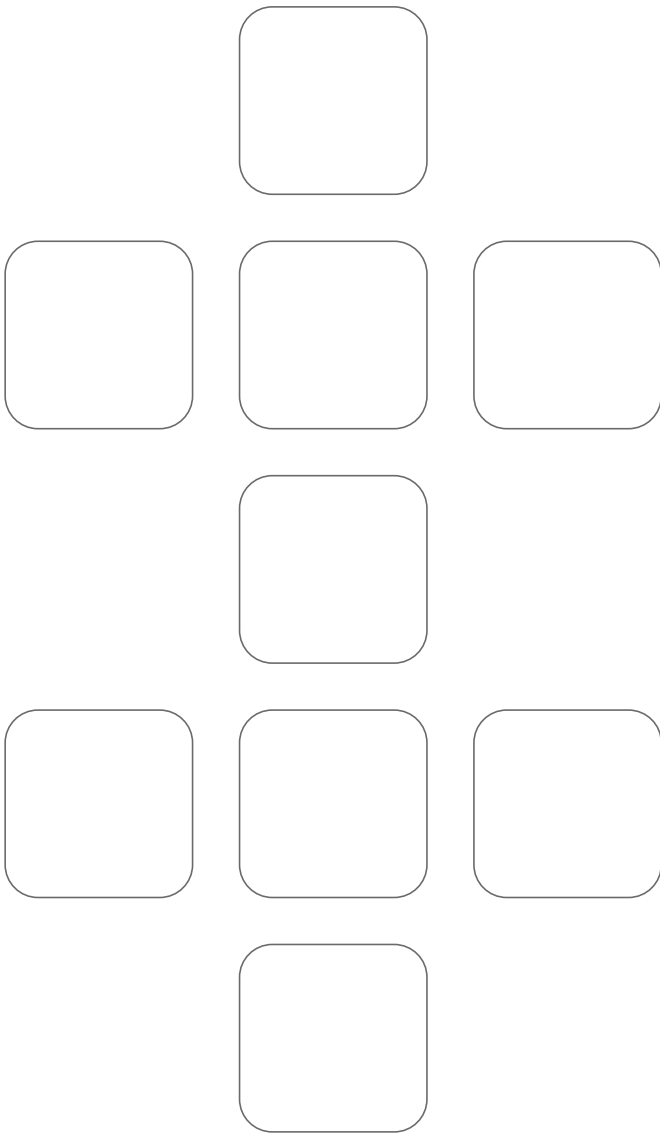


SM211

RS485 - JBUS/MODBUS® for SM103E

 User instructions





Contents

Preliminary operations	1
General informations	1
Installation	2
Programmation	3
Communication address	4
Communication speed	4
Communication parity	5
Communication stop bit	5
Communication	6
The standard communications frame	6
Communication table	6
Technical characteristics	6
Glossary of abbreviations	6

Preliminary operations

For personnel and product safety please read the contents of these operating instructions carefully before connecting.

Check the following points as soon as you receive the package:

- the packing is in good condition
- the product has not been damaged during transit
- the product reference number conforms to your order
- the package contains the product and the operating instructions.

