyte  | 2 Mbyte   | 2 Mbyte   | 2 Mbyte  |
| • Recipe memory expandable                                  | Yes  | Yes   | Yes   | Yes  |
| Variables   |  |   |   |  |
| • Number of variables per device                            | 1 024  | 2 048   | 2 048   | 2 048  |
| • Number of variables per screen                            | 50   | 400   | 400   | 400  |
| Images  |  |   |   |  |
| • Number of configurable images                             | 500  | 500   | 500   | 500  |
| Archiving   |  |   |   |  |
| • Number of archives per device                             | 10   | 50  | 50  | 50   |
| Security  |  |   |   |  |
| • Number of user groups                                     | 50   | 50  | 50  | 50   |
| • Number of users   | 50   | 50  | 50  | 50   |
| • SIMATIC Logon   | Yes  | Yes   | Yes   | Yes  |
| Logging through printer                                     |  |   |   |  |
| • Alarms  | Yes  | Yes   | Yes   | Yes  |
| • Report (shift log)  | Yes  | Yes   | Yes   | Yes  |
| • Hardcopy  | Yes  | Yes   | Yes   | Yes  |
| • Electronic print to file                                  | Yes; pdf, html   | Yes; pdf, html  | Yes; pdf, html  | Yes; pdf, html   |
| Transfer (upload/download)                                  |  |   |   |  |
| • MPI/PROFIBUS DP   | Yes  | Yes   | Yes   | Yes  |
| • USB   | Yes  | Yes   | Yes   | Yes  |
| • Ethernet  | Yes  | Yes   | Yes   | Yes  |

### Comfort Panels – Standard

#### Technical specifications (continued)

|                                      | <b>6AV2124-2DC01-0AX0<br/>SIMATIC HMI KTP400<br/>Comfort</b> | <b>6AV2124-0GC01-0AX0<br/>SIMATIC HMI TP700<br/>Comfort</b> | <b>6AV2124-0JC01-0AX0<br/>SIMATIC HMI TP900<br/>Comfort</b> | <b>6AV2124-0MC01-0AX0<br/>SIMATIC HMI TP1200<br/>Comfort</b> |  |
|--------------------------------------|--|---|---|--|--|
| Process coupling                     |  |   |   |  |  |
| • S7-1200                            | Yes  | Yes   | Yes   | Yes  |  |
| • S7-1500                            | Yes  | Yes   | Yes   | Yes  |  |
| • S7-200                             | Yes  | Yes   | Yes   | Yes  |  |
| • S7-300/400                         | Yes  | Yes   | Yes   | Yes  |  |
| • LOGO!                              | Yes  | Yes   | Yes   | Yes  |  |
| • Win AC                             | Yes  | Yes   | Yes   | Yes  |  |
| • SIMOTION                           | No; With WinCC, subsequent version                           | No; With WinCC, subsequent version                          | No; With WinCC, subsequent version                          | No; With WinCC, subsequent version                           |  |
| • Allen Bradley (EtherNet/IP)        | Yes  | Yes   | Yes   | Yes  |  |
| • Allen Bradley (DF1)                | Yes  | Yes   | Yes   | Yes  |  |
| • Mitsubishi (MC TCP/IP)             | Yes  | Yes   | Yes   | Yes  |  |
| • Mitsubishi (FX)                    | Yes  | Yes   | Yes   | Yes  |  |
| • OMRON (FINS TCP)                   | No   | No  | No  | No   |  |
| • OMRON (LINK/Multilink)             | Yes  | Yes   | Yes   | Yes  |  |
| • Modicon (Modbus TCP/IP)            | Yes  | Yes   | Yes   | Yes  |  |
| • Modicon (Modbus)                   | Yes  | Yes   | Yes   | Yes  |  |
| • OPC UA Client                      | Yes  | Yes   | Yes   | Yes  |  |
| • OPC UA Server                      | No   | No  | No  | No   |  |
| <b>I/O</b>                           |  |   |   |  |  |
| I/O devices                          |  |   |   |  |  |
| • Printer                            | Yes  | Yes   | Yes   | Yes  |  |
| • Multi Media Card                   | Yes  | Yes   | Yes   | Yes  |  |
| • SD card                            | Yes  | Yes   | Yes   | Yes  |  |
| • USB memory                         | Yes  | Yes   | Yes   | Yes  |  |
| • Network camera                     | Yes  | Yes   | Yes   | Yes  |  |
| <b>Mechanics/material</b>            |  |   |   |  |  |
| Type of housing (front)              |  |   |   |  |  |
| • Plastic                            | Yes  | No  | No  | No   |  |
| • Aluminum                           | No   | Yes   | Yes   | Yes  |  |
| <b>Dimensions</b>                    |  |   |   |  |  |
| Width of the housing front           | 140 mm   | 214 mm  | 274 mm  | 330 mm   |  |
| Height of housing front              | 116 mm   | 158 mm  | 190 mm  | 241 mm   |  |
| Mounting cutout (W x H x D)          |  |   |   |  |  |
| • Mounting cutout, width             | 123 mm   | 197 mm  | 251 mm  | 310 mm   |  |
| • Mounting cutout, height            | 99 mm  | 141 mm  | 166 mm  | 221 mm   |  |
| <b>Weight</b>                        |  |   |   |  |  |
| Weight without packaging             | 0.6 kg   | 1.4 kg  | 1.9 kg  | 2.8 kg   |  |
|                                      | <b>6AV2124-1DC01-0AX0<br/>SIMATIC HMI<br/>KP400 Comfort</b>  | <b>6AV2124-1GC01-0AX0<br/>SIMATIC HMI<br/>KP700 Comfort</b> | <b>6AV2124-1JC01-0AX0<br/>SIMATIC HMI<br/>KP900 Comfort</b> | <b>6AV2124-1MC01-0AX0<br/>SIMATIC HMI<br/>KP1200 Comfort</b> | <b>6AV2124-1QC02-0AX0<br/>SIMATIC HMI<br/>KP1500 Comfort</b> |
| <b>Display</b>                       |  |   |   |  |  |
| Design of display                    | TFT  | TFT   | TFT   | TFT  | TFT  |
| Screen diagonal                      | 4.3 in   | 7 in  | 9 in  | 12.1 in  | 15.4 in  |
| Number of colors                     | 16 777 200   | 16 777 200  | 16 777 200  | 16 777 200   | 16 777 200   |
| Resolution (pixels)                  |  |   |   |  |  |
| • Horizontal image resolution        | 480  | 800   | 800   | 1 280  | 1 280  |
| • Vertical image resolution          | 272  | 480   | 480   | 800  | 800  |
| Backlighting                         |  |   |   |  |  |
| • MTBF backlighting (at 25 °C)       | 80 000 h   | 80 000 h  | 80 000 h  | 80 000 h   | 80 000 h   |
| • Dimmable backlight                 | Yes; 0-100 %   | Yes; 0-100 %  | Yes; 0-100 %  | Yes; 0-100 %   | Yes; 0-100 %   |
| <b>Control elements</b>              |  |   |   |  |  |
| Keyboard fonts                       |  |   |   |  |  |
| • Number of function keys            | 8  | 24  | 26  | 34   | 36   |
| Touch operation                      |  |   |   |  |  |
| • Design as touch screen             | No   | No  | No  | No   | No   |
| <b>Installation type/mounting</b>    |  |   |   |  |  |
| Mounting in portrait format possible | No   | No  | No  | No   | No   |
| <b>Supply voltage</b>                |  |   |   |  |  |
| Type of supply voltage               | DC   | DC  | DC  | DC   | DC   |
| Rated voltage/DC                     | 24 V   | 24 V  | 24 V  | 24 V   | 24 V   |

# Operator panels

## Comfort Panels

### Comfort Panels – Standard

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#### Technical specifications (continued)

|  | <b>6AV2124-1DC01-0AX0<br/>SIMATIC HMI<br/>KP400 Comfort</b> | <b>6AV2124-1GC01-0AX0<br/>SIMATIC HMI<br/>KP700 Comfort</b> | <b>6AV2124-1JC01-0AX0<br/>SIMATIC HMI<br/>KP900 Comfort</b> | <b>6AV2124-1MC01-0AX0<br/>SIMATIC HMI<br/>KP1200 Comfort</b> | <b>6AV2124-1QC02-0AX0<br/>SIMATIC HMI<br/>KP1500 Comfort</b> |
|--|---|---|---|--|--|
| <b>Memory</b>                              |   |   |   |  |  |
| Usable memory for user data                | 4 Mbyte   | 12 Mbyte  | 12 Mbyte  | 12 Mbyte   | 24 Mbyte   |
| <b>Type of output</b>                      |   |   |   |  |  |
| Acoustics                                  |   |   |   |  |  |
| • Speaker                                  | No  | Yes   | Yes   | Yes  | Yes  |
| <b>Time of day</b>                         |   |   |   |  |  |
| Clock                                      |   |   |   |  |  |
| • Hardware clock (real-time clock)         | Yes   | Yes   | Yes   | Yes  | Yes  |
| • Battery-backed                           | Yes   | Yes   | Yes   | Yes  | Yes  |
| • Synchronizable                           | Yes   | Yes   | Yes   | Yes  | Yes  |
| <b>Interfaces</b>                          |   |   |   |  |  |
| Number of RS 485 interfaces                | 1; RS 422/485 combined                                       | 1; RS 422/485 combined                                       |
| Number of USB interfaces                   | 1; USB 2.0  | 2; USB 2.0  | 2; USB 2.0  | 2; USB 2.0   | 2; USB 2.0   |
| Number of USB Mini B interfaces            | 1; 5-pole   | 1; 5-pole   | 1; 5-pole   | 1; 5-pole  | 1; 5-pole  |
| Number of SD card slots                    | 2   | 2   | 2   | 2  | 2  |
| Industrial Ethernet                        |   |   |   |  |  |
| • Number of industrial Ethernet interfaces | 1   | 2   | 2   | 2  | 3  |
| • Number of ports of the integrated switch | 1   | 2   | 2   | 2  | 2  |
| <b>Protocols</b>                           |   |   |   |  |  |
| PROFINET                                   | Yes   | Yes   | Yes   | Yes  | Yes  |
| IRT supported                              | No  | Yes   | Yes   | Yes  | Yes  |
| MRP supported                              | No  | Yes   | Yes   | Yes  | Yes  |
| PROFIBUS                                   | Yes   | Yes   | Yes   | Yes  | Yes  |
| MPI  | Yes   | Yes   | Yes   | Yes  | Yes  |
| <b>Degree and class of protection</b>      |   |   |   |  |  |
| Type of protection                         | IP20  | IP20  | IP20  | IP20   | IP20   |
| IP (at the front)                          | IP65  | IP65  | IP65  | IP65   | IP65   |
| Enclosure type 4x at the front             | Yes   | Yes   | Yes   | Yes  | Yes  |
| <b>Standards, approvals, certificates</b>  |   |   |   |  |  |
| CE   | Yes   | Yes   | Yes   | Yes  | Yes  |
| cULus                                      | Yes   | Yes   | Yes   | Yes  | Yes  |
| GL   | Yes   | Yes   | Yes   | Yes  | No   |
| ABS  | Yes   | Yes   | Yes   | Yes  | No   |
| BV   | Yes   | Yes   | Yes   | Yes  | No   |
| DNV  | Yes   | Yes   | Yes   | Yes  | No   |
| LRS  | Yes   | Yes   | Yes   | Yes  | No   |
| Class NK                                   | No; Available soon  | No; Available soon  | No; Available soon  | No; Available soon   | No   |
| PRS  | No  | No  | No  | No   | No   |
| Use in hazardous areas                     |   |   |   |  |  |
| • ATEX Zone 2                              | No; Available soon  | Yes   | Yes   | Yes  | No   |
| • ATEX Zone 22                             | No; Available soon  | Yes   | Yes   | Yes  | No   |
| • cULus Class I Zone 2, Division 2         | Yes   | Yes   | Yes   | Yes  | Yes  |
| • FM Class I Division 2                    | Yes   | Yes   | Yes   | Yes  | Yes  |
| <b>Ambient conditions</b>                  |   |   |   |  |  |
| Operating temperature                      |   |   |   |  |  |
| • Operation (vertical installation)        |   |   |   |  |  |
| - in vertical mounting position/ minimum   | 0 °C  | 0 °C  | 0 °C  | 0 °C   | 0 °C   |
| - in vertical mounting position/ maximum   | 50 °C   | 50 °C   | 50 °C   | 50 °C  | 50 °C  |
| Relative humidity                          |   |   |   |  |  |
| • max. relative humidity                   | 90 %  | 90 %  | 90 %  | 90 %   | 90 %   |

### Comfort Panels – Standard

#### Technical specifications (continued)

|   | <b>6AV2124-1DC01-0AX0<br/>SIMATIC HMI<br/>KP400 Comfort</b> | <b>6AV2124-1GC01-0AX0<br/>SIMATIC HMI<br/>KP700 Comfort</b> | <b>6AV2124-1JC01-0AX0<br/>SIMATIC HMI<br/>KP900 Comfort</b> | <b>6AV2124-1MC01-0AX0<br/>SIMATIC HMI<br/>KP1200 Comfort</b> | <b>6AV2124-1QC02-0AX0<br/>SIMATIC HMI<br/>KP1500 Comfort</b> |
|---|---|---|---|--|--|
| <b>Configuration</b>  |   |   |   |  |  |
| Configuration software                                      |   |   |   |  |  |
| • WinCC Comfort (TIA Portal)                                | Yes; from V11   | Yes; from V11   | Yes; from V11   | Yes; from V11  | Yes; V11 SP2 or higher                                       |
| <b>Languages</b>  |   |   |   |  |  |
| Online languages  |   |   |   |  |  |
| • Number of online/runtime languages                        | 32  | 32  | 32  | 32   | 32   |
| <b>Functionality under WinCC (TIA Portal)</b>               |   |   |   |  |  |
| Applications/options  |   |   |   |  |  |
| • Internet Explorer   | Yes   | Yes   | Yes   | Yes  | Yes  |
| • Pocket Word   | Yes   | Yes   | Yes   | Yes  | Yes  |
| • Pocket Excel  | Yes   | Yes   | Yes   | Yes  | Yes  |
| • PDF Viewer  | Yes   | Yes   | Yes   | Yes  | Yes  |
| • Media Player  | Yes   | Yes   | Yes   | Yes  | Yes  |
| • SIMATIC WinCC Sm@rtServer                                 | Yes   | Yes   | Yes   | Yes  | Yes  |
| Visual Basic Scripts  | Yes   | Yes   | Yes   | Yes  | Yes  |
| Task planner  |   |   |   |  |  |
| • time-controlled   | Yes   | Yes   | Yes   | Yes  | Yes  |
| • task-controlled   | Yes   | Yes   | Yes   | Yes  | Yes  |
| With alarm logging system (incl. buffer and acknowledgment) |   |   |   |  |  |
| • Number of bit messages                                    | 2 000   | 4 000   | 4 000   | 4 000  | 6 000  |
| • Number of analog messages                                 | 50  | 200   | 200   | 200  | 200  |
| • Message buffer  |   |   |   |  |  |
| - Number of entries   | 256   | 1 024   | 1 024   | 1 024  | 1 024  |
| - Circulating buffer  | Yes   | Yes   | Yes   | Yes  | Yes  |
| - retentive   | Yes   | Yes   | Yes   | Yes  | Yes  |
| Recipes   |   |   |   |  |  |
| • Number of recipes   | 100   | 300   | 300   | 300  | 500  |
| • Size of internal recipe memory                            | 512 kbyte   | 2 Mbyte   | 2 Mbyte   | 2 Mbyte  | 4 Mbyte  |
| • Recipe memory expandable                                  | Yes   | Yes   | Yes   | Yes  | Yes  |
| Variables   |   |   |   |  |  |
| • Number of variables per device                            | 1 024   | 2 048   | 2 048   | 2 048  | 4 096  |
| • Number of variables per screen                            | 50  | 400   | 400   | 400  | 400  |
| Images  |   |   |   |  |  |
| • Number of configurable images                             | 500   | 500   | 500   | 500  | 750  |
| Archiving   |   |   |   |  |  |
| • Number of archives per device                             | 10  | 50  | 50  | 50   | 50   |
| Security  |   |   |   |  |  |
| • Number of user groups                                     | 50  | 50  | 50  | 50   | 50   |
| • Number of users   | 50  | 50  | 50  | 50   | 50   |
| • SIMATIC Logon   | Yes   | Yes   | Yes   | Yes  | Yes  |
| Logging through printer                                     |   |   |   |  |  |
| • Alarms  | Yes   | Yes   | Yes   | Yes  | Yes  |
| • Report (shift log)  | Yes   | Yes   | Yes   | Yes  | Yes  |
| • Hardcopy  | Yes   | Yes   | Yes   | Yes  | Yes  |
| • Electronic print to file                                  | Yes; pdf, html  | Yes; pdf, html  | Yes; pdf, html  | Yes; pdf, html   | Yes; pdf, html   |
| Transfer (upload/download)                                  |   |   |   |  |  |
| • MPI/PROFIBUS DP   | Yes   | Yes   | Yes   | Yes  | Yes  |
| • USB   | Yes   | Yes   | Yes   | Yes  | Yes  |
| • Ethernet  | Yes   | Yes   | Yes   | Yes  | Yes  |

# Operator panels

## Comfort Panels

### Comfort Panels – Standard

#### Technical specifications (continued)

|                               | <b>6AV2124-1DC01-0AX0</b><br><b>SIMATIC HMI<br/>KP400 Comfort</b> | <b>6AV2124-1GC01-0AX0</b><br><b>SIMATIC HMI<br/>KP700 Comfort</b> | <b>6AV2124-1JC01-0AX0</b><br><b>SIMATIC HMI<br/>KP900 Comfort</b> | <b>6AV2124-1MC01-0AX0</b><br><b>SIMATIC HMI<br/>KP1200 Comfort</b> | <b>6AV2124-1QC02-0AX0</b><br><b>SIMATIC HMI<br/>KP1500 Comfort</b> |
|-------------------------------|---|---|---|--|--|
| Process coupling              |   |   |   |  |  |
| • S7-1200                     | Yes   | Yes   | Yes   | Yes  | Yes  |
| • S7-1500                     | Yes   | Yes   | Yes   | Yes  | Yes  |
| • S7-200                      | Yes   | Yes   | Yes   | Yes  | Yes  |
| • S7-300/400                  | Yes   | Yes   | Yes   | Yes  | Yes  |
| • LOGO!                       | Yes   | Yes   | Yes   | Yes  | Yes  |
| • Win AC                      | Yes   | Yes   | Yes   | Yes  | Yes  |
| • SIMOTION                    | No; With WinCC,<br>subsequent version                              | No; With WinCC,<br>subsequent version                              |
| • Allen Bradley (EtherNet/IP) | Yes   | Yes   | Yes   | Yes  | Yes  |
| • Allen Bradley (DF1)         | Yes   | Yes   | Yes   | Yes  | Yes  |
| • Mitsubishi (MC TCP/IP)      | Yes   | Yes   | Yes   | Yes  | Yes  |
| • Mitsubishi (FX)             | Yes   | Yes   | Yes   | Yes  | Yes  |
| • OMRON (FINS TCP)            | No  | No  | No  | No   | No   |
| • OMRON (LINK/Multilink)      | Yes   | Yes   | Yes   | Yes  | Yes  |
| • Modicon (Modbus TCP/IP)     | Yes   | Yes   | Yes   | Yes  | Yes  |
| • Modicon (Modbus)            | Yes   | Yes   | Yes   | Yes  | Yes  |
| • OPC UA Client               | Yes   | Yes   | Yes   | Yes  | Yes  |
| • OPC UA Server               | No  | No  | No  | No   | No   |
| <b>I/O</b>                    |   |   |   |  |  |
| I/O devices                   |   |   |   |  |  |
| • Printer                     | Yes   | Yes   | Yes   | Yes  | Yes  |
| • Multi Media Card            | Yes   | Yes   | Yes   | Yes  | Yes  |
| • SD card                     | Yes   | Yes   | Yes   | Yes  | Yes  |
| • USB memory                  | Yes   | Yes   | Yes   | Yes  | Yes  |
| • Network camera              | Yes   | Yes   | Yes   | Yes  | Yes  |
| <b>Mechanics/material</b>     |   |   |   |  |  |
| Type of housing (front)       |   |   |   |  |  |
| • Plastic                     | Yes   | No  | No  | No   | No   |
| • Aluminum                    | No  | Yes   | Yes   | Yes  | Yes  |
| <b>Dimensions</b>             |   |   |   |  |  |
| Width of the housing front    | 152 mm  | 308 mm  | 362 mm  | 454 mm   | 483 mm   |
| Height of housing front       | 188 mm  | 204 mm  | 230 mm  | 289 mm   | 310 mm   |
| Mounting cutout (W x H x D)   |   |   |   |  |  |
| • Mounting cutout, width      | 135 mm  | 281 mm  | 338 mm  | 434 mm   | 450 mm   |
| • Mounting cutout, height     | 171 mm  | 177 mm  | 206 mm  | 269 mm   | 291 mm   |
| <b>Weight</b>                 |   |   |   |  |  |
| Weight without packaging      | 0.8 kg  | 2.2 kg  | 2.7 kg  | 4.4 kg   | 5.4 kg   |

### Comfort Panels – Standard

#### Technical specifications (continued)

|  | <b>6AV2124-0QC02-0AX0<br/>SIMATIC HMI TP1500 Comfort</b> | <b>6AV2124-0UC02-0AX0<br/>SIMATIC HMI TP1900 Comfort</b> | <b>6AV2124-0XC02-0AX0<br/>SIMATIC HMI TP2200 Comfort</b> |
|--|--|--|--|
| <b>Display</b>                             |  |  |  |
| Design of display                          | TFT  | TFT  | TFT  |
| Screen diagonal                            | 15.4 in  | 18.5 in  | 21.5 in  |
| Number of colors                           | 16 777 200   | 16 777 200   | 16 777 200   |
| Resolution (pixels)                        |  |  |  |
| • Horizontal image resolution              | 1 280  | 1 366  | 1 920  |
| • Vertical image resolution                | 800  | 768  | 1 080  |
| Backlighting                               |  |  |  |
| • MTBF backlighting (at 25 °C)             | 80 000 h   | 50 000 h   | 30 000 h   |
| • Dimmable backlight                       | Yes; 0-100 %   | Yes; 0-100 %   | Yes; 0-100 %   |
| <b>Control elements</b>                    |  |  |  |
| Keyboard fonts                             |  |  |  |
| • Number of function keys                  | 0  | 0  | 0  |
| Touch operation                            |  |  |  |
| • Design as touch screen                   | Yes  | Yes  | Yes  |
| <b>Installation type/mounting</b>          |  |  |  |
| Mounting in portrait format possible       | Yes  | Yes  | Yes  |
| <b>Supply voltage</b>                      |  |  |  |
| Type of supply voltage                     | DC   | DC   | DC   |
| Rated voltage/DC                           | 24 V   | 24 V   | 24 V   |
| <b>Memory</b>                              |  |  |  |
| Usable memory for user data                | 24 Mbyte   | 24 Mbyte   | 24 Mbyte   |
| <b>Type of output</b>                      |  |  |  |
| Acoustics                                  |  |  |  |
| • Speaker                                  | Yes  | Yes  | Yes  |
| <b>Time of day</b>                         |  |  |  |
| Clock                                      |  |  |  |
| • Hardware clock (real-time clock)         | Yes  | Yes  | Yes  |
| • Battery-backed                           | Yes  | Yes  | Yes  |
| • Synchronizable                           | Yes  | Yes  | Yes  |
| <b>Interfaces</b>                          |  |  |  |
| Number of RS 485 interfaces                | 1; RS 422/485 combined                                   | 1; RS 422/485 combined                                   | 1; RS 422/485 combined                                   |
| Number of USB interfaces                   | 2; USB 2.0   | 2; USB 2.0   | 2; USB 2.0   |
| Number of USB Mini B interfaces            | 1; 5-pole  | 1; 5-pole  | 1; 5-pole  |
| Number of SD card slots                    | 2  | 2  | 2  |
| Industrial Ethernet                        |  |  |  |
| • Number of industrial Ethernet interfaces | 3  | 3  | 3  |
| • Number of ports of the integrated switch | 2  | 2  | 2  |
| <b>Protocols</b>                           |  |  |  |
| PROFINET                                   | Yes  | Yes  | Yes  |
| IRT supported                              | Yes  | Yes  | Yes  |
| MRP supported                              | Yes  | Yes  | Yes  |
| PROFIBUS                                   | Yes  | Yes  | Yes  |
| MPI  | Yes  | Yes  | Yes  |
| <b>Degree and class of protection</b>      |  |  |  |
| Type of protection                         | IP20   | IP20   | IP20   |
| IP (at the front)                          | IP65   | IP65   | IP65   |
| Enclosure type 4x at the front             | Yes  | Yes  | Yes  |

# Operator panels

## Comfort Panels

### Comfort Panels – Standard

2

#### Technical specifications (continued)

|   | <b>6AV2124-0QC02-0AX0<br/>SIMATIC HMI TP1500 Comfort</b> | <b>6AV2124-0UC02-0AX0<br/>SIMATIC HMI TP1900 Comfort</b> | <b>6AV2124-0XC02-0AX0<br/>SIMATIC HMI TP2200 Comfort</b> |
|---|--|--|--|
| <b>Standards, approvals, certificates</b>                   |  |  |  |
| CE  | Yes  | Yes  | Yes  |
| cULus   | Yes  | Yes  | Yes  |
| GL  | No   | No   | No   |
| ABS   | No   | No   | No   |
| BV  | No   | No   | No   |
| DNV   | No   | No   | No   |
| LRS   | No   | No   | No   |
| Class NK  | No   | No   | No   |
| PRS   | No   | No   | No   |
| Use in hazardous areas                                      |  |  |  |
| • ATEX Zone 2   | No   | No   | No   |
| • ATEX Zone 22  | No   | No   | No   |
| • cULus Class I Zone 2, Division 2                          | Yes  | Yes  | Yes  |
| • FM Class I Division 2                                     | Yes  | Yes  | Yes  |
| <b>Ambient conditions</b>                                   |  |  |  |
| Operating temperature                                       |  |  |  |
| • Operation (vertical installation)                         |  |  |  |
| - in vertical mounting position/ minimum                    | 0 °C   | 0 °C   | 0 °C   |
| - in vertical mounting position/ maximum                    | 50 °C  | 45 °C  | 45 °C  |
| Relative humidity   |  |  |  |
| • max. relative humidity                                    | 90 %   | 90 %   | 90 %   |
| <b>Configuration</b>  |  |  |  |
| Configuration software                                      |  |  |  |
| • WinCC Comfort (TIA Portal)                                | Yes; V11 SP2 or higher                                   | Yes; V11 SP2 or higher                                   | Yes; V11 SP2 or higher                                   |
| <b>Languages</b>  |  |  |  |
| Online languages  |  |  |  |
| • Number of online/runtime languages                        | 32   | 32   | 32   |
| <b>Functionality under WinCC (TIA Portal)</b>               |  |  |  |
| Applications/options  |  |  |  |
| • Internet Explorer   | Yes  | Yes  | Yes  |
| • Pocket Word   | Yes  | Yes  | Yes  |
| • Pocket Excel  | Yes  | Yes  | Yes  |
| • PDF Viewer  | Yes  | Yes  | Yes  |
| • Media Player  | Yes  | Yes  | Yes  |
| • SIMATIC WinCC Sm@rtServer                                 | Yes  | Yes  | Yes  |
| Visual Basic Scripts  | Yes  | Yes  | Yes  |
| Task planner  |  |  |  |
| • time-controlled   | Yes  | Yes  | Yes  |
| • task-controlled   | Yes  | Yes  | Yes  |
| With alarm logging system (incl. buffer and acknowledgment) |  |  |  |
| • Number of bit messages                                    | 6 000  | 6 000  | 6 000  |
| • Number of analog messages                                 | 200  | 200  | 200  |
| • Message buffer  |  |  |  |
| - Number of entries   | 1 024  | 1 024  | 1 024  |
| - Circulating buffer  | Yes  | Yes  | Yes  |
| - retentive   | Yes  | Yes  | Yes  |
| Recipes   |  |  |  |
| • Number of recipes   | 500  | 500  | 500  |
| • Size of internal recipe memory                            | 4 Mbyte  | 4 Mbyte  | 4 Mbyte  |
| • Recipe memory expandable                                  | Yes  | Yes  | Yes  |
| Variables   |  |  |  |
| • Number of variables per device                            | 4 096  | 4 096  | 4 096  |
| • Number of variables per screen                            | 400  | 400  | 400  |

### Comfort Panels – Standard

#### Technical specifications (continued)

|                                 | <b>6AV2124-0QC02-0AX0<br/>SIMATIC HMI TP1500 Comfort</b> | <b>6AV2124-0UC02-0AX0<br/>SIMATIC HMI TP1900 Comfort</b> | <b>6AV2124-0XC02-0AX0<br/>SIMATIC HMI TP2200 Comfort</b> |
|---------------------------------|--|--|--|
| Images                          |  |  |  |
| • Number of configurable images | 750  | 750  | 750  |
| Archiving                       |  |  |  |
| • Number of archives per device | 50   | 50   | 50   |
| Security                        |  |  |  |
| • Number of user groups         | 50   | 50   | 50   |
| • Number of users               | 50   | 50   | 50   |
| • SIMATIC Logon                 | Yes  | Yes  | Yes  |
| Logging through printer         |  |  |  |
| • Alarms                        | Yes  | Yes  | Yes  |
| • Report (shift log)            | Yes  | Yes  | Yes  |
| • Hardcopy                      | Yes  | Yes  | Yes  |
| • Electronic print to file      | Yes; pdf, html   | Yes; pdf, html   | Yes; pdf, html   |
| Transfer (upload/download)      |  |  |  |
| • MPI/PROFIBUS DP               | Yes  | Yes  | Yes  |
| • USB                           | Yes  | Yes  | Yes  |
| • Ethernet                      | Yes  | Yes  | Yes  |
| Process coupling                |  |  |  |
| • S7-1200                       | Yes  | Yes  | Yes  |
| • S7-1500                       | Yes  | Yes  | Yes  |
| • S7-200                        | Yes  | Yes  | Yes  |
| • S7-300/400                    | Yes  | Yes  | Yes  |
| • LOGO!                         | Yes  | Yes  | Yes  |
| • Win AC                        | Yes  | Yes  | Yes  |
| • SIMOTION                      | No; With WinCC, subsequent version                       | No; With WinCC, subsequent version                       | No; With WinCC, subsequent version                       |
| • Allen Bradley (EtherNet/IP)   | Yes  | Yes  | Yes  |
| • Allen Bradley (DF1)           | Yes  | Yes  | Yes  |
| • Mitsubishi (MC TCP/IP)        | Yes  | Yes  | Yes  |
| • Mitsubishi (FX)               | Yes  | Yes  | Yes  |
| • OMRON (FINS TCP)              | No   | No   | No   |
| • OMRON (LINK/Multilink)        | Yes  | Yes  | Yes  |
| • Modicon (Modbus TCP/IP)       | Yes  | Yes  | Yes  |
| • Modicon (Modbus)              | Yes  | Yes  | Yes  |
| • OPC UA Client                 | Yes  | Yes  | Yes  |
| • OPC UA Server                 | No   | No   | No   |
| <b>I/O</b>                      |  |  |  |
| I/O devices                     |  |  |  |
| • Printer                       | Yes  | Yes  | Yes  |
| • Multi Media Card              | Yes  | Yes  | Yes  |
| • SD card                       | Yes  | Yes  | Yes  |
| • USB memory                    | Yes  | Yes  | Yes  |
| • Network camera                | Yes  | Yes  | Yes  |
| <b>Mechanics/material</b>       |  |  |  |
| Type of housing (front)         |  |  |  |
| • Plastic                       | No   | No   | No   |
| • Aluminum                      | Yes  | Yes  | Yes  |
| <b>Dimensions</b>               |  |  |  |
| Width of the housing front      | 415 mm   | 483 mm   | 560 mm   |
| Height of housing front         | 310 mm   | 337 mm   | 380 mm   |
| Mounting cutout (W x H x D)     |  |  |  |
| • Mounting cutout, width        | 396 mm   | 465 mm   | 542 mm   |
| • Mounting cutout, height       | 291 mm   | 319 mm   | 362 mm   |
| <b>Weight</b>                   |  |  |  |
| Weight without packaging        | 5.2 kg   | 6.5 kg   | 7.1 kg   |

# Operator panels

## Comfort Panels

### Comfort Panels – Standard

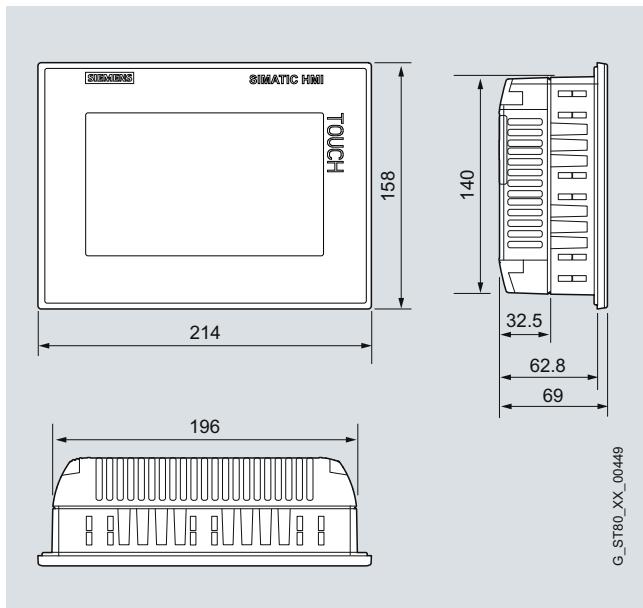
2

| Ordering data                             | Order No.          | Order No.  |
|---|--------------------|--|
| SIMATIC HMI Comfort Panels, Key and Touch |                    | Starter kits for SIMATIC HMI Comfort Panels  |
| SIMATIC HMI KTP400 Comfort                | 6AV2124-2DC01-0AX0 | Consisting of:<br>the respective SIMATIC HMI Comfort Panel, SIMATIC WinCC Comfort, Ethernet cable, 2 m<br>SIMATIC HMI memory card 2 GB<br>10 protective films for touch screen devices |
| SIMATIC HMI Comfort Panels, Touch         |                    | Starter kit for SIMATIC HMI KTP400 Comfort, Key and Touch  |
| SIMATIC HMI TP700 Comfort                 | 6AV2124-0GC01-0AX0 | 6AV2181-4DB20-0AX0   |
| SIMATIC HMI TP900 Comfort                 | 6AV2124-0JC01-0AX0 |  |
| SIMATIC HMI TP1200 Comfort                | 6AV2124-0MC01-0AX0 | Starter kit for SIMATIC HMI TP700 Comfort, Touch   |
| SIMATIC HMI TP1500 Comfort                | 6AV2124-0QC02-0AX0 | 6AV2181-4GB00-0AX0   |
| SIMATIC HMI TP1900 Comfort                | 6AV2124-0UC02-0AX0 | Starter kit for SIMATIC HMI TP900 Comfort, Touch   |
| SIMATIC HMI TP2200 Comfort                | 6AV2124-0XC02-0AX0 | 6AV2181-4JB00-0AX0   |
| SIMATIC HMI Comfort Panels, Key           |                    | Starter kit for SIMATIC HMI TP1200 Comfort, Touch  |
| SIMATIC HMI KP400 Comfort                 | 6AV2124-1DC01-0AX0 | 6AV2181-4MB00-0AX0   |
| SIMATIC HMI KP700 Comfort                 | 6AV2124-1GC01-0AX0 | Starter kit for SIMATIC HMI TP1500 Comfort, Touch  |
| SIMATIC HMI KP900 Comfort                 | 6AV2124-1JC01-0AX0 | 6AV2181-4QB00-0AX0   |
| SIMATIC HMI KP1200 Comfort                | 6AV2124-1MC01-0AX0 | Starter kit for SIMATIC HMI TP1900 Comfort, Touch  |
| SIMATIC HMI KP1500 Comfort                | 6AV2124-1QC02-0AX0 | 6AV2181-4XB00-0AX0   |
|   |                    | Starter kit for SIMATIC HMI TP2200 Comfort, Touch  |
|   |                    | 6AV2181-4DB10-0AX0   |
|   |                    | Starter kit for SIMATIC HMI KP400 Comfort, Key   |
|   |                    | 6AV2181-4GB10-0AX0   |
|   |                    | Starter kit for SIMATIC HMI KP700 Comfort, Key   |
|   |                    | 6AV2181-4JB10-0AX0   |
|   |                    | Starter kit for SIMATIC HMI KP900 Comfort, Key   |
|   |                    | 6AV2181-4MB10-0AX0   |
|   |                    | Starter kit for SIMATIC HMI KP1200 Comfort, Key  |
|   |                    | 6AV2181-4QB10-0AX0   |
|   |                    | Accessories  |
|   |                    | See HMI accessories, from page 2/96  |

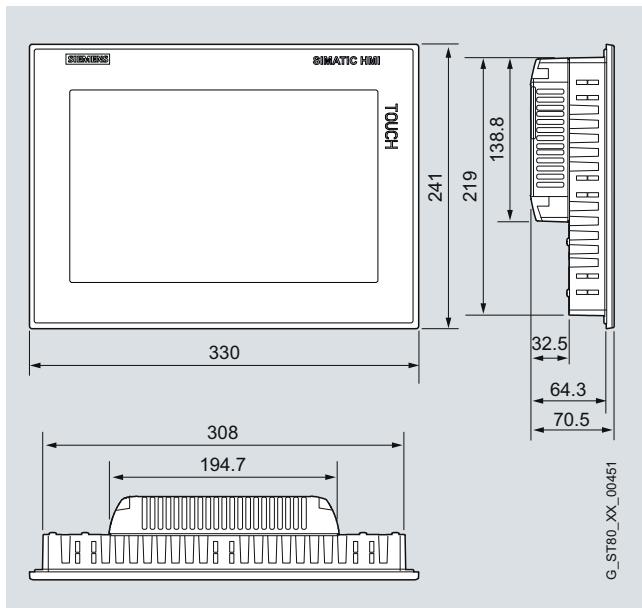
### Comfort Panels – Standard

#### Dimensional drawings

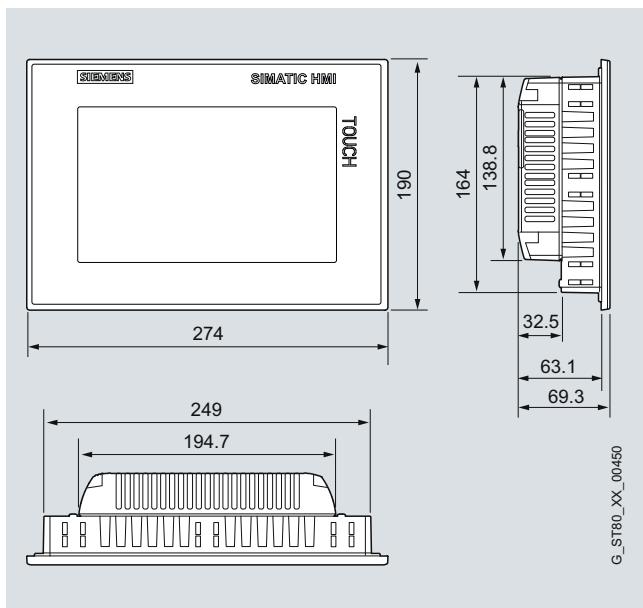
All dimensions in mm. For installation cutout, see technical specifications.



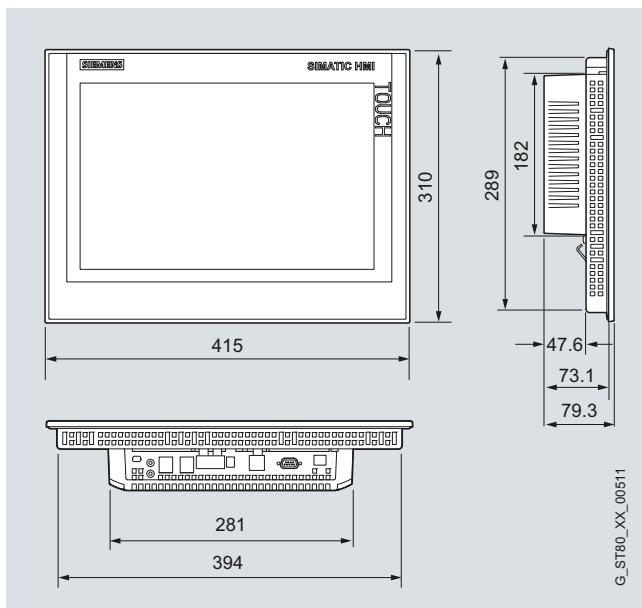
TP700 Comfort



TP1200 Comfort



TP900 Comfort



TP1500 Comfort

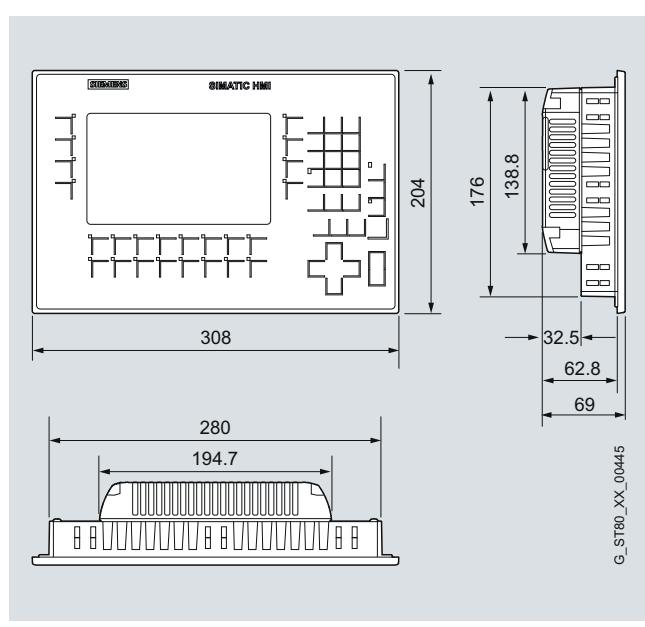
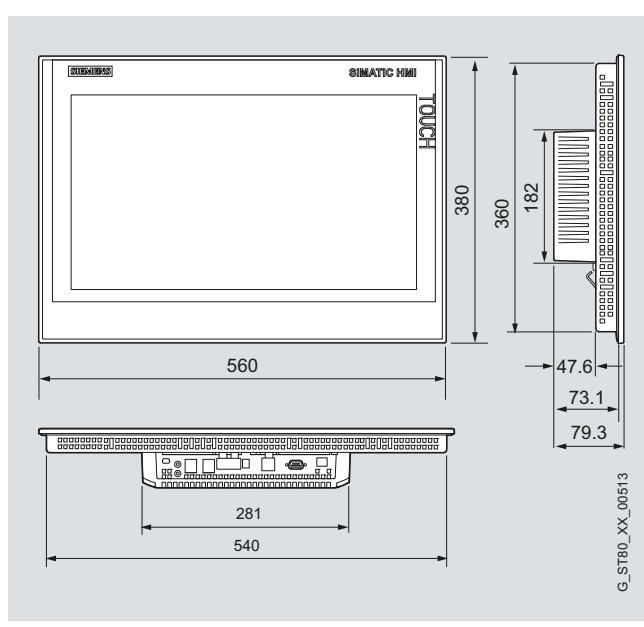
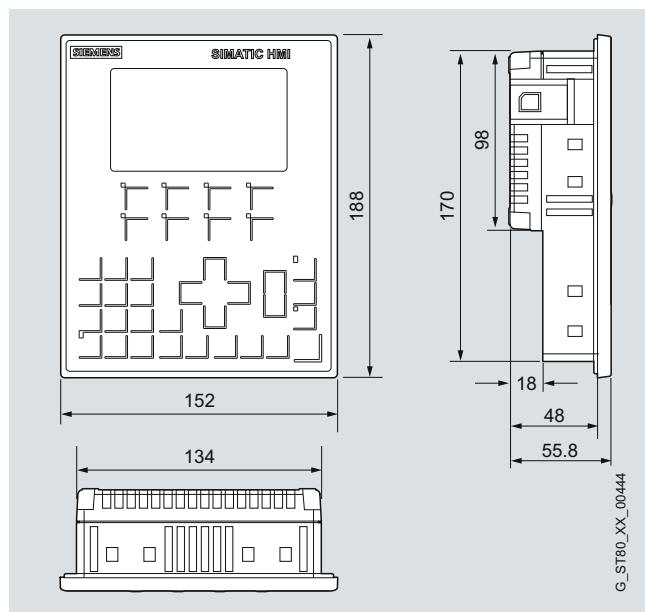
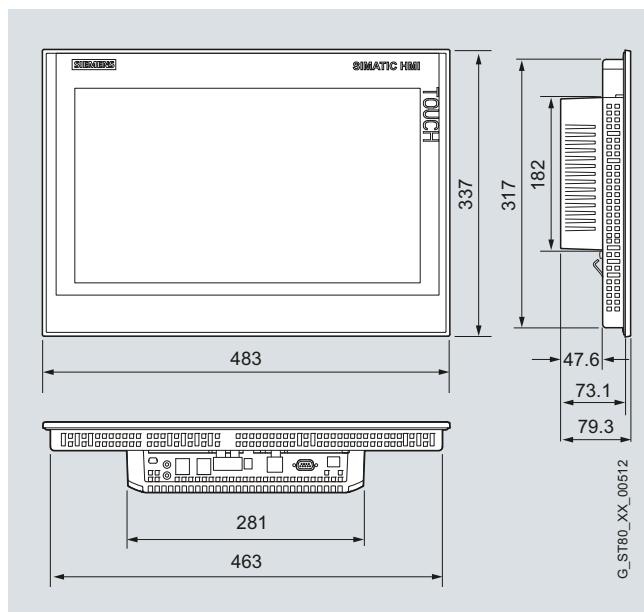
# Operator panels

## Comfort Panels

### Comfort Panels – Standard

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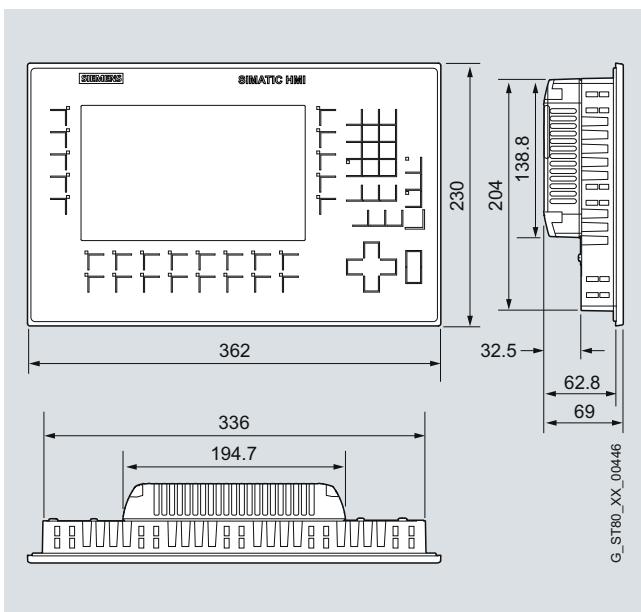
#### Dimensional drawings (continued)



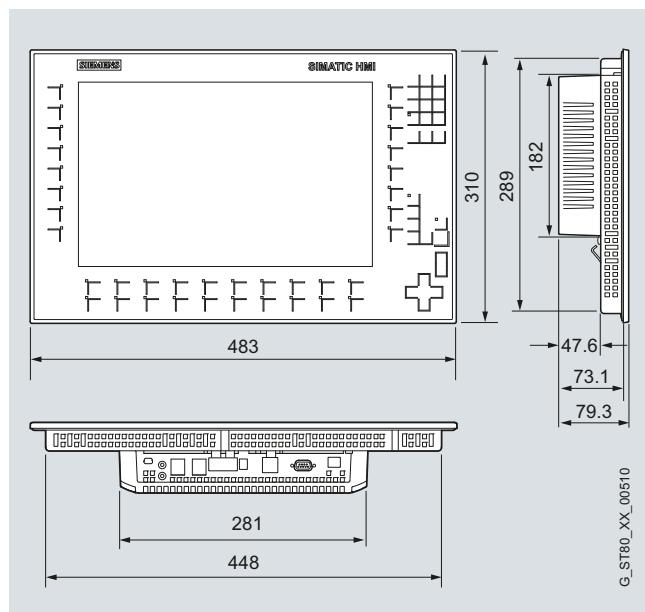
### Comfort Panels – Standard

2

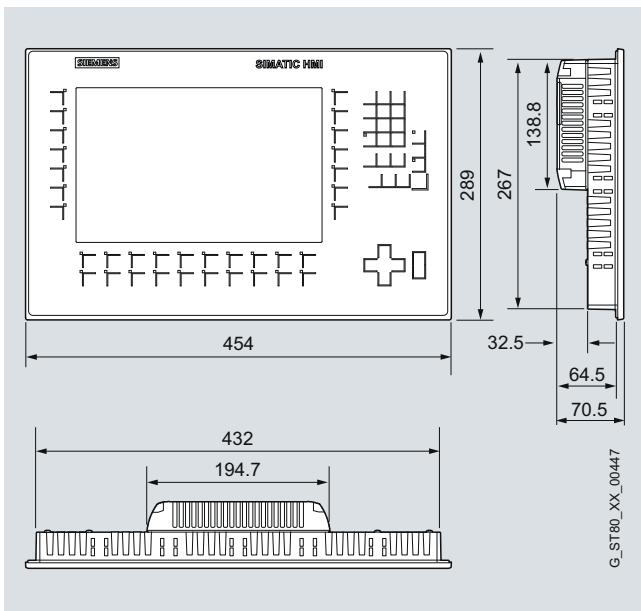
#### Dimensional drawings (continued)



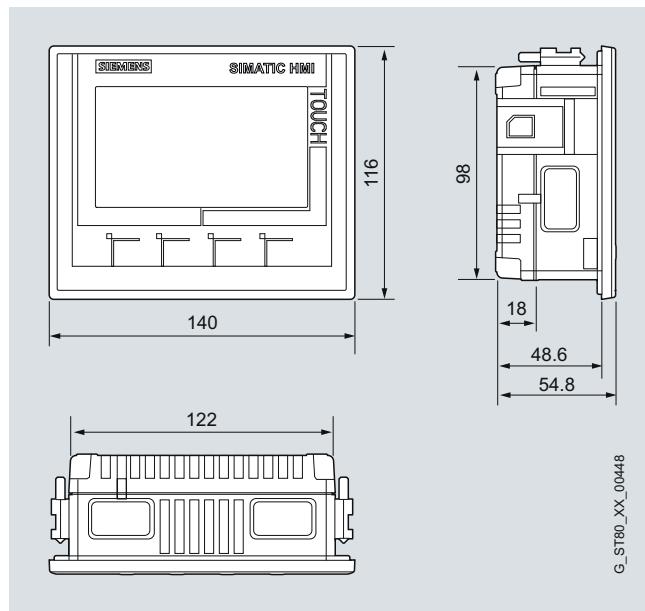
KP900 Comfort



KP1500 Comfort



KP1200 Comfort



KTP400 Comfort

#### More information

Additional information is available on the Internet at:  
<http://www.siemens.com/simatic-comfort-panels>

You can find an overview of approved printers, supply sources and printer settings on the Internet at:  
<http://support.automation.siemens.com/WW/view/en/11376409>

#### Note

Do you need a specific modification or extension to the products described here? If so, refer to "Customized Automation". There you will find information about additional and generally available sector-specific products as well as options for customer-specific modification and adaptation.

