

## Dane produktu

### Charakterystyki

## VW3A8306R03

Akcesoria VW3A Przewód połączeniowy Modbus RJ45



### Główne

|                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Gama produktów                                | Altivar                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Kategoria akcesoriów / części oddzielnych     | Akcesoria przyłączeniowe                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Typ akcesoriów / części oddzielnych           | Kabel przyłączeniowy                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Zgodność produktu                             | Blok rozdzielacza Modbus LU9GC3<br>TSXCUSB485<br>TWDNADK70P<br>VW3A8306TF010<br>VW3A8306TF03                                                                                                                                                                                                                                                                                                                                                  |
| Przeznaczenie akcesoriów / części oddzielnych | Blok rozdzielacza Modbus LU9GC3<br>Puszka rozgałęźna Modbus T<br>Terminal lub port sieciowy Modbus                                                                                                                                                                                                                                                                                                                                            |
| Zgodność gamy                                 | Altistart 22<br>Altistart 48<br>Altivar 12<br>Altivar 21<br>Altivar 31<br>Altivar 312<br>Altivar 61<br>Altivar 71<br>Lexium SD3<br>Zelio Logic<br>Modicon LMC058<br>Modicon M258<br>Altivar 32<br>Altivar 31C<br>Altivar 212<br>Altivar 61Q<br>Altivar 71Q<br>Modicon M238<br>Preventa XPS MF<br>Altivar Easy 310<br>Altivar Easy 610<br>Altivar Process ATV600<br>Altivar Process ATV900<br>Altivar Machine ATV320<br>Altivar Machine ATV340 |
| Długość kabla                                 | 0.3 m                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Przłącza elektryczne                          | 2 złącza męskie RJ45                                                                                                                                                                                                                                                                                                                                                                                                                          |

### Uzupełnienie

|               |          |
|---------------|----------|
| Masa produktu | 0.025 kg |
|---------------|----------|

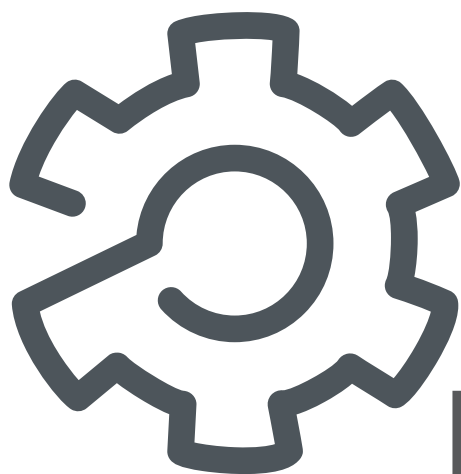
### Środowisko

Machine  truxure™

# Modbus for Machines

Catalog

February **2016**



**MODBUS**  
MODBUS

**Schneider**  
 Electric

# General content

## Modbus for Machines

### Modbus Serial links

#### ■ with Modicon M221 and M221 Book logic controllers

- Presentation ..... *page 2*
- References ..... *page 3*

#### ■ with Modicon M241 and M251 logic controllers

- Presentation ..... *page 4*
- References ..... *page 4*

#### ■ with Modicon M258 logic controllers and Modicon LMC058 motion controllers

- Presentation ..... *page 6*
- References ..... *page 6*

#### ■ Product reference index ..... *page 8*

## Presentation

RS 232/RS 485 serial links offer a simple solution to the communication needs of compact machines.

Modbus and ASCII standard communication protocols are used to connect numerous equipment items such as: HMIs, printers, energy meters, variable speed drives, motor starters, remote I/O (RIO), etc. Thanks to the I/O Scanner function, this equipment is just as easy to integrate into the application as the local I/O.

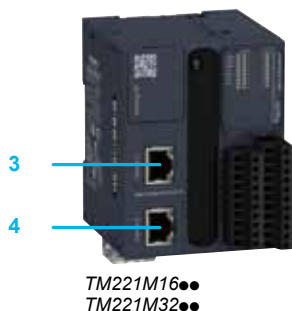
## Description

■ Modicon M221 Book logic controllers with 16, 24 or 40 I/O have the following on the front panel:

- 1 A serial link port with an RJ 45 connector delivering a voltage of 5 V (200 mA) to supply an HMI or Bluetooth® adapter with power.
- 2 A slot for a 2<sup>nd</sup> serial link port (with connection on screw terminals) by inserting the **TMC2SL1** communication cartridge or the **TMC2CONV01** application cartridge (1).

■ Modicon M221 Book logic controllers with 16 or 32 I/O have the following on the front panel:

- 3 A serial link port with an RJ 45 connector delivering a voltage of 5 V (200 mA) to supply an HMI or Bluetooth® adapter with power
- 4 A 2<sup>nd</sup> serial port also equipped with an RJ 45 connector for **TM221M16●●** and **TM221M32●●** controllers (controllers without embedded Ethernet).

