

The essential guide for Automation

2011



Automation

Zelio

Relays and smart relays



Zelio relay range

Zelio Relay plug-in relays, Zelio Control control and measurement relays, Zelio Count counters, Zelio Time timing relays: These ranges offer *compactness* and *simplicity*.

Zelio Logic smart relays

Designed for management of simple automation systems comprising 10 to 40 I/O. Compact or modular, Zelio Logic offers *flexibility* and *simplicity*.

Modicon

Automation platforms



Modicon M340 versatile controller is particularly designed for *innovative* solutions, specifically *water&waste water* and *new energy* industries. Powerful, Compact, Robust and even *Rugged*, it meets your *toughest* requirements for automation of industrial processes.

- CANopen machine and installation bus
- Ethernet TCP/IP network - Transparent Ready
- Modbus serial link and character mode



Modicon Premium, ideal for manufacturing and infrastructure applications. Outstanding *flexibility* for distributed architectures and *integration* of advanced automation system functions.

- New high performance processors
- CANopen machine bus connection, from entry level



Modicon Quantum, ideal for process applications. *High level of performance* for process control, process safety and architecture availability.

- New high performance processors
- Onboard Ethernet
- Memory expansion option using PCMCIA
- Safety new offer

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Twido

Programmable controllers



Twido, ideal for simple installations and small machines: standard applications comprising 10 to 100 I/O (max. 252 I/O). Compact or modular, Twido offers *flexibility, simplicity and opening*.



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Modicon M340

The ideal solution for machine builders

Choosing Modicon M340 gives you the advantage of all the services of the Unity software offer, from the design through to the implementation of your application.





Type of relay	Interface relays RSB			Miniature relays RXM			
Contact characteristics							
Thermal current I _{th} in A (temperature ≤ 55°C)	8	12	16	12	10	6	3
Number of contacts	2 “C/O”	1 “C/O”	1 “C/O”	2 “C/O”	3 “C/O”	4 “C/O”	4 “C/O”
Contact material	AgNi	AgNi	AgNi	AgNi	AgNi	AgNi	AgAu
Switching voltage, min. / max.	5 / 250 VAC/DC			12 / 250 VAC/DC			
Switching capacity, min. / max. (mA / VA)	5 / 2000	5 / 3000	5 / 4000	10 / 3000	10 / 2500	10 / 1500	2 / 1500
Coil characteristics							
Average consumption, inrush,	0.75 VA / 0.45 W			1.2 VA / 0.9 W			
Permissible voltage variation	0.8/0.85...1.1 U _n (50/ 60Hz or =)			0.8...1.1 U _n (50 / 60Hz or =)			
References	(1)	(1)	(1)	(2)	(2)	(2)	
Coil supply voltage on DC	6 VDC	RSB2A080RD	RSB1A120RD	RSB1A160RD	—	—	—
	12 VDC	RSB2A080JD	RSB1A120JD	RSB1A160JD	RXM2AB2JD	RXM3AB2JD	RXM4AB2JD
	24 VDC	RSB2A080BD	RSB1A120BD	RSB1A160BD	RXM2AB2BD	RXM3AB2BD	RXM4AB2BD
	48 VDC	RSB2A080ED	RSB1A120ED	RSB1A160ED	RXM2AB2ED	RXM3AB2ED	RXM4AB2ED
	60 VDC	RSB2A080ND	RSB1A120ND	RSB1A160ND	—	—	—
	110 VDC	RSB2A080FD	RSB1A120FD	RSB1A160FD	RXM2AB2FD	RXM3AB2ED	RXM4AB2ED
Coil supply voltage on AC	24 VAC	RSB2A080B7	RSB1A120B7	RSB1A160B7	RXM2AB2B7	RXM3AB2B7	RXM4AB2B7
	48 VAC	RSB2A080E7	RSB1A120E7	RSB1A160E7	RXM2AB2E7	RXM3AB2E7	RXM4AB2E7
	120 VAC	RSB2A080F7	RSB1A120F7	RSB1A160F7	RXM2AB2F7	RXM3AB2F7	RXM4AB2F7
	220 VAC	RSB2A080M7	RSB1A120M7	RSB1A160M7	—	—	—
	230 VAC	RSB2A080P7	RSB1A120P7	RSB1A160P7	RXM2AB2P7	RXM3AB2P7	RXM4AB2P7
	240 VAC	RSB2A080U7	RSB1A120U7	RSB1A160U7	—	—	RXM4GB2U7

Sockets for relays

Type of socket	For interface relays RSB			For miniature relays RXM			
Mixed input/output type sockets with location for protection module							
	—	—	—	RXE2M114(5)	—	RXE2M114	RXE2M114
	—	—	—	RXE2M114M(5)	—	RXE2M114M	RXE2M114M
Separate input/output type sockets with location for protection module							
	RSZE1S48M	RSZE1S35M	RSZE1S48M(3)	RXE2S108M	RXE2S111M	RXE2S114M	RXE2S114M
Protection modules							
Diode	6...230 VDC	RZM040W		RXM040W			
RC circuit	24...60 VAC	RZM041BN7		RXM041BN7			
	110...240 VAC	RZM041FU7		RXM041FU7			
Varistor	6...24 VDC or AC	RZM021RB (6)		RXM021RB			
	24...60 VDC or AC	RZM021BN (6)		RXM021BN			
	110...230 VDC or AC	RZM021FP (6)		RXM021FP			
	24 VDC or AC	—		—			
	240 VDC or AC	—		—			
Multifunction timer module	24...230 VDC or AC	—		—			
Accessories							
Plastic maintaining clamp	RSZR215		RXZR335				
Metal maintaining clamp	—		RXZ400				
Label for socket	RSZL300		RXZL420 (except RXZE2M114)				
Bus jumper	2 poles	—		RXZS2			
DIN rail adapter		—		RXZE2DA			
Panel mounting adapter	—		RXZE2FA				

(1) References for relays without socket, for relays with socket, add the letter **S** to the end of the selected reference. (Example: RSB2A080B7 becomes RSB2A080B7S).

(2) References for relays with LED, for relays without LED, replace the number 1 in the reference by **2**. (Example: RXM2AB2JD becomes RXM2AB1JD)

(3) To use RSB 1A160 ●● relay with socket, terminals must be interconnected

Universal and power relays



Universal relays RUM					Power relays RPM				RPF		
Cylindrics			Faston								
10	10	3	10	10	15	15	15	15	30 (4)	30 (4)	
2 "C/O"	3 "C/O"	3 "C/O"	2 "C/O"	3 "C/O"	1 "C/O"	2 "C/O"	3 "C/O"	4 "C/O"	2 "N/O"	2 "C/O"	
AgNi	AgNi	AgAu	AgNi	AgNi	AgNi	AgNi	AgNi	AgNi	AgSnO ₂	AgSnO ₂	
12 / 250 VAC/DC					12 / 250 VAC/DC				12 / 250 VAC/DC		
10 / 2500	10 / 2500	3 / 750	10 / 2500	10 / 2500	100 / 3750	100 / 3750	100 / 3750	100 / 3750	100 / 7200	100 / 7200	
2...3 VA / 1.4 W					0.9 VA / 0.7 W	1.2 VA / 0.9 W	1.5 VA / 1.7 W	1.5 VA / 2 W	4 VA / 1.7 W		
(2)	(2)	—	(2)	(2)	(2)	(2)	(2)	(2)	—	—	
—	—	—	—	—	—	—	—	—	—	—	
RUMC2AB2JD	RUMC3AB2JD	—	RUMF2AB2JD	RUMF3AB2JD	RPM12JD	RPM22JD	RPM32JD	RPM42JD	RPF2AJD	RPF2BJD	
RUMC2AB2BD	RUMC3AB2BD	RUMC3GB2BD	RUMF2AB2BD	RUMF3AB2BD	RPM12BD	RPM22BD	RPM32BD	RPM42BD	RPF2ABD	RPF2BBD	
RUMC2AB2ED	RUMC3AB2ED	RUMC3GB2ED	RUMF2AB2ED	RUMF3AB2ED	RPM12ED	RPM22ED	RPM32ED	RPM42ED	—	—	
—	—	—	—	—	—	—	—	—	—	—	
RUMC2AB2FD	RUMC3AB2FD	—	RUMF2AB2FD	RUMF3AB2FD	RPM12FD	RPM22FD	RPM32FD	RPM42FD	RPF2AFD	RPF2BFD	
RUMC2AB2B7	RUMC3AB2B7	RUMC3GB2B7	RUMF2AB2B7	RUMF3AB2B7	RPM12B7	RPM22B7	RPM32B7	RPM42B7	RPF2AB7	RPF2BB7	
RUMC2AB2E7	RUMC3AB2E7	RUMC3GB2E7	RUMF2AB2E7	RUMF3AB2E7	RPM12E7	RPM22E7	RPM32E7	RPM42E7	—	—	
RUMC2AB2F7	RUMC3AB2F7	RUMC3GB2F7	RUMF2AB2F7	RUMF3AB2F7	RPM12F7	RPM22F7	RPM32F7	RPM42F7	RPF2AF7	RPF2BF7	
—	—	—	—	—	—	—	—	—	—	—	
RUMC2AB2P7	RUMC3AB2P7	RUMC3GB2P7	RUMF2AB2P7	RUMF3AB2P7	RPM12P7	RPM22P7	RPM32P7	RPM42P7	RPF2AP7	RPF2BP7	
—	—	—	—	—	—	—	—	—	—	—	

For universal relays RUM					For power relays RPM				For power relays RPF	
RUZC2M	RUZC3M	RUZC3M	—	—	RPZF1	RPZF2	RPZF3	RPZF4	—	—
—	—	—	—	—	—	—	—	—	—	—
RUZSC2M	RUZSC3M	RUZSC3M	RUZSF3M	RUZSF3M	—	—	—	—	—	—
RUW240BD					1 and 2 poles RXM040W		3 and 4 poles RUW240BD			
—					RXM041BN7		—			
RUW241P7					RXM041FU7		RUW241P7			
—					RXM021RB		—			
—					RXM021BN		—			
—					RXM021FP		—			
RUW242B7					RUW242B7		—			
RUW242P7					—		RUW242P7			
RUW101MW					—		RUW101MW			
—					—		—			
RUZC200					RPZF1 (for 1 pole relays)		—			
RUZL420					—		—			
RUZS2					—		—			
—					RPZ1DA	RXZE2DA	RPZ3DA	RPZ4DA		
—					RPZ1FA	RXZE2FA	RPZ3FA	RPZ4FA		