# Operator panels

## SIPLUS Comfort Panels

### SIPLUS Comfort Panels

#### Overview



- Excellent HMI functionality for demanding applications
- Widescreen TFT displays with 4", 7", 9", 12", 15", 19" and 22" diagonals (all 16 million colors) with up to 40% more visualization area as compared to the predecessor devices
- Integrated high-end functionality with archives, scripts, PDF/Word/Excel viewer, Internet Explorer, Media Player
- Dimmable displays from 0 to 100% via PROFlenergy, via the HMI project or via a controller
- Modern industrial design, cast aluminum fronts for 7" upwards
- Upright installation for all touch devices
- Optimal selection option: seven touch and five key versions are available

- Data security in the event of a power failure for the device and for the SIMATIC HMI Memory Card
- Innovative service and commissioning concept through second SD card (automatic backup)
- Easy project transfer via standard cable (standard Ethernet cable, standard USB cable)
- Maximum performance with short screen refresh times
- Suitable for extremely harsh industrial environments thanks to extended approvals such as ATEX 2/22
- Wide range of communication options: PROFIBUS and PROFINET onboard; 2x PROFINET with integrated switch for 7" models or larger; plus 1 additional PROFINET with Gigabit support for 15" models or larger
- All variants can be used as an OPC UA client or as an OPC DA server
- Key-operated devices with LED in every function key and new text input mechanism, similar to the keypads of mobile phones
- Key-operated devices with stamped keys for optimum tactile feedback
- All keys have a service life of 2 million operations
- Configuring with the WinCC engineering software of the TIA Portal

**Note:**

SIPLUS extreme products are based on Siemens Industry standard products. The contents listed here were taken from the respective standard products. SIPLUS extreme-specific information was added.

### SIPLUS Comfort Panels

#### Technical specifications

|   | <b>6AG1124-2DC01-4AX0</b><br><b>SIPLUS HMI KTP400</b><br><b>Comfort</b> | <b>6AG1124-0GC01-4AX0</b><br><b>SIPLUS HMI TP700</b><br><b>Comfort</b> | <b>6AG1124-0JC01-4AX0</b><br><b>SIPLUS HMI TP900</b><br><b>Comfort</b> | <b>6AG1124-0MC01-4AX0</b><br><b>SIPLUS HMI TP1200</b><br><b>Comfort</b> |
|---|---|--|--|---|
| <b>Ambient conditions</b>   |   |  |  |   |
| Operating temperature   |   |  |  |   |
| • Operation<br>(vertical installation)                                |   |  |  |   |
| - in vertical mounting position/ minimum                              | 0 °C  | 0 °C   | 0 °C   | 0 °C  |
| - in vertical mounting position/ maximum                              | 50 °C   | 50 °C  | 50 °C  | 50 °C   |
| Extended ambient conditions   |   |  |  |   |
| • Relative humidity   |   |  |  |   |
| - With condensation/ maximum/tested in accordance with IEC 60068-2-38 | 100 %   | 100 %  | 100 %  | 100 %   |
| • Resistance  |   |  |  |   |
| - to biologically active substances                                   | Yes   | Yes  | Yes  | Yes   |
| - to chemically active substances                                     | Yes   | Yes  | Yes  | Yes   |
| - to mechanically active substances                                   | Yes   | Yes  | Yes  | Yes   |
|   | <b>6AG1124-1DC01-4AX0</b><br><b>SIPLUS HMI KTP400</b><br><b>Comfort</b> | <b>6AG1124-1GC01-4AX0</b><br><b>SIPLUS HMI KP700</b><br><b>Comfort</b> | <b>6AG1124-1JC01-4AX0</b><br><b>SIPLUS HMI KP900</b><br><b>Comfort</b> | <b>6AG1124-1MC01-4AX0</b><br><b>SIPLUS HMI KP1200</b><br><b>Comfort</b> |
| <b>Ambient conditions</b>   |   |  |  |   |
| Operating temperature   |   |  |  |   |
| • Operation<br>(vertical installation)                                |   |  |  |   |
| - in vertical mounting position/ minimum                              | 0 °C  | 0 °C   | 0 °C   | 0 °C  |
| - in vertical mounting position/ maximum                              | 50 °C   | 50 °C  | 50 °C  | 50 °C   |
| Extended ambient conditions   |   |  |  |   |
| • Relative humidity   |   |  |  |   |
| - With condensation/ maximum/tested in accordance with IEC 60068-2-38 | 100 %   | 100 %  | 100 %  | 100 %   |
| • Resistance  |   |  |  |   |
| - to biologically active substances                                   | Yes   | Yes  | Yes  | Yes   |
| - to chemically active substances                                     | Yes   | Yes  | Yes  | Yes   |
| - to mechanically active substances                                   | Yes   | Yes  | Yes  | Yes   |

# Operator panels

## SIPLUS Comfort Panels

### SIPLUS Comfort Panels

2

#### Technical specifications (continued)

|   | <b>6AG1124-0QC02-4AX0<br/>SIPLUS HMI TP1500 Comfort</b> | <b>6AG1124-0UC02-4AX0<br/>SIPLUS HMI TP1900 Comfort</b> | <b>6AG1124-0XC02-4AX0<br/>SIPLUS HMI TP2200 Comfort</b> |
|---|---|---|---|
| <b>Ambient conditions</b>   |   |   |   |
| Operating temperature   |   |   |   |
| • Operation (vertical installation)                                   |   |   |   |
| - in vertical mounting position/ minimum                              | 0 °C  | 0 °C  | 0 °C  |
| - in vertical mounting position/ maximum                              | 50 °C   | 45 °C   | 45 °C   |
| Extended ambient conditions   |   |   |   |
| • Relative humidity   |   |   |   |
| - With condensation/ maximum/tested in accordance with IEC 60068-2-38 | 100 %   | 100 %   | 100 %   |
| • Resistance  |   |   |   |
| - to biologically active substances                                   | Yes   | Yes   | Yes   |
| - to chemically active substances                                     | Yes   | Yes   | Yes   |
| - to mechanically active substances                                   | Yes   | Yes   | Yes   |

### SIPLUS Comfort Panels

| Ordering data                                | Order No.                              |
|--|--|
| SIPLUS HMI Comfort Panels,<br>Keys and Touch |  |
| SIPLUS HMI KTP400 Comfort                    | <b>6AG1124-2DC01-4AX0</b>              |
| SIPLUS HMI Comfort Panels,<br>Touch          |  |
| SIPLUS HMI TP700 Comfort                     | <b>6AG1124-0GC01-4AX0</b>              |
| SIPLUS HMI TP900 Comfort                     | <b>6AG1124-0JC01-4AX0</b>              |
| SIPLUS HMI TP1200 Comfort                    | <b>6AG1124-1MC01-4AX0</b>              |
| SIPLUS HMI TP1500 Comfort                    | <b>6AG1124-0QC02-4AX0</b>              |
| SIPLUS HMI TP1900 Comfort                    | <b>6AG1124-0UC02-4AX0</b>              |
| SIPLUS HMI TP2200 Comfort                    | <b>6AG1124-0XC02-4AX0</b>              |
| SIPLUS HMI Comfort Panels,<br>Keys           |  |
| SIPLUS HMI KP400 Comfort                     | <b>6AG1124-1DC01-4AX0</b>              |
| SIPLUS HMI KP700 Comfort                     | <b>6AG1124-1GC01-4AX0</b>              |
| SIPLUS HMI KP900 Comfort                     | <b>6AG1124-1JC01-4AX0</b>              |
| SIPLUS HMI KP1200 Comfort                    | <b>6AG1124-1MC01-4AX0</b>              |
| SIPLUS HMI KP1500 Comfort                    | <b>6AG1124-1QC02-4AX0</b>              |
| Accessories                                  | See HMI accessories,<br>from page 2/26 |

### More information

Additional information is available on the Internet at:  
<http://www.siemens.com/simatic-comfort-panels>

You can find an overview of approved printers, supply sources  
and printer settings on the Internet at:  
<http://support.automation.siemens.com/WW/view/en/11376409>

#### Note

Do you need a specific modification or extension to the products  
described here? If so, refer to "Customized Automation". There  
you will find information about additional and generally available  
sector-specific products as well as options for customer-specific  
modification and adaptation.

# Operator panels

## Mobile Panels

### Mobile Panels

#### Overview



#### **SIMATIC Mobile Panel**

- Mobile operator panel for direct operator control of the plant and machine from any point
- Supports an optimum view of the workpiece or process and, at the same time, direct access and visual contact with the operator panel
- Versatile use thanks to easy unplugging and replugging during normal operation (Mobile Panel 177 and Mobile Panel 277) or
- Wireless freedom (Mobile Panel 277(F) WLAN)
- Pixel-graphics, high-luminance color display with touch screen (analog/resistive)
- PROFIBUS or PROFINET communication, PROFINET over WLAN for Mobile Panel 277(F) WLAN
- Freely-configurable function keys with customized labels (with LED) (not for Mobile Panel 277 10")

#### **SIMATIC Mobile Panel 177 and SIMATIC Mobile Panel 277**

- Two three-stage acknowledgement buttons; Optional versions include:
  - STOP button
  - STOP button, handwheel, key-operated switch and illuminated pushbutton (not for Mobile Panel 277 10")
- Communication is supported via a serial link, MPI/PROFIBUS or PROFINET
- Connection point recognition for local identification of the device based on the connection point ID
- Fast system availability after plugging into the connection boxes
- Connection to the controller and power supply is made via the connection box and the connecting cable

#### **SIMATIC Mobile Panel 277(F) WLAN**

- Wireless, mobile operator panel for flexible and location-independent system and machine operation
- WLAN communication in accordance with IEEE 802.11 (a/b/g/h) and PROFINET support
- Powerful batteries and flexible concept for changing permit battery replacement "on the fly" without interrupting operation
- Effective range limitation and the local identification of the device by using transponder technology
- Low-cost, safety-related mobile operator control and monitoring via RFID technology (MOBY D) for plants with pre-installed safety resources (e.g. robot cells)
- Optional variants with: Handwheel, key switch and illuminated pushbutton
- Fail-safe operator controls of the SIMATIC Mobile Panel 277F WLAN using PROFIsafe:
  - Two three-stage acknowledgment buttons
  - Emergency stop button

#### **IWLAN Access Points SCALANCE W for SIMATIC Mobile Panel 277(F) WLAN**

- The Access Points of the product line SCALANCE W-780 are ideally suited for setting up Industrial Wireless LAN (IWLAN) radio networks for 2.4 GHz and 5 GHz with data rates of up to 54 Mbps; they can be used for all applications that require a high degree of operational reliability, even under extremely harsh ambient conditions
- Suitable for any application:
  - SCALANCE W-788 for cabinet-free installation
  - SCALANCE W-786 for cabinet-free installation, also with integral antennas
  - SCALANCE W-784 for installation in control cabinets or integration into devices
- Wireless communication suitable for use in applications with high real-time and reliability requirements, such as PROFINET, PROFIsafe or video
- Standard-compliant thanks to IEEE 802.11 support, additional functional expansions especially for use with increased reliability
- Effective encryption mechanisms protect against unauthorized access, spying, tapping, and corruption
- The SINEMA E engineering tool, wizards and online help support planning, simulation, configuration and documentation; easy management with the web server and SNMP
- Fast commissioning of the Access Points thanks to the optional swap medium PRESET-PLUG and fast device replacement in the event of a fault thanks to the optional swap medium C-PLUG (Configuration Plug)
- Accessories such as antennas, connectors, cables incl. RCoax cables (radiating cables) that are tuned to one another for a reliable radio link.

### Overview



SIMATIC Mobile Panel 177

### Technical specifications

|                                | <b>6AV6645-0AA01-0AX0<br/>with integrated acknowledgment button</b> | <b>6AV6645-0AB01-0AX0<br/>with integrated acknowledgment button and STOP button</b> | <b>6AV6645-0AC01-0AX0<br/>with integrated acknowledgment button, STOP button, handwheel, keyswitch and illuminated pushbutton</b> |
|--------------------------------|---|---|---|
| <b>Display</b>                 |   |   |   |
| Size                           | 5.7" (121 mm x 92 mm)   | 5.7" (121 mm x 92 mm)   | 5.7" (121 mm x 92 mm)   |
| Display type                   | STN, 256 colors   | STN, 256 colors   | STN, 256 colors   |
| Resolution (pixels)            |   |   |   |
| • Resolution (WxH in pixel)    | 320 x 240   | 320 x 240   | 320 x 240   |
| Backlighting                   |   |   |   |
| • MTBF backlighting (at 25 °C) | about 50,000 hours  | about 50,000 hours  | about 50,000 hours  |
| • MTBF backlighting (at 25 °C) | 50 000 h  | 50 000 h  | 50 000 h  |
| <b>Control elements</b>        |   |   |   |
| Operating options              | Keys and Touch  | Keys and Touch  | Keys and Touch  |
| Function keys, programmable    | 14 function keys, 8 with LEDs                                       | 14 function keys, 8 with LEDs   | 14 function keys, 8 with LEDs   |
| Keyboard fonts                 |   |   |   |
| • System keys                  | 0   | 0   | 0   |
| Touch operation                |   |   |   |
| • Touch screen                 | Analog, resistive   | Analog, resistive   | Analog, resistive   |
| Special operator controls      |   |   |   |
| • Stop button                  | No  | Yes   | Yes   |
| • Acknowledgement button       | Yes   | Yes   | Yes   |
| • Key-operated switch          | No  | No  | Yes   |
| • Illuminated pushbutton       | No  | No  | Yes   |
| • Handwheel                    | No  | No  | Yes   |
| <b>Supply voltage</b>          |   |   |   |
| Supply voltage                 | via connection box  | via connection box  | via connection box  |
| <b>Processor</b>               |   |   |   |
| Processor                      | RISC 32-bit, 200 MHz  | RISC 32-bit, 200 MHz  | RISC 32-bit, 200 MHz  |
| <b>Memory</b>                  |   |   |   |
| Type                           | Flash / RAM   | Flash / RAM   | Flash / RAM   |
| Usable memory for user data    | 2048 KB of usable memory for user data / no user memory for options | 2048 KB of usable memory for user data / no user memory for options                 | 2048 KB of usable memory for user data / no user memory for options   |
| <b>Battery</b>                 |   |   |   |
| Backup battery                 |   |   |   |
| • Battery operation            | maximum buffer time 10 min  | maximum buffer time 10 min  | maximum buffer time 10 min  |

# Operator panels

## Mobile Panels – 170 series

### SIMATIC Mobile Panel 177

2

#### Technical specifications (continued)

|   | <b>6AV6645-0AA01-0AX0<br/>with integrated acknowledgment button</b>                    | <b>6AV6645-0AB01-0AX0<br/>with integrated acknowledgment button and STOP button</b>    | <b>6AV6645-0AC01-0AX0<br/>with integrated acknowledgment button, STOP button, handwheel, keyswitch and illuminated pushbutton</b> |
|---|--|--|---|
| <b>Interfaces</b>   |  |  |   |
| Interfaces  | 1 x RS422, 1 x RS485 (max. 12 Mbit/s)  | 1 x RS422, 1 x RS485 (max. 12 Mbit/s)  | 1 x RS422, 1 x RS485 (max. 12 Mbit/s)   |
| USB port  | No   | No   | No  |
| Number of USB interfaces                                    | 0  | 0  | 0   |
| PC card slot  | No   | No   | No  |
| CF card slot  | No   | No   | No  |
| SD card slot  | No   |  |   |
| Multimedia card/SD card slot                                | combined   | combined   | combined  |
| Industrial Ethernet   |  |  |   |
| • Industrial Ethernet interface                             | No   | No   | No  |
| <b>Degree and class of protection</b>                       |  |  |   |
| IP65 enclosure  | Yes  | Yes  | Yes   |
| <b>Standards, approvals, certificates</b>                   |  |  |   |
| Certifications  | CE, cULus, C-TICK, SIBE  | CE, cULus, C-TICK, SIBE  | CE, cULus, C-TICK, SIBE   |
| CE  | Yes  | Yes  | Yes   |
| cULus   | Yes  | Yes  | Yes   |
| C-TICK  | Yes  |  |   |
| Safety category according to EN954-1                        | Safety category according to EN954-1 (acknowledgment button, STOP button if present) 3 | Safety category according to EN954-1 (acknowledgment button, STOP button if present) 3 | Safety category according to EN954-1 (acknowledgment button, STOP button if present) 3  |
| Highest safety class achievable in safety mode              |  |  |   |
| • Performance Level in accordance with EN ISO 13849-1       | d  | d  | d   |
| <b>Ambient conditions</b>                                   |  |  |   |
| Drop height   | 1.5 m  | 1.5 m  | 1.5 m   |
| Operating temperature                                       |  |  |   |
| • Operation   | 0 °C to +40 °C   | 0 °C to +40 °C   | 0 °C to +40 °C  |
| Storage/transport temperature                               |  |  |   |
| • Transport, storage  | -20 °C to +60 °C   | -20 °C to +60 °C   | -20 °C to +60 °C  |
| Relative humidity   |  |  |   |
| • max. relative humidity                                    | 80 %   | 80 %   | 80 %  |
| <b>Operating systems</b>                                    |  |  |   |
| Operating system  | Windows CE   | Windows CE   | Windows CE  |
| <b>Languages</b>  |  |  |   |
| Online languages  |  |  |   |
| • Number of online/runtime languages                        | 5  | 5  | 5   |
| <b>Functionality under WinCC (TIA Portal)</b>               |  |  |   |
| Libraries   | Yes  | Yes  | Yes   |
| Task planner  | Yes  | Yes  | Yes   |
| With alarm logging system (incl. buffer and acknowledgment) |  |  |   |
| • Number of messages  | 2 000  | 2 000  | 2 000   |
| • Bit messages  | Yes  | Yes  | Yes   |
| • Analog messages   | Yes  | Yes  | Yes   |
| Recipes   |  |  |   |
| • Number of recipes   | 100  | 100  | 100   |
| • Data records per recipe                                   | 200  | 200  | 200   |
| • Entries per data record                                   | 200  | 200  | 200   |
| • Recipe memory   | 32 KB integrated Flash, expandable   | 32 KB integrated Flash, expandable   | 32 KB integrated Flash, expandable  |

### Technical specifications (continued)

|  | <b>6AV6645-0AA01-0AX0<br/>with integrated acknowledgment button</b>  | <b>6AV6645-0AB01-0AX0<br/>with integrated acknowledgment button and STOP button</b>  | <b>6AV6645-0AC01-0AX0<br/>with integrated acknowledgment button, STOP button, handwheel, keyswitch and illuminated pushbutton</b>  |
|--|--|--|--|
| Variables                              |  |  |  |
| • Number of variables per device       | 1 024  | 1 024  | 1 024  |
| • Limit values                         | Yes  | Yes  | Yes  |
| • Multiplexing                         | Yes  | Yes  | Yes  |
| Images                                 |  |  |  |
| • Number of configurable images        | 500  | 500  | 500  |
| Image objects                          |  |  |  |
| • Text objects                         | 2,500 text elements  | 2,500 text elements  | 2,500 text elements  |
| • Graphics object                      | Bit maps, vector graphics  | Bit maps, vector graphics  | Bit maps, vector graphics  |
| Complex image objects                  |  |  |  |
| • Status/control                       | With SIMATIC S7  | With SIMATIC S7  | With SIMATIC S7  |
| • dynamic objects                      | Diagrams, bar graphs, sliders, invisible buttons   | Diagrams, bar graphs, sliders, invisible buttons   | Diagrams, bar graphs, sliders, invisible buttons   |
| Lists                                  |  |  |  |
| • Number of text lists per project     | 300  | 300  | 300  |
| • Number of graphics lists per project | 100  | 100  | 100  |
| Archiving                              |  |  |  |
| • Number of archives per device        | 0  | 0  | 0  |
| Security                               |  |  |  |
| • Number of user groups                | 50   | 50   | 50   |
| • Number of user rights                | 32   | 32   | 32   |
| • Password export/import               | Yes  | Yes  | Yes  |
| Data carrier support                   |  |  |  |
| • PC card                              | No   | No   | No   |
| • CF card                              | No   | No   | No   |
| Logging through printer                |  |  |  |
| • Recording/Printing                   | -  | -  | -  |
| Transfer (upload/download)             |  |  |  |
| • Transfer of configuration            | MPI/PROFIBUS DP, serial, automatic transfer recognition  | MPI/PROFIBUS DP, serial, automatic transfer recognition  | MPI/PROFIBUS DP, serial, automatic transfer recognition  |
| Process coupling                       |  |  |  |
| • Connection to controller             | S5, S7-200, S7- 300/400, TI 505, Win AC, SINUMERIK, SIMOTION, Allen Bradley (DF1), Allen Bradley (DF485), Mitsubishi (FX), OMRON (LINK/Multi-link), Modicon (Modbus), further non-Siemens drivers, see chapter "System interfaces" | S5, S7-200, S7- 300/400, TI 505, Win AC, SINUMERIK, SIMOTION, Allen Bradley (DF1), Allen Bradley (DF485), Mitsubishi (FX), OMRON (LINK/Multi-link), Modicon (Modbus), further non-Siemens drivers, see chapter "System interfaces" | S5, S7-200, S7- 300/400, TI 505, Win AC, SINUMERIK, SIMOTION, Allen Bradley (DF1), Allen Bradley (DF485), Mitsubishi (FX), OMRON (LINK/Multi-link), Modicon (Modbus), further non-Siemens drivers, see chapter "System interfaces" |
| • S7-1200                              | Yes  | Yes  | Yes  |
| • S7-1500                              | Yes  | Yes  | Yes  |
| Expandability/openness                 |  |  |  |
| • Open Platform Program                | Yes  | Yes  | Yes  |
| I/O                                    |  |  |  |
| I/O devices                            |  |  |  |
| • Multi Media Card                     | Yes  | Yes  | Yes  |
| Mechanics/material                     |  |  |  |
| Type of housing (front)                | Plastic  | Plastic  | Plastic  |
| Dimensions                             |  |  |  |
| Housing diameter/depth (mm)            | Dia 245 mm / D 58 mm   | Dia 245 mm / D 58 mm   | Dia 245 mm / D 58 mm   |
| Weight                                 |  |  |  |
| Weight                                 | 1.3 kg   | 1.3 kg   | 1.3 kg   |

# Operator panels

## Mobile Panels – 170 series

### SIMATIC Mobile Panel 177

#### Technical specifications (continued)

|                                       | <b>6AV6645-0BA01-0AX0<br/>with integrated acknowledgment button</b> | <b>6AV6645-0BB01-0AX0<br/>with integrated acknowledgment button and STOP button</b> | <b>6AV6645-0BC01-0AX0<br/>with integrated acknowledgment button, STOP button, handwheel, keyswitch and illuminated pushbutton</b> |
|---------------------------------------|---|---|---|
| <b>Display</b>                        |   |   |   |
| Size                                  | 5.7" (121 mm x 92 mm)   | 5.7" (121 mm x 92 mm)   | 5.7" (121 mm x 92 mm)   |
| Display type                          | STN, 256 colors   | STN, 256 colors   | STN, 256 colors   |
| Resolution (pixels)                   |   |   |   |
| • Resolution (WxH in pixel)           | 320 x 240   | 320 x 240   | 320 x 240   |
| Backlighting                          |   |   |   |
| • MTBF backlighting (at 25 °C)        | about 50,000 hours  | about 50,000 hours  | about 50,000 hours  |
| • MTBF backlighting (at 25 °C)        | 50 000 h  | 50 000 h  | 50 000 h  |
| <b>Control elements</b>               |   |   |   |
| Operating options                     | Keys and Touch  | Keys and Touch  | Keys and Touch  |
| Function keys, programmable           | 14 function keys, 8 with LEDs                                       | 14 function keys, 8 with LEDs   | 14 function keys, 8 with LEDs   |
| Keyboard fonts                        |   |   |   |
| • System keys                         | 0   | 0   | 0   |
| Touch operation                       |   |   |   |
| • Touch screen                        | Analog, resistive   | Analog, resistive   | Analog, resistive   |
| Special operator controls             |   |   |   |
| • Stop button                         | No  | Yes   | Yes   |
| • Acknowledgement button              | Yes   | Yes   | Yes   |
| • Key-operated switch                 | No  | No  | Yes   |
| • Illuminated pushbutton              | No  | No  | Yes   |
| • Handwheel                           | No  | No  | Yes   |
| <b>Supply voltage</b>                 |   |   |   |
| Supply voltage                        | via connection box  | via connection box  | via connection box  |
| <b>Processor</b>                      |   |   |   |
| Processor                             | RISC 32-bit, 200 MHz  | RISC 32-bit, 200 MHz  | RISC 32-bit, 200 MHz  |
| <b>Memory</b>                         |   |   |   |
| Type                                  | Flash / RAM   | Flash / RAM   | Flash / RAM   |
| Usable memory for user data           | 2048 KB of usable memory for user data / no user memory for options | 2048 KB of usable memory for user data / no user memory for options                 | 2048 KB of usable memory for user data / no user memory for options   |
| <b>Battery</b>                        |   |   |   |
| Backup battery                        |   |   |   |
| • Battery operation                   | maximum buffer time 10 min  | maximum buffer time 10 min  | maximum buffer time 10 min  |
| <b>Interfaces</b>                     |   |   |   |
| Interfaces                            | 1 x RS485, 1 x Ethernet (RJ45)                                      | 1 x RS485, 1 x Ethernet (RJ45)  | 1 x RS485, 1 x Ethernet (RJ45)  |
| USB port                              | No  | No  | No  |
| Number of USB interfaces              | 0   | 0   | 0   |
| PC card slot                          | No  | No  | No  |
| CF card slot                          | No  | No  | No  |
| Multimedia card/SD card slot          | combined  | combined  | combined  |
| Industrial Ethernet                   |   |   |   |
| • Industrial Ethernet interface       | 1 x Ethernet (RJ45)   | 1 x Ethernet (RJ45)   | 1 x Ethernet (RJ45)   |
| <b>Protocols</b>                      |   |   |   |
| PROFINET                              | Yes   | Yes   | Yes   |
| Supports protocol for PROFINET IO     | Yes   | Yes   | Yes   |
| <b>Degree and class of protection</b> |   |   |   |
| IP65 enclosure                        | Yes   | Yes   | Yes   |

### Technical specifications (continued)

|   | <b>6AV6645-0BA01-0AX0<br/>with integrated acknowledgment button</b>                    | <b>6AV6645-0BB01-0AX0<br/>with integrated acknowledgment button and STOP button</b>    | <b>6AV6645-0BC01-0AX0<br/>with integrated acknowledgment button, STOP button, handwheel, keyswitch and illuminated pushbutton</b> |
|---|--|--|---|
| <b>Standards, approvals, certificates</b>                   |  |  |   |
| Certifications  | CE, cULus, C-TICK, SIBE  | CE, cULus, C-TICK, SIBE  | CE, cULus, C-TICK, SIBE   |
| CE  | Yes  | Yes  | Yes   |
| cULus   | Yes  | Yes  | Yes   |
| Safety category according to EN954-1                        | Safety category according to EN954-1 (acknowledgment button, STOP button if present) 3 | Safety category according to EN954-1 (acknowledgment button, STOP button if present) 3 | Safety category according to EN954-1 (acknowledgment button, STOP button if present) 3  |
| Highest safety class achievable in safety mode              |  |  |   |
| • Performance Level in accordance with EN ISO 13849-1       | d  | d  | d   |
| <b>Ambient conditions</b>                                   |  |  |   |
| Drop height   | 1.5 m  | 1.5 m  | 1.5 m   |
| Operating temperature                                       |  |  |   |
| • Operation   | 0 °C to +40 °C   | 0 °C to +40 °C   | 0 °C to +40 °C  |
| Storage/transport temperature                               |  |  |   |
| • Transport, storage  | -20 °C to +60 °C   | -20 °C to +60 °C   | -20 °C to +60 °C  |
| Relative humidity   |  |  |   |
| • max. relative humidity                                    | 80 %   | 80 %   | 80 %  |
| <b>Operating systems</b>                                    |  |  |   |
| Operating system  | Windows CE   | Windows CE   | Windows CE  |
| <b>Languages</b>  |  |  |   |
| Online languages  |  |  |   |
| • Number of online/runtime languages                        | 5  | 5  | 5   |
| <b>Functionality under WinCC (TIA Portal)</b>               |  |  |   |
| Libraries   | Yes  | Yes  | Yes   |
| Task planner  | Yes  | Yes  | Yes   |
| With alarm logging system (incl. buffer and acknowledgment) |  |  |   |
| • Number of messages  | 2 000  | 2 000  | 2 000   |
| • Bit messages  | Yes  | Yes  | Yes   |
| • Analog messages   | Yes  | Yes  | Yes   |
| Recipes   |  |  |   |
| • Number of recipes   | 100  | 100  | 100   |
| • Data records per recipe                                   | 200  | 200  | 200   |
| • Entries per data record                                   | 200  | 200  | 200   |
| • Recipe memory   | 32 KB integrated Flash, expandable   | 32 KB integrated Flash, expandable   | 32 KB integrated Flash, expandable  |
| Variables   |  |  |   |
| • Number of variables per device                            | 1 024  | 1 024  | 1 024   |
| • Limit values  | Yes  | Yes  | Yes   |
| • Multiplexing  | Yes  | Yes  | Yes   |
| Images  |  |  |   |
| • Number of configurable images                             | 500  | 500  | 500   |
| Image objects   |  |  |   |
| • Text objects  | 2,500 text elements  | 2,500 text elements  | 2,500 text elements   |
| • Graphics object   | Bit maps, vector graphics  | Bit maps, vector graphics  | Bit maps, vector graphics   |
| Complex image objects                                       |  |  |   |
| • Status/control  | With SIMATIC S7  | With SIMATIC S7  | With SIMATIC S7   |
| • dynamic objects   | Diagrams, bar graphs, sliders, invisible buttons                                       | Diagrams, bar graphs, sliders, invisible buttons                                       | Diagrams, bar graphs, sliders, invisible buttons  |

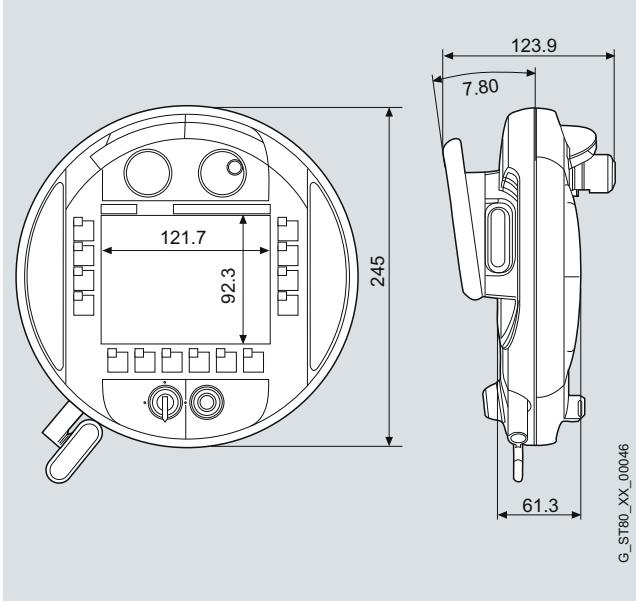
# Operator panels

## Mobile Panels – 170 series

### SIMATIC Mobile Panel 177

#### Technical specifications (continued)

|  | <b>6AV6645-0BA01-0AX0<br/>with integrated acknowledgment button</b>                                       | <b>6AV6645-0BB01-0AX0<br/>with integrated acknowledgment button and STOP button</b>                       | <b>6AV6645-0BC01-0AX0<br/>with integrated acknowledgment button, STOP button, handwheel, keyswitch and illuminated pushbutton</b> |
|--|---|---|---|
| <b>Lists</b>                           |   |   |   |
| • Number of text lists per project     | 300   | 300   | 300   |
| • Number of graphics lists per project | 100   | 100   | 100   |
| <b>Archiving</b>                       |   |   |   |
| • Number of archives per device        | 0   | 0   | 0   |
| <b>Security</b>                        |   |   |   |
| • Number of user groups                | 50  | 50  | 50  |
| • Number of user rights                | 32  | 32  | 32  |
| • Password export/import               | Yes   | Yes   | Yes   |
| <b>Data carrier support</b>            |   |   |   |
| • PC card                              | No  | No  | No  |
| • CF card                              | No  | No  | No  |
| <b>Logging through printer</b>         |   |   |   |
| • Recording/Printing                   | -   | -   | -   |
| <b>Transfer (upload/download)</b>      |   |   |   |
| • Transfer of configuration            | Serial, Ethernet, automatic transfer recognition  | Serial, Ethernet, automatic transfer recognition  | Serial, Ethernet, automatic transfer recognition  |
| <b>Process coupling</b>                |   |   |   |
| • Connection to controller             | S7-200, S7- 300/400, Win AC, PC (TCP/IP), SIMOTION, Modicon (Modbus), see the chapter "System interfaces" | S7-200, S7- 300/400, Win AC, PC (TCP/IP), SIMOTION, Modicon (Modbus), see the chapter "System interfaces" | S7-200, S7- 300/400, Win AC, PC (TCP/IP), SIMOTION, Modicon (Modbus), see the chapter "System interfaces"                         |
| • S7-1200                              | Yes   | Yes   | Yes   |
| • S7-1500                              | Yes   | Yes   | Yes   |
| <b>Expandability/openness</b>          |   |   |   |
| • Open Platform Program                | Yes   | Yes   | Yes   |
| <b>I/O</b>                             |   |   |   |
| I/O devices                            |   |   |   |
| • Multi Media Card                     | Printer<br>Yes  | Printer<br>Yes  | Printer<br>Yes  |
| <b>Mechanics/material</b>              |   |   |   |
| Type of housing (front)                | Plastic   | Plastic   | Plastic   |
| <b>Dimensions</b>                      |   |   |   |
| Housing diameter/depth (mm)            | Dia 245 mm / D 58 mm  | Dia 245 mm / D 58 mm  | Dia 245 mm / D 58 mm  |
| <b>Weight</b>                          |   |   |   |
| Weight                                 | 1.3 kg  | 1.3 kg  | 1.3 kg  |

| Ordering data  | Order No.   | Dimensional drawings  |
|--|---|---|
| <b>SIMATIC Mobile Panel 177 DP (MPI/PROFIBUS)<sup>1)</sup></b>   |   |   |
| <ul style="list-style-type: none"> <li>With integrated acknowledgement button</li> <li>With integrated acknowledgement button and STOP button</li> <li>With integrated acknowledgement button, STOP button, handwheel, key-operated switch and illuminated pushbutton</li> </ul> | <b>6AV6645-0AA01-0AX0</b><br><b>6AV6645-0AB01-0AX0</b><br><b>6AV6645-0AC01-0AX0</b> | All dimensions in mm. For installation cutout, see technical specifications.<br><br><br>G_ST80_XX_00046 |
| <b>SIMATIC Mobile Panel 177 PN (PROFINET)<sup>1)</sup></b>   |   |   |
| <ul style="list-style-type: none"> <li>With integrated acknowledgement button</li> <li>With integrated acknowledgement button and STOP button</li> <li>With integrated acknowledgement button, STOP button, handwheel, key-operated switch and illuminated pushbutton</li> </ul> | <b>6AV6645-0BA01-0AX0</b><br><b>6AV6645-0BB01-0AX0</b><br><b>6AV6645-0BC01-0AX0</b> |   |
| <b>Documentation</b>   |   |   |
| You can find the manuals for the Mobile Panels on the Internet at:<br><a href="http://support.automation.siemens.com/WW/view/en/11599011/133300">http://support.automation.siemens.com/WW/view/en/11599011/133300</a>  | <b>6AV6691-1SA01-0AX0</b>   |   |
| <b>SIMATIC HMI Manual Collection</b>   |   |   |
| Electronic documentation on DVD, 5 languages (English, German, French, Italian and Spanish); contains: all currently available user manuals, device manuals and communication manuals for SIMATIC HMI  | <b>6AV6691-1SA01-0AX0</b>   |   |
| <b>System components for Mobile Panels</b>   |   |   |
| <b>DP connection box for Mobile Panels (MPI/PROFIBUS)</b>  |   |   |
| <ul style="list-style-type: none"> <li>Basic</li> <li>Plus</li> </ul>  | <b>6AV6671-5AE00-0AX0</b><br><b>6AV6671-5AE10-0AX0</b>                              |   |
| <b>PN connection box for Mobile Panel (PROFINET)</b>   |   |   |
| <ul style="list-style-type: none"> <li>Basic</li> <li>Plus</li> </ul>  | <b>6AV6671-5AE01-0AX0</b><br><b>6AV6671-5AE11-0AX0</b>                              |   |
| <b>Connecting cable and accessories for Mobile Panels</b>  | See HMI accessories, from page 2/99   |   |

<sup>1)</sup> The system components (connecting cables and connection boxes) must be ordered separately.

<sup>2)</sup> Delivery time approximately 6 weeks

Mobile Panel 177, front and side view

### More information

Additional information is available in the Internet under:  
<http://www.siemens.com/simatic-mobile-panels>

### Note

Do you need a specific modification or option for the products described here? Then look up "Customized products", where you will find information about additional sector-specific products that can be ordered as well as about options for customer-specific modification and adaptation.