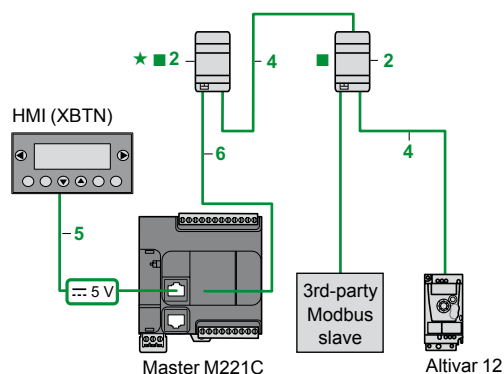


| Controller Type | Embedded Ports                                                                                                  |                                     | Optional Port<br>(1 max. per controller)                                           |
|-----------------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------|------------------------------------------------------------------------------------|
|                 | "Serial" or Serial 1" port,<br>RJ 45 connector                                                                  | "Serial 2" port, RJ<br>45 connector |                                                                                    |
| TM221C●●●●      | RS 232/RS 485 with 5 V<br>(200 mA) power supply<br>for HMI or Bluetooth<br>communication adapter<br>(items 1/3) | —                                   | On TMC2SL1 or<br>TMC2CONV01 option<br>cartridges, connection<br>on screw terminals |
| TM221M●●●●      | —                                                                                                               | RS 485<br>(item 4)                  | RS 232/RS 485<br>(item 2)                                                          |
| TM221ME●●●●     | —                                                                                                               | —                                   | —                                                                                  |

(1) TM221C40●●●● controllers have 2 slots for a cartridge; only one cartridge, TMC2SL1 or TMC2CONV01, can be used per controller. The other slot remains available for an analog I/O cartridge or an application cartridge.

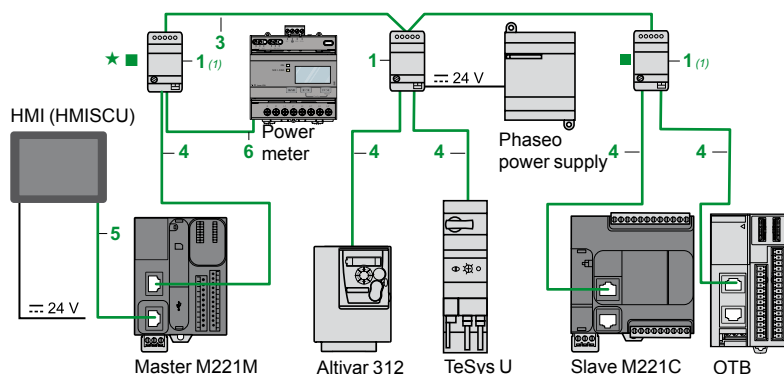
## Modbus serial link wiring system

### Non-isolated bus



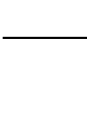
- Total length of cables between M221 and ATV 12: ≤ 30 m (98.425 ft)
- Length of cable 4: ≤ 10 m (32.808 ft)
- ★ Line polarization active. ■ Line termination

### Isolated bus (recommended for bus > 10 m/32.808 ft)



- Total length of cables between isolation boxes 1: ≤ 1,000 m (3,280.840 ft)
- Length of drop cables 4 or 5: ≤ 10 m (32.808 ft)
- ★ Line polarization active. ■ Line termination
- (1) Box powered by the logic controller.

