

# 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.



## 2

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.



# 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.



## Relays

|                                                            |              |
|------------------------------------------------------------|--------------|
| Electromechanical plug-in relays, <b>Zelio Relay</b> ..... | 2/2 to 2/4   |
| Solid-state relays, <b>Zelio Relay</b> .....               | 2/5          |
| Measurement and control relays, <b>Zelio Control</b> ..... | 2/6 to 2/10  |
| Counters, <b>Zelio Count</b> .....                         | 2/11         |
| Timing relays, <b>Zelio Time</b> .....                     | 2/12 to 2/13 |
| Analog interface, <b>Zelio Analog</b> .....                | 2/14 to 2/15 |

## Controllers (PLC) for commercial machines

|                                                                                  |              |
|----------------------------------------------------------------------------------|--------------|
| Smart relays, <b>Zelio Logic</b> : 10 to 40 I/O .....                            | 2/16 to 2/17 |
| Programmable controllers, <b>Twido</b> : 10 to 100 I/O 1µs per Instruction ..... | 2/18 to 2/19 |

## Controllers (PLC and PAC) for industrial machines

|                                                                                                       |               |
|-------------------------------------------------------------------------------------------------------|---------------|
| Logic controllers, <b>Modicon M238</b> : 20 to 248 I/O, 0.3 µs per Instruction .....                  | 2/20 to 2/21  |
| Logic controllers, <b>Modicon M258</b> : 42 to 2400 I/O, 0.022 µs per Instruction .....               | 2/22 to 2/23  |
| Motion controllers, <b>Modicon LMC058</b> : 42 to 2400 I/O, 4 synchronized Axis in 2ms .....          | 2/24          |
| I/O expansion modules for <b>Modicon M238, M258 and LMC058</b> .....                                  | 2/21 and 2/23 |
| HMI controllers, <b>Magelis XBTGC</b> : 18 to 96 I/O .....                                            | 2/25          |
| Drive controller, <b>Altivar IMC</b> : 1000 instructions in 942 µs Web Server, CANopen, PLCopen ..... | 2/26          |

## Programmable Automation Controllers (PACs)

|                                                                                                               |              |
|---------------------------------------------------------------------------------------------------------------|--------------|
| Mid range PLC <b>Modicon M340</b> : for industrial process and infrastructure .....                           | 2/28 to 2/37 |
| Large PLC <b>Modicon Premium</b> : for discrete or process applications and high availability solutions ..... | 2/38 to 2/45 |
| Large PLC <b>Modicon Quantum</b> : for process applications and high availability solutions .....             | 2/46 to 2/53 |

## Software

|                                                            |              |
|------------------------------------------------------------|--------------|
| Programming software, <b>Zelio Soft 2</b> .....            | 2/17         |
| Programming software, <b>Twido Suite</b> .....             | 2/19         |
| Machine programming software, <b>SoMachine</b> .....       | 2/27         |
| Configuration software, <b>Unity Pro</b> .....             | 2/54 to 2/55 |
| Programming software, <b>PL7, Concept, ProWORX32</b> ..... | 2/56 to 2/57 |
| SCADA software, <b>Vijeo Citect</b> .....                  | 2/58         |
| Reporting software, <b>Vijeo Historian</b> .....           | 2/59         |



| Type of relay                                             | Interface relays<br>RSB           |            |            | Miniature relays<br>RXM       |           |           |           |
|-----------------------------------------------------------|-----------------------------------|------------|------------|-------------------------------|-----------|-----------|-----------|
| Contact characteristics                                   |                                   |            |            |                               |           |           |           |
| Thermal current I <sub>th</sub> 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<br>on DC                              | 6 VDC                             | RSB2A080RD | RSB1A120RD | RSB1A160RD                    | –         | –         | –         |
|                                                           | 12 VDC                            | RSB2A080JD | RSB1A120JD | RSB1A160JD                    | RXM2AB2JD | RXM3AB2JD | RXM4AB2JD |
|                                                           | 24 VDC                            | RSB2A080BD | RSB1A120BD | RSB1A160BD                    | RXM2AB2BD | RXM3AB2BD | RXM4AB2BD |
|                                                           | 48 VDC                            | RSB2A080ED | RSB1A120ED | RSB1A160ED                    | RXM2AB2ED | RXM3AB2ED | RXM4AB2ED |
|                                                           | 60 VDC                            | RSB2A080ND | RSB1A120ND | RSB1A160ND                    | –         | –         | –         |
| Coil supply voltage<br>on AC                              | 110 VDC                           | RSB2A080FD | RSB1A120FD | RSB1A160FD                    | RXM2AB2FD | RXM3AB2ED | RXM4AB2ED |
|                                                           | 24 VAC                            | RSB2A080B7 | RSB1A120B7 | RSB1A160B7                    | RXM2AB2B7 | RXM3AB2B7 | RXM4AB2B7 |
|                                                           | 48 VAC                            | RSB2A080E7 | RSB1A120E7 | RSB1A160E7                    | RXM2AB2E7 | RXM3AB2E7 | RXM4AB2E7 |
|                                                           | 120 VAC                           | RSB2A080F7 | RSB1A120F7 | RSB1A160F7                    | RXM2AB2F7 | RXM3AB2F7 | RXM4AB2F7 |
|                                                           | 220 VAC                           | RSB2A080M7 | RSB1A120M7 | RSB1A160M7                    | –         | –         | –         |
|                                                           | 230 VAC                           | RSB2A080P7 | RSB1A120P7 | RSB1A160P7                    | RXM2AB2P7 | RXM3AB2P7 | RXM4AB2P7 |
|                                                           | 240 VAC                           | RSB2A080U7 | RSB1A120U7 | RSB1A160U7                    | –         | –         | –         |
|                                                           |                                   |            |            |                               |           | RXM4GB2U7 |           |

## Sockets for relays

| Type of socket                                                         |                     | For interface relays RSB |           |              | For miniature relays RXM   |            |            |            |
|------------------------------------------------------------------------|---------------------|--------------------------|-----------|--------------|----------------------------|------------|------------|------------|
| Mixed input/output type sockets with location for protection module    |                     |                          |           |              |                            |            |            |            |
|                                                                        |                     | –                        | –         | –            | 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                    |            |            |            |
|                                                                        | 24...60 VAC         | RZM041BN7                |           |              | RXM041BN7                  |            |            |            |
| RC circuit                                                             | 110...240 VAC       | RZM041FU7                |           |              | RXM041FU7                  |            |            |            |
|                                                                        | 6...24 VDC or AC    | RZM021RB (6)             |           |              | RXM021RB                   |            |            |            |
| Varistor                                                               | 24...60 VDC or AC   | RZM021BN (6)             |           |              | RXM021BN                   |            |            |            |
|                                                                        | 110...230 VDC or AC | RZM021FP (6)             |           |              | RXM021FP                   |            |            |            |
|                                                                        | 24 VDC or AC        | –                        |           |              | –                          |            |            |            |
|                                                                        | 240 VDC or AC       | –                        |           |              | –                          |            |            |            |
| Multifunction timer module                                             | 24...230 VDC or AC  | –                        |           |              | –                          |            |            |            |
| Accessories                                                            |                     |                          |           |              |                            |            |            |            |
| Plastic maintaining clamp                                              |                     | RSZR215                  |           |              | RXZR335                    |            |            |            |
| Metal maintaining clamp                                                |                     | –                        |           |              | RXZ400                     |            |            |            |
| Label for socket                                                       |                     | RSZL300                  |           |              | RXZL420 (except RXZE2M114) |            |            |            |
| Bus jumper                                                             | 2 poles             | –                        |           |              | RXZS2                      |            |            |            |
| DIN rail adapter                                                       |                     | –                        |           |              | RXZE2DA                    |            |            |            |
| Panel mounting adapter                                                 |                     | –                        |           |              | RXZE2FA                    |            |            |            |

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

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

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

## Universal and power relays



| Universal relays<br>RUM |            |            |            |            |  | Power relays<br>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 <sub>2</sub> | AgSnO <sub>2</sub> |
| 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

Zelio Relay

Electromechanical plug-in relays

RSL relays mounted on sockets



| Type of relay                       |                       |                     | Pre-assembled equipped with LED and protection circuit<br>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<br>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<br>Sold in lots of 10 |         |                 |
| Socket connection | Screw connector                                                                     |         | Spring terminal |
|                   | Socket supply voltage                                                               |         |                 |
| References        | 12 and 24 V AC/DC                                                                   | RSLZVA1 | RSLZRA1         |
|                   | 48 and 60 V AC/DC                                                                   | RSLZVA2 | RSLZRA2         |
|                   | 110 V AC/DC                                                                         | RSLZVA3 | RSLZRA3         |
|                   | 230 V AC/DC                                                                         | RSLZVA4 | RSLZRA4         |

Zelio Relay

Solid-state relays  
SSRP relays



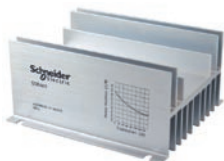
| Type of relay                        | Panel mounted<br>without heat sink and thermal interface |             |             |               |               |              |
|--------------------------------------|----------------------------------------------------------|-------------|-------------|---------------|---------------|--------------|
| Contact characteristics              |                                                          |             |             |               |               |              |
| Thermal current I <sub>th</sub> 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<br>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            |