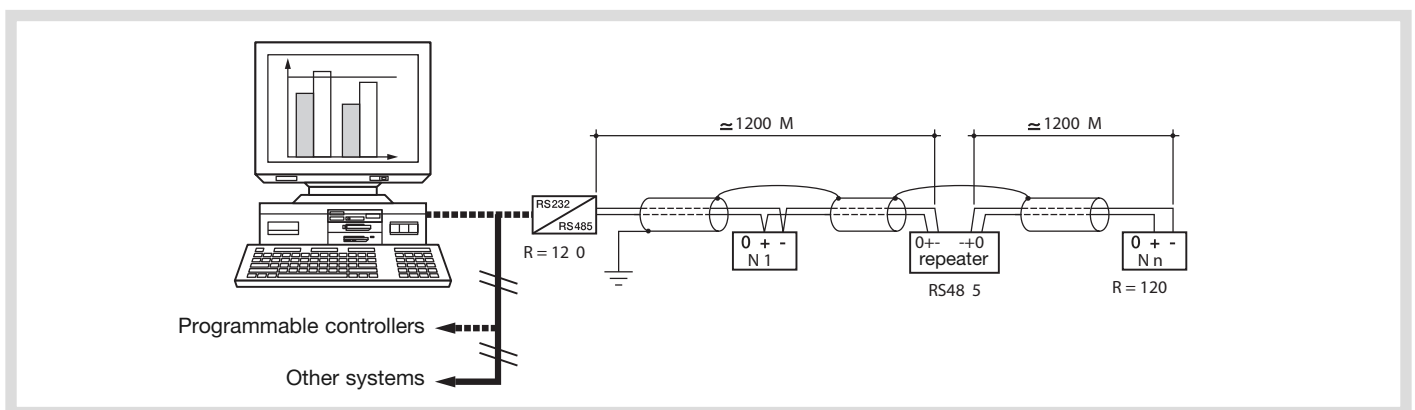
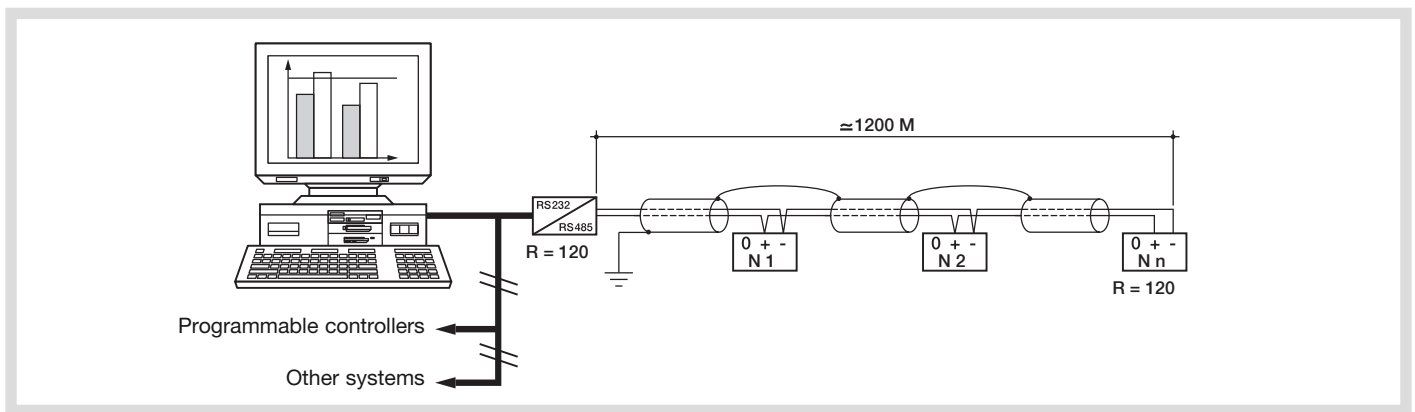
General informations

Functions

The optional IP Communication module must be connected to the SM103E. It provides an RS485 serial link (2 or 3 wires) with JBUS/MODBUS® protocol for the use of SM103E from a PC or PLC.

General points

For a standard configuration, an RS485 link is used to connect up to 31 SM102E or SM103E with a PC or a PLC over a distance of 1200 metres, using JBUS/MODBUS® protocol.



Recommendations

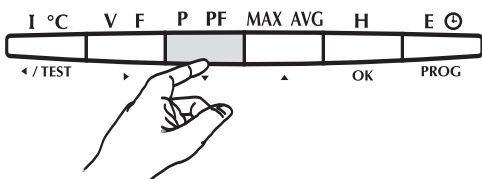
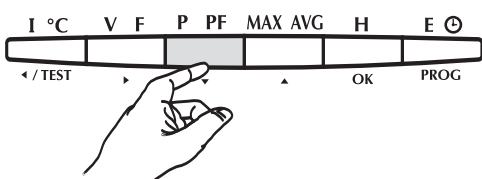
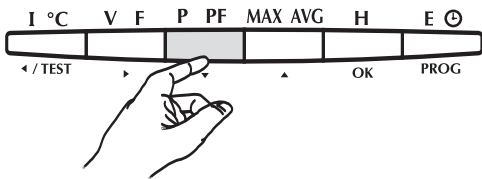
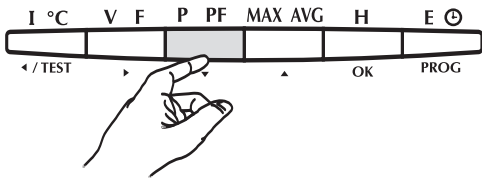
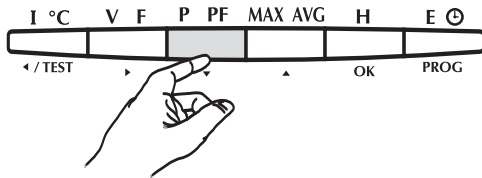
You should use a shielded twisted pair (LIYCY type). In a disturbed environment or large network (in terms of length) we recommend the use of a shielded twisted pair (type LIYCY-CY).

