The essential guide for Automation

2012

Schneider Electric

ZOOM

Modicon M238

Logic controllers: optimize your machine cost and performance

- For your small automation systems
- Fast-counting and integrated PWM/PTO control, extended memory
- 1 USB port, 2 serial links, CANopen master, link to Ethernet via gateways
- Local or distributed flexibility with Modicon TM2 I/Os expansion modules and Modicon OTB distributed I/O

Modicon LMC058

Motion controllers: optimize the efficiency of your motion applications

- For applications requiring synchronised axes
- Combines motion functions with standard automation functions
- CANmotion, CANopen , Ethernet embedded
- Embedded encoder master input
- 8 embedded high-speed counters
- Advanced motion control functions
- Local, remote or distributed flexibility with Modicon TM5/TM7 modular I/O systems

Magelis XBTGC

HMI controllers: save up to 15% in total costs compared to a separate PLC and HMI

- The best integrated HMI control offer to meet the needs for compactness
- Adaptable to the machine topology
- 3 screen types and 4 connection options: USB, serial line, CANopen Ethernet
- 3 I/O categories (embedded, Modicon TM2 expansion modules or Modicon OTB distributed I/O through CANopen)

Modicon M258

Logic controllers: improve your machine performance while save up to 30% on installation time

- For applications requiring flexible and scalable I/O
- Local, remote or distributed flexibility with Modicon TM5/TM7 modular I/O systems
- CANopen, Ethernet embedded
- 8 embedded high-speed counters
- Basic processing time: 22 ns/Inst
- Programme memory: 128 K instructions
- RAM: 64 Mb / flash memory: 128 Mb

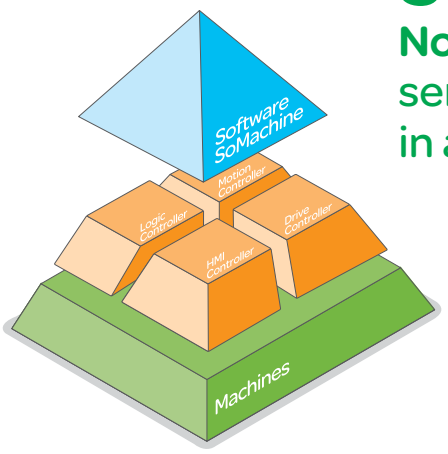
Altivar IMC

Drive controller: reduce costs up to 30% compared to conventional PLC- based solutions

- For simple motion control
- More intelligence in less space (integrated controller card)
- Compact: Drive + controller + simple HMI in one product
- Enhance the functions of Altivar 71 and 61
- Embedded Ethernet connection and CANopen port
- USB connection

SoMachine

Now you can design, commission and service your machines and installations in a single software suite



- A single software suite, compliant with IEC 61131-3, that runs on multiple hardware control platforms to achieve 100% flexibility & optimization of your machines and installations
- One software suite for controllers, HMI, and remote devices.
- One download to transfer the entire program in a single step
- One connection to access to all devices
- One file: create and maintain a single project file

The challenges of industrial competitiveness mean that control systems are now present in all fields of application. To meet your requirements, Schneider Electric has a very comprehensive offer of automation products, for all sectors of activity. Benefit from high performance, efficient and environmentally friendly products that are designed to reduce your energy costs and increase the safety of personnel and equipment.

Zelio

Designed for hard-wired logic control applications to complement PLCs when performing simple functions such as counting, measurement and control, the single-function products in the Zelio range of relays offer optimum results. Designed for the management of simple automation systems, Zelio Logic smart relays provide a real alternative to solutions based on cabled logic or specific cards.

Modicon

From the simplest machine to the smartest industrial process, Modicon automation platforms improve performance, quality and profitability for your installations.

Conforming to international standards and simple to set up, the Modicon range integrates seamlessly into any control system.

Modicon QEIO

Unlock the full potential of your automation architecture thank to the Modicon Quantum Ethernet I/O

Enhanced performance
- Deterministic network operation through the Quality of Service function

More flexibility and fewer constraints
- Ethernet backbone
- 6 times more I/O capacity per I/O drop

Simple and scalable
- QEIO adapts to its lifecycle without requiring extensive modifications

140CRP 31200

140CRA 31200

Contents

Relays

Controllers (PLC) for commercial machines

Controllers (PLC & PAC) for industrial machines

Programmable Automation Controllers (PACs)

Software

Electromechanical plug-in relays
Interface and miniature relays

Type of relay			Interface relays RSB			Miniature relays RXM			
Contact characteristics									
Thermal current Ith 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 Un (50/ 60Hz or =)			0.8…1.1 Un (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**	**RXM4GB2JD**
		24 VDC	**RSB2A080BD**	**RSB1A120BD**	**RSB1A160BD**	**RXM2AB2BD**	**RXM3AB2BD**	**RXM4AB2BD**	**RXM4GB2BD**
		48 VDC	**RSB2A080ED**	**RSB1A120ED**	**RSB1A160ED**	**RXM2AB2ED**	**RXM3AB2ED**	**RXM4AB2ED**	**RXM4GB2ED**
		60 VDC	**RSB2A080ND**	**RSB1A120ND**	**RSB1A160ND**	–	–	–	–
		110 VDC	**RSB2A080FD**	**RSB1A120FD**	**RSB1A160FD**	**RXM2AB2FD**	**RXM3AB2ED**	**RXM4AB2ED**	**RXM4GB2ED**
Coil supply voltage on AC		24 VAC	**RSB2A080B7**	**RSB1A120B7**	**RSB1A160B7**	**RXM2AB2B7**	**RXM3AB2B7**	**RXM4AB2B7**	**RXM4GB2B7**
		48 VAC	**RSB2A080E7**	**RSB1A120E7**	**RSB1A160E7**	**RXM2AB2E7**	**RXM3AB2E7**	**RXM4AB2E7**	**RXM4GB2E7**
		120 VAC	**RSB2A080F7**	**RSB1A120F7**	**RSB1A160F7**	**RXM2AB2F7**	**RXM3AB2F7**	**RXM4AB2F7**	**RXM4GB2F7**
		220 VAC	**RSB2A080M7**	**RSB1A120M7**	**RSB1A160M7**	–	–	–	–
		230 VAC	**RSB2A080P7**	**RSB1A120P7**	**RSB1A160P7**	**RXM2AB2P7**	**RXM3AB2P7**	**RXM4AB2P7**	**RXM4GB2P7**
		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								
		–	–	–	**RXZE2M114**(5)	–	**RXZE2M114**	**RXZE2M114**
		–	–	–	**RXZE2M114M**(5)	–	**RXZE2M114M**	**RXZE2M114M**
Separate input/output type sockets with location for protection module								
		RSZE1S48M	**RSZE1S35M**	**RSZE1S48M**(3)	**RXZE2S108M**	**RXZE2S111M**	**RXZE2S114M**	**RXZE2S114M**
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 RSB2A080B7**S**).

