

The essential guide for Industrial Automation

2012



Schneider
Electric™

The Challenge...

In today's competitive industrial environment, control systems are utilized for many types of applications. To harness these control systems to meet your requirements, Schneider Electric manufactures a comprehensive family of automation products. These high performance, efficient and environmentally-friendly products are designed to reduce your energy costs, and to increase the productivity of your personnel and equipment.

The Essentials...

Modicon™ Programmable Automation Controllers (PACs)



From the simplest machine to the smartest industrial process, Modicon™ automation platforms increase performance, improve quality and drive profitability for your installations. Conforming to international standards and simple to configure, Modicon™ automation platforms integrate seamlessly into any control system.

Modicon™ Distributed I/O

The compact dimensions and pre-wired systems of Modicon™ I/O components allow you to reduce installation time, minimize costs and simplify maintenance.



Robust Software Solutions...

For configuration, programming, debugging and operation... for supervisory control, data acquisition and information management...

Schneider Electric's robust, flexible software solutions optimize the performance and increase the efficiency of Modicon™ automation platforms.



Unity™ Pro



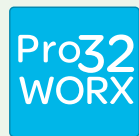
Vijeo™ Citect™



Vijeo™ Historian™



Concept™



ProWORX™ 32



PL7™

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Type of processor		Simple applications	Simple and medium complexity applications
Max. number of discrete I/O (1)	Local	Unlimited (27 slots max.)	
	Remote/distributed	31744 inputs (RIO)/8000 inputs (DIO) and 31744 outputs (RIO)/8000 outputs (DIO)	
Max. number of analog I/O (1)	Local	Unlimited (27 slots max.)	
	Remote/distributed	1984 inputs (RIO)/500 inputs (DIO) and 1984 outputs (RIO)/500 outputs (DIO)	
Type of application-specific I/O		Counter, motion control, high-speed interrupt inputs, time-stamp, serial link, AS-Interface™ sensor/actuator bus	
Communication ports (2)	Integrated Modbus™	2 RS 232/RS 485	2 RS 232
	Modbus Plus	1 integrated, 2 in local rack	1 integrated, 6 in local rack
	Ethernet TCP/IP	2 in local rack	6 in local rack
	Fieldbus	Profibus™ DP: 2 in local rack	Profibus DP: 6 in local rack
Memory capacity	Internal RAM	548 KB	1056 KB
	With PCMCIA extension	–	–
	Data storage	–	–
Reference		140CPU31110 (4)	140CPU43412U (4)

- (1) The maximum values for the number of discrete or analog I/O are not cumulative
(2) The numbers of communication modules are not cumulative, 2 or 6 in local rack, depending on model
(3) Processor compatible with Unity Pro software after updating its firmware (via OS-Loader included in Unity™ Pro)
(4) For coated version add "C" at the end of the reference: for example, **T140CPU31110** becomes **140CPU31110C**
(5) Suitable for safety related applications up to SIL3



Complex applications			Hot Standby redundant applications		Long distance HSBY CPU
Unlimited (26 slots max.)			Unlimited (13 slots max.)	Unlimited (26 slots max.)	Unlimited (13 slots max.)
31744 inputs (RIO)/8000 inputs (DIO) and 31744 outputs (RIO)/8000 outputs (DIO)			31744 inputs and 31744 outputs	31744 inputs (RIO)/8000 inputs (DIO) and 31744 outputs (RIO)/8000 outputs (DIO)	31744 inputs and 31744 outputs
Unlimited (27 slots max.)			Unlimited (13 slots max.)	Unlimited (27 slots max.)	Unlimited (13 slots max.)
1984 inputs (RIO)/500 inputs (DIO) and 1984 outputs (RIO)/500 outputs (DIO)			1984 inputs and 1984 outputs	1984 inputs (RIO)/500 inputs (DIO) and 1984 outputs (RIO)/500 outputs (DIO)	1984 inputs and 1984 outputs
Counter, motion control, high-speed interrupt inputs, time-stamp, serial link, AS-Interface sensor/actuator bus			—	—	—
1 RS 232/485			1 RS 232/485	1 RS 232/485	1 RS 232/485
1 integrated, 6 in local rack			1 integrated	1 integrated, 6 in local rack	1 integrated
1 integrated, 6 in local rack			1 integrated, 6 in local rack	6 in local rack	1 integrated, 6 in local rack
Profibus DP: 6 in local rack			—	Profibus DP: 6 in local rack	—
768 KB	1024 KB	3072 KB	1024 KB	1024 KB	1024 MB
7 MB	7 MB	7 MB	7 MB	7 MB	7 MB
8 MB	8 MB	8 MB	—	8 MB	—
140CPU65150 (4)	140CPU65160 (4)	140CPU65260 (4)	140CPU65160S (5)	140CPU67160 (4)	140CPU67160S (5)
					140CPU67261



Type of power supply module for			Modicon™ Quantum™				
Input voltage			24 Vdc	48 to 60 Vdc	100 to 150 Vdc	120 to 130 Vac	115/230 Vac
Output current			8 A/3 A (4)	8 A	8 A/3 A	8 A/3 A	11 A
Reference	Type	Stand-alone (1)	140CPS21100 (5)	–	140CPS51100 (5)	140CPS11100 (5)	–
		Summable	140CPS21400 (5)	140CPS41400 (5)	–	–	140CPS11420 (5)
		Redundant	140CPS22400 (5)	140CPS42400 (5)	140CPS52400 (5)	–	140CPS12420 (5)

(1) The output current for the stand-alone power supply modules is 3 A



Type of PCMCIA card for Unity™ processors 140CPU65/67		Application		Additional data
Technology		SRAM	Flash EPROM	SRAM
Memory size	512 Kb/512 Kb (3)	–	TSXMCPC512K (2)	–
	1 MB (4)	TSXMRPC001M (5)	TSXMFPP001M	–
	2 MB (4)	TSXMRPC002M	TSXMFPP002M	–
	2 MB/1 MB (3)	–	TSXMCPC002M	–
	3 MB (4)	TSXMRPC003M (5)	–	–
	4 MB	–	TSXMFPP004M	TSXMRPF004M
	7 MB (4)	TSXMRPC007M (5)	–	–
	8 MB	–	–	TSXMRPF008M

(2) These cards have an additional SRAM area for storing data (recipes, production data).

(3) The 1st value corresponds to the size of the application area, the second to the size of the additional data area for storing data (recipes, production data, etc)

(4) By configuration the user can reserve part of the memory space for data storage (recipes, production data, etc)

(5) For coated version add "C" at the end of the reference: for example, **TSXMRPC001M** becomes **TSXMRPC001MC**



Type			Racks
Dimensions WxDxH			
References	2 slots	104x104x290 mm	140XBP00200 (2)
	3 slots	143x104x290 mm	140XBP00300 (2)
	4 slots	184x104x290 mm	140XBP00400 (2)
	6 slots	265x104x290 mm	140XBP00600 (2)
	10 slots	428x104x290 mm	140XBP01000 (2)
	16 slots	671x104x290 mm	140XBP01600 (2)
	Rack extension module		140XBE10000 (1) (2)

(1) Local extension module, to be placed in main rack and secondary rack.

(2) For coated version add "C" at the end of the reference: for example, **140XBP00200** becomes **140XBP00200C**

Type		Cable for extension racks (main and secondary)
References	L = 1 m	140XCA71703
	L = 2 m	140XCA71706
	L = 3 m	140XCA71709

(3) Other accessories: See www.schneider-electric.com



Type of module (5)		Discrete inputs					
Connection		By screw terminals 140XTS00200 (to be ordered separately)					
Number of isolated channels		16	4 groups of 8	3 groups of 8	2 groups of 8	6 groups of 16	8 groups of 2
Input voltage	5 Vdc TTL (negative logic)	–	140DDI15310	–	–	–	–
	24 Vdc	–	140DDI35300(1)(2)	–	–	140DDI36400	–
	10 to 60 Vdc	–	140DDI85300	–	–	–	140DDI84100
	20 to 30 Vdc	–	140DSI35300(1)	–	–	–	–
	125 Vdc	–	–	140DDI67300	–	–	–
	24 Vac	140DAI34000	140DAI35300	–	–	–	–
	48 Vac	140DAI44000	140DAI45300	–	–	–	–
	115 Vac	140DAI54000	140DAI55300	–	140DAI54300	–	–
	230 Vac	140DAI74000	140DAI75300	–	–	–	–

(1) For negative logic, replace "00" at the end of the reference with "10", for example, 140DDI35300 becomes 140DDI35310.

(2) Non-interfering module in safety related application



Type of module (5)		Discrete outputs Solid state					
Connection		By screw terminals 140XTS00200 (to be ordered separately)					
Number of protected channels		16	4 groups of 8	4 groups of 4	2 groups of 8	6 groups of 16	2 groups of 6
Output voltage/current	5 Vdc TTL/0.075 A (3)	–	140DDO15310	–	–	–	–
	24 Vdc/0.5 A	–	140DDO35301(1) 140DDO35300(2)	–	–	–	–
	10 to 30 Vdc/0.5 A (4)	–	140DVO85300	–	–	–	–
	19.2 to 30 Vdc/0.5 A	–	–	–	–	140DDO36400	–
	10 to 60 Vdc/2 A	–	–	–	140DDO84300	–	–
	24 to 125 Vdc/0.75 A	–	–	–	–	–	140DDO88500
	24 to 48 Vac/4 A	–	–	140DAO84220	–	–	–
	24 to 115 Vac/4 A	140DAO84010	–	–	–	–	–
	24 to 230 Vac/ 4-3 A	140DAO84000	140DAO85300	–	–	–	–
	100 to 230 Vac/4-3 A	–	–	140DAO84210	–	–	–

(1) For negative logic, replace "01" at the end of the reference with "10", for example, 140DDO35301 becomes 140DDO35310.

(2) Non-interfering module in safety related application

(3) Negative logic

(4) Controlled outputs



Type of module (5)		Discrete I/O Solid state			Discrete outputs Relay	
Connection		By screw terminals 140XTS00200 (to be ordered separately)			–	
Number of I/O		2 groups of 8/2 groups of 4			–/16 NO	–/8 NO/NC
Input voltage		24 Vdc	115 Vac	125 Vdc	–	–
Output voltage/current		24 Vdc / 4 A	115 Vac / 8 A	24 to 125 Vdc / 16 A	2 A	5 A
Reference		140DDM39000	140DAM59000	140DDM69000	140DRA84000	140DRC83000

(5) For coated version add "C" at the end of the reference: for example, 140DDI15310 becomes 140DDI15310 C

Connection accessories: See www.schneider-electric.com



Type of module (4)	Analog inputs				
Connection	By screw terminals 140XTS00200 (to be ordered separately)				
Number of channels	8	16	8		
Input signal	4 to 20 mA 1 to 5 V	0 to 25/20 mA 4 to 20 mA	(1)	Thermal probe Pt, Ni	Thermocouple (2)
Resolution	12 bits	0 to 25000 points	16 bits	12 bits + sign	16 bits
Reference	140ACI03000	140ACI04000 (3)	140AVI03000	140ARI03010	140ATI03000

(1) 0 to 25 mA, ± 20 mA, 4 to 20 mA, 0 to 10 V, ± 10 V, 0 to 5 V, ± 5 V, 1 to 5 V.

