T 412
31.01.05

HIGH-POWER AMPLIFIER & INTERFACE CONVERTOR

C←BUS

NAB 628 Eng. C1

- **Permits converting C-Bus to RS232**
- **Permits amplifying C-Bus signal**
- **Power supply 230 V ~ ; DIN rail mounting**

CE

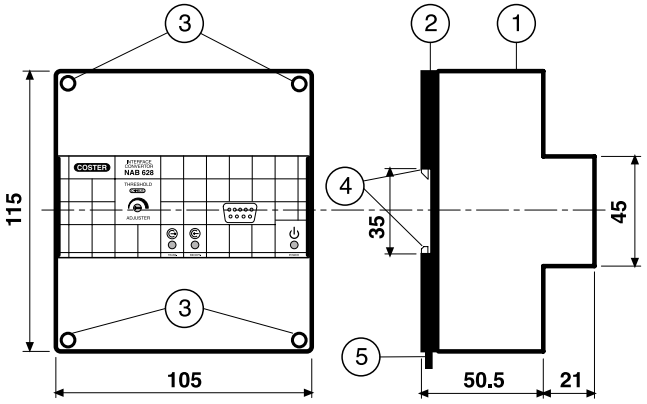
1. APPLICATION

Designed for use in C-Bus data transmission networks for :
– connecting devices with C-Bus port to a computer
– extending the C-Bus line by a further 7,000 meters

2. INSTALLATION

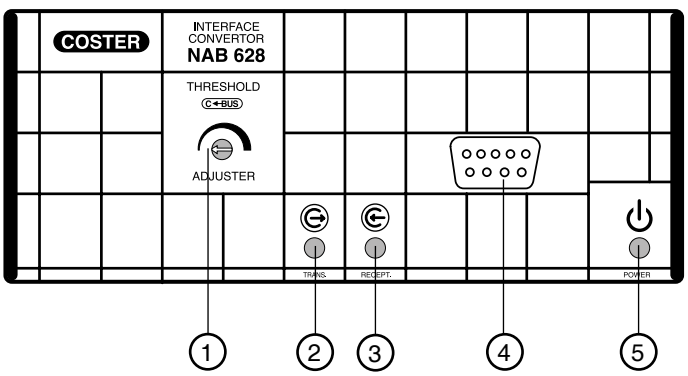
NAB 628 must be sited in a dry space in which the relevant ambiental limits shown under 5. TECHNICAL DATA are observed. If sited in a space classified as “Dangerous” it must be installed in a cabinet for electrical devices constructed according to the regulations in force for the danger class involved.
The controller can be installed on a DIN rail or in a DIN modular enclosure.

3. OVERALL DIMENSIONS



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

4. FACIA



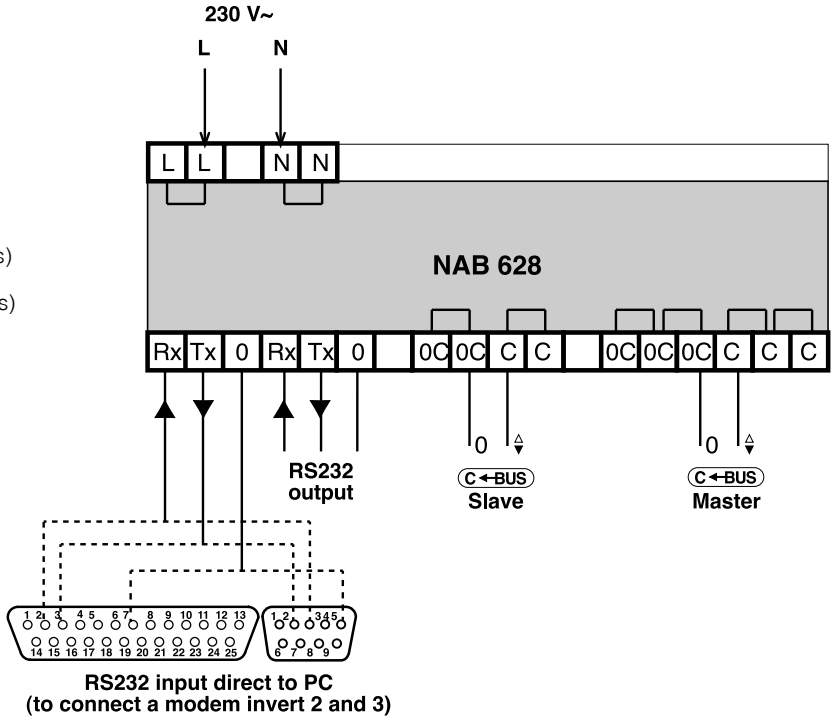
1 - Potentiometer for setting C-Bus reception threshold
2 - Transmission data LED
3 - Reception data LED
4 - RS232 connector for computer
5 - Power LED

