

SERIAL LINK INTERFACE

USER GUIDE

MODEL ILPH RS 232 / RS 422 - RS 485 ISOLATED

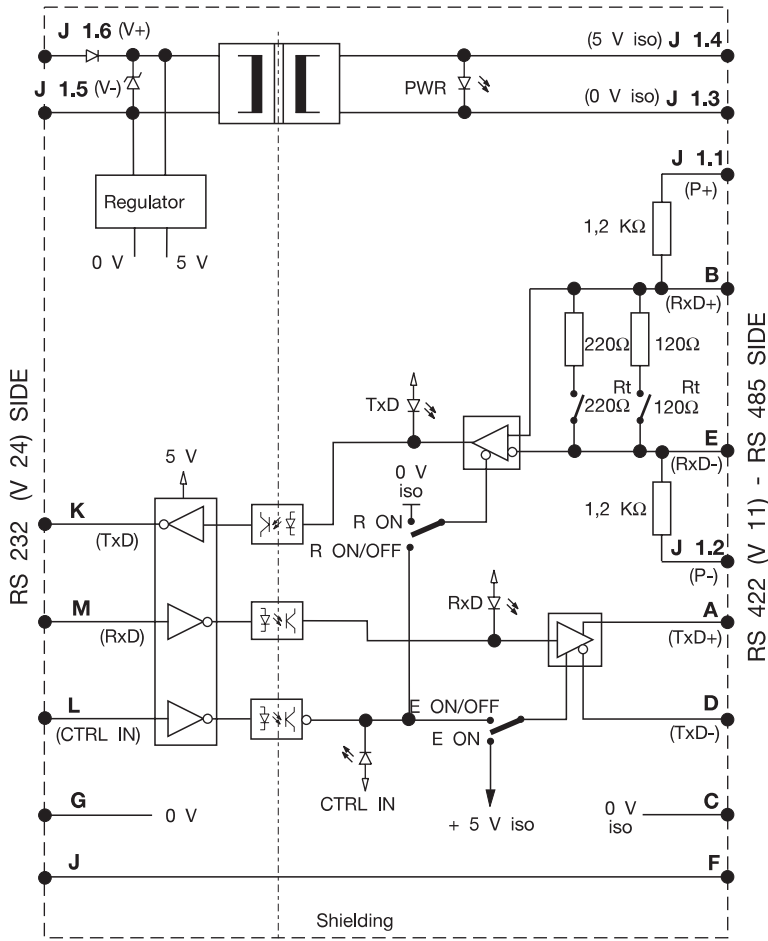
Part/Number	Black body ENT	0084 233.11
	Grey body ABB V0	1SNA 684 233 R2700

1. GENERAL

Interface between an RS 232 serial link and an RS 422 or RS 485 serial link with 500 VDC insulation.

Extend transmission distance beyond the 15 m limit of the RS 232 serial link, to cross "noisy" environments, to isolate the 2 systems, to perform multipointing (network) etc.

2. SCHEMATIC DIAGRAM



3. TECHNICAL SPECIFICATIONS

3.1 POWER SUPPLY

- Power supply voltage : 8.5 V to 28 VDC
- Protection : polarity inversion
- Power requirement : less than 100 mA
- Galvanic isolation : Power supply / RS 422 - RS 485 : 500 VDC

- 1 yellow "power on" Led.
- Screw-type plug-in connector.

3.2 RS 232 LINK

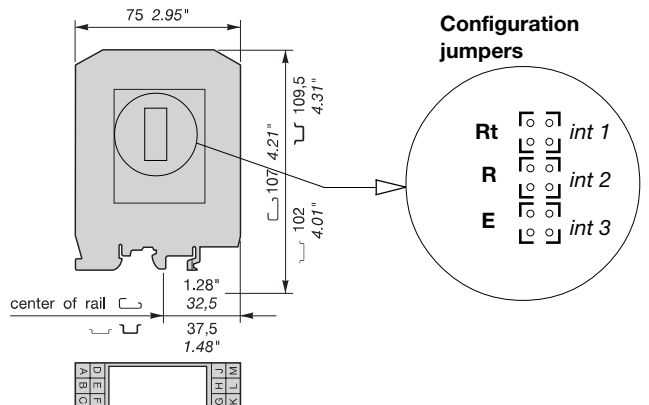
- EIA RS 232 C / CCITT V24 / V28
- I / O protection : over voltage
- Speed / Distance : 38400 Bauds / 15 m
- Galvanic isolation : RS 232 / RS 422 - RS 485 : 500 VDC
- 3 green Leds (RxD, TxD, CTRL IN)
- Screw connection.

3.3 RS 422 - RS 485 LINK

- EIA RS 485 and compatible EIA RS 422 / CCITT V11
- I / O protection : over voltage
- Speed / Distance : 38400 Bauds / 1200m
- Galvanic isolation : RS 422 - RS 485 / Power supply : 500 VDC
RS 422 - RS 485 / RS 232 : 500 VDC
- Transmitter can communicate with up to 32 receivers simultaneously.
- Screw connection.

3.4 PHYSICAL CHARACTERISTICS

- Box series 11000 ABB Entrelec snaps onto DIN rail
- Temperature : operation : 0 to 50° C
storage : - 20 to 70° C





4. CONFIGURATION

4.1 LINE AMPLIFIER CONFIGURATION

Configuration of amplifiers of the RS 422 - RS 485 (Receiver, Transmitter) line provides greater flexibility of use. The various configurations can be selected using the 2 jumpers (R, E) located inside the box.