(2) Type B, E, J, K, R, S, T, mV

(3) Non-interfering module in safety related application



Type of module (4)	Analog output		
Connection	By screw terminals 140XTS00200 (to be ordered separately)		
Number of channels	4	8	4
Input signal	4 to 20 mA	0 to 25/20 mA 4 to 20 mA	0 to 10 V, ± 10 V 0 to 5 V, ± 5 V
Resolution	12 bits	0 to 25000 points	12 bits
Reference	140ACO02000 (3)	140ACO13000	140AVO02000

(3) Non-interfering module in safety related application



Type of module (4)	Analog I/O
Connection	By screw terminals 140XTS00200 (to be ordered separately)
Number of inputs	4
Number of outputs	2
Input signal	0 to 20 mA, ± 20 mA, 4 to 20 mA, 0 to 10 V, ± 10 V, 0 to 5 V, ± 5 V, 1 to 5 V.
Resolution	Inputs 16 bits, outputs 12 bits
Reference	140AMM09000

(4) For coated version add "C" at the end of the reference: for example, 140ACI03000 becomes 140ACI03000C

Connection accessories: See www.schneider-electric.com

Modicon™ Quantum™

Programmable Automation Controller
Counter and special purpose modules /
Safety I/O modules



Type of module	High-speed counter		High-speed inputs with interrupt	Time-stamp system
Type of inputs for	Incremental encoders		Discrete 24 Vdc (2)	Discrete 24 to 125 Vdc
Counting frequency	100 kHz	500 kHz	—	—
Number of channels	5	2	16	32
Reference	140EHC10500	140EHC20200	140HLI34000	140ERT85410 (4)

(2) 3 operating modes: Interrupt, latch, high-speed inputs, on rising or falling edge.



Type of modules	Analog	Discrete	
Connection	Screw terminal		
Number of inputs	8 analog inputs	16 discrete inputs	—
Number of outputs	—	—	16 discrete outputs
Input signal	4 to 20mA	24Vdc	—
Output voltage	—	—	24Vdc
Resolution	16 bits	—	—
Certification	Suitable for safety related application up to SIL2 and SIL3, UL, CE, CSA, Haz-loc		
Reference	140SAI94000S	140SDI95300S	140SDO95300S



Type of module		Ethernet TCP/IP network				
Speed		10/100 Mb/s				
Protocol		Modbus™ TCP	Modbus TCP	Modbus TCP	Modbus TCP	EtherNet/IP & Modbus TCP
Transparent Ready™ Class	Class	B30	B30	C30	D10	B30
	Global Data	Yes	Yes	Yes	–	–
	I/O Scanning	Yes	Yes	Yes	–	Yes
	FDR server	Yes	Yes	Yes	–	Yes
	SNMP protocol	Yes	Yes	Yes	Yes	Yes
	QoS (1)	–	–	–	–	Yes
Web server	Standard services	Yes	Yes	Yes	Yes	–
	FactoryCast™ services	–	–	Yes	Yes	–
	FactoryCast HMI services	–	–	–	Yes	–
Reference		140CPU651* (2)	140NOE77101	140NOE77111	140NWM10000	140NOC77101

(1) QoS: Quality of Service

(2) 140 CPU 651 50, 140 CPU 651 60, 140 CPU 652 60, 140 CPU 671 60

PROFIBUS™ DPV1 is available for Modicon™ Quantum™ Please refer to page 24


Type of module	Modbus™ Plus network	AS-Interface™ cabling system	Fieldbus INTERBUS™	Profibus DP Master V1 (1)	Modnet fieldbus
Name and description	Integrated link	In-rack	In-rack	In-rack	In-rack
Speed	1 Mb/s	167 Kb/s	0,5 Mb/s	to 12 Mb/s	375 Kb/s
Reference	140CPU*	140EIA92100	140NOA62200	PTQPDPMV1	140NOG11100

(1) from your partner Prosoft, www.prosoft-technology.com

* 140 CPU 311 10, 140 CPU 434 12U, 140 CPU 651 50, 140 CPU 651 60, 140 CPU 652 60, 140 CPU 671 60



Type of module	Serial link	
	Modbus	ASCII
Name and description	Integrated link	In-rack
Speed	19.2 Kb/s	19.2 Kb/s
Reference	140CPU* (1)	140ESI06210

(1) RS 232/RS 485 on 140CPU651●● and 140CPU67160 processors and RS 232 on 140CPU31110, 140CPU43412A, 140CPU53414A processors.

* 140 CPU 311 10, 140 CPU 434 12U, 140 CPU 651 50, 140 CPU 651 60, 140 CPU 652 60, 140 CPU 671 60

To operate in a corrosive environment, Modicon™ Quantum™ modules can be ordered with a conformal coating applied to product components. Conformal coating will extend product life and enhance its environmental performance capabilities. To order conformal coating append a C to the standard catalog number. For example, 140CPS 11420 > 140CPS 114 20C

Modicon™ Premium™

Programmable Automation Controller

Processors running Unity™ Pro software /
Processors running PL7™ software



Type of processor		TSX 5710 4 racks max.	TSX 5720 16 racks max.	TSX 5730 16 racks max.
Number of I/O in racks	Discrete	512	1024	1024
	Analog	24	80	128
Integrated process control		No / Yes	30 loops / Yes	45 loops / Yes
Application-specific channels (counter, position control, weighing)		8	24	32
Bus	AS-Interface™ cabling system	2	4	8
	CANopen™ machine bus	1	1	1
	INTERBUS™, Profibus™ DP fieldbus	–	1	3
Networks (Ethernet, Modbus™ Plus, Fipway™)		1	2	3
Memory capacity	Without PCMCIA extension	96 Kb data/prog.	160/192 Kb data/prog. (1)	192/208 Kb data/prog. (1)
	With PCMCIA extension	96 Kb data/224 Kb prog.	160/192 Kb data (1)/768 Kb prog.	192/208 Kb data (1)/1.75 MB prog.
Execution time for one instruction without ext. PCMCIA	Boolean	0.19 µs	0.19 µs	0.12 µs
	On word or arithmetic	0.25 µs	0.25 µs	0.17 µs
Reference	Without integrated port	TSXP57104M (4)	TSXP57204M (4)	TSXP57304M (4)
	Integrated Ethernet	TSXP571634M (2) (4)	TSXP572634M (4)	TSXP573634M (4)
	Integrated CANopen	–	–	–
	Integrated Fipio™	TSXP57154M (4)	TSXP57254M (4)	TSXP57354M (4)



Type of processor		TSX 5710 4 racks max.	TSX 5720 16 racks max.	TSX 5730 16 racks max.
Number of I/O in racks	Discrete	512	1024	1024
	Analog	24	80	128
Integrated process control		No	30 loops	45 loops
Application-specific channels (counter, position control, weighing)		8	24	32
Bus	AS-Interface cabling system	2	4	8
	CANopen machine bus	1 (with TSXP57103M)	1	1
	INTERBUS, Profibus DP fieldbus	–	1	2
Networks (Ethernet, Modbus Plus, Fipway)		1	1	3
Memory capacity	Without PCMCIA extension	32 K words data/prog.	48 K words data/prog. (3)	64/80 K words data/prog. (3)
	With PCMCIA extension	32 K words data/ 64 K words prog.	32 K words data (3)/ 160 K words prog.	80/96 K words data (3)/ 384 K words prog.
Execution time for one instruction without ext. PCMCIA	Boolean	0.19 µs	0.19 µs	0.12 µs
	On word or arithmetic	0.25 µs	0.25 µs	0.17 µs
Reference	Without integrated port	TSXP57103M (4)	TSXP57203M (4)	TSXP57303AM (4)
	Integrated Ethernet	–	TSXP572623M (4)	TSXP573623AM (4)
	Integrated Fipio	TSXP57153M (4)	TSXP57253M (4)	TSXP57353AM (4)
	Integrated Ethernet and Fipio	–	TSXP572823M (4)	–

(1) The second value corresponds to the integrated memory capacity when the processor is equipped with a Fipio manager integrated link

(2) Processor with double format

(3) The second value corresponds to the processor with integrated Fipio bus manager link.

(4) For coated version add "C" at the end of the reference: for example, TSXP571634M becomes TSXP571634MC

HotStandBy option



TSX 5740 16 racks max.	TSX 5750 16 racks max.	TSX 5760 16 racks	TSXH5724M 16 racks	TSXH5744M 16 racks
2048	2048	2048	512	512
256	512	512	80	128
60 loops / Yes	90 loops / Yes	90 loops / Yes	30 loops / Yes	60 loops / Yes
64	64	64	16 (serial communication)	16 (serial communication)
8	8	8	0	0
1	1	1	0	0
4	5	5	0	0
4	4	4	2	4
320 Kb data/prog.	1024 Kb data/prog.	2048 Kb data/prog.	192 Kb	440 Kb
440 Kb data/2 MB prog.	1024 Kb data/7 MB prog.	2048 Kb data/7 MB prog.	192 Kb data/768 Kb prog.	440 Ko data/2 MB prog.
0.06 µs	0.037 µs	0.037 µs	0.039 µs	0.039 µs
0.07 µs	0.045 µs	0.045 µs	0.054 µs	0.054 µs
–	–	–	TSXH5724M (4)	TSXH5744M (4)
TSXP574634M (4)	TSXP575634M (4)	TSXP576634M (4)		
–	–	–		
TSXP57454M (4)	TSXP57554M (4)	–		



Type of PCMCIA card		Application		Additional data
Technology		SRAM	Flash EPROM only	SRAM
Memory size	96 Kb	–	TSXMFPPB096K (3)	–
	128 Kb	TSXMRPP128K	TSXMFPP128K	–
	224 Kb	TSXMRPP224K / TSXMCPC224K	TSXMFPP224K	–
	384 Kb	TSXMRPP384K	TSXMFPP384K	–
	448 Kb	TSXMRPC448K (1)	–	–
	512 Kb	–	TSXMCPC512K (2) / TSXMFPP512K	–
	768 Kb	TSXMRPC768K (1)	–	–
	1 MB	TSXMRPC001M (1) (6)	TSXMFPP001M	–
	1.7 MB	TSXMRPC01M7	–	–
	2 MB	TSXMRPC002M (1)	TSXMCPC002M (2) / TSXMFPPC002M	–
	3 MB	TSXMRPC003M (1) (6)	–	–
	4 MB	–	TSXMFPP004M	TSXMRPF004M
	7 MB	TSXMRPC007M (1) (6)	–	–
	8 MB	–	–	TSXMRPF008M

(1) By configuration, the user can reserve part of the memory space for data storage (recipes, production data) on request.

(2) These cards have an additional SRAM area for storing data (recipes, production data).

(3) Backup cartridge of the program when this one reside entirely in PAC internal memory.



Type of PCMCIA card		Application		Additional data
Technology		SRAM	Flash EPROM only	SRAM
Memory size (4)	32 K words	TSXMRPP128K	TSXMFPP128K	–
	64 K words	TSXMRPP224K	TSXMFPP224K	–
	64 K words/128 K words	TSXMRPP384K	TSXMCPC224K	–
	96 K words	–	TSXMFPPB096K	–
	128 K words	TSXMRPC448K	TSXMFPP384K	–
	128 K words/128 K words	TSXMRPC768K (5)	–	–
	256 K words	TSXMRPC001M (6)	–	–
	256 K words/640 K words	TSXMRPC01M7 (5)	–	–
	384 K words/640 K words	TSXMRPC002M	–	–
	512 K words	TSXMRPC003M (5) (6)	–	–
	992 K words/640 K words	TSXMRPC007M (6)	–	–
	2048 K words	–	–	TSXMRPF004M

(4) The 1st value corresponds to the size of the application area, the second to the size of the additional data area for storing data (recipes, production data, etc).

(5) These cards have an additional SRAM area for storing application object symbols.

