T 425
25.10.10 MC
REV. 03

NON TRASPARENT CONVERTOR M-BUS / C-BUS

M←BUS C←BUS

CMC 328 Eng.

- **Power supply:**
  – 230 V ~
- **Converts:**
  – an M-Bus signal into a C-Bus signal
- **Permits reading:**
  – M-Bus data from a C-Bus line
- **Installation:**
  – on standard DIN rail

CE

1. APPLICATION

CMC 328 is designed specifically for use on sites where devices are installed (generally heat meters) which use the **M-Bus** communication system.

2. OPERATION

CMC 328 is able to read data from the **M-Bus** line and transfer it to a **C-Bus** line or to an RS 232 serial output.
In so doing the data are made legible over the COSTER Telemanagment system (C-Bus); or directly from a PC; (RS 232).
NB: the convertor inserted in the Telemanagement system has to be given an address (with a number from 1 to 239 max) on the C-Bus network for identification. To do this, see page 2, section 9 (programming address); factory-set address = one (- -1).

3. MODEL

Code	Description	Data convertible to C/Bus			Data readout	Output
CMC 328	Non-transparent M-Bus / C-Bus convertor	RS 232	M-Bus	TTL	1	12 V –

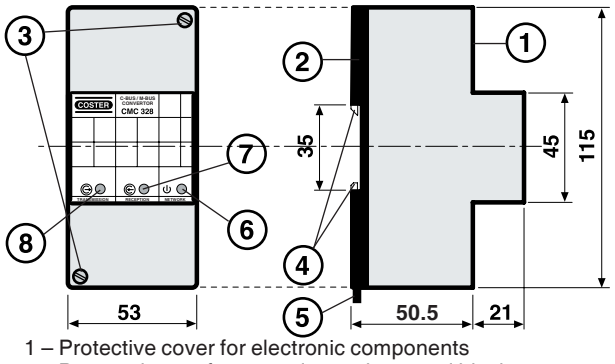
4. TECHNICAL DATA

Power supply	230 V ~ ± 10%
Frequency	50...60 Hz
Consumption	4 VA
Protection	IP40
Radio disturbances	VDE0875/0871
Vibration test	with 2g (DIN 40 046)
Construction standards	Italian Electrotech. Committee (CEI)
Enclosure	DIN 3 E module
Mounting	on DIN 35 rail
Ambient temperature:	
– operating	0…45 °C
– storage	– 25…60 °C
Ambient humidity	Class F DIN 40040
Materials:	
– base	Nylon
– cover	ABS
Reception / transmission data:	
– RS 232 serial line	1
– C-Bus line	1
– M-Bus line	1
– TTL line	1
Speed data transmission:	
– C-BUS	1,200 bit/s
– M-BUS	300...9,600 bit/s
Auxiliary output:	
– voltage	12 V – stabilised 10 mA max.
Weight	0.270 kg

5. INSTALLATION

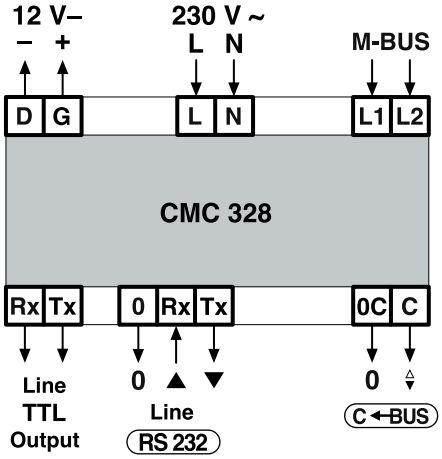
CMC 328 must be installed in a space suitable for electrical and electronic devices, that is:
– sufficiently ventilated.
– dry and without humidity.
In any event, it must meet the relevant conditions given under 5. TECHNICAL DATA. It must be installed in an enclosure for electrical equipment manufactured according to the current standards and regulations. It must be sited in an area not classified as hazardous in which there is no possibility of the presence of gas in quantity sufficient to require special measures for the construction installation and use of electrical and electronic material.
It can be installed on a DIN rail and housed in a standard DIN enclosure.