# Zelio Control Measurement and control relays

## 3-phase monitoring relays



| Function                 | Presence of phase<br>+ phase sequence |               | + phase sequence, +regeneration<br>+ 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<br>+ under/over voltage |               | + presence of neutral<br>+ 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<br>level monitoring                            | Non-conductive material<br>level monitoring | Over/under<br>speed monitoring                                                                                  |
|------------------|------------------------------------------------------------------|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| Power supply     | 24...240 VAC/DC                                                  |                                             |                                                                                                                 |
| Monitoring range | 0,25...5 K $\Omega$<br>5...100 K $\Omega$<br>0,05...1 M $\Omega$ | Input of sensor :<br>Contact / PNP / NPN    | Interval between pulses:<br>0.05...0.5 s, 0.1...1 s, 0.5...5 s<br>1...10 s, 0.1...1 mn, 0.5...5 mn<br>1...10 mn |
| Output           | 2 C/O                                                            | 1 C/O                                       | 1 C/O                                                                                                           |
| Reference        | RM35LM33MW                                                       | RM35LV14MW                                  | RM35S0MW                                                                                                        |

## Current / Voltage / Frequency monitoring relays



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

2



| 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 |                          | Frequency Monitoring    |
|------------------|--------------------|--------------------------|-------------------------|
|                  | over current       | over or under current    | Over or under frequency |
| Power supply     | 24...240 VAC/DC    | 24...240 VAC/DC 50/60 Hz |                         |
| Monitoring range | 2...20 A           | 2...20 mA                | 0.15...1.5 A            |
|                  | built-in CT        | 10...100 mA              | 0.5...5 A               |
|                  |                    | 50...500 mA              | 1.5...15 A              |
| Output           | 1 C/O              | 2 C/O                    | 2 C/O                   |
| Reference        | RM17JC00MW         | RM35JA31MW               | RM35JA32MW              |
|                  |                    |                          | RM35HZ21FM              |

Zelio Control

Measurement and control relays

Lift / Pump / Motor monitoring relays



| Function         | Lift motor room temperature monitoring                        |            | + phase presence<br>+ phase sequence                                                   |
|------------------|---------------------------------------------------------------|------------|----------------------------------------------------------------------------------------|
| Power supply     | 24...240 VAC/DC 50/60Hz                                       |            |                                                                                        |
| Monitoring range | input PT100 3 wires<br>Under -1...+11 °C<br>Over +34...+46 °C |            | 208...480 VAC 50/60Hz<br>input PT100 3 wires<br>Under -1...+11 °C<br>Over +34...+46 °C |
| Output           | 1 C/O                                                         | 2 NO       | 2 C/O                                                                                  |
| Reference        | RM35ATL0MW                                                    | RM35ATR5MW | RM35ATW5MW                                                                             |



| Function         | Pump protection<br>Current monitor<br>+ 3 phase monitor                | Motor Protection<br>Winding Temperature monitor<br>+ 3 phase monitor          |             |
|------------------|------------------------------------------------------------------------|-------------------------------------------------------------------------------|-------------|
| Power supply     | self powered<br>(single phase :230 VAC 50/60 Hz)                       | 24...240 VAC/DC                                                               |             |
| Monitoring range | Current: 0.1...10 A<br>Voltage (three phase):<br>208...480 VAC 50/60Hz | Winding Temperature: PTC sensor<br>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.

2

## 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 undervoltage    |                                    |                                          |                                    |                          |             |
|-----------------------|---------------------------------------|------------------------------------|------------------------------------------|------------------------------------|--------------------------|-------------|
|                       | over and undercurrent                 | over and undervoltage              |                                          |                                    |                          |             |
| Measuring range       | 3...30 mA<br>10...100 mA<br>0.1...1 A | 0.3...1.5 A<br>1...5 A<br>3...15 A | 0.05 ...0.5 V<br>0.3 ...3 V<br>0.5...5 V | 1...10 V<br>5...50 V<br>10...100 V | 30...300 V<br>50...500 V | 180...270 V |
| Adjustable time delay | 0.05...30 s                           | 0.05...30 s                        | 0.05...30 s                              | 0.05...30 s                        | 0.05...30 s              | 0.1...10 s  |
| Output                | 2 C/O                                 | 2 C/O                              | 2 C/O                                    | 2 C/O                              | 2 C/O                    | 2 C/O       |
| References            | RM4JA31• (3)                          | RM4JA32• (3)                       | RM4UA31• (3)                             | RM4UA32• (3)                       | RM4UA33• (3)             | RM4UB35     |

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

| Voltage     | RM4-LG01      | RM4-LA32      |     |
|-------------|---------------|---------------|-----|
|             | 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             | —   |



## Liquid level control relays

| Control relays    | Empty or fill |                                                 |
|-------------------|---------------|-------------------------------------------------|
| Sensitivity scale | 5 ... 100 kΩ  | 0.25 ... 5 kΩ<br>2.5 ... 50 kΩ<br>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                                                  |

# Zelio Control

## 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                                                                                   | REG48PUN1ARHU | REG48PUN1RLU  |            |
|                      |                    | 2/relay                   | REG48PUN2RHU                                                                                   | —             | REG48PUN2RLU  |            |
|                      |                    | 1/solid-state             | REG48PUN1LHU                                                                                   | REG48PUN1LHU  | REG48PUN1LLU  |            |
|                      |                    | 1 + 1 solid-state         | REG48PUN2RLHU                                                                                  | —             | REG48PUN2RLLU |            |
|                      |                    | 1/4-20 mA                 | REG48PUN1JHU                                                                                   | —             | REG48PUN1JLU  |            |
|                      |                    | 1/solid-state + 1/4-20 mA | REG48PUN2LJHU                                                                                  | —             | REG48PUN2LJLU |            |



| Type of relay        |                    |                           | Size 96 x 48 mm - 1/8 DIN                                                                      |               |               |            |
|----------------------|--------------------|---------------------------|------------------------------------------------------------------------------------------------|---------------|---------------|------------|
| Input type           |                    |                           | Universal                                                                                      |               |               |            |
| Integrated functions |                    |                           | Hysteresis, PID, auto-tuning, fuzzy logic, rampe 16 steps, automatic and manual operating mode |               |               |            |
| Alarm output         |                    |                           | 3                                                                                              |               |               |            |
| Communication        |                    |                           | ModBus                                                                                         | —             | ModBus        |            |
| Supply voltage       |                    |                           | 100...240 VAC                                                                                  |               |               | 24 V AC/DC |
| References           | Number/Output type | 1/relay                   | REG96PUN1RHU                                                                                   | REG96PUN1ARHU | REG96PUN1RLU  |            |
|                      |                    | 2/relay                   | REG96PUN2RHU                                                                                   | —             | REG96PUN2RLU  |            |
|                      |                    | 1/solid-state             | REG96PUN1LHU                                                                                   | REG96PUN1LHU  | REG96PUN1LLU  |            |
|                      |                    | 1 + 1 solid-state         | REG96PUN2RLHU                                                                                  | —             | REG96PUN2RLLU |            |
|                      |                    | 1/4-20 mA                 | REG96PUN1JHU                                                                                   | —             | REG96PUN1JLU  |            |
|                      |                    | 1/solid-state + 1/4-20 mA | REG96PUN2LJHU                                                                                  | —             | REG96PUN2LJLU |            |

Zelio Count

Counters  
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.

2

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 automatic |               |               |               |
| Front face dimensions, W x H |                |         | 48 x 48 mm                     |               |               |               |
| Preselection number          |                |         | 1                              | 2             | 1             | 2             |
| References                   | Supply voltage | 24 VDC  | XBKP61130G30E                  | XBKP61230G30E | XBKP62130G30E | XBKP62230G30E |
|                              |                | 115 VAC | XBKP61130G31E                  | XBKP61230G31E | –             | –             |
|                              |                | 230 VAC | XBKP61130G32E                  | XBKP61230G32E | XBKP62130G32E | XBKP62230G32E |

# Zelio Time

## Timing relays

### Modular timers



| Type of modular timer<br>width 17.5 mm, relay output | On-delay         | Multifunction    |               |                  |
|------------------------------------------------------|------------------|------------------|---------------|------------------|
| External control                                     | no               | –                | –             | –                |
| Supply voltage                                       | 24...240 VAC/VDC | 24...240 VAC/VDC | –             | 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                                           | RE17RAMU         | RE17RMMU (1)     | RE17RMEMU (2) | RE17RMMW (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<br>width 17.5 mm, relay output | Asymmetrical<br>flashing | Pulse on<br>energisation | Off delay        | Timing on<br>impulse |
|------------------------------------------------------|--------------------------|--------------------------|------------------|----------------------|
| External control                                     | –                        | –                        | –                | –                    |
| Supply voltage                                       | 24...240 VAC/VDC         | 24...240 VAC/VDC         | 24...240 VAC/VDC | 24...240 VAC/VDC     |
| 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                                           | RE17RLMU                 | RE17RHMU                 | RE17RCMU         | RE17RBMU             |



| Type of modular timer<br>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                                                 | RE17LAMW        | RE17LCBM      | RE17LMBM          |