## References

| Tap-off and adapter components for RS 485 serial link                                             |                                                                                                            |                                                                                                                                                                                                                                                                                                                                                         |        |                       |                    |                  |
|---------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-----------------------|--------------------|------------------|
| Designation                                                                                       | Description                                                                                                | Item                                                                                                                                                                                                                                                                                                                                                    | Length | Unit reference        | Weight<br>kg<br>lb |                  |
|  TWDXCAISO       | <b>T-junction box with line isolation</b><br>Screw terminal block for trunk cable<br>2 x RJ 45 for tap-off | <input type="checkbox"/> Isolation of the RS 485 link (1)<br><input type="checkbox"/> Line termination (RC 120 Ω, 1 nF)<br><input type="checkbox"/> Line pre-polarization (2 R 620 Ω)<br><input type="checkbox"/> Power supply: 24 V $\pm$ (screw terminals) or 5 V $\pm$ (via RJ 45)<br><input type="checkbox"/> Mounting on 35 mm (1.378 in.) $\perp$ | 1      | —                     | TWDXCAISO          | 0.100<br>0.220   |
|  TWDXCAT3RJ      | <b>T-junction box</b> 1 RJ 45 for trunk cable<br>2 x RJ 45 for tap-off                                     | <input type="checkbox"/> Line termination (RC 120 Ω, 1 nF)<br><input type="checkbox"/> Line pre-polarization (2 R 620 Ω)<br><input type="checkbox"/> Mounting on 35 mm (1.378 in.) $\perp$                                                                                                                                                              | 2      | —                     | TWDXCAT3RJ         | 0.080<br>0.176   |
|  LU9GC3         | <b>Modbus splitter box</b><br>Screw terminal block for trunk cable<br>10 x RJ 45 for tap-off               | <input type="checkbox"/> Mounting on 35 mm $\perp$ , on plate or panel                                                                                                                                                                                                                                                                                  | —      | —                     | LU9GC3             | 0.500<br>1.102   |
|  VW3A8306TF03  | <b>T-junctions</b><br>2 x RJ 45 for trunk cable                                                            | 1 integrated cable with RJ 45 connector for tap-off dedicated to Altivar variable speed drive                                                                                                                                                                                                                                                           | —      | 0.3 m<br>0.984 ft     | VW3A8306TF03       | —                |
|                                                                                                   |                                                                                                            |                                                                                                                                                                                                                                                                                                                                                         | —      | 1 m<br>3.281 ft       | VW3A8306TF10       | —                |
|  TSXSACA50     | <b>Passive T-junction box</b>                                                                              | <input type="checkbox"/> 1-channel line extension and tap-off on screw terminals<br><input type="checkbox"/> Line termination                                                                                                                                                                                                                           | —      | —                     | TSXSACA50          | 0.520<br>1.146   |
|  XGSZ24        | <b>RS 232C/RS 485 line converter</b>                                                                       | <input type="checkbox"/> Max. data rate 19.2 Kbps. No modem signals<br><input type="checkbox"/> 24 V $\pm$ /20 mA power supply<br><input type="checkbox"/> Mounting on 35 mm (1.378 in.) $\perp$                                                                                                                                                        | —      | —                     | XGSZ24             | 0.100<br>0.220   |
| Cables and cordsets for RS 485 serial link                                                        |                                                                                                            |                                                                                                                                                                                                                                                                                                                                                         |        |                       |                    |                  |
|  TSXCSA100     | <b>RS 485 double shielded twisted pair trunk cables</b>                                                    | Modbus serial link, supplied without connector                                                                                                                                                                                                                                                                                                          | 3      | 100 m<br>328.064 ft   | TSXCSA100          | 5.680<br>12.522  |
|                                                                                                   |                                                                                                            |                                                                                                                                                                                                                                                                                                                                                         |        | 200 m<br>656.168 ft   | TSXCSA200          | 10.920<br>24.074 |
|                                                                                                   |                                                                                                            |                                                                                                                                                                                                                                                                                                                                                         |        | 500 m<br>1,640.420 ft | TSXCSA500          | 30.000<br>66.139 |
|                                                                                                   |                                                                                                            |                                                                                                                                                                                                                                                                                                                                                         |        |                       |                    |                  |
|  VW3A8306R03   | <b>Modbus RS 485 cordsets</b>                                                                              | 2 x RJ 45 connectors                                                                                                                                                                                                                                                                                                                                    | 4      | 0.3 m<br>0.984 ft     | VW3A8306R03        | 0.030<br>0.066   |
|                                                                                                   |                                                                                                            |                                                                                                                                                                                                                                                                                                                                                         |        | 1 m<br>3.281 ft       | VW3A8306R10        | 0.050<br>0.110   |
|                                                                                                   |                                                                                                            |                                                                                                                                                                                                                                                                                                                                                         |        | 3 m<br>9.840 ft       | VW3A8306R30        | 0.150<br>0.331   |
|                                                                                                   |                                                                                                            | 1 x RJ 45 connector and 1 end with flying leads                                                                                                                                                                                                                                                                                                         | 6      | 1 m<br>3.281 ft       | TWDXCAFJ010        | 0.060<br>0.132   |
|                                                                                                   |                                                                                                            |                                                                                                                                                                                                                                                                                                                                                         |        | 3 m<br>9.843 ft       | VW3A8306D30        | 0.150<br>0.331   |
|                                                                                                   |                                                                                                            |                                                                                                                                                                                                                                                                                                                                                         |        |                       |                    |                  |
|  XBTZ9980      | <b>Controller to Magelis HMI cordsets</b>                                                                  | 2 x RJ 45 connectors<br>Compatible with:<br><input type="checkbox"/> Com Port 1 on XBTN200/N400/R400/RT500 (2)<br><input type="checkbox"/> Com Port 1 on XBTRT511/HMISTO/STU/SCU<br><input type="checkbox"/> Com Port 2 on XBTGT2●●0...7●●0 and HMIGTO                                                                                                  | 5      | 2.5 m<br>8.202 ft     | XBTZ9980           | 0.230<br>0.507   |
|                                                                                                   |                                                                                                            |                                                                                                                                                                                                                                                                                                                                                         | 5      | 10 m<br>32.81 ft      | XBTZ9982           | —                |
|                                                                                                   |                                                                                                            | 1 x RJ 45 connector and 1 x 25-way SUB-D connector<br>Compatible with:<br><input type="checkbox"/> Com Port 1 on XBTN410/N410 and XBTR410/R411                                                                                                                                                                                                          | —      | 2.5 m<br>8.202 ft     | XBTZ938            | 0.210<br>0.463   |
|                                                                                                   |                                                                                                            | 1 x RJ 45 connector and 1 x 9-way SUB-D connector<br>Compatible with:<br><input type="checkbox"/> Com Port 1 on XBTGT2●●0...7●●0                                                                                                                                                                                                                        | —      | 2.5 m<br>8.202 ft     | XBTZ9008           | —                |
|  VW3A8306D30   | <b>TMC2SL1 cartridge to Magelis HMI cordsets</b>                                                           | 1 x RJ 45 connector and stripped wires<br>Compatible with:<br><input type="checkbox"/> Com Port 1 on XBTRT511/HMISTO/STU/SCU<br><input type="checkbox"/> Com Port 2 on XBTGT2●●0...7●●0 and HMIGTO                                                                                                                                                      | —      | 3 m<br>9.843 ft       | VW3A8306D30        | 0.150<br>0.331   |
|                                                                                                   |                                                                                                            |                                                                                                                                                                                                                                                                                                                                                         |        |                       |                    |                  |
|  VW3A8306RC    | <b>Line end adapter</b><br>Sold in packs of 2                                                              | For RJ 45 connector<br>R = 120 Ω, C = 1 nF                                                                                                                                                                                                                                                                                                              | —      | —                     | VW3A8306RC         | 0.200<br>0.441   |
| Cordsets for RS 232 serial link                                                                   |                                                                                                            |                                                                                                                                                                                                                                                                                                                                                         |        |                       |                    |                  |
|  TCSMCN3M4F3C2 | <b>Cordset for DTE terminal (printer)</b> (3)                                                              | Serial link for DTE (2)<br>1 x RJ 45 connector and 1 x 9-way female SUB-D connector                                                                                                                                                                                                                                                                     |        | 3 m<br>9.843 ft       | TCSMCN3M4F3C2      | 0.150<br>0.331   |
|  TCSMCN3M4M3S2 | <b>Cordset for DCE terminal (modem, converter)</b>                                                         | Serial link for point to point device (DCE)<br>1 x RJ 45 connector and 1 x 9-way male SUB-D connector                                                                                                                                                                                                                                                   |        | 3 m<br>9.843 ft       | TCSMCN3M4M3S2      | 0.150<br>0.331   |

(1) Line isolation recommended for line distances &gt; 10 m (32.808 ft).