(4) 30A with 13 mm space between relays; 25 A when relay mounting side by side

(5) Max 10 A operating

(6) With LED



Type of relay			Pre-assembled equipped with LED and protection circuit Sold in lots of 10	
Contact characteristics				
Thermal current I _{th} in A			6	
Number of contacts			1 C/O	
Contact material			AgSnO2	
Switching voltage, min/max			12 / 300 V AC/DC	
Switching capacity min/max (mA /VA)			100 / 1500	
Coil characteristics				
Average consumption, inrush			0.17 W	
permissible voltage variation			-10% / +15%	
Socket connexion			Screw connector	Spring terminal
	Socket supply voltage	Coil supply voltage		
References	12 V AC/DC	12 V DC	RSL1PVJU	RSL1PRJU
	24 V AC/DC	24 V DC	RSL1PVBU	RSL1PRBU
	48 V AC/DC	48 V DC	RSL1PVEU	RSL1PREU
	110 V AC/DC	60 V DC	RSL1PVFU	RSL1PRFU
	230 V AC/DC	60 V DC	RSL1PVPU	RSL1PRPU

RSL relays



Type of relay		Relay for customer assembly Sold in lots of 10	
Number of contacts		1 C/O	
		Coil supply voltage	
References	12 V DC	RSL1AB4JD	
	24 V DC	RSL1AB4BD	
	48 V DC	RSL1AB4ED	
	60 V DC	RSL1AB4ND	

Sockets



Type of socket		Sockets for customer assembly with LED and protection circuit Sold in lots of 10	
Socket connection		Screw connector	Spring terminal
		Socket supply voltage	
References	12 and 24 V AC/DC	RSLZVA1	RSLZRA1
	48 and 60 V AC/DC	RSLZVA2	RSLZRA2
	110 V AC/DC	RSLZVA3	RSLZRA3
	230 V AC/DC	RSLZVA4	RSLZRA4

Zelio Relay

Solid-state relays

SSRP relays



Type of relay	Panel mounted without heat sink and thermal interface					
Contact characteristics						
Thermal current I _{th} in A	10	25	50	75	90	125
Number of contacts	1 NO					
Type if switching	Zero voltage switching					
Output	SPST contact					
Connection	Screw connector					
Control voltage range	3...32 V DC			4...32 V DC		
Operating voltage	24...280 VAC			48...530 V AC	48...660 V AC	
References	SSRPCDS10A1	SSRPCDS25A1	SSRPCDS50A1	SSRPCDS75A2	SSRPCDS90A3	SSRPCDS125A3
Control voltage range	90...280 V AC					
Operating voltage	24...280 VAC			80...530 V AC	48...660 V AC	
References	SSRPP8S10A1	SSRPP8S25A1	SSRPP8S50A1	SSRPP8S75A2	SSRPP8S90A3	SSRPP8S125A3

SSRD relays



Type of relay	Rail DIN mounted With integrated heat sink			
Contact characteristics				
Thermal current I _{th} in A	10	20	30	45
Number of contacts	1 NO			
Type if switching	Zero voltage switching			
Output	SPST contact			
Connection	Screw connector			
Control voltage range	4...32 V DC			3...32 V DC
Operating voltage	24...280 VAC			
References	SSRDCDS10A1	SSRDCDS20A1	SSRDCDS30A1	SSRDCDS45A1
Control voltage range	90...280 V AC			90...140 V AC
Operating voltage	24...280 VAC			
References	SSRDP8S10A1	SSRDP8S20A1	SSRDP8S30A1	SSRDP8S45A1

Accessories



Type of accessory	Heat sink	Thermal interface
For relay	SSRP	
References	SSRAH1	SSRAT1

Zelio Control

Relays

3-phase monitoring relays



Function	presence of phase +phase sequence		+phase sequence, +regeneration +phase unbalance, +under/over voltage	
Monitoring voltage range	208...480 VAC	208...440 VAC	208...480 VAC	220 ... 440 VAC
Outputs	1 C/O	2 C/O	1 C/O	2 C/O
References	RM17TG00	RM17TG20	RM17TE00	RM35TF30



Function	presence of phase +under/over voltage		+presence of neutral +under/over voltage
Monitoring voltage range	208...480 VAC	220...480 VAC	120...277 VAC (phase-neutral)
Outputs	1 C/O	2 C/O	2 C/O
References	RM17UB310	RM35UB330	RM35UB3N30

Level / Speed monitoring relays



Function	Conductive liquid level monitoring	Non-conductive material level monitoring	Over/under Speed monitoring
Power supply	24...240 VAC/DC		
Monitoring range	0,25...5 K Ω 5...100 K Ω 0,05...1 M Ω	Input of sensor : Contact / PNP / NPN	Interval between pulses: 0.05...0.5 s, 0.1...1 s, 0.5...5 s 1...10 s, 0.1...1 mn, 0.5...5 mn 1...10 mn
Output	2 C/O	1 C/O	1 C/O
Reference	RM35LM33MW	RM35LV14MW	RM35S0MW

Current / Voltage /Frequency monitoring relays



Function	Voltage Monitoring Under or Over Voltage		
Power Supply	24...240 VAC/DC 50/60Hz		
Monitoring range	0.05...0.5 V	1...10 V	15...150 V
	0.3...3 V	5...50 V	30...300 V
	0.5...5 V	10...100 V	60...600 V
Outputs	2 C/O	2 C/O	2 C/O
References	RM35UA11MW	RM35UA12MW	RM35UA13MW



Function	Voltage Monitoring Under or Over Voltage			Under and Over Voltage	
Power Supply	self powered			self powered	
Monitoring range	9...15 VDC	20...80 VAC/DC	65...260 VAC/DC	20...80 VAC/DC	65...260 VAC/DC
Outputs	1 C/O	1 C/O	1 C/O	1 C/O	1 C/O
References	RM17UAS14	RM17UAS16	RM17UAS15	RM17UBE16	RM17UBE15



Function	Current Monitoring over current		over or under current	Frequency Monitoring Over or under frequency
Power supply	24...240 VAC/DC		24...240 VAC/DC 50/60 Hz	120...277 VAC 50/60 Hz
Monitoring range	2...20 A		2...20 mA	50 Hz $\pm$ 10 Hz
	built-in CT		10...100 mA	or
			50...500 mA	60 Hz $\pm$ 10Hz
Output	1 C/O		2 C/O	2 C/O
Reference	RM17JC00MW		RM35JA31MW	RM35H221FM

Zelio Control

Relays

Lift / Pump / Motor monitoring relays



Function	Lift motor room temperature monitoring		
			+phase presence +phase sequence
Power supply	24...240 VAC/DC 50/60Hz		
Monitoring range	input PT100 3 wires Under -1...+11 °C Over +34...+46 °C		
Output	1 C/O	2 NO	2 C/O
Reference	RM35ATL0MW	RM35ATR5MW	RM35ATW5MW



Function	Pump protection Current monitor +3 phase monitor	Motor Protection Winding Temperature monitor +3 phase monitor	
Power supply	self powered (single phase :230 VAC 50/60 Hz)	24...240 VAC/DC	
Monitoring range	Current: 0.1...10 A Voltage (three phase): 208...480 VAC 50/60Hz	Winding Temperature: PTC sensor Three phase voltage: 208...480 VAC 50/60Hz	
Output	1 C/O	2 NO	2 NO
Reference	RM35BA10	RM35TM50MW	RM35TM250MW

Control relays for 3-phase supplies



Function	Rotational direction and presence of phases					
		+ Undervoltage	+ Over and undervoltage	+ Asymmetry		
Adjustable time delay	without	without	0.1...10 s	0.1...10 s	fixed, 0.5 s	0.1...10 s
Supply voltage	220...440V	380...440V	400V	380...440V	380...440V	380...440V
Output	2 C/O	2 C/O	2 C/O	2 C/O	1 C/O	2 C/O
References	RM4TG20	RM4TU02	RM4TR34 (1)	RM4TR32 (2)	RM4TA02	RM4TA32

(1) Relay with fixed voltage thresholds.

(2) Relay with adjustable voltage thresholds.

Current and voltage measurement relays

(3) Basic reference. To be completed with the letters indicating the required voltage, as shown below:

Voltage	VAC, 50/60 Hz	VDC
24...240 V	MW	MW
110...130 V	F	—
220...240 V	M	—
380...415 V	Q	—



Function	Detection of over and undercurrent					
Measuring range	3...30 mA 10...100 mA 0.1...1 A	0.3...1.5 A 1...5 A 3...15 A	0.05 ...0.5 V 0.3 ...3 V 0.5...5 V	1...10 V 5...50 V 10...100 V	30...300 V 50...500 V	180...270 V
Adjustable time delay	0.05...30 s	0.05...30 s	0.05...30 s	0.05...30 s	0.05...30 s	0.1...10 s
Output	2 C/O	2 C/O	2 C/O	2 C/O	2 C/O	2 C/O
References	RM4JA31** (3)	RM4JA32** (3)	RM4UA31** (3)	RM4UA32** (3)	RM4UA33** (3)	RM4UB35

(4) Basic reference. To be completed with the letters indicating the required voltage, as shown below:

Voltage	RM4-LG01	RM4-LA32	VDC
	VAC, 50/60 Hz	VAC, 50/60 Hz	
24 V	B	B	—
24...240 V	—	MW	MW
110...130 V	F	F	—
220...240 V	M	M	—
380...415 V	Q	Q	—



Control relays	Empty or fill	
Sensitivity scale	5 ... 100 kΩ	0.25 ... 5 kΩ 2.5 ... 50 kΩ 25 ... 500 kΩ
Time delay	without	adjustable, 0.1 to 10 s
Output	1 C/O	2 C/O
References	RM4LG01• (4)	RM4LA32** (4)

Liquid level control probe type	Measuring electrode and reference electrode	1 simple stainless steel electrode in PVC protective casing
Mounting	suspended	suspended
Maximum operating temperature	100°C	100°C
References	LA9RM201	RM79696043



