

## Operator panels

Basic HMI

Basic Panels

### Standard devices 2nd Generation

#### Overview



#### Basic Panels (2<sup>nd</sup> Generation)

SIMATIC HMI Basic Panels (2<sup>nd</sup> Generation) with their fully developed HMI basic functions are the ideal entry-level series for simple HMI applications.

The device family offers panels with 4", 7", 9" and 12" displays, as well as combined key and touch operation.

The innovative high-resolution widescreen displays with 64 000 colors are also suitable for upright installation, and they can be dimmed down to 100%. The innovative operator interface with improved usability opens up a diverse range of options thanks to new controls and graphics. The new USB interface enables the connection of keyboard, mouse or barcode scanner, and supports the simple archiving of data on a USB flash drive as well as the manual backup and restoring of the complete panel.

The integrated Ethernet or RS 485/422 interface (version-specific) enables simple connection to the controller.

<http://www.siemens.com/basic-panels>

#### Technical specifications

Article number	6AV2123-2DB03-0AX0 SIMATIC HMI KTP400 BASIC	6AV2123-2GB03-0AX0 SIMATIC HMI KTP700 BASIC	6AV2123-2GA03-0AX0 SIMATIC HMI KTP700 BASIC DP
<b>General information</b>			
Product type designation	KTP400 Basic color PN	KTP700 Basic color PN	KTP700 Basic color DP
<b>Display</b>			
Design of display	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting
Screen diagonal	4.3 in	7 in	7 in
Number of colors	65 536	65 536	65 536
<b>Resolution (pixels)</b>			
• Horizontal image resolution	480 Pixel	800 Pixel	800 Pixel
• Vertical image resolution	272 Pixel	480 Pixel	480 Pixel
<b>Backlighting</b>			
• MTBF backlighting (at 25 °C)	20 000 h	20 000 h	20 000 h
• Backlight dimmable	Yes	Yes	Yes
<b>Keyboard fonts</b>			
• Function keys			
- Number of function keys	4	8	8
- Number of function keys with LEDs	0		
<b>Touch operation</b>			
• 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 value (DC)	24 V	24 V	24 V
<b>Memory</b>			
Memory available for user data	10 Mbyte	10 Mbyte	10 Mbyte
<b>Type of output</b>			
Acoustics			
• Buzzer	Yes	Yes	Yes
<b>Time of day</b>			
<b>Clock</b>			
• Software clock	Yes	Yes	Yes
• retentive	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks
• synchronizable	Yes	Yes	Yes

## Technical specifications (continued)

Article number	<b>6AV2123-2DB03-0AX0</b> SIMATIC HMI KTP400 BASIC	<b>6AV2123-2GB03-0AX0</b> SIMATIC HMI KTP700 BASIC	<b>6AV2123-2GA03-0AX0</b> SIMATIC HMI KTP700 BASIC DP
<b>Interfaces</b>			
Number of industrial Ethernet interfaces	1	1	0
Number of RS 485 interfaces	0	0	1
Number of USB interfaces	1; Up to 16 GB	1; Up to 16 GB	1; Up to 16 GB
Number of SD card slots	0	0	0
<b>Protocols</b>			
PROFINET	Yes	Yes	No
IRT	No	No	No
MRP	No	No	No
PROFIBUS	No	No	Yes
MPI	No	No	Yes
<b>Degree and class of protection</b>			
IP (at the front)	IP65	IP65	IP65
Enclosure Type 4x at the front	Yes	Yes	Yes
IP (rear)	IP20	IP20	IP20
<b>Standards, approvals, certificates</b>			
CE mark	Yes	Yes	Yes
cULus	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes
KC approval	Yes	Yes	Yes
<b>Marine approval</b>			
• Germanischer Lloyd (GL)	Yes	Yes	Yes
• American Bureau of Shipping (ABS)	Yes	Yes	Yes
• Bureau Veritas (BV)	Yes	Yes	Yes
• Det Norske Veritas (DNV)	Yes	Yes	Yes
• Lloyds Register of Shipping (LRS)	Yes	Yes	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes	Yes	Yes
• Polski Rejestr Statkow (PRS)	No	No	No
• Chinese Classification Society (CCS)	No	No	No
<b>Use in hazardous areas</b>			
• ATEX Zone 2	No	No	No
• ATEX Zone 22	No	No	No
• IECEx Zone 2	No	No	No
• IECEx 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>			
Suited for indoor use	Yes		Yes
Suited for outdoor use	No		No
<b>Ambient temperature during operation</b>			
• Operation (vertical installation)			
- For vertical installation, min.	0 °C	0 °C	0 °C
- For vertical installation, max.	50 °C	50 °C	50 °C
<b>Relative humidity</b>			
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation
<b>Configuration</b>			
<b>Configuration software</b>			
• 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	No
• WinCC Basic (TIA Portal)	Yes	Yes	Yes