# Operator panels

## Mobile Panels – 270 series

### SIMATIC Mobile Panel 277

#### Overview



SIMATIC Mobile Panel 277 8"



SIMATIC Mobile Panel 277 10"

#### Technical specifications

|  | <b>6AV6645-0CA01-0AX0<br/>8" with integrated acknowledgment button</b> | <b>6AV6645-0CB01-0AX0<br/>8" with integrated acknowledgment button and STOP button</b> | <b>6AV6645-0CC01-0AX0<br/>8" with integrated acknowledgment button, STOP button, handwheel, keyswitch and illuminated pushbutton</b> | <b>6AV6645-0BE02-0AX0<br/>10" with integrated acknowledgment button and STOP button</b> |
|--|--|--|--|---|
| <b>Display</b>                               |  |  |  |   |
| Size   | 7.5"   | 7.5"   | 7.5"   | 10.4"   |
| Display type                                 | TFT, 65536 colors  | TFT, 65536 colors  | TFT, 65536 colors  | TFT, 65536 colors   |
| Resolution (pixels)                          |  |  |  |   |
| • Resolution (WxH in pixel)                  | 640 x 480  | 640 x 480  | 640 x 480  | 800 x 600   |
| Backlighting                                 |  |  |  |   |
| • MTBF backlighting (at 25 °C)               | about 50,000 hours   | about 50,000 hours   | about 50,000 hours   | about 50,000 hours  |
| • MTBF backlighting (at 25 °C)               | 50 000 h   | 50 000 h   | 50 000 h   | 50 000 h  |
| <b>Control elements</b>                      |  |  |  |   |
| Operating options                            | Keys and Touch   | Keys and Touch   | Keys and Touch   | Touch   |
| Function keys, programmable                  | 18 function keys, 18 with LEDs   | 18 function keys, 18 with LEDs   | 18 function keys, 18 with LEDs   | none  |
| Connection for mouse/keyboard/barcode reader | USB / USB / USB  | USB / USB / USB  | USB / USB / USB  | USB / USB / USB   |
| Keyboard fonts                               |  |  |  |   |
| • System keys                                |  |  |  | 0   |
| Touch operation                              |  |  |  |   |
| • Touch screen                               | Analog, resistive  | Analog, resistive  | Analog, resistive  | Analog, resistive   |
| Special operator controls                    |  |  |  |   |
| • Stop button                                | No   | Yes  | Yes  | Yes   |
| • Acknowledgement button                     | Yes  | Yes  | Yes  | Yes   |
| • Key-operated switch                        | No   | No   | Yes  | No  |
| • Illuminated pushbutton                     | No   | No   | Yes; Two illuminated pushbuttons   | No  |
| • Handwheel                                  | No   | No   | Yes  | No  |

### Technical specifications (continued)

|   | <b>6AV6645-0CA01-0AX0<br/>8" with integrated acknowledgment button</b>                 | <b>6AV6645-0CB01-0AX0<br/>8" with integrated acknowledgment button and STOP button</b> | <b>6AV6645-0CC01-0AX0<br/>8" with integrated acknowledgment button, STOP button, handwheel, keyswitch and illuminated pushbutton</b> | <b>6AV6645-0BE02-0AX0<br/>10" with integrated acknowledgment button and STOP button</b> |
|---|--|--|--|---|
| <b>Supply voltage</b>                                 |  |  |  |   |
| Supply voltage  | via connection box   | via connection box   | via connection box   | via connection box, DC  |
| <b>Processor</b>                                      |  |  |  |   |
| Processor   | ARM, 520 MHz   | ARM, 520 MHz   | ARM, 520 MHz   | ARM, 520  |
| <b>Memory</b>   |  |  |  |   |
| Type  | Flash / RAM  | Flash / RAM  | Flash / RAM  | Flash / RAM   |
| Usable memory for user data                           | 6 MB usable memory for user data   | 6 MB usable memory for user data   | 6 MB usable memory for user data   | 6 MB usable memory for user data  |
| <b>Battery</b>  |  |  |  |   |
| Backup battery  |  |  |  |   |
| • Battery operation                                   |  |  |  |   |
| - Charging duration                                   | maximum buffer time 10 min   | maximum buffer time 10 min   | maximum buffer time 10 min   | maximum buffer time 10 min  |
| - Number of loading cycles, min                       |  |  |  | 5 h<br>500  |
| <b>Time of day</b>                                    |  |  |  |   |
| Clock   |  |  |  |   |
| • Type  | Hardware clock, battery backup, synchronizable   | Hardware clock, battery backup, synchronizable   | Hardware clock, battery backup, synchronizable   | Hardware clock, battery backup, synchronizable  |
| <b>Interfaces</b>                                     |  |  |  |   |
| Interfaces  | 1 x RS422, 1 x RS485, 1 x Ethernet (RJ45) (max. 12 Mbit/s)                             | 1 x RS422, 1 x RS485, 1 x Ethernet (RJ45) (max. 12 Mbit/s)                             | 1 x RS422, 1 x RS485, 1 x Ethernet (RJ45) (max. 12 Mbit/s)   | 1 x RS422, 1 x RS485, 1 x Ethernet (RJ45) (max. 12 Mbit/s)                              |
| USB port  | 1 x USB  | 1 x USB  | 1 x USB  | 1 x USB   |
| Multi Media Card slot                                 | 1 MMC/SD card slot   | 1 MMC/SD card slot   | 1 MMC/SD card slot   |   |
| Multimedia card/SD card slot                          |  |  |  | combined  |
| Industrial Ethernet                                   |  |  |  |   |
| • Industrial Ethernet interface                       | 1 x Ethernet (RJ45)  | 1 x Ethernet (RJ45)  | 1 x Ethernet (RJ45)  | 1 x Ethernet (RJ45)   |
| <b>Protocols</b>                                      |  |  |  |   |
| PROFINET  | Yes  | Yes  | Yes  | Yes   |
| Supports protocol for PROFINET IO                     | Yes  | Yes  | Yes  | Yes   |
| <b>Degree and class of protection</b>                 |  |  |  |   |
| IP65 enclosure  | Yes  | Yes  | Yes  | Yes   |
| <b>Standards, approvals, certificates</b>             |  |  |  |   |
| Certifications  | CE, cULus, C-TICK, SIBE  | CE, cULus, C-TICK, SIBE  | CE, cULus, C-TICK, SIBE  | CE, cULus, C-TICK, SIBE   |
| Safety category according to EN954-1                  | Safety category according to EN954-1 (acknowledgment button, STOP button if present) 3 | Safety category according to EN954-1 (acknowledgment button, STOP button if present) 3 | Safety category according to EN954-1 (acknowledgment button, STOP button if present) 3   | Safety category according to EN954-1 (acknowledgment button, STOP button if present) 3  |
| Highest safety class achievable in safety mode        |  |  |  |   |
| • Performance Level in accordance with EN ISO 13849-1 | d  | d  | d  | d   |

# Operator panels

## Mobile Panels – 270 series

### SIMATIC Mobile Panel 277

#### Technical specifications (continued)

|   | <b>6AV6645-0CA01-0AX0<br/>8" with integrated acknowledgment button</b>           | <b>6AV6645-0CB01-0AX0<br/>8" with integrated acknowledgment button and STOP button</b> | <b>6AV6645-0CC01-0AX0<br/>8" with integrated acknowledgment button, STOP button, handwheel, keyswitch and illuminated pushbutton</b> | <b>6AV6645-0BE02-0AX0<br/>10" with integrated acknowledgment button and STOP button</b> |
|---|--|--|--|---|
| <b>Ambient conditions</b>                                   |  |  |  |   |
| Drop height   | 1.2 m  | 1.2 m  | 1.2 m  | 1 m   |
| Operating temperature                                       |  |  |  |   |
| • Operation   | 0 °C to +40 °C   | 0 °C to +40 °C   | 0 °C to +40 °C   | 0 °C to +40 °C  |
| Storage/transport temperature                               |  |  |  |   |
| • Transport, storage  | -20 °C to +60 °C   | -20 °C to +60 °C   | -20 °C to +60 °C   | -20 °C to +60 °C  |
| Relative humidity   |  |  |  |   |
| • max. relative humidity                                    | 80 %   | 80 %   | 80 %   | 80 %  |
| <b>Operating systems</b>                                    |  |  |  |   |
| Operating system  | Windows CE   | Windows CE   | Windows CE   | Windows CE  |
| <b>Languages</b>  |  |  |  |   |
| Online languages  |  |  |  |   |
| • Number of online/runtime languages                        | 16   | 16   | 16   | 16  |
| <b>Functionality under WinCC (TIA Portal)</b>               |  |  |  |   |
| Libraries   | Yes  | Yes  | Yes  | Yes   |
| Task planner  | Yes  | Yes  | Yes  | Yes   |
| With alarm logging system (incl. buffer and acknowledgment) |  |  |  |   |
| • Number of messages  | 4 000  | 4 000  | 4 000  | 4 000   |
| • Bit messages  | Yes  | Yes  | Yes  | Yes   |
| • Analog messages   | Yes  | Yes  | Yes  | Yes   |
| Recipes   |  |  |  |   |
| • Number of recipes   | 300  | 300  | 300  | 300   |
| • Data records per recipe                                   | 500  | 500  | 500  | 200   |
| • Entries per data record                                   | 1 000  | 1 000  | 1 000  | 1 000   |
| • Recipe memory   | 64 KB integrated Flash, expandable   | 64 KB integrated Flash, expandable   | 64 KB integrated Flash, expandable   | 64 KB integrated Flash, expandable  |
| Variables   |  |  |  |   |
| • Number of variables per device                            | 2 048  | 2 048  | 2 048  | 2 048   |
| • Limit values  | Yes  | Yes  | Yes  | Yes   |
| • Multiplexing  | Yes  | Yes  | Yes  | Yes   |
| Images  |  |  |  |   |
| • Number of configurable images                             | 500  | 500  | 500  | 500   |
| Image objects   |  |  |  |   |
| • Text objects  | 10,000 text elements   | 10,000 text elements   | 10,000 text elements   | 10,000 text elements  |
| • Graphics object   | Bit maps, icons, vector graphics   | Bit maps, icons, vector graphics   | Bit maps, icons, vector graphics   | Bit maps, icons, vector graphics  |
| Complex image objects                                       |  |  |  |   |
| • Status/control  | With SIMATIC S7 Diagrams, bar graphs, sliders, analog display, invisible buttons | With SIMATIC S7 Diagrams, bar graphs, sliders, analog display, invisible buttons       | With SIMATIC S7 Diagrams, bar graphs, sliders, analog display, invisible buttons   | With SIMATIC S7 Diagrams, bar graphs, sliders, analog display, invisible buttons        |
| • dynamic objects   |  |  |  |   |

**Technical specifications (continued)**

|  | <b>6AV6645-0CA01-0AX0<br/>8" with integrated acknowledgment button</b>  | <b>6AV6645-0CB01-0AX0<br/>8" with integrated acknowledgment button and STOP button</b>  | <b>6AV6645-0CC01-0AX0<br/>8" with integrated acknowledgment button, STOP button, handwheel, keyswitch and illuminated pushbutton</b>  | <b>6AV6645-0BE02-0AX0<br/>10" with integrated acknowledgment button and STOP button</b>   |
|--|---|---|---|---|
| <b>Lists</b>                             |   |   |   |   |
| • Number of text lists per project       | 500   | 500   | 500   | 500   |
| • Number of graphics lists per project   | 400   | 400   | 400   | 400   |
| <b>Archiving</b>                         |   |   |   |   |
| • Number of archives per device          | 20  | 20  | 20  | 20  |
| • Number of measuring points per project | 20  | 20  | 20  | 20  |
| • Number of entries per archive          | 10 000  | 10 000  | 10 000  | 10 000  |
| <b>Security</b>                          |   |   |   |   |
| • Number of user groups                  | 50  | 50  | 50  | 50  |
| • Number of user rights                  | 32  | 32  | 32  | 32  |
| • Password export/import                 | Yes   | Yes   | Yes   | Yes   |
| <b>Logging through printer</b>           |   |   |   |   |
| • Recording/Printing                     | Alarms, report (shift report), color print, hardcopy  | Alarms, report (shift report), color print, hardcopy  | Alarms, report (shift report), color print, hardcopy  | Alarms, report (shift report), color print, hardcopy, PROFINET  |
| <b>Transfer (upload/download)</b>        |   |   |   |   |
| • Transfer of configuration              | MPI/PROFIBUS DP, USB, Ethernet, automatic transfer recognition  | MPI/PROFIBUS DP, USB, Ethernet, automatic transfer recognition  | MPI/PROFIBUS DP, USB, Ethernet, automatic transfer recognition  | MPI/PROFIBUS DP, USB, Ethernet, automatic transfer recognition  |
| <b>Process coupling</b>                  |   |   |   |   |
| • Connection to controller               | S5, S7-200, S7-300/400, TI 505, Win AC, PC (TCP/IP), SINUMERIK, SIMOTION, Allen Bradley (DF1), Allen Bradley (DF485), Mitsubishi (FX), OMRON (LINK/Multilink), Modicon (Modbus), further non-Siemens drivers, see chapter "System interfaces"<br>• S7-1200<br>• S7-1500 | S5, S7-200, S7- 300/400, TI 505, SINUMERIK, SIMOTION, Allen Bradley (DF1), Allen Bradley (DF485), Mitsubishi (FX), OMRON (LINK/Multilink), Modicon (Modbus), further non-Siemens drivers, see chapter "System interfaces"<br>Yes<br>Yes | S5, S7-200, S7- 300/400, TI 505, SINUMERIK, SIMOTION, Allen Bradley (DF1), Allen Bradley (DF485), Mitsubishi (FX), OMRON (LINK/Multilink), Modicon (Modbus), further non-Siemens drivers, see chapter "System interfaces"<br>Yes<br>Yes | S5, S7-200, S7- 300/400, TI 505, SINUMERIK, SIMOTION, Allen Bradley (DF1), Allen Bradley (DF485), Mitsubishi (FX), OMRON (LINK/Multilink), Modicon (Modbus), further non-Siemens drivers, see chapter "System interfaces"<br>Yes<br>Yes |
| <b>I/O</b>                               |   |   |   |   |
| I/O devices                              | Printer, barcode reader   | Printer, barcode reader   | Printer, barcode reader   | Printer, barcode reader   |
| • Multi Media Card                       | Yes   | Yes   | Yes   | Yes   |
| <b>Mechanics/material</b>                |   |   |   |   |
| Type of housing (front)                  | Plastic   | Plastic   | Plastic   | Plastic   |
| <b>Dimensions</b>                        |   |   |   |   |
| Housing diameter/depth (mm)              | Dia 290 mm / D 103 mm   | Dia 290 mm / D 103 mm   | Dia 290 mm / D 103 mm   | Dia 290 mm / D 103 mm   |
| <b>Weight</b>                            |   |   |   |   |
| Weight                                   | 1.7 kg  | 1.7 kg  | 1.7 kg  | 2.3 kg  |

# Operator panels

## Mobile Panels – 270 series

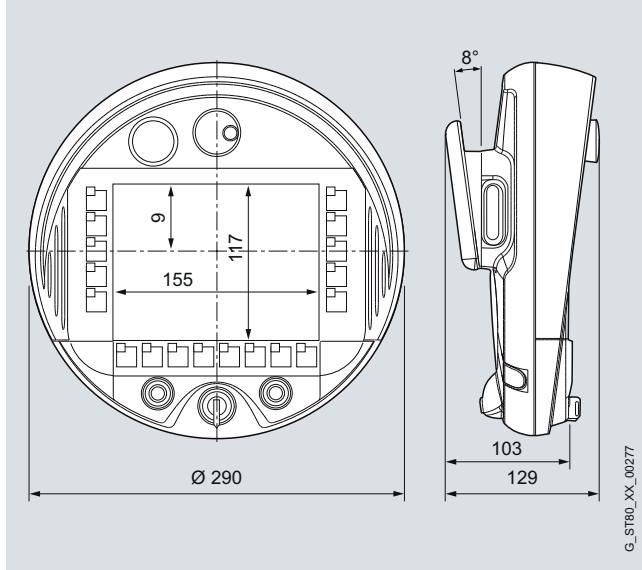
### SIMATIC Mobile Panel 277

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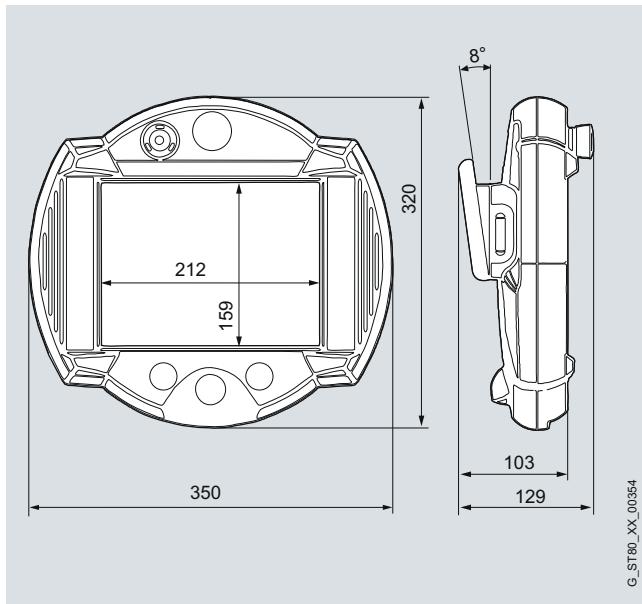
| Ordering data  | Order No.                           | Dimensional drawings   |
|--|-------------------------------------|--|
| <b>SIMATIC Mobile Panel 277 8"</b> <sup>1)</sup>   |                                     | All dimensions in mm. For installation cutout, see technical specifications. |
| • With integrated acknowledgement button   | <b>6AV6645-0CA01-0AX0</b>           |  |
| • With integrated acknowledgement button and STOP button   | <b>6AV6645-0CB01-0AX0</b>           |  |
| • With integrated acknowledgement button, STOP button, handwheel, key-operated switch and two illuminated pushbuttons  | <b>6AV6645-0CC01-0AX0</b>           |  |
| <b>SIMATIC Mobile Panel 277 10"</b>  | <b>6AV6645-0BE02-0AX0</b>           |  |
| • With integrated acknowledgement button and STOP button   |                                     |  |
| <b>Documentation</b>   |                                     |  |
| You can find the manuals for the Mobile Panels on the Internet at:   |                                     |  |
| <a href="http://support.automation.siemens.com/WW/view/en/11599011/133300">http://support.automation.siemens.com/WW/view/en/11599011/133300</a>                      |                                     |  |
| <b>SIMATIC HMI Manual Collection</b>   | <b>6AV6691-1SA01-0AX0</b>           |  |
| Electronic documentation, on DVD   |                                     |  |
| 5 languages (English, French, German, Italian and Spanish); contains: all currently available user manuals, device manuals and communication manuals for SIMATIC HMI |                                     |  |
| <b>System components for Mobile Panels</b>   |                                     |  |
| <b>DP connection box for Mobile Panels (MPI/PROFIBUS)</b>  |                                     |  |
| • Basic  | <b>6AV6671-5AE00-0AX0</b>           |  |
| • Plus   | <b>6AV6671-5AE10-0AX0</b>           |  |
| <b>PN connection box for Mobile Panel (PROFINET)</b>   |                                     |  |
| • Basic  | <b>6AV6671-5AE01-0AX0</b>           |  |
| • Plus   | <b>6AV6671-5AE11-0AX0</b>           |  |
| <b>Connecting cable and accessories for Mobile Panels</b>  | See HMI accessories, from page 2/99 |  |

<sup>1)</sup> The system components (connecting cables and connection boxes) must be ordered separately.

<sup>2)</sup> Delivery time approximately 6 weeks



Mobile Panel 277 8", front and side view



Mobile Panel 277 10", front and side view

### More information

Additional information is available in the Internet under:  
<http://www.siemens.com/simatic-mobile-panels>

### Note

Do you need a specific modification or option for the products described here? Then look up "Customized products", where you will find information about additional sector-specific products that can be ordered as well as about options for customer-specific modification and adaptation.

### SIMATIC Mobile Panel 277(F) IWLAN

#### Overview



SIMATIC Mobile Panel 277(F) IWLAN

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#### Technical specifications

|  | 6AV6645-0DD01-0AX1  | 6AV6645-0DE01-0AX1   | 6AV6645-0EB01-0AX1  | 6AV6645-0EC01-0AX1  | 6AV6645-0EF01-0AX1<br>RFID TAG  |
|--|---|--|---|---|---|
|  | with integrated handwheel, keyoperated switch and two illuminated pushbuttons | with integrated acknowledgement button and emergency stop button | with integrated acknowledgement button and emergency stop button, handwheel, key-operated switch, and two illuminated pushbuttons | with integrated acknowledgement button and emergency stop button, handwheel, key-operated switch, and two illuminated pushbuttons | with integrated acknowledgement button and emergency stop button, handwheel, key-operated switch, and two illuminated pushbuttons |
| <b>Display</b>                               |   |  |   |   |   |
| Size   | 7.5"  | 7.5"   | 7.5"  | 7.5"  | 7.5"  |
| Display type                                 | TFT, 65536 colors   | TFT, 65536 colors  | TFT, 65536 colors   | TFT, 65536 colors   | TFT, 65536 colors   |
| Resolution (pixels)                          |   |  |   |   |   |
| • Resolution (WxH in pixel)                  | 640 x 480   | 640 x 480  | 640 x 480   | 640 x 480   | 640 x 480   |
| Backlighting                                 |   |  |   |   |   |
| • MTBF backlighting (at 25 °C)               | about 50,000 hours  | about 50,000 hours   | about 50,000 hours  | about 50,000 hours  | about 50,000 hours  |
| • MTBF backlighting (at 25 °C)               | 50 000 h  | 50 000 h   | 50 000 h  | 50 000 h  | 50 000 h  |
| <b>Control elements</b>                      |   |  |   |   |   |
| Operating options                            | Keys and Touch  | Keys and Touch   | Keys and Touch  | Keys and Touch  | Keys and Touch  |
| Function keys, programmable                  | 18 function keys, 18 with LEDs  | 18 function keys, 18 with LEDs                                   | 18 function keys, 18 with LEDs  | 18 function keys, 18 with LEDs  | 18 function keys, 18 with LEDs  |
| Connection for mouse/keyboard/barcode reader | USB / USB / USB   | USB / USB / USB  | USB / USB / USB   | USB / USB / USB   | USB / USB / USB   |
| Touch operation                              |   |  |   |   |   |
| • Touch screen                               | Analog, resistive   | Analog, resistive  | Analog, resistive   | Analog, resistive   | Analog, resistive   |
| Special operator controls                    |   |  |   |   |   |
| • Stop button                                | No  | No   | Yes   | Yes   | Yes   |
| • Acknowledgement button                     | No  | No   | Yes   | Yes   | Yes   |
| • Key-operated switch                        | No  | Yes  | No  | Yes   | Yes   |
| • Illuminated pushbutton                     | No  | Yes  | No  | Yes   | Yes   |
| • Handwheel                                  | No  | Yes  | No  | Yes   | Yes   |

# Operator panels

## Mobile Panels – 270 series

### SIMATIC Mobile Panel 277(F) IWLAN

#### Technical specifications (continued)

|  | 6AV6645-0DD01-0AX1                             | 6AV6645-0DE01-0AX1  | 6AV6645-0EB01-0AX1   | 6AV6645-0EC01-0AX1  | 6AV6645-0EF01-0AX1<br>RFID TAG  |
|--|--|---|--|---|---|
|  |  | with integrated handwheel, keyoperated switch and two illuminated pushbuttons | with integrated acknowledgement button and emergency stop button | with integrated acknowledgement button and emergency stop button, handwheel, key-operated switch, and two illuminated pushbuttons | with integrated acknowledgement button and emergency stop button, handwheel, key-operated switch, and two illuminated pushbuttons |
| <b>Supply voltage</b>                  |  |   |  |   |   |
| Supply voltage                         | DC   | DC  | DC   | DC  | DC  |
| Via charging station                   | Yes  | Yes   | Yes  | Yes   | Yes   |
| Via table power supply                 | Yes  | Yes   | Yes  | Yes   | Yes   |
| <b>Processor</b>                       |  |   |  |   |   |
| Processor                              | ARM, 520 MHz                                   | ARM, 520 MHz  | ARM, 520 MHz   | ARM, 520 MHz  | ARM, 520 MHz  |
| <b>Memory</b>                          |  |   |  |   |   |
| Type                                   | Flash / RAM                                    | Flash / RAM   | Flash / RAM  | Flash / RAM   | Flash / RAM   |
| Usable memory for user data            | 6 MB usable memory for user data               | 6 MB usable memory for user data  | 6 MB usable memory for user data                                 | 6 MB usable memory for user data  | 6 MB usable memory for user data  |
| <b>Battery</b>                         |  |   |  |   |   |
| Main battery                           |  |   |  |   |   |
| • Rated voltage                        | 7.2 V  | 7.2 V   | 7.2 V  | 7.2 V   | 7.2 V   |
| • Capacity                             | 5 100 mA·h                                     | 5 100 mA·h  | 5 100 mA·h   | 5 100 mA·h  | 5 100 mA·h  |
| • Number of loading cycles, min        | 500  | 500   | 500  | 500   | 500   |
| • Charging time, typ.                  | 4 h  | 4 h   | 4 h  | 4 h   | 4 h   |
| • Operating time, typ.                 | 4 h  | 4 h   | 4 h  | 4 h   | 4 h   |
| • Display for battery capacity         | Yes  | Yes   | Yes  | Yes   | Yes   |
| • Energy-saving mode                   | Yes  | Yes   | Yes  | Yes   | Yes   |
| • Battery replacement during operation | Yes  | Yes   | Yes  | Yes   | Yes   |
| <b>Type of output</b>                  |  |   |  |   |   |
| Status LEDs                            | Yes  | Yes   | Yes  | Yes   | Yes   |
| LED for safe                           |  |   | Yes  | Yes   | Yes   |
| LED for communication                  | Yes  | Yes   | Yes  | Yes   | Yes   |
| LED for battery                        | Yes  | Yes   | Yes  | Yes   | Yes   |
| Vibrations                             | Yes  | Yes   | Yes  | Yes   | Yes   |
| <b>Time of day</b>                     |  |   |  |   |   |
| Clock                                  |  |   |  |   |   |
| • Type                                 | Hardware clock, battery backup, synchronizable | Hardware clock, battery backup, synchronizable                                | Hardware clock, battery backup, synchronizable                   | Hardware clock, battery backup, synchronizable  | Hardware clock, battery backup, synchronizable  |
| <b>Interfaces</b>                      |  |   |  |   |   |
| Interfaces                             | 1 x Ethernet (RJ45)                            | 1 x Ethernet (RJ45)   | 1 x Ethernet (RJ45)  | 1 x Ethernet (RJ45)   | 1 x Ethernet (RJ45)   |
| USB port                               | 1 x USB  | 1 x USB   | 1 x USB  | 1 x USB   | 1 x USB   |
| Multi Media Card slot                  | 1 MMC/SD card slot                             | 1 MMC/SD card slot  | 1 MMC/SD card slot   | 1 MMC/SD card slot  | 1 MMC/SD card slot  |
| Industrial Ethernet                    |  |   |  |   |   |
| • Industrial Ethernet interface        | 1 x Ethernet (RJ45)                            | 1 x Ethernet (RJ45)   | 1 x Ethernet (RJ45)  | 1 x Ethernet (RJ45)   | 1 x Ethernet (RJ45)   |
| <b>WLAN</b>                            |  |   |  |   |   |
| • Wireless LAN                         | Yes  | Yes   | Yes  | Yes   | Yes   |
| • Supports rapid roaming               | Yes  | Yes   | Yes  | Yes   | Yes   |
| <b>Protocols</b>                       |  |   |  |   |   |
| PROFINET                               | Yes  | Yes   | Yes  | Yes   | Yes   |
| Supports protocol for PROFINET IO      | Yes  | Yes   | Yes  | Yes   | Yes   |
| Supports protocol for PROFIsafe        |  |   | Yes  | Yes   | Yes   |

### SIMATIC Mobile Panel 277(F) IWLAN

#### Technical specifications (continued)

|   | <b>6AV6645-0DD01-0AX1</b>   | <b>6AV6645-0DE01-0AX1</b>   | <b>6AV6645-0EB01-0AX1</b>   | <b>6AV6645-0EC01-0AX1</b>   | <b>6AV6645-0EF01-0AX1<br/>RFID TAG</b>  |
|---|---|---|---|---|---|
|   |   | <b>with integrated handwheel, keyoperated switch and two illuminated pushbuttons</b>  | <b>with integrated acknowledgement button and emergency stop button</b>   | <b>with integrated acknowledgement button and emergency stop button, handwheel, key-operated switch, and two illuminated pushbuttons</b>  | <b>with integrated acknowledgement button and emergency stop button, handwheel, key-operated switch, and two illuminated pushbuttons</b>  |
| <b>EMC</b>  |   |   |   |   |   |
| Emission of radio interference acc. to EN 55 011                    |   |   |   |   |   |
| • Emission of radio interferences acc. to EN 55 011 (limit class A) | Yes; The product is designed for use in industrial environments. When used in residential areas, the emission of radio interference according to limit class B of EN 55011 must be ensured. For further information refer to the user documentation | Yes; The product is designed for use in industrial environments. When used in residential areas, the emission of radio interference according to limit class B of EN 55011 must be ensured. For further information refer to the user documentation | Yes; The product is designed for use in industrial environments. When used in residential areas, the emission of radio interference according to limit class B of EN 55011 must be ensured. For further information refer to the user documentation | Yes; The product is designed for use in industrial environments. When used in residential areas, the emission of radio interference according to limit class B of EN 55011 must be ensured. For further information refer to the user documentation | Yes; The product is designed for use in industrial environments. When used in residential areas, the emission of radio interference according to limit class B of EN 55011 must be ensured. For further information refer to the user documentation |
| <b>Degree and class of protection</b>                               |   |   |   |   |   |
| IP65 enclosure  | Yes   | Yes   | Yes   | Yes   | Yes   |
| <b>Standards, approvals, certificates</b>                           |   |   |   |   |   |
| Certifications  | CE, cULus, C-TICK   |
| TÜV safety certification  |   |   | Yes   | Yes   | Yes   |
| Safety category according to EN954-1                                |   |   | Safety category according to EN954-1 (enabling button, STOP button if present) 4  | Safety category according to EN954-1 (enabling button, STOP button if present) 4  | Safety category according to EN954-1 (enabling button, STOP button if present) 4  |
| Highest safety class achievable in safety mode                      |   |   | e   | e   | e   |
| • Performance Level in accordance with EN ISO 13849-1               |   |   |   |   |   |
| <b>Ambient conditions</b>   |   |   |   |   |   |
| Drop height   | 1.2 m   |
| Operating temperature   |   |   |   |   |   |
| • Operation   | 0 °C to +40 °C  |
| Storage/transport temperature                                       |   |   |   |   |   |
| • Transport, storage  | -20 °C to +60 °C  |
| Relative humidity   |   |   |   |   |   |
| • max. relative humidity  | 80 %  | 80 %  | 80 %  | 80 %  | 80 %  |
| <b>Operating systems</b>  |   |   |   |   |   |
| Operating system  | Windows CE  |
| <b>Languages</b>  |   |   |   |   |   |
| Online languages  |   |   |   |   |   |
| • Number of online/runtime languages                                | 16  | 16  | 16  | 16  | 16  |
| <b>Functionality under WinCC (TIA Portal)</b>                       |   |   |   |   |   |
| Libraries   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Task planner  | Yes   | Yes   | Yes   | Yes   | Yes   |
| With alarm logging system (incl. buffer and acknowledgement)        |   |   |   |   |   |
| • Number of messages  | 4 000   | 4 000   | 4 000   | 4 000   | 4 000   |
| • Bit messages  | Yes   | Yes   | Yes   | Yes   | Yes   |
| • Analog messages   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Recipes   |   |   |   |   |   |
| • Number of recipes   | 300   | 300   | 300   | 300   | 300   |
| • Data records per recipe   | 500   | 500   | 500   | 500   | 500   |
| • Entries per data record   | 1 000   | 1 000   | 1 000   | 1 000   | 1 000   |
| • Recipe memory   | 64 KB integrated Flash, expandable  |

# Operator panels

## Mobile Panels – 270 series

### SIMATIC Mobile Panel 277(F) IWLAN

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#### Technical specifications (continued)

|  | 6AV6645-0DD01-0AX1   | 6AV6645-0DE01-0AX1  | 6AV6645-0EB01-0AX1   | 6AV6645-0EC01-0AX1  | 6AV6645-0EF01-0AX1<br>RFID TAG  |
|--|--|---|--|---|---|
|  |  | with integrated handwheel, keyoperated switch and two illuminated pushbuttons | with integrated acknowledgement button and emergency stop button | with integrated acknowledgement button and emergency stop button, handwheel, key-operated switch, and two illuminated pushbuttons | with integrated acknowledgement button and emergency stop button, handwheel, key-operated switch, and two illuminated pushbuttons |
| Variables                                |  |   |  |   |   |
| • Number of variables per device         | 2 048  | 2 048   | 2 048  | 2 048   | 2 048   |
| • Limit values                           | Yes  | Yes   | Yes  | Yes   | Yes   |
| • Multiplexing                           | Yes  | Yes   | Yes  | Yes   | Yes   |
| Images                                   |  |   |  |   |   |
| • Number of configurable images          | 500  | 500   | 500  | 500   | 500   |
| Image objects                            |  |   |  |   |   |
| • Text objects                           | 10,000 text elements   | 10,000 text elements  | 10,000 text elements   | 10,000 text elements  | 10,000 text elements  |
| • Graphics object                        | Bit maps, icons, vector graphics                                 | Bit maps, icons, vector graphics  | Bit maps, icons, vector graphics                                 | Bit maps, icons, vector graphics  | Bit maps, icons, vector graphics  |
| Complex image objects                    |  |   |  |   |   |
| • Status/control                         | With SIMATIC S7  | With SIMATIC S7   | With SIMATIC S7  | With SIMATIC S7   | With SIMATIC S7   |
| • dynamic objects                        | Diagrams, bar graphs, sliders, analog display, invisible buttons | Diagrams, bar graphs, sliders, analog display, invisible buttons              | Diagrams, bar graphs, sliders, analog display, invisible buttons | Diagrams, bar graphs, sliders, analog display, invisible buttons  | Diagrams, bar graphs, sliders, analog display, invisible buttons  |
| Lists                                    |  |   |  |   |   |
| • Number of text lists per project       | 500  | 500   | 500  | 500   | 500   |
| • Number of graphics lists per project   | 400  | 400   | 400  | 400   | 400   |
| Archiving                                |  |   |  |   |   |
| • Number of archives per device          | 20   | 20  | 20   | 20  | 20  |
| • Number of measuring points per project | 20   | 20  | 20   | 20  | 20  |
| • Number of entries per archive          | 10 000   | 10 000  | 10 000   | 10 000  | 10 000  |
| Security                                 |  |   |  |   |   |
| • Number of user groups                  | 50   | 50  | 50   | 50  | 50  |
| • Number of user rights                  | 32   | 32  | 32   | 32  | 32  |
| • Password export/import                 | Yes  | Yes   | Yes  | Yes   | Yes   |
| Logging through printer                  |  |   |  |   |   |
| • Recording/Printing                     | Alarms, report (shift report), PROFINET                          | Alarms, report (shift report), PROFINET                                       | Alarms, report (shift report), PROFINET                          | Alarms, report (shift report), PROFINET   | Alarms, report (shift report), PROFINET   |
| Transfer (upload/download)               |  |   |  |   |   |
| • Transfer of configuration              | USB, Ethernet, automatic transfer recognition                    | USB, Ethernet, automatic transfer recognition                                 | USB, Ethernet, automatic transfer recognition                    | USB, Ethernet, automatic transfer recognition   | USB, Ethernet, automatic transfer recognition   |
| • Wireless LAN                           | Yes  | Yes   | Yes  | Yes   | Yes   |

### SIMATIC Mobile Panel 277(F) IWLAN

#### Technical specifications (continued)

|   | <b>6AV6645-0DD01-0AX1</b>                              | <b>6AV6645-0DE01-0AX1</b>  | <b>6AV6645-0EB01-0AX1</b>   | <b>6AV6645-0EC01-0AX1</b>  | <b>6AV6645-0EF01-0AX1<br/>RFID TAG</b>   |
|---|--|--|---|--|--|
|   |  | <b>with integrated handwheel, keyoperated switch and two illuminated pushbuttons</b> | <b>with integrated acknowledgement button and emergency stop button</b> | <b>with integrated acknowledgement button and emergency stop button, handwheel, key-operated switch, and two illuminated pushbuttons</b> | <b>with integrated acknowledgement button and emergency stop button, handwheel, key-operated switch, and two illuminated pushbuttons</b> |
| <b>Process coupling</b>   |  |  |   |  |  |
| • Connection to controller                                      | S7-200, S7- 300/400 see section on "System interfaces" | S7-200, S7- 300/400 see section on "System interfaces"                               | S7-200, S7- 300/400 see section on "System interfaces"                  | S7-200, S7- 300/400 see section on "System interfaces"   | S7-200, S7- 300/400 see section on "System interfaces"   |
| • S7-1200   | Yes  | Yes  | No  | No   | No   |
| • S7-1500   | Yes  | Yes  | No  | No   | No   |
| • Zones   | Yes  | Yes  | Yes   | Yes  |  |
| - Number of zones per project, max.                             | 254  | 254  | 254   | 254  |  |
| - Number of transponders for zones per project, max.            | 255  | 255  | 255   | 255  |  |
| • Effective range   |  |  |   |  |  |
| - Number of effective ranges per project, max.                  |  |  | Yes   | Yes  | Yes  |
| - Number of transponders for effective ranges per project, max. |  |  | 127   | 127  | 127  |
| • Transponder   | Yes  | Yes  | Yes   | Yes  |  |
| - Number of transponders per project, max.                      | 256  | 256  | 256   | 256  |  |
| - Adjustable distance range                                     | Yes  | Yes  | Yes   | Yes  |  |
| - Adjustable distance, min.                                     | 2 m  | 2 m  | 2 m   | 2 m  |  |
| - Adjustable distance, max.                                     | 8 m  | 8 m  | 8 m   | 8 m  |  |
| <b>I/O</b>  |  |  |   |  |  |
| I/O devices   | Barcode reader   | Barcode reader   | Barcode reader  | Barcode reader   | Barcode reader   |
| • Multi Media Card  | Yes  | Yes  | Yes   | Yes  | Yes  |
| <b>Mechanics/material</b>                                       |  |  |   |  |  |
| Type of housing (front)   | Plastic  | Plastic  | Plastic   | Plastic  | Plastic  |
| <b>Dimensions</b>   |  |  |   |  |  |
| Housing diameter/depth (mm)                                     | Dia 290 mm / D 103 mm                                  | Dia 290 mm / D 103 mm  | Dia 290 mm / D 103 mm   | Dia 290 mm / D 103 mm  | Dia 290 mm / D 103 mm  |
| <b>Weight</b>   |  |  |   |  |  |
| Weight  | 2.2 kg   | 2.2 kg   | 2.2 kg  | 2.2 kg   | 2.2 kg   |

# Operator panels

## Mobile Panels – 270 series

### SIMATIC Mobile Panel 277(F) WLAN

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#### Technical specifications (continued)

|  | <b>6AV6645-0FD01-0AX1</b><br><b>USA version</b> | <b>6AV6645-0FE01-0AX1</b><br><b>USA version with handwheel, keyoperated switch and two illuminated pushbuttons</b> | <b>6AV6645-0GB01-0AX1</b><br><b>USA version with integrated acknowledgement button and emergency stop button</b> | <b>6AV6645-0GC01-0AX1</b><br><b>USA version with integrated acknowledgement button and emergency stop button, handwheel, key-operated switch, and two illuminated pushbuttons</b> | <b>6AV6645-0GF01-0AX1</b><br><b>USA version RFID TAG with integrated acknowledgement button and emergency stop button, handwheel, key-operated switch, and two illuminated pushbuttons</b> |
|--|---|--|--|---|--|
| <b>Display</b>                               |   |  |  |   |  |
| Size   | 7.5"  | 7.5"   | 7.5"   | 7.5"  | 7.5"   |
| Display type                                 | TFT, 65536 colors                               | TFT, 65536 colors  | TFT, 65536 colors  | TFT, 65536 colors   | TFT, 65536 colors  |
| Resolution (pixels)                          |   |  |  |   |  |
| • Resolution (WxH in pixel)                  | 640 x 480                                       | 640 x 480  | 640 x 480  | 640 x 480   | 640 x 480  |
| Backlighting                                 |   |  |  |   |  |
| • MTBF backlighting (at 25 °C)               | about 50,000 hours                              | about 50,000 hours   | about 50,000 hours   | about 50,000 hours  | about 50,000 hours   |
| • MTBF backlighting (at 25 °C)               | 50 000 h  |  | 50 000 h   | 50 000 h  | 50 000 h   |
| <b>Control elements</b>                      |   |  |  |   |  |
| Operating options                            | Keys and Touch                                  | Keys and Touch   | Keys and Touch   | Keys and Touch  | Keys and Touch   |
| Function keys, programmable                  | 18 function keys, 18 with LEDs                  | 18 function keys, 18 with LEDs   | 18 function keys, 18 with LEDs   | 18 function keys, 18 with LEDs  | 18 function keys, 18 with LEDs   |
| Connection for mouse/keyboard/barcode reader | USB / USB / USB                                 | USB / USB / USB  | USB / USB / USB  | USB / USB / USB   | USB / USB / USB  |
| Touch operation                              |   |  |  |   |  |
| • Touch screen                               | Analog, resistive                               | Analog, resistive  | Analog, resistive  | Analog, resistive   | Analog, resistive  |
| Special operator controls                    |   |  |  |   |  |
| • Stop button                                | No  | No   | Yes  | Yes   | Yes  |
| • Acknowledgement button                     | No  | No   | Yes  | Yes   | Yes  |
| • Key-operated switch                        | No  | Yes  | No   | Yes   | Yes  |
| • Illuminated pushbutton                     | No  | Yes  | No   | Yes   | Yes  |
| • Handwheel                                  | No  | Yes  | No   | Yes   | Yes  |
| <b>Supply voltage</b>                        |   |  |  |   |  |
| Supply voltage                               | DC  | DC   | DC   | DC  | DC   |
| Via charging station                         | Yes   | Yes  | Yes  | Yes   | Yes  |
| Via table power supply                       | Yes   | Yes  | Yes  | Yes   | Yes  |
| <b>Processor</b>                             |   |  |  |   |  |
| Processor                                    | ARM, 520 MHz                                    | ARM, 520 MHz   | ARM, 520 MHz   | ARM, 520 MHz  | ARM, 520 MHz   |
| <b>Memory</b>                                |   |  |  |   |  |
| Type   | Flash / RAM                                     | Flash / RAM  | Flash / RAM  | Flash / RAM   | Flash / RAM  |
| Usable memory for user data                  | 6 MB usable memory for user data                | 6 MB usable memory for user data   | 6 MB usable memory for user data   | 6 MB usable memory for user data  | 6 MB usable memory for user data   |
| <b>Battery</b>                               |   |  |  |   |  |
| Main battery                                 |   |  |  |   |  |
| • Rated voltage                              | 7.2 V   | 7.2 V  | 7.2 V  | 7.2 V   | 7.2 V  |
| • Capacity                                   | 5 100 mA·h                                      | 5 100 mA·h   | 5 100 mA·h   | 5 100 mA·h  | 5 100 mA·h   |
| • Number of loading cycles, min              | 500   | 500  | 500  | 500   | 500  |
| • Charging time, typ.                        | 4 h   | 4 h  | 4 h  | 4 h   | 4 h  |
| • Operating time, typ.                       | 4 h   | 4 h  | 4 h  | 4 h   | 4 h  |
| • Display for battery capacity               | Yes   | Yes  | Yes  | Yes   | Yes  |
| • Energy-saving mode                         | Yes   | Yes  | Yes  | Yes   | Yes  |
| • Battery replacement during operation       | Yes   | Yes  | Yes  | Yes   | Yes  |

### SIMATIC Mobile Panel 277(F) IWLAN

#### Technical specifications (continued)

|   | <b>6AV6645-0FD01-0AX1</b><br><b>USA version</b>   | <b>6AV6645-0FE01-0AX1</b><br><b>USA version with handwheel, keyoperated switch and two illuminated pushbuttons</b>  | <b>6AV6645-0GB01-0AX1</b><br><b>USA version with integrated acknowledgement button and emergency stop button</b>  | <b>6AV6645-0GC01-0AX1</b><br><b>USA version with integrated acknowledgement button and emergency stop button, handwheel, key-operated switch, and two illuminated pushbuttons</b>   | <b>6AV6645-0GF01-0AX1</b><br><b>USA version RFID TAG with integrated acknowledgement button and emergency stop button, handwheel, key-operated switch, and two illuminated pushbuttons</b>  |
|---|---|---|---|---|---|
| <b>Type of output</b>   |   |   |   |   |   |
| Status LEDs   | Yes   | Yes   | Yes   | Yes   | Yes   |
| LED for safe  |   |   | Yes   | Yes   | Yes   |
| LED for communication   | Yes   | Yes   | Yes   | Yes   | Yes   |
| LED for battery   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Vibrations  | Yes   | Yes   | Yes   | Yes   | Yes   |
| <b>Time of day</b>  |   |   |   |   |   |
| Clock   |   |   |   |   |   |
| • Type  | Hardware clock, battery backup, synchronizable  |
| <b>Interfaces</b>   |   |   |   |   |   |
| Interfaces  | 1 x Ethernet (RJ45)   |
| USB port  | 1 x USB   |
| Multi Media Card slot   | 1 MMC/SD card slot  | 1 MMC/SD card slot  | 1 MMC/SD card slot  | 1 MMC/SD card slot  | 1 MMC/SD card slot  |
| Industrial Ethernet   |   |   |   |   |   |
| • Industrial Ethernet interface                                     | 1 x Ethernet (RJ45)   |
| WLAN  |   |   |   |   |   |
| • Wireless LAN  | Yes   | Yes   | Yes   | Yes   | Yes   |
| • Supports rapid roaming  | Yes   | Yes   | Yes   | Yes   | Yes   |
| <b>Protocols</b>  |   |   |   |   |   |
| PROFINET  | Yes   | Yes   | Yes   | Yes   | Yes   |
| Supports protocol for PROFINET IO                                   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Supports protocol for PROFIsafe                                     |   |   | Yes   | Yes   | Yes   |
| <b>EMC</b>  |   |   |   |   |   |
| Emission of radio interference acc. to EN 55 011                    |   |   |   |   |   |
| • Emission of radio interferences acc. to EN 55 011 (limit class A) | Yes; The product is designed for use in industrial environments. When used in residential areas, the emission of radio interference according to limit class B of EN 55011 must be ensured. For further information refer to the user documentation | Yes; The product is designed for use in industrial environments. When used in residential areas, the emission of radio interference according to limit class B of EN 55011 must be ensured. For further information refer to the user documentation | Yes; The product is designed for use in industrial environments. When used in residential areas, the emission of radio interference according to limit class B of EN 55011 must be ensured. For further information refer to the user documentation | Yes; The product is designed for use in industrial environments. When used in residential areas, the emission of radio interference according to limit class B of EN 55011 must be ensured. For further information refer to the user documentation | Yes; The product is designed for use in industrial environments. When used in residential areas, the emission of radio interference according to limit class B of EN 55011 must be ensured. For further information refer to the user documentation |

# Operator panels

## Mobile Panels – 270 series

### SIMATIC Mobile Panel 277(F) IWLAN

#### Technical specifications (continued)

|   | 6AV6645-0FD01-0AX1<br><b>USA version</b> | 6AV6645-0FE01-0AX1<br><b>USA version with handwheel, keyoperated switch and two illuminated pushbuttons</b> | 6AV6645-0GB01-0AX1<br><b>USA version with integrated acknowledgement button and emergency stop button</b> | 6AV6645-0GC01-0AX1<br><b>USA version with integrated acknowledgement button and emergency stop button, handwheel, key-operated switch, and two illuminated pushbuttons</b> | 6AV6645-0GF01-0AX1<br><b>USA version RFID TAG with integrated acknowledgement button and emergency stop button, handwheel, key-operated switch, and two illuminated pushbuttons</b> |
|---|--|---|---|--|---|
| <b>Degree and class of protection</b>                       |  |   |   |  |   |
| IP65 enclosure  | Yes                                      | Yes   | Yes   | Yes  | Yes   |
| <b>Standards, approvals, certificates</b>                   |  |   |   |  |   |
| Certifications  | CE, cULus, C-TICK                        | CE, cULus, C-TICK   | CE, cULus, C-TICK   | CE, cULus, C-TICK  | CE, cULus, C-TICK   |
| TÜV safety certification                                    |  |   | Yes   | Yes  | Yes   |
| Safety category according to EN954-1                        |  |   | Safety category according to EN954-1 (enabling button, STOP button if present) 4                          | Safety category according to EN954-1 (enabling button, STOP button if present) 4   | Safety category according to EN954-1 (enabling button, STOP button if present) 4  |
| Highest safety class achievable in safety mode              |  |   | e   | e  | e   |
| • Performance Level in accordance with EN ISO 13849-1       |  |   |   |  |   |
| <b>Ambient conditions</b>                                   |  |   |   |  |   |
| Drop height   | 1.2 m                                    | 1.2 m   | 1.2 m   | 1.2 m  | 1.2 m   |
| Operating temperature                                       |  |   |   |  |   |
| • Operation   | 0 °C to +40 °C                           | 0 °C to +40 °C  | 0 °C to +40 °C  | 0 °C to +40 °C   | 0 °C to +40 °C  |
| Storage/transport temperature                               |  |   |   |  |   |
| • Transport, storage  | -20 °C to +60 °C                         | -20 °C to +60 °C  | -20 °C to +60 °C  | -20 °C to +60 °C   | -20 °C to +60 °C  |
| Relative humidity   |  |   |   |  |   |
| • max. relative humidity                                    | 80 %                                     | 80 %  | 80 %  | 80 %   | 80 %  |
| <b>Operating systems</b>                                    |  |   |   |  |   |
| Operating system  | Windows CE                               | Windows CE  | Windows CE  | Windows CE   | Windows CE  |
| <b>Languages</b>  |  |   |   |  |   |
| Online languages  |  |   |   |  |   |
| • Number of online/runtime languages                        | 16                                       | 16  | 16  | 16   | 16  |
| <b>Functionality under WinCC (TIA Portal)</b>               |  |   |   |  |   |
| Libraries   | Yes                                      | Yes   | Yes   | Yes  | Yes   |
| Task planner  | Yes                                      | Yes   | Yes   | Yes  | Yes   |
| With alarm logging system (incl. buffer and acknowledgment) |  |   |   |  |   |
| • Number of messages  | 4 000                                    | 4 000   | 4 000   | 4 000  | 4 000   |
| • Bit messages  | Yes                                      | Yes   | Yes   | Yes  | Yes   |
| • Analog messages   | Yes                                      | Yes   | Yes   | Yes  | Yes   |
| Recipes   |  |   |   |  |   |
| • Number of recipes   | 300                                      | 300   | 300   | 300  | 300   |
| • Data records per recipe                                   | 500                                      | 500   | 500   | 500  | 500   |
| • Entries per data record                                   | 1 000                                    | 1 000   | 1 000   | 1 000  | 1 000   |
| • Recipe memory   | 64 KB integrated Flash, expandable       | 64 KB integrated Flash, expandable  | 64 KB integrated Flash, expandable  | 64 KB integrated Flash, expandable   | 64 KB integrated Flash, expandable  |

# Operator panels

## Mobile Panels – 270 series

### SIMATIC Mobile Panel 277(F) IWLAN

#### Technical specifications (continued)

|  | <b>6AV6645-0FD01-0AX1</b><br><b>USA version</b>                  | <b>6AV6645-0FE01-0AX1</b><br><b>USA version with handwheel, keyoperated switch and two illuminated pushbuttons</b> | <b>6AV6645-0GB01-0AX1</b><br><b>USA version with integrated acknowledgement button and emergency stop button</b> | <b>6AV6645-0GC01-0AX1</b><br><b>USA version with integrated acknowledgement button and emergency stop button, handwheel, key-operated switch, and two illuminated pushbuttons</b> | <b>6AV6645-0GF01-0AX1</b><br><b>USA version RFID TAG with integrated acknowledgement button and emergency stop button, handwheel, key-operated switch, and two illuminated pushbuttons</b> |
|--|--|--|--|---|--|
| Variables                                |  |  |  |   |  |
| • Number of variables per device         | 2 048  | 2 048  | 2 048  | 2 048   | 2 048  |
| • Limit values                           | Yes  | Yes  | Yes  | Yes   | Yes  |
| • Multiplexing                           | Yes  | Yes  | Yes  | Yes   | Yes  |
| Images                                   |  |  |  |   |  |
| • Number of configurable images          | 500  | 500  | 500  | 500   | 500  |
| Image objects                            |  |  |  |   |  |
| • Text objects                           | 10,000 text elements   | 10,000 text elements   | 10,000 text elements   | 10,000 text elements  | 10,000 text elements   |
| • Graphics object                        | Bit maps, icons, vector graphics                                 | Bit maps, icons, vector graphics   | Bit maps, icons, vector graphics   | Bit maps, icons, vector graphics  | Bit maps, icons, vector graphics   |
| Complex image objects                    |  |  |  |   |  |
| • Status/control                         | With SIMATIC S7  | With SIMATIC S7  | With SIMATIC S7  | With SIMATIC S7   | With SIMATIC S7  |
| • dynamic objects                        | Diagrams, bar graphs, sliders, analog display, invisible buttons | Diagrams, bar graphs, sliders, analog display, invisible buttons   | Diagrams, bar graphs, sliders, analog display, invisible buttons   | Diagrams, bar graphs, sliders, analog display, invisible buttons  | Diagrams, bar graphs, sliders, analog display, invisible buttons   |
| Lists                                    |  |  |  |   |  |
| • Number of text lists per project       | 500  | 500  | 500  | 500   | 500  |
| • Number of graphics lists per project   | 400  | 400  | 400  | 400   | 400  |
| Archiving                                |  |  |  |   |  |
| • Number of archives per device          | 20   | 20   | 20   | 20  | 20   |
| • Number of measuring points per project | 20   | 20   | 20   | 20  | 20   |
| • Number of entries per archive          | 10 000   | 10 000   | 10 000   | 10 000  | 10 000   |
| Security                                 |  |  |  |   |  |
| • Number of user groups                  | 50   | 50   | 50   | 50  | 50   |
| • Number of user rights                  | 32   | 32   | 32   | 32  | 32   |
| • Password export/import                 | Yes  | Yes  | Yes  | Yes   | Yes  |
| Logging through printer                  |  |  |  |   |  |
| • Recording/Printing                     | Alarms, report (shift report), PROFINET                          | Alarms, report (shift report), PROFINET  | Alarms, report (shift report), PROFINET  | Alarms, report (shift report), PROFINET   | Alarms, report (shift report), PROFINET  |
| Transfer (upload/download)               |  |  |  |   |  |
| • Transfer of configuration              | USB, Ethernet, automatic transfer recognition                    | USB, Ethernet, automatic transfer recognition  | USB, Ethernet, automatic transfer recognition  | USB, Ethernet, automatic transfer recognition   | USB, Ethernet, automatic transfer recognition  |
| • Wireless LAN                           | Yes  | Yes  | Yes  | Yes   | Yes  |