Type of relay			Size 24 x 48 mm - 1/32 DIN				
Input type			Thermocouple PT100 probe			Voltage/Current 1...5 V / 4...20 mA	
Integrated functions			Hysteresis, PID, auto-tuning, fuzzy logic, rampe 8 steps, automatic operating mode				
Alarm output			–	1	–	–	
Communication			ModBus		–	ModBus	ModBus
Supply voltage			100...240 VAC		24 V AC/DC	100...240 VAC	24 V AC/DC
References	Number/Output type	1/relay	REG24PTP1RHU	REG24PTP1ARHU	REG24PTP1RLU	REG24PUJ1RHU	REG24PUJ1RLU
		1/solid-state	REG24PTP1LHU	REG24PTP1ALHU	REG24PTP1LLU	REG24PUJ1LHU	REG24PUJ1LLU
		1/4-20 mA	REG24PTP1JHU	–	REG24PTP1JLU	–	–



Type of relay			Format 48 x 48 mm - 1/16 DIN		
Input type			Universal		
Integrated functions			Hysteresis, PID, auto-tuning, fuzzy logic, rampe 16 steps, automatic and manual operating mode		
Alarm output			2		
Communication			ModBus	–	ModBus
Supply voltage			100...240 VAC		24 V AC/DC
References	Number/Output type	1/relay	REG48PUN1RHU	REG48PUN1ARHU	REG48PUN1RLU
		2/relay	REG48PUN2RHU	–	REG48PUN2RLU
		1/solid-state	REG48PUN1LHU	REG48PUN1LHU	REG48PUN1LLU
		1 + 1 solid-state	REG48PUN2RLHU	–	REG48PUN2RLLU
		1/4-20 mA	REG48PUN1JHU	–	REG48PUN1JLU
		1/solid-state + 1/4-20 mA	REG48PUN2LJHU	–	REG48PUN2LJLU



Type of relay			Size 96 x 48 mm - 1/8 DIN		
Input type			Universal		
Integrated functions			Hysteresis, PID, auto-tuning, fuzzy logic, rampe 16 steps, automatic and manual operating mode		
Alarm output			3		
Communication			ModBus	–	ModBus
Supply voltage			100...240 VAC		24 V AC/DC
References	Number/Output type	1/relay	REG96PUN1RHU	REG96PUN1RHU	REG96PUN1RLU
		2/relay	REG96PUN2RHU	–	REG96PUN2RLU
		1/solid-state	REG96PUN1LHU	REG96PUN1LHU	REG96PUN1LLU
		1 + 1 solid-state	REG96PUN2RLHU	–	REG96PUN2RLLU
		1/4-20 mA	REG96PUN1JHU	–	REG96PUN1JLU
		1/solid-state + 1/4-20 mA	REG96PUN2LJHU	–	REG96PUN2LJLU

Zelio Count

Counters

Multifunction counters



Display	Mechanical				LCD
Supply voltage	24 VDC				Battery
Number of digits displayed	5	6	6	8	8
Counting frequency	20 Hz	10 Hz	25 Hz	25 Hz	7.5 kHz
Type of zero reset	Manual	Without	Manual	Without	Manual (1)
Front face dimensions, W x H	41.5 x 31 mm	30 x 20 mm	60 x 50 mm	60 x 50 mm	48 x 24 mm
References	XBKT50000U10M	XBKT60000U00M	XBKT60000U10M	XBKT80000U00M	XBKT81030U33E

(1) With electrical interlocking.

Compteurs horaires



Display	Mechanical		LCD
Supply voltage	24 VAC	230 VAC	Battery
Number of digits / display	7 (99,999.99 h)	7 (99,999.99 h)	8 (999,999.99 h)
Supply frequency	50 Hz	50 Hz	Mode: 1/100 hour
Type of zero reset	Without	Without	Manual (1)
Front face dimensions, W x H	48 x 48 mm	48 x 48 mm	48 x 24 mm
References	XBKH70000004M	XBKH70000002M	XBKH81000033E

Totalisers



Display			LCD		LED	
Number of digits displayed			6			
Counting frequency			5 kHz			
Type of reset			Manual, electric and automation			
Front face dimensions, W x H			48 x 48 mm			
Preselection number			1	2	1	2
References	Supply voltage	24 VDC	XBKP61130G30E	XBKP61230G30E	XBKP62130G30E	XBKP62230G30E
		115 VAC	XBKP61130G31E	XBKP61230G31E	—	—
		230 VAC	XBKP61130G32E	XBKP61230G32E	XBKP62130G32E	XBKP62230G32E

Zelio Time

Timing relays

Modular timers



Type of modular timer width 17.5 mm, relay output	On-delay	Multifunction		
External control	no	–	–	–
Supply voltage	24 VDC - 24 ...240 VAC	24 VDC - 24 ...240 VAC	12 ... 240VAC/DC	
Timing range	0.1 s...100 h	0.1 s...100 h	0.1 s...10 h	0.1 s...100 h
Output	1 C/O	1 C/O	1 C/O	1 C/O
References	RE11RAMU	RE11RMMU (1)	RE11RMEMU (2)	RE11RMMW (1)

(1) Multifunction: On-delay, Off-delay, Totaliser, Symmetrical flashing, Chronometer, Pulse on energisation, Pulse output, Timing after closing/opening of control contact.

(2) Multifunction: On-delay, Off-delay, Totaliser, Symmetrical flashing, Chronometer, Pulse on energisation.



Type of modular timer width 17.5 mm, relay output	Asymmetrical flashing	Pulse on energisation	Off delay	Timing on impulse
External control	–	–	–	–
Supply voltage	24 VDC - 24...240 VAC	24 VDC - 24...240 VAC	24 VDC - 24...240 VAC	24 VDC - 24...240 VAC
Timing range	0.1 s...100 h	0.1 s...100 h	0.1 s...100 h	0.1 s...100 h
Output	1 C/O	1 C/O	1 C/O	1 C/O
References	RE11RLMU	RE11RHMU	RE11RCMU	RE11RBMU



Type of modular timer width 17.5 mm, solid-state output	On-delay	Off-delay	Multifunction (3)
Supply voltage	24...240 VAC/DC	24...240 VAC	24...240 VAC
Timing range	0.1 s...100 h	0.1 s...100 h	0.1 s...100 h
Output	solid-state	solid-state	solid-state
References	RE11LAMW	RE11LCBM	RE11LMBM

(3) Multifunction: On-delay, Off-delay, Totaliser, Symmetrical flashing, Chronometer, Pulse on energisation, Pulse output, Timing after closing/opening of control contact.



Panel-mounted relays	Timer on-delay	Asymmetrical flasher	Multifunction (4)	Multifunction (5)
Power supply	24...240 VAC/DC			
Time range	0,02 s...300 h			
Output	2 relay 5 A			
Reference	RE48ATM12MW	RE48ACV12MW	RE48AMH13MW (6)	RE48AML12MW
Back panel mounting socket	RUZC2M	RUZC3M	RUZC2M	RUZC3M
Front panel mounting socket	RE48ASOC8SOLD	RE48ASOC11SOLD	RE48ASOC8SOLD	RE48ASOC11SOLD

(4) Timer on-delay / pulse on energization

(5) Timer on-delay / calibrator / timer off-delay / symmetrical flasher

(6) 1 selectable in instantaneous

Industrial timers



Type of single function relay width 22.5 mm, relay output	On-delay		Off-delay		
External control	no	yes	no	yes	yes
Supply voltage	24 VAC/DC 110...240 VAC	24 VAC/DC 42...48 VAC/DC 110...240 VAC	24...240 VAC/DC	24 VAC/DC 42...48 VAC/DC 110...240 VAC	24 VAC/DC 42...48 VAC/DC 110...240 VAC
Timing range	0.05 s...300 h	0.05 s...300 h	0.05 s...10 mn	0.05 s...300 h	0.05 s...300 h
Output	1 C/O	2 C/O (1)	1 C/O	2 C/O (1)	1 C/O
References	RE7TL11BU	RE7TP13BU	RE7RB11MW	RE7RL13BU	RE7RM11BU

(1) 1 selectable in instantaneous mode.



Type of relay width 22.5 mm, relay output	Single function		Multifunction	
	Asymmetrical flashing	Pulse on energisation	6 functions (2)	8 functions (3)
External control	yes	no	—	—
Supply voltage	24 VAC/DC 42...48 VAC/DC 110...240 VAC	24 VAC/DC 110...240 VAC	24 VAC/DC 42...48 VAC/DC 110...240 VAC	24 VAC/DC 110...240 VAC
Timing range	0.05 s...300 h	0.05 s...300 h	0.05 s...300 h	0.05 s...300 h
Output	1 C/O	1 C/O	1 C/O	2 C/O (4)
References	RE7CV11BU	RE7PE11BU	RE7ML11BU	RE7MY13BU

(2) RE7ML11BU functions: On-delay, Off-delay, Pulse on energisation with start on energisation, Pulse on energisation with start on opening of remote control contact, Flashing with start during the OFF period, Flashing with start during the ON period.

(3) REMY13BU functions: On-delay, Off-delay, Pulse on energisation with start on energisation, Pulse on energisation with start on opening of remote control contact, Flashing with start during the OFF period, Flashing with start during the ON period, Star-delta starting with double On-delay timing, Star-delta starting with contact for switching to star connection.

