PANEL-MOUNTED PERIPHERAL MODEM FOR ANALOGUE LINES WITHOUT DISCRIMINATOR AND WITH SETTABLE TRANSMISSION SPEED

T 337
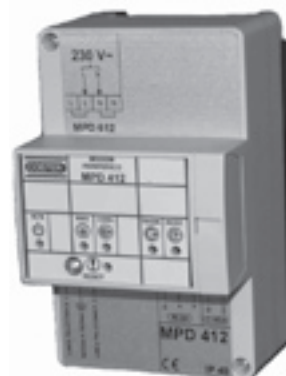20.04.10 AM
REV. 01

(C ←BUS) (RS 232)

MPD 412 Eng.

• **Connection to a two-wire analogue telephone line**
• **1 serial RS 232 communication output**
• **1 parallel C-BUS communication output**
• **Power supply 230 V ~; DIN rail mounting, into 4-module enclosure**
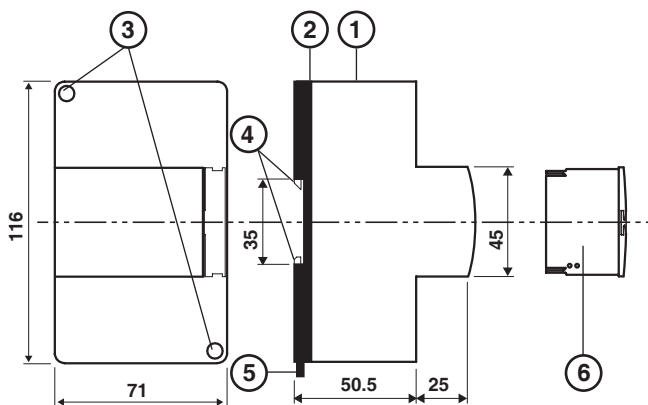• **Configurable communication speed (Factory setting: 1,200 baud)**

CE

1. APPLICATION

MPD 412 modem is designed for connecting COSTER Telemanageable devices to a two-wire analogue telephone line
The modem requires its own line: if it is necessary to share the line with other users (other modems, fax, normal telephones) a normal commercial-type discriminator must be used.
Converts the digital signals coming from COSTER electronic devices into analogue signals for transmission along a telephone line (MODULATION) and reconverts the analogue signals coming from the telephone line into digital signals to be sent to the devices.
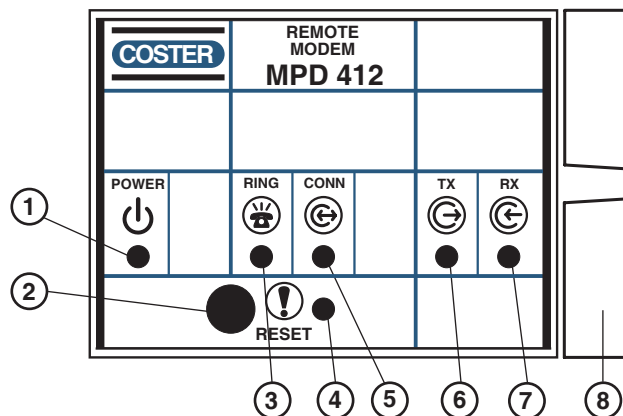It is provided with an RS 232 Bus so as to be able to communicate with a PC or with devices provided with this type of Bus. It is also provided with C-BUS in order to be able to Telemanage COSTER devices provided with this Bus.