# Operator panels

## Mobile Panels – 270 series

### SIMATIC Mobile Panel 277(F) IWLAN

2

#### Technical specifications (continued)

|   | <b>6AV6645-0FD01-0AX1</b><br><b>USA version</b>        | <b>6AV6645-0FE01-0AX1</b><br><b>USA version with handwheel, keyoperated switch and two illuminated pushbuttons</b> | <b>6AV6645-0GB01-0AX1</b><br><b>USA version with integrated acknowledgement button and emergency stop button</b> | <b>6AV6645-0GC01-0AX1</b><br><b>USA version with integrated acknowledgement button and emergency stop button, handwheel, key-operated switch, and two illuminated pushbuttons</b> | <b>6AV6645-0GF01-0AX1</b><br><b>USA version RFID TAG with integrated acknowledgement button and emergency stop button, handwheel, key-operated switch, and two illuminated pushbuttons</b> |
|---|--|--|--|---|--|
| <b>Process coupling</b>   |  |  |  |   |  |
| • Connection to controller                                      | S7-200, S7- 300/400 see section on "System interfaces" | S7-200, S7- 300/400 see section on "System interfaces"   | S7-200, S7- 300/400 see section on "System interfaces"   | S7-200, S7- 300/400 see section on "System interfaces"  | S7-200, S7- 300/400 see section on "System interfaces"   |
| • S7-1200   | Yes  | Yes  | No   | No  | No   |
| • S7-1500   | Yes  | Yes  | No   | No  | No   |
| • Zones   | Yes  | Yes  | Yes  | Yes   | Yes  |
| - Number of zones per project, max.                             | 254  | 254  | 254  | 254   | 254  |
| - Number of transponders for zones per project, max.            | 255  | 255  | 255  | 255   | 255  |
| • Effective range   |  |  |  |   |  |
| - Number of effective ranges per project, max.                  |  |  | Yes<br>127   | Yes<br>127  | Yes<br>127   |
| - Number of transponders for effective ranges per project, max. |  |  | 127  | 127   | 127  |
| • Transponder   | Yes<br>256   | Yes<br>256   | Yes<br>256   | Yes<br>256  | Yes<br>256   |
| - Number of transponders per project, max.                      |  |  |  |   |  |
| - Adjustable distance range                                     | Yes  | Yes  | Yes  | Yes   | Yes  |
| - Adjustable distance, min.                                     | 2 m  | 2 m  | 2 m  | 2 m   | 2 m  |
| - Adjustable distance, max.                                     | 8 m  | 8 m  | 8 m  | 8 m   | 8 m  |
| <b>I/O</b>  |  |  |  |   |  |
| I/O devices   | Barcode reader   | Barcode reader   | Barcode reader   | Barcode reader  | Barcode reader   |
| • Multi Media Card  | Yes  | Yes  | Yes  | Yes   | Yes  |
| <b>Mechanics/material</b>                                       |  |  |  |   |  |
| Type of housing (front)   | Plastic  | Plastic  | Plastic  | Plastic   | Plastic  |
| <b>Dimensions</b>   |  |  |  |   |  |
| Housing diameter/depth (mm)                                     | Dia 290 mm / D 103 mm                                  | Dia 290 mm / D 103 mm  | Dia 290 mm / D 103 mm  | Dia 290 mm / D 103 mm   | Dia 290 mm / D 103 mm  |
| <b>Weight</b>   |  |  |  |   |  |
| Weight  | 2.2 kg   | 2.2 kg   | 2.2 kg   | 2.2 kg  | 2.2 kg   |

### SIMATIC Mobile Panel 277(F) IWLAN

| Ordering data   | Order No.   | Order No.  |
|---|---|--|
| <b>SIMATIC Mobile Panel 277 IWLAN V2 (RoW version<sup>1)</sup>)</b><br>• Communication via WLAN (PROFINET)<br>• Communication via WLAN (PROFINET) with integrated handwheel, key-operated switch and two illuminated pushbuttons  | <b>6AV6645-0DD01-0AX1</b><br><br><b>6AV6645-0DE01-0AX1</b>                                  | <b>Accessories</b><br><br>Note:<br>Please order the table-top power supply or charging station as well.<br>Required for charging the battery.  |
| <b>SIMATIC Mobile Panel 277F IWLAN V2 PROFIsafe (RoW version<sup>1)</sup>)</b><br>• Communication via WLAN (PROFINET) with acknowledgement button and emergency stop button<br>• Communication via WLAN (PROFINET) with acknowledgement button and emergency stop button with integrated handwheel, key-operated switch, and two illuminated pushbuttons<br>• RFID tag version: Communication via WLAN (PROFINET) with acknowledgement button and emergency stop button with integrated handwheel, key-operated switch, and two illuminated pushbuttons | <b>6AV6645-0EB01-0AX1</b><br><br><b>6AV6645-0EC01-0AX1</b><br><br><b>6AV6645-0EF01-0AX1</b> | <b>Documentation</b><br><br>You can find the manuals for the Mobile Panels on the Internet at:<br><a href="http://support.automation.siemens.com/WW/view/en/11599011/133300">http://support.automation.siemens.com/WW/view/en/11599011/133300</a><br><br><b>SIMATIC HMI Manual Collection</b><br><br>Electronic documentation on DVD, 5 languages (English, German, French, Italian and Spanish); contains: all currently available user manuals, device manuals and communication manuals for SIMATIC HMI |
| <b>SIMATIC Mobile Panel 277 IWLAN V2 (USA version)</b><br>• Communication via WLAN (PROFINET)<br>• Communication via WLAN (PROFINET) with integrated handwheel, key-operated switch and two illuminated pushbuttons   | <b>6AV6645-0FD01-0AX1</b><br><br><b>6AV6645-0FE01-0AX1</b>                                  | <b>6AV6691-1SA01-0AX0</b>  |
| <b>SIMATIC Mobile Panel 277F IWLAN V2 PROFIsafe (USA version)</b><br>• with acknowledgement button and emergency stop button<br>• with acknowledgement button and emergency stop button with integrated handwheel, key-operated switch, and two illuminated pushbuttons<br>• with acknowledgement button and emergency stop button with integrated handwheel, key-operated switch, and two illuminated pushbuttons (tag version)  | <b>6AV6645-0GB01-0AX1</b><br><br><b>6AV6645-0GC01-0AX1</b><br><br><b>6AV6645-0GF01-0AX1</b> |  |
| <b>Starter kit</b><br><b>SIMATIC Mobile Panel 277(F) IWLAN (RoW version<sup>1)</sup>)</b><br>for<br>• Mobile Panel 277 IWLAN V2<br>• Mobile Panel 277F IWLAN V2   | <b>6AV6651-5GA01-0AA1</b><br><br><b>6AV6651-5HA01-0AA1</b>                                  |  |

<sup>1)</sup> RoW version: "Rest of World" version:  
Version for worldwide sales except in the U.S.

<sup>2)</sup> Already prepared for Rapid Roaming (iPCF-MC). iPCF-MC is already included from SCALANCE FW version V4.3.37 and higher.

For national approvals see:  
<http://www.siemens.com/wireless-approvals>

The Function Manuals "Fail-Safe Operation of the Mobile Panel 277F IWLAN V1" are available for downloading in English, German, and Japanese.

<http://support.automation.siemens.com/WW/view/en/31255853>

# Operator panels

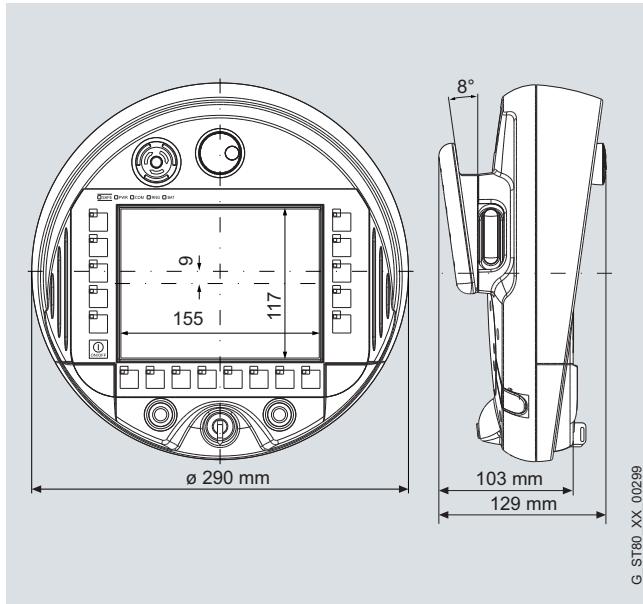
## Mobile Panels – 270 series

### SIMATIC Mobile Panel 277(F) IWLAN

2

#### Dimensional drawings

All dimensions in mm. For installation cutout, see technical specifications.



Mobile Panel 277(F) IWLAN, front and side view

#### More information

Additional information is available in the Internet under:  
<http://www.siemens.com/simatic-mobile-panels>

#### Note

Do you need a specific modification or addition to the products described here? Then take a look under "Customer-specific products". There, you will find information on ordering additional and standard industry products as well as possibilities for customer-specific modifications and adjustments.

### System components for Mobile Panels

#### Overview



System components for Mobile Panels are perfectly matched to the SIMATIC HMI Mobile Panels. Charging stations, transponders, and diverse connection boxes are available for various applications.

Accessories for SIMATIC HMI Mobile Panels can be found under "SIMATIC HMI accessories".

Only the latest SIMATIC HMI accessories are listed in this section; the full range of SIMATIC HMI accessories is available in the Mall and in our other online media.

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# Operator panels

## System components

### Terminal boxes

#### Overview



2

#### Technical specifications

|  | 6AV6671-5AE00-0AX0<br>DP connection box for Mobile Panel 177/277 (MPI/PROFIBUS) Basic | 6AV6671-5AE10-0AX0<br>DP connection box for Mobile Panel 177/277 (MPI/PROFIBUS) Plus | 6AV6671-5AE01-0AX0<br>PN connection box for Mobile Panel 177/277 (PROFINET) Basic | 6AV6671-5AE11-0AX0<br>PN connection box for Mobile Panel 177/277 (PROFINET) Plus |
|--|---|--|---|--|
| <b>Control elements</b>                        |   |  |   |  |
| Expansions for operator control of the process |   |  |   |  |
| • Hot swapping                                 | with emergency stop circuit interruption<br>No  | without emergency stop circuit interruption<br>Yes                                   | with emergency stop circuit interruption<br>No                                    | without emergency stop circuit interruption<br>Yes                               |
| - without emergency stop circuit interruption  |   |  |   |  |
| - with emergency stop circuit interruption     | Yes   | No   | Yes   | No   |
| - Monitoring the STOP button                   | No  | Yes  | No  | Yes  |
| - Location identifier                          | Yes   | Yes  | Yes   | Yes  |
| <b>Supply voltage</b>                          |   |  |   |  |
| Type of actuation                              | DC<br>No<br>Yes   | DC<br>No<br>Yes  | DC<br>No<br>Yes   | DC<br>No<br>Yes  |
| Rated voltage                                  | 24 V  | 24 V   | 24 V  | 24 V   |
| permissible range                              | +20.4 V to +28.8 V DC<br>20.4 V<br>28.8 V   | +20.4 V to +28.8 V DC<br>20.4 V<br>28.8 V  | +20.4 V to +28.8 V DC<br>20.4 V<br>28.8 V   | +20.4 V to +28.8 V DC<br>20.4 V<br>28.8 V  |
| Supply voltage                                 | 24 V DC   | 24 V DC  | 24 V DC   | 24 V DC  |
| <b>Input current</b>                           |   |  |   |  |
| Rated current                                  | 0.4 A   | 0.5 A  | 0.4 A   | 0.5 A  |
| <b>Power</b>                                   |   |  |   |  |
| Power  | 10 W  | 12 W   | 10 W  | 12 W   |
| <b>Interfaces</b>                              |   |  |   |  |
| Interfaces                                     | 1 x RS232, 1 x RS422,<br>1 x RS485 (max. 12 Mbit/s)                                   | 1 x RS232, 1 x RS422,<br>1 x RS485 (max. 12 Mbit/s)                                  | 2 x Ethernet (RJ45)   | 2 x Ethernet (RJ45)  |
| Number of 20 mA interfaces (TTY)               | 0   | 0  |   |  |
| Number of RS 232 interfaces                    | 1   | 1  |   |  |
| Number of RS 422 interfaces                    | 1   | 1  |   |  |
| Industrial Ethernet                            |   |  |   |  |
| • Industrial Ethernet interface                |   |  | 2 x Ethernet (RJ45)   | 2 x Ethernet (RJ45)  |
| • Industrial Ethernet status LED               |   |  | 6   | 6  |

### Technical specifications (continued)

|   | <b>6AV6671-5AE00-0AX0</b><br><b>DP connection box for Mobile Panel 177/277 (MPI/PROFIBUS) Basic</b> | <b>6AV6671-5AE10-0AX0</b><br><b>DP connection box for Mobile Panel 177/277 (MPI/PROFIBUS) Plus</b> | <b>6AV6671-5AE01-0AX0</b><br><b>PN connection box for Mobile Panel 177/277 (PROFINET) Basic</b> | <b>6AV6671-5AE11-0AX0</b><br><b>PN connection box for Mobile Panel 177/277 (PROFINET) Plus</b> |
|---|---|--|---|--|
| <b>Degree and class of protection</b>         |   |  |   |  |
| Enclosure according to EN 60529               | IP65  | IP65   | IP65  | IP65   |
| IP20 housing                                  | No  | No   | No  | No   |
| IP54 housing                                  | No  | No   | No  | No   |
| IP65 enclosure                                | Yes   | Yes  | Yes   | Yes  |
| NEMA 4  | No  | No   | No  | No   |
| NEMA 4X                                       | No  | No   | No  | No   |
| NEMA 12                                       | No  | No   | No  | No   |
| <b>Standards, approvals, certificates</b>     |   |  |   |  |
| Certifications                                | CE, cULus, C-TICK   | CE, cULus, C-TICK  | CE, cULus, C-TICK   | CE, cULus, C-TICK  |
| CE  | Yes   | Yes  | Yes   | Yes  |
| CSA   | No  | No   | No  | No   |
| UL  | No  | No   | No  | No   |
| FM Class I Div. 2                             | No  | No   | No  | No   |
| GL  | No  | No   | No  | No   |
| ABS   | No  | No   | No  | No   |
| BV  | No  | No   | No  | No   |
| DNV   | No  | No   | No  | No   |
| LRS   | No  | No   | No  | No   |
| PRS   | No  | No   | No  | No   |
| Gost-R  | No  | No   | No  | No   |
| Use in hazardous areas                        |   |  |   |  |
| • EX zone 2                                   | No  | No   | No  | No   |
| • EX zone 22                                  | No  | No   | No  | No   |
| <b>Ambient conditions</b>                     |   |  |   |  |
| Operating temperature                         |   |  |   |  |
| • Operation (vertical installation)           | 0 °C to +50 °C  | 0 °C to +50 °C   | 0 °C to +50 °C  | 0 °C to +50 °C   |
| - in vertical mounting position/ minimum      | 0 °C  | 0 °C   | 0 °C  | 0 °C   |
| - in vertical mounting position/ maximum      | 50 °C   | 50 °C  | 50 °C   | 50 °C  |
| Storage/transport temperature                 |   |  |   |  |
| • Ambient temperature during storage, minimum | -20 °C  | -20 °C   | -20 °C  | -20 °C   |
| • Ambient temperature during storage, maximal | 70 °C   | 70 °C  | 70 °C   | 70 °C  |
| • Transport, storage                          | -20 °C to +70 °C  | -20 °C to +70 °C   | -20 °C to +70 °C  | -20 °C to +70 °C   |
| Relative humidity                             |   |  |   |  |
| • max. relative humidity                      | 85 %  | 85 %   | 85 %  | 85 %   |
| <b>Functionality under WinCC (TIA Portal)</b> |   |  |   |  |
| Applications/options                          |   |  |   |  |
| • Connection point identification             | Yes   | Yes  | Yes   | Yes  |
| <b>Dimensions</b>                             |   |  |   |  |
| External dimensions (W x H x D) in mm         | 160 x 120 x 70  | 160 x 120 x 70   | 230 x 120 x 80  | 230 x 120 x 80   |
| • Width                                       | 160   | 160  | 230   | 230  |
| • Height                                      | 120   | 120  | 120   | 120  |
| • Depth                                       | 70  | 70   | 80  | 80   |
| <b>Weight</b>                                 |   |  |   |  |
| Weight  | 0.35 kg   | 0.4 kg   | 0.45 kg   | 0.5 kg   |
| <b>other</b>                                  |   |  |   |  |
| free hotline                                  | Yes   | Yes  | Yes   | Yes  |
| Warranty period                               | 1 a   | 1 a  | 1 a   | 1 a  |

# Operator panels

## System components

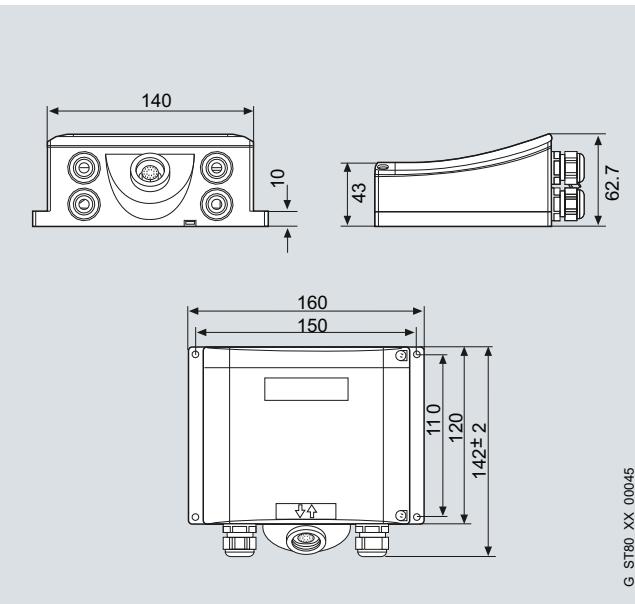
### Terminal boxes

2

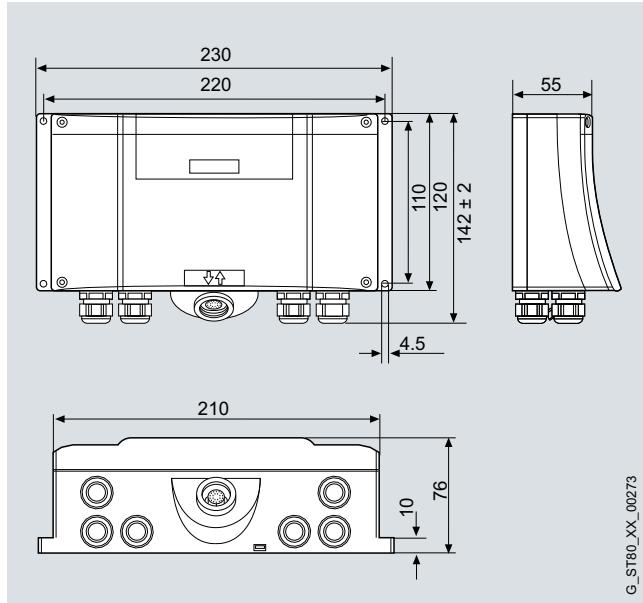
| Ordering data  | Order No.  |
|--|--|
| <b>DP connection box<br/>for Mobile Panels 177/277<br/>(MPI/PROFIBUS)</b><br>• Basic<br>• Plus | <b>6AV6671-5AE00-0AX0</b><br><b>6AV6671-5AE10-0AX0</b> |
| <b>PN connection box<br/>for Mobile Panels 177/277<br/>(PROFINET)</b><br>• Basic<br>• Plus     | <b>6AV6671-5AE01-0AX0</b><br><b>6AV6671-5AE11-0AX0</b> |

### Dimensional drawings

All dimensions in mm. For installation cutout, see technical specifications.



DP connection box for SIMATIC Mobile Panel



PN connection box for SIMATIC Mobile Panel

### SIPLUS connection boxes

#### Overview



#### Note:

SIPLUS extreme products are based on Siemens Industry standard products. The contents listed here were taken from the respective standard products. SIPLUS extreme-specific information was added.

#### Ordering data

#### Order No.

**SIPLUS connection box DP Plus  
for Mobile Panels 177/277  
(MPI/PROFIBUS)**

**6AG1671-5AE10-4AX0**

| <b>SIPLUS connection box DP Plus</b> |   |
|--------------------------------------|---|
| <b>Order number</b>                  | <b>6AG1 671-5AE10-4AX0</b>  |
| <b>Order number based on</b>         | <b>6AV6 671-5AE10-0AX0</b>  |
| Ambient temperature range            | 0 ... +50 °C  |
| Conformal coating                    | Coating of the printed circuit boards and the electronic components                   |
| Technical data                       | The technical data of the standard product applies except for the ambient conditions. |

#### Ambient conditions

|   |  |
|---|--|
| Relative humidity   | 100%, condensation/frost permissible. No commissioning if condensation present.  |
| Air pressure<br>(depending on the highest positive temperature range specified) | 1080 ... 795 hPa (-1000 ... +2000m)<br>see ambient temperature range<br>795 ... 658 hPa (+2000 ... +3500m)<br>derating 10 K<br>658 ... 540 hPa (+3500 ... +5000m)<br>derating 20 K |

# Operator panels

## System components

### Charging station

#### Overview



#### Technical specifications

| 6AV6671-5CE00-0AX1                               |                       |
|--|-----------------------|
| <b>Supply voltage</b>                            |                       |
| Type of actuation                                | DC                    |
| • DC   | Yes                   |
| Rated voltage                                    | 24 V                  |
| permissible range                                | +19.2 V to +28.8 V DC |
| • Supply voltage range                           | 19.2 V                |
| • Supply voltage range                           | 28.8 V                |
| Supply voltage                                   | 24 V DC               |
| <b>Input current</b>                             |                       |
| Rated current                                    | 3.2 A                 |
| <b>Power</b>                                     |                       |
| Power  | 77 W                  |
| <b>Degree and class of protection</b>            |                       |
| Enclosure according to EN 60529                  | IP65                  |
| IP65 enclosure                                   | Yes                   |
| <b>Standards, approvals, certificates</b>        |                       |
| Certifications                                   | CE, cULus, C-TICK     |
| CE   | Yes                   |
| <b>Ambient conditions</b>                        |                       |
| Operating temperature                            |                       |
| • Operation (vertical installation)              | 0 °C to +40 °C        |
| - in vertical mounting position/<br>minimum      | 0 °C                  |
| - in vertical mounting position/<br>maximum      | 40 °C                 |
| Storage/transport temperature                    |                       |
| • Ambient temperature during storage,<br>minimum | -20 °C                |
| • Ambient temperature during storage,<br>maximal | 60 °C                 |
| • Transport, storage                             | -20 °C to +60 °C      |
| Relative humidity                                |                       |
| • max. relative humidity                         | 85 %                  |
| <b>Dimensions</b>                                |                       |
| External dimensions<br>(W x H x D) in mm         | 208 x 333 x 75        |
| • Width  | 208                   |
| • Height   | 333                   |
| • Depth  | 75                    |
| <b>Weight</b>                                    |                       |
| Weight   | 1.1 kg                |

#### Ordering data

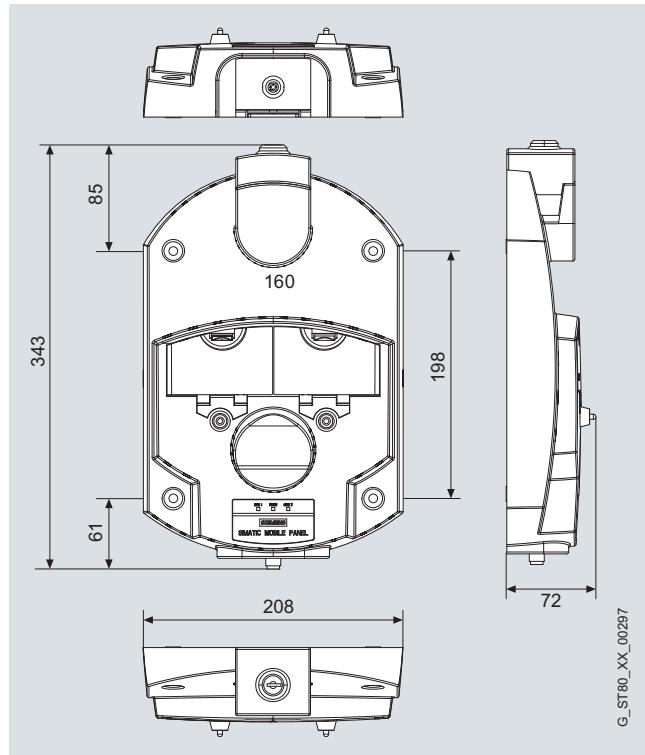
#### Order No.

Charging station for  
Mobile Panels

6AV6671-5CE00-0AX1

#### Dimensional drawings

All dimensions in mm. For installation cutout, see technical specifications.



### Overview



### Technical specifications

| 6AV6671-5CM00-0AX1                               |                                     |
|--|-------------------------------------|
| <b>Degree and class of protection</b>            |                                     |
| Enclosure according to EN 60529                  | IP65                                |
| IP65 enclosure                                   | Yes                                 |
| Enclosure according to NEMA                      | NEMA 4x, NEMA 12                    |
| NEMA 4X  | Yes                                 |
| NEMA 12  | Yes                                 |
| <b>Standards, approvals, certificates</b>        |                                     |
| Certifications                                   | CE, cULus, C-TICK, NEMA 4x, NEMA 12 |
| CE   | Yes                                 |
| <b>Ambient conditions</b>                        |                                     |
| Operating temperature                            |                                     |
| • Operation (vertical installation)              | 0 °C to +50 °C                      |
| - in vertical mounting position/<br>minimum      | 0 °C                                |
| - in vertical mounting position/<br>maximum      | 50 °C                               |
| Storage/transport temperature                    |                                     |
| • Ambient temperature during storage,<br>minimum | -20 °C                              |
| • Ambient temperature during storage,<br>maximal | 60 °C                               |
| • Transport, storage                             | -20 °C to +60 °C                    |
| Relative humidity                                |                                     |
| • max. relative humidity                         | 85 %                                |
| <b>Dimensions</b>                                |                                     |
| External dimensions<br>(W x H x D) in mm         | 172 x 90 x 38.5                     |
| • Width  | 172                                 |
| • Height   | 90                                  |
| • Depth  | 38.5                                |
| <b>Weight</b>                                    |                                     |
| Weight   | 0.3 kg                              |

### Ordering data

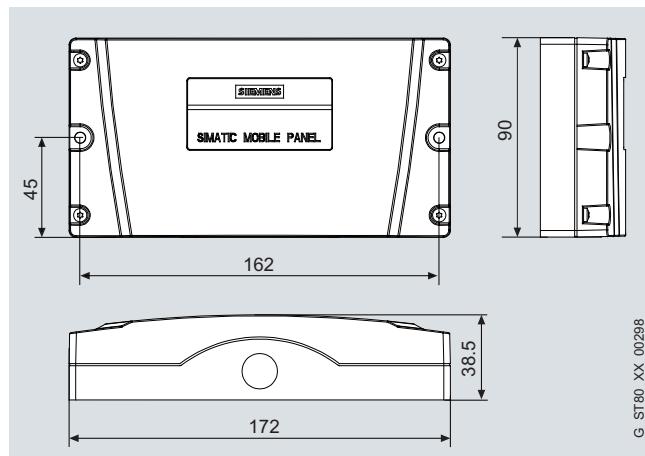
#### Order No.

Transponder for  
Mobile Panels 277

6AV6671-5CM00-0AX1

### Dimensional drawings

All dimensions in mm. For installation cutout, see technical specifications.



G\_ST80\_XX\_00298

# Operator panels

## System interfaces with WinCC (TIA Portal)

### System interfaces with WinCC (TIA Portal)

#### Overview

The SIMATIC Touch Panel (TP), Operator Panel (OP), Basic Panel, Comfort Panel, Mobile Panel, multifunctional platforms (MP)<sup>1)</sup> offer HMI functionality for the control systems:

- SIMATIC S7
- Non-Siemens controllers:
  - Allen Bradley
  - Mitsubishi
  - Modicon
  - Omron

For more detailed information, refer to the WinCC (TIA Portal) user manual, the "Windows-based systems communication" manual, or the WinCC (TIA Portal) online help.

OPC communication and HTTP communication are offered for all Panels with an integrated Ethernet interface. Both OPC and HTTP communication can be used in parallel with the process links to SIMATIC S7 or non-Siemens PLCs.

<sup>1)</sup> For the sake of simplicity, SIMATIC Panel is always used in the text below. This is not restrictive, as the information is valid for all systems referred to above. If there are constraints, direct reference is made to them in the text.

#### Note:

Interface options for HMI devices: See the individual device descriptions.

#### OPC communication

OPC Data Access is an open standard for exchanging both local and remote variables between various applications via Industrial Ethernet. The original version of OPC is based on Microsoft COM/DCOM and, therefore, requires a Microsoft Windows-based PC operating system (not Windows CE) on both clients and servers. As OPC XML, communication is based on the Internet standard SOAP/XML and is, therefore, suitable for embedded systems with Windows CE.

#### HTTP communication for variable exchange between SIMATIC HMI systems

Communication based on HTTP message frames enables variables to be exchanged between SIMATIC HMI systems.

| Communication standard   |               | SIMATIC HMI   |                                      |                  |                        |  |
|--|---------------|---|--------------------------------------|------------------|------------------------|--|
| Version  | Comfort Panel | TP 177B DP/PN<br>OP 177B DP/PN<br>Mobile Panel 177 PN<br>MP 177 | TP 277<br>OP 277<br>Mobile Panel 277 | MP 277<br>MP 377 | WinCC Runtime Advanced |  |
| <b>OPC Data Access V2.05a + OPC UA Data Access V1.01 + OPC Data Access XML V1.00</b> |               |   |                                      |                  |                        |  |
| OPC DA Client (COM/DCOM)   | –             | –   | –                                    | –                | •                      |  |
| OPC DA server (COM/DCOM)   | –             | –   | –                                    | –                | •                      |  |
| OPC UA client  | •             | –   | –                                    | –                | •                      |  |
| OPC XML DA client (SOAP/XML)   | –             | –   | –                                    | –                | • <sup>1)</sup>        |  |
| OPC XML DA server (SOAP/XML)   | •             | –   | –                                    | •                | –                      |  |
| <b>HTTP communication for variable exchange between SIMATIC HMI systems</b>          |               |   |                                      |                  |                        |  |
| HTTP client  | •             | •   | •                                    | •                | •                      |  |
| HTTP server  | •             | •   | •                                    | •                | •                      |  |

• System interface possible

– System interface not possible

<sup>1)</sup> Only through DCOM/XML gateway in scope of delivery of WinCC Advanced for access to OPC XML server of the SIMATIC Panel

### Overview

The following types of interface are differentiated in respect of the link between the SIMATIC Panels and SIMATIC S7 controllers:

- PROFINET interface:  
Coupling of SIMATIC Panel to SIMATIC S7 controllers via Industrial Ethernet TCP/IP using the integrated PROFINET interface of the CPU or, alternatively, a PROFINET interface module.
- MPI/PROFIBUS interface:  
Coupling of SIMATIC Panel to SIMATIC S7 controllers via MPI/PROFIBUS using the integrated MPI/PROFIBUS interface of the CPU for S7-300, S7-400 or the integrated PPI interface of the CPU in the case of S7-200 or, alternatively, a PROFIBUS interface module in the case of S7-1200, S7-300 and S7-400.
- PPI interface:  
Coupling of SIMATIC Panel to SIMATIC S7-200 via PPI network using the integrated PPI interface of the CPU

The maximum possible number of S7 connections of one CPU is determined by its performance capacity (see Catalog ST 70); from the point of view of SIMATIC Panel, the following restrictions apply:

- OP 73: max. 2 connections
- OP 77A, TP 177A, Basic Panel, OP 77B, TP177B, OP 177B, Mobile Panel 177: max. 4 connections
- Comfort Panel, TP 277, OP 277; Mobile Panel 277, MP 177, MP 277, MP 377: max. 6 connections
- PC with WinCC Runtime Advanced: max. 8 connections

### PPI interface

The PPI interface is a point-to-point connection between a SIMATIC Panel (PPI master) or alternatively a PG (PPI master) and an S7-200 (PPI slave).

The corresponding multipoint-enabled communication interfaces of SIMATIC Panels and SIMATIC S7 are used.  
The following are possible:

- Interface between one or a number of SIMATIC Panels (MPI master) and one or a number of S7-1200/300/400s or WinAC (MPI master). (possible network topology: MPI/PROFIBUS or Industrial Ethernet, TCP/IP)
- Interface between one or a number of SIMATIC Panels (MPI master) and one or a number of S7-200s (MPI slave)<sup>1)</sup> (possible network topology: PPI, MPI/PROFIBUS)

Unlike PPI connections, MPI connections are static connections that are set up during booting and then monitored.

The original format of a master/master link has been joined by a master/slave link, which has enabled integration of the S7-200 (except CPU 212).<sup>1)</sup>

In principle this type of information exchange between SIMATIC Panels and SIMATIC S7 is independent of the network used, PPI, MPI/PROFIBUS or Industrial Ethernet: SIMATIC Panels are S7 clients and SIMATIC S7 CPUs are S7 servers.

<sup>1)</sup> With regard to restricted baud transmission rates for S7-200, see Catalog ST 70.

# Operator panels

## System interfaces with WinCC (TIA Portal)

### SIMATIC S7

#### Overview (continued)

| Controller  | SIMATIC HMI                |             |               |  |  |                           |
|---|----------------------------|-------------|---------------|--|--|---------------------------|
| Target hardware (PROTOCOL)<br>(physics)   | OP 73<br>OP 77A<br>TP 177A | Basic Panel | Comfort Panel | OP 77B<br>TP 177B DP<br>OP 177B DP<br>TP 177B DP/PN<br>OP 177B DP/PN<br>Mobile Panel 177 DP <sup>1)</sup><br>Mobile Panel 177 PN <sup>1)</sup> | TP 277<br>OP 277<br>Mobile Panel 277 <sup>1)</sup><br>MP 177<br>MP 277<br>MP 377 | WinCC Runtime<br>Advanced |
| <b>SIMATIC S7-1200</b> <sup>2)</sup>  |                            |             |               |  |  |                           |
| via Ethernet (TCP/IP)<br>to max. 4 x S7-1200  | –                          | • 5)        | •             | • 5)   | •  | •                         |
| via MPI or PROFIBUS network<br>to max. 4 x S7-1200 with<br>PROFIBUS module (DP-Master)<br>CM 1243-5 | • 3) 4)                    | • 6)        | •             | • 5)   | •  | • 7)                      |
| <b>SIMATIC S7-300, -400, Win AC</b> <sup>2)</sup>   |                            |             |               |  |  |                           |
| via Ethernet (TCP/IP)<br>to max. 4 x S7-300, -400,<br>WinAC   | –                          | • 5)        | •             | • 5)   | •  | •                         |
| via MPI or PROFIBUS network<br>to up to 4 x S7-300, S7-400,<br>WinAC                                | • 3) 4)                    | • 6)        | •             | • 6)   | •  | • 7)                      |
| <b>SIMATIC S7-200</b> <sup>2)</sup>   |                            |             |               |  |  |                           |
| via Ethernet (TCP/IP)<br>(MPI protocol)<br>to max. 4 x S7-200                                       | –                          | • 5)        | •             | • 5)   | •  | •                         |
| via MPI or PROFIBUS network<br>(MPI protocol)<br>to up to 4 x S7-200                                | • 3) 4)                    | • 6)        | • 8)          | • 6) 8)  | • 8)   | • 7) 8)                   |
| via PPI network<br>(MPI protocol)<br>to up to 4 x S7-200  | • 3) 4)                    | • 6)        | –             | • 9)   | –  | –                         |
| via PPI network<br>(PPI protocol)<br>to max. 1 x S7-200   | –                          | –           | • 10)         | • 10)  | • 10)  | • 7) 10)                  |

- System interface possible
- System interface not possible

1) Mobile Panel connection via special connecting cable and junction box (see Mobile Panel), see Manual for cable layout.

2) Controllers can be combined as desired

3) OP 73 can only be interfaced with max. 2 x SIMATIC S7 (MPI); network operation (parallel PG, etc.) possible

4) Max. transmission rate 1.5 Mbit/s

5) Only Basic Panel PN, TP 177B DP/PN, OP 177B DP/PN, Mobile Panel 177 PN

6) Not Basic Panel PN, Mobile Panel 177 PN

7) Connection via integrated MPI/PROFIBUS interface; use the CP 5611 A2 with a standard PC

8) Only on passive S7-200; OP 77B also on active S7-200

9) Only OP 77B

10) Can be interfaced via PPI to max. 1 x S7-200 (PPI); network operation (parallel PG, etc.) is possible

#### Note:

Detailed information regarding cable layout can be found in the online help for WinCC.

# Operator panels

## System interfaces with WinCC (TIA Portal)

### Controllers from other manufacturers

#### Overview

The SIMATIC Touch Panel (TP), Operator Panel (OP), Basic Panel, Comfort Panel, Mobile Panel, multifunctional platforms (MP) and the SIMATIC HMI software package for PC WinCC Runtime Advanced support the following protocols for the linking of control systems from other manufacturers:

- Allen Bradley
  - Ethernet IP protocol
  - DF1 protocol

- Mitsubishi
  - MC TCP/IP protocol
  - FX protocol
- Modicon
  - Modbus TCP/IP protocol
  - Modbus RTU protocol
- Omron
  - Link/Multi-Link protocol

The following table contains more detailed information.

| Controller  | SIMATIC HMI       |                    |                 |  |  |                           |
|---|-------------------|--------------------|-----------------|--|--|---------------------------|
| Target hardware (PROTOCOL)<br>(physics)                                 | OP 77A<br>TP 177A | Basic Panel        | Comfort Panel   | OP 77B<br>TP 177B DP<br>OP 177B DP<br>TP 177B DP/PN<br>OP 177B DP/PN<br>Mobile Panel 177 DP <sup>1)</sup><br>Mobile Panel 177 PN <sup>1)</sup> | TP 277<br>OP 277<br>Mobile Panel 277 <sup>1)</sup><br>MP 177<br>MP 277<br>MP 377 | WinCC Runtime<br>Advanced |
| <b>Allen Bradley (Ethernet IP)</b>                                      |                   |                    |                 |  |  |                           |
| via Ethernet TCP/IP network to max. 4 x controllers <sup>2)</sup>       | –                 | • <sup>3)</sup>    | •               | • <sup>3)</sup>  | •  | •                         |
| • ControllLogix 1756-L6x, -L6xE with Ethernet module 1756-ENBT          |                   |                    |                 |  |  |                           |
| • Guard Logix System  |                   |                    |                 |  |  |                           |
| • CompactLogix 1769-L2xE, -L3xE   |                   |                    |                 |  |  |                           |
| • CompactLogix 1769-L4x with ETHERNET module 1768-ENBT                  |                   |                    |                 |  |  |                           |
| • SLC 5/05  |                   |                    |                 |  |  |                           |
| • MicroLogix 1100, 1400   |                   |                    |                 |  |  |                           |
| <b>Allen Bradley (DF1)</b>  |                   |                    |                 |  |  |                           |
| to max. 1 x controller  | • <sup>4)</sup>   | • <sup>4)</sup> 5) | • <sup>4)</sup> | • <sup>4)</sup> 5)   | • <sup>4)</sup>  | • <sup>6)</sup>           |
| • SLC 5/03, /04, /05  |                   |                    |                 |  |  |                           |
| • MicroLogix (RS 232)   |                   |                    |                 |  |  |                           |
| to max. 1 x controller  | • <sup>4)</sup>   | • <sup>4)</sup> 5) | • <sup>4)</sup> | • <sup>4)</sup> 5)   | • <sup>4)</sup>  | • <sup>7)</sup>           |
| • PLC5/11, /20, /30, /40, /60, /80 (RS 232)                             |                   |                    |                 |  |  |                           |
| via KF2 gateway and DH+ network to max. 4 x controllers <sup>2)</sup>   | • <sup>4)</sup>   | • <sup>4)</sup> 5) | • <sup>4)</sup> | • <sup>4)</sup> 5)   | • <sup>4)</sup>  | • <sup>7)</sup> 8)        |
| • SLC 5/04  |                   |                    |                 |  |  |                           |
| • PLC5/11, /20, /30, /40, /60, /80 (RS 232)                             |                   |                    |                 |  |  |                           |
| via KF2 gateway and DH+ network to max. 4 x controllers <sup>2)</sup>   | •                 | • <sup>5)</sup>    | •               | • <sup>5)</sup>  | •  | –                         |
| • SLC 5/04  |                   |                    |                 |  |  |                           |
| • PLC5/11, /20, /30, /40, /60, /80 (RS 422)                             |                   |                    |                 |  |  |                           |
| via KF3 gateway and DH485 network to max. 4 x controllers <sup>2)</sup> | • <sup>4)</sup>   | • <sup>4)</sup> 5) | • <sup>4)</sup> | • <sup>4)</sup> 5)   | • <sup>4)</sup>  | • <sup>7)</sup> 8)        |
| • SLC 500   |                   |                    |                 |  |  |                           |
| • MicroLogix (RS 232)   |                   |                    |                 |  |  |                           |

- System interface possible
- System interface not possible

<sup>1)</sup> Mobile Panel connection via special connecting cable and junction box (see Mobile Panel), see Manual for cable layout.

<sup>2)</sup> The following listed controllers can be combined as required

<sup>3)</sup> Only Basic Panel PN, TP 177B DP/PN, OP 177B DP/PN, Mobile Panel 177 PN

<sup>4)</sup> For Basic Panel, Touch Panel, Operator Panel, Comfort Panel, Multi Panel, the RS 422/RS 232 adapter 6AV6 671-8XE00-0AX0 is required

<sup>5)</sup> Not Basic Panel PN, Mobile Panel 177 PN

<sup>6)</sup> Connection via Allen Bradley PC cable 1747 CP3

<sup>7)</sup> Connection via Allen Bradley PC cable 1784 CP10

<sup>8)</sup> For connection to KF2/KF3 gateway, a gender-changer (25-pin socket/25-pin socket) is required on the gateway side

#### Note:

For detailed information on cable assignment, refer to Online Help of WinCC; see also FAQs:

<http://support.automation.siemens.com/WW/view/en/29034071>

# Operator panels

## System interfaces with WinCC (TIA Portal)

### Controllers from other manufacturers

#### Overview (continued)

| Controller  | SIMATIC HMI       |                 |               |  |  |                           |
|---|-------------------|-----------------|---------------|--|--|---------------------------|
| Target hardware (PROTOCOL)<br>(physics)   | OP 77A<br>TP 177A | Basic Panel     | Comfort Panel | OP 77B<br>TP 177B DP<br>OP 177B DP<br>TP 177B DP/PN<br>OP 177B DP/PN<br>Mobile Panel 177 DP <sup>1)</sup><br>Mobile Panel 177 PN <sup>1)</sup> | TP 277<br>OP 277<br>Mobile Panel 277 <sup>1)</sup><br>MP 177<br>MP 277<br>MP 377 | WinCC Runtime<br>Advanced |
| <b>Mitsubishi (MC TCP/IP)</b>   |                   |                 |               |  |  |                           |
| via Ethernet IP network<br>to max. 4 x controllers <sup>2)</sup><br><ul style="list-style-type: none"> <li>• FX series FX3G, FX3U, FX3UC with Ethernet module FX3U ENET,</li> <li>• Series Q with Ethernet module QJ71E71-100</li> <li>• iQ series/QnUD QnUDEH</li> </ul> | –                 | • <sup>3)</sup> | •             | • <sup>3)</sup>  | •  | •                         |
| <b>Mitsubishi FX (serial)</b>   |                   |                 |               |  |  |                           |
| to max. 1 x controller<br>FX series FX1N, FX2N (RS 232)   | •                 | • <sup>4)</sup> | •             | • <sup>4)</sup>  | •  | • <sup>5)</sup>           |
| <ul style="list-style-type: none"> <li>• System interface possible</li> <li>– System interface not possible</li> </ul>  |                   |                 |               |  |  |                           |

<sup>1)</sup> Mobile Panel connection via special connecting cable and junction box (see Mobile Panel), see Manual for cable layout.  
<sup>2)</sup> The following listed controllers can be combined as required  
<sup>3)</sup> Only Basic Panel PN, TP 177B DP/PN, OP 177B DP/PN, Mobile Panel 177 PN  
<sup>4)</sup> Not Basic Panel PN, Mobile Panel 177 PN  
<sup>5)</sup> Connection using a Mitsubishi PC cable SC-09 with integrated level converter RS 232/RS 422

#### Note:

For detailed information on cable assignment, refer to Online Help of WinCC; see also FAQs:  
<http://support.automation.siemens.com/WW/view/en/29034071>

# Operator panels

## System interfaces with WinCC (TIA Portal)

### Controllers from other manufacturers

#### Overview (continued)

| Controller   | SIMATIC HMI       |                    |                 |  |  |                        |
|--|-------------------|--------------------|-----------------|--|--|------------------------|
| Target hardware (PROTOCOL) (physics)   | OP 77A<br>TP 177A | Basic Panel        | Comfort Panel   | OP 77B<br>TP 177B DP<br>OP 177B DP<br>TP 177B DP/PN<br>OP 177B DP/PN<br>Mobile Panel 177 DP <sup>1)</sup><br>Mobile Panel 177 PN <sup>1)</sup> | TP 277<br>OP 277<br>Mobile Panel 277 <sup>1)</sup><br>MP 177<br>MP 277<br>MP 377 | WinCC Runtime Advanced |
| <b>Modicon (MODBUS TCP/IP)</b>   |                   |                    |                 |  |  |                        |
| Via MODBUS TCP/IP network to max. 4 x controllers <sup>2)</sup>  | –                 | • <sup>3)</sup>    | •               | • <sup>3)</sup>  | •  | •                      |
| • Concept Quantum,<br>Unity Quantum<br>• Momentum<br>• Premium (TSX57)<br>• TSX Micro (TSX37)<br>• Modicon M340 20x0 (except 2010) |                   |                    |                 |  |  |                        |
| Via TCP/IP Modbus Plus Bridge 174 CEV 200 40 and MODBUS PLUS network to max. 4 x controllers <sup>2)</sup>                         | –                 | • <sup>3)</sup>    | •               | • <sup>3)</sup>  | •  | •                      |
| • Concept Quantum,<br>Unity Quantum<br>• Momentum<br>• Compact   |                   |                    |                 |  |  |                        |
| <b>Modicon (MODBUS RTU)</b>  |                   |                    |                 |  |  |                        |
| to max. 1 x controller   | • <sup>4)</sup>   | • <sup>4)</sup> 5) | • <sup>4)</sup> | • <sup>4)</sup> 5)   | • <sup>4)</sup>  | •                      |
| • Concept Quantum<br>• Momentum<br>• Compact (RS 232)  |                   |                    |                 |  |  |                        |
| Via bridge BM85-000 or PLC with bridge functionality and MODBUS PLUS network to max. 4 x controllers <sup>2)</sup>                 | • <sup>4)</sup>   | • <sup>4)</sup> 5) | • <sup>4)</sup> | • <sup>4)</sup> 5)   | • <sup>4)</sup>  | •                      |
| • Concept Quantum<br>• Compact (RS 232)  |                   |                    |                 |  |  |                        |
| • System interface possible<br>– System interface not possible   |                   |                    |                 |  |  |                        |

<sup>1)</sup> Mobile Panel connection via special connecting cable and junction box (see Mobile Panel), see Manual for cable layout.