(2) References for relays with LED, for relays without LED, replace the number 1 in the reference by **2**. (Example: RXM2AB**2**JD becomes RXM2AB**1**JD)

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

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Other versions: **please consult our Customer Care Centre.**

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**	–	–	–	–	–
						1 and 2 poles		3 and 4 poles		
	RUW240BD					**RXM040W**		**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

Electromechanical plug-in relays

RSL relays mounted on sockets

Type of relay			Pre-assembled equipped with LED and protection circuit Sold in lots of 10	
Contact characteristics				
Thermal current Ith 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**

Other versions: **please consult our Customer Care Centre.**

Solid-state relays

SSRP relays

Type of relay	Panel mounted without heat sink and thermal interface					
Contact characteristics						
Thermal current Ith 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 Ith 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

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 KΩ 5…100 KΩ 0,05…1 MΩ	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**

Other versions: **please consult our Customer Care Centre.**

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 0.3…3 V 0.5…5 V	1…10 V 5…50 V 10…100 V	15…150 V 30…300 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 curent	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 built-in CT	2…20 mA 10…100 mA 50…500 mA	0.15…1.5 A 0.5…5 A 1.5…15 A	50 Hz ± 10 Hz or 60 Hz ± 10Hz
Output	1 C/O	2 C/O	2 C/O	2 C/O
Reference	**RM17JC00MW**	**RM35JA31MW**	**RM35JA32MW**	**RM35HZ21FM**

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		208…480 VAC 50/60Hz 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		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**

Liquid level control relays

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

Voltage	RM4-LG01	RM4-LA32	
	VAC, 50/60 Hz	VAC, 50/60 Hz	VDC
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**

Measurement and control relays

REG temperature control relays

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**	**REG48PUNL1ARHU**	**REG48PUN1RLU**
		2/relay	**REG48PUN2RHU**	–	**REG48PUN2RLU**
		1/solid-state	**REG48PUN1LHU**	**REG48PUNL1LHU**	**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**	**REG96PUNL1RHU**	**REG96PUN1RLU**
		2/relay	**REG96PUN2RHU**	–	**REG96PUN2RLU**
		1/solid-state	**REG96PUN1LHU**	**REG96PUNL1LHU**	**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

Totalisers





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.

Hours counters



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**

Multifunction counters


Display			LCD		LED	
Number of digits displayed			6			
Counting frequency			5 kHz			
Type of reset			Manual, electric and automaticn			
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**

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

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Other versions: **please consult our Customer Care Centre.**

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 50/6 0 Hz	**RE XL4TMP7**	**RE XL2TMP7**
Socket with mixed contact terminals	With screw clamp	**RXZE2M114**	**RXZE2M114**
	With connector	**RXZE2M114M**	**RXZE2M114M**

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**

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	Discrete inputs	8	12	12	6	8	12	12
Number of outputs		4 relay	8 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	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	Discrete inputs	8	12	6	8	12	12
	including 0-10 V analogue inputs	4	6	-	4	2	6
Number of outputs		4 relay	8 relay	4 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	yes	no	yes	no	yes
References		**SR2B121JD**	**SR2B201JD**	**SR2A101BD** (1)	**SR2B12●BD** (2)	**SR2A201BD** (1)	**SR2B20●BD** (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	Discrete inputs	6	8	12	6	8	12
	including 0-10 V analogue inputs	–	–	–	–	4	6
Number of outputs		4 relay	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	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**)

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Other versions: **please consult our Customer Care Centre.**

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**	**SR3B10●BD** (1)	**SR3B26●BD**(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** (SR3B10**1**BD) or by **2** for a smart relay with **transistor output** (SR3B10**2**BD)

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

Compact bases

Type de base		Compact			
		Non expandable bases		Expandable bases	
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	**TWDLCDA10DRF**	**TWDLCDA16DRF**	**TWDLCDA24DRF**	**TWDLCDE40DRF** (1)
	Real-time clock (option)	**TWDXCPRTC**			
	Display unit (option)	**TWDXCPODC**			
	Memory cartridge (option)	**TWDXCPMFK32** (3)			**TWDXCPMFK64** (4)

(1) 40 I/O version without Ethernet also available: TWDLCAA40DRF and TWDLCDA40DRF

Modular bases

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

I/O expansion modules

For I/O expansion modules, please consult Modicon TM2 page 21

Communication modules



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 TWDXCPODM		
References	**TWDNOZ232D**	**TWDNOZ485D**	**TWDNOZ485T**	**TWDNAC232D**	**TWDNAC485D**	**TWDNAC485T**





Type of module	Modem for Twido	CANopen expansion	Ethernet interface	Modbus isolation module	Modbus junction module
Number of modules	–	1	1	–	–
Connection	–	SUB-D9	RJ45	RJ45	RJ45
Twido base compatibility	–	20, 24 or 40 I/O base	All models	All models	All models
References	**SR2MOD03**	**TWDNCO1M**	**499TWD01100**	**TWDXCAISO**	**TWDXCAT3RJ**

(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** **TSXCRJMD25**	**TSXPCX1031**	**VW3A8115**	**VW3A8114**