(6) For coated version add "C" at the end of the reference: for example, TSXMRPC001M becomes TSXMRPC001MC

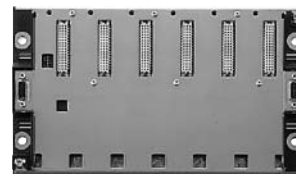
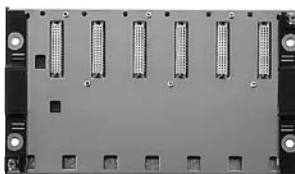
Modicon™ Premium™

Programmable Automation Controller

Power supply modules / Racks / Connection accessories



Type of power supply module for	Premium				
Input voltage	24 Vdc		100 to 240 Vac		100 to 120/200 to 240 Vac
Output voltage	5 Vdc/24 Vdc				
Total useful power	26 W	50 W	26 W	50 W	77 W
Format	Standard	Double	Standard	Double	Double
Reference	TSXPSY1610M (2)	TSXPSY3610M (2)	TSXPSY2600M (2)	TSXPSY5500M (2)	TSXPSY8500M (2)



Type of rack	Non extendable		Extendable
For configuration	Mono-rack		Multi-rack (16 max.)
	Dimensions WxDxP		
Reference	4 positions	188 x 160 x 151.5 mm (1)	TSXRKY4EX (2)
	6 positions	261.6 x 160 x 151.5 mm (1)	TSXRKY6EX (2)
	8 positions	335.3 x 160 x 151.5 mm (1)	TSXRKY8EX (2)
	12 positions	482.6 x 160 x 151.5 mm (1)	TSXRKY12EX (2)

(1) Height of I/O modules : 151,5 mm with HE 10 or SUB-D connectors, 165 mm with screw terminals

(2) For coated version add "C" at the end of the reference: for example, TSXPSY1610M becomes TSXPSY1610MC

Type	Bus X daisy chaining cable for extendable racks	Line terminators and accessories
Reference	—	Set of 2
	—	TSXTLYEX
	—	TSXTVSY100 (2 Bus X Transient voltage suppressor)
	L = 1 m	TSXCBY010K
	L = 3 m	TSXCBY030K
	L = 5 m	TSXCBY050K
	L = 12 m	TSXCBY120K
	L = 18 m	TSXCBY180K
	L = 28 m	TSXCBY280KT
	L = 38 m	TSXCBY380KT
	L = 50 m	TSXCBY500KT
	L = 72 m	TSXCBY720KT
	L = 100 m	TSXCBY1000KT

Modicon™ Premium™

Programmable Automation Controller

Discrete I/O modules



Type of module		Discrete inputs				
Connection		By screw terminals TSXBLY01 (1)		By HE 10 connector (2) high density		
Number of isolated channels		8	16	16 (3)	32	64
Input voltage	24 Vdc	TSXDEY08D2 (5)	TSXDEY16D2 (5)	TSXDEY16FK (5)	TSXDEY32D2K (5)	TSXDEY64D2K (5)
	48 Vdc	–	TSXDEY16D3 (5)	–	TSXDEY32D3K (5)	–
	24 Vac	–	TSXDEY16A2 (4) (5)	–	–	–
	48 Vac	–	TSXDEY16A3 (5)	–	–	–
	100 to 120 Vac	–	TSXDEY16A4 (5)	–	–	–
	200 to 240 Vac	–	TSXDEY16A5 (5)	–	–	–

(1) Terminal block to be ordered separately

(2) For use with Modicon™ ABE7 wiring system

(3) Module with high-speed isolated inputs (filtering from 0.1 to 7.5 ms) able to activate the event-triggered task

(4) Module also compatible with 24 Vdc negative logic



Type of module		Discrete outputs				Relay		Triac	
Connection		By screw terminals TSXBLY01 (1)		By HE10 conn. (2)		By screw terminals TSXBLY01 (1)			
Number of protected channels		8	16	32	64	8	16	8	16
Output voltage/current	24 Vdc/0.5 A	TSXDSY08T2 (5)	TSXDSY16T2 (5)	–	–	–	–	–	–
	24 Vdc/2 A	TSXDSY08T22 (5)	–	–	–	–	–	–	–
	24 Vdc/0.1 A	–	–	TSXDSY32T2K (5)	TSXDSY64T2K (5)	–	–	–	–
	48 Vdc/1 A	TSXDSY08T31 (5)	–	–	–	–	–	–	–
	48 Vdc/0.25 A	–	TSXDSY16T3 (5)	–	–	–	–	–	–
	24 to 48 Vdc - 24 to 240 Vac/5 A Th.c	–	–	–	–	TSXDSY08R5A (5)	–	–	–
	24 to 120 Vac/5 A Th.c	–	–	–	–	TSXDSY08R4D (5)	–	–	–
	24 to 120 Vac/1 A	–	–	–	–	–	–	–	TSXDSY16S4 (5)
	48 to 240 Vac/1 A	–	–	–	–	–	–	–	TSXDSY16S5
	48 to 240 VA /2 A	–	–	–	–	–	–	TSXDSY08S5	–
	24 Vdc-24 to 240 Vac/3A	–	–	–	–	TSXDSY08R5 (5)	TSXDSY16R5 (5)	–	–

(1) Terminal block to be ordered separately

(2) For use with Modicon ABE7 wiring system



Type of module		Discrete I/O	
Connection		By HE 10 connector (2) high density	
Number of inputs		16 high-speed	
Number of protected outputs		12 solid state	12 reflex or timed
Output voltage/current		24 Vdc/0.5 A	TSXDMY28FK (5)
			TSXDMY28RFK (5)

(2) For use with Modicon ABE7 wiring system

(5) For coated version add "C" at the end of the reference: for example, TSXDEY08D2 becomes TSXDEY08D2C

Connection accessories: See www.schneider-electric.com

Modicon™ Premium™

Programmable Automation Controller

Analog I/O modules



Type of module		Analog input High level with common point			High level isolated	Low level isolated	
Connection		By 25-way SUB-D connector					By terminal block (1)
Number of channels		4 high-speed	8	16	8	16	4
Resolution		16 bits	12 bits		16 bits	16 bits	16 bits
Isolation	Between channels	Common point	Common point	Common point	± 200 Vdc	± 100 Vdc	± 2830 Vrms
	Between channels and ground	~ 1000 Vrms	~ 1000 Vrms	~ 1000 Vrms	~ 1000 Vrms	~ 1000 Vrms	~ 1780 Vrms
Reference	High level input (2)	TSXAEY420 (7)	TSXAEY800 (7)	TSYAEY1600 (7)	TSXAEY810 (7)	–	–
	Multi-range	–	–	–	–	TSXAEY1614 (3)(7)	TSXAEY414 (4)(7)

(1) Screw terminals TSXBLY01 to be ordered separately

(2) ± 10 V, 0 to 10 V, 0 to 5 V, 1 to 5 V, 0 to 20 mA, 4 to 20 mA

(3) ± 63 mV thermocouple (B, E, J, K, L, N, R, S, T, U)

(4) ± 10 V, ± 5 V, 0 to 10 V, 0 to 5 V, 1 to 5 V, 0 to 20 mA, 4 to 20 mA, -13 to +63 mV, 0 to 400 W, 0 to 3850 W, thermal probe, thermocouple



Type of module		Analog output Isolated	With common point
Connection		By screw terminals TSXBLY01 (5)	By 25-way SUB-D connector
Number of channels		4	8
Resolution		11 bits + sign	13 bits + sign
Isolation	Between channels	~ 1500 Vrms	Common point
	Between channels and ground	~ 1500 Vrms	~ 1000 Vrms
Reference		Input signal (6)	
		TSXASY410 (7)	TSXASY800 (7)

(5) Terminal block to be ordered separately

(6) ± 10 V, 0 to 10 V, 0 to 20 mA, 4 to 20 mA.

(7) For coated version add "C" at the end of the reference: for example, TSXAEY420 becomes TSXAEY420C

Modicon™ Premium™

Programmable Automation Controller

Counter modules / Motion control modules / Weighing modules



Type of module	Counter		Counter/measurement	Electronic cam
Type of inputs for	Sensors (2) Incremental encoders (3)		Sensors (2) Encoders (3)(4)	Incremental encoders (3) Absolute encoders (5)
Counting	40 kHz		500 kHz/200 kHz (5)	
Cycle time module	5 ms	10 ms	1 ms	–
Number of channels	2	4	2	128 cams
Number of axes	–	–	–	1
Reference	TSXCTY2A (1)	TSXCTY4A (1)	TSXCTY2C (1)	TSXCCY1128 (1)

(1) For coated version add "C" at the end of the reference: for example, TSXCTY2A becomes TSXCTY2AC

(2) For 2/3-wire PNP/NPN 24 Vdc sensors

(3) For 5 Vdc RS422, 10 to 30 Vdc Totem Pole incremental encoders

(4) For SSI serial or parallel output absolute encoders

(5) For RS485 serial or parallel output absolute encoders



Module type		For translators (amplifier for stepper motor)		For analog control servomotors (for asynchronous and brushless motors)				
Control outputs		RS 422		+/- 10 V				
Compatible with drives		Lexium 05, Twin Line		Lexium 05 / 15 LP, MP and HP, Twin Line, Lexium 32				
Functions	Linear axes	—		Limited		Limited or infinite		Limited or infinite(6)
	Slave axes	—		With static ratio		With dynamic ratio		—
Frequency for each axis		187 kHz		500 kHz with incremental encoder, 200 kHz with absolute encoder (7)				
Number of axes		1	2	2	4	2	4	3
Reference		TSXCFY11 (1)	TSXCFY21 (1)	TSXCAY21 (1)	TSXCAY41 (1)	TSXCAY22 (1)	TSXCAY42 (1)	TSXCAY33 (1)

(6) With linear interpolation on 2 or 3 axes

(7) SSI serial or with parallel outputs



Module type	Servomotors with SERCOS® digital ring (for brushless motors)		
Control outputs	SERCOS™ network ring		
Compatible with ranges	Lexium™ 15 LP, MP, HP and Lexium 32 modular drive		
Functions	Linear or infinite independent axes, slave axes with cam profile or ratio		
Processing	4 sets of axes with linear interpolation from 2 to 8 axes	4 sets of axes with linear and circular interpolation from 2 to 3 axes (8)	4 sets of axes with linear interpolation from 2 to 8 axes
Frequency for each axis	4 MB SERCOS® network ring		
Number of axes	8 (9)	8 (9)	16 (10)
Reference	TSXCSY84	TSXCSY85	TSXCSY164

(8) Supplied with TJE trajectory editor: linear trajectories with links between segments according to polynomial or circular interpolation and circular trajectories.