<sup>2)</sup> The following listed controllers can be combined as required

<sup>3)</sup> Only Basic Panel PN, TP 177B DP/PN, OP 177B DP/PN, Mobile Panel 177 PN

<sup>4)</sup> For Basic Panel, Touch Panel, Operator Panel, Comfort Panel, Multi Panel, the RS 422/RS 232 adapter 6AV6 671-8XE00-0AX0 is required

<sup>5)</sup> Not Basic Panel PN, Mobile Panel 177 PN

#### Note:

For detailed information on cable assignment, refer to Online Help of WinCC; see also FAQs:

<http://support.automation.siemens.com/WW/view/en/29034071>

# Operator panels

## System interfaces with WinCC (TIA Portal)

### Controllers from other manufacturers

#### Overview (continued)

| Controller  | SIMATIC HMI       |                 |                 |  |  |                           |
|---|-------------------|-----------------|-----------------|--|--|---------------------------|
| Target hardware (PROTOCOL)<br>(physics)   | OP 77A<br>TP 177A | Basic Panel     | Comfort Panel   | OP 77B<br>TP 177B DP<br>OP 177B DP<br>TP 177B DP/PN<br>OP 177B DP/PN<br>Mobile Panel 177 DP <sup>1)</sup><br>Mobile Panel 177 PN <sup>1)</sup> | TP 277<br>OP 277<br>Mobile Panel 277 <sup>1)</sup><br>MP 177<br>MP 277<br>MP 377 | WinCC Runtime<br>Advanced |
| <b>Omron (Link/MultiLink)</b>   |                   |                 |                 |  |  |                           |
| to max. 1 x controller<br>• CP1L, CP1H, CP1E<br>• CJ1M, CJ1H, CJ1G<br>• CJ2H<br>• CS1G, CS1H, CS1D<br>• CP2MC (RS 232)  | –                 | –               | • <sup>3)</sup> | • <sup>3)</sup> 4)<br>• <sup>3)</sup> 4)   | • <sup>3)</sup>  | •                         |
| via converter NT-AL001 and RS 422 network to max. 4 x controllers <sup>2)</sup><br>• CP1L, CP1H, CP1E<br>• CJ1M, CJ1H, CJ1G<br>• CJ2H<br>• CS1G, CS1H, CS1D<br>• CP2MC (RS 232) | –                 | –               | • <sup>3)</sup> | • <sup>3)</sup> 4)   | • <sup>3)</sup>  | •                         |
| via RS 422 network to max. 4 x controllers <sup>2)</sup><br>• CP1L, CP1H, CP1E<br>• CJ1M, CJ1H, CJ1G (RS 422)   | •                 | • <sup>4)</sup> | •               | • <sup>4)</sup>  | • <sup>4)</sup>  | –                         |
| via RS422 network to max. 4 x controllers <sup>2)</sup><br>• CJ2H<br>• CS1G, CS1H, CS1D<br>• CP2MC (RS 422)   | –                 | –               | –               | • <sup>4)</sup>  | • <sup>4)</sup>  | –                         |

• System interface possible

– System interface not possible

<sup>1)</sup> Mobile Panel connection via special connecting cable and junction box (see Mobile Panel), see Manual for cable layout.

<sup>2)</sup> The controllers listed below can be combined in any way required; connection via RS 422 interface of the controller or via RS 422 module

<sup>3)</sup> For Basic Panel, Touch Panel, Operator Panel, Comfort Panel, Multi Panel, the RS 422/RS 232 adapter 6AV6 671-8XE00-0AX0 is required

<sup>4)</sup> Not Basic Panel PN, Mobile Panel 177 PN

#### Note:

For detailed information on cable assignment, refer to Online Help of WinCC; see also FAQs:

<http://support.automation.siemens.com/WW/view/en/29034071>

# Operator panels

## System interfaces with WinCC flexible

### System interfaces with WinCC flexible

#### Overview

SIMATIC Basic Panel, Touch Panels (TP), Operator Panels (OP), Mobile Panel, Multifunctional Platforms (MP)<sup>1)</sup> and the SIMATIC HMI software package for PC WinCC flexible Runtime support HMI functionality in conjunction with:

- SIMATIC S7
- SIMATIC S5
- SIMATIC 505
- SIMOTION
- SINUMERIK<sup>2)</sup>
- Non-Siemens controllers:
  - Allen Bradley - DF1, DH485 and Ethernet IP protocols
  - GE Fanuc - SNP/SNPX protocol
  - LG GLOFA GM - dedicated protocol
  - Mitsubishi - FX and MP 4 protocols
  - Modicon - Modbus RTU and TCP/IP protocols
  - Omron I - Link/MultiLink protocol
  - Telemecanique - UNI-TELWAY protocol

For more detailed information, refer to the WinCC flexible user manual, the "Windows-based systems communication" manual, and the WinCC flexible online help.

- 1) For the sake of simplicity, SIMATIC TP/OP/MP is always used in the text below. This is not restrictive, as the information is valid for all systems referred to above. If there are constraints, direct reference is made to them in the text.
- 2) Required under WinCC flexible: "SINUMERIK HMI copy license WinCC flexible CE" and "SINUMERIK HMI copy license OA". For configuring, a "SINUMERIK HMI engineering package WinCC flexible" is also necessary.

#### Note

Interface options for HMI devices: See the individual device descriptions.

| Communication standard |  | SIMATIC HMI         |        |                                |                        |                |
|------------------------|--|---------------------|--------|--------------------------------|------------------------|----------------|
| Version                |  | TP 177B DP/PN       | TP 277 | Mobile Panel 277 <sup>6)</sup> | WinCC flexible Runtime | Connection via |
|                        |  | OP 177B DP/PN       | OP 277 | Mobile Panel 277<br>IWLAN      | MP 277                 |                |
|                        |  | Mobile Panel 177 PN | MP 177 | MP 377                         | MP 377                 |                |

#### OPC Data Access V2.05a + OPC Data Access XML V1.00

|                              |   |   |                 |                 |  |
|------------------------------|---|---|-----------------|-----------------|--|
| OPC client<br>(COM/DCOM)     | – | – | –               | •               | Industrial Ethernet<br>(see Catalog IK PI) |
| OPC server<br>(COM/DCOM)     | – | – | –               | • <sup>1)</sup> | Industrial Ethernet<br>(see Catalog IK PI) |
| OPC XML client<br>(SOAP/XML) | – | – | –               | • <sup>2)</sup> | Industrial Ethernet<br>(see Catalog IK PI) |
| OPC XML server<br>(SOAP/XML) | – | – | • <sup>3)</sup> | –               | Industrial Ethernet<br>(see Catalog IK PI) |

#### HTTP communication for variable exchange between SIMATIC HMI systems

|             |                 |                 |                 |                 |  |
|-------------|-----------------|-----------------|-----------------|-----------------|--|
| HTTP client | • <sup>4)</sup> | • <sup>4)</sup> | • <sup>4)</sup> | • <sup>5)</sup> | Industrial Ethernet<br>(see Catalog IK PI) |
| HTTP server | • <sup>4)</sup> | • <sup>4)</sup> | • <sup>4)</sup> | • <sup>5)</sup> | Industrial Ethernet<br>(see Catalog IK PI) |

- System interface possible
- System interface not possible

<sup>1)</sup> Option WinCC flexible/OPC Server for WinCC flexible Runtime required

<sup>2)</sup> Only with DCOM/XML gateway included in the scope of delivery of WinCC flexible for access to MP 277, MP 377 and MP 370 OPC XML servers

<sup>3)</sup> Option WinCC flexible/OPC Server for SIMATIC Multi Panel required

#### Extended functionality with WinCC flexible

WinCC flexible supports OPC communication for Multi Panel and WinCC flexible Runtime and HTTP communication for all panels with integrated Ethernet interface. Both OPC and HTTP communication can be used in parallel with the process links to SIMATIC S7/S5/505 or non-Siemens PLCs.

#### OPC Data Access

(MP 277, MP 377, WinCC flexible Runtime only)

OPC Data Access is an open standard for exchanging both local and remote variables between various applications via Industrial Ethernet. The original version of OPC is based on Microsoft COM/DCOM and, therefore, requires a Microsoft Windows-based PC operating system (not Windows CE) on both clients and servers. As OPC XML, communication is based on the Internet standard SOAP/XML and is, therefore, suitable for embedded systems with Windows CE.  
Options that are required: WinCC flexible/OPC server

#### HTTP communication for the variable exchange between SIMATIC HMI systems

(only TP 177B DP/PN, OP 177B DP/PN, Mobile Panel 177 PN, TP 277, OP 277, Mobile Panel 277, Mobile Panel 277 IWLAN, MP 277, MP 377, WinCC flexible Runtime)

Communication based on HTTP message frames enables variables to be exchanged between SIMATIC HMI systems.  
Options that are required: WinCC flexible/Sm@rt Access

# Operator panels

## System interfaces with WinCC flexible

### SIMATIC S7

#### Overview

The following types of interface are supported in respect of the link between SIMATIC HMI Panels and SIMATIC WinCC flexible Runtime with SIMATIC S7:

- PPI interface:  
Interface between SIMATIC HMI Panels and SIMATIC S7-200 via PPI. Communication runs on the PPI protocol, a standard FB as with SIMATIC S5 is not required.
- MPI interface:  
Interface between SIMATIC HMI Panels and SIMATIC S7 via the integrated PPI interface with S7-200 or MPI interface with S7-300/-400 or alternatively via the MPI interface of a separate interface module and the backplane bus to the SIMATIC S7-CPU. Communication runs on the MPI protocol (PG/OP communication), a standard FB as with SIMATIC S5 is not required.
- PROFIBUS interface:  
Interface between SIMATIC HMI Panels and SIMATIC S7 via the integrated PROFIBUS interface on the CPU or alternatively via the PROFIBUS interface on a separate interface module and the backplane bus to the SIMATIC S7-CPU. Communication runs on the MPI protocol (PG/OP communication), a standard FB as with SIMATIC S5 is not required.
- PROFINET interface:  
Interface between SIMATIC HMI Panels and SIMATIC S7 via the integrated PROFINET interface on the CPU or alternatively via the Industrial Ethernet interface on a separate interface module and the backplane bus to the SIMATIC S7-CPU. Communication runs on the MPI protocol (PG/OP communication), a standard FB as with SIMATIC S5 is not required.

The maximum possible number of S7 connections of a CPU is determined by its power (see Catalog ST 70); from the point of view of SIMATIC HMI Panels the following restrictions apply:

- OP 73micro, TP 177micro: 1 connection
- OP 73: max. 2 connections
- OP 77A, TP 177A, Basic Panel, OP 77B, TP177B, OP 177B, Mobile Panel 177: max. 4 connections
- TP 277, OP 277; Mobile Panel 277, MP 177, MP 277, MP 377: max. 6 connections
- PC with WinCC flexible Runtime: max. 8 connections

#### PPI interface

From the point of view of the concept, the PPI interface is a point-to-point connection between a SIMATIC HMI Panel (PPI master) or alternatively a PG (PPI master), and an S7-200 (PPI slave).

#### MPI interface/PROFIBUS interface/ Industrial Ethernet interface

The multipoint-enabled communication interfaces of SIMATIC HMI Panels and SIMATIC S7 are used. Options are:

- Interface between one or a number of SIMATIC HMI Panels (MPI master) and one or a number of S7-300/400s or WinAC (MPI master)  
(possible network topology: "MPI/PROFIBUS/Industrial Ethernet")
- Interface between one or a number of SIMATIC HMI Panels (MPI master) and one or a number of S7-200s (MPI slave)  
(possible network topology: "PPI/MPI/PROFIBUS")

Unlike PPI connections, MPI connections are static connections that are set up during booting and then monitored.

The original format of a master/master link has in the meantime been joined by a master/slave link, which has enabled integration of the S7-200 (except CPU 212).<sup>1)</sup>

In principle this type of information exchange between SIMATIC HMI Panels and SIMATIC S7 is independent of the network used, PPI, MPI, PROFIBUS or Industrial Ethernet: SIMATIC HMI Panels are S7 clients and SIMATIC S7 CPUs are S7 servers.

<sup>1)</sup> Constraints with regard to baud rate for S7-200; see Catalog ST 70.

# Operator panels

## System interfaces with WinCC flexible

SIMATIC S7

### Overview (continued)

| Controller  | SIMATIC HMI                             |                           |                 |                   |  |
|---|---|---------------------------|-----------------|-------------------|--|
| Target hardware (PROTOCOL)<br>(physics)   | TD 100C<br>TD 200<br>TD 200C<br>TD 400C | OP 73micro<br>TP 177micro | OP 73           | OP 77A<br>TP 177A | Connection via   |
| <b>SIMATIC S7 (PPI/MPI)</b>   |   |                           |                 |                   |  |
| via PPI on <b>S7-200 (PPI)</b>  | • <sup>1)</sup>                         | –                         | –               | –                 | <b>MPI cable</b> <sup>5)</sup>   |
| via MPI or PROFIBUS<br>(PG/OP communication)<br>with <b>S7-200</b>  | –                                       | • <sup>2)</sup>           | • <sup>3)</sup> | • <sup>4)</sup>   | <b>MPI cable</b> <sup>5)</sup>   |
| via MPI or PROFIBUS<br>(PG/OP communication)<br>with <b>S7-300, -400</b>  | –                                       | –                         | • <sup>3)</sup> | • <sup>4)</sup>   | <b>MPI cable</b> <sup>5)</sup>   |
| via PPI network ( <b>PPI</b> )<br>with max. 1 x <b>S7-200</b>   | • <sup>1)</sup>                         | –                         | –               | –                 | <b>PPI network</b> <sup>6)</sup><br>(see Catalog ST 70 and IK PI)              |
| via PPI network<br>(PG/OP communication)<br>with max. 4 x <b>S7-200</b>   | • <sup>1)</sup>                         | • <sup>2)</sup>           | • <sup>3)</sup> | • <sup>4)</sup>   | <b>PPI network</b> <sup>6)</sup><br>(see Catalog ST 70 and IK PI)              |
| via MPI or PROFIBUS network<br>(PG/OP communication)<br>with max. 4 x <b>S7-200</b>                                   | –                                       | • <sup>2)</sup>           | • <sup>3)</sup> | • <sup>4)</sup>   | <b>MPI or PROFIBUS network</b> <sup>6)</sup><br>(see Catalogs ST 70 and IK PI) |
| via MPI or PROFIBUS network<br>(PG/OP communication)<br>with max. 4 x <b>S7-300, -400, WinAC</b>                      | –                                       | –                         | • <sup>3)</sup> | • <sup>4)</sup>   | <b>MPI or PROFIBUS network</b> <sup>6)</sup><br>(see Catalogs ST 70 and IK PI) |
| via Industrial Ethernet (TCP/IP)<br>(PG/OP communication)<br>with max. 4 x <b>S7-200, -300, -400,</b><br><b>WinAC</b> | –                                       | –                         | –               | –                 | <b>Industrial Ethernet</b><br>(see Catalog IK PI)                              |

- System interface possible
- System interface not possible

<sup>1)</sup> TD series can only be interfaced with max. 1 x S7-200 via PPI (PPI/MPI); network operation (parallel PG, etc.) possible; max. data transfer rate 187.5 kbit/s; cable included in scope of supply

<sup>2)</sup> OP 73micro, TP 177 micro can only be interfaced with max. 1 x S7-200 (MPI); network operation (parallel PG, etc.) possible; max. data transfer rate 187.5 kbit/s

<sup>3)</sup> OP 73 can only be interfaced with max. 2 x SIMATIC S7 (MPI); network operation (parallel PG, etc.) possible; max. data transfer rate 1.5 Mbit/s

<sup>4)</sup> Max. transmission rate 1.5 Mbit/s

<sup>5)</sup> MPI cable 6ES7 901-0BF00-0AA0 (max. 187.5 Kbit/s) included in PG scope of delivery

<sup>6)</sup> Bus connector 6GK1 500-0EA02

# Operator panels

## System interfaces with WinCC flexible

### SIMATIC S7

#### Overview (continued)

| Controller  | SIMATIC HMI  |  |   |                           |  |
|---|--------------|--|---|---------------------------|--|
| Target hardware (PROTOCOL)<br>(physics)   | Basic Panels | OP 77B<br>TP 177B DP<br>OP 177B DP<br>TP 177B DP/PN<br>OP 177B DP/PN<br>Mobile Panel 177 DP<br>Mobile Panel 177 PN | TP 277<br>OP 277<br>Mobile Panel 277<br>Mobile Panel 277<br>IWLAN<br>MP 177<br>MP 277<br>MP 377 | WinCC flexible<br>Runtime | Connection via   |
| via PPI on S7-200 (PPI)   | –            | • 1) 2)<br>• 2) 5)   | • 1) 2)<br>• 2) 5)  | • 1) 3)<br>• 3) 5)        | MPI cable <sup>11)</sup><br>MPI cable <sup>11)</sup>                           |
| via MPI or PROFIBUS<br>(PG/OP communication)<br>on S7-200   | • 2)         | • 2)   | • 2)  | • 3)                      | MPI cable <sup>11)</sup>   |
| via MPI or PROFIBUS<br>(PG/OP communication)<br>with S7-300, -400                                       | • 2)         | • 2)   | • 2)  | • 3)                      | PPI network <sup>12)</sup><br>(see Catalog ST 70<br>and IK PI)                 |
| via PPI network (PPI)<br>with max. 1 x S7-200   | –            | • 1) 2)  | • 1) 2)   | • 1) 3)                   | PPI network <sup>12)</sup><br>(see Catalog ST 70<br>and IK PI)                 |
| via PPI network<br>(PG/OP communication)<br>with max. 4 x S7-200  | • 2)         | • 6)   | –   | –                         | PPI network <sup>12)</sup><br>(see Catalog ST 70<br>and IK PI)                 |
| via MPI or PROFIBUS network<br>(PG/OP communication)<br>with max. 4 x S7-200                            | • 2)         | • 2) 5)  | • 2) 5)   | • 3) 5)                   | MPI or PROFIBUS<br>network <sup>12)</sup><br>(see Catalogs ST 70<br>and IK PI) |
| via MPI or PROFIBUS network<br>(PG/OP communication)<br>with max. 4 x S7-300, -400, WinAC               | • 2)         | • 2)   | • 2)  | • 3)                      | MPI or PROFIBUS<br>network <sup>12)</sup><br>(see Catalogs ST 70<br>and IK PI) |
| via Industrial Ethernet (TCP/IP)<br>(PG/OP communication)<br>with max. 4 x S7-200, -300, -400,<br>WinAC | – 7)         | • 7) 8)  | • 8) 9)   | • 10)                     | Industrial Ethernet<br>(see Catalog IK PI)                                     |

- System interface possible
- System interface not possible

- 1) Can only be interfaced with max. 1 x S7-200 via PPI (PPI);  
network operation (parallel PG, etc.) possible
- 2) Not Basic Panel PN, Mobile Panel 177 PN, Mobile Panel 277 IWLAN;  
Mobile Panel 177 DP, Mobile Panel 277 connection via special  
connecting cable and junction box (see Mobile Panel);  
Please refer to the manual for cable assignment
- 3) Connection via integrated MPI/PROFIBUS interface; use the CP 5611 A2  
with a standard PC.
- 4) Max. transmission rate 1.5 Mbit/s
- 5) Only on passive S7-200; OP 77B (MPI) also on active S7-200
- 6) Only OP 77B (MPI)

- 7) Only Basic Panel PN, TP 177B DP/PN, OP 177B DP/PN,  
Mobile Panel 177 PN
- 8) Mobile Panel 177 PN, Mobile Panel 277 connection via special connecting  
cable and junction box (see Mobile Panel);  
Please refer to the manual for cable assignment
- 9) Mobile Panel 277 IWLAN (wireless interface, see Mobile Panel)
- 10) Connection via integrated Industrial Ethernet interface; use the CP 1612  
with a standard PC
- 11) MPI cable 6ES7 901-0BF00-0AA0 (max. 187.5 Kbit/s) included in PG  
scope of delivery (for download and test purposes only)
- 12) Bus connector 6GK1 500-0EA02

### Overview

A variety of interfaces differing in respect of type and performance are available for linking SIMATIC HMI Panels to SIMATIC S5 (not S5-150U). However, a feature common to all is that from the point of view of the connected SIMATIC HMI Panel, the connection is always a logical point-to-point one, i.e. there is always a fixed assignment between a SIMATIC HMI Panel and a PLC.

#### **AS511 interface**

(not for OP 77A, TP 177A, Basic Panel, Mobile Panel 177, Mobile Panel 277)

S5-90U to -135U, -155U  
 (except CPU 922 < Version 9,  
 except CPU 928 [6ES5 928-3UA11],  
 except CPU 946/947 [6ES5 94•-3UA11],  
 except CPU 946/947 [6ES5 94•-3UA21],  
 except CPU 946/947 [6ES5 94•-3UA22] < Version 5)

The AS511 interface is implemented via the PG interface of SIMATIC S5 and uses the associated CPU resources, that is, the performance capability of the SIMATIC HMI Panel is determined by the performance capability of the SIMATIC CPU used.

#### **PROFIBUS DP interface**

(not for OP 77A, TP 177A, Basic Panel, Mobile Panel 177 PN, Mobile Panel 277 WLAN)

S5-115U, -135U, -155U via IM 308C or CP 5431 FMS/ DP (except CPU 922 < Version 9, except CPU 928 [6ES5 928-3UA11], except CPU 946/947 [6ES5 94•-3UA11], except CPU 946/947 [6ES5 94•-3UA21], except CPU 946/947 [6ES5 94•-3UA22] < Version 5)

The PROFIBUS DP interface supports the connection of:

- Up to 2 SIMATIC HMI Panels as SLAVES via a PROFIBUS network to a SIMATIC S5-95U with integrated PROFIBUS DP/master interface [6ES5 095-8ME01]
- Up to 30 SIMATIC HMI Panels as SLAVES via a PROFIBUS network to a SIMATIC S5 with separate PROFIBUS DP/master interface IM 308C, or CP 5431 FMS/DP

Communication between SIMATIC HMI Panels (DP slaves) and SIMATIC S5 (DP master) runs via PROFIBUS DP message frames in accordance with EN 50170 with higher-level "HMI profile". A function block which must be called for each connected SIMATIC HMI Panel is required in the PLC (FB is included in scope of delivery).

# Operator panels

## System interfaces with WinCC flexible

### SIMATIC S5

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#### Overview (continued)

| Controller  | SIMATIC HMI                      |  |   |                        |   |
|---|----------------------------------|--|---|------------------------|---|
| Target hardware (PROTOCOL)<br>(physics)   | OP 77A<br>TP 177A<br>Basic Panel | OP 77B<br>TP 177B DP<br>OP 177B DP<br>TP 177B DP/PN<br>OP 177B DP/PN<br>Mobile Panel 177 DP<br>Mobile Panel 177 PN | TP 277<br>OP 277<br>Mobile Panel 277<br>Mobile Panel 277 WLAN<br>MP 177<br>MP 277<br>MP 377 | WinCC flexible Runtime | Connection via  |
| <b>SIMATIC S5 (AS511)</b>   |                                  |  |   |                        |   |
| <b>S5-90U to 155U</b><br>except CPU 922 < version 9,<br>except CPU 928<br>(6ES5 928-3UA11)<br>except CPU 946/947<br>(6ES5 94.-3UA11,<br>6ES5 94.-3UA21,<br>6ES5 94.-3UA22 < version 5)<br>(TTY)   | –                                | • <sup>2)</sup>  | –   | •                      | <b>6ES5 734-1BD20<sup>1)</sup></b><br>(3.2 m)<br><b>6XV1 440-2A...</b><br>(see HMI accessories/<br>connecting cables)     |
| <b>S5-90U to 155U</b><br>except CPU 922 < version 9,<br>except CPU 928<br>(6ES5 928-3UA11)<br>except CPU 946/947<br>(6ES5 94.-3UA11,<br>6ES5 94.-3UA21,<br>6ES5 94.-3UA22 < version 5)<br>(TTY)   | –                                | • <sup>3) 5)</sup>   | • <sup>3)</sup>   | –                      | <b>6AV6 671-8XJ00-0AX0</b><br>(RS422-TTY adapter)<br><b>6XV1 440-2A...</b><br>(see HMI accessories/<br>connecting cables) |
| <b>SIMATIC S5 (PROFIBUS DP + HMI)</b>   |                                  |  |   |                        |   |
| via PROFIBUS DP with<br>1 x <b>S5-95U/L2-DP/master</b><br>(6ES5 095-8ME02)  | –                                | • <sup>3)</sup>  | • <sup>3)</sup>   | • <sup>4)</sup>        | <b>PROFIBUS<sup>4)</sup></b><br>(see Catalog IK PI)   |
| via PROFIBUS DP with IM 308C<br>on <b>S5-115U, -135U, -155U</b><br>except CPU 922 < version 9,<br>except CPU 928<br>(6ES5 928-3UA11),<br>except CPU 946/947<br>(6ES5 94.-3UA11,<br>6ES5 94.-3UA21,<br>6ES5 94.-3UA22 < version 5)           | –                                | • <sup>3)</sup>  | • <sup>3)</sup>   | • <sup>4)</sup>        | <b>PROFIBUS<sup>4)</sup></b><br>(see Catalog IK PI)   |
| via PROFIBUS DP with<br>CP 5431 FMS/DP on<br><b>S5-115U, -135U, -155U</b><br>except CPU 922 < version 9,<br>except CPU 928<br>(6ES5 928-3UA11),<br>except CPU 946/947<br>(6ES5 94.-3UA11,<br>6ES5 94.-3UA21,<br>6ES5 94.-3UA22 < version 5) | –                                | • <sup>3)</sup>  | • <sup>3)</sup>   | • <sup>4)</sup>        | <b>PROFIBUS<sup>4)</sup></b><br>(see Catalog IK PI)   |

- System interface possible
- System interface not possible

<sup>1)</sup> PC cable with integrated level converter RS 232/TTY

<sup>2)</sup> OP 77B only

<sup>3)</sup> WinCC flexible 2008 Service Pack 2 and higher

<sup>4)</sup> Connection via integrated MPI/PROFIBUS interface: use the CP 5611 A2  
for a standard PC.

<sup>5)</sup> not for OP 77B; in this case the RS 232 interface is to be used.

# Operator panels

## System interfaces with WinCC flexible

SIMATIC 505

### Overview

A variety of interfaces differing in respect of type and performance are available for linking SIMATIC HMI Panels to SIMATIC 505.

However, a feature common to all is that from the point of view of the connected SIMATIC HMI Panel, the connection is always a logical point-to-point one, that is, there is always a fixed assignment between an HMI Panel and a PLC.

### NITP interface

(not for OP 77A, TP 177A, Basic Panel, Mobile Panel 177 PN, Mobile Panel 277 WLAN)

The NITP interface runs via the PG interface of the SIMATIC 505 and uses the associated CPU resources, that is, the performance capability of the SIMATIC HMI Panel is determined by the performance capability of the SIMATIC CPU used.

### PROFIBUS DP interface

(not for OP 77A, TP 177A, Basic Panel, Mobile Panel 177 PN, Mobile Panel 277 WLAN)

SIMATIC 505 PLC or SIMATIC 545, SIMATIC 555 with CP 5434

With the PROFIBUS DP interface, up to 30 SIMATIC HMI Panels can be connected as SLAVES to one SIMATIC 545, 555 via a PROFIBUS network, with plug-in PROFIBUS DP/master interface type CP 5434.

Communication between SIMATIC HMI Panels (DP slaves) and SIMATIC 505 (DP master) runs via PROFIBUS DP message frames in accordance with EN 50170 with higher-level "HMI profile". An application ladder which must be called for each connected SIMATIC HMI Panel is required in the PLC (example of application ladder included in ProTool scope of delivery).

| Controller   | SIMATIC HMI                             |   |  |                        |   |  |
|--|---|---|--|------------------------|---|--|
| Target hardware (PROTOCOL)<br>(physics)                    | OP 77A<br>TP 177A<br><b>Basic Panel</b> | OP 77B<br>TP 177B DP<br>OP 177B DP<br>TP 177B DP/PN<br>OP 177B DP/PN<br><b>Mobile Panel 177 DP</b><br>Mobile Panel 177 PN | TP 277<br>OP 277<br><b>Mobile Panel 277</b><br>Mobile Panel 277 WLAN<br>MP 177<br>MP 277<br>MP 377 | WinCC flexible Runtime | Connection via  |  |
| <b>SIMATIC 505 (NITP)</b>                                  |   |   |  |                        |   |  |
| <b>PLC 525, 535, 565T</b><br>(RS 232)                      | –                                       | • 1) 2)   | • 1) 2)  | •                      | <b>PPX: 2601 094-8001</b> <sup>3)</sup><br>See online help <sup>6)</sup>  |  |
| <b>PLC 545, 555</b><br>(RS 232)                            | –                                       | • 1) 2)   | • 1) 2)  | •                      | <b>PPX: 2601 094-8001</b> <sup>3)</sup><br><b>6XV1 440-2K...</b><br>(see HMI accessories/<br>connecting cables) |  |
| <b>PLC 535, 545/CPU 1101, 565T</b><br>(RS 422)             | –                                       | • 1)  | • 1)   | • 4)                   | See online help <sup>6)</sup>   |  |
| <b>PLC 545/CPU 1102, 555</b><br>(RS 422)                   | –                                       | • 1)  | • 1)   | • 4)                   | See online help <sup>6)</sup>   |  |
| <b>SIMATIC 505 (PROFIBUS DP + HMI)</b>                     |   |   |  |                        |   |  |
| via PROFIBUS DP to<br>1 x <b>PLC 545, 555 with CP 5434</b> | –                                       | • 1)  | • 1)   | • 5)                   | <b>PROFIBUS</b> <sup>7)</sup><br>(see Catalog IK PI)  |  |

- System interface possible
- System interface not possible

<sup>1)</sup> Not Mobile Panel 177 PN, Mobile Panel 277 WLAN Mobile Panel 177 DP, Mobile Panel 277 connection via special connecting cable and junction box (see Mobile Panel); see manual for cable assignment.

<sup>2)</sup> The RS 422/RS 232 adapter 6AV6 671-8XE00-0AX0 is required for Touch Panels, Operator Panels, and Multi Panels

<sup>3)</sup> A standard adapter (9-/25-pin male) is required on the PLC

<sup>4)</sup> A commercially available level converter (RS 232/RS 422) is required on the PC

<sup>5)</sup> Connection via integrated MPI/PROFIBUS interface, use the CP 5611 A2 with a standard PC

<sup>6)</sup> Detailed information (cable assignment) can be found in the online help for WinCC flexible and in the Communication User Manual for Windows-based systems

<sup>7)</sup> Bus connector 6GK1 500-0EA02

# Operator panels

## System interfaces with WinCC flexible

### PLCs from other manufacturers

#### Overview

##### **Allen Bradley**

Three communication protocols are available for the interface between SIMATIC TP/OP/MP and Allen Bradley:

##### **DF1 interface**

(not on OP 73, Basic Panel PN, Mobile Panel 177 PN, Mobile Panel 277 IWLAN)

This communication between SIMATIC TP/OP/MP and Allen Bradley runs on the basis of the DF1 protocol; the following have been tested and released:

- Direct connection between a SIMATIC TP/OP/MP and the PG interface on an Allen Bradley PLC5 or the DF1 interface on an Allen Bradley SLC500 (point-to-point link)
- The integration of SIMATIC TP/OP/MP via Allen Bradley KF2 gateway in an Allen Bradley DH+ network. Communication is possible between SIMATIC TP/OP/MP and up to 4 SLC 500 PLCs or PLC5s (multipoint link from the point of view of the SIMATIC TP/OP/MP; only one connection possible with TP 170A)
- The integration of SIMATIC TP/OP/MP via Allen Bradley KF3 gateway in an Allen Bradley DH485 network. Communication is possible between SIMATIC TP/OP/MP and up to 4 PLCs type SLC 500 or MicroLogix (multipoint link from the point of view of the SIMATIC TP/OP/MP; only one connection possible with TP 170A)

##### **DH485 interface**

(not on OP 73, OP 77A, TP 177A, Basic Panel, Mobile Panel 177 PN, Mobile Panel 277 IWLAN)

This communication between SIMATIC TP/OP/MP and Allen Bradley runs on the basis of the DH485 protocol; the following have been tested and released:

- Direct connection between a SIMATIC TP/OP/MP and an Allen Bradley SLC500 or MicroLogix (point-to-point link)
- The integration of SIMATIC TP/OP/MP via Allen Bradley AIC adapter in an Allen Bradley DH485 network. Communication is possible between SIMATIC TP/OP/MP and up to 4 PLCs type SLC 500 or MicroLogix (multipoint link from the point of view of the SIMATIC TP/OP/MP; only one connection possible with TP 170A)
- The integration of SIMATIC TP/OP/MP (not PC with WinCC flexible Runtime) in an Allen Bradley DH485 network. Communication is possible between SIMATIC TP/OP/MP and up to 4 PLCs type SLC 500 or MicroLogix (multipoint link from the point of view of the SIMATIC TP/OP/MP; only one connection possible with TP 170A)

##### **Ethernet IP protocol**

(not on OP 73, OP 77A, TP 177A, Basic Panel, OP 77B, TP 177B DP, OP 177B DP, Mobile Panel 177 DP, Mobile Panel 277 IWLAN)

This communication between SIMATIC TP/OP/MP and Allen Bradley runs based on the Ethernet IP protocol; SIMATIC TP/OP/MP integration is tested and released in an Ethernet IP network. Communication is possible between SIMATIC TP/OP/MP and up to 4 ControlLogix or CompactLogix PLCs (multipoint link from the point of view of the SIMATIC TP/OP/MP)

##### **GE-Fanuc**

(not on OP 73, OP 77A, TP 177A, Basic Panel, Mobile Panel 177 PN, Mobile Panel 277 IWLAN)

Communication between SIMATIC TP/OP/MP and GE-Fanuc runs on the basis of the SNP protocol; the following have been tested and released:

- Direct connection between a SIMATIC TP/OP/MP and a GEF 90-Micro, 90-30 or 90-70 (point-to-point link)
- Integration of SIMATIC TP/OP/MP in an RS 422 network via adapter. Communication is possible between SIMATIC TP/OP/MP and up to 4 GEF 90-Micro, 90-30 or 90-70 PLCs (multipoint link from the point of view of the SIMATIC TP/OP/MP; only one connection possible with TP 170A)
- The integration of SIMATIC TP/OP/MP (not PC with ProTool/Pro Runtime or WinCC flexible Runtime) in an RS 422 network. Communication is possible between SIMATIC TP/OP/MP and up to 4 GEF 90-Micro, 90-30 or 90-70 PLCs (multipoint link from the point of view of the SIMATIC TP/OP/MP; only one connection possible with TP 170A)

##### **LG GLOFA GM**

(not on OP 73, OP 77A, TP 177A, Basic Panel, Mobile Panel 177 PN, Mobile Panel 277 IWLAN)

Communication between SIMATIC TP/OP/MP and LG GLOFA GM runs on the basis of the dedicated protocol; the following have been tested and released:

- Connection between a SIMATIC TP/OP/MP and an LG GLOFA GM with Cnet module (point-to-point link)
- Integration of SIMATIC TP/OP/MP in an RS 422 network via LG Cnet module. Communication is possible between SIMATIC TP/OP/MP (not PC with ProTool/Pro Runtime) and up to 4 LG GLOFA GM PLCs on the network (multipoint link from the point of view of the SIMATIC TP/OP/MP; only one connection possible with TP 170A)

##### **Mitsubishi**

(not with OP 73, Basic Panel, Mobile Panel 177 PN, Mobile Panel 277 IWLAN)

Two communication protocols are available for the interface between SIMATIC TP/OP/MP and Mitsubishi:

##### **FX protocol**

This communication between SIMATIC TP/OP/MP and Mitsubishi runs on the basis of the FX protocol; the direct connection between a SIMATIC TP/OP/MP and the PG interface of a Mitsubishi FX/FX0 (logical point-to-point link) has been tested and released.

##### **MP4 protocol**

This communication between SIMATIC TP/OP/MP and Mitsubishi runs on the basis of the MP4 protocol; the following have been tested and released:

- Direct connection between a SIMATIC TP/OP/MP and a Mitsubishi Series FX, Series A or Series Q (point-to-point link)
- Integration of SIMATIC TP/OP/MP in an RS 422 network via Mitsubishi converter FX-48SC-IF. Communication is possible between SIMATIC TP/OP/MP and up to 4 Series FX, Series A or Series Q PLCs (multipoint link from the point of view of the SIMATIC TP/OP/MP; only one connection possible with TP 170A)
- The integration of SIMATIC TP/OP/MP (not PC with ProTool/Pro Runtime or WinCC flexible Runtime) in an RS 422 network. Communication is possible between SIMATIC TP/OP/MP and up to 4 Series FX, Series A or Series Q PLCs (multipoint link from the point of view of the SIMATIC TP/OP/MP; only one connection possible with TP 170A)

### Overview (continued)

#### **Modicon**

Two communication protocols are available for the interface between SIMATIC TP/OP/MP and Modicon:

#### **Modbus protocol**

(not for OP 73, Basic Panel PN, Mobile Panel 177 PN, Mobile Panel 277 WLAN)

Communication between SIMATIC TP/OP/MP and Modicon runs on the basis of the Modbus protocol; the following have been tested and released:

- Direct connection between a SIMATIC TP/OP/MP and the Modbus interface on a Modicon 984, TSX Quantum or TSX Compact (point-to-point link)
- The integration of a SIMATIC TP/OP/MP via Modicon Modbus PLUS bridge BM85-000 or the bridge function of a MODICON 984-145 or TSX Quantum into a Modbus PLUS network and communication between SIMATIC TP/OP/MP (Modbus/master) and up to 4 Modicon 984 or TSX Quantum PLCs (Modbus/slave) on the network (multipoint link from the point of view of the SIMATIC TP/OP/MP; only one connection possible with TP 170A).

#### **Modbus TCP/IP protocol**

(not for OP 73, OP 77A, TP 177A, Basic Panel DP, OP77B, TP 177B DP, OP 177B DP, Mobile Panel 177 DP, Mobile Panel 277 WLAN)

This communication between SIMATIC TP/OP/MP and Modicon runs on the basis of the Modbus TCP/IP protocol; the following have been tested and released:

- Integration of SIMATIC TP/OP/MP into a Modbus TCP/IP network. Communication is possible between SIMATIC TP/OP/MP and up to 4 Momentum, TSX Micro ( TSX 37 ), TSX Premium ( TSX 57 ), TSX Unity Premium, TSX Quantum or TSX Unity Quantum PLCs (multipoint link from the point of view of the SIMATIC TP/OP/MP)
- The communication between SIMATIC TP/OP/MP via TCP/IP Modbus Plus Bridge 174 CEV 200 40 / Modbus PLUS network to Modicon 984 (except 984A, 984B, 984X ), TSX Compact, TSX Quantum or TSX Unity Quantum (multipoint link from the point of view of the SIMATIC TP/OP/MP)

#### **Omron**

(not with OP 73, Basic Panel PN, Mobile Panel 177 PN, Mobile Panel 277 WLAN)

Communication between SIMATIC TP/OP/MP and Omron runs on the basis of the Link/MultiLink protocol; the following have been tested and released:

- Direct connection between a SIMATIC TP/OP/MP and an Omron Sysmac C, Sysmac  $\alpha$  or Sysmac CV (point-to-point link)
- Integration of SIMATIC TP/OP/MP in an RS 422 network via Omron converter NT-AL001. Communication is possible between SIMATIC TP/OP/MP and up to 4 Sysmac C, Sysmac  $\alpha$  or Sysmac CV PLCs (multipoint link from the point of view of the SIMATIC TP/OP/MP; only one connection possible with TP 170A)
- The integration of SIMATIC TP/OP/MP (not PC with ProTool/Pro Runtime or WinCC flexible Runtime) in an RS 422 network. Communication is possible between SIMATIC TP/OP/MP and up to 4 Sysmac C, Sysmac  $\alpha$  or Sysmac CV PLCs (multipoint link from the point of view of the SIMATIC TP/OP/MP; only one connection possible with TP 170A)

#### **Telemecanique**

(not on OP 73, OP 77A, TP 177A, Basic Panel, Mobile Panel 177 PN, Mobile Panel 277 WLAN, WinCC flexible Runtime)

Data exchange between SIMATIC TP/OP/MP and Telemecanique runs on the basis of the UNI-TELWAY protocol; the following have been tested and released:

- Connection between a SIMATIC TP/OP/MP (UNI-T/slave) via Telemecanique outlet TSX SCA62 and a Telemecanique TSX 17 or TSX 47/67/87/107 (UNI-T/master) (logical point-to-point link)
- Connection between a SIMATIC TP/OP/MP (UNI-T/slave) via Telemecanique outlets TSX SCA62 + ACC01 and a Telemecanique TSX 37 or TSX 57 (UNI-T/master) (logical point-to-point link)
- The integration of a SIMATIC TP/OP/MP via Telemecanique outlet TSX SCA62 in a UNI-TELWAY network and communication between SIMATIC TP/OP/MP (UNI-T/slave) and up to 4 TSX 17, TSX 37, TSX 57 or TSX 47/67/87/107 PLCs (UNI-T master or slave) on the network (multipoint link from the point of view of the SIMATIC TP/OP/MP; only one connection possible with TP 170A).

# Operator panels

## System interfaces with WinCC flexible

### PLCs from other manufacturers

#### Overview (continued)

| Controller  | SIMATIC HMI       |                 |   |  |                           |                |  |
|---|-------------------|-----------------|---|--|---------------------------|----------------|--|
| Target hardware (PROTOCOL)<br>(physics)   | OP 77A<br>TP 177A | Basic Panel     | OP 77B<br>TP 177B DP<br>OP 177B DP<br>TP 177B DP/PN<br>OP 177B DP/PN<br>Mobile Panel<br>177 DP / 177 PN | TP 277<br>OP 277<br>Mobile Panel<br>277 / 277 WLAN<br>MP 177<br>MP 277<br>MP 377 | WinCC flexible<br>Runtime | Connection via |  |
| <b>Allen Bradley (DF1)</b>  |                   |                 |   |  |                           |                |  |
| SLC 500/03,04,05 or MicroLogix (RS 232)   | • 1) 2)           | • 1) 2)         | • 1) 2)   | • 1) 2)  | • 1) 2)                   | •              | <b>1747 CP3</b> <sup>7)</sup><br>See FAQ <sup>9)</sup>     |
| PLC 5/11,20,30,40,60,80 (RS 232)  | • 1) 2)           | • 1) 2)         | • 1) 2)   | • 1) 2)  | • 1) 2)                   | •              | <b>1784 CP10</b> <sup>7)</sup><br>See FAQ <sup>9)</sup>    |
| PLC 5/11,20,30,40,60,80 (RS 422)<br>via KF2 gateway and DH+ network with up to 4 x SLC 50/04 or PLC 5/11,20,30,40,60,80 (RS 232)  | • 1)<br>• 1) 2)   | • 1)<br>• 1) 2) | • 1)<br>• 1) 2)   | • 1)<br>• 1) 2)  | • 1)<br>• 1) 2)           | —              | <b>1784 CP10</b> <sup>7) 8)</sup><br>See FAQ <sup>9)</sup> |
| via KF2 gateway and DH+ network with up to 4 x SLC 50/04 or PLC 5/11,20,30,40,60,80 (RS 422)  | • 1)              | • 1)            | • 1)  | • 1)   | • 1)                      | —              | See FAQ <sup>9)</sup>                                      |
| via KF3 gateway and DH485 network with up to 4 x SLC 500/00,01,02,03,04,05 or MicroLogix (RS 232)   | • 1) 2)           | • 1) 2)         | • 1) 2)   | • 1) 2)  | • 1) 2)                   | •              | <b>1784 CP10</b> <sup>7) 8)</sup><br>See FAQ <sup>9)</sup> |
| <b>Allen Bradley (DH485)</b>  |                   |                 |   |  |                           |                |  |
| SLC 500/03,04,05 or MicroLogix (RS 232)   | —                 | —               | • 1) 2)   | • 1) 2)  | • 1) 2)                   | •              | See FAQ <sup>9)</sup>                                      |
| via AIC adapter and DH485 network with up to 4 x SLC 500 or MicroLogix (RS 232)   | —                 | —               | • 1) 2)   | • 1) 2)  | • 1) 2)                   | •              | See FAQ <sup>9)</sup>                                      |
| via DH485 network with up to 4 x SLC 500/00,01,02,03,04,05 or MicroLogix (RS 485)   | —                 | —               | • 1)  | • 1)   | • 1)                      | —              | See FAQ <sup>9)</sup>                                      |
| <b>Allen Bradley (Ethernet IP)</b>  |                   |                 |   |  |                           |                |  |
| via Ethernet IP network with up to 4 x ControlLogix (1756-L61, 1756-L62, 1756-L63, 1756-L64, 1756-L65, each with Ethernet module 1756-ENBT)<br>GuardLogix (1756-L61S, 1756-L62S, 1756-L61S, each with Ethernet module 1756-ENBT) or CompactLogix (1769-L32E, 1769-L35E, each with Ethernet interface onboard) | —                 | —               | • 3) 4)   | • 4)   | • 4)                      | •              | See FAQ <sup>9)</sup>                                      |

- System interface possible
- System interface not possible

1) Not Basic Panel PN, Mobile Panel 177 PN, Mobile Panel 277 WLAN; Mobile Panel 177 DP, Mobile Panel 277 connection via special connecting cable and junction box (see Mobile Panel); see manual for cable assignment.