Bases

SoMachine

Type of base	Compact			
Number of digital I/O	24 (removable battery to be ordered separately)			
Supply voltage	24VDC	100-240VAC	24VDC	100-240VAC
Number of digital inputs (24VDC)	14, 8 of which can be assigned as fast inputs			
Number of digital outputs	10 transistor, 4 of which can be configured as fast outputs	4 transistor + 6 relays	10 transistor, 4 of which can be configured as fast outputs	4 transistor + 6 relays
Type of connection	Removable screw terminal blocks (as standard) Removable spring terminal blocks (as option)			
Possible I/O expansion modules	7 modules: digital, analog, high-speed counter (3 max.), master AS-Interface (2 max.)			
High-speed counting (32 bits capacity)	8 x 100kHz simple channels, 4 x 100kHz simple channels + 1 x 100kHz advanced channels, or 2 x 100kHz advanced channels			
Motion or reflex functions	2 advanced channels, PWM:20kHz, PTO: 100kHz		4 advanced channels HSC reflex functions:100kHz	
PID Regulation	Yes			
Serial Ports	1 RS 232/485 (SL1) serial link		1 RS232/485 (SL1) serial link, 1 RS485 (SL2) serial link	
CANopen	–		1 master for 16 slaves max.	
Dimensions, W x D x H	157 x 86 x 118 mm			
References	**TM238LDD24DT**	**TM238LDA24DR**	**TM238LFDC24DT**	**TM238LFAC24DR**

High-speed counting modules

Type of module	High-speed counting	
Modularity	2 channels	
Maximum number of modules per base	3	
Number of sensor inputs	6 per channel	
Number of actuator outputs	2 per channel	
Capacity	31 bits + sign	
Frequency on inputs	60kHz	
Connection	1 screw terminal per channel	1 spring terminal per channel
References	**TM200HSC206DT**	**TM200HSC206DF**

Communication module and accessory

Designation	Ethernet interface	Program loader Kit: program loader, cable (USB/mini-B USB), 2 batteries (type AA/LR6)
Description	Ethernet Modbus/TCP	Used to update and duplicate applications (1)
Maximum number of modules per base	1	–
References	**499TWD01100**	**TM2USBABDEV1**

(1) Requires the use of a USB memory stick (not supplied)

Other versions: **please consult our Customer Care Centre.**

Modicon TM2 I/O expansion modules

For Modicon M238, Magelis XBTGC and Twido

Type of module		Analog inputs						
Number of inputs		2 I	2 I	4 I	8 I	8 I	8 I	8 I
Connection		Removable screw terminals						RJ11
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		Analog 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

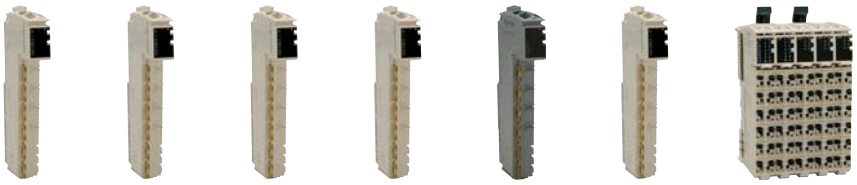
Type of module			Digital Inputs/Outputs					
Number of inputs and/or outputs			8	16	16	32	4 I / 4 O	16 I / 8 O
Connection			Removable screw terminals		HE10 connectors		Removable screw terminals	Spring terminals (non removable)
References	Inputs	24 VDC sink	**TM2DDI8DT**	–	–	–	–	–
		24 VDC sink/source	–	**TM2DDI16DT**	**TM2DDI16DK**	**TM2DDI32DK**		
		120 V sink	**TM2DAI8DT**	–	–	–	–	–
	Outputs	Relay (2 A)	**TM2DRA8RT**	**TM2DRA16RT**		–	–	–
		Transistor, source 0.5 A	**TM2DDO8TT**	–	–	–	–	–
		Transistor, source 0.4 A	–	–	**TM2DDO16TK**	**TM2DDO32TK**	–	–
		Transistor, sink 0.1 A	**TM2DDO8UT**	–	**TM2DDO16UK**	**TM2DDO32UK**	–	–
	Inputs, 24 VDC + Outputs, Relais 2 A		–	–	–	–	**TM2DMM8DRT**	**TM2DMM24DRF**

SoMachine

Controller type		42 digital I/O	42 digital I/O & CANopen
Internal memory	RAM	64 MB	
	Flash Eeprom	128 MB	
Typical Boolean instruction time		22 ns	
User program size		128 program K instructions	
Power supply		24 V DC	
Inputs	Digital	**26** inputs 24VDC including 8 counter inputs (200 kHz)	
	Analog	–	
Ouputs	Transistor	**16** outputs (0,5A) including 4 reflex outputs (100 kHz)	
	Relay	–	
Optional communication ports		–	
Communication	USB-B mini-port	Programming port for SoMachine software	
	USB-A port	Connection of a USB memory stick for transferring programs, data files, firmware updates	
	RJ45 port (MBS)	RS232 serial link RS485 serial link (supplies 250 mA, 5 V for HMI power supply) Protocols: Modbus ASCII/RTU Master/Slave, ASCII (character string)	
	SUB-D connector (CAN0)	–	CANopen bus master (63 slaves)
	RJ45 port (Ethernet)	Ethernet TCP, Ethernet IP, FTP server, Web server, Ethernet Modbus TCP	
Max. number of expansions		250 modules (local or remote) for digital IO, analog IO or Expert functions	
References		**TM258LD42DT**	**TM258LF42DT**

Controller type		42 digital I/O relays & CANopen	66 digital I/O & CANopen & 4 analog inputs
Internal memory	RAM	64 MB	
	Flash Eeprom	128 MB	
Typical Boolean instruction time		22 ns	
User program size		128 program K instructions	
Power supply		24 V DC	
Inputs	Digital	**26** inputs 24VDC including 8 counter inputs (200 kHz)	**38** inputs 24VDC including 8 counter inputs (200 kHz)
	Analog	–	**4** analog inputs +10 V/-10V, 4-20mA/0-20 mA 12 bits resolution
Ouputs	Transistor	**4** reflex outputs (100 kHz)	**28** outputs (0,5A) including 4 reflex outputs (100 kHz)
	Relay	12 relays	–
Optional communication ports		**2** PCI slots for optional communication modules	
Communication	USB-B mini-port	Programming port for SoMachine software	
	USB-A port	Connection of a USB memory stick for transferring programs, data files, firmware updates	
	RJ45 port (MBS)	RS232 serial link RS485 serial link (supplies 250 mA, 5 V for HMI power supply) Protocols: Modbus ASCII/RTU Master/Slave, ASCII (character string)	
	SUB-D connector (CAN0)	CANopen bus master (63 slaves)	
	RJ45 port (Ethernet)	Ethernet TCP, Ethernet IP, FTP server, Web server, Ethernet Modbus TCP	
Max. number of expansions		250 modules (local or remote) for digital IO, analog IO or Expert functions	
References		**TM258LF42DR**	**TM258LF66DT4L**