(2) Can only be connected to the controller SL or SL1 ports in order to supply the Magelis terminal with power.

(3) If the terminal is equipped with a 25-way SUB-D connector, you will also need to order the 25-way female/9-way male SUB-D adapter TSXCTC07.

# Modbus for Machines

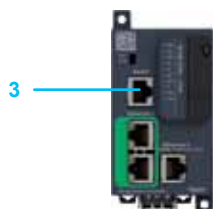
with Modicon M241 and Modicon M251 logic controllers

## Presentation

RS 232/RS 485 serial links offer a simple solution to the communication needs of machines.

Modbus and ASCII standard communication protocols are used to connect numerous equipment items such as: HMIs, printers, energy meters, variable speed drives, motor starters, remote I/O (RIO), etc.

## Description



Modicon **M241** logic controllers have the following on their upper surface:

- 1 A "Serial 1" serial link port with an RJ45 connector delivering a 5 V/200 mA power supply which allows the use of a Magelis HMI, the Bluetooth® communication adapter or other devices.
- 2 A 2nd "Serial 2" serial link port (with connection on screw terminals).

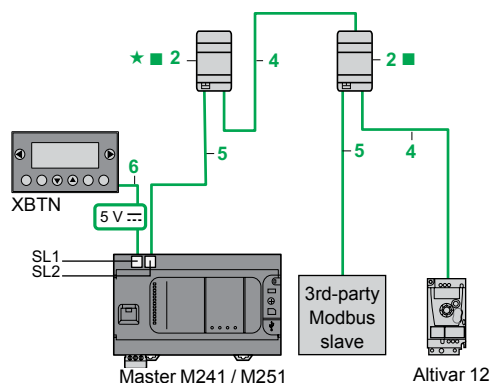
| Controller Type   | Embedded Ports                                                                                  |                                                |
|-------------------|-------------------------------------------------------------------------------------------------|------------------------------------------------|
|                   | "Serial 1" port, RJ45 connector                                                                 | "Serial 2" port, connection on screw terminals |
| <b>TM241</b> ●●●● | RS 232/RS 485 with 5V (200 mA) power supply for HMI or Bluetooth communication adaptor (item 1) | RS 485 (item 2)                                |

Modicon **M251** logic controllers have on their front a serial link port with an RJ45 connector delivering a 5 V/200 mA power supply which allows the use of a Magelis HMI, the Bluetooth® communication adapter or other devices.

- 3 A serial link port (RJ 45 connector (RS 232 or RS 485)).

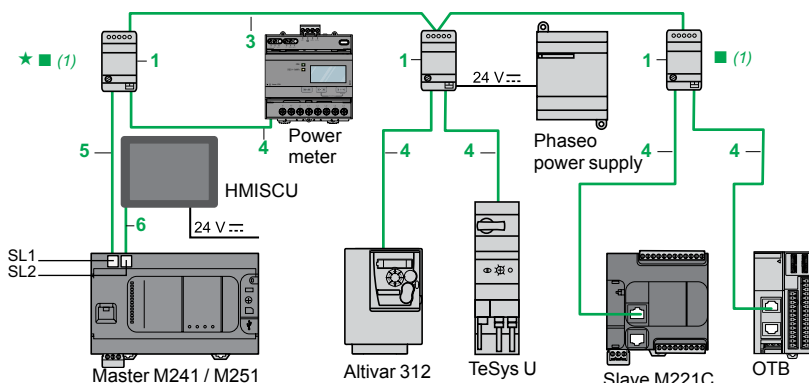
## Modbus serial link wiring system

### Non-isolated bus



- Total length of cables between M241/M251 and ATV12: ≤ 30 m (98.425 ft)
- Length of cable 4: ≤ 10 m (32.808 ft)
- ★ Line polarization active. ■ Line termination

### Isolated bus (recommended for bus > 10 m (32.808 ft))



- Total length of cables between isolation boxes 1: ≤ 1000 m (3280.840 ft)
- Length of drop cables 4 or 5: ≤ 10 m (32.808 ft)
- ★ Line polarization active. ■ Line termination
- (1) Box powered by the logic controller.

## References



TWDXCAISO TWDXCAT3RJ

### Tap-off and adaptor components for RS 485 serial link

| Designation                                                                                    | Description                                                                                                                                                                                                                                                                                                                                                               | Item | Length | Unit reference | Weight<br>kg<br>lb |
|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|--------|----------------|--------------------|
| <b>T-junction and isolation box</b><br>Screw terminals for trunk cable<br>2 x RJ45 for tap-off | <input type="checkbox"/> Isolation of the RS 485 link (1)<br><input type="checkbox"/> Line termination (RC 120 Ω, 1nF)<br><input type="checkbox"/> Line pre-polarization (2 R 620 Ω)<br><input type="checkbox"/> 24 V power supply (screw terminals) or<br><input type="checkbox"/> 5 V power supply (via RJ45)<br><input type="checkbox"/> Mounting on 35 mm (1.378 in.) | 1    | —      | TWDXCAISO      | 0.100<br>0.220     |
| <b>T-junction box</b><br>1 x RJ45 for trunk cable<br>2 x RJ45 for tap-off                      | <input type="checkbox"/> Line termination (RC 120 Ω, 1nF)<br><input type="checkbox"/> Line pre-polarization (2 R 620 Ω)<br><input type="checkbox"/> Mounting on 35 mm (1.378 in.)                                                                                                                                                                                         | 2    | —      | TWDXCAT3RJ     | 0.080<br>0.176     |

(1) Line isolation recommended for line distances > 10 m (32.808 ft).