(4) 1 selectable in instantaneous mode

Miniature plug-in relays, relay output



Functions				
Timing ranges	7 switchable ranges	0.1 s...1 s - 1 s...10 s - 0.1 min...1 min - 1 min...10 min - 0.1 h...1 h - 1 h...10 h - 10 h...100 h		
Relay output		4 timed C/O contacts		2 timed C/O contacts
Rated current		3 AC 5 A		AC 5 A
Voltages	24 VDC	RE XL4TMBD		RE XL2TMBD
	24 VAC 50/60 Hz	RE XL4TMB7		RE XL2TMB7
	120 VAC 50/60 Hz	RE XL4TMF7		RE XL2TMF7
	230 VAC 50/60 Hz	RE XL4TMP7		RE XL2TMP7
Socket with mixed contact terminals	With screw clamp	RXZE2M114		RXZE2M114
	With connector	RXZE2M114M		RXZE2M114M

Zelio Analog

Analog Interface

Universal Thermocouple



Type	Thermocouple				
Temperature range	0...150 °C 32...302 °F	0...300 °C 32...572 °F	0...600 °C 32...1112 °F	0...600 °C 32...1112 °F	0...1200 °C 32...2192 °F
Output range	0...10 V / 0...20 mA - 4...20 mA Switchable				
Dimensions H x W x D	80 x 22,5 x 80 mm				
Voltage	24 VDC - Non isolated				
References	RMTJ40BD	RMTJ60BD	RMTJ80BD	RMTK80BD	RMTK90BD

Universal PT 100



Type	PT 100				
Temperature range	-40...40 °C -40...104 °F	-100...100 °C -148...212 °F	0...100 °C 32...212 °F	0...250 °C 32...482 °F	0...500 °C 32...932 °F
Output range	0...10 V / 0...20 mA - 4...20 mA Switchable				
Dimensions H x W x D	80 x 22,5 x 80 mm				
Voltage	24 VDC - Non isolated				
References	RMPT10BD	RMPT20BD	RMPT30BD	RMPT50BD	RMPT70BD

Optimum PT 100



Type	PT 100				
Temperature range	-40...40 °C -40...104 °F	-100...100 °C -148...212 °F	0...100 °C 32...212 °F	0...250 °C 32...482 °F	0...500 °C 32...932 °F
Output range	0...10 V				
Dimensions H x W x D	80 x 22,5 x 80 mm				
Voltage	24 VDC - Non isolated				
References	RMPT13BD	RMPT23BD	RMPT33BD	RMPT53BD	RMPT73BD

Universal Analog Converter



Type	Analog Converter			
Input range	0...10 V or 4...20 mA	0...10 V / -10...+10 V 0...20 mA 4...20 mA	0...50 V / 0...300 V 0...500 V	0...1,5 A / 0...5 A 0...15 A
Output range	0...10 V or 4...20 mA	0...10 V / -10...+10 V 0...20 mA 4...20 mA Switchable	0...10 V 0...20 mA 4...20 mA Switchable	0...10 V or 0...20 mA ou 4...20 mA
Dimensions H x W x D	80 x 22,5 x 80 mm			80 x 45 x 80 mm
Voltage	24 VDC - Non isolated	24 VDC - Isolated	24 VDC - Isolated	24 VDC - Isolated
References	RMCN22BD	RMCL55BD	RMCV60BD	RMCA61BD

Zelio Logic

Smart relays

Compact, SR2



Compact smart relays	With display, a.c. power supply						
Supply voltage	24 VAC		48 VAC	100...240 VAC			
Number of inputs/outputs	12	20	20	10	12	20	20
Number of inputs	8		12	6	8	12	12
Discrete inputs	4 relay		8 relay	4 relay	4 relay	8 relay	8 relay
Number of outputs	4 relay		8 relay	4 relay	4 relay	8 relay	8 relay
Dimensions, W x D x H (mm)	71.2x59.5x107.6		124.6x59.5x107.6	71.2x59.5x107.6		124.6x59.5x107.6	
Clock	yes		no	no	yes	no	yes
References	SR2B121B	SR2B201B	SR2A201E	SR2A101FU (1)	SR2B121FU	SR2A201FU (1)	SR2B201FU

(1) Programming on smart relay in LADDER language only



Compact smart relays	With display, d.c. power supply					
Supply voltage	12 VDC		24 VDC			
Number of inputs/outputs	12	20	10	12	20	20
Number of inputs	8		6	8	12	12
Discrete inputs	4		-	4	2	6
including 0-10 V analogue inputs	4 relay		4 relay	4	8 relay	8
Number of outputs	4 relay		8 relay	4	8 relay	8
Dimensions, W x D x H (mm)	71.2x59.5x107.6		124.6x59.5x107.6	71.2x59.5x107.6		124.6x59.5x107.6
Clock	yes		no	yes	no	yes
References	SR2B121JD	SR2B201JD	SR2A101BD (1)	SR2B121BD (2)	SR2A201BD (1)	SR2B201BD (2)

(1) Programming on smart relay in LADDER language only

(2) Replace the ● by number 1 to order a smart relay with **relay output** or by 2 for a smart relay with **transistor output** (Example: SR2B121BD)



Compact smart relays	Without display and without buttons					
Supply voltage	100...240 VAC			24 VDC		
Number of discrete inputs/outputs	10	12	20	10	12	20
Number of inputs	6		8	6	8	12
Discrete inputs	4 relay		8 relay	4 relay	4 relay	8 relay
including 0-10 V analogue inputs	4 relay		8 relay	4 relay	4 relay	8 relay
Number of outputs	4 relay		8 relay	4 relay	4 relay	8 relay
Dimensions, W x D x H (mm)	71.2x59.5x107.6		124.6x59.5x107.6	71.2x59.5x107.6		124.6x59.5x107.6
Clock	no		yes	no	yes	yes
References	SR2D101FU (1)	SR2E121FU	SR2E201FU	SR2D101BD (1)	SR2E121BD (3)	SR2E201BD (3)

(1) Programming on smart relay in LADDER language only

(3) To order a smart relay for a **24 VAC supply** (no analogue inputs), delete the letter **D** from the end of the reference (**SR2E121B** and **SR2E201B**)

Modular, SR3



Modular smart relays*		With display						
Supply voltage		24 VAC		100...240 VAC		12 VDC	24 VDC	
Number of inputs/outputs		10	26	10	26	26	10	26
Number of inputs	Discrete inputs	6	16	6	16	16	6	16
	including 0-10 V analogue inputs	—	—	—	—	6	4	6
Number of outputs		4 relay	10 relay	4 relay	10 relay	10 relay	4	10
Dimensions, W x D x H (mm)		71.2x59.5x107.6	124.6x59.5x107.6	71.2x59.5x107.6	124.6x59.5x107.6	124.6x59.5x107.6	71.2x59.5x107.6	124.6x59.5x107.6
Clock		yes	yes	yes	yes	yes	yes	yes
References		SR3B101B	SR3B261B	SR3B101FU	SR3B261FU	SR3B261JD	SR3B101BD (1)	SR3B261BD (1)

*The modular base can be fitted with one I/O extension module. The 24 VDC modular base can be fitted with one communication module and/or one I/O extension module

(1) Replace the ● by number 1 to order a smart relay with **relay output** (SR3B101BD) or by 2 for a smart relay with **transistor output** (SR3B102BD)



Extension modules for Zelio Logic SR3B●●●●●● (2)		Communication		Discrete Inputs/Outputs			Analogue Inputs/Outputs
Network		Modbus	Ethernet	—			—
Number of inputs/outputs		—	—	6	10	14	4
Number of inputs	Discrete	—	—	4	6	8	—
	Analogue (0...10 V, 0...20 mA, PT100)	—	—	—	—	—	2 (1 PT100 max.)
Number of outputs	Relay	—	—	2 relay	4 relay	6 relay	—
	Analogue (0...10 V)	—	—	—	—	—	2
Dimensions, W x D x H (mm)		35.5x59.5x107.6		35.5x59.5x107.6	72x59.5x107.6		35.5x59.5x107.6
References	24 VAC	—	—	SR3XT61B	SR3XT101B	SR3XT141B	—
	100...240 VAC	—	—	SR3XT61FU	SR3XT101FU	SR3XT141FU	—
	12 VDC	—	—	SR3XT61JD	SR3XT101JD	SR3XT141JD	—
	24 VDC	SR3MBU01BD	SR3NET01BD	SR3XT61BD	SR3XT101BD	SR3XT141BD	SR3XT43BD

(2) The power supply of the extension modules is provided via the Zelio Logic modular relays

Zelio Soft 2 software and programming tools



Zelio Soft 2 software, connecting cables, wireless connecting, memory	Multilingual programming software	Connecting cables				Wireless connection	Back-up memory
Description	CD ROM PC (Windows XP, Vista 32 bits and Windows 7 32 bits) (3)	Serial PC/Smart relay	USB PC/Smart relay	XBT N/R Interface	HMISTO Interface	Bluetooth interface	EEPROM
References	SR2SFT01	SR2CBL01	SR2USB01	SR2CBL08	SR2CBL09	SR2BTC01	SR2MEM02

(3) CD-ROM including Zelio Soft 2 programming software, an application library, a self-training manual, installation instructions and a user's manual

Communication interface for SR2/SR3

Interface, modems, Zelio Logic Alarm software	Communication interface	Modems (4)		Alarm management software
Supply voltage	12...24 VDC	12...24 VDC	12...24 VDC	—
Description	—	Analogue modem	GSM modem	PC CD-ROM (Windows 98, NT, 2000, XP)
Dimensions, W x D x H (mm)	72x59.5x107.6	120.7x35x80.5	111x 25.5x54.5	—
References	SR2COM01	SR2MOD01	SR2MOD02	SR2SFT02

(4) Must be used in conjunction with communication interface SR2COM01



Type of base		Compact			
Number of digital I/O		10	16	24	40
Number of digital inputs (24 VDC)		6 sink/source	9 sink/source	14 sink/source	24 sink/source
Number of digital outputs		4 relay (2 A)	7 relay (2 A)	10 relay (2 A)	14 relay (2 A), 2 solid-state (1 A)
Type of connection		Screw terminals (non removable)			
Possible I/O expansion modules		—	—	4	7
Counting		3 x 5 kHz, 1 x 20 kHz			
PWM positioning		—			
		2 x 7 kHz			
Serial ports		1 x RS 485	1 x RS 485; option: 1 x RS 232C or RS 485		
Protocol		Modbus master/slave, ASCII, I/O relocation			
Ethernet port		—	—	—	RJ45 Ethernet
Dimensions, W x D x H		80 x 70 x 90 mm	80 x 70 x 90 mm	95 x 70 x 90 mm	157 x 70 x 90 mm
References	Supply voltage 100...240 VAC	TWDLCAA10DRF	TWDLCAA16DRF	TWDLCAA24DRF	TWDLCAE40DRF (1)
	Supply voltage 19.2...30 VDC	TWDLCA10DRF	TWDLCA16DRF	TWDLCA24DRF	TWDLCE40DRF (1)
	Real-time clock (option)	TWDXCPRTC			
	Display unit (option)	TWDXCPODC			
	Memory cartridge (option)	TWDXCPMFK32 (3)			