(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<br>flasher | Multifunction (4) | Multifunction (5) |
|-----------------------------|-----------------|-------------------------|-------------------|-------------------|
| Power supply                | 24...240 VAC/DC |                         |                   |                   |
| Time range                  | 0,02 s...300 h  |                         |                   |                   |
| Output                      | 2 relay 5 A     |                         |                   |                   |
| Reference                   | RE48ATM12MW     | RE48ACV12MW             | RE48AMH13MW (6)   | RE48AML12MW       |
| Back panel mounting socket  | RUZC2M          | RUZC3M                  | RUZC2M            | RUZC3M            |
| Front panel mounting socket | RE48ASOC8SOLD   | RE48ASOC11SOLD          | RE48ASOC8SOLD     | RE48ASOC11SOLD    |

(4) Timer on-delay / pulse on energization

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

(6) 1 selectable in instantaneous

## Industrial timers



| Type of single function relay<br>width 22.5 mm, relay output | On-delay                   |                                              | Off-delay       |                                              |                                              |
|--------------------------------------------------------------|----------------------------|----------------------------------------------|-----------------|----------------------------------------------|----------------------------------------------|
| External control                                             | no                         | yes                                          | no              | yes                                          | yes                                          |
| Supply voltage                                               | 24 VAC/DC<br>110...240 VAC | 24 VAC/DC<br>42...48 VAC/DC<br>110...240 VAC | 24...240 VAC/DC | 24 VAC/DC<br>42...48 VAC/DC<br>110...240 VAC | 24 VAC/DC<br>42...48 VAC/DC<br>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<br>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<br>42...48 VAC/DC<br>110...240 VAC | 24 VAC/DC<br>110...240 VAC | 24 VAC/DC<br>42...48 VAC/DC<br>110...240 VAC | 24 VAC/DC<br>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                           |                     | On-delay                                                                                              |                      |
|-------------------------------------|---------------------|-------------------------------------------------------------------------------------------------------|----------------------|
| Timing ranges                       | 7 switchable ranges | 0.1 s...1 s - 1 s...10 s - 0.1 min...1 min - 1 min...10 min - 0.1 h...1 h - 1 h...10 h - 10 h...100 h |                      |
| Relay output                        |                     | 4 timed C/O contacts                                                                                  | 2 timed C/O contacts |
| Rated current                       |                     | 3 AC 5 A                                                                                              | AC 5 A               |
| Voltages                            | 24 VDC              | RE XL4TMBD                                                                                            | RE XL2TMBD           |
|                                     | 24 VAC 50/60 Hz     | RE XL4TMB7                                                                                            | RE XL2TMB7           |
|                                     | 120 VAC 50/60 Hz    | RE XL4TMF7                                                                                            | RE XL2TMF7           |
|                                     | 230 VAC 50/60 Hz    | RE XL4TMP7                                                                                            | RE XL2TMP7           |
| Socket with mixed contact terminals | With screw clamp    | RXZE2M114                                                                                             | RXZE2M114            |
|                                     | With connector      | RXZE2M114M                                                                                            | RXZE2M114M           |

Zelio Analog

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2

Analog Interface

Universal Thermocouple



| Type                 | Thermocouple                                |                           |                            |                            |                             |
|----------------------|---------------------------------------------|---------------------------|----------------------------|----------------------------|-----------------------------|
| Temperature range    | 0...150 °C<br>32...302 °F                   | 0...300 °C<br>32...572 °F | 0...600 °C<br>32...1112 °F | 0...600 °C<br>32...1112 °F | 0...1200 °C<br>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<br>-40...104 °F                 | -100...100 °C<br>-148...212 °F | 0...100 °C<br>32...212 °F | 0...250 °C<br>32...482 °F | 0...500 °C<br>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<br>-40...104 °F | -100...100 °C<br>-148...212 °F | 0...100 °C<br>32...212 °F | 0...250 °C<br>32...482 °F | 0...500 °C<br>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                  |

2

## Universal Analog Converter



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

# Zelio Logic

## Smart relays

### Compact, SR2



| Compact smart relays       |  | With display, a.c. power supply |                  |          |                 |           |                         |
|----------------------------|--|---------------------------------|------------------|----------|-----------------|-----------|-------------------------|
| Supply voltage             |  | 24 VAC                          |                  | 48 VAC   | 100...240 VAC   |           |                         |
| Number of inputs/outputs   |  | 12                              | 20               | 20       | 10              | 12        | 20                      |
| Number of inputs           |  | Discrete inputs                 |                  | 12       | 6               | 8         | 12                      |
| Number of outputs          |  | 4 relay                         | 8 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                      |  | yes                             | yes              | no       | no              | yes       | no                      |
| 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                  |                  | 6               | 8             | 12               | 12            |
|                            |  | including 0-10 V analogue inputs |                  | -               | 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                     |           | 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**)

## 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** (SR3B101BD) or by 2 for a smart relay with **transistor output** (SR3B102BD)



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

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

## Zelio Soft 2 software and programming tools



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

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

## Communication interface for SR2/SR3

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

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



| Type 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),<br>2 solid-state (1 A) |
| Type of connection                |                              | Screw terminals (non removable)            |                                           |                  |                                        |
| Possible I/O expansion modules    |                              | –                                          | –                                         | 4                | 7                                      |
| Counting                          |                              | 3 x 5 kHz, 1 x 20 kHz                      |                                           |                  |                                        |
| PWM positioning                   |                              | –                                          |                                           |                  |                                        |
|                                   |                              | 2 x 7 kHz                                  |                                           |                  |                                        |
| Serial ports                      |                              | 1 x RS 485                                 | 1 x RS 485; option: 1 x RS 232C or RS 485 |                  |                                        |
| Protocol                          |                              | Modbus master/slave, ASCII, I/O relocation |                                           |                  |                                        |
| Ethernet port                     |                              | –                                          | –                                         | –                | RJ45 Ethernet                          |
| Dimensions, W x D x H             |                              | 80 x 70 x 90 mm                            | 80 x 70 x 90 mm                           | 95 x 70 x 90 mm  | 157 x 70 x 90 mm                       |
| References                        | Supply voltage 100...240 VAC | TWDLCAA10DRF                               | TWDLCAA16DRF                              | TWDLCAA24DRF     | TWDLCAE40DRF (1)                       |
|                                   | Supply voltage 19.2...30 VDC | TWDLCA10DRF                                | TWDLCA16DRF                               | TWDLCA24DRF      | TWDLCDE40DRF (1)                       |
|                                   | Real-time clock (option)     | TWDXCPRTC                                  |                                           |                  |                                        |
|                                   | Display unit (option)        | TWDXCPODC                                  |                                           |                  |                                        |
|                                   | Memory cartridge (option)    | TWDXCPMF32 (3)                             |                                           |                  |                                        |

(1) 40 I/O version without Ethernet also available: TWDLCAA40DRF and TWDLCA40DRF

## 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) | TWDXCPMF32 (3)                             | TWDXCPMF64 (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 2/21

## 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<br>Modular base via integrated display module TWDXCPODM |            |                 |
| References                    | TWDNOZ232D                                 | TWDNOZ485D | TWDNOZ485T      | TWDNAC232D                                                                           | TWDNAC485D | TWDNAC485T      |

2



| 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<br>TSXCRJMD25 | TSXPCX1031           | VW3A8115                          | VW3A8114             |

# Modicon M238

## Logic controllers

### 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)<br>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                                                         |
|------------------------------------|---------------------|------------------------------------------------------------------------|
| Description                        | Ethernet Modbus/TCP | Kit: program loader, cable (USB/mini-B USB), 2 batteries (type AA/LR6) |
| Maximum number of modules per base | 1                   | –                                                                      |
| References                         | 499TWD01100         | TM2USBABDEV1                                                           |

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

# 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<br>type K, J, T | 0...10 V (1)<br>4...20 mA (2) | 0...10 V (1)<br>0...20 mA (2)<br>θ °C | 0...10 V (1)<br>0...20 mA (2) | PTC/NTC   | Thermo probe<br>Pt100 / Pt1000<br>- 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                                          | TM2ARI8LR     |

(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)<br>4...20 mA (2) | Thermocouple type K, J & T<br>3-wire Pt 100 thermal probe | 0...10 V (1)<br>4...20 mA (2) |
|                                 | Resolution |  | —                                      | —              | 12 bits (4096 points)         | 12 bits (4096 points)                                     | 12 bits (4096 points)         |
| Outputs                         | Range      |  | 0...10 V (1)<br>4...20 mA (2)          | ± 10 V         | 0...10 V (1)<br>4...20 mA (2) | 0...10 V (1)<br>4...20 mA (2)                             | 0...10 V (1)<br>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                      |

# Modicon M258

## Logic controllers

### Bases



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*                | 4 inputs (+10V/-10V, 4-20mA/0-20mA, 12-bits resolution)                                                                                                  |                                |
| Outputs                          | Transistor             | 16 outputs (0,5A) including 4 reflex outputs (100 kHz)                                                                                                   |                                |
|                                  | Relay                  | –                                                                                                                                                        |                                |
| Optional communication ports*    |                        | 2 PCI slots available on controller for optional communication modules (Profibus DP Slave, SL RS232, SL RS485)                                           |                                |
| 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<br>RS485 serial link (supplies 250 mA, 5 V for HMI power supply)<br>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, Ethernet Modbus TCP                                                                                               |                                |
| Max. number of expansions        |                        | 250 modules (local or remote) for digital IO, analog IO or Expert functions                                                                              |                                |
| References                       |                        | TM258LD42DT<br>TM258LD42DT4L*                                                                                                                            | TM258LF42DT<br>TM258LF42DT4L*  |