# Modbus for Machines

with Modicon M241 and Modicon M251 logic controllers



LU9GC3



TSXSCA50



XGSZ24

## References (continued)

| Designation                                                                            | Description                                                                                                                                                                                                                                             | Item | Length                                                  | Reference                                                      | Weight<br>kg<br>lb                                 |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------|
| <b>Tap-off and adaptor components for RS 485 serial link</b>                           |                                                                                                                                                                                                                                                         |      |                                                         |                                                                |                                                    |
| <b>Modbus splitter box</b><br>Screw terminals for trunk cable<br>10 x RJ45 for tap-off | <input type="checkbox"/> Mounting on 35 mm (1.378 in.) $\perp$ , on plate or panel                                                                                                                                                                      | —    | —                                                       | <b>LU9GC3</b>                                                  | 0.500<br>1.102                                     |
| <b>T-junctions</b><br>2 x RJ45 for trunk cable                                         | 1 integrated cable with RJ45 connector for tap-off dedicated to Altivar variable speed drive                                                                                                                                                            | —    | 0.3 m<br>0.984 ft<br>1 m<br>3.281 ft                    | <b>VW3A8306TF03</b><br><b>VW3A8306TF10</b>                     | —<br>—                                             |
| <b>Passive T-junction box</b>                                                          | <input type="checkbox"/> 1-channel line extension and tap-off on screw terminals<br><input type="checkbox"/> Line termination                                                                                                                           | —    | —                                                       | <b>TSXSCA50</b>                                                | 0.520<br>1.146                                     |
| <b>RS 232C/RS 485 line converter</b>                                                   | <input type="checkbox"/> Max. data rate 19.2 Kbps, No modem signals<br><input type="checkbox"/> 24 V $\pm$ /20 mA power supply<br><input type="checkbox"/> Mounting on 35 mm (1.378 in.)                                                                | —    | —                                                       | <b>XGSZ24</b>                                                  | 0.100<br>0.220                                     |
| <b>Cables and cordsets for RS 232 serial link</b>                                      |                                                                                                                                                                                                                                                         |      |                                                         |                                                                |                                                    |
| <b>RS 485 double shielded twisted pair trunk cables</b>                                | Modbus serial link, supplied without connector                                                                                                                                                                                                          | 3    | 100 m<br>328.084 ft                                     | <b>TSXCSA100</b>                                               | 5.680<br>11.023                                    |
|                                                                                        |                                                                                                                                                                                                                                                         |      | 200 m<br>656.168 ft                                     | <b>TSXCSA200</b>                                               | 10.920<br>24.074                                   |
|                                                                                        |                                                                                                                                                                                                                                                         |      | 500 m<br>1640.420 ft                                    | <b>TSXCSA500</b>                                               | 30.000<br>66.139                                   |
|                                                                                        |                                                                                                                                                                                                                                                         |      |                                                         |                                                                |                                                    |
| <b>Modbus RS 485 cordsets</b>                                                          | 2 x RJ45 connectors                                                                                                                                                                                                                                     | 4    | 0.3 m<br>0.984 ft<br>1 m<br>3.281 ft<br>3 m<br>9.843 ft | <b>VW3A8306R03</b><br><b>VW3A8306R10</b><br><b>VW3A8306R30</b> | 0.030<br>0.066<br>0.050<br>0.110<br>0.150<br>0.331 |
|                                                                                        |                                                                                                                                                                                                                                                         |      | 1 x RJ 45 connector and 1 end with flying leads         | <b>5</b>                                                       |                                                    |
|                                                                                        |                                                                                                                                                                                                                                                         |      | 1 m<br>3.281 ft<br>3 m<br>9.843 ft                      | <b>TWDXCAFJ010</b><br><b>VW3A8306D30</b>                       | 0.060<br>0.132<br>0.150<br>0.331                   |
|                                                                                        |                                                                                                                                                                                                                                                         |      |                                                         |                                                                |                                                    |
|                                                                                        | 2 x RJ45 connectors<br>Compatible with:<br><input type="checkbox"/> Com Port 1 on XBTN200/N400/R400/RT500 (1)<br><input type="checkbox"/> Com Port 1 on XBTRT511 and HMISTO/STU/SCU<br><input type="checkbox"/> Com Port 2 on XBTGT2...7...0 and HMIGTO | 6    | 2.5 m<br>8.202 ft                                       | <b>XBTZ9980</b>                                                | 0.230<br>0.507                                     |
|                                                                                        |                                                                                                                                                                                                                                                         |      | 10 m<br>32.81 ft                                        | <b>XBTZ9982</b>                                                | —                                                  |
|                                                                                        |                                                                                                                                                                                                                                                         | —    | 2.5 m<br>8.202 ft                                       | <b>XBTZ938</b>                                                 | 0.210<br>0.463                                     |
|                                                                                        |                                                                                                                                                                                                                                                         | —    | 2.5 m<br>8.202 ft                                       | <b>XBTZ9008</b>                                                | —                                                  |
| <b>Cordsets: used from M241 (SL1), M251 controllers to Magelis HMI</b>                 | 1 x RJ45 connector and 1 x 25-way SUB-D connector<br>Compatible with:<br><input type="checkbox"/> Com Port 1 on XBTN410/N410 and XBTR410/R411                                                                                                           | —    | 2.5 m<br>8.202 ft                                       | <b>XBTZ938</b>                                                 | 0.210<br>0.463                                     |
|                                                                                        | 1 x RJ45 connector and 1 x 9-way SUB-D connector<br>Compatible with:<br><input type="checkbox"/> Com Port 1 on XBTGT2...7...0                                                                                                                           | —    | 2.5 m<br>8.202 ft                                       | <b>XBTZ9008</b>                                                | —                                                  |
| <b>Cordsets: used from M241 (SL2) controllers to Magelis HMI</b>                       | 1 x RJ45 connector and stripped wires<br>Compatible with:<br><input type="checkbox"/> Com Port 1 on XBTRT511 and HMISTO/STU/SCU<br><input type="checkbox"/> Com Port 2 on XBTGT2...7...0 and HMIGTO                                                     | —    | 3 m<br>9.843 ft                                         | <b>VW3A8306D30</b>                                             | 0.150<br>0.331                                     |
| <b>Line end adapter</b><br>Sold in packs of 2                                          | For RJ45 connector<br>R = 120 $\Omega$ , C = 1 nf                                                                                                                                                                                                       | —    | —                                                       | <b>VW3A8306RC</b>                                              | 0.200<br>0.441                                     |
| <b>Cordsets for RS 232 serial link</b>                                                 |                                                                                                                                                                                                                                                         |      |                                                         |                                                                |                                                    |
| <b>Cordset for DTE terminal (printer) (2)</b>                                          | Serial link for Data Terminal Equipment (DTE)<br>1 x RJ45 connector and 1 x 9-way female SUB-D connector                                                                                                                                                | —    | 3 m<br>9.843 ft                                         | <b>TCSMCN3M4F3C2</b>                                           | 0.150<br>0.331                                     |
| <b>Cordset for DCE terminal (modem, converter)</b>                                     | Serial link for point to point device (DCE)<br>1 x RJ45 connector and 1 x 9-way male SUB-D connector                                                                                                                                                    | —    | 3 m<br>9.843 ft                                         | <b>TCSMCN3M4M3S2</b>                                           | 0.150<br>0.331                                     |