(9) 8 real axes, 4 imaginary axes and 4 remote axes

(10) 16 axes (real axes, imaginary and remote axes)



Type of module	ISP Plus supplied uncalibrated		supplied calibrated and offer
Load cell inputs / outputs	50 measurements (for 1 to 8 load cells) / 2 discrete and 1 RS 485 for display unit		
Reference	Without display unit	TSXISPY101 (1)	Please contact your Schneider Electric agency
	With display unit TSXXBTN410	TSXISPY121	Please contact your Schneider Electric agency

Connection accessories: See www.schneider-electric.com



Type of module		Ethernet network communication					
Speed		10 Mb/s	10/100 Mb/s				
Standard services		Ethway, Modbus™ TCP (Uni-TE™, Modbus)	Modbus TCP (Uni-TE, Modbus)				EtherNet/IP & Modbus TCP
Transparent Ready	Class	C10	B30	B30	C30	D10	B30
	Global Data	–	Yes	Yes	Yes	–	–
	I/O Scanning	–	Yes	Yes	Yes	–	Yes
	QoS (3)	–	–	–	–	–	Yes
	TCP Open	Yes	–	–	Yes	–	–
Web server	Standard services	Yes	Yes	Yes	Yes	Yes	Yes
	FactoryCast™ services	Yes	–	–	Yes	–	–
	FactoryCast HMI services	–	–	–	–	Yes	–
Reference		TSXETY110WS (4)	TSXP57 (1)	TSXETY4103 (4)	TSXETY5103 (4)	TSXWMY100 (4)	TSXETC101 (2)

(1) References: see pages 14 and 15, Premium processors with integrated Ethernet TCP/IP port

(2) Seamless integration of Modbus and EtherNet/IP environments. Full integration in Unity (FDT/DTM technology). Available Unity V5

(3) QoS: Quality of Service

Profibus™ DPV1 is available for Modicon™ Premium™ Please refer to page 24



Type of module		AS-Interface™ cabling system	CANopen™ machine bus	Fipio™ manager fieldbus	INTERBUS™ fieldbus	Profibus™ DP V0 fieldbus
Name and description		In-rack	PCMCIA	Integrated port	In-rack	In-rack
Speed		167 Kb/s	20 K to 1 Mb/s	1 Mb/s	0.5 Mb/s	9.6 K to 12 Mb/s
Reference		TSXSAY1000 (4)	TSXCPP110 (4)	TSXP57 (2)	TSXIBY100 (4)	TSXPBY100

(2) References: see pages 14 and 15, Premium processors with integrated Fipio port



Type of module		Serial links Uni-Telway™			Modbus™		ASCII
Name and description		Integrated port	In-rack	PCMCIA	In-rack	PCMCIA	PCMCIA
Speed		19.2 Kb/s	19.2 Kb/s	1.2 to 19.2 Kb/s	19.2 Kb/s	1.2 to 19.2 Kb/s	1.2 to 19.2 Kb/s
Reference	With interface RS 485	TSXP57 (1)	TSXSCY21601 (3) (4)	TSXSACP114 (4)	TSXSCY11601 (4)	TSXSACP114 (4)	TSXSACP114 (4)
	RS 232D	–	–	TSXSACP111 (4)	–	TSXSACP111 (4)	TSXSACP111 (4)
	20mA CL	–	–	TSXSACP112 (4)	–	TSXSACP112 (4)	TSXSACP112 (4)

(3) Also designed for Modbus serial (channel 0).



Type of module		Other networks	
		Modbus Plus	Fipway
Name and description		PCMCIA card	PCMCIA card
Speed		1 Mb/s	1 Mb/s
Reference		TSXMBP100 (4)	TSXFPP20 (4)
			TSXFPP10 (4)

(4) For coated version add "C" at the end of the reference: for example, **TSXETY110WS** becomes **TSXETY110WSC**

Connection accessories: See www.schneider-electric.com



Type of processor			Standard		High-performance		
Number of racks			2 (4, 6, 8 or 12 slots)		4 (4, 6, 8 or 12 slots)		
Maximum configuration			Maximum 24 slots for processor and modules (excluding power supply module)		Maximum 48 slots for processor and modules (excluding power supply module)		
Functions	Max. no. (1)	Discrete I/O	512		1024		
		Analog I/O	128		256		
		Control channels	Programmable loops (via CONT-CTL process control EFB library)				
		Counter channels	20		36		
		Motion control	–		Independent axes on CANopen bus (via MFB library)	–	Independent axes on CANopen bus (via MFB library)
	Integrated connections	Ethernet TCP/IP	–			1 RJ45 port, 10/100 Mb/s, with Transparent Ready class B10 standard web server	
		CANopen master bus Integrated port	–		1 (SUB-D9)	–	1 (SUB-D9)
		Serial link	1 RJ45 port, Modbus master/slave RTU/ASCII or character mode (non isolated RS 232C/RS 485), 0.3 to 19.2 Kb/s				–
		USB port	1 port, 12 Mb/s				
	Communication module	Ethernet TCP/IP	1 RJ45 port, 10/100 Mb/s with: - Transparent Ready class B30 standard web server with BMX NOE 0100 module - Transparent Ready class C30 configuration web server with BMX NOE 0110 module				
Internal user RAM	Total capacity		2048 Kb		4096 Kb		
	Program, constants and symbols		1792 Kb		3584 Kb		
	Data		128 Kb		256 Kb		
Execution time for one instruction	Boolean		0.18 µs		0.12 µs		
	On words or mounted point arithmetic	Single-length words	0.38 µs		0.25 µs		
		Double-length words	0.26 µs		0.17 µs		
	On floating points		1.74 µs		1.16 µs		
No. of K instructions executed per ms	100% Boolean		5.4 Kinst/ms		8.1 Kinst/ms		
System overhead	65% Boolean and 35% mounted arithmetic		4.2 Kinst/ms		6.4 Kinst/ms		
	Master task		1.05 ms		0.70 ms		
References	Fast task		0.20 ms		0.13 ms		
			BMXP341000	BMXP342000	BMXP3420102	BMXP342020	BMXP3420302

(1) Only affects in-rack modules. The remote I/O on the CANopen bus is not included in these maximum numbers.



Type of card	8 MB memory card	8 MB memory card + 8 MB files	8 MB memory card + 128 MB files
Use	Supplied as standard with each processor. Used for:	As replacement for the memory card supplied as standard with each processor, used for:	
	Backup of program, constants, symbols and data		
	—	File storage, 8 MB	File storage, 128 MB
	Activation of class B10 web server		
Compatibility	BMXP341000/20	BMXP3420	
References	BMXRMS008MP	BMXRMS008MPF	BMXRMS0128MFP



Type of module		Ethernet Network Communication		
Speed		10/100 Mb/s		10/100 Mb/s
Protocols		Modbus™ TCP	TCP/IP (Uni-TE™, Modbus)	EtherNet/IP and Modbus/TCP
Conformity class		Transparent Ready™ class B30		-
Communication service	I/O Scanning service	Yes		Yes
	FDR service	Yes (client/server)		Yes (client / server)
	SNMP network management service	Yes		Yes (agent)
	Global Data service	Yes		No
	SOAP/XML Web service	No	Server	-
	Bandwidth management	Yes		Yes
	Qos	-		Yes
	RSTP	-		No SOAP
References		BMXNOE0100	BMXNOE0110	BMXNOC0401
Memory card	Use	Provides services conforming to Transparent Ready: Class B		No
		Class C 32 MB available for user web pages		
References		BMXRWSB000M	BMXRWSFC032M	

Qos: Quality of Service - RSTP: Rapid Spanning Tree Protocol



Type of module		PROFIBUS™ DP V1	
Designation		PROFIBUS Remote Master (Ethernet Modbus TCP/PROFIBUS DP V1) compatible with Unity PACs and supports the I/O scanning service	
		Standard version 0 to 65°	Hardened version -25 to 70°, varnished
Speed		9.6 Kb to 12 Mb	
Interface		RS485 isolated (Sub-D 9 pin female connector)	
PROFIBUS Services		Master Class 1 and 2, support for 125 slaves, Sync & Freeze, Extended diagnostics. Delivered with communication DTM allowing any FDT tool to access the PROFIBUS slaves from the Ethernet network by way of the PROFIBUS Remote Master	
References		TCSEGA23F14F	TCSEGA23F14FK

Type of module	Serial link (1)	AS-Interface (1)
Number of interfaces	2	1
Speed	115 Kbits/s	—
Profile	—	M4 (AS-i V3)
References	BMXNOM0200	BMXEIA0100

(1) For BMXNOC0401 (EtherNet/IP), Profibus DP Gateway TSX EGPA23F14F, Modbus Plus Gateway TCS EGDB23F24FA

Modicon™ M340™

Programmable Automation Controller

Communication modules



Type of module		RTU communication
Designation		Communication
Protocols		IEC 60870-5-101, DNP3 (subset level 3), Modbus/TCP, IEC 60870-5-104, DNP3 IP, DNP3 (subset level 3), Multi-protocols master slave
Ports	Ethernet port	10BASE-T/100BASE-TX or PPPoE (PPP Protocol over Ethernet) for ADSL external modem
	Serial port	Non-isolated RS 232/485 (Serial link) or RS232 external modem (Radio, PSTN, GSM, GPRS/3G)
Conformity class		Transparent Ready™ class C30
Transparent Ready communication services	I/O Scanning service	-
	Global Data service	-
	NTP me synchronization	Yes
	FDR service	Yes (client)
	SMTP e-mail notification service	Yes
	SOAP/XML Web service	Server
	SNMP network management service	Yes (agent)
RTU communication services	Master or Slave configuration	Yes, IEC101/104 and DNP3, with Pull through routing of events
	RTU clock synchronization	via RTU protocol or NTP
	Time stamped data and events exchanges	Yes, IEC101/104 and DNP3, polled interrogations, Report by exception (RbE), unsolicited responses
	Time stamped events buffering and date stamped events	up to 100000 events, backup of events on power fail (10000)
	Automatic bacfill of time stamped events to Master/SCADA	Yes, on network disconnection/reconnection
	Data logging service	in CSV files in SD card memory (128 MB)
	Email/SMS service	Alarm and report notification
		Web server and Data logging CSV files
Memory Card	SD card 128 MB	
Reference		BMXNOR0200H



Type of module		Power supply modules				
Voltage		24 Vdc isolated	24 to 48 Vdc isolated	100 to 240 Vac		
Nominal input current		1A at 24 Vdc	1.65 A at 24 Vdc 0.83 A at 48 Vdc	0.61 A at 115 Vac 0.31 A at 220 Vdc	1.04 A at 0.52 A	100 to 150 Vdc
Micro-break duration		≤ 1				
Integrated protection		Via internal fuse (not accessible)				
Max. useful power		17W	32 W	20 W	36 W	
Max. dissipated power		8.5 W				
Removable connectors (set of 2)	supplied as standard	BMXXTSCPS10 (cage clamp)				
	to be ordered separately	BMXXTSCPS20 (spring-type)				
References		BMXCPS2010	BMXCPS3020	BMXCPS2000	BMXCPS3500	BMXCPS3504 (1)



Designation	Racks			
Type of modules to be installed	BMX CPS power supply, BMX P34 processor, I/O modules and application-specific modules (counter, communication)			
No. of slots	4	6	8	12
References	BMXXBP0400	BMXXBP0600	BMXXBP0800	BMXXBP1200

Designation	Rack extension module	Kit for rack extension
	Standard module to interconnect rack	A complete assembly kit for to racks distant from 0.8 m or less
References	BMXXBE1000	BMXXBE2005



Type of module			DC input modules					
Number of inputs			16	16	32	64	16	16
Connection			Screw or spring-type 20-way removable terminal block		1 connector 40-way	2 connectors 40-way	Screw or spring-type 20-way removable terminal block	
Nominal input values	Voltage		24 V	48 V	24 V			125 Vdc
	Current		3.5 mA	2.5 mA	1 mA	3 mA		
	Logic		Positive (<i>sink</i>)				Negative (<i>source</i>)	
Input limit values	At state 1	Voltage	≥11 V	≥34 V	≥11 V	≥15 V	≥14 V	
		Current	> 2 mA (for U ≥11 V)	> 2 mA (for U ≥34 V)	> 2 mA (for U ≥11 V)	> 1 mA (for U ≥5 V)	> 2 mA (for U ≥15 V)	
	At state 0	Voltage	< 5 V	< 10 V	< 5 V			
		Current	≥1.5 mA	≥0.5 mA	≥1.5 mA	≥0.5 mA		
References			BMXDDI1602	BMXDDI1603	BMXDDI3202K	BMXDDI6402K	BMXDAI1602	BMXDDI1604 (1)