Modicon TM5 I/O expansion modules
for Modicon M258 and Modicon LMC058 (1)



Type of module	Input			Output			Input Output
	Digital	Analog		Digital		Analog	Digital
Number of inputs	12 sink	–	–	–	–	–	24
Number of outputs	–	–	–	12 source	4 relay	–	18
Number of inputs	–	4	4	–	–	–	–
Number of outputs	–	–	–	–	–	4	–
Nominal input current	24 VDC	–	–	–	–	–	24 VDC
Nominal output current	–	–	–	24 VDC	30 VDC/ 230 VAC	–	24 VDC
Type	–	Thermal probe	Voltage / Current	–	–	Voltage / Current	–
Associated bus sub-bases (2)	 TM5ACBM11	 TM5ACBM11	 TM5ACBM11	 TM5ACBM11	 TM5ACBM12	 TM5ACBM11	–
Associated terminal block (2)	 TM5ACTB12	 TM5ACTB12	 TM5ACTB12	 TM5ACTB12	 TM5ACTB32	 TM5ACTB12	–
References	**TM5SDI12D**	**TM5SAI4PH**	**TM5SAI4L**	**TM5SDO12T**	**TM5SDO4R**	**TM5SAO4L**	**TM5C24D18T**

(1) Modicon M258 and Modicon LMC058 controllers offer the possibility of creating IP20 or IP67 islands of remote I/O via the TM5 expansion bus. For Modicon TM7 (IP67) and Modicon TM5 (IP20) modular I/O systems, refer to the essential guide DIA3ED2070413EN or consult www.schneider-electric.com
(2) To be ordered separately

Bases

SoMachine

Controller type		42 digital I/O	42 digital I/O + 4 analog inputs
CANmotion Drive synchronisation	Up to 4 axes	2 ms	
	Up to 8 axes	4 ms	
Internal memory	RAM	64 MB	
	Flash Eeprom	128 MB	
Typical Boolean instruction time		22 ns	
Expert application	Relative and Absolute positioning	Yes	
	Velocity control	Yes	
	Homing	Yes	
	CNC visual editor	Yes	
	CAM profiles	Yes	
	Electronic gear	Yes	
	Interpolation	Yes	
	Shift Compensation	Yes	
Embedded number of digital inputs		26 including 8 high speed counter	
Embedded number of digital ouputs		16 outputs transistor (0.5 A) including 4 reflex outputs	
Embedded number of analog inputs		–	4
Optional communication ports		–	2 PCI slots for optional communication modules
Communication	USB-B mini-port	Programming port for SoMachine software	
	USB-A port	Connection of a USB memory stick for transferring programs, data files, firmware updates	
	RJ45 port (MBS)	RS232 serial link RS485 serial link (supplies 250 mA, 5 V for HMI power supply) Protocols: Modbus ASCII/RTU Master/Slave, ASCII (character string)	
	SUB-D connector (CAN0)	CANopen bus master (63 slaves)	
	SUB-D connector (CAN1)	CANmotion bus master (63 slaves)	
	SUB-D connector (Encoder)	Encoder input (incremental or SSI)	
	RJ45 port (Ethernet)	Ethernet IP device Ethernet TCP Modbus SoMachine protocol FTP server embedded Web server embedded	
Max. number of expansions		250	
References		**LMC058LF42**	**LMC058LF424**

I/O expansion modules

For I/O expansion modules, please consult Modicon TM5 page 23

Magelis XBTGC HMI Controllers
Compact HMI Controller

SoMachine



Type		Characteristics		
Display	LCD screen size / Resolution	3,8" / QVGA	5,7" / QVGA	
	Type	**STN monochrome, amber or red**	**STN monochrome, gray**	**STN 4096 colours**
Functions	Representation of variables	Alphanumeric, bitmap, bargraph, gauge, button, light, clock, flashing light, keypad		
	Curves / Alarm logs	Yes, with log / Yes, incorporated		
	Control	5 languages IEC		
Communication	Serial link	–	1 Sub9 (RS 232/RS 422 - RS 485)	
	Networks	–	–	**Ethernet, IEEE 802.3 10/100 BASE-T, RJ45**
Downloadable protocols		**Mitsubishi (Melsec), Omron (Sysmac), Rockwell Automation (Allen Bradley), Siemens (Simatic)** Uni-TE, Modbus, Modbus TCP		
Development software		SoMachine (on Windows XP and Vista)		
Dimensions W x D x H (mm)		**130 x 76 x 104**	**207 x 76 x 157**	
Compatibility with PLCs		**Twido, Modicon TSX Micro, Modicon Premium, Modicon Quantum, Modicon M340**		
«Compact Flash» card slot		**No**		
USB port Host type A		1	1	1
Built-in Ethernet TCP/IP		**No**	No	Yes
Integrated I/O		**12I/6O 24 VDC**	16I/16O 24 VDC	
Extensions		**2 modules TM2 or CANopen module**	3 modules TM2 or CANopen module	
Supply voltage		**24 VDC**		
References	Source Output	**XBTGC1100T**	**XBTGC2120T**	**XBTGC2230T**
	Sink Output	**XBTGC1100U**	**XBTGC2120U**	**XBTGC2230U**

Extensions

Type of module	CANopen Master
Characteristics	Class M10 limited 16 slaves, Standard DS301 V4.O2
References	**XBTZGCCAN**

Type of module	Digitals Inputs / Outputs						
Characteristics	8I 24 VDC Screw terminal	16I 24 VDC Screw terminal	16I 24 VDC HE10	32I 24 VDC HE10	8I 120 VAC Screw terminal	4I 24 VDC 4O Relays Screw terminal	16I 24 VDC 8O Relays Screw terminal
References	**TM2DDI8DT**	**TM2DDI16DT**	**TM2DDI16DK**	**TM2DDI32DK**	**TM2DAI8DT**	**TM2DMM8DRT**	**TM2DMM24DRF**