(1) If the terminal is equipped with a 25-way SUB-D connector, you will also need to order the **TSXCTC07** 25-way female / 9-way male SUB-D adaptor.

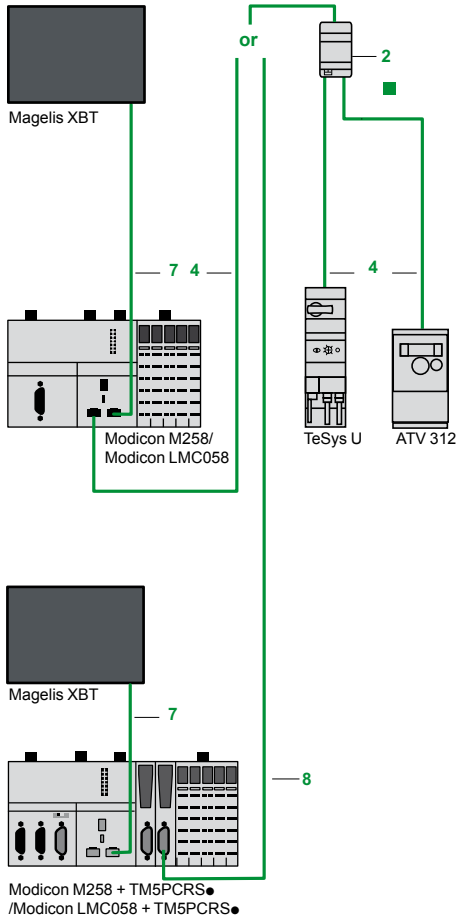
(2) Can only be connected to the controller SL or SL1 ports in order to supply the Magelis terminal with power.

# Modbus for Machines

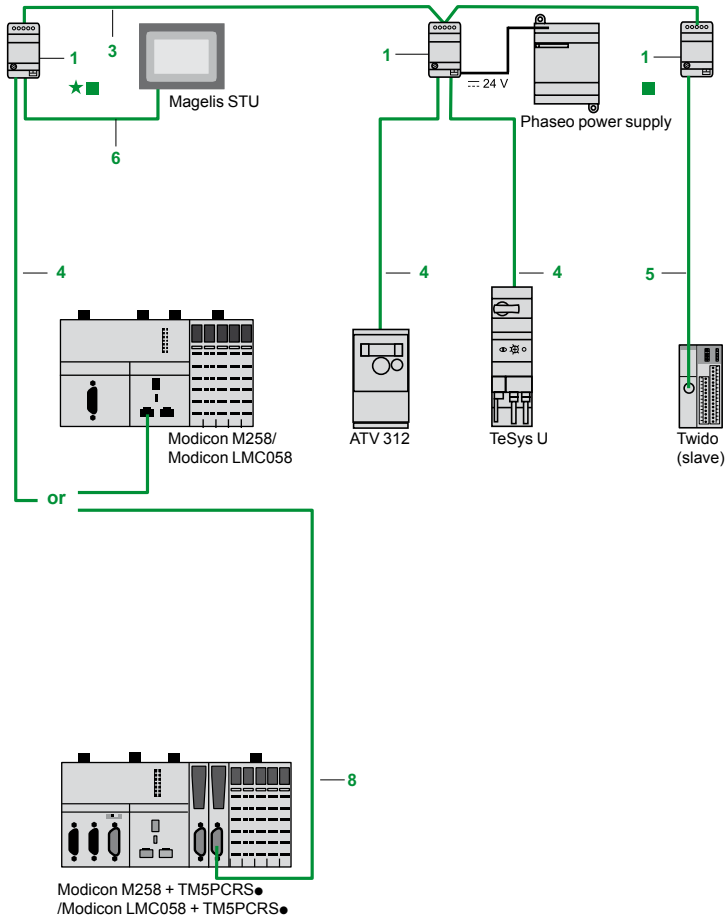
with Modicon M258 logic controller,  
and Modicon LMC058 motion controller