Type of module			AC input modules			
Number of inputs			16			8
Connection			Screw or spring-type 20-way removable terminal block			
Nominal input values	Voltage		24 Vac	48 AC	100 to 120 Vac	200 to 240 Vac
	Current		3 mA			10.4 mA
	Frequency		50/60 Hz			
Input limit values	At state 1	Voltage	≥15 V	≥34 V	≥74 V	≥159 V
		Current	≥2 mA		≥2.5 mA	≥6 mA
	At state 0	Voltage	≤5 V	≤10 V	≤20 V	≤40 V
		Current	≤1 mA			≤4 mA
References			BMXDAI1602	BMXDAI1603	BMXDAI1604	BMXDAI0805 (2)



Type of module			DC solid state output modules			
Number of inputs			16	16	32	64
Connection			Screw or spring-type 20-way removable terminal block		One 40-way connector	Two 40-way connectors
Nominal output values	Voltage		24 Vdc			
	Current		0.5 V		0.1 V	
	Logic		Positive (<i>source</i>)	Negative (<i>sink</i>)	Positive (<i>source</i>)	
Output limit values	Voltage (ripple included)		19 to 30 (possible up to 34 V, limited to 1 hour in every 24 hours)			
	Current per channel		0.625 A			0.125 A
	Current per module					
Maximum dissipated power			4	2.26	3.6	6.85
References			BMXDDO1602	BMXDDO1612	BMXDDO3202K	BMXDDO6402K



Type of module			Triac output modules
Number of inputs			16
Connection			Screw or spring-type 20-way removable terminal block
Operating voltage	Nominal		100 to 240 Vac
	Limit		85 to 288 Vac
Currents	Maximum		0.6 per channel, 2.4 per common, 4.8 total for 4 commons combined.
	Minimum		25 mA at 100 V a, 25 mA at 240 V a.
Maximum inrush current			≤ 20/cycle
Reference			BMXDAO1605



Type of module			Relay output modules		
Number of inputs			8	16	8
Connection			Screw or spring-type 20-way removable terminal block		
Max. operating voltage	DC		10 to 34 Vdc	24 to 125 Vdc (resistive load)	
	AC		10 to 264 Vac	200 to 264 Vac (Cosφ = 1)	100 to 150 Vdc
Response time	Activation		< 10 ms		
	Deactivation		< 8 ms	< 12 ms	
Dissipated power			2.7 W max	3 W	
References			BMXDRA0805	BMXDRA1605	BMXDRA0804 (1)



Type of module			24 Vdc mixed I/O modules			
			Inputs	Solid state outputs	Inputs	Solid state outputs
Number of I/O			8	8	16	16
Connection			Screw or spring-type 20-way removable terminal block		One 40-way connector	
Input limit values	At state 1	Voltage	≥11V		≥11V	
		Current	≥3 mA (for U ≥11)		≥2 mA (for U ≥11)	
	At state 0	Voltage	5 V		5 V	
		Current	≤1.5 mA		≤1.5 mA	
	Sensor power supply (ripple included)		19 to 30 V (possible up to 30 V, limited to 1 hour in every 24 hours)			
	Output limit values	Voltage (ripple included)		19 to 30 (possible up to 30 V, limited to 1 hour in every 24 hours)		
Current		per channel	0.625 A		0.125 A	
		per module	5 A		3.2 A	
Maximum dissipated power			3.7 W		4 W	
References			BMXDDM16022		BMXDDM3202K	



Type of module			Mixed input/relay output modules	
			24 Vdc inputs	24 Vdc or 24 to 240 Vac relay outputs
Number of I/O			8	8
Connection			Screw or spring-type 20-way removable terminal block	
Nominal values	Inputs	Voltage	24 Vdc (positive logic)	
		Current	3.5 mA	
	Outputs	DC voltage		24 Vdc
		DC		2 (resistive load)
		AC voltage		220 Vac, Cosφ = 1
		AC		2 A
Input limit values	At state 1	Voltage	≥11V	
		Current	≥2 mA (for U ≥ 11 V)	
	At state 0	Voltage	5 V	
		Current	≤1.5 mA	
	Sensor power supply (ripple included)		19 to 30 V (possible up to 30 V, limited to 1 hour in every 24 hours)	
Maximum dissipated power			3.1 W	
Reference			BMXDDM16025	



Type of module	Analog input module				
Input type	Isolated high-level inputs	Isolated high-level inputs	Non isolated high-level inputs	Isolated inputs, low-level voltage, resistors, temperature probes, thermocouples	
Number of channels	4	8	8	4	8
Nature of inputs	$\pm 10\text{ V}$, $\pm 5\text{ V}$, 0 to 5 V, 0 to 10 V, 1 to 5 V 0 to 20 mA, 4 to 20 mA, $\pm 20\text{ mA}$			$\pm 40\text{ mV}$, $\pm 80\text{ mV}$, $\pm 160\text{ mV}$, $\pm 320\text{ mV}$, $\pm 640\text{ mV}$, $\pm 1.28\text{ V}$	
Resolution	0.35 mV/0.92 μA			15 mV + sign	
References	BMXAMI0410	BMXAMI0810 (1)	BMXAMI0800 (1)	BMXART0414	BMXART0814



Type of module	Analog output module		
Output type	Isolated high-level outputs		Non isolated high-level outputs
Number of channels	2	4	8
Range	Voltage	$\pm 10\text{ V}$	–
	Current	0 to 20 mA and 4 to 20 mA	–
Resolution	15 bits + sign		
References	BMXAMO0210	BMXAMO0410 (1)	BMXAMO0802 (1)

Type of module	Mixed analog I/O module	
Channel type	Non-isolated high-level inputs	Non-isolated high-level outputs
Number of channels	4	2
Ranges	$\pm 10\text{ V}$, 0 to 5 V, 0 to 10 V, 1 to 5 V, 0 to 20 mA, 4 to 20 mA	$\pm 10\text{ V}$, 0 to 20 mA, 4 to 20 mA
Maximum conversion value	Voltage	$\pm 11.25\text{ V}$
	Current	0 to 30
Resolution	14 bits, 12 bits, 13 bits, 12 bits	12 bits, 11 bits
Reference	BMXAMM0600	



Type of module	Counter module 32 bits	16 bits	32 bits	Motion Control Module
Modularity	2 channels	8 channels	4 channels	4 channels
No. of sensor inputs	6 per channel	2 per channel	3 per channel	4 auxiliary inputs
No. of actuator outputs	2 per channel			2 auxiliary outputs
Module cycle time	1 ms	5 ms		–
Applications	Upcounting, downcounting, measurement, frequency meter, frequency generator, axis following	Upcounting, downcounting, measurement		Frequency generator, Move, set position
References	BMXEHC0200	BMXEHC0800		BMXMSP0200



Type of module	SSI encoder interface
Number of channels	3
Encoder support	8 to 31 bits, 24V
Auxiliary input	2
Reflex output	3
Baud rate	100K to 1MHz
Module cycle time	1 ms
Functions	Capture, compare and event, modulo, reduction, offset
Reference	BMXEAE0300



Removable terminal blocks	20-way			28-way	
For use with modules	BMX AMI 0410 - BMX AM0 0210 - BMX AMM 0600 - BMX EHC 0800			BMX MSP 200, BMX AMI 0800 / AMI 0810	
For use with TOR modules	8 and 16 channel modules				
Composition	Cage clamp	Screw clamp	Spring-type	–	–
Type of connection	–	–	–	Spring-type	Screw clamp
References	BMXFTB2000	BMXFTB2010	BMXFTB2020	BMXFTB2820	BMXFTB2800

Some backplanes, power supplies, communication modules, some specific modules and each analog module are available in a “ruggedized” version. The references of these products end with a “H”.



Type of module	Multibus discrete inputs			
Connection	By screw terminals 170XTS00100 or spring terminals 170XTS00200 (to be ordered separately)			
Input voltage	24 Vdc	120 Vac	230 Vac	
Number of channels	16 (1 common point)	32 (2 common points)	16 (2 common points)	
Dimensions W x D x H (mm)	125 x 47.5 x 141.5 (with communication modules or processors) 144 x 70 x 141.5 (with M1/M1E processors and optional modules)			
Reference	170ADI34000	170ADI35000	170ADI54050	170ADI74050



Type of module		Multibus discrete outputs					
		Solid state			Triac		
Connection		By screw terminals 170XTS00100 or spring terminals 170XTS00200 (to be ordered separately)					
Output voltage		24 Vdc		120 Vac		230 Vac	
Number of protected channels		16	32	8	16	8	16
		(2 common pts)	(2 common pts)	(2 common pts)	(2 common pts)	(2 common pts)	(2 common pts)
Output current	Per channel	0,5 A	0,5 A	2 A	0,5 A	2 A	0,5 A
	Per group of channels	4 A	8 A	4 A	4 A	4 A	4 A
	Per module	8 A	16 A	8 A	8 A	8 A	8 A
Dimensions W x D x H (mm)		125 x 47.5 x 141.5 (with communication modules or processors)					
		144 x 70 x 141.5 (with M1/M1E processors and optional modules)					
Reference		170ADO34000	170ADO35000	170ADO53050	170ADO54050	170ADO73050	170ADO74050



Type of module	Multibus discrete I/O							
	Solid state				Relay		Triac	
Connection	By screw terminals 170XTS00100 or spring terminals 170XTS00200 (to be ordered separately)							
Number of channels	Inputs	16 (1 common pt)	16 (4 com. pts)	16 (1 com. pt)	10 (1 common pt)			
	Input logic	Positive	Positive (1)	Negative	Positive			—
	Outputs	16 (1 common pt)	16 (2 common pts)		8/4 (1 com. pt)	12	8 (2 common pts)	8 (1 com. pt)
Input voltage		12 to 48 Vdc	24 Vdc					120 Vac
Output voltage		12 to 48 Vdc	24 Vdc				24 to 230 Vac/20 to 115 Vdc	120 Vac
Output current	Per output	0,5 A	0,5 A		2 A	0,5 A	2 A	0,5 A
	Per group of channels	—	4 A		4 A	4/2 A	8 A	4 A
	Per module	8 A	8 A		8 A	6 A	16 A	4 A
Dimensions W x D x H (mm)	125 x 47.5 x 141.5 (with communication modules or processors)							
	144 x 70 x 141.5 (with M1/M1E processors and optional modules)							
Reference	170ADM85010	170ADM35010	170ADM35015	170ADM37010	170ADM39010	170ADM39030	170ARM37030	170ADM69051

(1) For a version with high-speed positive logic, replace "0" at the end of the reference with "1". For example, 170ADM35010 becomes 170ADM35011

Connection accessories: See www.schneider-electric.com



Type of module	Multibus analog inputs		
Connection	By screw terminals 170XTS00100 or spring terminals 170XTS00200 (to be ordered separately)		
Number of channels	8 isolated	16 with common point	4 isolated
Input signal	$\pm 5\text{ V}$, $\pm 10\text{ V}$, $\pm 20\text{ mA}$, 1 to 5 V, 4 to 20 mA	$\pm 5\text{ V}$, $\pm 10\text{ V}$, 4 to 20 mA	Multi-range $\pm 25\text{ mV}$, $\pm 10\text{ mV}$ (1)
Resolution	14 bits + sign, 15 bits unipolar	12 bits + sign	15 bits + sign
Dimensions W x D x H (mm)	125 x 47.5 x 141.5 (with communication modules or processors) 144 x 70 x 141.5 (with M1/M1E processors and optional modules)		
Reference	170AAI03000	170AAI14000	170AAI52040

(1) Temperature probe: Pt 100, Pt 1000, Ni 100, Ni 1000, Thermocouple: B, E, J, K, N, R, S, T.