(1) 40 I/O version without Ethernet also available: TWDLCAA40DRF and TWDLCE40DRF



Type of base		Modular		
Number of digital I/O		20		40
Number of digital inputs (24 VDC)		12 sink/source	12 sink/source	24 sink/source
Number of digital outputs		8 transistor, source (0.3 A)	6 relay (2 A) & 2 trans., source (0.3 A)	16 transistor, source (0.3 A)
Type of connection		HE10 connector	Removable screw terminals	HE10 connector
Possible I/O expansion modules		4	7	7
Supply voltage		24 VDC		
Counting		2 x 5 kHz, 2 x 20 kHz		
PLS/PWM positioning		2 x 7 kHz		
Serial ports		1 x RS 485; option: 1 x RS 232C or RS 485		
Protocol		Modbus master/slave, ASCII, I/O relocation		
Dimensions, W x D x H		35.4 x 70 x 90 mm	47.5 x 70 x 90 mm	47.5 x 70 x 90 mm
References		TWDLMDA20DTK (2)	TWDLMDA20DRT	TWDLMDA40DTK (2)
	Real-time clock (option)	TWDXCPRTC		
	Display unit (option)	TWDXCPODM		
	Memory cartridge (option)	TWDXCPMFK32 (3)	TWDXCPMFK64 (4)	

(2) Sink version transistor outputs also available: TWDLMDA20DUK and TWDLMDA40DUK

(3) Application backup, program transfer

(4) Memory expansion, application backup, program transfer

Programmable controllers

I/O modules



Type of module		Analogue inputs						
Number of inputs		2 I	2 I	4 I	8 I	8 I	8 I	8 I
Connection		Removable screw terminals						
Inputs	Range	Thermocouples type K, J, T	0...10 V (1) 4...20 mA (2)	0...10 V (1) 0...20 mA (2) θ °C	0...10 V (1) 0...20 mA (2)	PTC/NTC	Thermo probe Pt100 / Pt1000 - 200...+ 600 °C	
	Resolution	12 bits (4096 points)			10 bits (1024 points)		12 bits (4096 points)	
	Supply voltage	24 VDC						
Dimensions, W x D x H		23.5 x 70 x 90 mm					39.1x70x90 mm	
References		TM2AMI2LT	TM2AMI2HT	TM2AMI4LT	TM2AMI8HT	TM2ARI8HT	TM2ARI8LT	TM2ARI8LRJ

(1) Non differential

(2) Differential



Type of module		Analogue Outputs, Inputs/Outputs (mixed)				
Number of inputs and/or outputs		1 O	2 O	2 I / 1 O	2 I / 1 O	4 I / 2 O
Connection		Removable screw terminals				
Inputs	Range	—	—	0...10 V (1) 4...20 mA (2)	Thermocouple type K, J & T 3-wire Pt 100 thermal probe	0...10 V (1) 4...20 mA (2)
	Resolution	—	—	12 bits (4096 points)	12 bits (4096 points)	12 bits (4096 points)
Outputs	Range	0...10 V (1) 4...20 mA (2)	± 10 V	0...10 V (1) 4...20 mA (2)	0...10 V (1) 4...20 mA (2)	0...10 V (1) 4...20 mA (2)
	Resolution	12 bits	11 bits + sign	12 bits	12 bits	12 bits
Supply voltage		24 VDC				
Dimensions, W X D x H		23.5 x 70 x 90 mm				
References		TM2AMO1HT	TM2AVO2HT	TM2AMM3HT	TM2ALM3LT	TM2AMM6HT

(1) Non differential

(2) Differential



Type of module		Digital Inputs/Outputs					
Number of inputs and/or outputs		8	16	16	32	4 I / 4 O	16 I / 8 O
Connection		Removable screw terminals		HE10 connectors		Removable screw terminals	Spring terminals (non removable)
References	Inputs	24 VDC sink	TM2DDI8DT	—	—	—	—
		24 VDC sink/source	—	TM2DDI16DT	TM2DDI16DK	TM2DDI32DK	—
	Outputs	120 V sink	TM2DAI8DT	—	—	—	—
		Relay (2 A)	TM2DRA8RT	TM2DRA16RT	—	—	—
		Transistor, source 0.5 A	TM2DD08TT	—	—	—	—
		Transistor, source 0.4 A	—	—	TM2DD016TK	TM2DD032TK	—
		Transistor, sink 0.1 A	TM2DDO8UT	—	TM2DDO16UK	TM2DDO32UK	—
	Inputs, 24 VDC + Outputs, Relais 2 A		—	—	—	—	—



Type of module	Serial interface			Serial interface adaptor		
Physical layer (non isolated)	RS 232C	RS 485		RS 232C	RS 485	
Connection	Mini-DIN connector		Screw terminals	Mini-DIN connector		Screw terminals
Protocol	Modbus master/slave, ASCII, I/O relocation					
Twido base compatibility	Modular base TWDLMDA			Compact base TWDLCAA16/24DRF Modular base via integrated display module TWDXCPDM		
References	TWDNOZ232D	TWDNOZ485D	TWDNOZ485T	TWDNAC232D	TWDNAC485D	TWDNAC485T



Type of module	Modem for Twido	CANopen expansion	Ethernet interface	Modbus isolation module	Modbus junction module	AS-Interface master
Number of modules	–	1	1	–	–	2 (1)
Connection	–	SUB-D9	RJ45	RJ45	RJ45	Removable screw terminals
Twido base compatibility	–	20, 24 or 40 I/O base	All models	All models	All models	20, 24 or 40 I/O base
References	SR2MOD03	TWDNCO1M	499TWD01100	TWDXCAISO	TWDXCAT3RJ	TWDNOI10M3

(1) 2 modules max., 62 digital slaves max., 7 analogue slaves max., AS-Interface/M3, V 2.11 (profile S.7.4 not supported)

Programming software



Software, connecting cables, interfaces	TwidoSuite software EN/FR	Connecting cables		Bluetooth® USB adaptor	Bluetooth® gateway
Application	PC with Windows XP or Vista	Twido/PC USB port	Twido/PC serial port	For PC not fitted with Bluetooth®	For Twido controller
References	TWDBTFU10M	TSXCUSB485 (2) TSXCRJMD25 (2)	TSXPCX1031 (2)	VW3A8115	VW3A8114

(2) For Twido Extreme: order the reference VW3A8106

Programmable controllers

Bases



Fixing and connection	Fixing kit	70-pin connector	Pre-wired 70-pin connector
Details	4 spacers, 8 washers, 8 shock mounts	80 pins, 80 blanking plugs, 1 cover	Pre-wired with 1.5 m long cable, free wires other end
Degree of protection	–	IP67	IP67
References	TWDXMTK4	TWDFCNK70	TWDFCWK70L015

Separate components	Crimping tool
Application	Crimping wires onto pins of 70-pin connector
References	TWDXMTCT



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...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 fixed 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		
	65% Boolean and 35% fixed arithmetic		4.2 Kinst/ms		6.4 Kinst/ms		
System overhead	Master task		1.05 ms		0.70 ms		
	Fast task		0.20 ms		0.13 ms		
References			BMX P341000	BMX P342000	BMX P3420102	BMX P342020	BMX P3420302

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

Memory cards



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:		
	Backup of program, constants, symbols and data		
	–	File storage, 8 MB	File storage, 128 MB
	Activation of class B10 web server		
Compatibility	BMX P34 1000/20...	BMX P34 20...	
References	BMX RMS 008MP	BMX RMS 008MPF	BMX RMS 0128MFP



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)
Transparent Ready	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	BMX NOE 0100		BMX NOE 0110
Memory card	Use	Provides services conforming to Transparent Ready: Class B		No
			Class C 32 MB available for user web pages	
References		BMX RWS B000M	BMX RWS FC032M	

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 all programmable automation under UNITY and supporting the I/O scanning service	
Speed		Standard version 0...65°	Hardened version -25...70°, varnished
Interface		9.6 Kb...12 Mb	
PROFIBUS Services		RS485 isolated (Sub-D 9 pin female connector)	
References		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		TCSEGPA23F14F	TCSEGPA23F14FK

Type of module	Serial link (1)	AS-Interface (1)
Number of interfaces	2	1
Speed	115 Kbits/s	-
Profile	-	M4 (AS-i V3)
References	BMX NOM 0200	BMX EIA 0100

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

Modicon M340 Programmable Automation Controller

Power supply modules



Type of module	Power supply modules				
Voltage	24 VDC isolated	24...48 VDC isolated	100...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...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 to be ordered separately	BMX XTS CPS10 (cage clamp)			
		BMX XTS CPS20 (spring-type)			
References		BMX CPS 2010	BMX CPS 3020	BMX CPS 2000	BMX CPS 3500 BMX CPS 3504 (1)

Racks



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	BMX XBP 0400	BMX XBP 0600	BMX XBP 0800	BMX XBP 1200

Rack extensions

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	BMX XBE 1000	BMX XBE 2005



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					
		Current	≤1.5 mA	≥0.5 mA	≥1.5 mA	≥0.5 mA		
References			BMX DDI 1602	BMX DDI 1603	BMX DDI 3202K	BMX DDI 6402K	BMX DAI 1602	BMX DDI 1604 (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...120 VAC	200...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		BMX DAI 1602	BMX DAI 1603	BMX DAI 1604



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...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		BMX DDO 1602	BMX DDO 1612	BMX DDO 3202K	BMX DDO 6402K

Modicon M340

Programmable Automation Controller

Discrete I/O modules



Type of module		Triac output modules
Number of inputs		16
Connection		Screw or spring-type 20-way removable terminal block
Operating voltage	Nominal	100...240 VAC
	Limit	85...288 VAC
Currents	Maximum	0.6 per channel, 2.4 per common, 4.8 for all 4 commons.
	Minimum	25 mA at 100 V a, 25 mA at 240 V a.
Maximum inrush current		≤ 20/cycle
Reference		BMX DAO1605



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...34 VDC	24...125 VDC (resistive load)	
	AC	10...264 VAC	200...264 VAC (CosΦ = 1)	100...150 VDC
Response time	Activation	< 10 ms		
	Deactivation	< 8 ms	< 12 ms	
Dissipated power		2.7 W max	3 W	
References		BMX DRA 0805	BMX DRA 1605	BMX DRA 0804 (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	≥11 V			≥11 V	
		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...30 V (possible up to 30 V, limited to 1 hour in every 24 hours)				
	Output limit values	Voltage (ripple included)		19...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			BMX DDM 16022			BMX DDM 3202K	