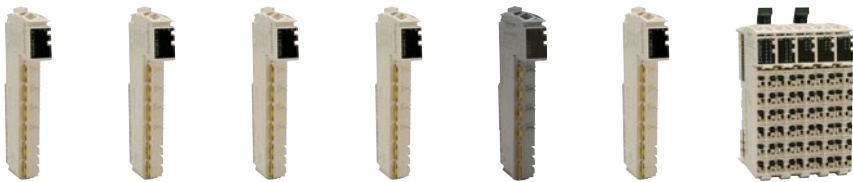
\*4 analog inputs & 2 PCI slots only for TM258LD42DT4L



| 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<br>12 bits resolution |
| Outputs                          | 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<br>RS485 serial link (supplies 250 mA, 5 V for HMI power supply)<br>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<sup>(1)</sup>



| Type of module                | Input                                                                               |                                                                                     |                                                                                     | Output                                                                                |                                                                                       |                                                                                       | Input<br>Output<br>Digital |
|-------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------|
|                               | Digital                                                                             | Analog                                                                              |                                                                                     | Digital                                                                               |                                                                                       | Analog                                                                                |                            |
| 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 /<br>Current                                                                | –                                                                                     | –                                                                                     | Voltage /<br>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, please see page 6/13 and 6/3 or consult [www.schneider-electric.com](http://www.schneider-electric.com)

(2) To be ordered separately

# Modicon LMC058 Motion Controllers 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 outputs |                                   | 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<br>RS485 serial link (supplies 250 mA, 5 V for HMI power supply)<br>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<br>Ethernet TCP Modbus<br>SoMachine protocol<br>FTP server embedded<br>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 2/23



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<br>10/100 BASE-T, RJ45 |
| Downloadable protocols    |                              | Mitsubishi (Melsec), Omron (Sysmac), Rockwell Automation (Allen Bradley), Siemens (Simatic)<br>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<br>or CANopen module                                                                                        | 3 modules TM2<br>or CANopen module |                                             |
| Supply voltage            |                              | 24 VDC                                                                                                                    |                                    |                                             |
| References                | Source Output                | XBTGC1100T                                                                                                                | XBTGC2120T                         | XBTGC2230T                                  |
|                           | Sink Output                  | XBTGC1100U                                                                                                                | XBTGC2120U                         | XBTGC2230U                                  |

2

## Extensions

| Type of module  | CANopen Master                                    |
|-----------------|---------------------------------------------------|
| Characteristics | Class M10 limited 16 slaves, Standard DS301 V4.02 |
| References      | XBTZGCCAN                                         |

| Type of module  | Digitals Inputs / Outputs      |                                 |                       |                       |                                 |                                          |                                           |
|-----------------|--------------------------------|---------------------------------|-----------------------|-----------------------|---------------------------------|------------------------------------------|-------------------------------------------|
| Characteristics | 8I<br>24 VDC<br>Screw terminal | 16I<br>24 VDC<br>Screw terminal | 16I<br>24 VDC<br>HE10 | 32I<br>24 VDC<br>HE10 | 8I<br>120 VAC<br>Screw terminal | 4I 24 VDC<br>40 Relays<br>Screw terminal | 16I 24 VDC<br>80 Relays<br>Screw terminal |
| References      | TM2DDI8DT                      | TM2DDI16DT                      | TM2DDI16DK            | TM2DDI32DK            | TM2DAI8DT                       | TM2DMM8DRT                               | TM2DMM24DRF                               |

| Type of module  | Digitals Inputs / Outputs                 |                                  |                                  |                                               |                                                |            |
|-----------------|-------------------------------------------|----------------------------------|----------------------------------|-----------------------------------------------|------------------------------------------------|------------|
| Characteristics | 8O Transistor<br>24 VDC<br>Screw terminal | 16O Transistor<br>24 VDC<br>HE10 | 32O Transistor<br>24 VDC<br>HE10 | 8O Relays<br>230 VAC 30 VDC<br>Screw terminal | 16O Relays<br>230 VAC 30 VDC<br>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<br>Temperature | 8I Current/Voltage | 8I Temperature          | 8I PTC    |
| References      | TM2AMI2HT               | TM2AMI2LT       | TM2AMI4LT                         | TM2AMI8HT          | TM2ARI8LRJ<br>TM2ARI8LT | TM2ARI8HT |

| Type of module  | Analog Inputs / Outputs |            |                                          |                                      |                                          |
|-----------------|-------------------------|------------|------------------------------------------|--------------------------------------|------------------------------------------|
| Characteristics | 1O Current/Voltage      | 2O Voltage | 2I Current/Voltage<br>1O Current/Voltage | 2I Temperature<br>1O Current/Voltage | 4I Current/Voltage<br>2O Current/Voltage |
| References      | TM2AMO1HT               | TM2AVO2HT  | TM2AMM3HT                                | TM2ALM3LT                            | TM2AMM6HT                                |

For HMI Controllers Magelis XBTGT/GK with control function, see pages 1/36 to 1/38.

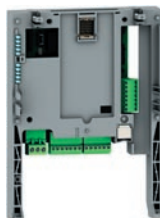


SoMachine



| 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<br>2 high-speed counter inputs (100 kHz) or<br>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](http://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)                            | 1 x 0...20 mA differential current analog input                                            |
|              | 4 x 24 VDC positive or negative logic inputs                    | 1 software-configurable voltage (0...10 VDC) or<br>current (0...20 mA) analog input        |
|              | 2 x 24 VDC open collector positive or negative logic<br>outputs | 2 software-configurable voltage (±10V, 0...10 VDC)<br>or current (0...20 mA) analog inputs |
|              | 1 input for PTC probes                                          | 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<br>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



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

2

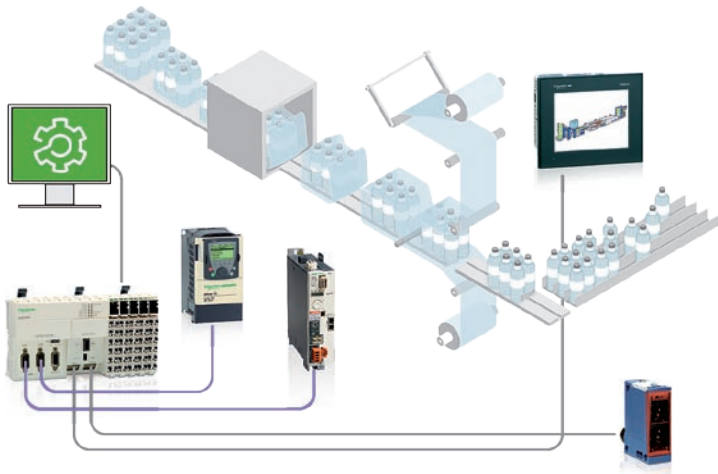
Simplify machine programming and commissioning

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                            | Download                                                | Connection               | File                                      |
|-------------------------------------------|---------------------------------------------------------|--------------------------|-------------------------------------------|
| for controllers, HMI, and remote devices. | to transfer the entire machine program in a single step | to access to all devices | Create and maintain a single project file |



| 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:<br>- Transparent Ready class B30 standard web server with BMX NOE 0100 module<br>- 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.

# 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                                                                          |

2



| Type of module        |                                 | Ethernet Network Communication             |                                                                        |                            |
|-----------------------|---------------------------------|--------------------------------------------|------------------------------------------------------------------------|----------------------------|
| Speed                 |                                 | 10/100 Mb/s                                |                                                                        | 10/100 Mb/s                |
| Protocols             |                                 | Modbus TCP                                 | TCP/IP<br>(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<br>Class B | Transparent Ready:<br>Class C<br>32 MB available for<br>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.<br>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        |  | <b>TCSEGA23F14F</b>                                                                                                                                                                                                                       | <b>TCSEGA23F14FK</b>                  |

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

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

## Communication modules



| Type of module                                  |                                                          | RTU communication                                                                                                                 |
|-------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| <b>Designation</b>                              |                                                          | Communication                                                                                                                     |
| <b>Protocols</b>                                |                                                          | IEC 60870-5-101, DNP3 (subset level 3), Modbus/TCP, IEC 60870-5-104, DNP3 IP, DNP3 (subset level 3), Multi-protocols master slave |
| <b>Ports</b>                                    | 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)                                         |
| <b>Conformity class</b>                         |                                                          | Transparent Ready class C30                                                                                                       |
| <b>Transparent Ready communication services</b> | 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)                                                                                                                       |
| <b>RTU communication services</b>               | Master or Slave configuration                            | Yes, IEC101/104 and DNP3, with Pull through routing of events                                                                     |
|                                                 | RTU clock synchronization                                | via RTU protocol or NTP                                                                                                           |
|                                                 | Time stamped data and events exchanges                   | Yes, IEC101/104 and DNP3, polled interrogations, Report by exception (RbE), unsolicited responses                                 |
|                                                 | Time stamped events buffering and date stamped events    | up to 100000 events, backup of events on power fail (10000)                                                                       |
|                                                 | Automatic bacfill of time stamped events to Master/SCADA | Yes, on network disconnection/reconnection                                                                                        |
|                                                 | Data logging service                                     | in CSV files in SD card memory (128 MB)                                                                                           |
|                                                 | Email/SMS service                                        | Alarm and report notification                                                                                                     |
|                                                 | Memory Card                                              | SD card 128 MB                                                                                                                    |
| <b>Reference</b>                                |                                                          | <b>BMXNOR0200H</b>                                                                                                                |

