

Presentation

In order to communicate with an intelligent environment, Twido compact and modular programmable controllers offer an RS 485 serial communication port on the module as well as an optional type RS 485 or RS 232 link.

These two ports allow Twido compact and modular controllers to use four communication protocols: Programming, Modbus, ASCII, and Remote link.

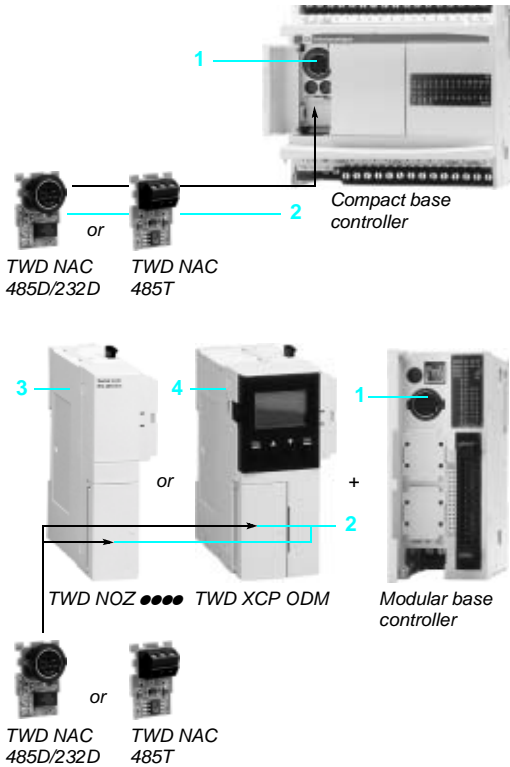
Description

Compact base controllers have the following on the front panel:

- 1 An RS 485 serial port, with mini-DIN type connector for connection to the programming terminal.
- 2 A slot for fitting a 2nd optional port (RS 485/RS 232) using TWD NAC ●●● adapters.

Modular base controllers have the following on the front panel:

- 1 An RS 485 serial port, with mini-DIN type connector for connection to the programming terminal.
 - The slot for fitting a 2nd optional port (RS 485/RS 232) using adapters TWD NAC ●●● is located behind the removable cover 2 of a TWD NOZ ●●●● interface module 3 or a TWD XCP ODM display module 4.
- The interface and display modules connect to the left-hand side of modular base controllers.



Twido controller communication ports

	Serial port	Optional port (2 nd port)		
	RS 485 mini-DIN	RS 485 mini-DIN	RS 232 mini-DIN	RS 485 screw terminal block
Compact base controllers	All compact base controllers TWD LCAA ●●●●	TWD NAC 485 D (1)	TWD NAC 232 D (2)	TWD NAC 485 T (1)
Modular base controllers	All modular base controllers TWD LMDA ●●●●	TWD NOZ 485 D (1) or TWD XCP ODM + TWD NAC 485D	TWD NOZ 232 D (2) or TWD XCP ODM + TWD NAC 232D	TWD NOZ 485 T (1) or TWD XCP ODM + TWD NAC 485T

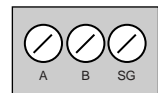
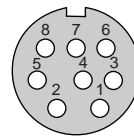
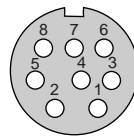
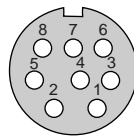
(1) With max. cable length: 200 m.

(2) With max. cable length: 10 m.

If the RS 232 physical layer is used for a length greater than 10 metres, use the RS 485 physical layer and an RS 485/RS 232 conversion module reference XGS Z24.

Connection

Serial link	Optional link		
RS 485	RS 485D	RS 232 D	RS 485T



	TWD LCAA ●●●● TWD LMDA ●●●●	TWD NAC 485D TWD NOZ 485D	TWD NAC 232D TWD NOZ 232D	TWD NAC 485T TWD NOZ 485T
1	A +	A +	RTS	A A +
2	B -	B -	DTR	B B -
3	NPC	NC	TXD	SG 0 V
4	/DE	NC	RXD	
5	/DPT	NC	DSR	
6	NPC	NC	0 V	
7	0 V	0 V	0 V	
8	5 V (180 mA)	5 V (180 mA)	5 V (180 mA)	

NC: not connected

NPC: do not connect

/DPT: 1 = master; If not connected, the PUNIT protocol is used for communication with PCs (at state 1, 19200 bauds, with no parity); If connected to 0 V, the communication parameters are those configured by the TwidoSoft software.