Modicon M340 Programmable Automation Controller Discrete I/O modules



Type of module			Mixed input/relay output modules	
			24 VDC inputs	24 VDC or 24...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...30 V (possible up to 30 V, limited to 1 hour in every 24 hours)	
Maximum dissipated power			3.1 W	
Reference			BMX DDM 16025	



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	$\pm 10\text{ V}$, $\pm 5\text{ V}$, $0\ldots 5\text{ V}$, $0\ldots 10\text{ V}$, $1\ldots 5\text{ V}$ $0\ldots 20\text{ mA}$, $4\ldots 20\text{ mA}$, $\pm 20\text{ mA}$			$\pm 40\text{ mV}$, $\pm 80\text{ mV}$, $\pm 160\text{ mV}$, $\pm 320\text{ mV}$, $\pm 640\text{ mV}$, $\pm 1.28\text{ V}$	
Resolution	0.35 mV/0.92 μA			15 mV + sign	
Reference	BMX AMI 0410	BMX AMI 0810 (1)	BMX AMI 0800 (1)	BMX ART 0414	BMX ART 0814



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	± 10 V		–
	Current	0...20 mA and 4...20 mA		–
Resolution		15 bits + sign		
Reference		BMX AMO 0210	BMX AMO 0410 (1)	BMX AMO 0802 (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	$\pm 10\text{ V}$, $0\ldots 5\text{ V}$, $0\ldots 10\text{ V}$, $1\ldots 5\text{ V}$, $0\ldots 20\text{ mA}$, $4\ldots 20\text{ mA}$	
Maximum conversion value	Voltage	$\pm 11.25\text{ V}$
	Current	$0\ldots 30$
Resolution	14 bits, 12 bits, 13 bits, 12 bits	12 bits, 11 bits
Reference	BMX AMM 0600	

Counter and motion control modules



Type of module	Counter module			Motion Control Module
	32 bits	16 bits	32 bits	
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	BMX EHC 0200	BMX EHC 0800		BMX MSP 0200

Modicon M340 Programmable Automation Controller Connection accessories



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	All 8 and 16 channel modules			
Composition	Cage clamp	Screw clamp	Spring-type	
Reference	BMX FTB 2000	BMX FTB 2010	BMX FTB 2020	BMX FTB 2820

Some racks, power supply, communication modules and specific modules, plus all the analog modules are now available in «ruggedized version». The references of these products end by a H.

Modicon Premium Programmable Automation Controller Processors under Unity Pro 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 (6)	TSXP57204M (6)	TSXP57304M (6)
	Integrated Ethernet	TSXP571634M (2) (6)	TSXP572634M (6)	TSXP573634M (6)
	Integrated CANopen	—	—	—
	Integrated Fipio	TSXP57154M (6)	TSXP57254M (6)	TSXP57354M (6)

Processors under 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	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. (4)	64/80 K words data/prog. (4)
	With PCMCIA extension	32 K words data/64 K words prog.	32 K words data (4)/160 K words prog.	80/96 K words data (4)/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 (6)	TSXP57203M (6)	TSXP57303AM (6)
	Integrated Ethernet	—	TSXP572623M (6)	TSXP573623AM (6)
	Integrated Fipio	TSXP57153M (6)	TSXP57253M (6)	TSXP57353AM (6)
	Integrated Ethernet and Fipio	—	TSXP572823M (6)	—

(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) PC format card on PCI bus

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

(5) with PL7 V4.4 min.

(6) For coated version add C at the end of the reference: example **TSXP571634M** becomes **TSXP571634MC**

HotStandBy offer



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 (6)	TSXH5744M (6)
TSXP574634M (6)	TSXP575634M (6)	TSXP576634M (6)		
–	–	–		
TSXP57454M (6)	TSXP57554M (6)	–		

Modicon Premium Programmable Automation Controller

Memory extensions for Unity Pro processors



Type of PCMCIA card		Application		Additional data
Technology		SRAM	Flash EPROM only	SRAM
Memory size	96 Kb	—	TSXMFPB096K (3)	—
	128 Kb	TSXMRPP128K	TSXMFP128K	—
	224 Kb	TSXMRPP224K / TSXMCPC224K	TSXMFP224K	—
	384 Kb	TSXMRPP384K	TSXMFP384K	—
	448 Kb	TSXMRPC448K (1)	—	—
	512 Kb	—	TSXMCPC512K (2) / TSXMFP512K	—
	768 Kb	TSXMRPC768K (1)	—	—
	1 MB	TSXMRPC001M (1) (6)	TSXMFP001M	—
	1.7 MB	TSXMRPC01M7	—	—
	2 MB	TSXMRPC002M (1)	TSXMCPC002M (2) / TSXMFP002M	—
	3 MB	TSXMRPC003M (1) (6)	—	—
	4 MB	—	TSXMFP004M	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 PLC internal memory.

Memory extensions for PL7 processors



Type of PCMCIA card		Application		Additional data
Technology		SRAM	Flash EPROM only	SRAM
Memory size (4)	32 K words	TSXMRPP128K	TSXMFP128K	—
	64 K words	TSXMRPP224K	TSXMFP224K	—
	64 K words/128 K words	TSXMRPP384K	TSXMCPC224K	—
	96 K words	—	TSXMFPB096K	—
	128 K words	TSXMRPC448K	TSXMFP384K	—
	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: example **TSXMRPC001M** becomes **TSXMRPC001MC**

Power supply modules ⁽¹⁾



Type of power supply module for	Premium					Atrium ⁽²⁾
Input voltage	24 VDC		100...240 VAC	100...120/200...240 VAC		24 VDC
Output voltage	5 VDC/24 VDC					5 VDC
Total useful power	26 W	50 W	26 W	50 W	77 W	26 W
Format	Standard	Double	Standard	Double	Double	–
Reference	TSXPSY1610M(4)	TSXPSY3610M(4)	TSXPSY2600M(4)	TSXPSY5500M(4)	TSXPSY8500M(4)	TSXPSI2010

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

(2) Only for Atrium slot-PLCs under Unity

Racks



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 (3)	–
	6 positions	261,6 x 160 x 151,5 mm (3)	TSXRKY6 (4)
	8 positions	335,3 x 160 x 151,5 mm (3)	TSXRKY8EX (4)
	12 positions	482,6 x 160 x 151,5 mm (3)	TSXRKY12EX (4)

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

(4) For coated version add C at the end of the reference: example **TSXPSY1610M** becomes **TSXPSY1610MC**

Connection accessories

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) (5)
	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

(5) Available 1Q 2010.

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...120 VAC	—	TSXDEY16A4 (5)	—	—	—
	200...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							
		Solid state				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	TSXDSY08T2 (5)	—	—	—	—	—	—	—
	24 VDC/0.1 A	—	—	TSXDSY32T2K (5)	TSXDSY64T2K (5)	—	—	—	—
	48 VDC/1 A	TSXDSY08T31 (5)	—	—	—	—	—	—	—
	48 VDC/0.25 A	—	TSXDSY16T3 (5)	—	—	—	—	—	—
	24...48 VDC-24...240 VAC/5 A Th.c	—	—	—	—	TSXDSY08R5A (5)	—	—	—
	24...120 VAC/5 A Th.c	—	—	—	—	TSXDSY08R4D (5)	—	—	—
	24...120 VAC/1 A	—	—	—	—	—	—	—	TSXDSY16S4 (5)
	48...240 VAC/1 A	—	—	—	—	—	—	—	TSXDSY16S5
	48...240 VA/2 A	—	—	—	—	—	—	TSXDSY08S5	—
	24 VDC-24...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: example TSXDEY08D2 becomes TSXDEY08D2C

Connection accessories: See www.schneider-electric.com

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					
Number of channels		4 high-speed	8	16	8	16	By terminal block (1)
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 earth	~ 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...10 V, 0...5 V, 1...5 V, 0...20 mA, 4...20 mA

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

(4) ± 10 V, ± 5 V, 0...10 V, 0...5 V, 1...5 V, 0...20 mA, 4...20 mA, -13...+63 mV, 0...400 W, 0...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 earth	~ 1500 Vrms	~ 1000 Vrms
Reference	Input signal (6)	TSXASY410 (7)	TSXASY800 (7)

(5) Terminal block to be ordered separately

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

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

Modicon Premium Programmable Automation Controller

Counter 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: example TSXCTY2A becomes TSXCTY2AC

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

(3) For 5 VDC RS422, 10...30 VDC Totem Pole incremental encoders

(4) For SSI serial or parallel output absolute encoders

(5) For RS485 serial or parallel output absolute encoders

Motion control modules



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	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) TSXCSY85 module 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)

Weighing modules



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 consult your Schneider-electric agency
	With display unit TSXXBTN410	TSXISPY121	Please consult your Schneider-electric agency

Connection accessories: See www.schneider-electric.com

Communication modules



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)	TSXWMI100 (4)	TSXETC101 (2)

(1) References: see pages 3/30 and 3/31, 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 3/23



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...1 Mb/s	1 Mb/s	0.5 Mb/s	9.6 K...12 Mb/s
Reference	TSXSAY1000 (4)	TSXCPC110 (4)	TSXP57 (2)	TSXIBY100 (4)	TSXPBY100

(2) References: see pages 3/30 and 3/31, 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...19.2 Kb/s	19.2 Kb/s	1.2...19.2 Kb/s	1.2...19.2 Kb/s
Reference	With interface RS 485	TSXP57 (1)	TSXSCY2100(3) (4)	TSXSCL114 (4)	TSXSCY11601 (4)	TSXSCL114 (4)	TSXSCL114 (4)
	RS 232D	—	—	TSXSCL111 (4)	—	TSXSCL111 (4)	TSXSCL111 (4)
	20mA CL	—	—	TSXSCL112 (4)	—	TSXSCL112 (4)	TSXSCL112 (4)

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



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

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

Connection accessories: See www.schneider-electric.com

Modicon Quantum _____ Programmable Automation Controller

Processors under Unity Pro software



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: example **T140CPU31110** becomes **140CPU31110C**