2) The RS 422/RS 232 adapter 6AV6 671-8XE00-0AX0 is required for Basic Panel, Touch Panel, Operator Panel, and Multi Panel

3) Only TP 177B DP/PN, OP 177B DP/PN, Mobile Panel 177 PN

4) Mobile Panel 177 PN, Mobile Panel 277 connection via special connecting cable and junction box (see Mobile Panel); see manual for cable assignment.

5) Not Mobile Panel 277 WLAN (wireless interface, see Mobile Panel)

6) Connection via integrated Industrial Ethernet interface; use the CP 1612 with a standard PC

7) Allen Bradley PC cable

8) Cable for connection to KF2/KF3 gateway; a gender changer (25-pin socket/25-pin socket) is required on the gateway side

9) Detailed information (cables used) see FAQ: <http://support.automation.siemens.com/WW/view/en/29034071> in the online help for WinCC flexible and in the Communication User Manual for Windows-based systems

# Operator panels

## System interfaces with WinCC flexible

PLCs from other manufacturers

### Overview (continued)

| Controller   | SIMATIC HMI       |             |  |  |                        |                |  |
|--|-------------------|-------------|--|--|------------------------|----------------|--|
| Target hardware (PROTOCOL) (physics)   | OP 77A<br>TP 177A | Basic Panel | OP 77B<br>TP 177B DP<br>OP 177B DP<br>TP 177B DP/PN<br>OP 177B DP/PN<br>Mobile Panel 177 DP<br>Mobile Panel 177 PN | TP 277<br>OP 277<br>Mobile Panel 277<br>Mobile Panel 277 IWLAN<br>MP 177<br>MP 277<br>MP 377 | WinCC flexible Runtime | Connection via |  |
| <b>GE-Fanuc (SNC)</b>  |                   |             |  |  |                        |                |  |
| <b>GEF 90-Micro, 90-30, 90-70 (RS 232)</b>                                   | –                 | –           | • 1) 2)  | • 1) 2)  | •                      | See FAQ 4)     |  |
| via <b>adapter</b> with up to 4 x <b>GEF 90-Micro, 90-30, 90-70 (RS 232)</b> | –                 | –           | • 1) 2)  | • 1) 2)  | •                      | See FAQ 4)     |  |
| via <b>adapter</b> with up to 4 x <b>GEF 90-Micro, 90-30, 90-70 (RS 422)</b> | –                 | –           | • 1)   | • 1)   | –                      | See FAQ 4)     |  |
| <b>LG GLOFA (Dedicated)</b>  |                   |             |  |  |                        |                |  |
| <b>GLOFA-GM with Cnet module (RS 232)</b>                                    | –                 | –           | • 1) 2)  | • 1) 2)  | •                      | See FAQ 4)     |  |
| With up to 4 x <b>GLOFA-GM with Cnet module (RS 422)</b>                     | –                 | –           | • 1)   | • 1)   | –                      | See FAQ 4)     |  |
| <b>Mitsubishi FX</b>   |                   |             |  |  |                        |                |  |
| <b>FX0 (RS 422)</b>  | –                 | –           | –  | –  | •                      | SC-09 6)       |  |
|  | –                 | –           | • 1)   | • 1)   | –                      | See FAQ 4)     |  |
| <b>FX0n, FX1n, FX2n (RS 422)</b>   | –                 | –           | –  | –  | •                      | SC-09 6)       |  |
|  | –                 | –           | • 1)   | • 1)   | –                      | See FAQ 4)     |  |
| <b>• FX1N-14MR-DS</b>  | • 1) 6)           | • 1) 6)     | –  | –  | –                      | SC-09 6)       |  |
| <b>• FX1S-10MR-DS</b>  |                   |             |  |  |                        |                |  |
| <b>• FX2N-16MR-DS (RS 422)</b>   |                   |             |  |  |                        |                |  |
| <b>Mitsubishi (MP4)</b>  |                   |             |  |  |                        |                |  |
| <b>• Series FX</b><br>with communications module                             | –                 | –           | • 1) 2)  | • 1) 2)  | •                      | See FAQ 4)     |  |
| <b>• Series A</b> (AnN, AnA, AnU, AnS)<br>with interface module              |                   |             |  |  |                        |                |  |
| <b>• Series Q</b> (QnA, QnAS) with<br>interface module (RS 232)              |                   |             |  |  |                        |                |  |
| via <b>FX-48SC-IF converter</b><br>with up to 4 PLCs                         | –                 | –           | • 1) 2)  | • 1) 2)  | •                      | See FAQ 4)     |  |
| <b>• Series FX</b> with communications<br>module                             |                   |             |  |  |                        |                |  |
| <b>• Series A</b> (AnN, AnA, AnU, AnS)<br>with interface module              |                   |             |  |  |                        |                |  |
| <b>• Series Q</b> (QnA, QnAS) with<br>interface module (RS 232)              |                   |             |  |  |                        |                |  |
| with up to 4 PLCs  | –                 | –           | • 1)   | • 1)   | –                      | See FAQ 4)     |  |
| <b>• Series FX</b><br>with communications module                             |                   |             |  |  |                        |                |  |
| <b>• Series A</b> (AnN, AnA, AnU, AnS)<br>with interface module              |                   |             |  |  |                        |                |  |
| <b>• Series Q</b> (QnA, QnAS) with<br>interface module (RS 422)              |                   |             |  |  |                        |                |  |
| – System interface possible  |                   |             |  |  |                        |                |  |
| – System interface not possible  |                   |             |  |  |                        |                |  |

1) Not Mobile Panel 177 PN, Mobile Panel 277 IWLAN; Mobile Panel 177 DP, Mobile Panel 277 connection via special connecting cable and junction box (see Mobile Panel); see manual for cable assignment.

2) The RS 422/RS 232 adapter 6AV6 671-8XE00-0AX0 is required for Touch Panels, Operator Panels, and Multi Panels

3) With connection using a Mitsubishi PC cable, an 15-pin/9-pin adapter 6XV1 440-2UE32 is required

4) Detailed information (cables used) see FAQ:  
<http://support.automation.siemens.com/WW/view/de/29034071> in the online help for WinCC flexible and in the Communication User Manual for Windows-based systems

5) Mitsubishi PC cable with integrated level converter RS 232/RS 422

6) WinCC flexible 2008 Service Pack 2 and higher

# Operator panels

## System interfaces with WinCC flexible

### PLCs from other manufacturers

#### Overview (continued)

| Controller  | SIMATIC HMI       |             |  |                  |   |                        |                |
|---|-------------------|-------------|--|------------------|---|------------------------|----------------|
| Target hardware (PROTOCOL)<br>(physics)   | OP 77A<br>TP 177A | Basic Panel | OP 77B<br>TP 177B DP<br>OP 177B DP<br>TP 177B DP/PN<br>OP 177B DP/PN<br>Mobile Panel 177 DP<br>Mobile Panel 177 PN | TP 277<br>OP 277 | Mobile Panel 277<br>Mobile Panel 277<br>IWLAN<br>MP 177<br>MP 277<br>MP 377 | WinCC flexible Runtime | Connection via |
| <b>Modicon (Modbus)</b>   |                   |             |  |                  |   |                        |                |
| 984-120, 130, 131, 141, 145, 380, 381, 185, 480, 485, 680, 685, 780, 785, or <b>TSX-Quantum-CPU 113, 213, 424, 434, 534</b> (RS 232)  | • 1) 2)           | • 1) 2)     | • 1) 2)  | • 1) 2)          | •   | See FAQ 7)             |                |
| via <b>bridge BM85-000</b> or <b>PLC with bridge function.</b> / Modbus PLUS network with up to 4 x <b>984-120, ...</b> or <b>TSX Quantum - CPU 113, or TSX Contact</b> (RS 232)  | • 1) 2)           | • 1) 2)     | • 1) 2)  | • 1) 2)          | •   | See FAQ 7)             |                |
| <b>TSX Compact</b> (RS 232)   | • 1) 2)           | • 1) 2)     | • 1) 2)  | • 1) 2)          | •   | See FAQ 7)             |                |
| <b>Modicon (Modbus TCP/IP)</b>  |                   |             |  |                  |   |                        |                |
| via Modbus TCP/IP network with up to 4 x <b>TSX Unity Quantum</b> or <b>TSX Unity Premium</b> or <b>TSX Quantum</b> or <b>TSX Quantum with TCP/IP module 140 NOE 771 01</b> or <b>TSX Unity Premium</b> or <b>TSX Premium</b> with <b>TCP/IP module TSX ETY 110</b> or <b>TSX Micro</b> with <b>TCP/IP module TSX ETY 410</b> or <b>Momentum</b> with <b>CPU adapter 171 CCC 980 30</b> | –                 | –           | • 3) 4)  | • 4) 5)          | •   |                        |                |
| via <b>TCP/IP ModbusPlus bridge 174 CEV 200 40</b> / Modbus PLUS network with up to 4 x <b>TSX Unity Quantum</b> or <b>TSX Quantum</b> or <b>TSX Compact</b> or <b>984-120, ...</b> (except <b>984A, 984B, 984X</b> )   | –                 | –           | • 3) 4)  | • 4) 5)          | •   |                        |                |
| via Modbus TCP/IP network with up to 4 x <b>TSX Unity Quantum</b> or <b>TSX Unity Premium</b> or <b>TSX Quantum</b> or <b>TSX Quantum with TCP/IP module 140NOE 771 01</b> or <b>TSX Unity Premium</b> or <b>TSX Premium</b> with <b>TCP/IP module TSX ETY 110</b> or <b>TSX Micro</b> with <b>TCP/IP module TSX ETY 410</b> or <b>Momentum</b> with <b>CPU adapter 171 CCC 980 30</b>  | • 3) 8)           | • 3) 8)     | –  | –                | –   |                        |                |
| via <b>TCP/IP ModbusPlus Bridge 174 CEV 200 40</b> / Modbus PLUS network with up to 4 x <b>TSX Unity Quantum</b> or <b>TSX Quantum</b> or <b>TSX Compact</b>  | • 3) 8)           | • 3) 8)     | –  | –                | –   |                        |                |

- System interface possible
- System interface not possible

1) Not Mobile Panel 177 PN, Mobile Panel 277 IWLAN; Mobile Panel 177 DP, Mobile Panel 277 connection via special connecting cable and junction box (see Mobile Panel); see manual for cable assignment.

2) The RS 422/RS 232 adapter 6AV6 671-8XE00-0AX0 is required for Touch Panels, Operator Panels, and Multi Panels

3) Only TP 177B DP/PN, OP 177B DP/PN, Mobile Panel 177 PN

4) Mobile Panel 177 PN, Mobile Panel 277 connection via special connecting cable and junction box (see Mobile Panel); see manual for cable assignment.

5) Not Mobile Panel 277 IWLAN (wireless interface, see Mobile Panel)

6) Connection via integrated Industrial Ethernet interface; use the CP 1612 with a standard PC

7) Detailed information (cables used) see FAQ: <http://support.automation.siemens.com/WW/view/en/29034071> in the online help for WinCC flexible and in the Communication User Manual for Windows-based systems

8) WinCC flexible 2008 Service Pack 2 and higher

# Operator panels

## System interfaces with WinCC flexible

PLCs from other manufacturers

### Overview (continued)

| Controller  | SIMATIC HMI       |             |  |   |                           |                |  |
|---|-------------------|-------------|--|---|---------------------------|----------------|--|
| Target hardware (PROTOCOL)<br>(physics)   | OP 77A<br>TP 177A | Basic Panel | OP 77B<br>TP 177B DP<br>OP 177B DP<br>TP 177B DP/PN<br>OP 177B DP/PN<br>Mobile Panel 177 DP<br>Mobile Panel 177 PN | TP 277<br>OP 277<br>Mobile Panel 277<br>Mobile Panel 277<br>IWLAN<br>MP 177<br>MP 277<br>MP 377 | WinCC flexible<br>Runtime | Connection via |  |
| <b>Omron (Link/MultiLink)</b>   |                   |             |  |   |                           |                |  |
| • <b>SYSMAC C</b><br>(except CPU CQM1 – CPU 11/21)  | –                 | –           | • 1) 2)  | • 1) 2)   | •                         | See FAQ 3)     |  |
| • <b>SYSMAC Alpha</b>   | –                 | –           | • 1) 2)  | • 1) 2)   | •                         | See FAQ 3)     |  |
| • <b>SYSMAC CV (RS 232)</b><br>via <b>NT-AL001 converter</b><br>with up to 4 PLCs   | –                 | –           | • 1) 2)  | • 1) 2)   | –                         | See FAQ 3)     |  |
| • <b>SYSMAC C</b><br>(except CPU CQM1 – CPU 11/21)  | –                 | –           | • 1)   | • 1)  | –                         | See FAQ 3)     |  |
| • <b>SYSMAC Alpha</b>   | –                 | –           | • 1)   | –   | –                         | See FAQ 3)     |  |
| • <b>SYSMAC CV (RS 232)</b><br>with up to 4 PLCs  | –                 | –           | • 1)   | –   | –                         | See FAQ 3)     |  |
| • <b>SYSMAC C</b><br>(except CPU CQM1 – CPU 11/21)  | • 1) 4)           | • 1) 4)     | –  | –   | –                         | See FAQ 3)     |  |
| • <b>SYSMAC Alpha</b>   | –                 | –           | –  | –   | –                         | See FAQ 3)     |  |
| • <b>SYSMAC CV (RS 422)</b>   | –                 | –           | –  | –   | –                         | See FAQ 3)     |  |
| • CP1L-L14DT1-D   | –                 | –           | –  | –   | –                         | See FAQ 3)     |  |
| • C1H-Y20DT-D   | –                 | –           | –  | –   | –                         | See FAQ 3)     |  |
| • CJ1M CPU11  | –                 | –           | –  | –   | –                         | See FAQ 3)     |  |
| <b>Telemecanique (UNI-TELWAY)</b>   |                   |             |  |   |                           |                |  |
| via <b>TSX SCA62 outlet</b> with<br><b>TSX 17 or TSX 47/67/87/107</b> (RS 485)  | –                 | –           | • 1)   | • 1)  | –                         | See FAQ 3)     |  |
| via <b>TSX SCA62 + ACC01 outlets</b><br>with <b>TSX 37/57</b> (RS 485)  | –                 | –           | • 1)   | • 1)  | –                         | See FAQ 3)     |  |
| via <b>TSX SCA62 outlet</b> and<br><b>UNI-TELWAY network</b> with<br>4 x <b>TSX 17</b> or <b>TSX 37/57</b> (+ACC 01)<br>or <b>TSX 47/67/87/107</b> (RS 485) | –                 | –           | • 1)   | • 1)  | –                         | See FAQ 3)     |  |

- System interface possible
- System interface not possible

1) Not Mobile Panel 177 PN, Mobile Panel 277 IWLAN; Mobile Panel 177 DP, Mobile Panel 277 connection via special connecting cable and junction box (see Mobile Panel); see manual for cable assignment.

2) The RS 422/RS 232 adapter 6AV6 671-8XE00-0AX0 is required for Touch Panels, Operator Panels, and Multi Panels

3) Detailed information (cables used) see FAQ:  
<http://support.automation.siemens.com/WW/view/en/29034071> in the online help for WinCC flexible and in the Communication User Manual for Windows-based systems

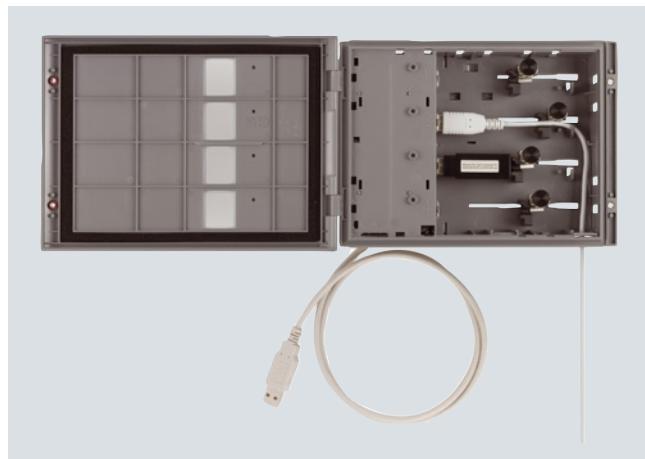
4) WinCC flexible 2008 Service Pack 2 and higher

# Operator panels

## SIMATIC HMI accessories

### General HMI accessories

#### Overview



Industrial USB Hub 4

The specially coordinated range of accessories supplements the SIMATIC HMI core products perfectly. Industrial Hub 4 can be used, for example, to make a USB port available to the user exactly where it is required. Touch pens can be used to operate extremely small buttons, and they also ensure that the display stays clean for longer.

SIMATIC HMI accessories can also be used in non-Siemens devices; see the technical specifications for more detailed information.

General SIMATIC HMI accessories for all currently available Panels are listed in this chapter; the full range of SIMATIC HMI accessories is available in the Mall and in our other online media.



Touchscreen stylus and touch pen

## Overview



2

- The Industrial USB Hub 4 is used as a USB port extender (4 in 1) for the connection of peripheral devices to USB 2.0 interfaces of Comfort Panels, Multi Panels, IPCs, and standard PCs.
- The Industrial USB Hub 4 (IP65 degree of protection on the front, service kit may be required) can also be mounted directly in a control cabinet.
- With the USB Hub 4, the USB port can be moved forwards to the control cabinet door, making it accessible without opening the cabinet door
- The USB Hub 4 can also be mounted on a standard mounting rail in the control cabinet, in which case it serves as a simple interface multiplier

## Technical specifications

| <b>6AV6671-3AH00-0AX0</b><br><b>Industrial USB Hub 4</b> |   |
|--|---|
| <b>Installation type/mounting</b>                        |   |
| Mounting rail installation possible                      | Yes; Standard - DIN rail  |
| Mounting in landscape format possible                    | Yes   |
| <b>Supply voltage</b>                                    |   |
| Type of supply voltage                                   | 24 V DC   |
| Rated voltage/DC   | 24 V  |
| permissible range, lower limit (DC)                      | 20.4 V  |
| permissible range, upper limit (DC)                      | 28.8 V  |
| <b>Interfaces</b>  |   |
| Number of USB interfaces                                 | 4; Type USB 2.0, 500 mA each; e.g. connection of mouse, keyboard, printer, USB stick, USB IPC flash drive |
| <b>Degree and class of protection</b>                    |   |
| Type of protection                                       | 20  |
| IP (at the front)  | 65  |
| <b>Standards, approvals, certificates</b>                |   |
| CE   | Yes   |

| <b>6AV6671-3AH00-0AX0</b><br><b>Industrial USB Hub 4</b>   |   |
|--|---|
| <b>Ambient conditions</b>  |   |
| Operating temperature  | 0 °C to +50 °C  |
| • Operation (vertical installation) <ul style="list-style-type: none"> <li>- in vertical mounting position/ minimum</li> <li>- in vertical mounting position/ maximum</li> </ul> | 0 °C  |
|  | 50 °C   |
| Storage/transport temperature  |   |
| • Min.   | -20 °C  |
| • max.   | 60 °C   |
| Relative humidity  |   |
| • max. relative humidity   | 90 %  |
| <b>Mechanics/material</b>  |   |
| Type of housing (front)  |   |
| • Plastic  | Yes   |
| <b>Dimensions</b>  |   |
| Width of the housing front   | 212 mm  |
| Height of housing front  | 156 mm  |
| Depth/installation dimension   | 50 mm   |
| <b>Weight</b>  |   |
| Weight without packaging   | 460 g   |
| <b>Scope of supply</b>   |   |
| Delivery unit in items   | 1; Content: 1 X USB Hub 4, 10 x plastic mounting clip, 1 x female 2-pin connector   |
| <b>Other</b>   |   |
| Note:  | for access to the USB interface of a built-in device without having to open the control cabinet, mounting on standard rail possible, suitable for standard USB interfaces |

## Ordering data

| Order No.   |
|---|
| <b>Industrial USB Hub 4</b>   |
| 4 x USB 2.0, IP65, for control cabinet door or standard rail, for use with MP 177/MP 277/MP 377, Panel PCs, HMI IPCs and standard PCs |
| <b>Service set for Industrial USB Hub 4 (incl. IP65 expansion)</b>  |
| See HMI accessories service sets, from page 2/118   |

## More information

### Note for SIMATIC Panel PCs

The Industrial USB Hub 4 is approved for the Windows CE/2000/XP/Windows 7 operating systems. The appropriate drivers are supplied with the operating system software.

# Operator panels

## SIMATIC HMI accessories

### Touch pen and touch stylus

#### Overview



Optional package: Touchscreen stylus and touch pen

If you are working with gloves, touch pens are often extremely useful when operating touch displays. They protect the display from dirt and scratching during operation and use. They are also useful for operating small buttons or input fields accurately.

2

#### Technical specifications

|   | <b>6AV7672-1JB00-0AA0</b><br>Touch pen, thick, resistive technology                                 | <b>6AV6645-7AB14-0AS0</b><br>Touch pen, thin, resistive technology                                     |
|---|---|--|
| <b>Installation type/mounting</b>                 | Wall mounting/direct mounting possible  | Yes; Terminal holder can be attached<br>Yes; using 40 cm retaining cord                                |
| <b>Standards, approvals, certificates</b>         | CE  | Yes  |
| <b>Ambient conditions</b>                         | Operating temperature<br>• Operating temperature range, max.<br>• Operating temperature range, min. | 55 °C<br>0 °C<br>55 °C<br>0 °C   |
| Storage/transport temperature<br>• Min.<br>• max. | -20 °C<br>70 °C   | -20 °C<br>70 °C  |
| Relative humidity<br>• max. relative humidity     | 90 %  | 90 %   |
| <b>Mechanics/material</b>                         | Screw type<br>• Torx  | Yes  |
| Plastic   | Yes   | Yes  |
| <b>Dimensions</b>                                 | Height<br>Thickness   | 155 mm; Length<br>20 mm; Diameter<br>125 mm; Length<br>8 mm; Diameter                                  |
| <b>Scope of supply</b>                            | Delivery unit in items  | 1; Optional for extension units of the PRO devices<br>5; Incl. retaining cord for Mobile Panel 277 10" |
| <b>other</b>                                      | Note:<br>for resistive touch screens, optimized for operating while wearing gloves                  | for resistive touch screens  |

#### Ordering data

##### Order No.

|  |                           |
|--|---------------------------|
| <b>Touch stylus</b><br>for Panels, Panel PC, Touch Monitor and other touch applications, including screw-on wall holder<br>• 1 unit    | <b>6AV7672-1JB00-0AA0</b> |
| <b>Touch pen</b><br>Specially designed for Mobile Panel 277 10", but also other touch displays, including attachment cord<br>• 5 units | <b>6AV6645-7AB14-0AS0</b> |

##### Note:

This catalog only includes accessories for current products.

The complete range of accessories can be found in the Mall: <https://eb.automation.siemens.com>

or on our SIMATIC Support pages: <http://support.automation.siemens.com>

### SIMATIC Mobile Panel accessories

#### Overview



Mobile Panel accessories

General Mobile Panel accessories, such as service sets and protective membranes, are listed in the respective accessories section.

Special Mobile Panel accessories are listed in the following section.

System components for SIMATIC HMI Mobile Panels can be found directly under the respective Mobile Panel in the products section.

# Operator panels

## Mobile Panel accessories

### Power supply unit

#### Overview



The external power supply for the Mobile Panel IWLAN is intended for laboratory and office operation. Suitable SITOP power supplies are available for use with machinery and plants.

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#### Technical specifications

| 6AV6671-5CN00-0AX2<br>Power pack, external,<br>Mobile Panel IWLAN   |   | 6AV6671-5CN00-0AX2<br>Power pack, external,<br>Mobile Panel IWLAN |                                     |
|---|---|---|-------------------------------------|
| <b>Supply voltage</b>   |   | <b>Ambient conditions</b>   |                                     |
| Type of supply voltage  | 100-240 V AC  | Operating temperature   | 50 °C<br>-10 °C                     |
| Rated voltage/DC  | 12 V; Output side   | • Operating temperature range, max.                               |                                     |
| <b>Input current</b>  |   | • Operating temperature range, min.                               |                                     |
| Current consumption (rated value)                                   | 1.5 A; 50-60 Hz   | Storage/transport temperature                                     |                                     |
| <b>Output current</b>   |   | • Min.  | -20 °C                              |
| each output   | 5 A   | • max.  | 85 °C                               |
| <b>Power</b>  |   | Relative humidity   | 90 %                                |
| Output power  | 60 W  | • max. relative humidity  |                                     |
| <b>Interfaces</b>   |   | Vibrations  | 2 g; 10 min./1 cycle                |
| HMI-side interface  | Connector 5.5 mm jack (-) /<br>2.1 mm pin (+) 12 V DC           | • Vibration   | 500 Hz; 10~500 Hz                   |
| <b>EMC</b>  |   | <b>Mechanics/material</b>   |                                     |
| Emission of radio interference acc. to EN 55 011                    |   | Type of housing (front)   |                                     |
| • Emission of radio interferences acc. to EN 55 011 (limit class A) | Yes; EN61000-4-2,3,4,5,6,8,11 light industry level              | • Plastic   | Yes                                 |
| <b>Standards, approvals, certificates</b>                           |   | <b>Dimensions</b>   |                                     |
| CE  | Yes; UL69950, TÜVEN600950-1, BSMI CNS14336, CCC GB4942 approved | Width   | 125 mm                              |
|   |   | Height  | 50 mm                               |
|   |   | Thickness   | 31.5 mm                             |
|   |   | <b>Weight</b>   |                                     |
|   |   | Weight without packaging  | 305 g                               |
|   |   | <b>Scope of supply</b>  |                                     |
|   |   | Delivery unit in items  | 1; Incl. AC and DC connecting cable |
|   |   | Number of sets  | 4; AC cable for EU, US, UK and JP   |
|   |   | <b>other</b>  |                                     |
|   |   | Note:   | for Mobile Panel IWLAN              |

#### Ordering data

Accessories for  
Mobile Panel 277(F) IWLAN

Power supply unit, external,  
Mobile Panel IWLAN

Only suitable for operation under  
laboratory/office conditions.

#### Order No.

6AV6671-5CN00-0AX2

#### Note:

This catalog only includes accessories for current products.

The complete range of accessories can be found in the Mall:  
<https://eb.automation.siemens.com>

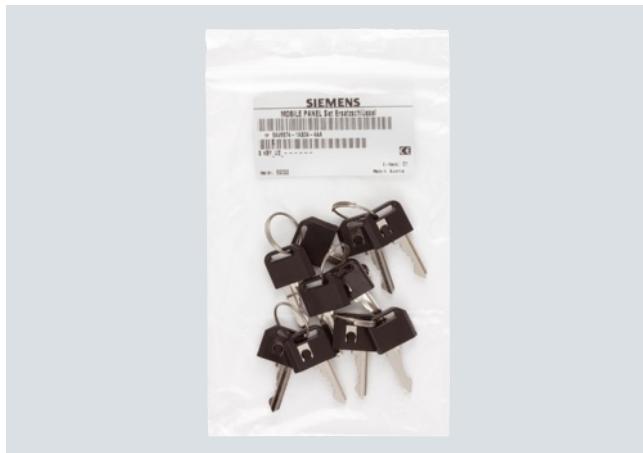
or on our SIMATIC Support pages:  
<http://support.automation.siemens.com>

### Additional accessories

#### Overview



Wall-mounting bracket for Mobile Panel, front view



Spare keys for Mobile Panel



Moby D data card transponder

#### Technical specifications

|   | 6AV6574-1AF04-4AA0<br>Wall-mounting bracket<br>Mobile Panel  | 6AV6574-1AG04-4AA0<br>Spare key<br>Mobile Panel      |
|---|--|--|
| <b>Installation type/mounting</b>                 | Mounting in portrait format possible   | Yes  |
| Mounting in landscape format possible             | No   |  |
| <b>Standards, approvals, certificates</b>         | CE   | Yes  |
| <b>Ambient conditions</b>                         | Operating temperature<br>• Operating temperature range, max.<br>• Operating temperature range, min.  | 55 °C<br>0 °C  |
| Storage/transport temperature<br>• Min.<br>• max. | -20 °C<br>70 °C  | -20 °C<br>70 °C                                      |
| Relative humidity<br>• max. relative humidity     | 90 %   | 90 %   |
| <b>Mechanics/material</b>                         | Sheet steel  | Yes; Handle made of plastic                          |
| Type of housing (front)<br>• Sheet steel          | Yes; Powder-coated   |  |
| <b>Dimensions</b>                                 | Width<br>Height<br>Thickness<br>Depth  | 200 mm<br>230 mm<br>4 mm<br>25 mm;<br>Constructive   |
| <b>Weight</b>                                     | Weight without packaging   | 550 g; 880 g incl. cable holder<br>30 g              |
| <b>Scope of supply</b>                            | Delivery unit in items   | 1; Color: Black<br>10; Coupled with key ring         |
| <b>other</b>                                      | Note:<br><br>Mobile Panel 170,<br>Mobile Panel 177,<br>Mobile Panel 277<br>IWLAN, Mobile<br>Panel 277F IWLAN,<br>without mounting<br>parts | For all<br>Mobile Panels with<br>key-operated switch |

# Operator panels

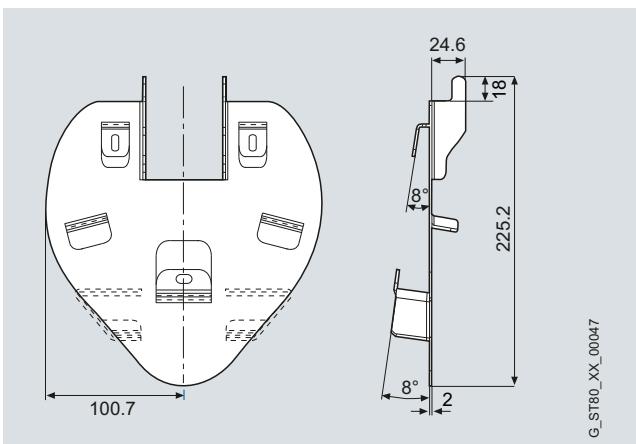
## Mobile Panel accessories

### Additional accessories

2

| Ordering data  | Order No.          | Order No.          |
|--|--------------------|--------------------|
| <b>Wall mounting bracket for Mobile Panels</b>   | 6AV6574-1AF04-4AA0 |                    |
| metal, without mounting accessories, suitable for all Mobile Panels<br>• 1 unit  |                    |                    |
| <b>Replacement keys for Mobile Panels</b>  | 6AV6574-1AG04-4AA0 |                    |
| metal/plastic, for all Mobile Panels, two linked by keyring<br>• 10 units  |                    |                    |
| <b>SCALANCE</b>  |                    |                    |
| <b>SCALANCE W-788 Access Points</b>  |                    |                    |
| IWLAN Access Points with built-in wireless interface; wireless networks IEEE 802.11b/g/a/h at 2.4/5 GHz to 54 Mbps; national approvals; WPA2/AES; Power over Ethernet (PoE), degree of protection IP65 (-20 °C to +60 °C); scope of delivery: 2 ANT795-4MR antennas, IP 67 hybrid connector, installation material, manual on CD-ROM, English/German |                    |                    |
| <b>SCALANCE W788-2RR</b>   |                    |                    |
| IWLAN Dual Access Point with two built-in radio interfaces for establishment of radio connections with iPCF<br>• National approvals for operation outside the U.S. <sup>1)</sup> <sup>2)</sup><br>• National approvals for operation within the U.S. <sup>2)</sup>   | 6GK5788-2AA60-6AA0 | 6GK5786-2BA60-6AA0 |
|  | 6GK5788-2AA60-6AB0 | 6GK5786-2BA60-6AB0 |
| <b>SCALANCE W788-1PRO</b>  |                    |                    |
| IWLAN Access Point with one built-in wireless interface<br>• National approvals for operation outside the U.S. <sup>1)</sup><br>• National approvals for operation within the U.S.   | 6GK5788-1AA60-2AA0 | 6GK5786-1BA60-2AA0 |
|  | 6GK5788-1AA60-2AB0 | 6GK5786-1BA60-2AB0 |
| <sup>1)</sup> RoW version: "Rest of World" version: Version for sale worldwide, apart from in the USA.   |                    |                    |
| <sup>2)</sup> Already prepared for rapid roaming (iPCF-MC); iPCF-MC is already included as of SCALANCE FW version V4.3.37.   |                    |                    |
| <b>SCALANCE W-786 Access Points for SIMATIC Mobile Panel 277(F) IWLAN</b>  |                    |                    |
| IWLAN Access Points with integrated wireless interfaces; wireless networks; IEEE 802.11b/g/a/h at 2.4/5 GHz up to 54 Mbps. National approvals; WPA2/AES; Power over Ethernet (PoE), degree of protection IP65 (-40 °C to +70 °C); scope of delivery: Mounting hardware, 48 V DC terminal block; manual on CD-ROM; English/German                     |                    |                    |
| <b>SCALANCE W-786-2RR</b>  |                    |                    |
| IWLAN Dual Access Point with two integrated wireless interfaces for setting up radio connections with iPCF; RJ45 connection  |                    |                    |
| Four internal antennas   |                    |                    |
| • National approvals for operation outside the U.S. <sup>1)</sup> <sup>2)</sup><br>• National approvals for operation within the U.S. <sup>2)</sup>  |                    |                    |
| <b>SCALANCE W-786-1PRO</b>   |                    |                    |
| IWLAN Access Points with built-in wireless interface RJ45 connection   |                    |                    |
| Two internal antennas  |                    |                    |
| • National approvals for operation outside the U.S. <sup>1)</sup><br>• National approvals for operation within the U.S.  |                    |                    |
| <b>SCALANCE W-784 Access Points</b>  |                    |                    |
| IWLAN Access Points with built-in wireless interfaces; wireless networks IEEE 802.11b/g/a/h at 2.4/5 GHz to 54 Mbps. National approvals; WPA2/AES; Power over Ethernet (PoE), IP30 degree of protection (-20 °C to +60 °C); scope of supply: Installation material, 24 V DC terminal block; manual on CD-ROM English/German                          |                    |                    |
| <b>SCALANCE W784-1</b>   |                    |                    |
| IWLAN Access Points with one built-in wireless interface   |                    |                    |
| • National approvals for operation outside the U.S. <sup>1)</sup><br>• National approvals for operation within the U.S.  |                    |                    |

### Additional accessories

| Ordering data  | Order No.                                      | Dimensional drawings   |
|--|--|--|
| <b>Further IWLAN Access Point versions</b>   |  |  |
| <b>SCALANCE W-784 Access Points</b><br>IWLAN Access Points with integrated wireless interfaces (see Catalog IK PI); wireless networks IEEE 802.11b/g/a/h at 2.4/5 GHz up to 54 Mbps. National approvals; WPA2/AES; Power over Ethernet (PoE), degree of protection IP30 (-20 °C to +60 °C); scope of delivery: Installation material, 24 V DC terminal block; manual on CD-ROM; English/German;                            | <b>6GK5784-1AA30...</b><br>(see Catalog IK PI) |  <p style="text-align: right;">G_ST80_XX_00047</p> |
| <b>SCALANCE W-786 Access Points</b><br>IWLAN Access Points with integrated wireless interfaces (see Catalog IK PI); wireless networks IEEE 802.11b/g/a/h at 2.4/5 GHz up to 54 Mbps. National approvals; WPA2/AES; Power over Ethernet (PoE), degree of protection IP65 (-40°C to +70°C); scope of delivery: Installation material, 48 V DC terminal block; manual on CD-ROM; English/German;                              | <b>6GK5786-...</b><br>(see Catalog IK PI)      |  |
| <b>SCALANCE W-788 Access Points</b><br>IWLAN Access Points with integrated wireless interfaces (see Catalog IK PI); wireless networks IEEE 802.11b/g/a/h at 2.4/5 GHz up to 54 Mbps. National approvals; WPA2/AES; Power over Ethernet (PoE), degree of protection IP65 (-20°C to +60°C); scope of delivery: 2 ANT795-4MR antennas, IP67 hybrid plug-in connector, installation material, manual on CD-ROM, English/German | <b>6GK5788-...</b><br>(see Catalog IK PI)      |  |
| <b>PS791-2DC power supply</b><br>24 V DC power supply for installation in SCALANCE W-786 products; operating instructions in English/German  | <b>6GK5791-2DC00-0AA0</b>                      |  |
| <b>PS791-2AC power supply</b><br>110 V AC to 230 V AC power supply for installation in SCALANCE W-786 products; operating instructions in English/German   | <b>6GK5791-2AC00-0AA0</b>                      |  |
| <b>MOBY D accessories</b>  |  |  |
| <b>MOBY D, MDS D100</b>  | <b>6GT2600-0AD10</b>                           |  |
| • 1 unit   |  |  |
| <b>Spacer</b>  | <b>6GT2190-0AA00</b>                           |  |
| • 1 unit   |  |  |
| <b>Fixing pocket</b>   | <b>6GT2190-0AB00</b>                           |  |
| • 1 unit   |  |  |

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or on our SIMATIC Support pages:  
<http://support.automation.siemens.com>

# Operator panels

## SIMATIC HMI accessories

### Connectors/converters/adapters

#### Overview



Connectors/converters/adapters

#### **Components for the connection of SIMATIC HMI Panels**

The range comprises connectors, adapters, converters, and transducers.

An adapter can be used, for example, to mechanically rotate the connector of a 9-pin panel plug by 90°. This may be beneficial in confined spaces in the control desk or installation cabinet, and is an easy way to provide additional flexibility.

A converter can be used to simulate a connection type that is missing at the panel. In this way, for example, a TTY (20 mA) can be generated from an RS422 signal, which is required for connection to various types of PLC. Connectors are required for power supply and I/O.

- 2-pin to n-pin connectors
- Converters
- Transducers
- Adapters for changing the cable outlet direction
- Bus connector

SIMATIC HMI accessories can also be used on non-Siemens devices; see the technical specifications for more detailed information.

General SIMATIC HMI accessories are listed in this subsection; the full range of SIMATIC HMI accessories is available in the Mall and in our other online media.

### HMI connecting components

#### Overview

2



RS 422 to RS 232 converter



Connector, female, 16-pin, I/O



RS 422 to TTY converter



Connector, female, 2x2-pin, jumpered internally



90 degree angle adapter, 1:1



Connector, female, 2-pin

For:

- Push Button Panels
- Key Panels
- Text Displays
- Operator Panels
- Touch Panels
- Multi Panels
- Basic Panels
- Comfort Panels
- Mobile Panels
- Thin Clients
- Industrial USB Hub

# Operator panels

## SIMATIC HMI Accessories

### HMI connecting components

#### Technical specifications

|   | <b>6AV6671-8XA00-0AX0</b><br>Connector, female, 2-pin | <b>6ES7193-4JB00-0AA0</b><br>Connector, female, 2x2-pin  |
|---|---|--|
| <b>Installation type/mounting</b>         |   |  |
| Wall mounting/direct mounting possible    | Yes; can be plugged into SIMATIC HMI device           | Yes; can be plugged into SIMATIC HMI device              |
| <b>Supply voltage</b>                     |   |  |
| Rated voltage/DC                          | 24 V; DC  | 24 V; DC   |
| <b>Interfaces</b>                         |   |  |
| Number of pins HMI-side                   | 2; Female   | 2; Outgoing side jumpered internally, color-coded        |
| Number of pins device-side                | 2; Female, screw terminals                            | 4; Female, spring-loaded terminals, 0.75 mm <sup>2</sup> |
| <b>Standards, approvals, certificates</b> |   |  |
| CE  | Yes   | Yes  |
| <b>Ambient conditions</b>                 |   |  |
| Operating temperature                     |   |  |
| • Operating temperature range, max.       | 55 °C   | 55 °C  |
| • Operating temperature range, min.       | 0 °C  | 0 °C   |
| Storage/transport temperature             |   |  |
| • Min.                                    | -20 °C  | -20 °C   |
| • max.                                    | 70 °C   | 70 °C  |
| Relative humidity                         |   |  |
| • max. relative humidity                  | 95 %  | 95 %   |
| <b>Mechanics/material</b>                 |   |  |
| Screw type                                |   |  |
| • 4.5 V                                   | Yes   |  |
| Type of housing (front)                   |   |  |
| • Plastic                                 | Yes   | Yes  |
| <b>Dimensions</b>                         |   |  |
| Width                                     | 10 mm   | 10 mm  |
| Height                                    | 15 mm   | 22 mm  |
| Thickness                                 | 27 mm   | 25 mm  |
| <b>Scope of supply</b>                    |   |  |
| Delivery unit in items                    | 10  | 10   |
| <b>other</b>                              |   |  |
| Note:                                     | for SIMATIC HMI Panels, except for Key Panel          | for ET 200S, interface module, KP32F, PN-to-PN coupler   |

|   | <b>6AV6671-3XY38-4AX0</b><br>Connector, female, 12-pin | <b>6AV6671-3XY48-4AX0</b><br>Connector, female, 16-pin    | <b>6AV6671-3XY58-4AX0</b><br>Connector, female, 24-pin    |
|---|--|---|---|
| <b>Installation type/mounting</b>         |  |   |   |
| Wall mounting/direct mounting possible    | Yes; can be plugged into SIMATIC HMI device            | Yes; can be plugged into SIMATIC HMI device               | Yes; can be plugged into SIMATIC HMI device               |
| <b>Supply voltage</b>                     |  |   |   |
| Rated voltage/DC                          | 24 V; DC   | 24 V; DC  | 24 V; DC  |
| <b>Interfaces</b>                         |  |   |   |
| Number of pins HMI-side                   | 12; Female   | 16; Female  | 24; Female  |
| Number of pins device-side                | 12; Female, spring-loaded terminals                    | 16; Female, spring-loaded terminals, 0.75 mm <sup>2</sup> | 24; Female, spring-loaded terminals, 0.75 mm <sup>2</sup> |
| <b>Standards, approvals, certificates</b> |  |   |   |
| CE  | Yes  | Yes   | Yes   |
| <b>Ambient conditions</b>                 |  |   |   |
| Operating temperature                     |  |   |   |
| • Operating temperature range, max.       | 55 °C  | 55 °C   | 55 °C   |
| • Operating temperature range, min.       | 0 °C   | 0 °C  | 0 °C  |
| Storage/transport temperature             |  |   |   |
| • Min.                                    | -20 °C   | -20 °C  | -20 °C  |
| • max.                                    | 70 °C  | 70 °C   | 70 °C   |
| Relative humidity                         |  |   |   |
| • max. relative humidity                  | 95 %   | 95 %  | 95 %  |
| <b>Mechanics/material</b>                 |  |   |   |
| Type of housing (front)                   |  |   |   |
| • Plastic                                 | Yes  | Yes   | Yes   |

## Technical specifications (continued)

|   | <b>6AV6671-3XY38-4AX0</b><br><b>Connector, female, 12-pin</b>   | <b>6AV6671-3XY48-4AX0</b><br><b>Connector, female, 16-pin</b>   | <b>6AV6671-3XY58-4AX0</b><br><b>Connector, female, 24-pin</b>    |
|---|---|---|--|
| <b>Dimensions</b>                         |   |   |  |
| Width                                     | 16 mm   | 16 mm   | 16 mm  |
| Height                                    | 20 mm   | 28 mm   | 54 mm  |
| Thickness                                 | 20 mm   | 20 mm   | 20 mm  |
| <b>Scope of supply</b>                    |   |   |  |
| Delivery unit in items                    | 10; Without ejector   | 10; Without ejector   | 4; Without ejector   |
| <b>other</b>                              |   |   |  |
| Note:                                     | for KP8 PN  | for KP8F PN, KP32F PN   | for KP32F PN   |
|   | <b>6AV6671-8XE00-0AX0</b><br><b>Converter, RS 422 to RS 232</b>   | <b>6AV6671-8XJ00-0AX0</b><br><b>Converter RS 422 to TTY</b>   | <b>6AV6671-8XD00-0AX0</b><br><b>90 degree angle adapter, 1:1</b> |
| <b>Installation type/mounting</b>         |   |   |  |
| Wall mounting/direct mounting possible    | Yes; Can be screwed onto the HMI  | Yes; Can be screwed onto the HMI  | Yes; Can be screwed onto the HMI                                 |
| <b>Interfaces</b>                         |   |   |  |
| Number of pins HMI-side                   | 9; Pin (RS422)  | 9; Pin (RS422)  | 9; Male  |
| Number of pins device-side                | 9; Pin (RS232)  | 15; Socket (TTY)  | 9; Female  |
| <b>Standards, approvals, certificates</b> |   |   |  |
| CE  | Yes   | Yes   | Yes  |
| <b>Ambient conditions</b>                 |   |   |  |
| Operating temperature                     |   |   |  |
| • Operating temperature range, max.       | 55 °C   | 55 °C   | 55 °C  |
| • Operating temperature range, min.       | 0 °C  | 0 °C  | 0 °C   |
| Storage/transport temperature             |   |   |  |
| • Min.                                    | -20 °C  | -20 °C  | -20 °C   |
| • max.                                    | 70 °C   | 70 °C   | 70 °C  |
| Relative humidity                         |   |   |  |
| • max. relative humidity                  | 95 %  | 95 %  | 95 %   |
| <b>Mechanics/material</b>                 |   |   |  |
| Screw type                                |   |   |  |
| • 4.5 V                                   | Yes; HMI page   | Yes; HMI page   | Yes; HMI page  |
| Type of housing (front)                   |   |   |  |
| • Plastic                                 | Yes   | Yes   |  |
| • Cast light alloy                        |   |   | Yes  |
| <b>Dimensions</b>                         |   |   |  |
| Width                                     | 31 mm   | 42 mm   | 31 mm  |
| Height                                    | 50 mm   | 62 mm   | 25 mm  |
| Thickness                                 | 11 mm   | 11 mm   | 25 mm  |
| <b>Weight</b>                             |   |   |  |
| Weight without packaging                  | 26 g  | 28 g  | 34 g   |
| <b>Scope of supply</b>                    |   |   |  |
| Delivery unit in items                    | 1   | 1   | 1  |
| <b>other</b>                              |   |   |  |
| Note:                                     | suitable for all SIMATIC HMI RS422 interfaces, for details refer to the operating instructions of the respective device | suitable for all SIMATIC HMI RS422 interfaces, for details refer to the operating instructions of the respective device | suitable for all appropriate interfaces                          |

# Operator panels

## SIMATIC HMI Accessories

### HMI connecting components

2

| Ordering data   | Order No.                 | Order No.  |
|---|---------------------------|--|
| <b>Connectors</b>   |                           |  |
| <b>24 V DC connector (2-pin)</b><br>for all SIMATIC HMI Panels, without screw mounting, loop-through not possible.<br>Approved for all SIMATIC HMI Panels except Key Panels.                    | <b>6AV6671-8XA00-0AX0</b> | <b>Converters</b>  |
| <b>24 V DC connector (2-pin) (can be looped through)</b><br>for all SIMATIC HMI Panels, without screw mounting, loop through possible, even if connector unplugged.<br>Approved for Key Panels. | <b>6ES7193-4JB00-0AA0</b> | <b>RS422 to RS232 converter</b><br>9-pin male contact (on HMI) to 9-pin male contact, to be screwed onto HMI RS422 interface, cable outlet 180 degrees, for connection of non-Siemens PLC  |
| <b>12-pin cable connector</b><br>12-pin, 24 V DC for SIMATIC HMI Key Panel KP8 PN   | <b>6AV6671-3XY38-4AX0</b> | <b>RS422 to TTY converter</b><br>9-pin male contact (on HMI) to 15-pin female contact, to be screwed onto HMI RS422 interface, 180 degree cable outlet, for the connection to SIMATIC S5   |
| <b>16-pin cable connector</b><br>16-pin, 24 V DC for SIMATIC HMI Key Panel KP8F PN and Key Panel KP32F PN   | <b>6AV6671-3XY48-4AX0</b> | <b>Adapters</b>  |
| <b>24-pin cable connector</b><br>24-pin, 24 V DC for SIMATIC HMI Key Panel KP32F PN   | <b>6AV6671-3XY58-4AX0</b> | <b>90 degree angle adapter</b><br>9-pin male contact (on HMI) to 9-pin female contact, 1:1 connection, to be screwed onto the RS485/422/232 HMI interface, or any other suitable interface |

**Note:**

Delivery units/quantities are specified in the applicable technical data.