TWD NAC 232D/485D



TWD NAC 485T



TWD NOZ 485T



TWD XCP ODM

References

Serial link modules and adapters

Description	Compatibility	Physical layer	Connection	Reference	Weight kg
Serial interface adapters	Compact base controllers TWD LCAA 16/24DRF Built-in display module TWD XCP ODM	RS 232C	Mini-DIN connector	TWD NAC 232D	0.010
		RS 485	Mini-DIN connector	TWD NAC 485D	0.010
			Screw terminals	TWD NAC 485T	0.010
Serial interface modules	Modular base controllers TWD LMDA 20/40D●●	RS 232C	Mini-DIN connector	TWD NOZ 232D	0.085
		RS 485	Mini-DIN connector	TWD NOZ 485D	0.085
			Screw terminals	TWD NOZ 485T	0.085

Digital display and built-in display module

Description	Compatibility	Characteristics	Reference	Weight kg
Built-in display module	Modular base controllers TWD LMDA 20/40D●●	Mounted on left-hand side of base controller. Enables adjustment and diagnostics of the programmable controller. Can take a serial adapter TWD NAC ●●●●	TWD XCP ODM	0.105

Connection accessory

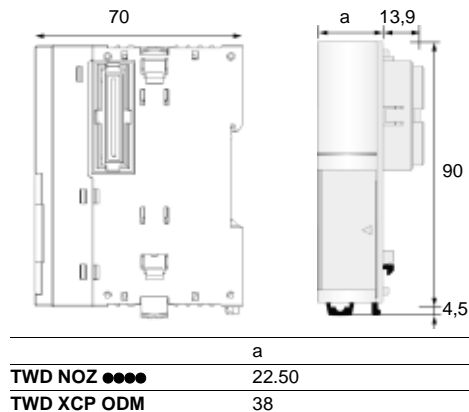
Description	Link from	to	Length	Reference	Weight kg
Serial link connection cable	Serial interface adapter or RS 485 serial interface module (mini-DIN connector)	Modbus module (RJ 45 connector)	3 m	TWD XCA RJ030	0.160

Modems

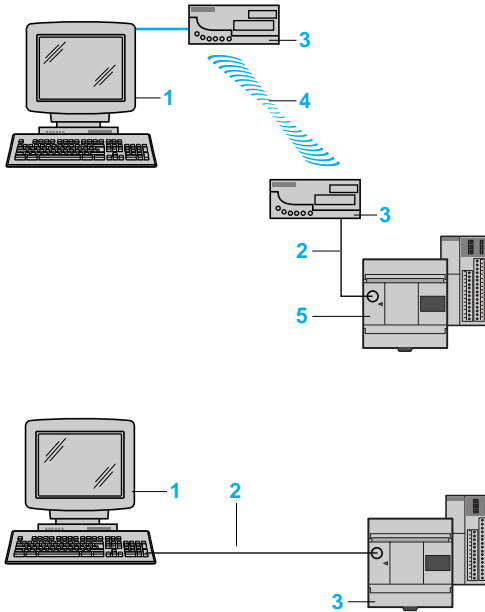
Description	Supply voltage	Reference	Weight kg
PSTN modem: type WESTERMO TD-33 / V.90, supplied with a telephone cable (length 3 m)	--- 12/36 V	SR1 MOD01	0.231
GSM modem: type WAVECOM WMOD2B dual band 900/1800 Mhz, supplied with a power cable (length 1.5 m) and clips for plate mounting	--- 24 V	SR1 MOD02	0.127
Accessory kit for GSM modem comprising: a modem cable (length 0.5 m), an antenna with cable (length 3 m), and accessories for mounting on 35 mm rail	—	SR1 KIT02	0.180

Dimensions

Modules TWD NOZ ●●●/XCP ODM



Programming protocol



Link by modem

- 1 Remote programming PC.
- 2 Cable TSX PCX 1031 on serial port.
- 3 Modem for transmitting/receiving data.
- 4 Telephone or radio link.
- 5 Twido compact or modular controller.

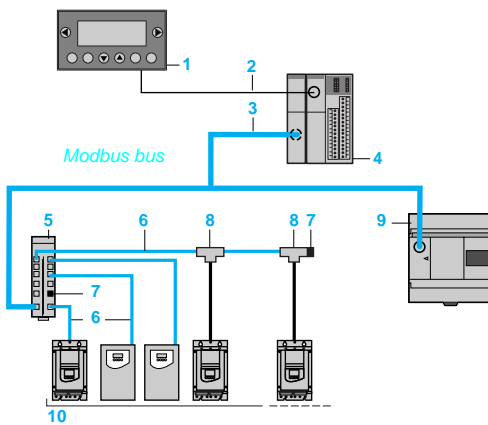
Link by cable

- 1 Programming PC.
- 2 Cable TSX PCX 1031 RS 485 on serial port or USB cable TSX PCX 3030 for Windows 2000 or XP.
- 3 Twido compact or modular controller.