(5) Suitable for safety related application up to SIL2 and SIL3



Complex applications				Hot Standby redundant applications		Long distance HSBY CPU
Unlimited (26 slots max.)				Unlimited (26 slots max.)	Unlimited (13 slots max.)	Unlimited (26 slots max.)
31744 inputs (RIO)/8000 inputs (DIO) and 31744 outputs (RIO)/8000 outputs (DIO)				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)
Unlimited (27 slots max.)				Unlimited (27 slots max.)	Unlimited (13 slots max.)	Unlimited (27 slots max.)
1984 inputs (RIO)/500 inputs (DIO) and 1984 outputs (RIO)/500 outputs (DIO)				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)
Intrinsically safe I/O, 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, 6 in local rack	1 integrated	1 integrated, 6 in local rack
1 integrated, 6 in local rack				1 integrated, 6 in local rack	1 integrated, 6 in local rack	6 in local rack
Profibus DP: 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	3072 KB
7 MB	7 MB	7 MB	7 MB	7 MB	7 MB	7 MB
8 MB	8 MB	8 MB	—	8 MB	—	8 MB
140CPU65150 (4)	140CPU65160 (4)	140CPU65260 (4)	140CPU65160S (5)	140CPU67160 (4)	140CPU67160S (5)	140CPU67261

Modicon Quantum Programmable Automation Controller

Power supply modules ⁽¹⁾



Type of power supply module for			Quantum				
Input voltage			24 VDC	48...60 VDC	100...150 VDC	120...130 VAC	115/230 VAC
Output current			8 A/3 A (5)	8 A	8 A/3 A	8 A/3 A	11 A
Reference	Type	Standalone (2)	140CPS21100 (6)	–	140CPS51100 (6)	140CPS11100 (6)	–
		Summable	140CPS21400 (6)	140CPS41400 (6)	–	–	140CPS11420 (6)
		Redundant	140CPS22400 (6)	140CPS42400 (6)	140CPS52400 (6)	–	140CPS12420 (6)

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

(2) The output current for the standalone power supply modules is 3 A

PCMCIA memory extensions



Type of PCMCIA card for Unity processors 140CPU65/67		Application		Additional data
Technology		SRAM	Flash EPROM	SRAM
Memory size	512 Kb/512 Kb (4)	–	TSXMCPC512K (3)	–
	1 MB (5)	TSXMRPC001M (6)	TSXMFPP001M	–
	2 MB (5)	TSXMRPC002M	TSXMFPP002M	–
	2 MB/1 MB (4)	–	TSXMCPC002M	–
	3 MB (5)	TSXMRPC003M (6)	–	–
	4 MB	–	TSXMFPP004M	TSXMRPF004M
	7 MB (5)	TSXMRPC007M (6)	–	–
	8 MB	–	–	TSXMRPF008M

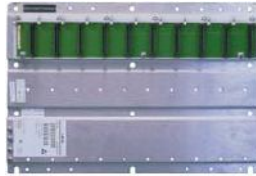
(3) These cards have an additional SRAM area for storing data (recipes, production data).

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

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

Racks



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: example **140XBP00200** becomes **140XBP00200C**

Connection accessories ⁽³⁾

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

Modicon Quantum Programmable Automation Controller

Discrete I/O modules



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...60 VDC	–	140DDI85300	–	–	–	140DDI84100
	20...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...30 VDC/0.5 A (4)	–	140DVO85300	–	–	–	–
	19.2...30 VDC/0.5 A	–	–	–	–	140DDO36400	–
	10...60 VDC/2 A	–	–	–	140DDO84300	–	–
	24...125 VDC/0.75 A	–	–	–	–	–	140DDO88500
	24...48 VAC/4 A	–	–	140DAO84220	–	–	–
	24...115 VAC/4 A	140DAO84010	–	–	–	–	–
	24...230 VAC/ 4-3 A	140DAO84000	140DAO85300	–	–	–	–
	100...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			Discrete outputs	
		Solid state			Relay	
Connection		By screw terminals 140XTS00200 (to be ordered separately)				–
Number of I/O		2 groups of 8/2 groups of 4		1 group of 4/ 4 isolated	–/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...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: example 140DDI15310 becomes 140DDI15310 C

Connection accessories: See www.schneider-electric.com

Analog I/O modules



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

(1) 0...25 mA, ± 20 mA, 4...20 mA, 0...10 V, ± 10 V, 0...5 V, ± 5 V, 1...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...20 mA	0...25/20 mA 4...20 mA	0...10 V, ± 10 V 0...5 V, ± 5 V
Resolution	12 bits	0...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...20 mA, ± 20 mA, 4...20 mA, 0...10 V, ± 10 V, 0...5 V, ± 5 V, 1...5 V.
Resolution	Inputs 16 bits, outputs 12 bits
Reference	140AMM09000

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

Connection accessories: See www.schneider-electric.com

Modicon Quantum Programmable Automation Controller Counter and special purpose 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...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.

Safety I/O modules



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...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

Communication modules



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	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
Web server	QoS (1)	–	–	–	–	Yes
	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 3/23
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Type of module	Modbus Plus network	AS-Interface cabling system	Fieldbus INTERBUS	Profibus DP Master V1 (1)	Modnet fielbus
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	ASCII
Name and description	Modbus	In-rack
Speed	Integrated link	19.2 Kb/s
Reference	19.2 Kb/s	140ES106210
Reference	140CPU* (1)	

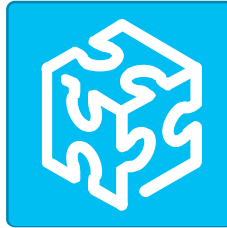
(1) RS 232/RS 485 on 140CPU651●● and 140CPU67160 processors and RS 232 on 140CPU31110, 140CPU43412A, 140CPU53414A processors.

* 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, Quantum modules can be ordered with a conformal coating applied to components of the product. Conformal coating will extend its 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

Automation systems — Unity Pro, a SoCollaborative software

For Modicon M340, Premium, and Quantum



Software type		Unity Pro Small version 4.1			
License type version 4.1		Single (1 workstation)	Group (3 workstations)	Team (10 workstations)	Site (> 10 workstations)
References	Software pack	UNYSPUSFUCD41	UNYSPUSFGCD41	UNYSPUSFTCD41	–
	Update (1)	UNYSPUSZUCD41	UNYSPUSZGCD41	UNYSPUSZTCD41	–
Software type		Unity Pro Medium version 4.1			
License type version 4.1		Single (1 workstation)	Group (3 workstations)	Team (10 workstations)	Site (> 10 workstations)
References	Software pack	UNYSPUMFUCD41	UNYSPUMFGCD41	UNYSPUMFTCD41	–
	Update (2)	UNYSPUMZUCD41	UNYSPUMZGCD41	UNYSPUMZTCD41	–
Software type		Unity Pro Large version 4.1			
License type version 4.1		Single (1 workstation)	Group (3 workstations)	Team (10 workstations)	Site (> 10 workstations)
References	Software pack	UNYSPULFUCD41	UNYSPULFGCD41	UNYSPULFTCD41	UNYSPULFFCD41
	Update (3)	UNYSPULZUCD41	UNYSPULZGCD41	UNYSPULZTCD41	UNYSPULZFCD41
Software type		Unity Pro Extra Large version 4.1			
License type version 4.1		Single (1 workstation)	Group (3 workstations)	Team (10 workstations)	Site (> 10 workstations)
References	Software pack	UNYSPUEFUCD41	UNYSPUEFGCD41	UNYSPUEFTCD41	UNYSPUEFFCD41
	Update (4)	UNYSPUEZUCD41	UNYSPUEZGCD41	UNYSPUEZTCD41	UNYSPUEZFCD41

- (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 all models Concept, PL7, ProWORX NxT and ProWORX 32

Unity Pro, a SoCollaborative software, 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 all debugging functions, either on the simulator or directly online with the programmable controller.

Thanks to symbolic variables 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.

Unity V 5.0 (Unity V5.0 available 2Q 2010) integrates the PLCopen standard MFB (Motion Function Block) library, simplifying installation of motion controllers on CANopen machine buses: Altivar 31, Altivar 71, Lexium 05, Lexium 15 LP, MP and HP, IclA.

Debugging and maintenance are simplified by animated graphic objects.

For diagnostics, a window clearly and chronologically displays all system and application faults with timestamping at source.

The fault cause search navigation function enables precise location of the source of missing conditions.

XML format, the Web standard for data exchange, has been adopted as Unity application source format. By simple import/export, all or part of the application can be exchanged with other project software.

Finally, the converters integrated in Unity Pro automatically convert PL7 and Concept IEC 61131-3 standards and applications.

Unity software

Specialized software

Integrator system dedicated software

Software type		Unity Pro XL Alliance V3.0	
Licence type version 3.0		Single (1 workstation)	Team (10 workstations)
References	Software pack	UNYSPUEFUAL30	UNYSPUEFTAL30
	Old generation upgrade (1)	UNYSPUEZUAL30	UNYSPUSZTCD30
	Unity update	UNYSPUQZUAL30	UNYSPUQTAL30
Software type		PLC Suite Alliance V3.0	
Licence type version 3.0		Single (1 workstation)	Team (10 workstations)
References	Pack (1)	UNYSPUQFUAL30	UNYSPUQFTAL30

(1) Including Unity Pro XL Alliance, Concept, PL7, ProWORX

Unity Pro application comparison software

Software type		Unity Dif	
Licence type version 2.2		Single (1 workstation), French and English languages (software and documentation)	
Reference	Software extension (1)	UNYSDUDFUCD20	
Licence type version 2.2		Site licence (100 workstations), French and English languages (software and documentation)	
Reference	Software extension (1)	UNYSDUZFUCD22	

(1) Requires version Unity V2.1 or later

PLC application and Modicon M340 embedded software update

Software type		Unity Loader	
Licence type version 2.1		Single (1 workstation)	
Reference	Software pack (1)	UNYSMUZUCD21	

(1) This software is also included in all Unity Pro software packs, Service Pack SP1 available for download

SFC View application diagnostic and monitoring software

Software type		Unity SFC View	
Licence type version 2.0		Single (1 workstation)	
References	Software pack	UNYSDUMFUCD20	

EF/EFB function development software in C language

Software type		Unity EFB Toolkit	
Licence type version 3.1		Single (1 workstation), English language (software and documentation)	
References	Software pack	UNYSPUFUCD31E	
	Renewal	UNYCSPSPUZBU	

Collaboration Unity Pro with W@de RTU modules

Software type		RTU Configuration Software for Unity Pro and W@de modules	
License type version 1.0		Single (1 workstation), English language (software and documentation)	
References	Software pack	UNYSRTZFUCD10	

Process application design and generation software

Software type		Unity UAG (Unity Application Generator)	
Licence type version 3.2		Single (1 workstation)	Site (> 10 workstations)
References	Software pack	UAGSEWLFUCD32	UAGSEWLFFCD23

Specific Unity Pro solution design software pack

Software type		Unity UDE (Unity Developer's Edition)	
Licence type		Single (1 workstation), English language (software and documentation)	
Reference	Software pack	UNYUDEVFUCD21E	
Licence type version 2.1		Single upgrade from version 2.0 to version 2.1 (1 workstation), English language (software and documentation)	
References	Software pack	UNYUDEVRUCD21E	

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)
Licence type		Single Licence (1 work station)				
Reference		UNYLPZCAUD10	UNYLFZZAUWB12	UNYLTSAUWB10	UNYLHVZAUWB10	UNYLAGZAUWB20

Library type		System Libraries	
Designation		Device and Process Library (for UAG)	Process Application Library (for UAG)
Licence type		Single Licence (1 workstation)	
Reference		UAGSBTDFUWB13	UAGSBTXFUWB20

*Includes Process Application Library (PAL) V2.0 and Device and Process Library (DPL) V1.0



PL7 is the common programming, debugging and operating software for the TSX Micro and Premium ranges of PLCs as well as Atrium coprocessors (see pages 3/12, 3/18 and 3/26).