This catalog only includes accessories for current products. The complete range of accessories can be found in the Mall: <https://eb.automation.siemens.com>

or on our SIMATIC Support pages:  
<http://support.automation.siemens.com>

## Overview



- Used for connecting PROFIBUS nodes to the PROFIBUS bus cable
- Easy installation
- FastConnect plugs ensure extremely short assembly times due to their insulation-displacement technology
- Integrated terminating resistors (not in the case of 6ES7 972-0BA30-0XA0)
- Connectors with Sub-D socket permit PG connection without the additional installation of network nodes

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| Ordering data  | Order No.  | Order No.  |
|--|--|--|
| <b>RS485 bus connector with axial cable outlet (180°)</b><br><br>For industrial PC, SIMATIC HMI OP, OLM; max. transmission rate 12 Mbit/s  | <b>6GK1500-0EA02</b>                                   | <b>PROFIBUS bus connector RS485 with FastConnect technology</b>  |
| <b>SIPLUS DP PB RS485 connector with axial cable outlet (180°)</b><br><br>For medial stress;<br>Based-on 6GK1 500-0EA02  | <b>6AG1500-0EA02-2AA0</b>                              | <b>PROFIBUS FastConnect bus connector RS485 with 90° cable outlet</b>  |
| <b>RS485 bus connector with cable outlet (90°)</b><br><br>With screw-terminals, max. transmission rate 12 Mbit/s <ul style="list-style-type: none"> <li>• without PG interface</li> <li>• with PG interface</li> </ul>   | <b>6ES7972-0BA12-0XA0</b><br><b>6ES7972-0BB12-0XA0</b> | With insulation displacement, max. transmission rate 12 Mbps<br><br>Without PG interface <ul style="list-style-type: none"> <li>• 1 unit</li> <li>• 100 units</li> </ul><br>With PG interface <ul style="list-style-type: none"> <li>• 1 unit</li> <li>• 100 units</li> </ul><br>Without PG interface, grounding via control cabinet cover <ul style="list-style-type: none"> <li>• 1 unit</li> </ul><br>With PG interface, grounding via control cabinet cover <ul style="list-style-type: none"> <li>• 1 unit</li> </ul> |
| <b>SIPLUS DP PB RS485 connector with 90° cable outlet</b><br><br>For extended temperature range -25 ... + 60 °C <ul style="list-style-type: none"> <li>• without PG interface<br/>Based on 6ES7 972-0BA12-0XA0</li> <li>• with PG interface<br/>Based on 6ES7 972-0BB12-0XA0</li> </ul>            | <b>6AG1972-0BA12-2XA0</b><br><b>6AG1972-0BB12-2XA0</b> | <b>6ES7972-0BA70-0XA0</b>  |
| <b>RS485 bus connector with angled cable outlet (35°)</b><br><br>With screw-terminals, max. transmission rate 12 Mbit/s <ul style="list-style-type: none"> <li>• without PG interface</li> <li>• with PG interface</li> </ul>  | <b>6ES7972-0BA42-0XA0</b><br><b>6ES7972-0BB42-0XA0</b> | <b>PROFIBUS FastConnect RS485 bus connector with angled cable outlet (35°)</b><br><br>With insulation displacement, max. transmission rate 12 Mbps <ul style="list-style-type: none"> <li>• without PG interface</li> <li>• with PG interface</li> </ul>   |
| <b>SIPLUS DP PB RS485 connector with inclined cable outlet (35°)</b><br><br>For extended temperature range -25 ... + 60 °C <ul style="list-style-type: none"> <li>• without PG interface<br/>Based on 6ES7 942-0BA42-0XA0</li> <li>• with PG interface<br/>Based on 6ES7 942-0BB42-0XA0</li> </ul> | <b>6AG1972-0BA42-7XA0</b><br><b>6AG1972-0BB42-7XA0</b> | <b>PROFIBUS FastConnect bus connector RS485 Plug 180</b><br><br>With insulation displacement terminals, with 180° cable outlet, for industrial PC, SIMATIC HMI OP, OLM; max. transmission rate 12 Mbit/s   |
| <b>RS485 bus connector with cable outlet (30°)</b><br><br>With screw-terminals, low-cost variant, max. transmission rate 1.5 Mbit/s  | <b>6ES7972-0BA30-0XA0</b>                              | <b>SIMATIC S5/S7 plug-in cable for PROFIBUS</b><br><br>Preassembled with two 9-pin sub-D connectors; max. transmission rate 12 Mbit/s; 3 m   |
|  |  | <b>SIMATIC NET Manual Collection</b><br><br>Electronic manuals for communication systems, communication protocols, and communication products; on DVD; German/English  |

# Operator panels

## SIMATIC HMI Accessories

### IE FC RJ45 Plug 2 x 2

#### Overview



- Implementation of direct device connections over distances of up to 100 m with Industrial Ethernet FC installation cable 2 x 2 without patching
- Easy connection (insulation displacement contacts) for 4-core Twisted Pair installation cables (100 Mbit/s) without the need for special tools
- Error-preventing connection technique thanks to visible connection area as well as colored blade terminals
- Industry-compatible design (rugged metal housing, no easily lost small parts)
- Excellent EMC shielding and deflection (metal housing)
- Integrated strain-relief for installation cables
- Compatible to the EN 50173 (RJ45) / ISO IEC 11801 standard
- Additional strain and bending relief of plug connector possible through latching of plug on device housing, e.g. with SCALANCE X, SCALANCE S, ET 200S.

| Ordering data  | Order No.   | Order No.            |
|--|---|----------------------|
| <b>IE FC RJ45 plugs</b><br>RJ45 plug connector for Industrial Ethernet with a rugged metal housing and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables |   |                      |
| <b>IE FC RJ45 Plug 180</b><br>180° cable outlet; for network components and CPUs/CPUs with Industrial Ethernet interface<br>• 1 pack = 1 unit<br>• 1 pack = 10 units<br>• 1 pack = 50 units                  | <b>6GK1901-1BB10-2AA0</b><br><b>6GK1901-1BB10-2AB0</b><br><b>6GK1901-1BB10-2AE0</b> | <b>6XV1840-2AH10</b> |
| <b>IE FC RJ45 Plug 90</b><br>90° cable outlet; e.g. for ET 200S<br>• 1 pack = 1 unit<br>• 1 pack = 10 units<br>• 1 pack = 50 units   | <b>6GK1901-1BB20-2AA0</b><br><b>6GK1901-1BB20-2AB0</b><br><b>6GK1901-1BB20-2AE0</b> | <b>6XV1840-2AU10</b> |
| <b>IE FC RJ45 Plug 145</b><br>145° cable outlet; e.g. for SIMOTION and SINAMICS<br>• 1 pack = 1 unit<br>• 1 pack = 10 units<br>• 1 pack = 50 units   | <b>6GK1901-1BB30-0AA0</b><br><b>6GK1901-1BB30-0AB0</b><br><b>6GK1901-1BB30-0AE0</b> | <b>6XV1870-2B</b>    |
| <b>IE FC stripping tool</b><br>Preadjusted stripping tool for fast stripping of Industrial Ethernet FC cables  | <b>6GK1901-1GA00</b>  | <b>6XV1870-2D</b>    |

| Ordering data   | Order No.            | Order No.   |
|---|----------------------|---|
| <b>IE FC TP Trailing Cable 2 x 2<br/>(Type C)</b><br><br>4-core, shielded TP installation cable for connection to IE FC Outlet RJ45/ IE FC RJ45 Plug 180/90 for use in trailing cables; PROFINET-compatible; without UL approval; sold by the meter; max. length 1000 m, minimum order 20 m | <b>6XV1840-3AH10</b> | <b>IE FC TP Festoon Cable GP 2 x 2<br/>(Type B)</b><br><br>4-core, shielded TP installation cable for connection to IE FC Outlet RJ45/ IE FC RJ45 Plug 180/90 for use in festoon applications; PROFINET-compatible; with UL approval; sold by the meter; max. length 1000 m, minimum order 20 m |
| <b>IE TP Torsion Cable GP 2 x 2<br/>(Type C)</b><br><br>4-core, shielded TP installation cable for connection to IE FC Outlet RJ45/ IE FC RJ45 Plug for use with robots; PROFINET-compatible; with UL approval; sold by the meter; max. length 1000 m, minimum order 20 m                   | <b>6XV1870-2F</b>    | <b>IE FC TP Food Cable GP 2 x 2<br/>(Type C)</b><br><br>4-core, shielded TP installation cable for connection to IE FC Outlet RJ45/ IE FC RJ45 Plug 180/90 for the food and beverages industry; PROFINET-compliant; sold by the meter; max. length 1000 m, minimum order 20 m                   |
| <b>IE FC TP Marine Cable 2 x 2<br/>(Type B)</b><br><br>4-core, shielded TP installation cable for connection to IE FC Outlet RJ45/ IE FC RJ45 Plug 180/90; marine approval; sold by the meter; max. length 1000 m, minimum order 20 m   | <b>6XV1840-4AH10</b> | <b>IE FC Blade Cassettes (5 mm)</b><br><br>Replacement blade cassette for the Industrial Ethernet stripping tool; for use with IE FC RJ45 Plugs and Modular Outlet, 5 items   |
| <b>IE FC TP FRNC Cable GP 2 x 2<br/>(Type B)</b><br><br>4-core, shielded, halogen-free TP installation cable for connection to IE FC Outlet RJ45/ IE FC RJ45 Plug for occasional movement; PROFINET-compatible; with UL approval; sold by the meter; max. length 1000 m, minimum order 20 m | <b>6XV1871-2F</b>    | <b>6GK1901-1GB01</b>  |

# Operator panels

## SIMATIC HMI Accessories

### Connecting cables

#### Overview

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Example - connecting cables



Connecting cable PN (PROFINET) for Mobile Panels



Connecting cable DP (PROFIBUS) for Mobile Panels

**Key**

P = PROCESS COUPLING

K = optional process coupling (option required)

D = DOWNLOAD (update operating system, project, ...)

U = booting (factory setting in the case of a missing or damaged operating system)

MBP = Mobile Panel

You can find order numbers for the connecting cables required to link SIMATIC Panels under ordering data.

## Overview (continued)

### Overview of SIMATIC HMI connection options

|                            | RS 232 external<br>(15/9-pole) | TD-PPI<br>(incl. voltage) | RS 232<br>Null modem    | RS 232/PPI<br>multi-master<br>cable | USB/PPI<br>multi-master<br>cable | MPI (PG-S7)<br>up to<br>187.5 kbaud |
|----------------------------|--------------------------------|---------------------------|-------------------------|-------------------------------------|----------------------------------|-------------------------------------|
|                            | 6XV1 440-2Kxxx                 | 6ES7 901-<br>3EB10-0XA0   | 6ES7 901-<br>1BF00-0XA0 | 6ES7 901-<br>3CB30-0XA0             | 6ES7 901-<br>3DB30-0XA0          | 6ES7 901-<br>0BF00-0AA0             |
| Key Panel KP8/KP8F, KP32F  | -                              | -                         | -                       | -                                   | -                                | -                                   |
| PP7, PP17-I, PP17-II       | -                              | -                         | -                       | -                                   | -                                | -                                   |
| KTP400 Basic mono PN       | -                              | -                         | -                       | -                                   | -                                | -                                   |
| KTP600 Basic mono PN       | -                              | -                         | -                       | -                                   | -                                | -                                   |
| KTP600 Basic color DP      | -                              | -                         | -                       | D/U                                 | D/U                              | P/D                                 |
| KTP600 Basic color PN      | -                              | -                         | -                       | -                                   | -                                | -                                   |
| KTP1000 Basic color DP     | -                              | -                         | -                       | D/U                                 | D/U                              | P/D                                 |
| KTP1000 Basic color PN     | -                              | -                         | -                       | -                                   | -                                | -                                   |
| KTP1500 Basic color PN     | -                              | -                         | -                       | -                                   | -                                | -                                   |
| K(T)P400 Comfort           | -                              | -                         | -                       | -                                   | -                                | P/D                                 |
| K(T)P700 - KTP1500 Comfort | -                              | -                         | -                       | -                                   | -                                | P/D                                 |
| TP700 -TP2200 Comfort      | -                              | -                         | -                       | -                                   | -                                | P/D                                 |
| MBP 177                    | -                              | -                         | -                       | D/U                                 | -                                | -                                   |
| MBP 277                    | -                              | -                         | -                       | D/U                                 | -                                | -                                   |
| TD200                      | -                              | P                         | -                       | D/U                                 | -                                | P                                   |
| TD400C                     | -                              | P                         | -                       | D/U                                 | -                                | P                                   |
| OP73micro                  | -                              | P                         | -                       | D/U                                 | D/U                              | P                                   |
| TP177micro                 | -                              | -                         | -                       | D/U                                 | D/U                              | -                                   |
| OP73                       | -                              | P                         | -                       | D/U                                 | D/U                              | P/D                                 |
| OP77A                      | -                              | -                         | -                       | D/U                                 | D/U                              | P/D                                 |
| OP77B                      | P                              | -                         | D/U                     | -                                   | -                                | P/D                                 |
| TP177A                     | -                              | -                         | -                       | D/U                                 | D/U                              | P/D                                 |
| TP177B                     | P <sup>1)</sup>                | -                         | -                       | D/U                                 | -                                | P/D                                 |
| TP177B 4"                  | P <sup>1)</sup>                | -                         | D                       | D                                   | -                                | P/D                                 |
| OP177B                     | P <sup>1)</sup>                | -                         | -                       | D/U                                 | -                                | P/D                                 |
| TP277-6                    | P <sup>1)</sup>                | -                         | -                       | D/U                                 | -                                | P/D                                 |
| OP277-6                    | P <sup>1)</sup>                | -                         | -                       | D/U                                 | -                                | P/D                                 |
| MP177-6 T                  | P <sup>1)</sup>                | -                         | -                       | D/U                                 | -                                | P/D                                 |
| MP277-8 T                  | P <sup>1)</sup>                | -                         | -                       | D/U                                 | -                                | P/D                                 |
| MP277-10 T                 | P <sup>1)</sup>                | -                         | -                       | D/U                                 | -                                | P/D                                 |
| MP377-12 T                 | P <sup>1)</sup>                | -                         | -                       | D                                   | -                                | P/D                                 |
| MP377-15 T                 | P <sup>1)</sup>                | -                         | -                       | D                                   | -                                | P/D                                 |
| MP377-19 T                 | P <sup>1)</sup>                | -                         | -                       | D                                   | -                                | P/D                                 |

<sup>1)</sup> Only in conjunction with the RS 422/232 converter

# Operator panels

## SIMATIC HMI Accessories

### Connecting cables

#### Overview (continued)

|                           | DP PtP<br>6XV1 830-0Axxx | DP Standard<br>PROFIBUS (2-contact) | DP (Mobile Panel)<br>6XV1 440-4Axxx | PN (cross cable) <sup>2)</sup><br>Point-to-point<br>6XV1 870-3RH20 | PN (standard cable) <sup>2)</sup><br>6XV1 440-4Bxxx | PN (Mobile Panel)<br>Standard Ethernet CAT5 | RS 422 to RS 232 converter<br>6AV6 671-8XE00-0AX0 | RS 232 to TTY converter (20 mA)<br>6ES5 734-1BD20 | 90° angular (9-pin 1:1)<br>6AV6 671-8XD00-0AX0 |
|---------------------------|--------------------------|-------------------------------------|-------------------------------------|--|---|---|---|---|--|
| Key Panel KP8/KP8F, KP32F | -                        | -                                   | -                                   | P/D  | P/D   | -   | -   | -   | -  |
| PP7, PP17-I, PP17-II      | P                        | P                                   | -                                   | -  | -   | -   | -   | -   | -  |
| KTP400 Basic mono PN      | -                        | -                                   | -                                   | P/D/U  | P/D/U   | -   | -   | -   | -  |
| KTP600 Basic mono PN      | -                        | -                                   | -                                   | P/D/U  | P/D/U   | -   | -   | -   | -  |
| KTP600 Basic color DP     | P/D                      | P/D                                 | -                                   | -  | -   | -   | -   | -   | P/D/U  |
| KTP600 Basic color PN     | -                        | -                                   | -                                   | P/D/U  | P/D/U   | -   | -   | -   | -  |
| KTP1000 Basic color DP    | P/D                      | P/D                                 | -                                   | -  | -   | -   | -   | -   | P/D/U  |
| KTP1000 Basic color PN    | -                        | -                                   | -                                   | P/D/U  | P/D/U   | -   | -   | -   | -  |
| KTP1500 Basic color PN    | -                        | -                                   | -                                   | P/D/U  | P/D/U   | -   | -   | -   | -  |
| K(T)P400 Comfort          | P/D                      | P/D                                 | -                                   | P/D/U  | P/D/U   | -   | -   | -   | P/D/U  |
| K(T)P700 - TP1500 Comfort | P/D                      | P/D                                 | -                                   | P/D/U  | P/D/U   | -   | -   | -   | P/D/U  |
| TP700 -TP2200 Comfort     | P/D                      | P/D                                 | -                                   | P/D/U  | P/D/U   | -   | -   | -   | P/D/U  |
| MBP 177 DP                | P/D                      | P/D                                 | P/D                                 | -  | -   | -   | -   | -   | -  |
| MBP 177 PN                | -                        | -                                   | -                                   | -  | -   | P/D   | -   | -   | -  |
| MBP 277                   | P/D                      | P/D                                 | P/D                                 | -  | -   | P/D   | -   | -   | -  |
| TD200                     | -                        | -                                   | -                                   | -  | -   | -   | -   | -   | -  |
| TD400C                    | -                        | -                                   | -                                   | -  | -   | -   | -   | -   | -  |
| OP73micro                 | P                        | -                                   | -                                   | -  | -   | -   | -   | -   | -  |
| TP177micro                | P                        | P                                   | -                                   | -  | -   | -   | -   | -   | P/D/U  |
| OP73                      | P                        | P                                   | -                                   | -  | -   | -   | -   | -   | -  |
| OP77A                     | P                        | P                                   | -                                   | -  | -   | -   | -   | -   | P/D/U  |
| OP77B                     | P/D                      | P/D                                 | -                                   | -  | -   | -   | -   | P   | P/D/U  |
| TP177A                    | P                        | P                                   | -                                   | -  | -   | -   | -   | -   | P/D/U  |
| TP177B DP                 | P/D                      | P/D                                 | -                                   | -  | -   | -   | P   | P <sup>4)</sup>                                   | P/D/U  |
| TP177B PN/DP              | P/D                      | P/D                                 | -                                   | P/D  | P/D   | -   | P   | P <sup>4)</sup>                                   | P/D/U  |
| TP177B 4"                 | P/D                      | P/D                                 | -                                   | P/D/U  | P/D/U   | -   | P   | P <sup>4)</sup>                                   | P/D/U  |
| OP177B DP                 | P/D                      | P/D                                 | -                                   | -  | -   | -   | P   | P <sup>4)</sup>                                   | P/D/U  |
| OP177B PN/DP              | P/D                      | P/D                                 | -                                   | P/D  | P/D   | -   | P   | P <sup>4)</sup>                                   | P/D/U  |
| TP277-6                   | P/D                      | P/D                                 | -                                   | P/D  | P/D   | -   | P   | P <sup>4)</sup>                                   | P/D/U  |
| OP277-6                   | P/D                      | P/D                                 | -                                   | P/D  | P/D   | -   | P   | P <sup>4)</sup>                                   | P/D/U  |
| MP177-6 T                 | P/D                      | P/D                                 | -                                   | P/D  | P/D   | -   | P   | P <sup>4)</sup>                                   | P/D/U  |
| MP277-8 T                 | P/D                      | P/D                                 | -                                   | P/D  | P/D   | -   | P   | P <sup>4)</sup>                                   | P/D/U  |
| MP277-8 K                 | P/D                      | P/D                                 | -                                   | P/D  | P/D   | -   | P   | P <sup>4)</sup>                                   | P/D/U  |
| MP277-10 T                | P/D                      | P/D                                 | -                                   | P/D  | P/D   | -   | P   | P <sup>4)</sup>                                   | P/D/U  |
| MP277-10 K                | P/D                      | P/D                                 | -                                   | P/D  | P/D   | -   | P   | P <sup>4)</sup>                                   | P/D/U  |
| MP377-12 T                | P/D                      | P/D                                 | -                                   | P/D/U  | P/D/U   | -   | P   | P <sup>4)</sup>                                   | P/D  |
| MP377-12 K                | P/D                      | P/D                                 | -                                   | P/D/U  | P/D/U   | -   | P   | P <sup>4)</sup>                                   | P/D  |
| MP377-15 T                | P/D                      | P/D                                 | -                                   | P/D/U  | P/D/U   | -   | P   | P <sup>4)</sup>                                   | P/D  |
| MP377-19 T                | P/D                      | P/D                                 | -                                   | P/D/U  | P/D/U   | -   | P   | P <sup>4)</sup>                                   | P/D  |

**Note:**

This table is for basic orientation only. Technical characteristics are described in the communication manual or the respective user manual:

<sup>1)</sup> With gender changer

<sup>2)</sup> PROFINET IRT (Isochronous Runtime); isochronous mode only possible with IRT-enabled switch

<sup>3)</sup> Only in conjunction with the RS422/RS232 converter 6AV6 671-8XE00-0AX0

<sup>4)</sup> WinCC flexible 2008 SP2 and higher

| Ordering data   | Order No.                                    | Order No.   |
|---|--|---|
| <b>Connecting cables</b>  |  |   |
| <b>SIMATIC S7 connecting cables</b>   |  |   |
| <b>MPI cable</b><br><br>Between SIMATIC S7 and programming device via MPI max. 187.5 kBaud, standard length 5.0 m   | <b>6ES7901-0BF00-0AA0</b>                    | <b>Industrial Ethernet TP XP Cord RJ45/RJ45</b><br><br>Crossed TP cable 4 x 2, preassembled with 2 x RJ45 connectors          |
| <b>Connecting cable</b><br><br>Between HMI adapter and PC/TS Adapter (RS 232 cable/null-modem cable) for OP 77B, TP 177A/B, OP 177B, standard length 5.0 m  | <b>6ES7901-1BF00-0XA0</b>                    | <b>• 1.0 m</b><br><b>• 6.0 m</b><br><b>• 10.0 m</b>   |
| <b>Connecting cables 6XV1440-2A<sup>2)</sup></b><br><br>Connecting cable between TD/TP/OP and AG S5 95U to -155U, 1000 m max.   | <b>6XV1440-2A...</b>                         | <b>DP connecting cable (MPI/PROFIBUS)</b><br><br>For wired Mobile Panels 177, Mobile Panels 277, standard lengths             |
| <b>PROFIBUS connecting cable 830-1T</b><br><br>For connection of data terminals, preassembled with two sub-D connectors, 9-pin terminated at both ends<br>for PP, OP 73micro, OP 73, TP 177micro, OP 77A/B, TP 177A, TP/OP 177B<br><b>• 1.5 m</b><br><b>• 3.0 m</b> | <b>6XV1830-1CH15</b><br><b>6XV1830-1CH30</b> | <b>• 2 m</b><br><b>• 5 m</b><br><b>• 8 m</b><br><b>• 10 m</b><br><b>• 15 m</b><br><b>• 20 m</b><br><b>• 25 m<sup>1)</sup></b> |
| <b>USB/PPI multi-master cable</b><br><br>For connecting the S7-200 to the serial PC/OP interface<br>Standard length 5 m   | <b>6ES7901-3DB30-0XA0</b>                    | <b>PN connecting cable (PROFINET)</b><br><br>For wired Mobile Panels 177, Mobile Panels 277, standard lengths                 |
| <b>PROFIBUS FC Standard Cable<sup>2)</sup></b><br><br>For connection to PPI; standard type with special design for quick mounting, 2-core, shielded, sold by the meter, max. delivery unit 1000 m, minimum ordering quantity 20 m                                   | <b>6XV1830-0E...</b>                         | <b>• 2 m</b><br><b>• 5 m</b><br><b>• 8 m</b><br><b>• 10 m</b><br><b>• 15 m</b><br><b>• 20 m</b><br><b>• 25 m<sup>1)</sup></b> |

<sup>1)</sup> Instead of using longer cables, we recommend that you use additional connection boxes, see length code in catalog appendix.

<sup>2)</sup> See length code in catalog appendix.

**Note:**

Cable pin assignments can be found on the Internet in the online help of WinCC flexible and under FAQs  
<http://support.automation.siemens.com>

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or on our SIMATIC Support pages:  
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# Operator panels

## SIMATIC HMI Accessories

### Memory media

#### Overview



Memory media

SIMATIC HMI memory media are suitable for industry and optimized for the requirements in industrial environments. Special formatting and write logarithms ensure fast read/write cycles and a long service life of the memory cells.

- Push Button Panels
- Operator Panels
- Touch Panels
- Multi Panels
- Comfort Panels
- Mobile Panels
- Industrial USB Hub

#### Technical specifications

|   | 6AV6671-1CB00-0AX2<br>SIMATIC HMI<br>MM memory card,<br>128 MB | 6AV6671-8XB10-0AX1<br>SIMATIC HMI<br>SD memory card,<br>512 MB | 6AV2181-8XP00-0AX0<br>SIMATIC HMI<br>SD memory card,<br>2 GB | 6AV6574-2AC00-2AA1<br>SIMATIC HMI<br>CF memory card,<br>512 MB | 6ES7 648-0DC50-0AA0<br>SIMATIC IPC USB<br>FLASH DRIVE,<br>bootable, 8GB |
|---|--|--|--|--|---|
| <b>Installation type/mounting</b>         |  |  |  |  |   |
| Mounting in portrait format possible      | Yes  | Yes  | Yes  | Yes  | Yes   |
| Mounting in landscape format possible     | Yes  | Yes  | Yes  | Yes  | Yes   |
| <b>Supply voltage</b>                     |  |  |  |  |   |
| Type of supply voltage                    | DC   | DC   | DC   | DC   | DC  |
| Rated voltage/DC                          | 3.3 V  | 3.3 V  | 3.3 V  | 3.3 V  | 5.5 V   |
| <b>Input current</b>                      |  |  |  |  |   |
| Current consumption (rated value)         | 60 mA  | 60 mA  | 60 mA  | 75 mA  | 60 mA   |
| <b>Memory</b>                             |  |  |  |  |   |
| Type of memory                            | Multi Media Card   | Secure Digital<br>memory card                                  | Secure Digital<br>memory card                                | CompactFlash<br>memory CF type I                               | USB flash drive   |
| Size                                      | 128 Mbyte  | 512 Mbyte  | 2 048 Mbyte  | 512 Mbyte  | 8 192 Mbyte   |
| <b>Standards, approvals, certificates</b> |  |  |  |  |   |
| CE  | Yes  | Yes  | Yes  | Yes  | Yes   |
| <b>Ambient conditions</b>                 |  |  |  |  |   |
| Operating temperature                     |  |  |  |  |   |
| • Operating temperature range, max.       | 50 °C  | 50 °C  | 50 °C  | 50 °C  | 55 °C   |
| • Operating temperature range, min.       | 0 °C   | 0 °C   | 0 °C   | 0 °C   | 5 °C  |
| Storage/transport temperature             |  |  |  |  |   |
| • Min.                                    | -20 °C   | -20 °C   | -20 °C   | -20 °C   | -40 °C  |
| • max.                                    | 60 °C  | 60 °C  | 60 °C  | 60 °C  | 70 °C   |
| Relative humidity                         |  |  |  |  |   |
| • max. relative humidity                  | 90 %   | 90 %   | 90 %   | 90 %   | 85 %  |
| <b>Mechanics/material</b>                 |  |  |  |  |   |
| Type of housing (front)                   |  |  |  |  |   |
| • Plastic                                 | Yes  | Yes  | Yes  | Yes  | Yes   |

### Technical specifications (continued)

|                          | <b>6AV6671-1CB00-0AX2</b><br><b>SIMATIC HMI MM memory card, 128 MB</b>   | <b>6AV6671-8XB10-0AX1</b><br><b>SIMATIC HMI SD memory card, 512 MB</b>  | <b>6AV2181-8XP00-0AX0</b><br><b>SIMATIC HMI SD memory card, 2 GB</b> | <b>6AV6574-2AC00-2AA1</b><br><b>SIMATIC HMI CF memory card, 512 MB</b> | <b>6ES7 648-0DC50-0AA0</b><br><b>SIMATIC IPC USB FLASH DRIVE, bootable, 8GB</b>                |
|--------------------------|--|---|--|--|--|
| <b>Dimensions</b>        |  |   |  |  |  |
| Width                    | 24 mm  | 24 mm   | 24 mm  | 42.8 mm  | 16.7 mm  |
| Height                   | 32 mm  | 32 mm   | 32 mm  | 36.4 mm  | 59.1 mm  |
| Thickness                | 2.1 mm   | 2.1 mm  | 2.1 mm   | 3.3 mm   | 7 mm   |
| <b>Weight</b>            |  |   |  |  |  |
| Weight without packaging | 3 g  | 3 g   | 3 g  | 10 g   | 12 g   |
| <b>Scope of supply</b>   |  |   |  |  |  |
| Delivery unit in items   | 1  | 1   | 1  | 1  | 1  |
| <b>other</b>             |  |   |  |  |  |
| Note:                    | for OP 77B, TP177B, OP 177B, TP 277, OP 277, C7-635, MP 177, MP 277, MP 377, Mobile Panel 177, Mobile Panel 277, Comfort Panel | for MP 177, MP 277, MP 377 and Mobile Panel 277, WinCC flexible 2008 SP1 and higher for OP 77, TP/OP 177, TP/OP 277, Mobile Panel 177, with SD/MMC slot | For all Comfort Panels   | for SIMATIC HMI Panels and IPCs with CF slot                           | for SIMATIC HMI devices with USB slot and SIMATIC IPC, with installed SIMATIC IPC BIOS Manager |

### Ordering data

#### Order No.

|   |                           |
|---|---------------------------|
| <b>SIMATIC HMI MM memory card 128 MB</b>                          | <b>6AV6671-1CB00-0AX2</b> |
| For contents and matching devices, see Technical Data in the Mall |                           |
| <b>SIMATIC HMI SD memory card 512 MB</b>                          | <b>6AV6671-8XB10-0AX1</b> |
| For contents and matching devices, see Technical Data in the Mall |                           |
| <b>SIMATIC HMI SD memory card 2 GB</b>                            | <b>6AV2181-8XP00-0AX0</b> |
| For contents and matching devices, see Technical Data in the Mall |                           |
| <b>SIMATIC HMI CF memory card 512 MB</b>                          | <b>6AV6574-2AC00-2AA1</b> |
| For contents and matching devices, see Technical Data in the Mall |                           |
| <b>PC card adapter for CF memory card</b>                         | <b>6AV6574-2AF00-8AX0</b> |
| For contents and matching devices, see Technical Data in the Mall |                           |
| <b>PC memory card, 512 MB</b>                                     | <b>6AV6574-2AC00-2AF1</b> |
| For contents and matching devices, see Technical Data in the Mall |                           |
| <b>SIMATIC IPC USB flash drive 8 GB</b>                           | <b>6ES7648-0DC50-0AA0</b> |
| For contents and matching devices, see Technical Data in the Mall |                           |
| <b>SIMATIC memory module for Push Button Panel</b>                | <b>6ED1056-1BA00-0AA0</b> |
| For contents and matching devices, see Technical Data in the Mall |                           |

#### Note:

For delivery units/amounts, see the technical data for the relevant product.

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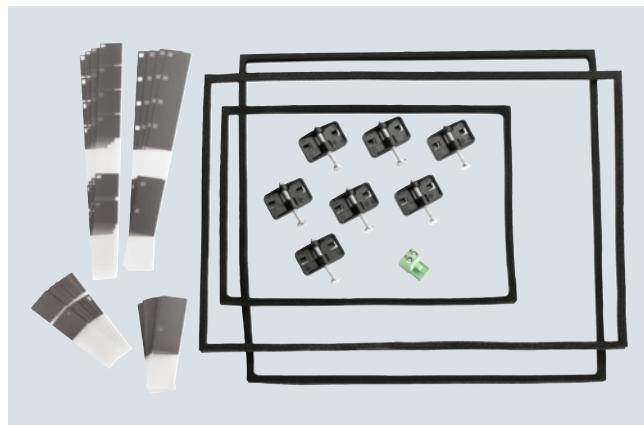
or on our SIMATIC Support pages:  
<http://support.automation.siemens.com>

# Operator panels

## SIMATIC HMI Accessories

### Service sets

#### Overview



Service sets are available for the product groups listed below:

- Push Button Panels
- Key Panels
- Operator Panels
- Touch Panels
- Multi Panels
- Basic Panels
- Comfort Panels
- Mobile Panels
- Industrial USB Hub



#### Technical specifications

|  | 6AV6671-2EA00-0AX0<br>Service set 4" and 6" devices | 6AV6675-3AA00-0AX0<br>Service set 10" devices, Type 2 | 6AV6671-4CA00-0AX0<br>Service set 15" devices | 6AV6574-1AA04-4AA0<br>Service set Mobile Panel | 6AV6671-5CA00-0AX2<br>Service set Mobile Panel 277(F) WLAN V2              | 6AV6671-3EA01-0AX0<br>Service set Industrial USB Hub 4 |
|--|---|---|---|--|--|--|
| <b>Battery</b><br>Design<br>• Special design   |   |   |   |  | Yes;<br>Spare 3.6 V<br>1.5 Ah backup<br>battery included<br>in the package |  |
| <b>Standards, approvals, certificates</b><br>CE  | Yes   | Yes   | Yes   | Yes  | Yes  | Yes  |
| <b>Ambient conditions</b><br>Operating temperature<br>• Operating temperature range, max.<br>• Operating temperature range, min. | 55 °C<br>0 °C                                       | 55 °C<br>0 °C   | 55 °C<br>0 °C                                 | 55 °C<br>0 °C                                  | 55 °C<br>0 °C  | 55 °C<br>0 °C  |
| Storage/transport temperature<br>• Min.<br>• max.  | -20 °C<br>70 °C                                     | -20 °C<br>70 °C                                       | -20 °C<br>70 °C                               | -20 °C<br>70 °C                                | -20 °C<br>70 °C  | -20 °C<br>70 °C  |
| Relative humidity<br>• max. relative humidity  | 95 %  | 95 %  | 95 %  | 95 %   | 95 %   | 95 %   |

**Technical specifications (continued)**

|   | 6AV6671-2EA00-0AX0<br>Service set 4" and 6" devices   | 6AV6675-3AA00-0AX0<br>Service set 10" devices, Type 2   | 6AV6671-4CA00-0AX0<br>Service set 15" devices  | 6AV6574-1AA04-4AA0<br>Service set Mobile Panel  | 6AV6671-5CA00-0AX2<br>Service set Mobile Panel 277(F) WLAN V2  | 6AV6671-3EA01-0AX0<br>Service set Industrial USB Hub 4  |
|---|---|---|--|---|--|---|
| <b>Scope of supply</b>                    |   |   |  |   |  |   |
| Number of sets                            | 1; Content: 2 x seal KTP 400-TP 177B 4", 2 x seal for KTP 600, 7 x aluminum mounting clip, 1 x 2-pin female connector   | 1; Content: 1 x mounting seal, 10 x cast aluminum mounting clip, 1 x 2-pin female connector                     | 1; Content: 1 x mounting seal, 1 x memory card lock, 12 x cast aluminum mounting clip, 1 x 2-pin female connector, 1 x Allen key | 1; Content: 1 x blanking plug, 2 x PG cable gland A-Box, 2 x 12-pole terminal box, 1 x 3-pole terminal box, 1 x blanking cover A-Box, 2 x corner seal l/r and O-ring, 4 x decorative film for corner seal l/r | 1; Content: 2 x charging station cover l/r, 1 x charging station connector, 2 x corner seal l/r, 2 x gasket corner seal, 4 x decorative film corner seal l/r, 1 x battery incl. cover, 1 x spare key | 1; Content: 1 x mounting seal, 1 x mounting frame, 5 x plastic mounting clip, 1 x 2-pin female connector              |
| <b>other</b>                              |   |   |  |   |  |   |
| Note:                                     | for KTP 400 Basic, KTP 600 Basic, TP 177B 4"  | for MP 277 10" Touch with stainless steel front   | for MP 377 15" Touch with stainless steel front  | for Mobile Panel 170, Mobile Panel 177  | for Mobile Panel 277 WLAN V2, Mobile Panel 277F WLAN V2  | For the Industrial USB Hub 4  |
|   | 6AV3678-3XC30<br>Service set Push Button Panel  | 6AV3678-1CC10<br>Service set TD17, OP7/17   | 6AV6671-1XA00-0AX0<br>Service set OP73micro, OP73, OP77  | 6AV6574-1AA00-4AX0<br>Service set 6" devices, Type 1  | 6AV2181-8XA80-0AX0<br>Service set 6" devices, Type 2   | 6AV6671-2XA00-0AX0<br>Service set 6" devices, Type 3  |
| <b>Standards, approvals, certificates</b> |   |   |  |   |  |   |
| CE  | Yes   | Yes   | Yes  | Yes   | Yes  | Yes   |
| <b>Ambient conditions</b>                 |   |   |  |   |  |   |
| Operating temperature                     |   |   |  |   |  |   |
| • Operating temperature range, max.       | 55 °C   | 55 °C   | 55 °C  | 55 °C   | 55 °C  | 55 °C   |
| • Operating temperature range, min.       | 0 °C  | 0 °C  | 0 °C   | 0 °C  | 0 °C   | 0 °C  |
| Storage/transport temperature             |   |   |  |   |  |   |
| • Min.                                    | -20 °C  | -20 °C  | -20 °C   | -20 °C  | -20 °C   | -20 °C  |
| • max.                                    | 70 °C   | 70 °C   | 70 °C  | 70 °C   | 70 °C  | 70 °C   |
| Relative humidity                         |   |   |  |   |  |   |
| • max. relative humidity                  | 95 %  | 95 %  | 95 %   | 95 %  | 95 %   | 95 %  |
| <b>Scope of supply</b>                    |   |   |  |   |  |   |
| Number of sets                            | 1; Content: 1 x mounting seal PP7, 1 x mounting seal PP17, 5 x plastic mounting clip, 1 x 2-pin female connector, 1 x 3-pin female connector, 1 x 4-pin female connector, 2 x 16-pin female connector | 1; Content: 1 x mounting seal TD17, 1 x mounting seal OP7, 1 x mounting seal TD/OP17, 5 x plastic mounting clip | 1; Content: 1 x mounting seal OP73, 1 x mounting seal OP77, 4 x plastic mounting clip, 1 x 2-pin female connector                | 1; Content: 3 x mounting seal, 2 x labeling strip, 7 x plastic mounting clip, 1 x 2-pin female connector  | 1; Content: 3 x mounting seal, 2 x labeling strip, 7 x plastic mounting clip, 20 x aluminum mounting clip, 1 x 2-pin female connector  | 1; Content: 1 x mounting seal TP 177, 1 x mounting seal OP 177, 7 x plastic mounting clip, 1 x 2-pin female connector |
| <b>other</b>                              |   |   |  |   |  |   |
| Note:                                     | for PP7, PP17-I, PP17-II  | for TD17, OP7, OP17   | for OP73micro, OP73, OP77A, OP77B  | for TP 070, TP 170A/B, OP 170B, TP 170micro, OP 270 6", TP 270 6", MP 270B 6" Touch   | for TP 070, TP 170A/B, OP 170B, TP 170micro, OP /TP 270 6", MP 177 6" T, MP 270B 6" Touch  | for TP 177micro, TP 177A, TP 177B, OP 177B  |

# Operator panels

## SIMATIC HMI Accessories

### Service sets

#### Technical specifications (continued)

|  | <b>6AV6574-1AA00-2CX0</b><br>Service set<br>10" to 15"<br>devices   | <b>6AV6574-1AA00-2DX0</b><br>Service set<br>10" devices,<br>Type 1  | <b>6AV6671-3XA01-0AX0</b><br>Service set<br>6" to 10"<br>devices   | <b>6AV6671-3XA01-0AX1</b><br>Service set<br>8" to 10"<br>devices   | <b>6AV6574-1AA00-2BX0</b><br>Service set<br>12" devices  | <b>6AV6671-4XA00-0AX0</b><br>Service set<br>12" to 19"<br>devices  | <b>6AV6671-5CA00-0AX1</b><br>Service set<br>Mobile Panel<br>277 (F)<br>IWLAN V1   |
|--|---|---|--|--|--|--|---|
| <b>Battery</b><br>Design<br>• Special design   |   |   |  |  |  |  | Yes; Spare<br>battery<br>included in the<br>package   |
| <b>Standards, approvals, certificates</b><br>CE  | Yes   | Yes   | Yes  | Yes  | Yes  | Yes  | Yes   |
| <b>Ambient conditions</b><br>Operating temperature<br>• Operating temperature range, max.<br>• Operating temperature range, min. | 55 °C<br>0 °C   | 55 °C<br>0 °C   | 55 °C<br>0 °C  | 55 °C<br>0 °C  | 55 °C<br>0 °C  | 55 °C<br>0 °C  | 55 °C<br>0 °C   |
| Storage/transport temperature<br>• Min.<br>• max.  | -20 °C<br>70 °C   | -20 °C<br>70 °C   | -20 °C<br>70 °C  | -20 °C<br>70 °C  | -20 °C<br>70 °C  | -20 °C<br>70 °C  | -20 °C<br>70 °C   |
| Relative humidity<br>• max. relative humidity  | 95 %  | 95 %  | 95 %   | 95 %   | 95 %   | 95 %   | 95 %  |
| <b>Scope of supply</b><br>Number of sets   | 1; Content:<br>2 x mounting<br>seal,<br>7 x mounting<br>clip, 1 x 2-pin<br>female con-<br>nector,<br>1 x CF card<br>lock, 1 x<br>PC card lock | 1; Content:<br>1 x slide-in<br>labels OP 270<br>10" and MP<br>270 10" Key,<br>1 x mounting<br>seal OP 270<br>10" and MP<br>270 10" Key,<br>10 x cast alu-<br>minum mount-<br>ing clip, 1 x<br>2-pin female<br>connector | 1; Content:<br>6 x device-<br>specific seal,<br>15 x alum-<br>inum mount-<br>ing clip, 1 x 2-pin<br>female con-<br>nector  | 1; Content:<br>14 x spring<br>mounting clip,<br>1 x connector,<br>female, 2-pin  | 1; Content:<br>2 x labeling<br>strip, 6 x alu-<br>minum mount-<br>ing clip, 1 x 2-pin<br>female<br>connector,<br>2 x memory<br>card lock | 1; Content:<br>1 x mounting<br>seal MP 377<br>12" Key, 1 x<br>mounting seal<br>MP 377 12"<br>Touch, 1 x<br>mounting seal<br>MP 377 15"<br>Touch, 1 x<br>mounting seal<br>MP 377 19"<br>Touch, 18 x<br>aluminum<br>mounting clip,<br>1 x 2-pin<br>female con-<br>nector | 1; Content:<br>2 x charging<br>station cover<br>l/r, 1 x charg-<br>ing station<br>connector, 2 x<br>corner seal l/r,<br>2 x gasket cor-<br>ner seal, 4 x<br>decorative film<br>corner seal l/r,<br>1 x battery<br>incl. cover, 1 x<br>spare key |
| <b>other</b><br>Note:  | for C7-636<br>Touch, TP270<br>10", MP270B<br>10" Touch,<br>MP370 12"<br>Touch, MP370<br>15" Touch   | for OP 270 10",<br>MP 270B Key  | for TP/OP 277<br>6", MP 277 8"<br>Touch, MP 277<br>8" Key, MP 277<br>10" Key prod-<br>uct version "ES<br>15" and later,<br>MP 277 10"<br>Touch product<br>version "ES 14"<br>and later | for MP 277 8"<br>Touch, MP 277<br>8" Key prod-<br>uct version "ES<br>14" and later,<br>MP 277 10"<br>Touch product<br>version "ES 14"<br>and later | for MP 370 12"<br>Key  | for MP 377 12"<br>Key, MP 377<br>12" Touch,<br>MP 377 15"<br>Touch, MP 377<br>19" Touch  | for Mobile<br>Panel 277<br>IWLAN, Mobile<br>Panel 277F<br>IWLAN   |

| Ordering data  | Order No.                 | Order No.   |
|--|---------------------------|---|
| <b>Service set for 4" and 6" devices</b><br>For contents and matching devices, see Technical Data                  | <b>6AV6671-2EA00-0AX0</b> | <b>Service set for 6" devices, Type 1</b><br>For contents and matching devices, see Technical Data in the Mall          |
| <b>Service set for 10" devices, Type 2</b><br>For contents and matching devices, see Technical Data                | <b>6AV6675-3AA00-0AX0</b> | <b>Service set for 6" devices, Type 2</b><br>For contents and matching devices, see Technical Data in the Mall          |
| <b>Service set for 15" devices</b><br>For contents and matching devices, see Technical Data                        | <b>6AV6671-4CA00-0AX0</b> | <b>Service set for 6" devices, Type 3</b><br>For contents and matching devices, see Technical Data in the Mall          |
| <b>Service set for Mobile Panel</b><br>For contents and matching devices, see Technical Data                       | <b>6AV6574-1AA04-4AA0</b> | <b>Service set for 10" to 15" devices</b><br>For contents and matching devices, see Technical Data in the Mall          |
| <b>Service set for Mobile Panel 277(F) WLAN</b><br>For contents and matching devices, see Technical Data           | <b>6AV6671-5CA00-0AX2</b> | <b>Service set for 10", Type 1</b><br>For contents and matching devices, see Technical Data in the Mall                 |
| <b>Service Kit Industrial USB Hub 4</b><br>For contents and matching devices, see Technical Data                   | <b>6AV6671-3EA01-0AX0</b> | <b>Service set for 6" to 10" devices</b><br>For contents and matching devices, see Technical Data in the Mall           |
| <b>Service set for pushbutton panel</b><br>For contents and matching devices, see Technical Data in the Mall       | <b>6AV3678-3XC30</b>      | <b>Service set for 8" to 10" devices</b><br>For contents and matching devices, see Technical Data in the Mall           |
| <b>Service set for TD17, OP7/17</b><br>For contents and matching devices, see Technical Data in the Mall           | <b>6AV3678-1CC10</b>      | <b>Service set for 12" devices</b><br>For contents and matching devices, see Technical Data in the Mall                 |
| <b>Service set for OP73 micro, OP73, OP77</b><br>For contents and matching devices, see Technical Data in the Mall | <b>6AV6671-1XA00-0AX0</b> | <b>Service set for 12" to 19" devices</b><br>For contents and matching devices, see Technical Data in the Mall          |
|  |                           | <b>Service set for Mobile Panel 277(F) WLAN V1</b><br>For contents and matching devices, see Technical Data in the Mall |

**Note:**

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or on our SIMATIC Support pages:  
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# Operator panels

## SIMATIC HMI Accessories

### Protective covers

#### Overview



Protective covers with IP65 degree of protection provide complete frontal protection of the panel against dirt and scratches; the protective covers can be kept clean using high-pressure cleaning equipment. Ready-made templates can be downloaded to help you create and print out your own low-cost frame designs between panel and protective cover.