A repeater (1 channel) or an arrestor (4 channels) should be used if you intend to exceed the distance (1200 m.) and/or maximum number (31) of SM103E.

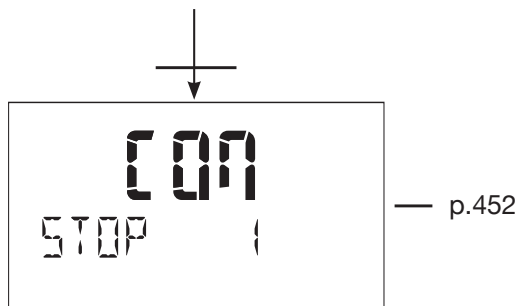
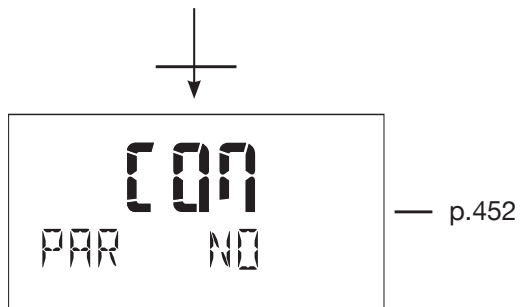
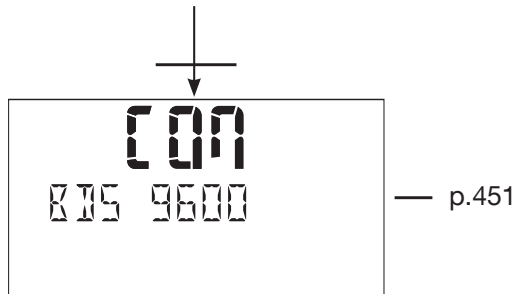
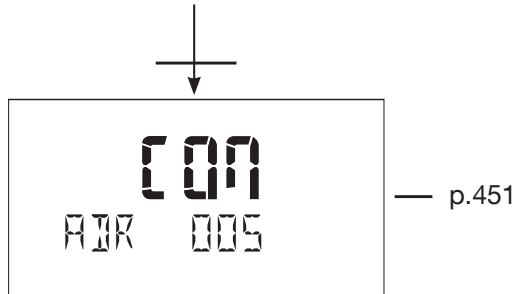
Please contact us for more information.

N.B.

A 120 ohm resistance (found on the additional module) must be fixed at both ends of the link.