2. OVERALL DIMENSIONS

1 – Protective cover for electronic components
2 – Base with transformer and terminal blocks
3 – Screws for securing the cover to the base
4 – DIN rail securing elements
5 – DIN rail release lever
6 – Communications port

3. FACIA

1 – Power supply LED
2 – Manual reset button
3 – Call (ring) LED
4 – Modem reset LED
5 – Connection mode LED
6 – Transmission LED
7 – Reception LED
8 – Communication port

4. TECNICAL DATA

Power supply	230 V~ ± 10%	Ambient temperature:	
Frequency	50 Hz	operation	0 ... 45 °C
Consumption	3 VA	storage	− 25 ... + 60 °C
Protection	IP40	Ambient humidity	classe F DIN 40040
Radio disturbances	VDE0875/0871	Weight	0,39 kg
Vibration test	with 2g (DIN 40 046)	Input	two-wire analogue telephone line
Construction standards	CEI	Communication bus	
Enclosure	DIN 4E module	RS 232	for PC or devices with RS 232
Installation	on DIN 35 rail	C-BUS	for COSTER devices with C-BUS
Materials:		Communication speed	
base	NYLON	Factory initialization	1200 bauds
cover	ABS	Other speed	to be started as required
		European Directives applied	1999/5/EC

MPD 412 modem is provided with a supervisory circuit which activates an automatic RESET every four hours in order to guarantee operation even in the event of large disturbances which could alter the operation of the modem.
The same automatic reset is activated when, after 5 rings the modem does not respond because it has locked out after a disturbance on the line. After this it is ready for communication.
During a successful call the reset is inhibited so as not to interrupt the communication.
For greater security the reset function can be activated by a reset button accessible on the facia (3.2).
If replacing MPD 612, please note that the COSTER tone is no longer supported, and in order to share the telephone line with other devices, such as fax machines or normal telephones, an external telephone discriminator (e.g.: FITRE CH 99) is required. The call discriminator must be switched off on the modem receiving the alarms.
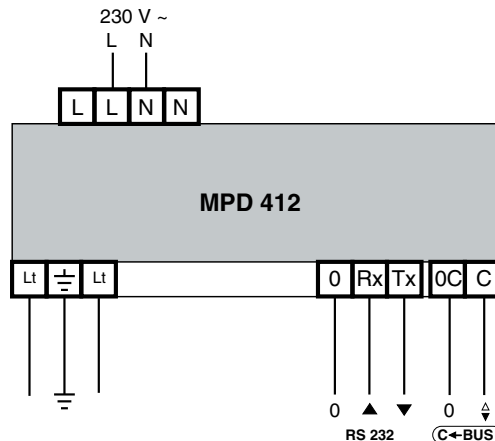.

5. WIRING DIAGRAM

Lt - Lt – Telephone line

⏚ – Earth; use efficient earth connection to ensure good protection against electric discharges sometimes present on telephone lines.

O - Rx - Tx – RS 232 (to devices)
O – 0 Volt of RS 232 line
Rx – RS 232 reception
Tx – RS 232 transmission

0C - C – C-Bus (to devices)
0C – C-Bus cold side
C – C-Bus hot side

230 V ~
L   N

| L | L | N | N |

MPD 412

| Lt | ⏚ | Lt | | | | 0 | Rx | Tx | 0C | C |

0   ▲   ▼   0   ⇕
RS 232   **C←BUS**

6. INSTALLATION & ELECTRICAL CONNECTIONS

The modem must be sited in a dry environment which meets the relevant conditions give under section 4. TECHNICAL DATA ", If installed in a location classified as "Hazardous" it must be installed in a cabinet for electrical equipment constructed according to the regulations in force for the class of danger concerned.
The modem can be mounted on a DIN rail and housed in a standard DIN enclosure.
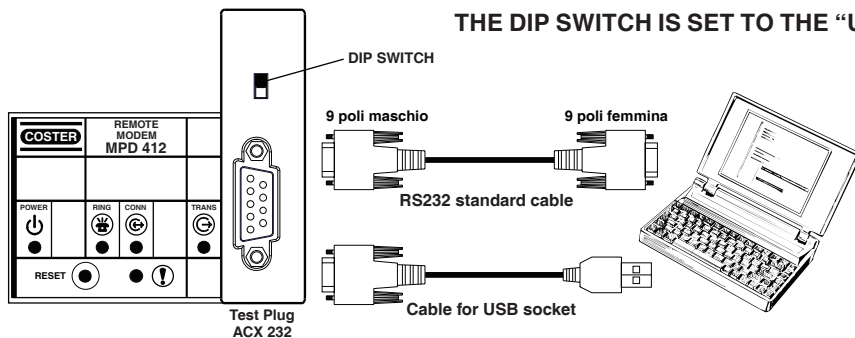Proceed as follows:
• Separate base and cover after having removed the securing screws
• Mount the base on the DIN rail and check that the securing elements (2.4) is locked securely
• Make the electrical connections strictly according to the wiring diagram and to the safety regulations in force using the following cable sizes :
  – 1.5 mm^2 cross-section for the power supply.
  – 1 mm^2 cross-section for C-Bus and RS232. For length limits see Technical Data Sheets T 021.
• Switch on power (230 V~) and check its presence at terminals L and N..
• Switch off power, replace the cover on the base/terminal block and secure it with the two screws supplied (2.3)
It is advisable not to insert more than two cables in a single terminal and, if necessary, to use an external terminal block.