5. TECHNICAL DATA

Power supply	230 V~ ± 10%
Frequency	50 ... 60 Hz
Consumption	10 VA
Protection	IP40
Radio disturbances	VDE0875/0871
Vibration test	with 2g (DIN 40 046)
Construction standards	Italian Electrotech. Committee (CEI)
Case	DIN 6E module
Mounting	DIN 35 rail
•Materials:	
base	NYLON
cover	ABS
•Ambient temperature:	
operation	0 ... 45 °C
storage	– 25 ... + 60 °C
Ambient humidity	Class F DIN 40040
•Data transmission:	
Transmission speed (baud rate)	1,200 bit/sec
RS232 serial ports	2
C-Bus parallel ports	2
Weight	1.0 kg

6. WIRING DIAGRAM

L – Line 230 V~
N – Neutral
C-Bus Slave – input C-Bus line (from modem)
C-Bus Master – output C-Bus line (to electronic devices)
RS232 input – RS232 line input (from computer)
RS232 output – RS232 line output (to electronic devices)



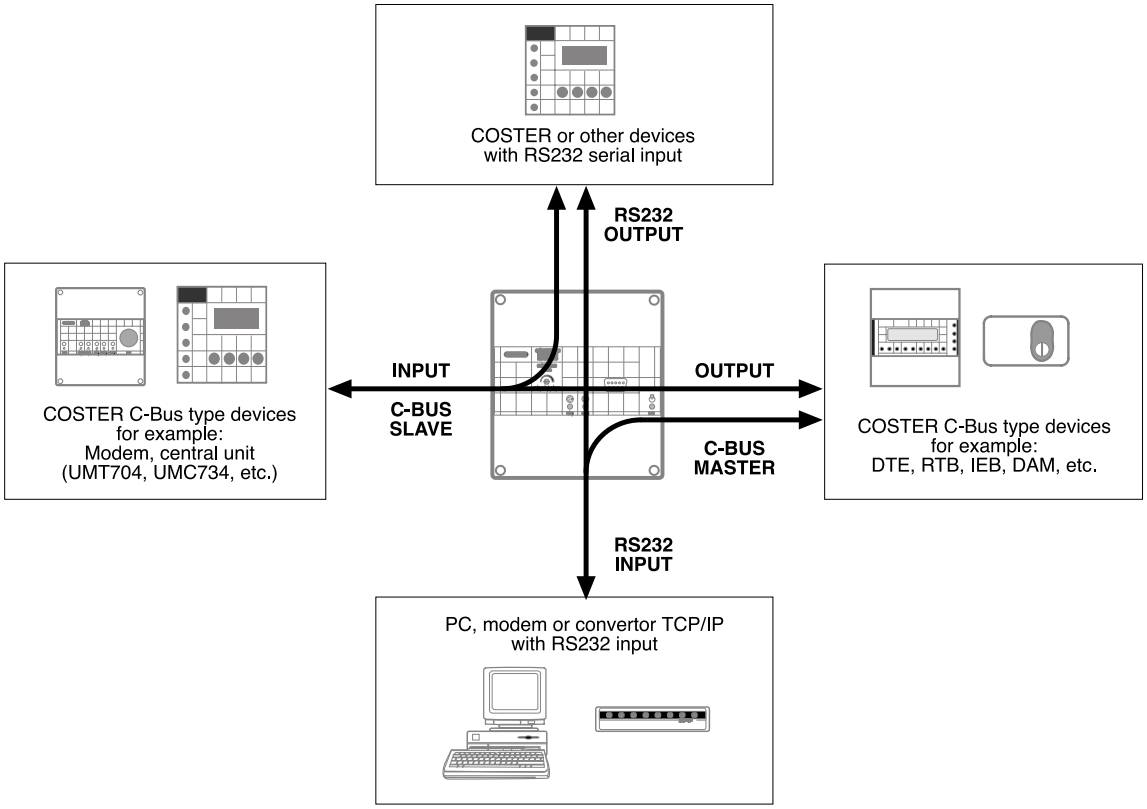
7. WIRING

Proceed as follows :
- Separate base and cover
- Mount base on DIN rail and check that the securing elements (3.4) hold it firmly in place.
- Carry out the wiring according to the diagram and in observance of the regulations in force, using cables of :
  - 1.5 mm^2 for power
  - 1...1.5 mm^2 for C-Bus
  - 0.75 mm^2 (approximately) for RS232 ; maximum length 15 meters
- Switch on power (230 V ~) and check voltage across terminals L and N
- Switch off power, replace cover on base and secure it with the screws supplied (3.3) .

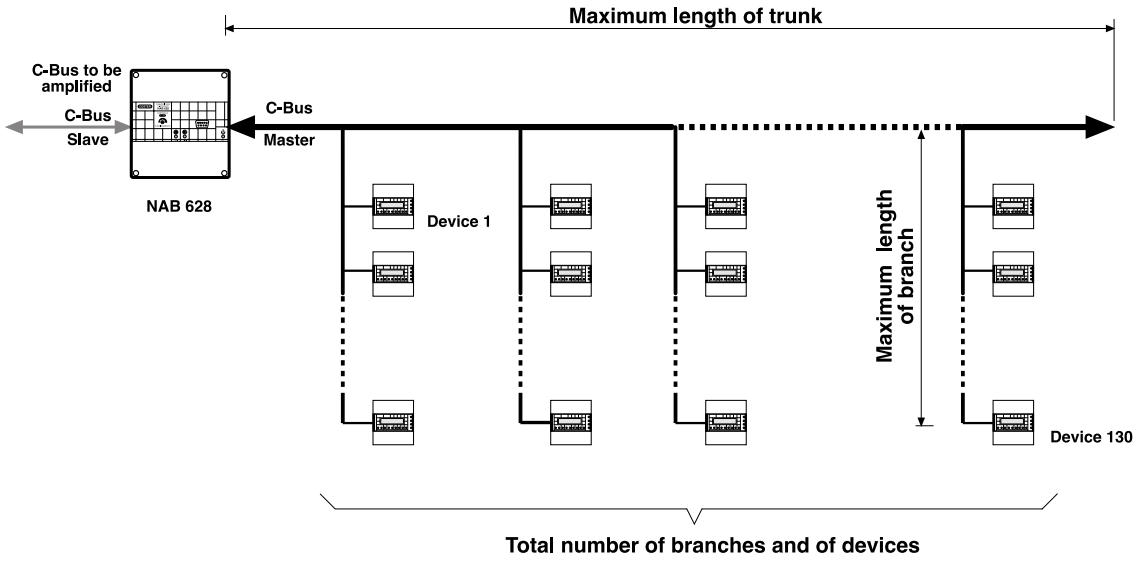
You are advised not to insert more than two cables in a single terminal of NAB 628 and if necessary to use external junction boxes.