Modicon M340

Programmable Automation Controller

Power supply modules



2

| 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<br>0.83 A at 48 VDC | 0.61 A at 115 VAC<br>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<br>(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                                                      |



| Type of module       |            |         | DC input modules                                           |                         |                         |                        |                                                            |                |
|----------------------|------------|---------|------------------------------------------------------------|-------------------------|-------------------------|------------------------|------------------------------------------------------------|----------------|
| Number of inputs     |            |         | 16                                                         | 16                      | 32                      | 64                     | 16                                                         | 16             |
| Connection           |            |         | Screw or spring-type<br>20-way removable<br>terminal block |                         | 1 connector<br>40-way   | 2 connectors<br>40-way | Screw or spring-type<br>20-way removable<br>terminal block |                |
| Nominal input values | Voltage    |         | 24 V                                                       | 48 V                    | 24 V                    |                        |                                                            | 125 VDC        |
|                      | Current    |         | 3.5 mA                                                     | 2.5 mA                  | 1 mA                    | 3 mA                   |                                                            |                |
|                      | Logic      |         | Positive ( <i>sink</i> )                                   |                         |                         |                        | Negative ( <i>source</i> )                                 |                |
| Input limit values   | At state 1 | Voltage | ≥11 V                                                      | ≥34 V                   | ≥11 V                   | ≥15 V                  | ≥14 V                                                      |                |
|                      |            | Current | > 2 mA<br>(for U ≥11 V)                                    | > 2 mA<br>(for U ≥34 V) | > 2 mA<br>(for U ≥11 V) | > 1 mA<br>(for U ≥5 V) | > 2 mA<br>(for U ≥15 V)                                    |                |
|                      | At state 0 | Voltage | < 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 ( <i>source</i> )                                         | Negative ( <i>sink</i> ) | Positive ( <i>source</i> ) |                       |
| Output limit values      | Voltage (ripple included) | 19...30 (possible up to 34 V, limited to 1 hour in every 24 hours) |                          |                            |                       |
|                          | Current per channel       | 0.625 A                                                            |                          |                            | 0.125 A               |
|                          | Current per module        |                                                                    |                          |                            |                       |
| Maximum dissipated power |                           | 4                                                                  | 2.26                     | 3.6                        | 6.85                  |
| References               |                           | BMXDDO1602                                                         | BMXDDO1612               | BMXDDO3202K                | BMXDDO6402K           |

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Programmable Automation Controller

Discrete I/O modules



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

2



| Type of module     | Analog input module                                                                                                                                                                |                            |                                |                                                                                                                                    |            |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------|------------|
| Input type         | Isolated high-level inputs                                                                                                                                                         | Isolated high-level inputs | Non isolated high-level inputs | Isolated inputs, low-level voltage, resistors, temperature probes, thermocouples                                                   |            |
| Number of channels | 4                                                                                                                                                                                  | 8                          | 8                              | 4                                                                                                                                  | 8          |
| Nature of inputs   | $\pm 10\text{ V}$ , $\pm 5\text{ V}$ , $0\ldots 5\text{ V}$ , $0\ldots 10\text{ V}$ , $1\ldots 5\text{ V}$<br>$0\ldots 20\text{ mA}$ , $4\ldots 20\text{ mA}$ , $\pm 20\text{ mA}$ |                            |                                | $\pm 40\text{ mV}$ , $\pm 80\text{ mV}$ , $\pm 160\text{ mV}$ , $\pm 320\text{ mV}$ ,<br>$\pm 640\text{ mV}$ , $\pm 1.28\text{ V}$ |            |
| Resolution         | 0.35 mV/0.92 $\mu\text{A}$                                                                                                                                                         |                            |                                | 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                   | $\pm 10\text{ V}$ , $0\ldots 5\text{ V}$ , $0\ldots 10\text{ V}$ , $1\ldots 5\text{ V}$ , $0\ldots 20\text{ mA}$ , $4\ldots 20\text{ mA}$ | $\pm 10\text{ V}$ , $0\ldots 20\text{ mA}$ , $4\ldots 20\text{ mA}$ |
| Maximum conversion value | Voltage                                                                                                                                   | $\pm 11.25\text{ V}$                                                |
|                          | Current                                                                                                                                   | $0\ldots 30$                                                        |
| Resolution               | 14 bits, 12 bits, 13 bits, 12 bits                                                                                                        | 12 bits, 11 bits                                                    |
| Reference                | 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                              |

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Programmable Automation Controller

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                                            |

2

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.



| Type of processor                                                   |                                | TSX 5710<br>4 racks max. | TSX 5720<br>16 racks max.        | TSX 5730<br>16 racks max.         |
|---------------------------------------------------------------------|--------------------------------|--------------------------|----------------------------------|-----------------------------------|
| Number of I/O in racks                                              | Discrete                       | 512                      | 1024                             | 1024                              |
|                                                                     | Analog                         | 24                       | 80                               | 128                               |
| Integrated process control                                          |                                | No / Yes                 | 30 loops / Yes                   | 45 loops / Yes                    |
| Application-specific channels (counter, position control, weighing) |                                | 8                        | 24                               | 32                                |
| Bus                                                                 | AS-Interface cabling system    | 2                        | 4                                | 8                                 |
|                                                                     | CANopen machine bus            | 1                        | 1                                | 1                                 |
|                                                                     | INTERBUS, Profibus DP fieldbus | –                        | 1                                | 3                                 |
| Networks (Ethernet, Modbus Plus, Fipway)                            |                                | 1                        | 2                                | 3                                 |
| Memory capacity                                                     | Without PCMCIA extension       | 96 Kb data/prog.         | 160/192 Kb data/prog. (1)        | 192/208 Kb data/prog. (1)         |
|                                                                     | With PCMCIA extension          | 96 Kb data/224 Kb prog.  | 160/192 Kb data (1)/768 Kb prog. | 192/208 Kb data (1)/1,75 MB prog. |
| Execution time for one instruction without ext. PCMCIA              |                                | 0.19 µs                  | 0.19 µs                          | 0.12 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<br>4 racks max.         | TSX 5720<br>16 racks max.             | TSX 5730<br>16 racks max.                |
|---------------------------------------------------------------------|--------------------------------|----------------------------------|---------------------------------------|------------------------------------------|
| Number of I/O in racks                                              | Discrete                       | 512                              | 1024                                  | 1024                                     |
|                                                                     | Analog                         | 24                               | 80                                    | 128                                      |
| Integrated process control                                          |                                | No                               | 30 loops                              | 45 loops                                 |
| Application-specific channels (counter, position control, weighing) |                                | 8                                | 24                                    | 32                                       |
| Bus                                                                 | AS-Interface cabling system    | 2                                | 4                                     | 8                                        |
|                                                                     | CANopen machine bus            | 1 (with TSXP57103M)              | 1                                     | 1                                        |
|                                                                     | INTERBUS, Profibus DP fieldbus | –                                | 1                                     | 2                                        |
| Networks (Ethernet, Modbus Plus, Fipway)                            |                                | 1                                | 1                                     | 3                                        |
| Memory capacity                                                     | Without PCMCIA extension       | 32 K words data/prog.            | 48 K words data/prog. (4)             | 64/80 K words data/prog. (4)             |
|                                                                     | With PCMCIA extension          | 32 K words data/64 K words prog. | 32 K words data (4)/160 K words prog. | 80/96 K words data (4)/384 K words prog. |
| Execution time for one instruction without ext. PCMCIA              |                                | 0.19 µs                          | 0.19 µs                               | 0.12 µs                                  |
| Reference                                                           | Without integrated port        | TSXP57103M (6)                   | TSXP57203M (6)                        | TSXP57303AM (6)                          |
|                                                                     | Integrated Ethernet            | –                                | TSXP572623M (6)                       | TSXP573623AM (6)                         |
|                                                                     | Integrated Fipio               | TSXP57153M (6)                   | TSXP57253M (6)                        | TSXP57353AM (6)                          |
|                                                                     | Integrated Ethernet and Fipio  | –                                | TSXP572823M (6)                       | –                                        |

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

(2) Processor with double format

(3) PC format card on PCI bus

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

(5) with PL7 V4.4 min.