Type of module		Digitals Inputs / Outputs				
Characteristics		8O Transistor 24 VDC Screw terminal	16O Transistor 24 VDC HE10	32O Transistor 24 VDC HE10	8O Relays 230 VAC 30 VDC Screw terminal	16O Relays 230 VAC 30 VDC Screw terminal
References	Source Output	**TM2DD08TT**	**TM2DD016TK**	**TM2DD032TK**	**TM2DRA8RT**	**TM2DRA16RT**
	Sink Output	**TM2DD08UT**	**TM2DD016UK**	**TM2DD032UK**	–	–

Type of module	Analog Inputs / Outputs					
Characteristics	2I Current/Voltage	2I Thermocouple	4I Current/Voltage Temperature	8I Current/Voltage	8I Temperature	8I PTC
References	**TM2AMI2HT**	**TM2AMI2LT**	**TM2AMI4LT**	**TM2AMI8HT**	**TM2ARI8LRJ** **TM2ARI8LT**	**TM2ARI8HT**

Type of module	Analog Inputs / Outputs				
Characteristics	1O Current/Voltage	2O Voltage	2I Current/Voltage 1O Current/Voltage	2I Temperature 1O Current/Voltage	4I Current/Voltage 2O Current/Voltage
References	**TM2AMO1HT**	**TM2AVO2HT**	**TM2AMM3HT**	**TM2ALM3LT**	**TM2AMM6HT**

For HMI Controllers **Magelis XBTGT/GK** with control function, refer to the Essential guide DIA1ED2040506EN or consult www.schneider-electric.com

Altivar IMC Drive controller

Integrated controller card for Altivar 71/61 variable speed drives

SoMachine

Type of card		Integrated controller card
Variable speed drive compatibility		Altivar 71 / Altivar 61 (1)
Power supply		24 VDC
Inputs	Digital	10 x 24 V DC inputs, 4 of which can be used for 2 high-speed counter inputs (100 kHz) or 2 incremental encoders (A/B) (100 kHz)
	Analog	2 x 0…20 mA inputs
Outputs	Digital	6 transistor outputs (2 A) - source
	Analog	2 x 0…20 mA outputs
Built-in communication ports	RJ45 port	Ethernet Modbus TCP, Web/FTP Server
	SUB-D connector (male 9-way)	Master CANopen bus (16 slaves)
	USB Mini-B port	SoMachine software programming
Real-time clock		Integrated
Typical time (for 1000 Boolean instructions)		942 µs
Data storage memory FRAM (Ferroelectric RAM)		64 KB
Compiled program size (saved in flash memory)		2 MB
User program size		1 MB
References		**VW3A3521**

(1) Refer to motion & drives essential guide or consult www.schneider-electric.com

Type of card	I/O expansion cards (2)	
Designation	I/O extension logic	Extended
Description	1 relay logic output (“C/O” contact) 4 x 24 VDC positive or negative logic inputs 2 x 24 VDC open collector positive or negative logic outputs 1 input for PTC probes	1 x 0…20 mA differential current analog input 1 software-configurable voltage (0…10 VDC) or current (0…20 mA) analog input 2 software-configurable voltage (±10V, 0…10 VDC) or current (0…20 mA) analog inputs 1 relay logic output (“C/O” contact) 4 x 24 VDC positive or negative logic inputs 2 x 24 VDC open collector positive or negative logic outputs 1 input for PTC probes 1 frequency control input
References	**VW3A3201**	**VW3A3202**

(2) Altivar 71 / 61 variable speed drives can only take one I/O expansion card with the same reference

SoMachine

Type	OEM machine programming software		
Compatibility	Modicon M238 - Logic controller Modicon M258 - Logic controller Modicon LMC058 - Motion controller Magelis XBT GC - HMI controllers XBT GT/GK with control function - HMI controllers Altivar IMC - Drive controller		
IEC 61131-3 Programming languages	IL (Instruction List) LD (Ladder Diagram) SFC (Sequential Function Chart) ST (Structured Text) FBD (Function Block Diagram) CFC (Continous Function Chart)		
Languages	English French German Italian Spanish Simplified Chinese.		
System Requirements	Processor: Pentium 3 - 1.2 GHz or higher RAM Memory: 2 GByte; recommended: 3 GByte Hard Disk: 3.5 GB, recommended: 4 GB OS: Windows XP Professional, Windows Vista 32 Bit Drive: DVD reader Display: 1024 × 786 pixel resolution or higher Peripherals: a Mouse or compatible pointing device Peripherals: USB interface Web Access: Web registration requires Internet access		
Licence type	Trial (30 days)	1 (Single)	10 (Team)
References DVD	**MSDCHNSFNV30**	**MSDCHNLMUA**	**MSDCHNLMTA**

Simplify machine programming and commissioning

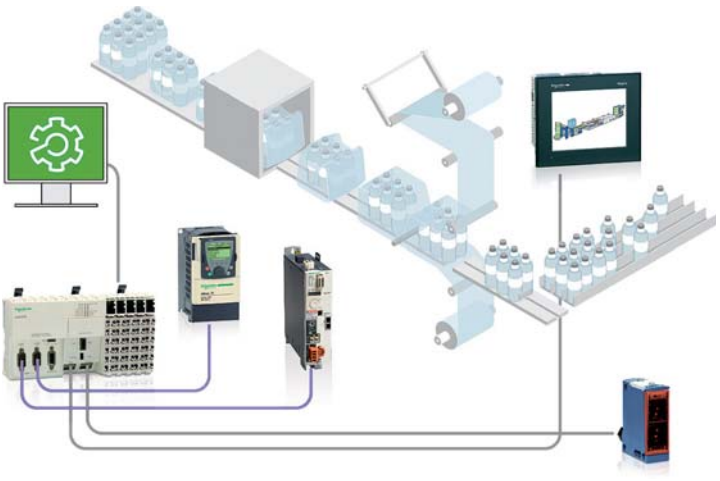
The SoMachine software solution, developed specifically for OEM machine builders, allows you to design, commission and service your machine in a single environment. It helps you get to market faster and gives your machines a competitive advantage.