Characteristics

Protocol type	Programming	
Data rate	Kbit/s	19.2
Physical layer		RS 485
Connection		Serial port
Compatibility		With compact base controllers TWD LCAA ●●●● and modular base controllers TWD LMDA ●●●●

Modbus protocol



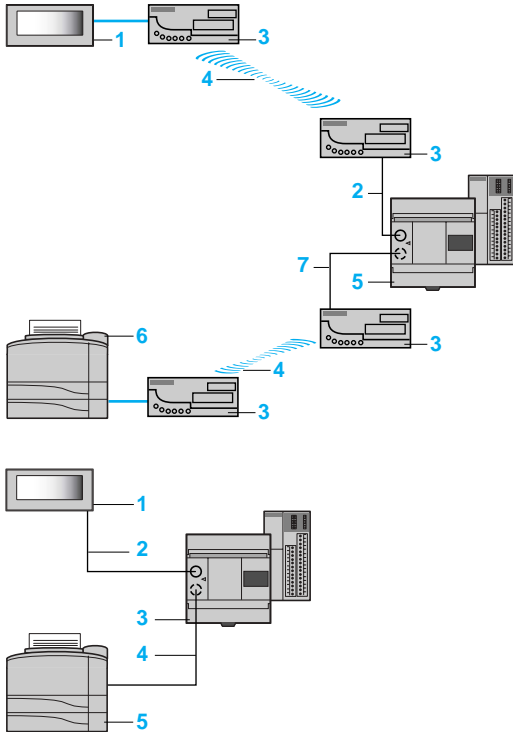
Twido controller connected directly on the Modbus bus

- 1 Magelis compact display XBT N40●.
- 2 Cable XBTZ 978 on serial port.
- 3 Cable for optional RS 485 port.
- 4 Twido modular controller.
- 5 Modbus hub LU9 GC3.
- 6 Modbus tap link cable VW3 A8 306 R●●.
- 7 Line end adapters VW3 A8 306 RC.
- 8 Modbus T-junctions VW3 A8 306 TF●● (with cables).
- 9 Twido compact controller.
- 10 Modules: ATS 48 and ATV 28.

Characteristics

Protocol type	Modbus	
Data rate	Kbit/s	1.2...38.4 Initial value: 19.2
Data bits		7 or 8 Initial value: 8
Stop bits		1 or 2
Parity		Without, even or odd Initial value: without
Physical layer		RS 485/RS 232 (point-to-point)
Connection		Serial port (RS 485) or optional port (RS 485/RS 232)
Compatibility		Compact base controllers TWD LCAA ●●●● and modular base controllers TWD LMDA ●●●●

ASCII protocol



Link by modem

- 1 Simple ASCII display.
- 2 Standard RS 485 cable or cable TSX PCX 1031 for RS 232 conversion, on serial port.
- 3 Modem for transmitting/receiving data.
- 4 Telephone or radio link.
- 5 Twido compact or modular controller.
- 6 ASCII printer.
- 7 Standard RS 485/RS 232 cable on optional port.

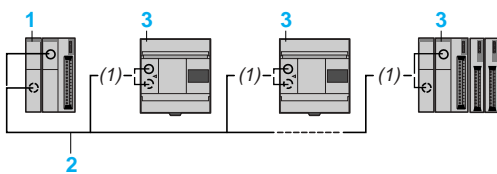
Link by cable

- 1 Simple ASCII display.
- 2 Standard RS 485 cable or cable TSX PCX 1031 for RS 232 conversion, on serial port.
- 3 Twido compact or modular controller.
- 4 Standard RS 485/RS 232 cable on optional port.
- 5 ASCII printer.

Characteristics

Protocol type	ASCII	
Data rate	Kbit/s	1.2...38.4 Initial value: 19.2
Data bits		7 or 8 Initial value: 8
Stop bits		1 or 2 Initial value: 1
Parity		Without, even or odd Initial value: without
Physical layer		RS 485/RS 232
Connection		Serial port (RS 485) or optional port (RS 485/RS 232)
Compatibility		With compact base controllers TWD LCAA ●●●● and modular base controllers TWD LMDA ●●●●

"Remote link" protocol



(1) Connection is made either to the serial port, or to the optional port.

"Remote Link" decentralised I/O:

Each compact or modular base controller can be extended by means of Twido base controllers used either as an I/O extension, or as a local "reflex" controller.

- When used as an I/O extension, these base controllers cannot take any I/O extensions.
- When used as a local "reflex" controller, these base controllers have their own application program. Internal words are reserved for automatic exchange of information between the base controllers.

- 1 Base controller.
- 2 RS 485 3-wire cable on serial port or on optional port.
- 3 Twido base controllers used as I/O extension or as local "reflex" controller.

Characteristics

Protocol type	Remote link	
Data rate	Kbit/s	38.4
Physical layer		RS 485
Connection		Serial port or optional port only.
Number of Twido modules that can be connected		from 1 to 7
Compatibility		With compact base controllers TWD LCAA ●●●● and modular base controllers TWD LMDA ●●●●