7. COMMUNICATION WITH C-BUS

The capacity of the C-Bus line is exactly equal to that of the MPD 612 modem.
The capacities of the C-Bus line for the various COSTER devices are described in Technical Data Sheet T 021. Under normal conditions PD 412 can communicate with up to 40 devices using up to 1,500 meters of 1.5mm2 cable.

7.1 To connect a PC to the modem & communicate with all the devices on site

THE DIP SWITCH IS SET TO THE "UP" POSITION

DIP SWITCH

COSTER REMOTE MODEM **MPD 412**
POWER RING CONN TRANS
RESET

9 poli maschio   9 poli femmina

RS232 standard cable

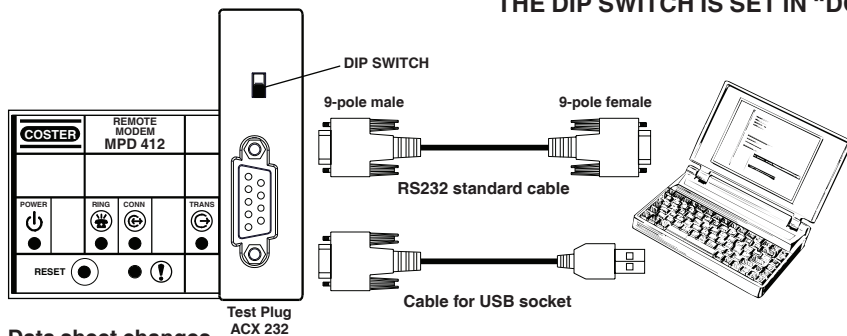**Cable for USB socket**

Test Plug
ACX 232

By connecting a PC (or Laptop) using the ACX 232 test plug you can communicate with the C-Bus/RS232 devices attached to the modem
Remember all the devices must be addressed with a unique address number, as described in their data sheets, prior to communication.

ACCESSORIES :
ACX 232 = Test plug
KIT RS 232 = kit contains all the necessary cables and accessories

7.2 To connect a PC to the telephone line, to communicate with other sites & to re-initialise the modem

THE DIP SWITCH IS SET IN "DOWN" POSITION.

DIP SWITCH

COSTER REMOTE MODEM **MPD 412**
POWER RING CONN TRANS
RESET

9-pole male   9-pole female

RS232 standard cable

Cable for USB socket

Test Plug
ACX 232

With a PC or Laptop you can Telemanage other remote sites using the SWC 701 software and the telephone line. It must be checked that the modem is connected correctly to the telephone line, and can call the other sites already provided with modems for Telemanagement.In this manner you can initialize the modem to communicate at speeds different from 1200 bauds, using the SWC 701 program.

ACCESSORIES :
ACX 232 = Test plug
KIT RS 232 = kit contains all the necessary cables and accessories

Data sheet changes

Date	Revision n.	Page	Section	Description of changes	Firmware version	Software version
20.04.10 AM	**01**	1		Add Note on first page		