Adhesive protective membranes are available for simple display protection.

Protective covers are available for the following SIMATIC HMI Panels:

- Touch Panels
- Operator Panels
- Multi Panels

#### Technical specifications

|   | 6AV6574-1AE00-4AX0<br>Protective cover 6"<br>Touch devices | 6AV6671-1AJ00-0AX0<br>Protective cover<br>OP77 | 6AV6671-2DJ00-0AX0<br>Protective cover<br>OP177 | 6AV6671-3CK01-0AX0<br>Protective cover<br>MP 277 8" Touch | 6AV6671-3CK00-0AX0<br>Protective cover<br>MP 277 10" Touch |
|---|--|--|---|---|--|
| <b>Installation type/mounting</b>         |  |  |   |   |  |
| Mounting in portrait format possible      | Yes  | Yes  | Yes   | Yes   | Yes  |
| Mounting in landscape format possible     | Yes  | Yes  | Yes   | Yes   | Yes  |
| <b>Degree and class of protection</b>     |  |  |   |   |  |
| IP (at the front)                         | IP65   | IP65   | IP65  | IP65  | IP65   |
| <b>Standards, approvals, certificates</b> |  |  |   |   |  |
| CE  | Yes  | Yes  | Yes   | Yes   | Yes  |
| <b>Ambient conditions</b>                 |  |  |   |   |  |
| Operating temperature                     |  |  |   |   |  |
| • Operating temperature range, max.       | 50 °C  | 50 °C  | 50 °C   | 50 °C   | 50 °C  |
| • Operating temperature range, min.       | 0 °C   | 0 °C   | 0 °C  | 0 °C  | 0 °C   |
| Storage/transport temperature             |  |  |   |   |  |
| • Min.                                    | -20 °C   | -20 °C   | -20 °C  | -20 °C  | -20 °C   |
| • max.                                    | 60 °C  | 60 °C  | 60 °C   | 60 °C   | 60 °C  |
| Relative humidity                         |  |  |   |   |  |
| • max. relative humidity                  | 95 %   | 95 %   | 95 %  | 95 %  | 95 %   |
| <b>Mechanics/material</b>                 |  |  |   |   |  |
| Plastic                                   | Yes  | Yes  | Yes   | Yes   | Yes  |
| <b>Dimensions</b>                         |  |  |   |   |  |
| Width                                     | 242.3 mm   | 178.6 mm                                       | 274.3 mm  | 270.8 mm  | 355.8 mm   |
| Height                                    | 186.3 mm   | 214.6 mm                                       | 243.26 mm                                       | 211 mm  | 294 mm   |
| Thickness                                 | 10 mm  | 7.8 mm   | 7.8 mm  | 7.8 mm  | 7.8 mm   |
| Height of housing front                   |  |  |   |   |  |
| • Mounting cutout, width                  | 198 mm   | 135 mm   | 229 mm  | 226 mm  | 310 mm   |
| • Mounting cutout, height                 | 142 mm   | 171 mm   | 196 mm  | 166 mm  | 248 mm   |
| <b>Weight</b>                             |  |  |   |   |  |
| Weight without packaging                  | 750 g  | 750 g  | 750 g   | 750 g   | 750 g  |

## Technical specifications (continued)

|                        | 6AV6574-1AE00-4AX0<br><b>Protective cover 6" Touch devices</b>  | 6AV6671-1AJ00-0AX0<br><b>Protective cover OP77</b>          | 6AV6671-2DJ00-0AX0<br><b>Protective cover OP177</b>         | 6AV6671-3CK01-0AX0<br><b>Protective cover MP 277 8" Touch</b>                    | 6AV6671-3CK00-0AX0<br><b>Protective cover MP 277 10" Touch</b>  |
|------------------------|---|---|---|--|---|
| <b>Scope of supply</b> |   |   |   |  |   |
| Number of sets         | 2; 2 cover frames,<br>2 base frames,<br>2 protective covers,<br>molded (for TP 070,<br>TP 170micro,<br>TP 170A/B), 2 protective<br>covers, smooth<br>(for TP 177micro,<br>TP 177A/B, TP 270 6",<br>MP 177 6" Touch,<br>MP 270 6" Touch) | 2; 2 cover frames,<br>2 base frames,<br>2 protective covers | 2; 2 cover frames,<br>2 base frames,<br>2 protective covers | 2; 2 cover frames,<br>2 base frames,<br>2 protective covers                      | 2; 2 cover frames,<br>2 base frames,<br>2 protective covers   |
| <b>other</b>           |   |   |   |  |   |
| Note:                  | for TP 070,<br>TP 170A, TP 170B,<br>TP 170micro,<br>TP 177micro,<br>TP 177A, TP 177B,<br>TP 270 6", TP 277 6",<br>MP 270 6" Touch   | for OP 77A, OP 77B  | For OP177B  | for MP 277 8" Touch<br>as far as product<br>version "ES 14" with<br>narrow frame | for MP 277 10" Touch<br>up to product version<br>"ES 14", Thin Client<br>10" up to "ES 03"<br>(6AV6646-0AA21-<br>2AX0) with narrow<br>frame |

| <b>Ordering data</b>  | <b>Order No.</b>          |
|---|---------------------------|
| <b>Protective covers for 6" Touch devices</b><br>For TP 070, TP 170micro,<br>TP 177micro, TP 170A/B,<br>TP 177A/B, TP 270 6", TP 277 6",<br>MP 177 6" Touch, MP 270 6" Touch<br>consisting of: see technical data   | <b>6AV6574-1AE00-4AX0</b> |
| <b>Protective covers for OP 77</b><br>For OP77 and OP77B<br>consisting of: see technical data   | <b>6AV6671-1AJ00-0AX0</b> |
| <b>Protective covers for OP 177</b><br>For OP177B<br>consisting of: see technical data  | <b>6AV6671-2DJ00-0AX0</b> |
| <b>Protective covers for MP 277 8" Touch devices</b><br>Only suitable for MP 277 8" Touch<br>up to E14 <sup>1)</sup> (for devices with a<br>narrow frame geometry)<br>consisting of: see technical data   | <b>6AV6671-3CK01-0AX0</b> |
| <b>Protective covers for MP 277 10" Touch devices</b><br>Only suitable for<br>MP 277 10" Touch up to E14 <sup>1)</sup><br>and 10" Thin Client up to E03 <sup>2)</sup><br>(for devices with a narrow frame<br>geometry)<br>consisting of: see technical data | <b>6AV6671-3CK00-0AX0</b> |

<sup>1)</sup> E14 = Product version 14

<sup>2)</sup> E03 = Product version 03

# Operator panels

## SIMATIC HMI Accessories

### Protective films

#### Overview



Protective films for:

- Touch Panels
- C7 devices
- Multi Panels
- Thin Clients
- Touch Panels
- Basic Panels
- Comfort Panels
- Mobile Panels

Protective films protect the display from dirt and scratching during operation and use.

For complete protection of the front side in harsh environments, protective covers are available for some devices.

**Note:**

During installation, the protective films must completely cover the display. For compatibility reasons, not all protective films extend as far as the edge of the enclosure. This does not, however, affect the protective function.

## Technical specifications

|   | 6AV6671-2EC00-0AX0<br><b>Protective film<br/>4" Touch devices</b> | 6AV6671-2XC00-0AX0<br><b>Protective film<br/>6" Touch devices, Type 3</b> | 6AV6574-1AD04-4AA0<br><b>Protective film<br/>6" Touch devices,<br/>Type 10</b> | 6AV6671-5BC00-0AX0<br><b>Protective film<br/>8" Touch devices,<br/>Type 10</b> | 6AV6645-7AB15-0AS0<br><b>Protective film<br/>10" Touch devices,<br/>Type 10</b> | 6AV6671-3DC00-0AX0<br><b>Protective film<br/>10" Thin Client<br/>and MP277 up to<br/>ES14</b> |
|---|---|---|--|--|---|---|
| <b>Installation type/mounting</b>         |   |   |  |  |   |   |
| Mounting in portrait format possible      | Yes   | Yes   | Yes  | Yes  | Yes   | Yes   |
| Mounting in landscape format possible     | Yes   | Yes   | Yes  | Yes  | Yes   | Yes   |
| <b>Standards, approvals, certificates</b> |   |   |  |  |   |   |
| CE  | Yes   | Yes   | Yes  | Yes  | Yes   | Yes   |
| <b>Ambient conditions</b>                 |   |   |  |  |   |   |
| Operating temperature                     |   |   |  |  |   |   |
| • Operating temperature range, max.       | 50 °C   | 50 °C   | 50 °C  | 50 °C  | 50 °C   | 50 °C   |
| • Operating temperature range, min.       | 0 °C  | 0 °C  | 0 °C   | 0 °C   | 0 °C  | 0 °C  |
| Storage/transport temperature             |   |   |  |  |   |   |
| • Min.                                    | -20 °C  | -20 °C  | -20 °C   | -20 °C   | -20 °C  | -20 °C  |
| • max.                                    | 60 °C   | 60 °C   | 60 °C  | 60 °C  | 60 °C   | 60 °C   |
| Relative humidity                         |   |   |  |  |   |   |
| • max. relative humidity                  | 90 %  | 90 %  | 90 %   | 90 %   | 90 %  | 90 %  |
| <b>Films</b>                              |   |   |  |  |   |   |
| printable with laser printer              | Yes   | Yes   | Yes  | Yes  | Yes   | Yes   |
| <b>Mechanics/material</b>                 |   |   |  |  |   |   |
| Plastic                                   | Yes;<br>Nonreflecting   | Yes;<br>Nonreflecting   | Yes;<br>Nonreflecting  | Yes;<br>Nonreflecting  | Yes; Nonreflect-<br>ing   | Yes;<br>Nonreflecting   |
| <b>Dimensions</b>                         |   |   |  |  |   |   |
| Width                                     | 120 mm  | 179.4 mm  | 120.5 mm   | 155.5 mm   | 223.17 mm   | 292 mm  |
| Height                                    | 105 mm  | 141.4 mm  | 91 mm  | 124.9 mm   | 170.37 mm   | 248 mm  |
| Thickness                                 | 0.125 mm  | 0.125 mm  | 0.125 mm   | 0.3 mm   | 0.3 mm  | 0.125 mm  |
| <b>Scope of supply</b>                    |   |   |  |  |   |   |
| Delivery unit in items                    | 10  | 10  | 10   | 2  | 10  | 10  |
| <b>other</b>                              |   |   |  |  |   |   |
| Note:                                     | for TP 177B 4",<br>KTP 400 Basic                                  | for TP 177micro,<br>TP 177A,<br>TP 177B,<br>OP 177B,<br>KTP 600 Basic     | for<br>Mobile Panel 170,<br>Mobile Panel 177                                   | for<br>Mobile Panel 277<br>8"  | for<br>Mobile Panel 277<br>10"  |   |

# Operator panels

## SIMATIC HMI Accessories

### Protective films

#### Technical specifications (continued)

|   | 6AV6671-3DC00-0AX5<br>Protective film 10" Key Panel, Thin Client and MP277 as of ES15 | 6AV6574-1AD00-4EX0<br>Protective film 15" TP1500, MP370/377 and ThinClient | 6AV2124-6DJ00-0AX0<br>Protective film 4" widescreen | 6AV2124-6GJ00-0AX0<br>Protective film 7" widescreen | 6AV2124-6JJ00-0AX0<br>Protective film 9" widescreen | 6AV2124-6MJ00-0AX0<br>Protective film 12" widescreen |
|---|---|--|---|---|---|--|
| <b>Installation type/mounting</b>         |   |  |   |   |   |  |
| Mounting in portrait format possible      | Yes   | Yes  | Yes   | Yes   | Yes   | Yes  |
| Mounting in landscape format possible     | Yes   | Yes  | Yes   | Yes   | Yes   | Yes  |
| <b>Standards, approvals, certificates</b> |   |  |   |   |   |  |
| CE  | Yes   | Yes  | Yes   | Yes   | Yes   | Yes  |
| <b>Ambient conditions</b>                 |   |  |   |   |   |  |
| Operating temperature                     |   |  |   |   |   |  |
| • Operating temperature range, max.       | 50 °C   | 50 °C  | 50 °C   | 50 °C   | 50 °C   | 50 °C  |
| • Operating temperature range, min.       | 0 °C  | 0 °C   | 0 °C  | 0 °C  | 0 °C  | 0 °C   |
| Storage/transport temperature             |   |  |   |   |   |  |
| • Min.                                    | -20 °C  | -20 °C   | -20 °C  | -20 °C  | -20 °C  | -20 °C   |
| • max.                                    | 60 °C   | 60 °C  | 60 °C   | 60 °C   | 60 °C   | 60 °C  |
| Relative humidity                         |   |  |   |   |   |  |
| • max. relative humidity                  | 90 %  | 90 %   | 90 %  | 90 %  | 90 %  | 90 %   |
| <b>Films</b>                              |   |  |   |   |   |  |
| printable with laser printer              | Yes   | Yes  | Yes   | Yes   | Yes   | Yes  |
| <b>Mechanics/material</b>                 |   |  |   |   |   |  |
| Plastic                                   | Yes; Nonreflecting  | Yes; Nonreflecting   | Yes; Nonreflecting                                  | Yes; Nonreflecting                                  | Yes; Nonreflecting                                  | Yes; Nonreflecting                                   |
| <b>Dimensions</b>                         |   |  |   |   |   |  |
| Width                                     | 299.8 mm  | 362 mm   | 131.4 mm  | 205.4 mm  | 265.4 mm  | 321.4 mm   |
| Height                                    | 259.9 mm  | 289 mm   | 107.4 mm  | 149.4 mm  | 181.4 mm  | 232.4 mm   |
| Thickness                                 | 0.125 mm  | 0.125 mm   | 0.125 mm  | 0.125 mm  | 0.125 mm  | 0.125 mm   |
| <b>Scope of supply</b>                    |   |  |   |   |   |  |
| Delivery unit in items                    | 10  | 10   | 10  | 10  | 10  | 10   |
| <b>other</b>                              |   |  |   |   |   |  |
| Note:                                     |   |  | for KTP400 Comfort, KTP400 Basic color PN           | for TP700 Comfort, IPC277D                          | for TP900 Comfort, IPC277D                          | for TP1200 Comfort, IPC277D                          |

## Technical specifications (continued)

|   | <b>6AV2124-6QJ00-0AX1</b><br><b>Protective film 15" widescreen</b> | <b>6AV2124-6UJ00-0AX1</b><br><b>Protective film 19" widescreen</b> | <b>6AV2124-6XJ00-0AX1</b><br><b>Protective film 22" widescreen</b> |
|---|--|--|--|
| <b>Installation type/mounting</b>         |  |  |  |
| Mounting in portrait format possible      | Yes  | Yes  | Yes  |
| Mounting in landscape format possible     | Yes  | Yes  | Yes  |
| <b>Standards, approvals, certificates</b> |  |  |  |
| CE  | Yes  | Yes  | Yes  |
| <b>Ambient conditions</b>                 |  |  |  |
| Operating temperature                     |  |  |  |
| • Operating temperature range, max.       | 50 °C  | 50 °C  | 50 °C  |
| • Operating temperature range, min.       | 0 °C   | 0 °C   | 0 °C   |
| Storage/transport temperature             |  |  |  |
| • Min.                                    | -20 °C   | -20 °C   | -20 °C   |
| • max.                                    | 60 °C  | 60 °C  | 60 °C  |
| Relative humidity                         |  |  |  |
| • max. relative humidity                  | 90 %   | 90 %   | 90 %   |
| <b>Films</b>                              |  |  |  |
| printable with laser printer              | Yes  | Yes  | Yes  |
| <b>Mechanics/material</b>                 |  |  |  |
| Plastic                                   | Yes; Nonreflecting   | Yes; Nonreflecting   | Yes; Nonreflecting   |
| <b>Dimensions</b>                         |  |  |  |
| Width                                     | 368 mm   | 451 mm   | 518 mm   |
| Height                                    | 231 mm   | 285 mm   | 334 mm   |
| Thickness                                 | 0.125 mm   | 0.125 mm   | 0.125 mm   |
| <b>Weight</b>                             |  |  |  |
| Weight without packaging                  | 26 g; Per unit   | 34 g; Per unit   | 44 g; Per unit   |
| <b>Scope of supply</b>                    |  |  |  |
| Delivery unit in items                    | 10   | 10   | 10   |
| <b>other</b>                              |  |  |  |
| Note:                                     | for Comfort Panel, IPC, Flat Panel,<br>Thin Client                 | for Comfort Panel, IPC, Flat Panel,<br>Thin Client                 | for Comfort Panel, IPC, Flat Panel,<br>Thin Client                 |

# Operator panels

## SIMATIC HMI Accessories

### Protective films

#### Technical specifications (continued)

|   | 6AV6574-1AD00-4DX0  | 6AV6574-1AD00-4CX0  | 6AV6671-2XC00-0AX0  | 6AV6671-3CC00-0AX0   | 6AV6671-3CC00-0AX5  | 6AV7672-1CE00-0AA0  |
|---|---|---|---|--|---|---|
|   | Protective film<br>6" Touch<br>devices, Type 2                          | Protective film<br>10" - 12" TP/MP<br>270/370/377 and<br>C7-636 | Protective film<br>6" Touch<br>devices, Type 3                        | Protective film<br>8" Touch<br>devices, Type 1             | Protective film<br>8" Touch<br>devices, Type 2                    | Protective film<br>19" MP377,<br>panel PC and<br>Flat Panel |
| <b>Installation type/mounting</b>         |   |   |   |  |   |   |
| Mounting in portrait format possible      | Yes   | Yes   | Yes   | Yes  | Yes   | Yes   |
| Mounting in landscape format possible     | Yes   | Yes   | Yes   | Yes  | Yes   | Yes   |
| <b>Standards, approvals, certificates</b> |   |   |   |  |   |   |
| CE  | Yes   | Yes   | Yes   | Yes  | Yes   | Yes   |
| <b>Ambient conditions</b>                 |   |   |   |  |   |   |
| Operating temperature                     |   |   |   |  |   |   |
| • Operating temperature range, max.       | 50 °C   | 50 °C   | 50 °C   | 50 °C  | 50 °C   | 50 °C   |
| • Operating temperature range, min.       | 0 °C  | 0 °C  | 0 °C  | 0 °C   | 0 °C  | 0 °C  |
| Storage/transport temperature             |   |   |   |  |   |   |
| • Min.                                    | -20 °C  | -20 °C  | -20 °C  | -20 °C   | -20 °C  | -20 °C  |
| • max.                                    | 60 °C   | 60 °C   | 60 °C   | 60 °C  | 60 °C   | 60 °C   |
| Relative humidity                         |   |   |   |  |   |   |
| • max. relative humidity                  | 90 %  | 90 %  | 90 %  | 90 %   | 90 %  | 90 %  |
| <b>Films</b>                              |   |   |   |  |   |   |
| printable with laser printer              | Yes   | Yes   | Yes   | Yes  | Yes   | Yes   |
| <b>Mechanics/material</b>                 |   |   |   |  |   |   |
| Plastic                                   | Yes;<br>Nonreflecting   | Yes;<br>Nonreflecting   | Yes;<br>Nonreflecting   | Yes;<br>Nonreflecting                                      | Yes;<br>Nonreflecting   | Yes;<br>Nonreflecting                                       |
| <b>Dimensions</b>                         |   |   |   |  |   |   |
| Width                                     | 178.4 mm  | 297.4 mm  | 179.4 mm  | 207 mm   | 217 mm  | 378 mm  |
| Height                                    | 135.4 mm  | 254.4 mm  | 141.4 mm  | 165 mm   | 217 mm  | 302.5 mm  |
| Thickness                                 | 0.125 mm  | 0.125 mm  | 0.125 mm  | 0.125 mm   | 0.125 mm  | 0.2 mm  |
| <b>Scope of supply</b>                    |   |   |   |  |   |   |
| Delivery unit in items                    | 10  | 10  | 10  | 10   | 10  | 10  |
| <b>other</b>                              |   |   |   |  |   |   |
| Note:                                     | for TP 270 6",<br>TP 277 6",<br>MP 177 6" Touch,<br>MP 270B 6"<br>Touch |   | for TP 177micro,<br>TP 177A,<br>TP 177B,<br>OP 177B,<br>KTP 600 Basic | for MP 277 8"<br>Touch up to<br>product version<br>"ES 14" | for MP 277 8"<br>Touch in product<br>version "ES 15"<br>and later |   |

| Ordering data  | Order No.                 | Order No.   |
|--|---------------------------|---|
| <b>Protective films for 4" Touch devices</b><br><br>For contents and matching devices, see Technical Data and Mall           | <b>6AV6671-2EC00-0AX0</b> | <b>Protective films for 6" Touch devices, type 1</b><br><br>For contents and matching devices, see Technical Data and Mall  |
| <b>Protective films for 6" Touch devices, type 4</b><br><br>For contents and matching devices, see Technical Data and Mall   | <b>6AV6671-2XC00-0AX0</b> | <b>Protective films for 6" Touch devices, type 4</b><br><br>For contents and matching devices, see Technical Data and Mall  |
| <b>Protective films for 6" Touch devices, type 10</b><br><br>For contents and matching devices, see Technical Data and Mall  | <b>6AV6574-1AD04-4AA0</b> | <b>Protective films for 10" Touch devices, type 3</b><br><br>For contents and matching devices, see Technical Data and Mall |
| <b>Protective films for 8" Touch devices, type 10</b><br><br>For contents and matching devices, see Technical Data and Mall  | <b>6AV6671-5BC00-0AX0</b> | <b>Protective films for 10" Touch devices, type 2</b><br><br>For contents and matching devices, see Technical Data and Mall |
| <b>Protective films for 10" Touch devices, type 10</b><br><br>For contents and matching devices, see Technical Data and Mall | <b>6AV6645-7AB15-0AS0</b> | <b>Protective films for 10" to 12" Touch devices</b><br><br>For contents and matching devices, see Technical Data and Mall  |
| <b>Protective films for 10" Touch devices, type 1</b><br><br>For contents and matching devices, see Technical Data and Mall  | <b>6AV6671-3DC00-0AX0</b> | <b>Protective films for 6" Touch devices, type 3</b><br><br>For contents and matching devices, see Technical Data and Mall  |
| <b>Protective films for 10" Touch devices, type 2</b><br><br>For contents and matching devices, see Technical Data and Mall  | <b>6AV6671-3DC00-0AX5</b> | <b>Protective films for 8" Touch devices, type 1</b><br><br>For contents and matching devices, see Technical Data and Mall  |
| <b>Protective films for 15" Touch devices</b><br><br>For contents and matching devices, see Technical Data and Mall          | <b>6AV6574-1AD00-4EX0</b> | <b>Protective films for 8" Touch devices, type 2</b><br><br>For contents and matching devices, see Technical Data and Mall  |
| <b>Protective films 4" widescreen</b><br><br>For contents and matching devices, see Technical Data and Mall                  | <b>6AV2124-6DJ00-0AX0</b> | <b>Protective films for 19" Touch devices</b><br><br>For contents and matching devices, see Technical Data and Mall         |
| <b>Protective films 7" widescreen</b><br><br>For contents and matching devices, see Technical Data and Mall                  | <b>6AV2124-6GJ00-0AX0</b> |   |
| <b>Protective films 9" widescreen</b><br><br>For contents and matching devices, see Technical Data and Mall                  | <b>6AV2124-6JJ00-0AX0</b> |   |
| <b>Protective films 12" widescreen</b><br><br>For contents and matching devices, see Technical Data and Mall                 | <b>6AV2124-6MJ00-0AX0</b> |   |
| <b>Protective films 15" widescreen</b><br><br>For contents and matching devices, see Technical Data and Mall                 | <b>6AV2124-6QJ00-0AX1</b> |   |
| <b>Protective films 19" widescreen</b><br><br>For contents and matching devices, see Technical Data and Mall                 | <b>6AV2124-6UJ00-0AX1</b> |   |
| <b>Protective films 22" widescreen</b><br><br>For contents and matching devices, see Technical Data and Mall                 | <b>6AV2124-6XJ00-0AX1</b> |   |

**Note:**

This catalog only includes accessories for current products. The complete range of accessories can be found in the Mall:  
<https://eb.automation.siemens.com>

or on our SIMATIC Support pages:  
<http://support.automation.siemens.com>

# Operator panels

## SIMATIC HMI Accessories

### Fasteners

#### Overview



All parts required to install a SIMATIC HMI Panel are listed here. Mounting frames enable compliance with device-specific degrees of protection IP65, NEMA4x and NEMA12 (indoor only) if the thickness of the mounting plate is less than the minimum plate thickness specified in the operating instructions. The mounting frame has been specially developed for plate thicknesses of less than 2 mm.

Depending on the device, different mounting clips are available for attaching the panel.

Memory card locks (snappable and slideable) are also available to secure memory cards in the SIMATIC HMI Comfort Panels.

- Push Button Panel
- Key Panel
- Text Display
- Operator Panel
- Touch Panel
- Multi Panel
- Basic Panel
- Comfort Panel

#### Note regarding Industrial USB Hub 4:

The mounting frame is only available in the service pack 6AV6671-3EA01-0AX0.

#### Technical specifications

|   | 6AV6671-3CS00-0AX0<br>Mounting frame 8" Touch | 6AV6671-3CS01-0AX0<br>Mounting frame 8" Key | 6AV6671-8XS00-0AX0<br>Mounting frame 10" to 12"<br>Touch devices             |
|---|---|---|--|
| <b>Installation type/mounting</b>         |   |   |  |
| Mounting in portrait format possible      | Yes   | Yes   | Yes  |
| Mounting in landscape format possible     | Yes   | Yes   | Yes  |
| <b>Standards, approvals, certificates</b> |   |   |  |
| CE  | Yes   | Yes   | Yes  |
| <b>Ambient conditions</b>                 |   |   |  |
| Operating temperature                     |   |   |  |
| • Operating temperature range, max.       | 55 °C   | 55 °C                                       | 55 °C  |
| • Operating temperature range, min.       | 0 °C  | 0 °C  | 0 °C   |
| Storage/transport temperature             |   |   |  |
| • Min.                                    | -20 °C  | -20 °C                                      | -20 °C   |
| • max.                                    | 70 °C   | 70 °C                                       | 70 °C  |
| Relative humidity                         |   |   |  |
| • max. relative humidity                  | 90 %  | 90 %  | 90 %   |
| <b>Mechanics/material</b>                 |   |   |  |
| Type of housing (front)                   |   |   |  |
| • Sheet steel                             | Yes   | Yes   | Yes  |
| <b>Scope of supply</b>                    |   |   |  |
| Delivery unit in items                    | 1   | 1   | 1  |
| <b>other</b>                              |   |   |  |
| Note:                                     | For MP 277 8" Touch                           | For MP 277 8" Key                           | For KTP1000 Basic, MP 277 10"<br>Touch, MP 377 12" Touch,<br>Thin Client 10" |

## Technical specifications (continued)

|   | <b>6AV6671-8XK00-0AX2</b><br><b>Mounting clip, plastic</b>  | <b>6AV6671-8XK00-0AX1</b><br><b>Mounting clip, spring</b>   | <b>6AV6671-8XK00-0AX0</b><br><b>Mounting clip, aluminum</b>   |
|---|---|---|---|
| <b>Installation type/mounting</b>         |   |   |   |
| Mounting in portrait format possible      | Yes   | Yes   | Yes   |
| Mounting in landscape format possible     | Yes   | Yes   | Yes   |
| <b>Standards, approvals, certificates</b> |   |   |   |
| CE  | Yes   | Yes   | Yes   |
| <b>Ambient conditions</b>                 |   |   |   |
| Operating temperature                     |   |   |   |
| • Operating temperature range, max.       | 55 °C   | 55 °C   | 55 °C   |
| • Operating temperature range, min.       | 0 °C  | 0 °C  | 0 °C  |
| Storage/transport temperature             |   |   |   |
| • Min.                                    | -20 °C  | -20 °C  | -20 °C  |
| • max.                                    | 70 °C   | 70 °C   | 70 °C   |
| Relative humidity                         |   |   |   |
| • max. relative humidity                  | 90 %  | 90 %  | 90 %  |
| <b>Mechanics/material</b>                 |   |   |   |
| Screw type                                |   |   |   |
| • 4.5 V                                   | Yes; Original partially Phillips screw  |   | Yes   |
| Type of housing (front)                   |   |   |   |
| • Plastic                                 | Yes   | Yes   |   |
| • Aluminum                                |   |   | Yes   |
| <b>Dimensions</b>                         |   |   |   |
| Width                                     | 30 mm   | 20 mm   | 15 mm   |
| Height                                    | 17 mm; Without screw  | 35 mm   | 21 mm; Without screw  |
| Thickness                                 | 8 mm  | 20 mm   | 15 mm   |
| <b>Weight</b>                             |   |   |   |
| Weight without packaging                  | 4 g; Per unit   | 8 g; Per unit   | 5 g; Per unit   |
| <b>Scope of supply</b>                    |   |   |   |
| Delivery unit in items                    | 20  | 20  | 20  |
| <b>other</b>                              |   |   |   |
| Note:                                     | TD17, OP7/17/73, OP77A/B, TP/OP170, KP300 mono, KTP400 color, TP/OP177 except TP177 4", MP270-6T, TP/OP270-6" | TP177-4", TP/OP 277-6", MP177-6, MP277-10" T, MP277-8", MP277-8" T, MP277-10" K, MP377 12-19", TC 10", TC 15", KTP400 Basic mono, KTP600, KTP1000, KTP1500, KP700 Comfort, TP700 Comfort, KP900 Comfort, TP900 Comfort, KP1200 Comfort, TP1200 Comfort and IPC 277D 7, 9, 12" | TP177-4", TP/OP 277-6", MP177-6, MP277-10" T, MP277-8", MP277-8" T, MP277-10" K, MP377 12-19", TC 10", TC 15", KTP400 Basic mono, KTP600, KTP1000, KTP1500, KP700 Comfort, TP700 Comfort, KP900 Comfort, TP900 Comfort, KP1200 Comfort, TP1200 Comfort and IPC 277D 7, 9, 12" |

# Operator panels

## SIMATIC HMI Accessories

### Fasteners

#### Technical specifications (continued)

|   | <b>6AV6671-8XK00-0AX3</b>  | <b>6AV6671-8XK00-0AX4</b> |
|---|--|---------------------------|
|   | <b>Mounting clip, steel</b>  |                           |
| <b>Installation type/mounting</b>         |  |                           |
| Mounting in portrait format possible      | Yes  | Yes                       |
| Mounting in landscape format possible     | Yes  | Yes                       |
| <b>Standards, approvals, certificates</b> |  |                           |
| CE  | Yes  | Yes                       |
| <b>Ambient conditions</b>                 |  |                           |
| Operating temperature                     |  |                           |
| • Operating temperature range, max.       | 55 °C  | 55 °C                     |
| • Operating temperature range, min.       | 0 °C   | 0 °C                      |
| Storage/transport temperature             |  |                           |
| • Min.                                    | -20 °C   | -20 °C                    |
| • max.                                    | 70 °C  | 70 °C                     |
| Relative humidity                         |  |                           |
| • max. relative humidity                  | 90 %   | 90 %                      |
| <b>Mechanics/material</b>                 |  |                           |
| Screw type                                |  |                           |
| • 4.5 V                                   | Yes  | Yes                       |
| Type of housing (front)                   |  |                           |
| • Sheet steel                             | Yes  | Yes                       |
| <b>Dimensions</b>                         |  |                           |
| Width                                     | 20 mm  | 142 mm                    |
| Height                                    | 15 mm; Without screw   | 18 mm; Without screw      |
| Thickness                                 | 8 mm   | 8 mm                      |
| <b>Scope of supply</b>                    |  |                           |
| Delivery unit in items                    | 20   | 10                        |
| <b>other</b>                              |  |                           |
| Note:                                     | 15", 19" and 22" widescreen - Comfort Panels, IPCs, Flat Panels and Thin Clients. Plate thicknesses up to 6 mm                                 |                           |
|   | 15", 19" and 22" widescreen - Comfort Panels, IPCs, Flat Panels and Thin Clients, except SCD1900 19" wide-screen. Plate thicknesses up to 6 mm |                           |

## Technical specifications (continued)

|   | <b>6AV2181-4DM10-0AX0</b><br><b>Memory card lock 4"</b> | <b>6AV2181-4XM00-0AX0</b><br><b>Memory card lock 7" - 22"</b> |
|---|---|---|
| <b>Installation type/mounting</b>         |   |   |
| Wall mounting/direct mounting possible    | Yes; Snap-on  | Yes; Snap-on  |
| <b>Degree and class of protection</b>     |   |   |
| IP (at the front)                         | 20  | 20  |
| <b>Standards, approvals, certificates</b> |   |   |
| CE  | Yes   | Yes   |
| <b>Ambient conditions</b>                 |   |   |
| Operating temperature                     |   |   |
| • Operating temperature range, max.       | 55 °C   | 55 °C   |
| • Operating temperature range, min.       | 0 °C  | 0 °C  |
| Storage/transport temperature             |   |   |
| • Min.                                    | -20 °C  | -20 °C  |
| • max.                                    | 70 °C   | 70 °C   |
| Relative humidity                         |   |   |
| • max. relative humidity                  | 90 %  | 90 %  |
| <b>Mechanics/material</b>                 |   |   |
| Plastic                                   | Yes   | Yes   |
| <b>Dimensions</b>                         |   |   |
| Width                                     | 25 mm   | 45 mm   |
| Height                                    | 30 mm   | 59 mm   |
| Thickness                                 | 10 mm   | 12 mm   |
| <b>Weight</b>                             |   |   |
| Weight without packaging                  | 4 g; Per unit   | 6 g; Per unit   |
| <b>Scope of supply</b>                    |   |   |
| Delivery unit in items                    | 5   | 5   |
| <b>other</b>                              |   |   |
| Note:                                     | Comfort Panel 4"  | Comfort Panels 7" to 22"                                      |

# Operator panels

## SIMATIC HMI Accessories

### Fasteners

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| Ordering data   | Order No.                 | Order No.  |
|---|---------------------------|--|
| <b>Mounting frame 8" Touch</b><br>For contents and matching devices, see Technical Data and Mall      | <b>6AV6671-3CS00-0AX0</b> | <b>Mounts and interlocks</b>   |
| <b>Mounting frame for 8" Key</b><br>For contents and matching devices, see Technical Data and Mall    | <b>6AV6671-3CS01-0AX0</b> | <b>4" memory card lock</b><br>For contents and matching devices, see Technical Data and Mall         |
| <b>Mounting frame 10"/12" Touch</b><br>For contents and matching devices, see Technical Data and Mall | <b>6AV6671-8XS00-0AX0</b> | <b>7" ... 22" memory card lock</b><br>For contents and matching devices, see Technical Data and Mall |
| <b>Mounting clip/bracket</b>  |                           |  |
| <b>Plastic mounting clip</b><br>For contents and matching devices, see Technical Data and Mall        | <b>6AV6671-8XK00-0AX2</b> |  |
| <b>Spring mounting clip</b><br>For contents and matching devices, see Technical Data and Mall         | <b>6AV6671-8XK00-0AX1</b> |  |
| <b>Aluminum mounting clip</b><br>For contents and matching devices, see Technical Data and Mall       | <b>6AV6671-8XK00-0AX0</b> |  |
| <b>Steel mounting clip</b><br>For contents and matching devices, see Technical Data and Mall          | <b>6AV6671-8XK00-0AX3</b> |  |
| <b>Steel mounting bracket</b><br>For contents and matching devices, see Technical Data and Mall       | <b>6AV6671-8XK00-0AX4</b> |  |

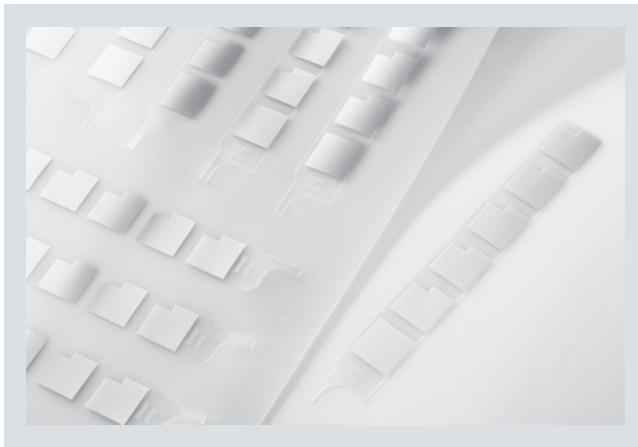
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## Overview



Labeling strips

Protective cover for labeling strips for Mobile Panel 170,  
Mobile Panel 177

## Technical specifications

|                                       | 6AV6574-1AB04-4AA0            | 6AV6671-5BF00-0AX0        | 6AV6574-1AB00-2BA0           | 6ES7272-1BF00-7AA0           | 6ES7272-1AF00-7AA0           | 6AV6671-0AP00-0AX0 |
|---------------------------------------|-------------------------------|---------------------------|------------------------------|------------------------------|------------------------------|--------------------|
| Protective sleeve labeling strips     | Labeling set Mobile Panel 277 | Labeling strip MP 37x Key | Front membrane TD100C, blank | Front membrane TD200C, blank | Front membrane TD400C, blank |                    |
| Installation type/mounting            |                               |                           |                              |                              |                              |                    |
| Mounting in portrait format possible  | Yes                           | Yes                       | Yes                          | Yes                          | Yes                          | Yes                |
| Mounting in landscape format possible | Yes                           | Yes                       | Yes                          | Yes                          | Yes                          | Yes                |
| Standards, approvals, certificates    |                               |                           |                              |                              |                              |                    |
| CE                                    | Yes                           | Yes                       | Yes                          | Yes                          | Yes                          | Yes                |
| Ambient conditions                    |                               |                           |                              |                              |                              |                    |
| Operating temperature                 |                               |                           |                              |                              |                              |                    |
| • Operating temperature range, max.   | 50 °C                         | 50 °C                     | 50 °C                        | 50 °C                        | 50 °C                        | 50 °C              |
| • Operating temperature range, min.   | 0 °C                          | 0 °C                      | 0 °C                         | 0 °C                         | 0 °C                         | 0 °C               |
| Storage/transport temperature         |                               |                           |                              |                              |                              |                    |
| • Min.                                | -20 °C                        | -20 °C                    | -20 °C                       | -20 °C                       | -20 °C                       | -20 °C             |
| • max.                                | 60 °C                         | 60 °C                     | 60 °C                        | 60 °C                        | 60 °C                        | 60 °C              |
| Relative humidity                     |                               |                           |                              |                              |                              |                    |
| • max. relative humidity              | 90 %                          | 90 %                      | 90 %                         | 90 %                         | 90 %                         | 90 %               |

# Operator panels

## SIMATIC HMI Accessories

### Labeling strips

#### Technical specifications (continued)

|                              | 6AV6574-1AB04-4AA0                     | 6AV6671-5BF00-0AX0            | 6AV6574-1AB00-2BA0         | 6ES7272-1BF00-7AA0           | 6ES7272-1AF00-7AA0           | 6AV6671-0AP00-0AX0           |
|------------------------------|--|-------------------------------|----------------------------|------------------------------|------------------------------|------------------------------|
|                              | Protective sleeve labeling strips      | Labeling set Mobile Panel 277 | Labeling strip MP 37x Key  | Front membrane TD100C, blank | Front membrane TD200C, blank | Front membrane TD400C, blank |
| <b>Films</b>                 |  |                               |                            |                              |                              |                              |
| Number of films per sheet    |  | 6                             |                            | 6                            | 3                            | 2                            |
| printable with laser printer | No                                     | Yes                           | Yes                        | Yes                          | Yes                          | Yes                          |
| <b>Dimensions</b>            |  |                               |                            |                              |                              |                              |
| Width                        |  | 210 mm                        | 210 mm                     | 210 mm                       | 210 mm                       | 210 mm                       |
| Height                       |  | 297 mm                        | 297 mm                     | 297 mm                       | 297 mm                       | 297 mm                       |
| Width of the housing front   |  |                               |                            |                              |                              | 163 mm                       |
| Height of housing front      |  |                               |                            |                              |                              | 91 mm                        |
| <b>Scope of supply</b>       |  |                               |                            |                              |                              |                              |
| Delivery unit in items       | 5                                      | 2                             | 1                          | 10                           | 10                           | 10                           |
| Number of sets               |  | 6                             | 2                          | 60                           | 30                           | 20                           |
| <b>other</b>                 |  |                               |                            |                              |                              |                              |
| Note:                        | for Mobile Panel 170, Mobile Panel 177 | For Mobile Panel 277          | For MP 370 Key, MP 377 Key | For TD100C                   | For TD200C                   | For TD400C                   |

| Ordering data   | Order No.                 |
|---|---------------------------|
| <b>Protective cover for Mobile Panel 17x</b>                      | <b>6AV6574-1AB04-4AA0</b> |
| For contents and matching devices, see Technical Data in the Mall |                           |
| <b>Labeling set for Mobile Panel 277</b>                          | <b>6AV6671-5BF00-0AX0</b> |
| For contents and matching devices, see Technical Data in the Mall |                           |
| <b>Labeling set for MP 377 Key</b>                                | <b>6AV6574-1AB00-2BA0</b> |
| For contents and matching devices, see Technical Data in the Mall |                           |
| <b>Front membrane TD100C, unprinted</b>                           | <b>6ES7272-1BF00-7AA0</b> |
| For contents and matching devices, see Technical Data in the Mall |                           |
| <b>Front membrane TD200C, unprinted</b>                           | <b>6ES7272-1AF00-7AA0</b> |
| For contents and matching devices, see Technical Data in the Mall |                           |
| <b>Front membrane TD400C, unprinted</b>                           | <b>6AV6671-0AP00-0AX0</b> |
| For contents and matching devices, see Technical Data in the Mall |                           |

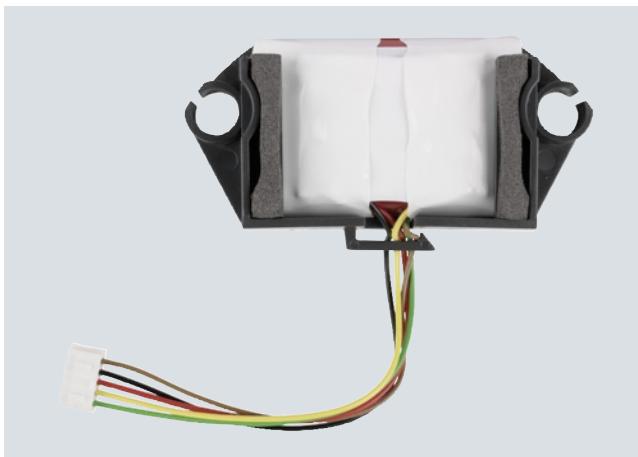
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## Overview



Rechargeable buffer battery for Mobile Panel



Lithium battery for SIMATIC HMI, C7 and S7

## Technical specifications

|   | <b>W790 84-E1001-B2</b><br><b>Lithium battery<br/>SIMATIC HMI and C7</b> | <b>6ES7 623-1AE01-5AA0</b><br><b>Lithium battery<br/>SIMATIC HMI, C7 and S7</b>  | <b>6AV6 671-5CL00-0AX0</b><br><b>Main battery Mobile Panel<br/>IWLAN</b>   | <b>6AV6 671-5AD00-0AX0</b><br><b>Rechargeable back-up<br/>battery Mobile Panel</b>  |
|---|--|--|--|---|
| <b>Installation type/mounting</b>         | Wall mounting/direct mounting possible                                   | Yes; in HMI devices, battery compartment   | Yes; in HMI devices, battery compartment   | Yes; in HMI devices, battery compartment  |
| <b>Supply voltage</b>                     | Type of supply voltage   | DC   | DC   | DC  |
|   | Rated voltage/DC   | 3.6 V; 1.6 Ah  | 3.6 V; 1.6 Ah  | 7.2 V; 5.1 Ah   |
| <b>Battery</b>                            | Design   |  |  |   |
| • Special design                          | Yes; 2/3 AA  | Yes; 2/3 AA  | Yes; bent  | Yes; flat   |
| Technology                                |  |  |  |   |
| • Lithium-ion                             | Yes; SL-361  | Yes; SL-361  | Yes; 2ICR19/65-2 CGR   | Yes; 1/CP7/34/50 01 CGA   |
| <b>Standards, approvals, certificates</b> | CE   | Yes  | Yes  | Yes   |
| <b>Ambient conditions</b>                 | Operating temperature  |  |  |   |
| • Operating temperature range, max.       | 55 °C  | 55 °C  | 55 °C  | 55 °C   |
| • Operating temperature range, min.       | 0 °C   | 0 °C   | 0 °C; Don't charge below   | 0 °C; Don't charge below  |
| Storage/transport temperature             |  |  |  |   |
| • Min.                                    | -20 °C   | -55 °C   | -20 °C   | -20 °C  |
| • max.                                    | 70 °C  | 85 °C  | 70 °C  | 70 °C   |
| Relative humidity                         |  |  |  |   |
| • max. relative humidity                  | 90 %   | 90 %   | 90 %   | 90 %  |
| <b>Dimensions</b>                         | Width  |  | 75 mm  | 35 mm   |
|   | Height   | 33 mm; Length  | 78 mm  | 50 mm   |
|   | Thickness  | 14.7 mm; Diameter  | 33 mm  | 10 mm   |
| <b>Weight</b>                             | Weight without packaging   | 12 g   | 14 g   | 320 g   |
| <b>Scope of supply</b>                    | Delivery unit in items   | 1; incl. 220 mm connecting cable   | 1; Incl. 45 mm + 210 mm connecting cable   | 1; incl. 65 mm connecting cable   |
| <b>other</b>                              | Note:  | for TD17, OP17, OP25, OP27, OP35, OP37, TP27, TP37, OP/TP270, MP 270, MP 270B, MP 370, C7-621, C7-623, C7-624, C7-626 and PG 7xx | for TD17, OP17, OP25, OP27, OP35, OP37, TP27, TP37, OP/TP270, MP 270, MP 270B, MP 370, C7-621, C7-623, C7-624, C7-626 and PG 7xx | for Mobile Panel 277 IWLAN, Mobile Panel 277 IWLAN, Mobile Panel 277 IWLAN V2, Mobile Panel 277F IWLAN V2, Mobile Panel 277F IWLAN (RFID tag) |
|   |  |  |  | for Mobile Panel DP cabled, Mobile Panel PN cabled, Mobile Panel 277 IWLAN, Mobile Panel 277F IWLAN   |

# Operator panels

## SIMATIC HMI Accessories

### Batteries

| Ordering data  | Order No.                 |
|--|---------------------------|
| <b>Lithium battery for SIMATIC HMI and C7</b><br>For contents and matching devices, see Technical Data           | <b>W79084-E1001-B2</b>    |
| <b>Lithium battery for SIMATIC PG7xx, HMI and C7</b><br>incl. 250 mm adapter cable                               | <b>6ES7623-1AE01-5AA0</b> |
| <b>Main rechargeable battery for Mobile Panel IWLAN</b><br>For contents and matching devices, see Technical Data | <b>6AV6671-5CL00-0AX0</b> |
| <b>Rechargeable buffer battery for Mobile Panel</b><br>For contents and matching devices, see Technical Data     | <b>6AV6671-5AD00-0AX0</b> |

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