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#### Technical specifications (continued)

Article number	<b>6AV2123-2DB03-0AX0</b> SIMATIC HMI KTP400 BASIC	<b>6AV2123-2GB03-0AX0</b> SIMATIC HMI KTP700 BASIC	<b>6AV2123-2GA03-0AX0</b> SIMATIC HMI KTP700 BASIC DP
<b>Languages</b>			
<b>Online languages</b>			
• Number of online/runtime languages	10	10	10
<b>Functionality under WinCC (TIA Portal)</b>			
Applications/options			
• Web browser	Yes	Yes	No
• SIMATIC WinCC Sm@rtServer	Yes; Available with WinCC (TIA Portal) V14 or higher	Yes; Available with WinCC (TIA Portal) V14 or higher	No
Number of Visual Basic Scripts	No	No	No
Task planner	Yes	Yes	Yes
• time-controlled	No	No	No
• task-controlled	Yes	Yes	Yes
<b>Message system</b>			
• Bit messages			
- Number of bit messages	1 000	1 000	1 000
• Analog messages			
- Number of analog messages	25	25	25
• Message buffer			
- Number of entries	256	256	256
- Circulating buffer	Yes	Yes	Yes
- retentive	Yes	Yes	Yes
<b>Recipe management</b>			
• Number of recipes	50	50	50
• Size of internal recipe memory	256 kbyte	256 kbyte	256 kbyte
• Recipe memory expandable	No	No	No
<b>Variables</b>			
• Number of variables per device	800	800	800
• Number of variables per screen	100	100	100
<b>Images</b>			
• Number of configurable images	250	250	250
<b>Archiving</b>			
• Number of archives per device	2; One message and one process value archive	2; One message and one process value archive	2; One message and one process value archive
• Number of entries per archive	10 000	10 000	10 000
• Message archive	Yes	Yes	Yes
• Process value archive	Yes	Yes	Yes
• Archiving methods			
- Sequential archive	Yes	Yes	Yes
- Short-term archive	Yes	Yes	Yes
• Memory location			
- Memory card	No	No	No
- USB memory	Yes	Yes	Yes
- Ethernet	No	No	No
• Data storage format			
- CSV	No	No	No
- TXT	Yes	Yes	Yes
- RDB	No	No	No

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## Technical specifications (continued)

Article number	<b>6AV2123-2DB03-0AX0</b> SIMATIC HMI KTP400 BASIC	<b>6AV2123-2GB03-0AX0</b> SIMATIC HMI KTP700 BASIC	<b>6AV2123-2GA03-0AX0</b> SIMATIC HMI KTP700 BASIC DP
<b>Functionality under WinCC (TIA Portal) (continued)</b>			
<b>Security</b>			
• Number of user groups	50	50	50
• Number of users	50	50	50
• SIMATIC Logon	No	No	No
<b>Transfer (upload/download)</b>			
• MPI/PROFIBUS DP	No	No	Yes
• Ethernet	Yes	Yes	No
<b>Process coupling</b>			
• 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
• WinAC	Yes	Yes	Yes
• SIMOTION	Yes	Yes	Yes
• Allen Bradley (EtherNet/IP)	Yes	Yes	No
• Allen Bradley (DF1)	No	No	Yes
• Mitsubishi (MC TCP/IP)	Yes	Yes	No
• Mitsubishi (FX)	No	No	Yes
• OMRON (FINS TCP)	No	No	No
• OMRON (LINK/Multilink)	No	No	Yes
• Modicon (Modbus TCP/IP)	Yes	Yes	No
• Modicon (Modbus)	No	No	Yes
<b>Peripherals/Options</b>			
Peripherals			
• Printer	No	No	No
• SIMATIC HMI MM memory card: Multi Media Card	No	No	No
• SIMATIC HMI SD memory card: Secure Digital memory card	No	No	No
• USB memory	Yes	Yes	Yes
<b>Mechanics/material</b>			
Enclosure material (front)			
• Plastic	Yes	Yes	Yes
• Aluminum	No	No	No
• Stainless steel	No	No	No
<b>Dimensions</b>			
Width of the housing front	141 mm	214 mm	214 mm
Height of housing front	116 mm	158 mm	158 mm
Mounting cutout, width	123 mm	197 mm	197 mm
Mounting cutout, height	99 mm	141 mm	141 mm
Overall depth	33 mm	39 mm	39 mm
<b>Weights</b>			
Weight without packaging	360 g	780 g	800 g