A single software suite to create and manage your complete automation solution from control and HMI to remote devices.

Flexible and Scalable Control platforms include:

• Controllers:
> HMI controllers: XBT GC, XBT GT/GK CANopen,
> Logic controllers: Modicon M238, Modicon M258,
> Motion Controller Modicon LMC 058,
> Integrated Controller Card Altivar IMC,
> Modicon TM2, TM5 and TM7 I/O offers
• HMI:
> HMI Magelis graphic panels: XBT GT, XBT GK, HMI STO, HMI STU, XBT GH

SoMachine is a professional, efficient, and open software solution integrating Vijeo-Designer.
It integrates also the configuring and commissioning tool for motion control devices.
It features all IEC 61131-3 languages, integrated field bus configurators, expert diagnostics and debugging, as well as outstanding capabilities for maintenance and visualisation.



1

Software suite
for controllers, HMI, and remote devices.

Download
to transfer the entire machine program in a single step

Connection
to access to all devices

File
Create and maintain a single project file

Processor modules




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			**BMXP341000**	**BMXP342000**	**BMXP3420102**	**BMXP342020**	**BMXP3420302**

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

Other versions: **please consult our Customer Care Centre.**

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:	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**

Communication modules

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
Transparent Ready	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	Class C 32 MB available for user web pages	No
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 all programmable automation under UNITY and supporting the I/O scanning service	
	Standard version 0…65°	Hardened version -25…70°, varnished
Speed	9.6 Kb…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	**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	**BMXNOM0200**	**BMXEIA0100**

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

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 interogations, 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
Memory Card	SD card 128 MB	Web server and Data logging CSV files
Reference		**BMXNOR0200H**

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	**BMXXTSCPS10** (cage clamp)				
	to be ordered separately	**BMXXTSCPS20** (spring-type)				
References		**BMXCPS2010**	**BMXCPS3020**	**BMXCPS2000**	**BMXCPS3500**	**BMXCPS3504** (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	**BMXXBP0400**	**BMXXBP0600**	**BMXXBP0800**	**BMXXBP1200**

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	**BMXXBE1000**	**BMXXBE2005**

Other versions: **please consult our Customer Care Centre.**




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 *(sink)*				Negative *(source)*	
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…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			**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 *(source)*	Negative *(sink)*	Positive *(source)*	
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		**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…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			**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…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			**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…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			**BMXDDM16022**		**BMXDDM3202K**	

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			**BMXDDM16025**	

Analog I/O modules



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	± 10 V, ± 5 V, 0…5 V, 0…10 V, 1…5 V 0…20 mA, 4…20 mA , ± 20 mA			±40 mV, ±80 mV, ±160 mV, ±320 mV, ±640 mV, ±1.28 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	± 10 V		–
	Current	0…20 mA and 4…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		±10 V, 0…5 V, 0…10 V, 1…5 V, 0…20 mA, 4…20 mA	±10 V, 0…20 mA, 4…20 mA
Maximum conversion value	Voltage	± 11.25 V	± 11.25 V
	Current	0…30	0…24 mA
Resolution		14 bits, 12 bits, 13 bits, 12 bits	12 bits, 11 bits
Reference		**BMXAMM0600**	

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	**BMXEHC0200**	**BMXEHC0800**		**BMXMSP0200**

Other versions: **please consult our Customer Care Centre.**

SSI encoder module

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**

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	–	–
Type of connection	–	–	–	Spring-type	Screw clamp
References	**BMXFTB2000**	**BMXFTB2010**	**BMXFTB2020**	**BMXFTB2820**	**BMXFTB2800**

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.

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	Discrete	512	1024	1024
in racks	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	Boolean	0.19 µs	0.19 µs	0.12 µs
instruction without ext. PCMCIA	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	Discrete	512	1024	1024
in racks	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	Boolean	0.19 µs	0.19 µs	0.12 µs
instruction without ext. PCMCIA	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**

Other versions: **please consult our Customer Care Centre.**

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)	–		

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**	**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 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**	**TSXMFPP128K**	–
	64 K words	**TSXMRPP224K**	**TSXMFPP224K**	–
	64 K words/128 K words	**TSXMRPP384K**	**TSXMCPC224K**	–
	96 K words	–	**TSXMFPB096K**	–
	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: example **TSXMRPC001M** becomes **TSXMRPC001MC**

Power supply modules (1)



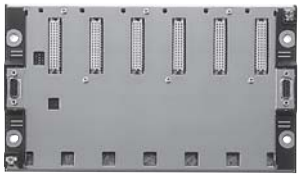


Type of power supply module for	Premium					Atrium (2)
Input voltage	24 VDC		100…240 VAC	100…120/200…240 VAC		24 VDC
Output voltage	5 VDC/24 VDC					5 VDC
Total useful power	26 W	50 W	26 W	50 W	77 W	26 W
Format	Standard	Double	Standard	Double	Double	–
Reference	**TSXPSY1610M** (4)	**TSXPSY3610M** (4)	**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)	–	**TSXRKY4EX** (4)
	6 positions	261,6 x 160 x 151,5 mm (3)	**TSXRKY6** (4)	**TSXRKY6EX** (4)
	8 positions	335,3 x 160 x 151,5 mm (3)	**TSXRKY8** (4)	**TSXRKY8EX** (4)
	12 positions	482,6 x 160 x 151,5 mm (3)	**TSXRKY12** (4)	**TSXRKY12EX** (4)

(3) Hight 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
		–	Set of 2
Reference		–	**TSXTLYEX**
		–	**TSXTVSY100** (2 Bus X Transcient 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.