8. OPERATION

8.1 Schematic diagram



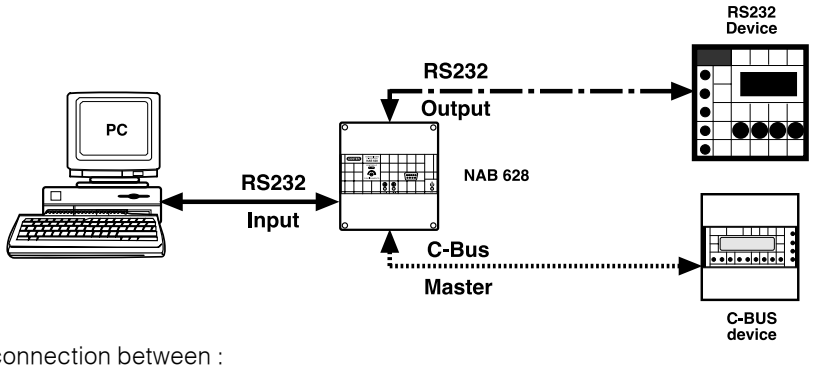
8.2 C-Bus signal amplifier : wiring tree



Max. length TRUNK Cross-section cable	Max. length BRANCH Cross-section cable	Max. number BRANCHES	Max. number device per BRANCH	Max. number devices TOTAL
7,000 1.5 mm²	500 1 mm²	9	30	236

- Amplifies the signal transmitted via C-Bus up to a total of 11,500 meters (trunk + branches)
- If values given in table exceeded it is necessary to insert another NAB 628
- If an NAB 628 is inserted on a branch the latter must be considered as trunk for calculating cable lengths and the number of electronic devices

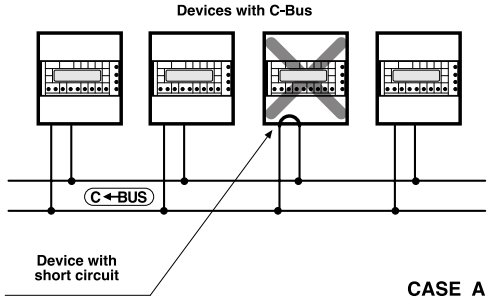
8.3 Example of use as C-Bus/RS232 signal convertor



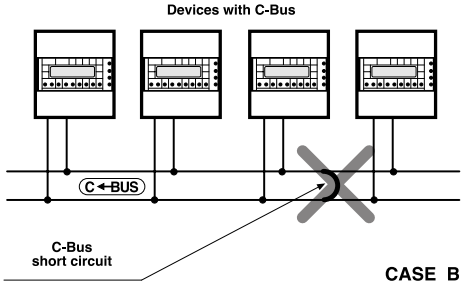
Permits connection between :
– a computer or non-Coster modem (terminals “RS232 input” or RS232 socket on NAB 628 facia);
– devices of C-Bus type (terminals “C-Bus Master”);
– RS232 devices (terminals “RS232 output”).

8.3 Break in communication

When in one or more devices wired in C-Bus, for an unknown reason, the C-Bus input has a short circuit (case A), or the C-Bus itself has a short-circuit (case B), a total break in communication results; in this situation the “Reception data LED” (4.3) on the facia remains continuously lit.



Case A : NAB 628 permits adjusting the C-Bus reception threshold and thereby restoring communication so as to be able check which device or devices has caused the problem. Proceed as follows :
– rotate clockwise the potentiometer situated on the facia (4.1) and continue to rotate gently even when the “Reception data LED” (4.3) goes out ;
– try to read the devices;
– if, even with LED out, the devices cannot be read, rotate further the potentiometer.
– ***Important*** **:** after having replaced the faulty devices it is indispensable to return the potentiometer to the start position so as to be able to continue to read the devices.



Case B : if, having rotated the potentiometer completely, the “Reception data LED” does not go out, look for the fault in the C-Bus. Proceed as follows :
– identify the various connection points in the C-Bus (eg: junction boxes) ;
– break the bus in one of these ;
– using a tester, check if the short circuit is in the part of the bus just isolated ;
– after the short circuit has been rectified, set at minimum the potentiometer on the NAB 628 facia ;
– Check that the “Reception data LED” at this point is out and that communication with the electronic devices is functioning correctly.

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