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



## HotStandBy offer



|                        | TSX 5740<br>16 racks max. | TSX 5750<br>16 racks max. | TSX 5760<br>16 racks    | TSXH5724M<br>16 racks     | TSXH5744M<br>16 racks     |
|------------------------|---------------------------|---------------------------|-------------------------|---------------------------|---------------------------|
| 2048                   | 2048                      | 2048                      | 2048                    | 512                       | 512                       |
| 256                    |                           | 512                       | 512                     | 80                        | 128                       |
| 60 loops / Yes         |                           | 90 loops / Yes            | 90 loops / Yes          | 30 loops / Yes            | 60 loops / Yes            |
| 64                     |                           | 64                        | 64                      | 16 (serial communication) | 16 (serial communication) |
| 8                      |                           | 8                         | 8                       | 0                         | 0                         |
| 1                      |                           | 1                         | 1                       | 0                         | 0                         |
| 4                      |                           | 5                         | 5                       | 0                         | 0                         |
| 4                      |                           | 4                         | 4                       | 2                         | 4                         |
| 320 Kb data/prog.      |                           | 1024 Kb data/prog.        | 2048 Kb data/prog.      | 192 Kb                    | 440 Kb                    |
| 440 Kb data/2 MB prog. |                           | 1024 Kb data/7 MB prog.   | 2048 Kb data/7 MB prog. | 192 Kb data/768 Kb prog.  | 440 Ko data/2 MB prog.    |
| 0.06 µs                |                           | 0.037 µs                  | 0,037 µs                | 0,039 µs                  | 0,039 µs                  |
| 0.07 µs                |                           | 0.045 µs                  | 0,045 µs                | 0,054 µs                  | 0,054 µs                  |
| –                      | –                         | –                         | –                       | TSXH5724M (6)             | TSXH5744M (6)             |
| TSXP574634M (6)        | TSXP575634M (6)           | TSXP576634M (6)           |                         |                           |                           |
| –                      | –                         | –                         |                         |                           |                           |
| TSXP57454M (6)         | TSXP57554M (6)            | –                         |                         |                           |                           |

# Modicon Premium Programmable Automation Controller

## Memory extensions for Unity Pro processors



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

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

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

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

## Memory extensions for PL7 processors



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

(4) The 1<sup>st</sup> 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 <sup>(1)</sup>



| 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

2

## Racks



| Type of rack      |                  |                                       | Non extendable          | Extendable                |
|-------------------|------------------|---------------------------------------|-------------------------|---------------------------|
| For configuration |                  |                                       | Mono-rack               | Multi-rack (16 max.)      |
| Reference         | Dimensions WxDxP |                                       |                         |                           |
|                   | 4 positions      | 188 x 160 x 151,5 mm <sup>(3)</sup>   | –                       | TSXRKY4EX <sup>(4)</sup>  |
|                   | 6 positions      | 261,6 x 160 x 151,5 mm <sup>(3)</sup> | TSXRKY6 <sup>(4)</sup>  | TSXRKY6EX <sup>(4)</sup>  |
|                   | 8 positions      | 335,3 x 160 x 151,5 mm <sup>(3)</sup> | TSXRKY8 <sup>(4)</sup>  | TSXRKY8EX <sup>(4)</sup>  |
|                   | 12 positions     | 482,6 x 160 x 151,5 mm <sup>(3)</sup> | TSXRKY12 <sup>(4)</sup> | TSXRKY12EX <sup>(4)</sup> |

(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                   |
|-----------|-------------------------------------------------|----------------------------------------------------|
| Reference | –                                               | Set of 2                                           |
|           | –                                               | TSXTLYEX                                           |
|           | –                                               | TSXTVSY100 (2 Bus X Transcient voltage suppressor) |
|           | L = 1 m                                         | TSXCBY010K                                         |
|           | L = 3 m                                         | TSXCBY030K                                         |
|           | L = 5 m                                         | TSXCBY050K                                         |
|           | L = 12 m                                        | TSXCBY120K                                         |
|           | L = 18 m                                        | TSXCBY180K                                         |
|           | L = 28 m                                        | TSXCBY280KT                                        |
|           | L = 38 m                                        | TSXCBY380KT                                        |
|           | L = 50 m                                        | TSXCBY500KT                                        |
|           | L = 72 m                                        | TSXCBY720KT                                        |
|           | L = 100 m                                       | TSXCBY1000KT                                       |

# Modicon Premium Programmable Automation Controller

## Discrete I/O modules



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

(1) Terminal block to be ordered separately

(2) For use with Modicon ABE7 wiring system

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

(4) Module also compatible with 24 VDC negative logic



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

(1) Terminal block to be ordered separately

(2) For use with Modicon ABE7 wiring system



| Type of module              |  | Discrete I/O                        |                    |
|-----------------------------|--|-------------------------------------|--------------------|
| Connection                  |  | By HE 10 connector (2) high density |                    |
| Number of inputs            |  | 16 high-speed                       |                    |
| Number of protected outputs |  | 12 solid state                      | 12 reflex or timed |
| Output voltage/current      |  | 24 VDC/0.5 A<br>TSXDMY28FK (5)      | TSXDMY28RFB (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](http://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**

# Modicon Premium Programmable Automation Controller

## Counter modules



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

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

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

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

(4) For SSI serial or parallel output absolute encoders

(5) For RS485 serial or parallel output absolute encoders

## Motion control modules



| Module type             | For translators<br>(amplifier for stepper motor) |              | For analog control servomotors<br>(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                      | 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<br>(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<br>supplied uncalibrated                                                  |                | supplied calibrated and  offer |
|----------------------------|------------------------------------------------------------------------------------|----------------|---------------------------------------------------------------------------------------------------------------------|
| Load cell inputs / outputs | 50 measurements (for 1 to 8 load cells) / 2 discrete and 1 RS 485 for display unit |                |                                                                                                                     |
| Reference                  | Without display unit                                                               | TSXISPY101 (1) | Please consult Schneider Electric                                                                                   |
|                            | With display unit TSXXBTN410                                                       | TSXISPY121     | Please consult Schneider Electric                                                                                   |

Connection accessories: See [www.schneider-electric.com](http://www.schneider-electric.com)

## Communication modules



| Type of module    |                          | Ethernet network communication      |                             |                |                |                |                          |
|-------------------|--------------------------|-------------------------------------|-----------------------------|----------------|----------------|----------------|--------------------------|
| Speed             |                          | 10 Mb/s                             | 10/100 Mb/s                 |                |                |                |                          |
| Standard services |                          | Ethway, Modbus TCP (Uni-TE, Modbus) | Modbus TCP (Uni-TE, Modbus) |                |                |                | EtherNet/IP & Modbus TCP |
| Transparent Ready | Class                    | C10                                 | B30                         | B30            | C30            | D10            | B30                      |
|                   | Global Data              | –                                   | Yes                         | Yes            | Yes            | –              | –                        |
|                   | I/O Scanning             | –                                   | Yes                         | Yes            | Yes            | –              | Yes                      |
|                   | QoS (3)                  | –                                   | –                           | –              | –              | –              | Yes                      |
|                   | TCP Open                 | Yes                                 | –                           | –              | Yes            | –              | –                        |
| Web server        | Standard services        | Yes                                 | Yes                         | Yes            | Yes            | Yes            | Yes                      |
|                   | FactoryCast services     | Yes                                 | –                           | –              | Yes            | –              | –                        |
|                   | FactoryCast HMI services | –                                   | –                           | –              | –              | Yes            | –                        |
| Reference         |                          | TSXETY110WS (4)                     | TSXP57 (1)                  | TSXETY4103 (4) | TSXETY5103 (4) | TSXWMMY100 (4) | TSXETC101 (2)            |

(1) References: see pages 2/38 and 2/39, 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 2/30



| Type of module       | AS-Interface cabling system | CANopen machine bus | Fipio manager fieldbus | INTERBUS fieldbus | Profibus DP V0 fieldbus |
|----------------------|-----------------------------|---------------------|------------------------|-------------------|-------------------------|
| Name and description | In-rack                     | PCMCIA              | Integrated port        | In-rack           | In-rack                 |
| Speed                | 167 Kb/s                    | 20 K...1 Mb/s       | 1 Mb/s                 | 0.5 Mb/s          | 9.6 K...12 Mb/s         |
| Reference            | TSXSAY1000 (4)              | TSXCPC110 (4)       | TSXP57 (2)             | TSXIBY100 (4)     | TSXPBY100               |

(2) References: see pages 2/38 and 2/39, Premium processors with integrated Fipio port



| Type of module       |                |         | Serial links    |                     |                 | Modbus          | ASCII           |
|----------------------|----------------|---------|-----------------|---------------------|-----------------|-----------------|-----------------|
|                      |                |         | Uni-Telway      |                     |                 |                 |                 |
| Name and description |                |         | Integrated port | In-rack             | PCMCIA          | In-rack         | 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 |
| Reference            | With interface | RS 485  | TSXP57 (1)      | TSXSCY21601 (3) (4) | TSXSACP114 (4)  | TSXSCY11601 (4) | TSXSACP114 (4)  |
|                      |                | RS 232D | –               | –                   | TSXSACP111 (4)  | –               | TSXSACP111 (4)  |
|                      |                | 20mA CL | –               | –                   | TSXSACP112 (4)  | –               | TSXSACP112 (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            | TSXMCP100 (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](http://www.schneider-electric.com)

Modicon Quantum

Programmable Automation Controller  
Processors under Unity Pro software



2

| 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 | –                                                                                                               | –                                         |
|                                  | File 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 **140CPU31110** becomes **140CPU31110C**  
(5) Suitable for safety related application up to SIL2 and SIL3  
(6) Reference to be completed by "0" or "1" according to the required distance :  
- **140CPU67260**: multi-mode fiber up to 4 km,  
- **140CPU67261**: single mode fiber up to 16 km.