Previous menu

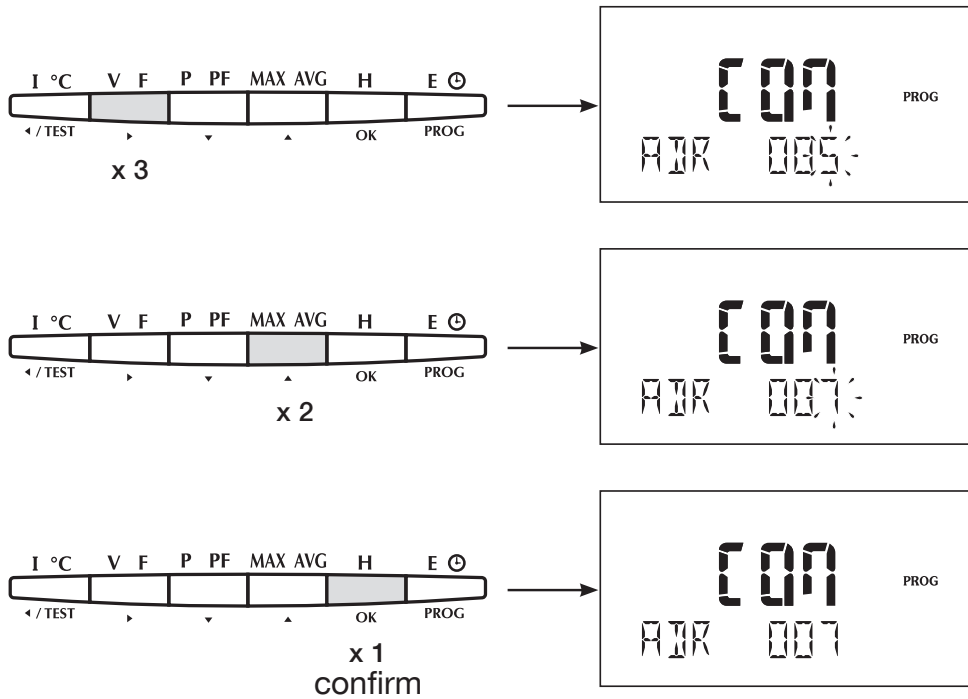


Following menu

Programming

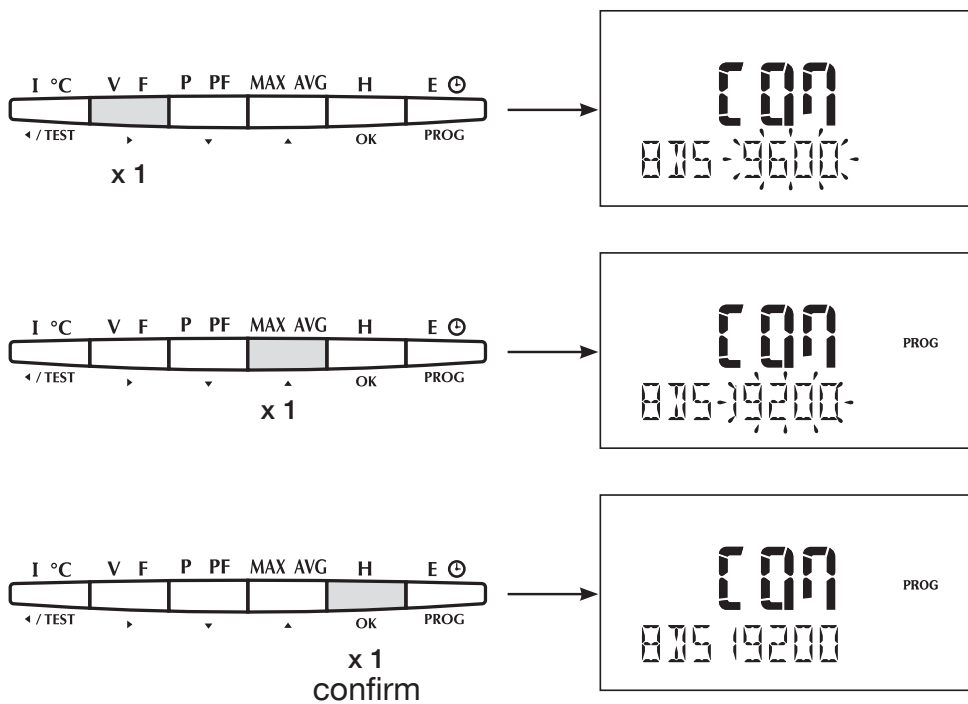
Communication address

Example: COM ADR = 7



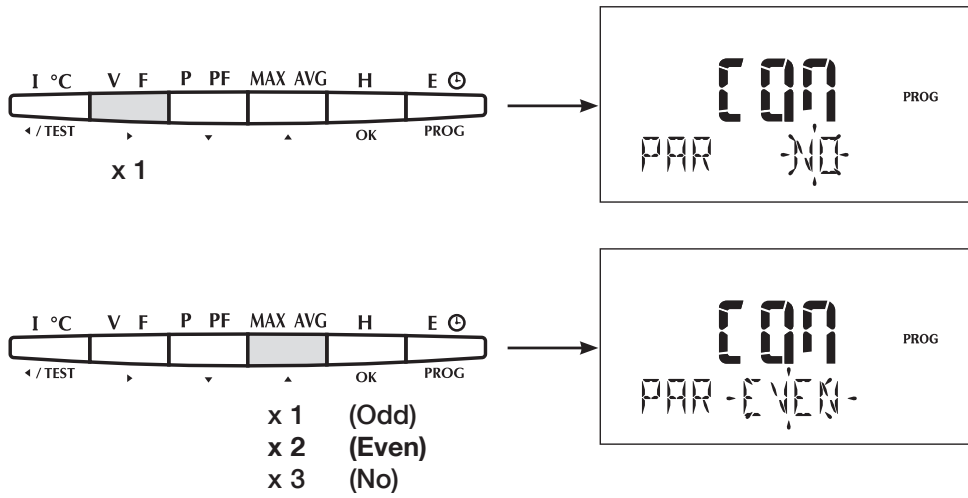
Communication speed

Example: BDS = 19 200 bauds



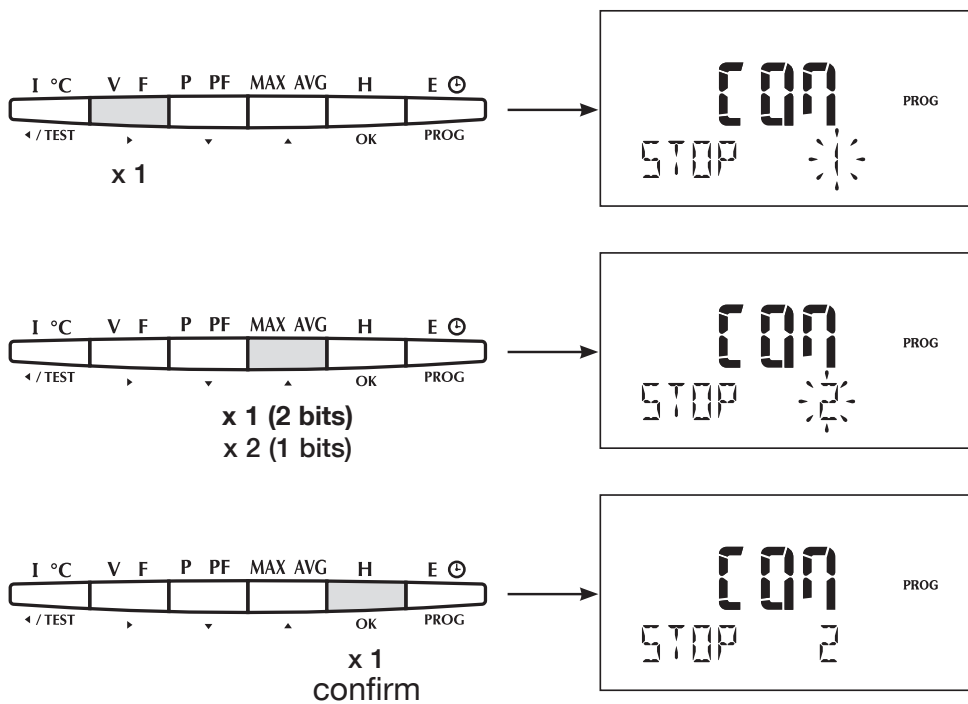
Communication parity

Example: PAR = Even



Communication stop bit

Example: STOP = 2



Communication

The JBUS/MODBUS® used by the SM103E involves a dialogue using a master-slave hierarchical structure. There are two possible dialogues:

- the master communicates with a slave and waits for its reply.

- the master communicates with all the slaves without waiting for their reply.

The mode of communication is the RTU (Remote Terminal Unit) using hexadecimal characters of at least 8 bits.

The standard communications frame

The standard communications frame consists of:



According to the JBUS/MODBUS® protocol, transmission time must be less than 3 silences, i.e. the emission time of 3 characters so that the message is processed. To correctly use information, the following functions are important:

- 3 : to read n words (maximum 128).
- 6 : to write one word.
- 8 : to diagnose exchanges between the master and the slave via meters 1, 3, 4, 5 and 6.
- 16 : to write n words (maximum 128).

N.B.

When selecting slave address 0, a message is sent to all the instruments present on the network (only for functions 6 and 16)

Comment

The response time (time out question/answer) is 250 ms maximum.

Communication table

The communication tables are available on the CD-Rom supplied with the RS485 JBUS/MODBUS® for SM103E.

Technical characteristics

RS485	2 or 3 wires half duplex
Protocole	JBUS/MODBUS®/mode RTU
Speed	2400 to 38400 Bauds
Galvanic insulation	4 kV

Glossary of abbreviations

COM	Communication
ADR	Slave address
BDS	Speed of communication in bauds
PAR	Communication frame parity
NO	Without parity
Even	Even parity
Odd	Odd parity
STOP	Frame-stop beep
1	1 stop bit
2	2 stop bits