Type of module		Multibus analog outputs		Analog I/O and multibus discrete I/O			
Connection		By screw terminals 170XTS00100 or spring terminals 170XTS00200 (to be ordered separately)					
Number of channels	Inputs	—		4 differential + 4 discrete		6 with com pt + 8 discrete (24 Vdc)	
	Outputs	4		2 + 2 discrete (24Vdc) 2 + 2 discrete (12Vdc)		4 with com pt + 8 discrete (24 Vdc)	
Input signal		± 10 V, 0 to 20 mA	± 10 V, 4 to 20 mA	± 5 V, ± 10 V, ± 20 mA, 1 to 5 V, 4 to 20 mA		0 to 10 V	± 10 V
Output signal		—		± 10 V, 4 to 20 mA		0 to 10 V	± 10 V
Resolution		12 bits + sign		12 to 14 bits dep. on signal		14 bits	14 bits
Dimensions W x D x H (mm)		125 x 47.5 x 141.5 (with communication modules or processors) 144 x 70 x 141.5 (with M1/M1E processors and optional modules)					
Reference		170AAO12000	170AAO92100	170AMM09000	170AMM09001	170ANR12090	170ANR12091



Type of module	High-speed counter	Discrete I/O with Modbus™ port
Connection	By screw terminals 170XTS00100 or spring terminals 170XTS00200 (to be ordered separately)	
Type of inputs for	Incremental or absolute encoders	RS 485 Modbus port
Operating voltage	24 Vdc	120 Vac
Counting frequency	200 kHz	—
Number of channels	2 independent	—
Number of discrete I/O	2 x 3 inputs/2 x 2 outputs	6 inputs/3 outputs
Dimensions W x D x H (mm)	125 x 47.5 x 141.5 (with communication modules or M1/M1E processors) 144 x 70 x 141.5 (with M1/M1E processors and optional modules)	
Reference	170AEC92000	170ADM54080



Type of module	Ethernet TCP/IP network		Fipio fieldbus	INTERBUS (1) fieldbus	Profibus DP fieldbus
Speed	10 Mbps	10/100 Mbps	1 Mbps	0.5 Mbps	9.6 K to 12 Mbps
Manager PAC	—		Premium	—	—
Redundancy	No		No	No	No
Standard services	Modbus TCP/IP		—	—	—
Reference	170ENT11002	170ENT11001	170FNT11001	170INT11000 (1)	170DNT11000

(1) Generation 4, twisted pair medium: 170INT11003, with optical fiber medium: 170INT12000



Type of module	Other networks		DeviceNet
	Modbus Plus		
Speed	1 Mbps		0.5 Mbps
Manager PAC	Premium or Quantum	Quantum	—
Redundancy	No	Yes	No
Standard services	—	—	—
Reference	170PNT11020	170PNT16020	170LNT71000



Type of module (2)	Modbus Plus		Asynchronous serial link
Communication ports	1 Modbus Plus	2 redundant Modbus Plus	RJ45
Real-time clock	Integrated, ± 13 sec/day accuracy		
Connection	By 9-way SUB-D connector		
Reference	172PNN21022	172PNN26022	172JNN21032

(2) Include save battery of the M1/M1E processors application and data memories.

Type of accessory	RS 232C communication cable		
Length	1 m	3 m	6 m
Reference	110XCA28201	110XCA28202	110XCA28203



Type of accessory	Power supply module for Momentum processors		
Input voltage	120 or 230 Vac (selected by jumper)		
Output voltage	24 Vdc		
Output current	0.7 A		
Dimensions W x D x H (mm)	73 x 44.5 x 146		
Reference	170CPS11100		



Type of processor		M1				
Number of I/O	Discrete	2048 I/O		2048 I/2048 Q	8192 I/O	
	Registers	2048 words		4096 words	26048 words	
Integrated communication ports	Modbus	1 RS 232C	1 RS 232C + 1 RS 485	1 RS 232C	1 RS 232C + 1 RS 485	
	Ethernet TCP/IP	–				
Transparent Ready	I/O bus (1)	–		1 I/O port	–	
	Embedded Web server	–				
Memory capacity	RAM	64 Kb		256 Kb	512 Kb	
	Flash	256 Kb		256 Kb	512 Kb	
	User, 984 LL language (2)	2.4 K		12 K	18 K	
	User, IEC language (3)	–		160 K	240 K	
	Cycle time	Data	2 K		4 K	24 K
			1 ms/K	1 ms/K	0.63 ms/K	1 ms/K
Reference		171CCS70000	171CCS78000	171CCS76000	171CCC78010	

(1) I/O bus derived from INTERBUS bus.

(2) ProWORX 32 or Concept programming software.

(3) Concept programming software.



Type of processor		M1	M1E			
Number of I/O	Discrete	8192 I/O				
	Registers	26048 words				
Integrated communication ports	Modbus	1 RS 232C	1 RS 485	–		
	Ethernet TCP/IP	–	1 integrated Ethernet port			
Transparent Ready	I/O bus (1)	1 I/O port	–	1 I/O port		
	Embedded Web server	–	Standard services (class A10)			
Memory capacity	RAM	512 Kb	544 Kb			
	Flash	512 Kb		1 Mb	512 Kb	1 Mb
	User, 984 LL language (2)	18 K				
	User, IEC language (3)	240 K	–	200 K	–	200 K
	Data	24 K				
		1 ms/K	0.3 ms/K			
Reference		171CCC76010	171CCC98020	171CCC98030	171CCC96020	171CCC96030



Type of processor		171 CBB97030
Integrated communication ports	Modbus	1 RS 232/485
	Ethernet TCP/IP	4 integrated Ethernet port
Transparent Ready	Embedded Web server	Standard services (class B)
	RAM	512 Kb
Memory capacity	Flash	1 Mb
	User, 984 LL language (2)	18 K
	User, IEC language (3)	200 K
	Data	24 K
Cycle time		0.25 ms/K
Reference		171CBB97030

Connection accessories: See www.schneider-electric.com



Type of module NIM		EtherNet Modbus TCP	Modbus TCP, dual port	EtherNet/IP
Transparent Ready	Class	10 Mbps B20	10/100 Mbps B15	10/100 Mbps N/A
	Embedded Web server	Standard services	Standard services	Standard services
	Ethernet services	SNMP agent, FDR, BootP & DHCP client	SNMP agent, RSTP, BootP & DHCP client	SNMP agent, BootP & DHCP client
Max. number of addressable I/O modules		32 per island	32 per island	32 per island
Dimensions W x D x H (mm)		40 x 70 x 128.3	40 x 70 x 128.3	40 x 70 x 128.3
Reference	Standard	STBNIP2212	STBNIP2311	STBNIC2212



Type of module NIM		Machine bus CANopen™	Fieldbus Fipio™	INTERBUS™	Profibus™ DP
Max. number of addressable I/O modules		32 per island (1) (2)	32 per island (1)	32 per island (1) (2)	32 per island (1) (2)
Baud rate		10 K to 1 Mbps	1 Mbps	0.5 Mbps	9.6 K to 12 Mbps
Dimensions W x D x H (mm)		40 x 70 x 128.3			
Reference	Standard	STBNCO2212	STBNFP2212	STBNIB2212	STBNDP2212
	Basic	STBNCO1010	—	STBNIB1010	STBNDP1010

(1) On 1 primary segment and 6 expansion segments max.

(2) 12 max on 1 primary segment for basic versions.



Type of module		Other networks Modbus™ Plus	DeviceNet™
Max. number of addressable I/O modules		32 per island	32 per island 12 per island
Baud rate		1 Mbps	125, 250 or 500 Kbps 125, 250 or 500 Kbps
Dimensions W x D x H (mm)		40 x 70 x 128.3	
Reference	Standard	STBNMP2212	STBNDN2212
	Basic	—	— STBNDN1010

Type of accessory		Removable terminals for 24 Vdc power supply	DeviceNet
Use		Communication modules	Network link DeviceNet module
Reference	Screw terminals	STBXTS1120 (3)	STBXTS1111
	Spring terminals	STBXTS2120 (3)	STBXTS2111

(3) To be ordered separately, sold in lots of 10 only for spare parts. (STBXTS●120 are delivered systematically with STBN●●●●●●)

Marking label sheets	STBXMP6700
Screwdriver	STBXTT0220

Connection accessories: See www.schneider-electric.com



Type of module			PDM				Auxiliary Power supply
Connection by removable terminals			Screw STBXTS1130 (2) (3) Spring STBXTS2130 (2) (3)				Screw STBXTS1120 (2) Spring STBXTS2120 (2)
Supply voltage			24 Vdc		115 to 230 Vac		24 Vdc
Maximum current	Inputs (4)		4 A at 30°C, 2.5 A at 60°C		–	5 A at 30°C, 2.5 A at 60°C	–
	Outputs (4)		8 A at 30°C, 5 A at 60°C		–	10 A at 30°C, 5 A at 60°C	–
	Inputs/Outputs (4)		–		4 A at 30°C, 2.5 A at 60°C	–	4 A at 30°C, 2.5 A at 60°C
	Logic internal 5 V		–		–	–	1.2 A
Sensor/actuator bus voltage range			19.2 to 30 Vdc		85 to 265 Vac		–
Dimensions W x D x H (mm)			18.4 x 70 x 128.3				
Reference	Module (5)	Standard	STBPDT3100K	–	STBPDT2100K	–	STBCPS2111K
		Basic	–	STBPDT3105K	–	STBPDT2105K	
	Base		STBXBA2200		STBXBA2200		STBXBA2100

(1) Process power supplies see chapter 6 "Power supply"

(2) To be ordered separately, sold in lots of 10.

(3) PDM connector keying pin kit STBXMP7810.

(4) PDM fuse kit STBXMP5600.

(5) Kit reference including module, base and terminal



Type of module			"EOS" End of segment	"BOS" Beginning of segment	Extension for CANopen connection devices
Connection by removable terminals			–	Screw STBXTS1120 (6) Spring STBXTS2120 (6)	Screw STBXTS1110 (7) Spring STBXTS2110 (7)
Use			For placing at end of segment (except for the last)	For placing at head of each extension segment	For placing at end of last segment
Dimensions W x D x H (mm)			18.4 x 70 x 128.3		
Reference	Module (8)	Standard	STBXBE1100K	STBXBE1300K	STBXBE2100K
	Base		STBXBA2300K	STBXBA2400	STBXBA2000

(6) To be ordered separately, sold in lots of 10.

(7) To be ordered separately, sold in lots of 20.