6. OVERALL DIMENSIONS



1 – Protective cover for electronic components
2 – Base with transformer, relay and terminal blocks
3 – Screws for securing base and cover
4 – DIN rail securing elements
5 – DIN rail release lever

7. WIRING DIAGRAM

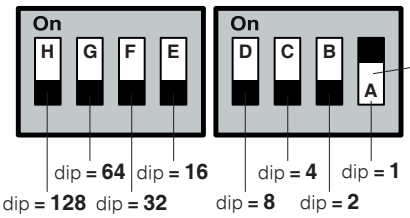


8. PROGRAMMING C-BUS ADDRESS

To program the desired C-Bus address, use the dip switches at the rear of the convertor.
Available addresses from 1 to 239 (Factory address = - - 1).
To each dip switch corresponds a conventional value (see 9.1); the total of the values used correspond to the dip switches to be activated (On) for programming the address.

8.1 Conventional value of the dip switches at On position.

NB: dip up (On) = conventional value entered
dip down = conventional value ZERO (0)

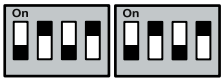


Factory address = ONE (- - 1).

To each dipswitch has been assigned a letter of the alphabet; this is solely in order to identify the programming examples given at the side.

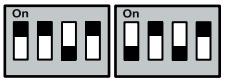
Examples of programming:

Desired address = **85**
Dip to be activated: A-On = **1**; C-On = **4**;
E-On = **16**; G-On = **64**
Result: **1 + 4 + 16 + 64 = 85**



Binary code 01010101

Desired address = **213**
Dip to be activated: A-On = **1**; B-On = **4**;
E-On =**16**; G-On = **64**;
H-On = **128**
Result: **1 + 4 + 16 + 64 + 128 = 157**



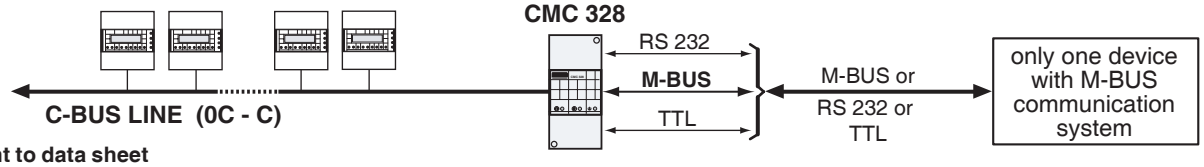
Binary code 11010101

9. ELECTRICAL CONNECTIONS

Proceed as follows :
- Separate base from cover after having loosened the securing screws (7.3),
- Mount the base on the DIN rail and check that it is firmly anchored by the securing elements (7.4)
- Carry out the wiring according to the diagram and in compliance with current electrical regulations and using :
  – 1.5 mm² cables for power supply
  – 1...1.5 mm² cables for C-Bus
  – 0.75 mm² (indicative) for RS 232; maximum length15 metres.
- Apply power (230 V~) : and check its presence across terminals L and N and then check that the LED (8.1) is lit,
- Remove power, replace cover on base and secure it with the two screws supplied (7.3) .

Do not use telephone or similar cables; if in the same terminal two or more cables have to be inserted, it is essential to use an external terminal block.

10. OPERATIONAL DIAGRAM



Amendment to data sheet

Date	Revision No.	Page	Section	Description amendment
11.09.06 MC		2	General 9.Prog. C-Bus address	New page layout, eliminated section (description facia); diagram inserted in section 7. Completely re-written procedure with inclusion new illustrative diagrams.
08.02.07 MC		2	11.Operating diagram	New diagram with details of assembling (M-Bus, Rs232, TTL)
26.02.07 MC	**02**	1	2. Operation 3. 4. Model / Accessories	Text: eliminated everything regarding RS 232 output. New specifications. Replaced type of cable convertor (from ACS to ACB)
		2	8.Wiring diagram 9. Programming C-Bus...	Add TTL line Amended table of conventional values of dipswitches + examples of programming.
25.10.02 VM	**03**	2	10. OPERATIONAL DIAGRAM	Update Operational diagram

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