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#### Technical specifications (continued)

Article number	<b>6AV2123-2JB03-0AX0</b> SIMATIC HMI KTP900 BASIC	<b>6AV2123-2MB03-0AX0</b> SIMATIC HMI KTP1200 BASIC	<b>6AV2123-2MA03-0AX0</b> SIMATIC HMI KTP1200 BASIC DP
<b>General information</b>			
Product type designation	KTP900 Basic color PN	KTP1200 Basic color PN	KTP1200 Basic color DP
<b>Display</b>			
Design of display	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting
Screen diagonal	9 in	12 in	12 in
Number of colors	65 536	65 536	65 536
<b>Resolution (pixels)</b>			
• Horizontal image resolution	800 Pixel	1 280 Pixel	1 280 Pixel
• Vertical image resolution	480 Pixel	800 Pixel	800 Pixel
<b>Backlighting</b>			
• MTBF backlighting (at 25 °C)	20 000 h	20 000 h	20 000 h
• Backlight dimmable	Yes	Yes	Yes
<b>Keyboard fonts</b>			
• Function keys			
- Number of function keys	8	10	10
<b>Touch operation</b>			
• 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 value (DC)	24 V	24 V	24 V
<b>Memory</b>			
Memory available for user data	10 Mbyte	10 Mbyte	10 Mbyte
<b>Type of output</b>			
Acoustics			
• Buzzer	Yes	Yes	Yes
<b>Time of day</b>			
<b>Clock</b>			
• Software clock	Yes	Yes	Yes
• retentive	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks
• synchronizable	Yes	Yes	Yes
<b>Interfaces</b>			
Number of industrial Ethernet interfaces	1	1	0
Number of RS 485 interfaces	0	0	1
Number of USB interfaces	1; Up to 16 GB	1; Up to 16 GB	1; Up to 16 GB
Number of SD card slots	0	0	0
<b>Protocols</b>			
PROFINET	Yes	Yes	No
IRT	No	No	No
MRP	No	No	No
PROFIBUS	No	No	Yes
MPI	No	No	Yes
<b>Degree and class of protection</b>			
IP (at the front)	IP65	IP65	IP65
Enclosure Type 4x at the front	Yes	Yes	Yes
IP (rear)	IP20	IP20	IP20