(8) Kit reference including module, base and terminal



Type	Modicon STB, OTB, FTM, FTB configuration software (PC connection cable supplied)					Removable memory card
Software User Guide	Single station	3 pack	10 pack	Unlimited Site	System Alliance Integrator	–
Memory size	–					32 KB
Reference	STBSPU1000	STBSPU1003	STBSPU1011	STBSPU1130	STBSPU1010	STBXMP4440
Hardware User Guide		STBSUS8800				

Type of accessory	Island bus expansion cable				
Length	0.3 m	1 m	4.5 m	10 m	14 m
Reference	STBXCA1001	STBXCA1002	STBXCA1003	STBXCA1004	STBXCA1006
Bus termination module or plug			Programming connection cable L= 2 m		
Reference	STBXMP1100		STBXCA4002		

Connection accessories: See www.schneider-electric.com



Type of module			Discrete inputs						
Connection by removable terminals (1)		Screw (2)	STBXTS1100		STBXTS1180		STBXTS1110		
		Spring (2)	STBXTS2100		STBXTS2180		STBXTS2110		
Number of channels			2	4	6	16	2	2 (isolated)	2
Input voltage			24 Vdc				115 Vac		230 Vac
Dim. W x D x H (mm)			13.9 x 70 x 128.3				18.4 x 70 x 128.3		
Reference	Module (6)	Standard	STBDDI3230K	STBDDI3420K	STBDDI3610K	–	STBDAI5230K	STBDAI5260K	STBDAI7220K
		Basic	–	STBDDI3425K	STBDDI3615K	STBDDI3725KS/KC* STBDDI3725**	–	–	–
	Base (3)		STBXBA1000			STBXBA3000	STBXBA2000		



Type of module			Discrete solid state outputs						
Connection by removable terminals (1)		Screw (2)	STBXTS1100						STBXTS1180
		Spring (2)	STBXTS2100						STBXTS2100
Number of channels			2		4		6		16
Output voltage			24 Vdc		24 Vdc		24 Vdc		24 Vdc
Output current			0.5 A	2 A	0.25 A	0.5 A	0.25 A	0.5 A	0.5 A
Dim. W x D x H (mm)			13.9 x 70 x 128.3						
Reference	Module (6)	Standard	STBDDO3200K	STBDDO3230K	–	STBDDO3410K	–	STBDDO3600K	–
		Basic	–	–	STBDDO3415K	–	STBDDO3605K	–	STBDDO3705KS/KC* STBDDO3705**
	Base (3)		STBXBA1000						STBXBA3000



Type of module			Discrete outputs Triac		Discrete outputs relay	
Connection by removable terminals (1)		Screw (2)	STBXTS1100			
		Spring (2)	STBXTS2100			
Number of channels			2	2 (isolated)	2 NO/NC and common	2NC+NO
Output voltage			115 to 230 Vac		24 Vdc or 115 to 230 Vac	
Output current			2 A at 30°C, 1 A at 60°C		2 A per contact	7 A per contact
Dim. W x D x H (mm)			18.4 x 70 x 128.3			28.1 x 70 x 128.3
Reference	Module (6)	Standard	STBDAO8210K	STBDAO5260K	STBDRC3210K	STBDRA3290K
	Base (3)		STBXBA2000		STBXBA3000	

* KS with base and screw terminals, KC with base and spring terminals

** Without base and terminal

(1) To be ordered separately, sold in lots of 20.

(2) I/O connector keying pin kit STBXMP7800

(3) Module keying pin kit STBXMP7700

(4) if connection on Telefast2 order STBXTS6510 or connection on Telefast Twido order STBXTS5510

(5) if connection on Telefast2 order STBXTS6610 or connection on Telefast Twido order STBXTS5610

(6) Kit reference including module, base and terminal

Connection accessories: See www.schneider-electric.com



Type of module (1)		Analog inputs*							
Connection by removable terminals		Screw STBXTS1100 (2) / Spring STBXTS2100 (2)							
No. of channels		2				4		8	2
Input signal		- 10 to +10 V	0 to +10 V	0 to 20 mA	4 to 20 mA	4 to 20 / 0 to 20 mA	Selectable	Selectable	Multirange (3)
Resolution		11 bits + sign	10 bits	12 bits	10 bits	15 bits + sign			
Dim. W x D x H (mm)		13.9 x 70 x 128.3				18.4 x 70 x 128.3			13.9 x 70 x 128.3
Reference	Module (8)	-	-	STBAC1230K	-	STBAC10320K	STBAV10300K	STBAC1400K (5)	STBART0200K
	Standard	STBAV1270K	-	-	-	STBAC18320K (4)	-	STBAV1400K (6)	-
	Basic	-	STBAV1255K	-	STBAC1225K	-	-	-	-
	Base	STBXBA1000				STBXBA2000			STBXBA1000

* For other references, see catalog or visit our website: www.schneider-electric.com



Type of module (1)		Analog outputs							
Connection by removable terminals		Screw STBXTS1100 (2) / Spring STBXTS2100 (2)							
No. of channels		1	2						
Output signal		4 to 20 mA	0 to +10, -10 to +10 V	0 to +10 V	-10 V to +10 V	0 to 20 mA	4 to 20 mA	4 to 20 mA	Selectable (6)
Resolution		15 bits + sign	11 bits + sign or 12 bits	10 bits	9 bits + sign	12 bits	10 bits	15 bits + sign	
Dim. W x D x H (mm)		18.4 x 70 x 128.3	13.9 x 70 x 128.3					18.4 x 70 x 128.3	
Reference	Module (8)	STBAC00120K	STBAV01250K	-	-	STBAC01210K	-	STBAC00220K	STBAV00200K
	Standard	-	-	STBAV01255K	STBAV01265K	-	STBAC01225K	-	-
	Basic	-	-	-	-	-	-	-	-
	Base	STBXBA2000		STBXBA1000				STBXBA2000	



Type of module (1)		For motor starters TeSys model U	Counter
Connection by connector		4 RJ45	Spring STBXTS2150 (2)
Number of inputs/outputs		12 I / 8 O	4 I / 2 O
Input voltage		24 Vdc	24 Vdc
Output voltage/current		24 Vdc/0.1 A per channel	24 Vdc/0.5 A
Number of channels		4 starters-controllers	1 counter channel 40 kHz
Dim. W x D x H (mm)		28.1 x 70 x 128.3	
Reference	Module (8)	Standard	STBEPI2145K
	Base		STBEHC3020K
	Connection cables	(7)	-

(1) Grounding kit (concealed for counter > 40 kHz): STBXSP3000 (connecting support) + STBXSP3010 (1.5 to 6 mm² cables) + STBXSP3020 (5 to 11 mm² cables)

(2) To be ordered separately, sold in lots of 20.

(3) Multirange temperature probe thermocouples B, E, J, K, R, S, T. Thermal probe Pt 100, Pt 1000, Ni 100, Ni 1000, cu 10, ± 80 mV.

(4) 4 HART-tolerant channels

(5) Input signal selectable / channel 0 to 20 mA and 4 to 20 mA

(6) Input signal selectable / channel 1 to 5 Vdc, 0 to 5 Vdc, 0 to 10 Vdc, ± 5 Vdc and ± 10 Vdc

(7) LU9R03 (0,3 m), LU9R10 (1 m), 490NTW00002 (2 m), LU9R30 (3 m), 490NTW00005 (5 m), 490NTW00012 (12 m)

(8) Kit reference including module, base and terminal

Unity™ Pro

Configuration software

For Modicon™ Quantum™, Premium™, and M340™



Unity™ Pro is common programming software for debugging and operation of Modicon M340, Premium, and Quantum programmable controller ranges. Unity Pro takes the recognized usage values of PL7 and Concept software and offers a complete set of new functions for improved productivity and opening to other software.

Five IEC61131-3 languages are supported as standard in Unity Pro with debugging functions, either on the simulator or directly online with the programmable controller. An additional LL984 language editor is available in Unity Pro V7.0 and higher to allow easy migration of Modsoft and Concept applications to Quantum platforms.

With symbolic variables that are independent of memory, structured data and user function blocks – application objects are a direct reflection of the automated process application components. Unity Pro operator screens are user-configured in the application from graphic libraries. Operator accesses are simple and direct. The converters integrated in Unity Pro automatically convert PL7 and Concept IEC 61131-3 standards and applications.

Unity V7.0 fully supports new Quantum Ethernet RIO architectures. It integrates additional possibilities for online changes in RUN mode, as well as improved Search/Replace tool. Debugging and maintenance, as well as design, are greatly simplified and improved.

Software type		Unity™ Pro Small version 7.0			
License type version 7.0		Single (1 workstation)	Group (3 workstations)	Team (10 workstations)	Facility (100 workstations)
References	Software pack	UNYSPUSFUCD70	UNYSPUSFGCD70	UNYSPUSFTCD70	–
	Upgrade Legacy Software (1)	UNYSPUSZUCD70	UNYSPUSZGCD70	UNYSPUSZTCD70	–
Software type		Unity Pro Medium version 7.0			
License type version 7.0		Single (1 workstation)	Group (3 workstations)	Team (10 workstations)	Facility (100 workstations)
References	Software pack	UNYSPUMFUCD70	UNYSPUMFGCD70	UNYSPUMFTCD70	–
	Upgrade Legacy Software (2)	UNYSPUMZUCD70	UNYSPUMZGCD70	UNYSPUMZTCD70	–
Software type		Unity Pro Large version 7.0			
License type version 7.0		Single (1 workstation)	Group (3 workstations)	Team (10 workstations)	Facility (100 workstations)
References	Software pack	UNYSPULFUCD70	UNYSPULFGCD70	UNYSPULFTCD70	UNYSPULFFCD70
	Upgrade Legacy Software (3)	UNYSPULZUCD70	UNYSPULZGCD70	UNYSPULZTCD70	UNYSPULZFC70
Software type		Unity Pro Extra Large version 7.0			
License type version 7.0		Single (1 workstation)	Group (3 workstations)	Team (10 workstations)	Facility (100 workstations)
References	Software pack	UNYSPUEFUCD70	UNYSPUEFGCD70	UNYSPUEFTCD70	UNYSPUEFFCD70
	Upgrade Legacy Software (4)	UNYSPUEZUCD70	UNYSPUEZGCD70	UNYSPUEZTCD70	UNYSPUEZFC70

(1) From Concept S, PL7 Micro, ProWORX NxT Lite and ProWORX 32 Lite

(2) From Concept S/M, PL7 M/J, ProWORX NxT Lite and ProWORX 32 Lite

(3) From Concept S /M, PL7 M/J/P, ProWORX NxT Lite and ProWORX 32 Lite

(4) From Concept, PL7, ProWORX NxT and ProWORX 32

Unity™ Pro application comparison software

Software type		Unity Dif
License type version 7.0		Single (1 workstation), French and English languages (software and documentation)
Reference	Software extension	UNYSDUZFUCD70
License type version 7.0		Site license (100 workstations), French and English languages (software and documentation)
Reference	Software extension	UNYSDUZFUCD70

EF/EFB function development software in C language

Software type		Unity EFB Toolkit
License type version 3.1		Single (1 workstation), English language (software and documentation)
References	Software pack	UNYSPUZFUCD31E
	Renewal	UNYCSPSPUZZBU

Specific libraries according to the software used

Library type	Control Libraries				
Designation	Predictive Control Library (for Unity Pro and Concept)	Fuzzy Control Library (for Unity Pro)	TeSys Library (for Unity Pro)	HVac Library (for Unity Pro)	Flow Calculation Library (for Unity Pro)
License type	Single License (1 work station)				
Reference	UNYLPCZAUWB10	UNYLFZZAUWB12	UNYLTSZAUWB10	UNYLHVZAUWB10	UNYLAGZAUWB20



PL7™ is the common programming, debugging and operating software for the TSX Micro and Premium families of PACs. PL7 offers 4 IEC languages: Instruction List (IL), Ladder Diagram (LD), Structured Text (ST) and Sequential Function Chart (SFC). You can use the most suitable language for each function in your application, making use of the multi-tasking structure of the processors. For using application-specific functions, PL7 directly integrates the application-specific screens required for configuration and adjustment – as well as supervisory and diagnostics activities.

Type of software		PL7 Micro for TSX Micro platform			
Type of license version 4.5		Single (1 station)	Single with SyCon V2.8	Group (3 stations)	Open Team (10 stations)
Reference	Software package	TLXCDPL7MP45	TLXCDPL7MPC45	TLXCD3PL7MP45	TLXOTPL7MP45M
	Update (1)	TLXRCDPL7MP45M	TLXRCDPL7MPC45M	TLXRCD3PL7MP45M	–
PL7 Junior for TSX Micro/Premium coprocessor platforms					
Type of license version 4.5		Single (1 station)	Group (3 stations)		
Reference	Software package	TLXCDPL7JP45	TLXCD3PL7JP45		
	Update (1)	TLXRCDPL7JP45M	TLXRC3DPL7JP45M		
	Upgrade (2)	TLXUCDPL7JP45M	TLXUCD3PL7JP45M		
PL7 Pro for TSX Micro/Premium coprocessor platforms					
Type of license version 4.5		Single (1 station)	Group (3 stations)	Open Team (10 stations)	Open Site
Reference	Software package	TLXCDPL7PP45	TLXCD3PL7PP45	TLXOTPL7PP45M	TLXOSPL7PP45M
	Update (1)	TLXRCDPL7PP45M	TLXRCD3PL7PP45M	–	–
	Upgrade (2)	TLXUCDPL7PP45M	TLXUCD3PL7PP45M	–	–

(1) From the previous software version.