| Complex applications                                                                                                                    |                 |                 |                  | Hot Standby redundant applications                                              |                                |                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------------|------------------|---------------------------------------------------------------------------------|--------------------------------|---------------------------------------------------------------------------------|
| Unlimited (26 slots max.)                                                                                                               |                 |                 |                  | Unlimited (26 slots max.)                                                       | Unlimited (13 slots max.)      | Unlimited (26 slots max.)                                                       |
| 31744 inputs (RIO)/8000 inputs (DIO) and 31744 outputs (RIO)/8000 outputs (DIO)                                                         |                 |                 |                  | 31744 inputs (RIO)/8000 inputs (DIO) and 31744 outputs (RIO)/8000 outputs (DIO) | 31744 inputs and 31744 outputs | 31744 inputs (RIO)/8000 inputs (DIO) and 31744 outputs (RIO)/8000 outputs (DIO) |
| Unlimited (27 slots max.)                                                                                                               |                 |                 |                  | Unlimited (27 slots max.)                                                       | Unlimited (13 slots max.)      | Unlimited (27 slots max.)                                                       |
| 1984 inputs (RIO)/500 inputs (DIO) and 1984 outputs (RIO)/500 outputs (DIO)                                                             |                 |                 |                  | 1984 inputs (RIO)/500 inputs (DIO) and 1984 outputs (RIO)/500 outputs (DIO)     | 1984 inputs and 1984 outputs   | 1984 inputs (RIO)/500 inputs (DIO) and 1984 outputs (RIO)/500 outputs (DIO)     |
| Intrinsically safe I/O, counter, motion control, high-speed interrupt inputs, time-stamp, serial link, AS-Interface sensor/actuator bus |                 |                 |                  | —                                                                               | —                              | —                                                                               |
| 1 RS 232/485                                                                                                                            |                 |                 |                  | 1 RS 232/485                                                                    | 1 RS 232/485                   | 1 RS 232/485                                                                    |
| 1 integrated, 6 in local rack                                                                                                           |                 |                 |                  | 1 integrated, 6 in local rack                                                   | 1 integrated                   | 1 integrated, 6 in local rack                                                   |
| 1 integrated, 6 in local rack                                                                                                           |                 |                 |                  | 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)               | 140CPU6726● (6)                                                                 |

2

Modicon Quantum

Programmable Automation Controller

Power supply modules <sup>(1)</sup>



2

| 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 (3) | –               | 140CPS51100 (3) | 140CPS11100 (3) | –               |
|                                 |      | Summable       | 140CPS21400 (3) | 140CPS41400 (3) | –               | –               | 140CPS11420 (3) |
|                                 |      | Redundant      | 140CPS22400 (3) | 140CPS42400 (3) | 140CPS52400 (3) | –               | 140CPS12420 (3) |

(1) For power supplies, see chapter 5.

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

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

(4) For safety application, PV4 version is the one certified as non-interfering.

PCMCIA memory extensions



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

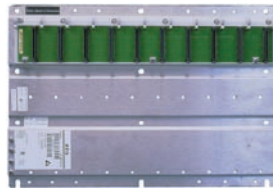
(3) For coated version add C at the end of the reference: example **TSXMRPC001M** becomes **TSXMRPC001MC**

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

(6) The 1<sup>st</sup> 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)

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

## 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**

## Quantum Ethernet adaptors



### Ethernet head and drop adaptors (1)

| Type        | Quantum Ethernet I/O head adaptor (2)                | Quantum Ethernet RIO drop adaptor (2)           |
|-------------|------------------------------------------------------|-------------------------------------------------|
| Description | Provides 1 adaptor per Quantum Ethernet I/O CPU rack | Provides 1 module per Quantum Ethernet RIO rack |
| References  | 140CRP31200 (3)                                      | 140CRA31200 (3)                                 |

(1) Requires Unity Pro Extra large software ≥ V7.0, (see page 2/54).

(2) For additional characteristics, see our website [www.schneider-electric.com](http://www.schneider-electric.com)

(3) Conformal coating version for harsh environments. In this case, add the letter "C" to the end of the reference.

## Connection accessories <sup>(1)</sup>

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

(1) **Other accessories:** See [www.schneider-electric.com](http://www.schneider-electric.com)



| Type of module (5)          |                            | Discrete inputs                                           |                   |               |               |                |               |
|-----------------------------|----------------------------|-----------------------------------------------------------|-------------------|---------------|---------------|----------------|---------------|
| Connection                  |                            | By screw terminals 140XTS00200 (to be ordered separately) |                   |               |               |                |               |
| Number of isolated channels |                            | 16                                                        | 4 groups of 8     | 3 groups of 8 | 2 groups of 8 | 6 groups of 16 | 8 groups of 2 |
| Input voltage               | 5 VDC TTL (negative logic) | —                                                         | 140DDI15310       | —             | —             | —              | —             |
|                             | 24 VDC                     | —                                                         | 140DDI35300(1)(2) | —             | —             | 140DDI36400    | —             |
|                             | 10...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                                          |                                  |               |               |                |               |
|------------------------------|-----------------------|-----------------------------------------------------------|----------------------------------|---------------|---------------|----------------|---------------|
| 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)<br>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                                               | —                                | —             | —             | —              | —             |
| Output voltage/current       | 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<br>Solid state                               |               |                             | Discrete outputs<br>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/<br>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](http://www.schneider-electric.com)

## Analog I/O modules



| Type of module (4) | Analog inputs                                             |                           |             |                         |                     |
|--------------------|-----------------------------------------------------------|---------------------------|-------------|-------------------------|---------------------|
| Connection         | By screw terminals 140XTS00200 (to be ordered separately) |                           |             |                         |                     |
| Number of channels | 8                                                         | 16                        | 8           |                         |                     |
| Input signal       | 4...20 mA<br>1...5 V                                      | 0...25/20 mA<br>4...20 mA | (1)         | Thermal probe<br>Pt, Ni | Thermocouple<br>(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,  $\pm 20$  mA, 4...20 mA, 0...10 V,  $\pm 10$  V, 0...5 V,  $\pm 5$  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<br>4...20 mA | 0...10 V, $\pm 10$ V<br>0...5 V, $\pm 5$ 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, $\pm 20$ mA, 4...20 mA, 0...10 V, $\pm 10$ V, 0...5 V, $\pm 5$ 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](http://www.schneider-electric.com)

# Modicon Quantum \_\_\_\_\_ Programmable Automation Controller

## Counter and special purpose modules



| Type of module     | High-speed counter   |                    | High-speed inputs with interrupt | Time-stamp system     |
|--------------------|----------------------|--------------------|----------------------------------|-----------------------|
| Type of inputs for | Incremental encoders |                    | Discrete 24 VDC (1)              | Discrete 24...125 VDC |
| Counting frequency | 100 kHz              | 500 kHz            | —                                | —                     |
| Number of channels | 5                    | 2                  | 16                               | 32                    |
| Reference          | <b>140EHC10500</b>   | <b>140EHC20200</b> | <b>140HLI34000</b>               | <b>140ERT85420</b>    |

(1) 3 operating modes: Interrupt, latch, high-speed inputs, on rising or falling edge.

## Safety I/O modules



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

## Communication modules



| Type of module      |                          | Ethernet TCP/IP network |                          |                 |             |                          |
|---------------------|--------------------------|-------------------------|--------------------------|-----------------|-------------|--------------------------|
| Speed               |                          | 10/100 Mb/s             |                          |                 |             | 10/100/1000 Mb/s         |
| Protocol            |                          | Modbus TCP              | EtherNet/IP & Modbus TCP | Modbus TCP      | Modbus TCP  | EtherNet/IP & Modbus TCP |
| Transparent Ready   | Class                    | B30                     | B30                      | C30             | D10         | B30                      |
|                     | Global Data              | 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                      | —               | —           | Yes                      |
| IP routing function |                          | —                       | —                        | —               | —           | Yes                      |
| Web server          | Standard services        | Yes                     | Yes                      | Yes             | Yes         | —                        |
|                     | FactoryCast services     | —                       | —                        | Yes             | Yes         | —                        |
|                     | FactoryCast HMI services | —                       | —                        | —               | Yes         | —                        |
| Reference           |                          | 140CPU651* (2)          | 140NOC78000              | 140NOE77111 (3) | 140NWM10000 | 140NOC78100              |

(1) QoS: Quality of Service

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

(3) Non-interfering module in safety related application. All references with «Non-interfering module in safety related application» are certified as non-interfering.