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	**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…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					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 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**

Connection accessories: See www.schneider-electric.com

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 TSXCTY2A**C**

(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	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 Ex 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

Schneider Electric

Other versions: **please consult our Customer Care Centre.**

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)	**TSXWMY100** (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)	**TSXCPP110** (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)	**TSXSCY21601** (3) (4)	**TSXSCP114** (4)	**TSXSCY11601** (4)	**TSXSCP114** (4)	**TSXSCP114** (4)
		RS 232D	–	–	**TSXSCP111** (4)	–	**TSXSCP111** (4)	**TSXSCP111** (4)
		20mA CL	–	–	**TSXSCP112** (4)	–	**TSXSCP112** (4)	**TSXSCP112** (4)

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

Type of module	Other networks		
	Modbus Plus	Fipway	Fipio (agent function)
Name and description	PCMCIA card	PCMCIA card	PCMCIA card
Speed	1 Mb/s	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: example TSXETY110WS becomes TSXETY110WSC
Connection accessories: See www.schneider-electric.com

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 (13 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 and 31744 outputs	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 (13 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 and 1984 outputs	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 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			1 integrated, 6 in local rack	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**

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**

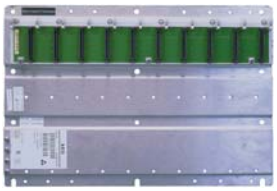
(3) These cards have an additional SRAM area for storing data (recipes, production data).

(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

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** 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		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

Other versions: **please consult our Customer Care Centre.**

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

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**

Connection accessories: See www.schneider-electric.com

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
	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 3/23



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	
	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, 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

Unity Pro, configuration software
For Modicon M340, Premium, and Quantum

Software type		Unity Pro Small version 6.0			
License type version 6.0		Single (1 workstation)	Group (3 workstations)	Team (10 workstations)	Facility (100 workstations)
References	Software pack	UNYSPUSFUCD60	UNYSPUSFGCD60	UNYSPUSFTCD60	–
	Upgrade Legacy Software (1)	UNYSPUSZUCD60	UNYSPUSZGCD60	UNYSPUSZTCD60	–
Software type		**Unity Pro Medium version 6.0**			
License type version 6.0		Single (1 workstation)	Group (3 workstations)	Team (10 workstations)	Facility (100 workstations)
References	Software pack	UNYSPUMFUCD60	UNYSPUMFGCD60	UNYSPUMFTCD60	–
	Upgrade Legacy Software (2)	UNYSPUMZUCD60	UNYSPUMZGCD60	UNYSPUMZTCD60	–
Software type		**Unity Pro Large version 6.0**			
License type version 6.0		Single (1 workstation)	Group (3 workstations)	Team (10 workstations)	Facility (100 workstations)
References	Software pack	UNYSPULFUCD60	UNYSPULFGCD60	UNYSPULFTCD60	UNYSPULFFCD60
	Upgrade Legacy Software (3)	UNYSPULZUCD60	UNYSPULZGCD60	UNYSPULZTCD60	UNYSPULZFCD60
Software type		**Unity Pro Extra Large version 6.0**			
License type version 6.0		Single (1 workstation)	Group (3 workstations)	Team (10 workstations)	Facility (100 workstations)
References	Software pack	UNYSPUEFUCD60	UNYSPUEFGCD60	UNYSPUEFTCD60	UNYSPUEFFCD60
	Upgrade Legacy Software (4)	UNYSPUEZUCD60	UNYSPUEZGCD60	UNYSPUEZTCD60	UNYSPUEZFCD60

(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, 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.

Additional LL984 language is now available in Unity V 6.0 (Unity V6.0 available 2Q 2011) to allow easy migration of Modsoft an Concept applications to Quantum platforms.

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.

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

Unity V 6.0 fully support new Quantum Ethernet RIO architectures.

It integrates additional possibilities for Online changes in RUN mode, as well as improved Search/Replace Toll.

Debugging and Maintenance, as well as Design are greatly simplified and improved.

Unity software
Specialized software

Unity Pro application comparison software

Software type		Unity Dif
Licence type version 2.21		Single (1 workstation), French and English languages (software and documentation)
Reference	Software extension (1)	**UNYSDUZFUCD22**
Licence type version 2.21		Site licence (100 workstations), French and English languages (software and documentation)
Reference	Software extension (1)	**UNYSDUZFFCD22**

(1) Requires version Unity V2.1 or later

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	**UNYSPUZFUCD31E**
	Renewal	**UNYCSPSPUZBU**

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**

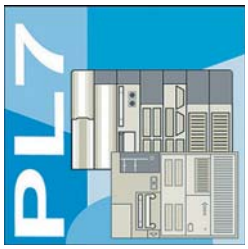
Specific libraries according to the software used

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	**UNYLPCZAUCD10**	**UNYLFZZAUWB12**	**UNYLTSZAUWB10**	**UNYLHVZAUWB10**	**UNYLAGZAUWB20**

Library type	UAG 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

Programming software
For Modicon Premium slot-PLCs



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)	TLXRCDPL7MP45M	TLXRCDPL7MPC45M	TLXRCD3PL7MP45M	–
		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)	TLXRCDPL7JP45M	TLXRC3DPL7JP45M		
	Upgrade (2)	TLXUCDPL7JP45M	TLXUCD3PL7JP45M		
		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)	TLXRCDPL7PP45M	TLXRCD3PL7PP45M	–	–
	Upgrade (2)	TLXUCDPL7PP45M	TLXUCD3PL7PP45M	–	–

(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	TLXLSDKCPL741M

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

Other versions: **please consult our Customer Care Centre.**

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	**UAGSEWMFUCD31**	**UAGSEWMFFCD31**
	Large Software package	**UAGSEWLFUCD31**	**UAGSEWLFFCD31**

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.