(2) From lower level, earlier version software.

EF function development software in C language

Type of software		PL7 SDKC for EF function development software in C language
PL7 SDKC software extension		For PL7 Micro/Junior/Pro
Reference		TLXLSKDCPL741M

Development of applications in C language

Type of software		PL7 FUZ for processing process applications using fuzzy logic
PL7 FUZ software extension		For PL7 Micro/Junior/Pro, TSX Micro/Premium
Reference		TLXLPL7FUZ34M

Comparison of PL7 applications

Type of software		PL7 DIF for comparison of applications
PL7 DIF software extension		For PL7 Pro, TSX Micro/Premium
Type of license		Single (1 station) Site (> 10 stations)
Reference		TLXCDPL7DIF42 TLXOSPL7DIF42

Availability of control systems based on Premium platforms

Type of software		Warm Standby redundant
Warm Standby software extension		For PL7 Junior/Pro
Type of license		Single (1 station)
Reference		TLXCDWSBYP40F / E



Concept™ is the IEC programming software for the Momentum and Quantum families of PACs. It provides advanced Microsoft Windows based tools that deliver a multi-language development environment for control system programming. It uses familiar, standardized editors, bundled in a single application to create and integrate PAC control, communication and diagnostic logic. Five IEC editors give users the freedom to choose the programming language that fits their application requirements: Function Block Diagram (FBD), Ladder Diagram (LD), Sequential Function Chart (SFC), Structured Text (ST) and Instruction List (IL).

Type of software		Concept for Quantum/Momentum platforms			
Type of license version 2.6		Single (1 station)	Group (3 stations)	10 users (10 stations)	Site
Software references	Concept S	372SPU47101V26	–	–	–
	Concept M	372SPU47201V26	–	–	–
	Concept XL	372SPU47401V26	372SPU47411V26	372SPU47421V26	372SPU47431V26
Update references	Concept S (1)	372ESS47101	–	–	–
	Concept M (1)	372ESS47201	–	–	–
	Concept XL (1)	372ESS47401	372ESS47403	372ESS47410	372ESS47400

(1) From an earlier software version.

EF/EFB function development software in C language

Type of software		Concept EFB Toolkit	
Type of license		Version 2.6	Upgrade version 2.6
Reference	Software package	332SPU47001V26	372ESS47001

Concept service version limited to application loading

Type of software		Concept Application Loader
Type of license		Version 2.6
Reference	Software package	372SPU47701V26

Software for designing and generating batch/process applications

Type of software		Unity UAG (Unity Application Generator)	
Type of license version 3.0		Single (1 station)	Site
Reference	Medium Software package	UAGSEWMFUCD31	UAGSEWMFFCD31
	Large Software package	UAGSEWLFUCD31	UAGSEWLFFCD31



ProWORX™ 32 is the flexible, easy-to-use cross-platform 984 ladder logic programming software for the Modicon family of PACs. It gives you the power to program your Modicon controllers online or offline, manage your I/O subsystems, and analyze your plant's activity in real-time, in a familiar Windows environment. ProWORX 32 provides client/server capabilities to organize user-groups and -rights, store projects at a central location and realize office-plant floor bridging. The project emulator provides the ability to test projects prior to running them in the PAC run-time environment, to help ensure that your system runs efficiently.

Type of software		ProWORX for Quantum/Momentum platforms			
Type of license version 2.1		Single (1 station)	Group (3 stations)	Multi-user (10 stations)	Site
Software references	ProWORX 32 Server	372SPU78001PSEV	–	–	–
	ProWORX 32 Suite	372SPU78001PSSV	–	–	–
	ProWORX 32 Client, Full Dev.	372SPU78001PDEV	372SPU78001PSTH	372SPU78001PSTE	372SPU78001SITE
	ProWORX 32 Online	372SPU78101PONL	–	–	–
	ProWORX 32 Lite	372SPU71001PLDV	372SPU71001PLTH	372SPU71001PLTE	–
Upgrade to ProWORX 32 references (2)		372SPU78401LPUP	372SPU78401LPTH	372SPU78401LPTE	–

(2) Only possible for customers who are "up-to-date" with CSP (continuing support program)



Vijeo Citect

Vijeo™ Citect™ software is designed for operating and monitoring. With its powerful visualization capabilities and operational features, it delivers actionable insight faster, enabling operators to respond quickly to process disturbances, thereby increasing their effectiveness. Its easy-to-use configuration tools and powerful features enable you to quickly develop and deploy solutions for any size application.

Type	Supervisory control and data acquisition (SCADA) software
Compatibility	Schneider Electric automation platforms and third party devices
Operating system	Windows XP® SP3 (32 bit), Windows® 2003 Server SP2 (32 bit), Windows Vista® SP2 (32 and 64 bit), Windows® Server 2008 SP2 (32 and 64 bit), Windows® 7 (32 and 64 bit), Windows® Server 2008 R2
Versions	The development license (without network connectivity) allows free communication with PACs for 10 minutes at a time. Vijeo Citect full server licenses are available in 75 points, 150 points, 500 points, 1500 points, 5000 points, 15,000 points and unlimited points Vijeo Citect Lite (without network connectivity) is available in 100 - 1200 points
References	Please contact your local sales representative



Vijeo Suite: functional, flexible HMI/SCADA software, designed to provide optimum integration with Schneider Electric equipment.



Benefits at a glance:

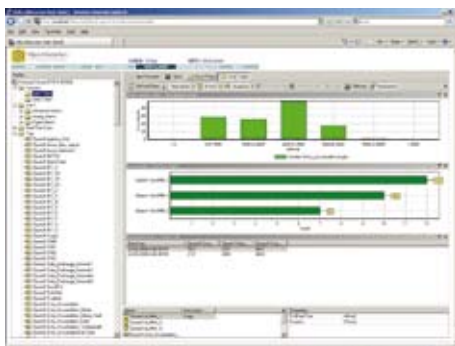
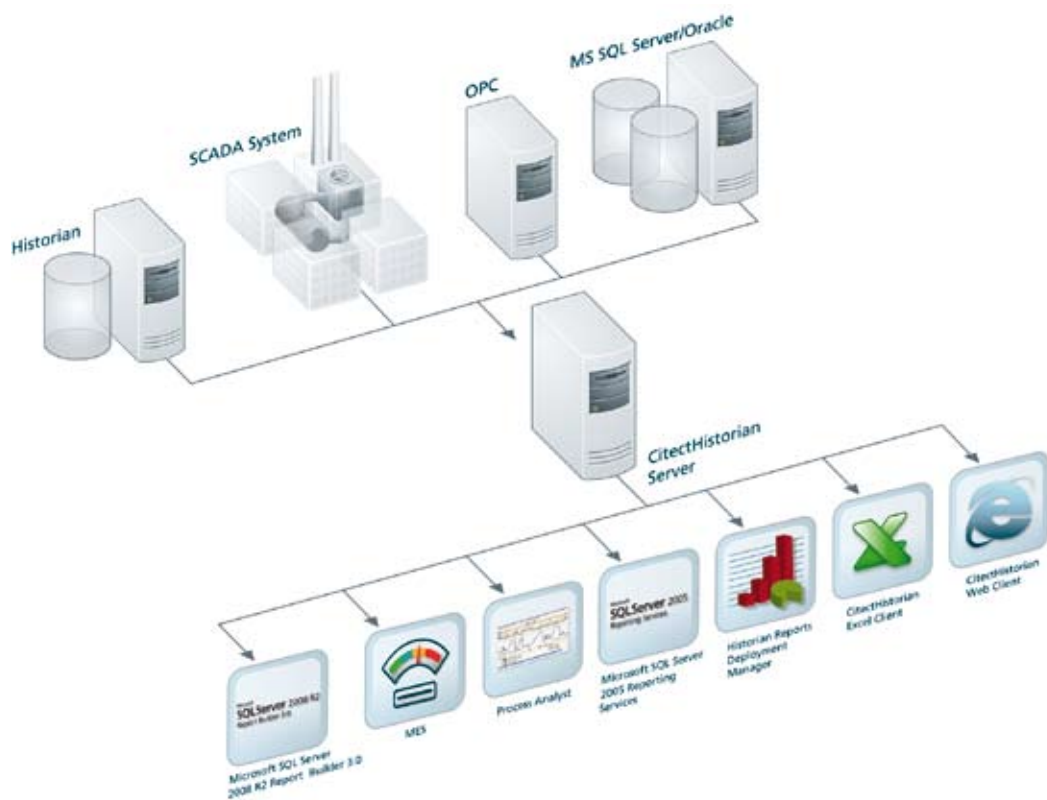
- **Full-redundancy for reliable architecture:** Vijeo Citect's built-in redundancy greatly reduces lost data and downtime.
- **Powerful graphics:** Vijeo Citect lets you develop true color, easy-to-use graphics that provide the operator with an intuitive, consistent user interface.
- **Intuitive Process Analysis tool:** Vijeo Citect Process Analyst is an intuitive process analysis tool that sits directly in the SCADA system, providing a complete overview of your plant and delivering actionable insight to the operators faster, thereby improving their efficiency and productivity.
- **Object-based configuration for rapid development:** Developing your control system is made quick and easy by Vijeo Citect's object-based configuration tools such as page templates, Genies, Super Genies, and SpeedLink.
- **Engineering with ease:** Vijeo Citect offers flexible and targeted system engineering tools to help you be more efficient. It accelerates your control system configuration process, significantly reducing your engineering time and costs and minimizing your project risk.



Vijeo™ Historian™ software is designed for the information management. It includes the historian and portal functionalities of the solution, enabling you to accurately store data for long-term reporting. Connecting your production and business systems is possible using active data transfers and simple, easy-to-use reporting.

Vijeo Historian

Type	Historian software
Compatibility	Schneider Electric automation platforms and third party devices
Operating system	Windows XP® SP3 (32 bit), Windows® 2003 Server SP2 (32 bit), Windows Vista® SP2 (32 and 64 bit), Windows® Server 2008 SP2 (32 and 64 bit), Windows® 7 (32 and 64 bit), Windows® Server 2008 R2
References CD-ROM PC	Please contact your local sales representative



Benefits at a glance:

- **Business systems integration:** Vijeo Historian reduces the complexity and cost of bridging the divide between senior management and plant operations through its simple, easy-to-use interface and its active data transfers that push data from the control systems up to the business systems.
- **An open data store:** Vijeo Historian utilizes 100% Microsoft SQL Server 2008 R2 as its embedded historical data store. Its open, industry-standard technology and trusted security integrate effortlessly into your business in a way that lowers your total cost of ownership.
- **Enterprise-wide reporting:** A range of reports can be produced using a convenient built-in historian in the familiar, open Microsoft user interface. Vijeo Historian also comes with a standard set of pre-configured reports, simplifying basic alarm and tag reporting.
- **Alarm management:** Pre-configured alarm reports based on the EEMUA (Engineering Equipment & Materials Users Association) 191 alarm management guidelines.
- **Going 'green' with the energy reports:** Energy reports help you perform a comprehensive energy assessment of your plant to determine how much energy is being consumed and how much could potentially be saved.

<http://www.schneider-electric.us/>

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