PROFIBUS DPV1 is available for Modicon Quantum

Please refer to page 3/23



| Type of module       | Modbus Plus network | AS-Interface cabling system | Fieldbus Profibus DP Master V1 (1) |
|----------------------|---------------------|-----------------------------|------------------------------------|
| Name and description | Integrated link     | In-rack                     | In-rack                            |
| Speed                | 1 Mb/s              | 167 Kb/s                    | to 12 Mb/s                         |
| Reference            | 140CPU*             | 140EIA92100                 | PTQDPMV1                           |

(1) From your partner Prosoft, [www.prosoft-technology.com](http://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, 140 CPU 672 60, 140 CPU 672 61



| 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 140CPU6●●●● 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, 140 CPU 672 60, 140 CPU 672 61

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

# Automation systems — Unity Pro, configuration software

## For Modicon M340, Premium, and Quantum



| Software type            |                             | Unity Pro Small version 7.0       |                        |                        |                             |
|--------------------------|-----------------------------|-----------------------------------|------------------------|------------------------|-----------------------------|
| License type version 7.0 |                             | Single (1 workstation)            | Group (3 workstations) | Team (10 workstations) | Facility (100 workstations) |
| References               | Software pack               | UNYSPUSFUCD70                     | UNYSPUSFGCD70          | UNYSPUSFTCD70          | –                           |
|                          | Upgrade Legacy Software (1) | UNYSPUSZUCD70                     | UNYSPUSZGCD70          | UNYSPUSZTCD70          | –                           |
| Software type            |                             | Unity Pro Medium version 7.0      |                        |                        |                             |
| License type version 7.0 |                             | Single (1 workstation)            | Group (3 workstations) | Team (10 workstations) | Facility (100 workstations) |
| References               | Software pack               | UNYSPUMFUCD70                     | UNYSPUMFGCD70          | UNYSPUMFTCD70          | –                           |
|                          | Upgrade Legacy Software (2) | UNYSPUMZUCD70                     | UNYSPUMZGCD70          | UNYSPUMZTCD70          | –                           |
| Software type            |                             | Unity Pro Large version 7.0       |                        |                        |                             |
| License type version 7.0 |                             | Single (1 workstation)            | Group (3 workstations) | Team (10 workstations) | Facility (100 workstations) |
| References               | Software pack               | UNYSPULFUCD70                     | UNYSPULFGCD70          | UNYSPULFTCD70          | UNYSPULFFCD70               |
|                          | Upgrade Legacy Software (3) | UNYSPULZUCD70                     | UNYSPULZGCD70          | UNYSPULZTCD70          | UNYSPULZFCD70               |
| Software type            |                             | Unity Pro Extra Large version 7.0 |                        |                        |                             |
| License type version 7.0 |                             | Single (1 workstation)            | Group (3 workstations) | Team (10 workstations) | Facility (100 workstations) |
| References               | Software pack               | UNYSPUEFUCD70                     | UNYSPUEFGCD70          | UNYSPUEFTCD70          | UNYSPUEFFCD70               |
|                          | Upgrade Legacy Software (4) | UNYSPUEZUCD70                     | UNYSPUEZGCD70          | UNYSPUEZTCD70          | UNYSPUEZFCD70               |

(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 V7.0 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 V7.0 fully support new Quantum Ethernet IO architecture (Quantum and X80 drops) with improved OnLine changes in RUN possibilities. It integrates new Network Manager (for easy routing of Ethernet network) , as well as new powerfull Trending Tool (for easy monitoring of variables). FDT DTM management is greatly improved thanks to copy/paste and Global Access function.

# Unity software

## Specialized software

2

### 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) | UNYSDUFUCD22                                                                               |
| Licence type version 2.21 |                        | Site licence (100 workstations), French and English languages (software and documentation) |
| Reference                 | Software extension (1) | UNYSDUFFCD22                                                                               |

(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 | UNYSPUFUCD31E                                                         |
|                          | Renewal       | UNYCSPSPUBU                                                           |

### Process application design and generation software

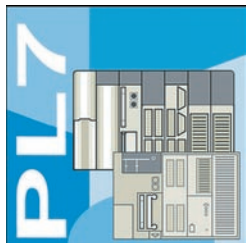
| Software type            |               | Unity UAG (Unity Application Generator) |                          |
|--------------------------|---------------|-----------------------------------------|--------------------------|
| Licence type version 3.2 |               | Single (1 workstation)                  | 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    | UNYLPZCAUCD10                                          | UNYLFZZAUWB12                         | UNYLTSAUWB10                  | 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



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      |

# 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                           | UAGSEWLFCD31  |



## ProWORX for Modicon Quantum, Momentum

**ProWORX 32** is the flexible, easy-to-use cross-platform LL984-programming software for Modicon range PLCs. It gives you the power to program your Modicon controllers online or offline, manage your I/O subsystems, and analyze your plant's activity in real-time, all in a familiar Windows environment. ProWORX 32 provides client/server capabilities to organize user-groups and -rights, store projects at a central location and realize office-plant floor bridging.

The project emulator provides the ability to test projects prior to running them in the PLC run-time environment to ensure your system will run at peak efficiency.

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

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



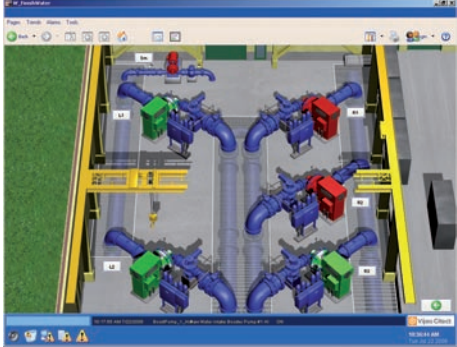
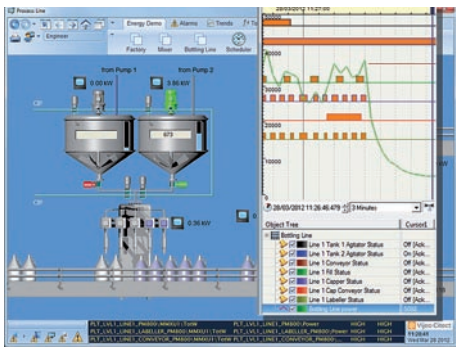
## Vijeo Citect

|                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type             | Supervisory control and data acquisition (SCADA) software                                                                                                                                                                                                                                                                                                                                                                                                        |
| Compatibility    | All Schneider Electric automation platforms and third party devices                                                                                                                                                                                                                                                                                                                                                                                              |
| Operating system | Windows XP, Windows 2003 Server, Windows 7 (32 and 64 Bit), Windows Server 2008 R2, Windows Server 2008 (32 and 64 bit)                                                                                                                                                                                                                                                                                                                                          |
| Versions         | <p>The development licence (without network connectivity) allows free communication with PLCs for 10 minutes at a time.</p> <p>Vijeo Citect full server, control client and view-only client licences are available in 75 points, 150 points, 500 points, 1500 points, 5000 points, 15000 points and unlimited points</p> <p>Vijeo Citect Lite (without network connectivity) is available in 100 points, 150 points, 300 points, 600 points and 1200 points</p> |
| 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.
- Improved energy management:** Vijeo Citect and its product options allow alignment and management of power and process to improve energy efficiency.

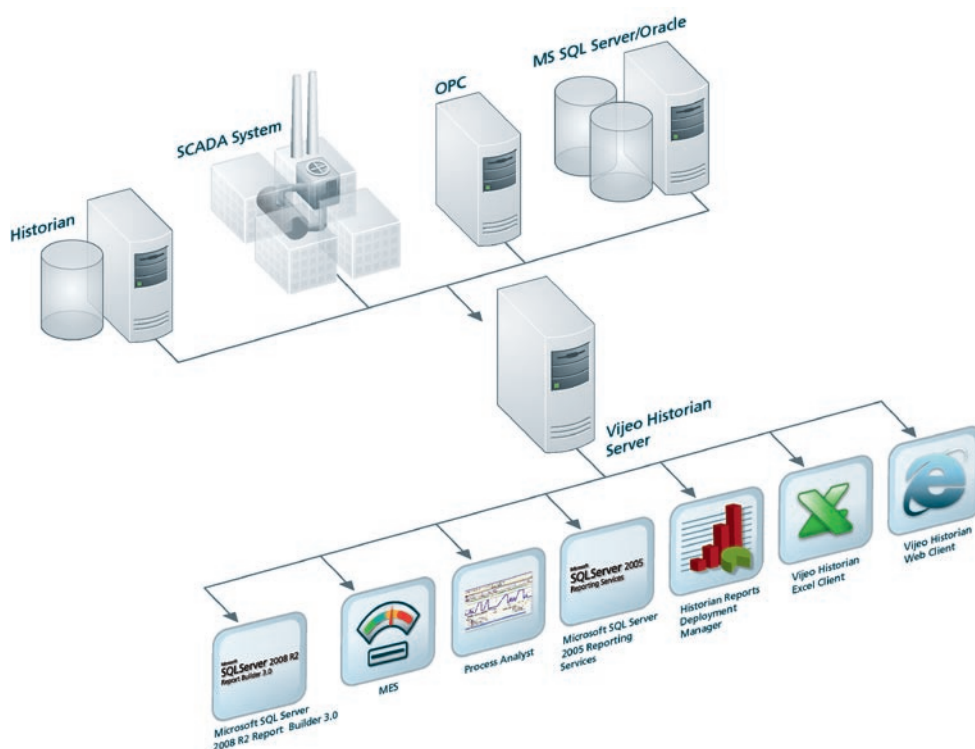
# Vijeo Historian \_\_\_\_\_ Reporting software



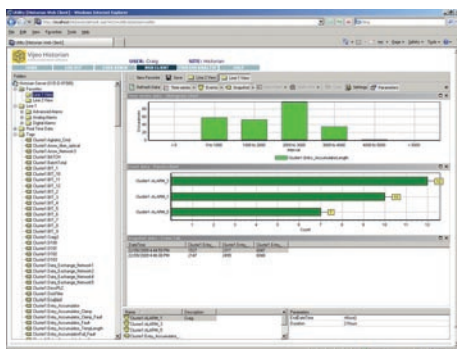
## Vijeo Historian

| 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® 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                                                                                                             |

2



Vijeo Historian helps your plant and IT personnel to optimize operational efficiency by providing a powerful, plant-wide reporting tool that collects, and delivers meaningful reporting data from multiple, disparate systems. Comprising of historian and client functionalities, Vijeo Historian enables you to accurately store data for long-term reporting while also giving you the option of visualizing and accessing the information through the Vijeo Historian client, Microsoft Excel or Reporting Services.



### 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.