## Modbus cabling system

**Non-isolated link**  
(Modicon M258, LMC058 master)



**Isolated link**  
(Modicon M258, LMC058 master)



- Length of cables between Modicon M258 and Altivar:  
≤ 30 m (98.43 ft) max.  
★ Line polarization active  
■ Line termination

- Total length of cables between isolation boxes 1: ≤ 1000 m (3281 ft)  
- Length of tap cables 4, 5 or 6: ≤ 10 m (32.81 ft)

### References

#### Extension and adaptation elements

| Designation                                                                                        | Description                                                                                                                                                                                                                                             | No. | Length<br>m/ft.        | Unit<br>reference            | Weight<br>kg/lb |
|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------------------------|------------------------------|-----------------|
| <b>Isolation box</b><br>Screw terminal block for trunk<br>cable<br>2 x RJ45 connectors for tap-off | - Isolation of the RS485 link (1)<br>- Line termination (RC 120 Ω, 1 nF)<br>- Line pre-polarization (2 R 620 Ω),<br>- Power supply 24 V [DC symbol] (screw terminal<br>block) or 5 V [DC symbol] (via RJ45),<br>- Mounting on 35 mm $\perp$ (1.378 in.) | —   | —                      | TWDXCAISO                    | 0.100<br>0.220  |
| <b>Junction box</b><br>1 RJ45 for trunk cable<br>2 x RJ45 for tap-off                              | - Line termination (RC 120 Ω, 1 nF)<br>- Line pre-polarization (2 R 620 Ω),<br>- Mounting on 35 mm $\perp$ (1.378 in.)                                                                                                                                  | —   | —                      | TWDXCAT3RJ                   | 0.080<br>0.176  |
| <b>Modbus splitter box</b><br>Screw terminal block for trunk cable<br>10 x RJ45 for tap-off        | Mounting on 35 mm $\perp$ (1.378 in.) on plate or panel (2 x—<br>Ø 4 mm screws)                                                                                                                                                                         | —   | —                      | LU9GC3                       | 0.500<br>1.102  |
| <b>T-junction boxes</b><br>2 x RJ45 for trunk cable                                                | 1 integrated cable with RJ45 connector for tap-off<br>dedicated to Altivar variable speed drive                                                                                                                                                         | —   | 0.3/ 0.984<br>1/ 3.281 | VW3A8306TF03<br>VW3A8306TF10 | —<br>—          |
| <b>Passive T-junction box</b>                                                                      | - 1-channel line extension and tap-off on screw<br>terminal block<br>- Line termination                                                                                                                                                                 | —   | —                      | TSXSACA50                    | 0.520<br>1.146  |

(1) Line isolation recommended for line distances > 10 m (32.81 ft).





# Modbus for Machines

with Modicon M258 logic controller,  
and Modicon LMC058 motion controller



XGS Z24

| References                                                                  |                                                                                                                                             |      |                   |                   |                  |
|-----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|------|-------------------|-------------------|------------------|
| Cables and cordsets for RS 485 serial link                                  |                                                                                                                                             |      |                   |                   |                  |
| Designation                                                                 | Description                                                                                                                                 | No.  | Length<br>m / ft. | Unit<br>reference | Weight<br>kg/lb  |
| RS 232C/RS 485 line converter                                               | - Max. data rate 19.2 Kbps<br>- No modem signals<br>24 V $\overline{\text{---}}$ /20 mA power supply, Mounting on 35 mm $\text{U}_\text{L}$ | —    | —                 | XGSZ24            | 0.100<br>0.220   |
|                                                                             |                                                                                                                                             |      |                   |                   |                  |
|                                                                             |                                                                                                                                             |      |                   |                   |                  |
|                                                                             |                                                                                                                                             |      |                   |                   |                  |
| RS 485 double shielded twisted pair trunk cables                            | Modbus serial link, supplied without connector                                                                                              | 3    | 100/ 328.064      | TSXCSA100         | 5.680<br>12.522  |
|                                                                             |                                                                                                                                             |      | 200/ 656.168      | TSXCSA200         | 10.920<br>24.074 |
|                                                                             |                                                                                                                                             |      | 500/ 1640.420     | TSXCSA500         | 30.000<br>66.139 |
| Modbus RS 485 cordsets                                                      | 2 x RJ45 connectors                                                                                                                         | 4    | 0.3/ 0.984        | VW3A8306R03       | 0.030<br>0.066   |
|                                                                             |                                                                                                                                             |      | 1/ 3.281          | VW3A8306R10       | 0.050<br>0.110   |
|                                                                             |                                                                                                                                             |      | 3/ 9.840          | VW3A8306R30       | 0.150<br>0.331   |
|                                                                             | 1 x RJ45 connector and 1 end with flying leads                                                                                              | —    | 1/ 3.281          | TWDXCAFJ010       | 0.060<br>0.132   |
|                                                                             |                                                                                                                                             |      | 3/ 9.840          | VW3A8306D30       | 0.150<br>0.331   |
|                                                                             | 1 x mini-DIN connector for Twido controller and 1 x RJ45 connector                                                                          | —    | 0.3/ 0.984        | TWDXCARJ003       | 0.040<br>0.088   |
|                                                                             |                                                                                                                                             |      | 1/ 3.281          | TWDXCARJ010       | 0.090<br>0.198   |
|                                                                             |                                                                                                                                             |      | 3/ 9.840          | TWDXCARJ030       | 0.160<br>0.352   |
|                                                                             | 1 x mini-DIN connector for Twido controller and 1 x RJ45 connector (1) (2)                                                                  | 5    | 0.3/ 0.984        | TWDXCARJP03       | 0.027<br>0.059   |
|                                                                             | 1 x mini-DIN connector for Twido controller and 1 x RJ45 connector Dedicated to Programming protocol (2) (3)                                | —    | 0.3/ 0.984        | TWDXCARJP03P      | 0.027<br>0.059   |
|                                                                             | 1 mini-DIN connector for Twido controller and 1 end with flying leads                                                                       | —    | 1/ 3.281          | TWDXCAFD010       | 0.062<br>0.137   |
|                                                                             |                                                                                                                                             |      | 10/ 32.81         | TSXCX100          | 0.517<br>1.14    |
| Cordsets, from Modicon M258 (SL1, SL2) to Magelis display unit and terminal | 2 x RJ45 connectors (XBT N200/R400, XBT RT500/511, XBTGT11●●/1335)                                                                          | 7    | 2.5/ 8.202        | XBTZ9980          | 0.230<br>0.507   |
|                                                                             | 1 x RJ45 connector and 1 x 25-way SUB-D connector (Small Panel XBTN401/410, XBTR410/411)                                                    | 6, 7 | 2.5/ 8.202        | XBTZ938           | 0.210<br>0.463   |
|                                                                             | 1 x RJ45 connector and 1 x 9-way SUB-D connector (Advanced Panel XBTGT2●●0...7340 et XBTGK●●●0)                                             | 7    | 2.5/ 8.202        | XBTZ9008          | 0.150<br>0.331   |
| Cordset for Magelis Small Panel display unit and terminal                   | 2 x RJ45 connectors (Small Panel XBTN200/R400, XBT RT500/511)                                                                               | 6    | 3/ 9.843          | VW3A8306R30       | 0.150<br>0.331   |
| Line terminator<br>Sold in lots of 2                                        | For RJ45 connector, R = 120 $\Omega$ , C = 1 nf                                                                                             | —    | —                 | VW3A8306RC        | 0.200<br>0.441   |
| Cordsets for RS 232 serial link                                             |                                                                                                                                             |      |                   |                   |                  |
| Designation                                                                 | Description                                                                                                                                 | No.  | Length<br>m / ft. | Reference         | Weight<br>kg/lb  |
| Cordset for DTE terminal (printer) (4)                                      | Serial link for DTE equipment (2)<br>1 x RJ45 connector and 1 x 9-way female SUB-D connector                                                | 8    | 3/ 9.843          | TCSMCN3M4F3C2     | 0.150<br>0.331   |
| Cordset for DCE terminal (modem, converter)                                 | Serial link for DCE<br>1 x RJ45 connector and 1 x 9-way male SUB-D connector                                                                | 8    | 3/ 9.843          | TCSMCN3M4M3S2     | 0.150<br>0.331   |