4.1.1 RS 485 LINK ON ONE PAIR



- R**  R ON/OFF Jumper R in position R ON/OFF
- E**  E ON/OFF Jumper E in position E ON/OFF

The Receiver and the Transmitter are activated alternately (never at the same time) depending on the status of the CTRL IN signal.

CTRL IN STATUS	ACTION ON RS 485
0 logic (+3V ≤ U ≤ +25V)	Transmitter active / Receiver inactive
1 logic (-25V ≤ U ≤ -3V)	Transmitter inactive / Receiver active
High impedance	Transmitter inactive / Receiver active



NOTE : For RS 232 products controlling the RTS (REQUEST TO SEND) signal, connect RTS to CTRL IN. Otherwise, connect M (Rx/D ILPH) to L (CTRL IN).

4.1.2 RS 485 LINK ON 2 PAIRS

- R**  R ON Jumper R in position R ON
- E**  E ON/OFF Jumper E in position E ON/OFF

Receiver permanently active
Transmitter controlled by the signal CTRL IN (see table 4.1.1 for Transmitter operation as a function of CTRL IN)

4.1.3 RS 422 LINK ON TWO PAIRS

- R**  R ON Jumper R in position R ON
- E**  E ON Jumper E in position E ON

The Transmitter and Receiver are both permanently active.

4.2 POLARIZATION OF THE RS 422 - RS 485 LINE




The line must always be polarized. The ILPH is used to polarize the reception channel :

- Connection by 1 wire P+ (J1.1) with 5V iso (J1.4)
- Connection by 1 wire P- (J1.2)with 0V iso (J1.3)

4.3 ADAPTING THE RS 422 - RS 485 LINE

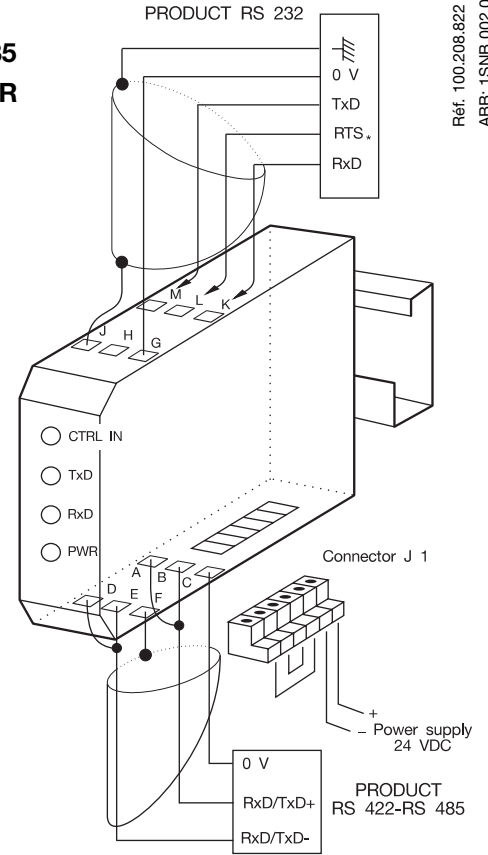
The line must always be adapted to the level of the reception channel of each subscriber forming the end of the bus.

The ILPH is used to adapt the reception channel by setting the jumper Rt correctly :

- Rt**  * Line adaptation, Rt = 120 Ω (general case)
- Rt**  * Line adaptation, Rt = 220 Ω
- Rt**  * No line adaptation, Rt = ∞

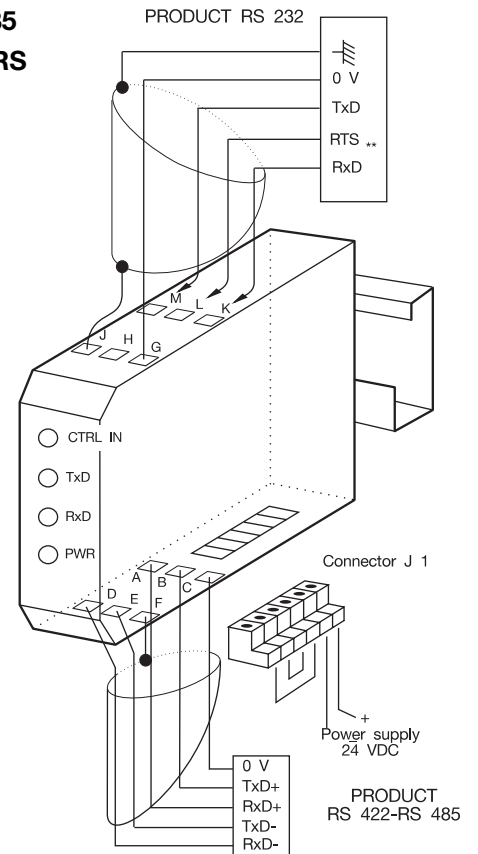
5. CONNECTIONS

RS 422 - RS 485 LINK ON 1 PAIR



* NOTE : If the RTS signal is not generated, connect M (Rx/D ILPH) to L (CTRL IN).

RS 422 - RS 485 LINK ON 2 PAIRS



** NOTE : Only to be connected for RS 485 two pairs (of no use for RS 422 two pairs). If the RTS signal is not generated, connect M (Rx/D ILPH) to L (CTRL IN).