## Technical specifications (continued)

Article number	6AV2123-2JB03-0AX0 SIMATIC HMI KTP900 BASIC	6AV2123-2MB03-0AX0 SIMATIC HMI KTP1200 BASIC	6AV2123-2MA03-0AX0 SIMATIC HMI KTP1200 BASIC DP
<b>Standards, approvals, certificates</b>			
CE mark	Yes	Yes	Yes
cULus	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes
KC approval	Yes	Yes	Yes
<b>Marine approval</b>			
• Germanischer Lloyd (GL)	Yes	Yes	Yes
• American Bureau of Shipping (ABS)	Yes	Yes	Yes
• Bureau Veritas (BV)	Yes	Yes	Yes
• Det Norske Veritas (DNV)	Yes	Yes	Yes
• Lloyds Register of Shipping (LRS)	Yes	Yes	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes	Yes	Yes
• Polski Rejestr Statkow (PRS)	No	No	No
• Chinese Classification Society (CCS)	No	No	No
<b>Use in hazardous areas</b>			
• ATEX Zone 2	No	No	No
• ATEX Zone 22	No	No	No
• IECEx Zone 2	No	No	No
• IECEx 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>			
Suited for indoor use			Yes
Suited for outdoor use			No
<b>Ambient temperature during operation</b>			
• Operation (vertical installation)			
- For vertical installation, min.	0 °C	0 °C	0 °C
- For vertical installation, max.	50 °C	50 °C	50 °C
<b>Relative humidity</b>			
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation
<b>Configuration</b>			
<b>Configuration software</b>			
• 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	No
• WinCC Basic (TIA Portal)	Yes	Yes	Yes
<b>Languages</b>			
<b>Online languages</b>			
• Number of online/runtime languages	10	10	10

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#### Technical specifications (continued)

Article number	<b>6AV2123-2JB03-0AX0</b> SIMATIC HMI KTP900 BASIC	<b>6AV2123-2MB03-0AX0</b> SIMATIC HMI KTP1200 BASIC	<b>6AV2123-2MA03-0AX0</b> SIMATIC HMI KTP1200 BASIC DP
<b>Functionality under WinCC (TIA Portal)</b>			
Applications/options			
• Web browser	Yes	Yes	No
• SIMATIC WinCC Sm@rtServer	Yes; Available with WinCC (TIA Portal) V14 or higher	Yes; Available with WinCC (TIA Portal) V14 or higher	No
Number of Visual Basic Scripts	No	No	No
Task planner	Yes	Yes	Yes
• time-controlled	No	No	No
• task-controlled	Yes	Yes	Yes
<b>Message system</b>			
• Bit messages			
- Number of bit messages	1 000	1 000	1 000
• Analog messages			
- Number of analog messages	25	25	25
• Message buffer			
- Number of entries	256	256	256
- Circulating buffer	Yes	Yes	Yes
- retentive	Yes	Yes	Yes
<b>Recipe management</b>			
• Number of recipes	50	50	50
• Size of internal recipe memory	256 kbyte	256 kbyte	256 kbyte
• Recipe memory expandable	No	No	No
<b>Variables</b>			
• Number of variables per device	800	800	800
• Number of variables per screen	100	100	100
<b>Images</b>			
• Number of configurable images	250	250	250
<b>Archiving</b>			
• Number of archives per device	2; One message and one process value archive	2; One message and one process value archive	2; One message and one process value archive
• Number of entries per archive	10 000	10 000	10 000
• Message archive	Yes	Yes	Yes
• Process value archive	Yes	Yes	Yes
• Archiving methods			
- Sequential archive	Yes	Yes	Yes
- Short-term archive	Yes	Yes	Yes
• Memory location			
- Memory card	No	No	No
- USB memory	Yes	Yes	Yes
- Ethernet	No	No	No
• Data storage format			
- CSV	No	No	No
- TXT	Yes	Yes	Yes
- RDB	No	No	No