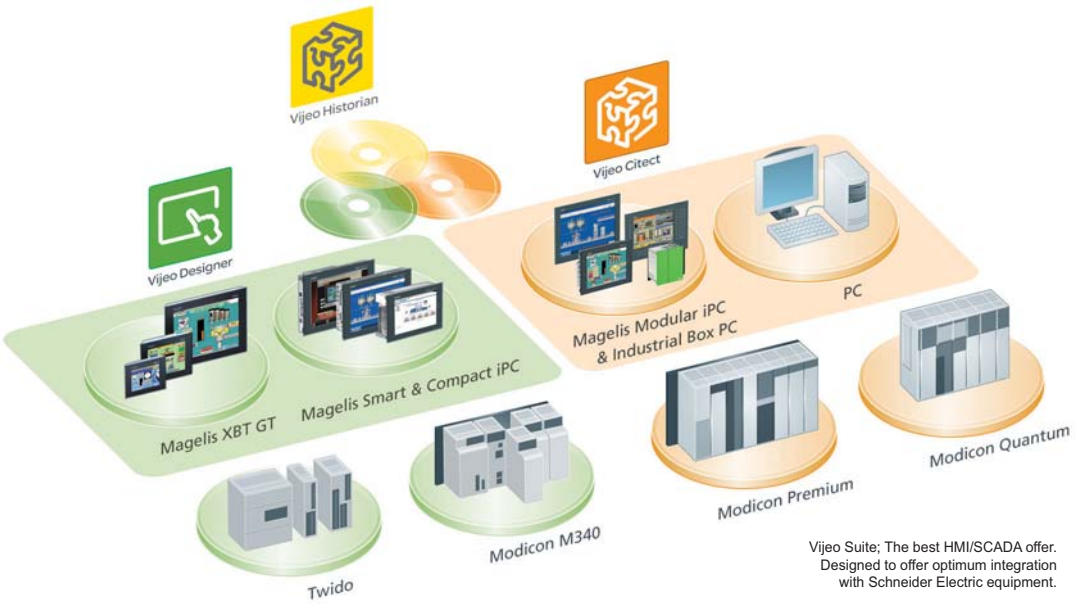
Type of software		ProWORX for Quantum/Momentum platforms			
Type of license version 2.1		Single (1 station)	Group (3 stations)	Multi-user (10 stations)	Site
Software references	ProWORX 32 Server	**372SPU78001PSEV**	–	–	–
	ProWORX 32 Suite	**372SPU78001PSSV**	–	–	–
	ProWORX 32 Client, Full Dev.	**372SPU78001PDEV**	**372SPU78001PSTH**	**372SPU78001PSTE**	**372SPU78001SITE**
	ProWORX 32 Online	**372SPU78101PONL**	–	–	–
	ProWORX 32 Lite	**372SPU71001PLDV**	**372SPU71001PLTH**	**372SPU71001PLTE**	–
Upgrade to ProWORX 32references (4)		**372SPU78401LPUP**	**372SPU78401LPTH**	**372SPU78401LPTE**	–

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

Vijeo Citect _____ SCADA software

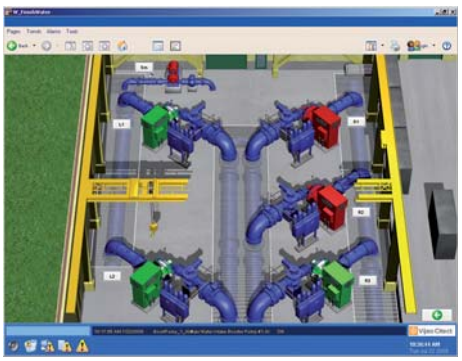
Vijeo Citect

Type	Supervisory control and data acquisition (SCADA) software
Compatibility	All 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 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 Suite; The best HMI/SCADA offer.
Designed to offer optimum integration
with Schneider Electric equipment.

Vijeo Citect is a 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:

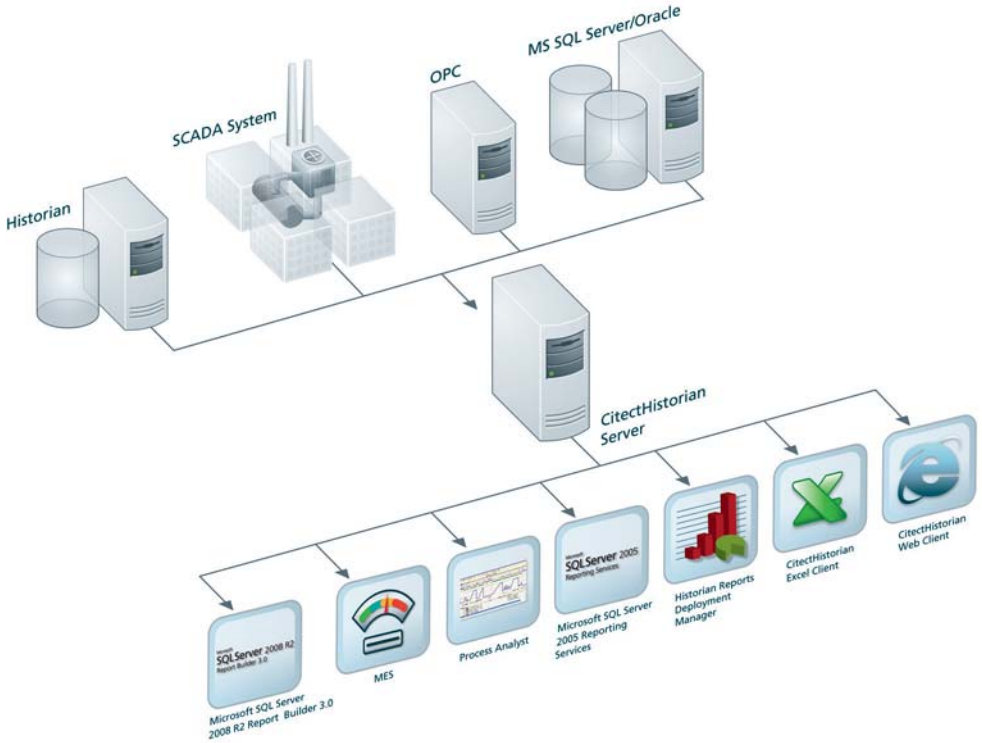
- **Full-redundancy for reliable architecture:** Vijeo Citect's in-built redundancy greatly reduces lost data and downtime, tolerating failure anywhere in your system.
- **Powerful graphics:** Vijeo Citect lets you develop true colour, easy-to-use graphics that provide the operator with an intuitive, 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.

Other versions: **please consult our Customer Care Centre.**

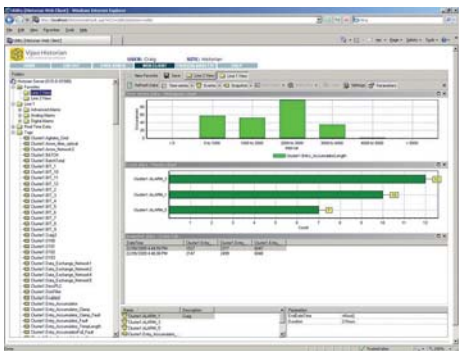
Vijeo Historian _____ Reporting software

Vijeo Historian

Type	Historian software
Compatibility	All 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



Vijeo Historian is a 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 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.

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