(1) Forces configuration of the Twido controller built-in RS 485 port with the TwidoSuite programming protocol parameters.

(2) Carries the 5 V  $\overline{\text{---}}$  voltage (supplied by the Twido controller built-in RS 485 port) required by the TWDXCAISO isolation box, thus avoiding the need for a 24 V  $\overline{\text{---}}$  external power supply.

(3) Allows the Twido controller built-in RS 485 port to be used with the parameters described in the configuration.

(4) If the terminal is equipped with a 25-way SUB-D connector, you will also need to order the 25-way female/9-way male SUB-D adaptor TSXCTC07.

|               |   |              |   |
|---------------|---|--------------|---|
| <b>L</b>      |   | VW3A8306TF10 | 3 |
| LU9GC3        | 3 |              | 5 |
|               | 5 |              | 6 |
|               | 6 |              |   |
|               |   | <b>X</b>     |   |
| <b>T</b>      |   | XBTZ938      | 3 |
| TCSMCN3M4F3C2 | 3 |              | 5 |
|               | 5 |              | 7 |
|               | 7 | XBTZ9008     | 3 |
| TCSMCN3M4M3S2 | 3 |              | 5 |
|               | 5 |              | 7 |
|               | 7 | XBTZ9980     | 3 |
| TSXCSA100     | 3 |              | 5 |
|               | 5 |              | 7 |
|               | 7 | XBTZ9982     | 3 |
| TSXCSA200     | 3 |              | 5 |
|               | 5 | XGSZ24       | 3 |
|               | 7 |              | 5 |
| TSXCSA500     | 3 |              | 7 |
|               | 5 |              |   |
|               | 7 |              |   |
| TSXCX100      | 7 |              |   |
| TSXSCA50      | 3 |              |   |
|               | 5 |              |   |
|               | 6 |              |   |
| TWDXCAFD010   | 7 |              |   |
| TWDXCAFJ010   | 3 |              |   |
|               | 5 |              |   |
|               | 7 |              |   |
| TWDXCAISO     | 3 |              |   |
|               | 4 |              |   |
|               | 6 |              |   |
| TWDXCARJ003   | 7 |              |   |
| TWDXCARJ010   | 7 |              |   |
| TWDXCARJ030   | 7 |              |   |
| TWDXCARJP03   | 7 |              |   |
| TWDXCARJP03P  | 7 |              |   |
| TWDXCAT3RJ    | 3 |              |   |
|               | 4 |              |   |
|               | 6 |              |   |
| <b>V</b>      |   |              |   |
| VW3A8306D30   | 3 |              |   |
|               | 5 |              |   |
|               | 7 |              |   |
| VW3A8306R03   | 3 |              |   |
|               | 5 |              |   |
|               | 7 |              |   |
| VW3A8306R10   | 3 |              |   |
|               | 5 |              |   |
|               | 7 |              |   |
| VW3A8306R30   | 3 |              |   |
|               | 5 |              |   |
|               | 7 |              |   |
| VW3A8306RC    | 3 |              |   |
|               | 5 |              |   |
|               | 7 |              |   |
| VW3A8306TF03  | 3 |              |   |
|               | 5 |              |   |
|               | 6 |              |   |

The Next Generation



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