## Technical specifications (continued)

Article number	6AV2123-2JB03-0AX0 SIMATIC HMI KTP900 BASIC	6AV2123-2MB03-0AX0 SIMATIC HMI KTP1200 BASIC	6AV2123-2MA03-0AX0 SIMATIC HMI KTP1200 BASIC DP
<b>Functionality under WinCC (TIA Portal) (continued)</b>			
<b>Security</b>			
• Number of user groups	50	50	50
• Number of users	50	50	50
• SIMATIC Logon	No	No	No
<b>Transfer (upload/download)</b>			
• MPI/PROFIBUS DP	No	No	Yes
• Ethernet	Yes	Yes	No
<b>Process coupling</b>			
• 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
• WinAC	Yes	Yes	Yes
• SIMOTION	Yes	Yes	Yes
• Allen Bradley (EtherNet/IP)	Yes	Yes	No
• Allen Bradley (DF1)	No	No	Yes
• Mitsubishi (MC TCP/IP)	Yes	Yes	No
• Mitsubishi (FX)	No	No	Yes
• OMRON (FINS TCP)	No	No	No
• OMRON (LINK/Multilink)	No	No	Yes
• Modicon (Modbus TCP/IP)	Yes	Yes	No
• Modicon (Modbus)	No	No	Yes
<b>Peripherals/Options</b>			
Peripherals			
• Printer	No	No	No
• SIMATIC HMI MM memory card: Multi Media Card	No	No	No
• SIMATIC HMI SD memory card: Secure Digital memory card	No	No	No
• USB memory	Yes	Yes	Yes
<b>Mechanics/material</b>			
Enclosure material (front)			
• Plastic	Yes	Yes	Yes
• Aluminum	No	No	No
• Stainless steel	No	No	No
<b>Dimensions</b>			
Width of the housing front	267 mm	330 mm	330 mm
Height of housing front	182 mm	245 mm	245 mm
Mounting cutout, width	251 mm	310 mm	310 mm
Mounting cutout, height	166 mm	221 mm	221 mm
Overall depth	55 mm	60 mm	60 mm
<b>Weights</b>			
Weight without packaging	1 130 g	1 710 g	1 710 g



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Ordering data	Article No.		Article No.	
<b>SIMATIC HMI Basic Panels (2<sup>nd</sup> Generation)</b>		<b>Starter kits</b>		
<b>Key and Touch devices</b>		<b>Starter kit SIMATIC S7-1200 + KP300 Basic mono PN</b>	<b>6AV6651-7HA01-3AA4</b>	
<b>SIMATIC HMI KTP400 Basic</b> Key/touch-screen operation; 4" TFT widescreen display, 65 536 colors, PROFINET interface	<b>6AV2123-2DB03-0AX0</b>	<b>Starter kit SIMATIC S7-1200 + KTP400 Basic</b>	<b>6AV6651-7KA01-3AA4</b>	
<b>SIMATIC HMI KTP700 Basic</b> Key/touch-screen operation; 7" TFT display, 65 536 colors, PROFINET interface	<b>6AV2123-2GB03-0AX0</b>	<b>Starter kit SIMATIC S7-1200 + KTP700 Basic</b>  Starter kits with an S7-1200 consist of:		
<b>SIMATIC HMI KTP700 Basic DP</b> Key/touch-screen operation; 7" TFT display, 65 536 colors, PROFIBUS interface	<b>6AV2123-2GA03-0AX0</b>	<ul style="list-style-type: none"> <li>the respective SIMATIC HMI Basic Panel: SIMATIC HMI KP300 Basic mono PN, SIMATIC HMI KTP400 Basic, SIMATIC HMI KTP700 Basic</li> <li>SIMATIC S7-1200 CPU 1212C AC/DC/Rly</li> <li>SIMATIC S7-1200 Simulator Module SIM 12</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>		
<b>SIMATIC HMI KTP900 Basic</b> Key/touch-screen operation; 9" TFT display, 65 536 colors, PROFINET interface	<b>6AV2123-2JB03-0AX0</b>	<b>Starter kit LOGO! + KP300 Basic mono PN</b>		<b>6AV2132-0HA00-0AA1</b>
<b>SIMATIC HMI KTP1200 Basic</b> Key/touch-screen operation; 12" TFT display, 65 536 colors, PROFINET interface	<b>6AV2123-2MB03-0AX0</b>	<b>Starter kit LOGO! + KTP400 Basic</b>		<b>6AV2132-0KA00-0AA1</b>
<b>SIMATIC HMI KTP1200 Basic DP</b> Key/touch-screen operation; 12" TFT display, 65 536 colors, PROFIBUS interface	<b>6AV2123-2MA03-0AX0</b>	<b>Starter kit LOGO! + KTP700 Basic</b>  Starter kits with a LOGO! consist of:		<b>6AV2132-3GB00-0AA1</b>
		<ul style="list-style-type: none"> <li>the respective SIMATIC HMI Basic Panel: SIMATIC HMI KP300 Basic mono PN, SIMATIC HMI KTP400 Basic, SIMATIC HMI KTP700 Basic</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>		
		<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 chapter 6	

### More information

More information is available on the Internet at:

<http://www.siemens.com/basic-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.