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)	TLXRCDDL7MP45M	TLXRCDDL7MPC45M	TLXRCDD3PL7MP45M	–
		PL7 Junior for TSX Micro/Premium and Atrium coprocessor platforms			
Type of license version 4.5		Single (1 station)	Group (3 stations)		
Reference	Software package	TLXCDPL7JP45	TLXCD3PL7JP45		
	Update (1)	TLXRCDDL7JP45M	TLXRCDD3PL7JP45M		
	Upgrade (2)	TLXUCDDL7JP45M	TLXUCDD3PL7JP45M		
		PL7 Pro for TSX Micro/Premium and Atrium 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)	TLXRCDDL7PP45M	TLXRCDD3PL7PP45M	–	–
	Upgrade (2)	TLXUCDDL7PP45M	TLXUCDD3PL7PP45M	–	–

(1) From the previous software version.

(2) From lower level, earlier version software.

Specialist tools

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	TLXCDWSBP40F / E

Programming software

For Modicon Quantum, Momentum



Concept is the IEC programming software for the Momentum and Quantum range of PLCs. It provides advanced Microsoft Windows based tools that deliver a multi-language development environment for control system programming.

Uses familiar, standardized editors, bundled in a single application to create and integrate PLC 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 (3)	372ESS47101	–	–	–
	Concept M (3)	372ESS47201	–	–	–
	Concept XL (3)	372ESS47401	372ESS47403	372ESS47410	372ESS47400

(3) From an earlier software version.

Specialist tools

EF/EFB function development software in C language

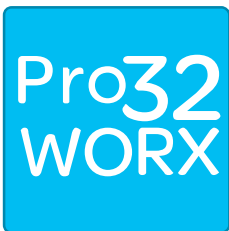
Type of software		Concept EFB Toolkit	
Type of license		Version 2.6	Upgrade version 2.6
Reference	Software package	332SPU47001V26	372ESS47001

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	UAGSEWMFUCD22	UAGSEWMFFCD22
	Large Software package	UAGSEWLFUCD22	UAGSEWLFCD22



ProWORX for Modicon Quantum, Momentum

ProWORX 32 is the flexible, easy-to-use cross-platform LL984-programming software for Modicon range PLCs. 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, all 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 PLC run-time environment to ensure your system will run at peak efficiency.

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 (4)		372SPU78401LPUP	372SPU78401LPTH	372SPU78401LPTE	–

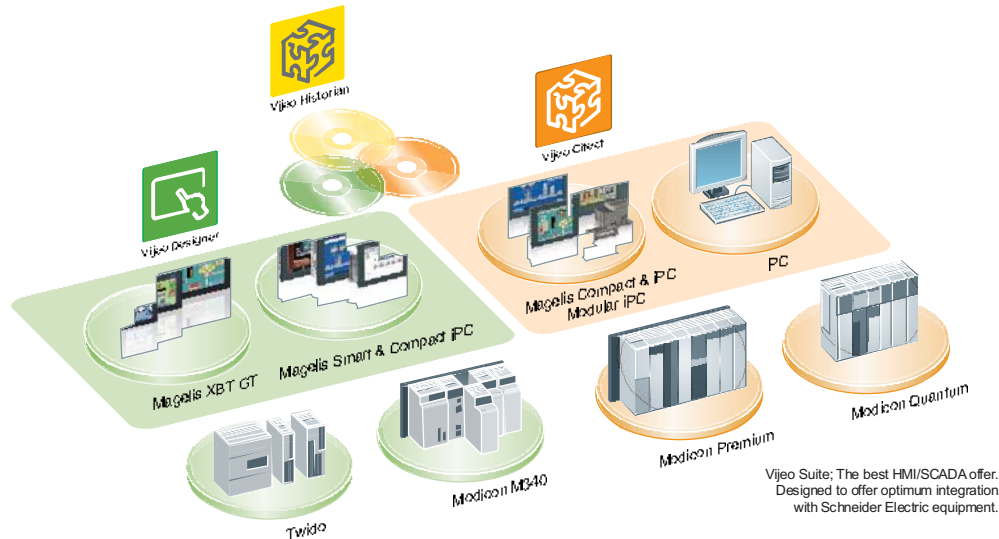
(4) Only possible for customers, who are "up-to-date" with CSP (continuing support program)



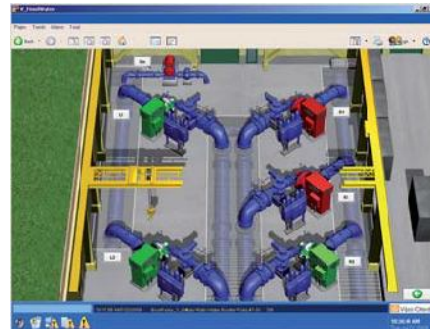
Vijeo Citect

a SoCollaborative software

Type	Supervisory control and data acquisition (SCADA) software
Compatibility	All Schneider Electric automation platforms and third party devices
Operating system	Windows XP, Windows Vista and Windows server 2003 & 2005
Versions	The development licence (without network connectivity) allows free communication with PLCs for 10 minutes at a time. Vijeo Citect full server licences are available in 75 points, 150 points, 500 points, 1500 points, 5000 points, 15000 points and unlimited points Vijeo Citect Lite (without network connectivity) is available in 100 - 1200 points
References	Please contact your local sales representative



Vijeo Citect is a SoCollaborative software for operating and monitoring. With its powerful visualisation 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.



Benefits at a glance:

- **Full-redundancy for reliable architecture:** Vijeo Citect's in-built redundancy greatly reduces lost data and downtime, tolerating failure anywhere in your system.
- **Powerful graphics:** Vijeo Citect lets you develop true colour, 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 story 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 minimising your project risk.

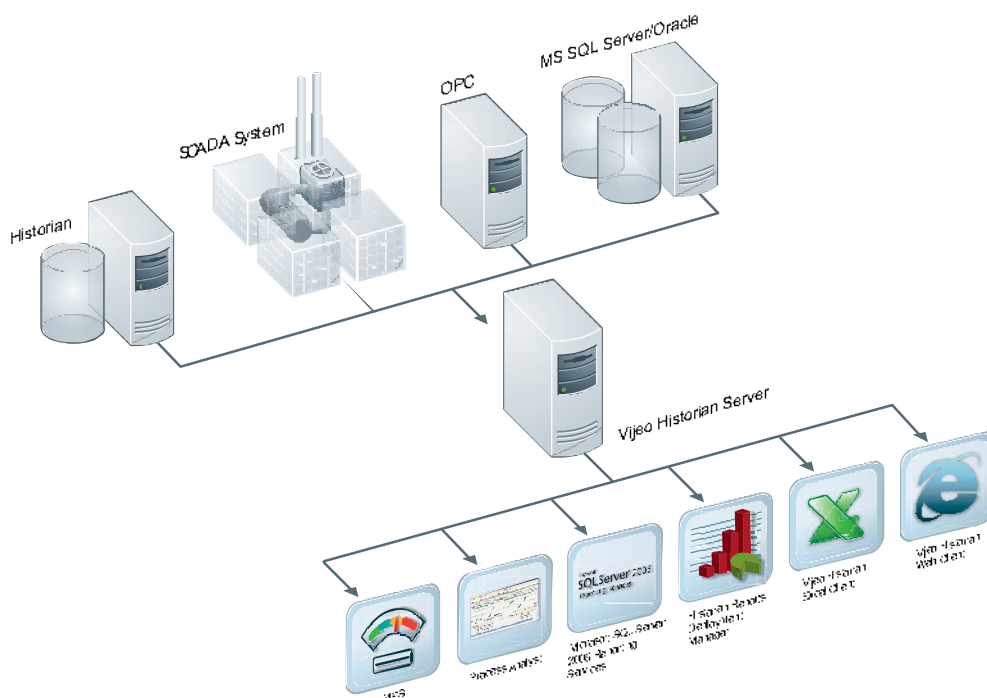
Vijeo Historian _____ Reporting software



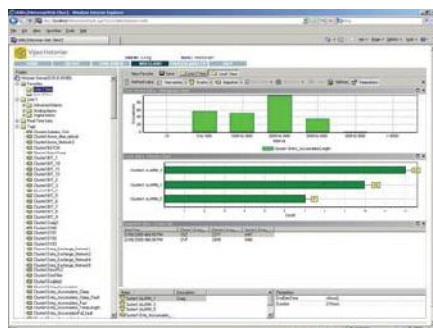
Vijeo Historian

a SoCollaborative software

Type	Historian software
Compatibility	All Schneider Electric automation platforms and third party devices
Operating system	Windows XP, Windows Vista and Windows server 2003 & 2005
References CD-ROM PC	Please contact your local sales representative



Vijeo Historian is a SoCollaborative software for the information management. It comprises the historian and portal functionalities of the solution, enabling you to accurately store data for long-term reporting while connecting your production and business systems through its active data transfers and simple, easy-to-use reporting.



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 utilises 100% Microsoft SQL Server 2005 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.

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