

# DIGITAL DATA LINK INTERFACE

## Converter RS 232/RS 485

# IT 232

## Insulator for RS 485 line

# IS 485



Ensures the digital interface  
RS 232 / RS 485  
(max. flow 120 kbits/sec.)

Insulates a bus RS 485 2 wire  
and allows adaptation  
of the 2 lines RS 485  
(max. flow 1.5 Mbits /sec.)

- Insulation RS 485 at 2500 V
- Integrated polarisation and termination resistors (configurable by internal jumpers) for MODBUS and PROFIBUS DP networks.
- Indication of transmissions and receipts by witness lights (accessible under the front face).
- Internal plug for local access to the RS 485 network with the PC/DIN connection cable (identical for the whole range of ARDETEM converters).

## External view

- **The IT 232** allows a computer equipped with an RS 232 connection to dialogue with systems provided with an RS 485 interface.

Up to 32 transmitters / receivers can be addressed, while guaranteeing a 2500 V galvanic partition between the RS 485 network and the RS 232 interface.

### Simple and friendly :

The validation of a transmission on the RS 485 line is managed either by the RTS signal of the RS 232 interface, or automatically at each transmission.

Easy configuration by **internal jumpers** (accessible under the front face) allows :

- a selection of the required transmission mode.
- a selection of the polarisation and termination resistors for MODBUS and PROFIBUS DP networks.

The various character flows and formats do not need any configuration.

- **The IS 485** allows connecting various transmitters / receivers on the same RS 485 line, while guaranteeing a 2500 V galvanic partition.

**Note** : A polarisation and termination for the MODBUS or PROFIBUS DP network is ensured on each side of the RS 485 line, (internal selection by jumpers).

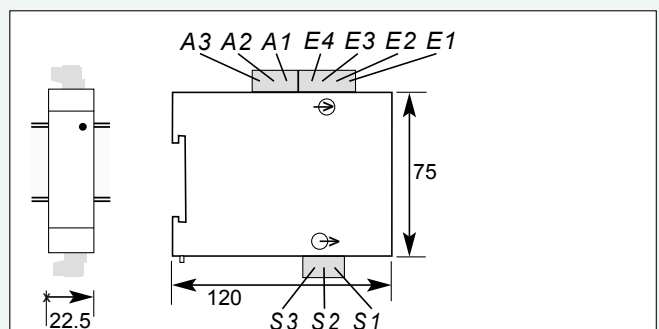
### • Connection by DIN plug :

The **IS 485** and the **IT 232** have a DIN plug (accessible under the front face), for local access to the RS 485 line from a portable PC, using the standard PC / DIN cable of the range of converters.

**Note** : When the DIN plug is connected the systems connected on the interface side are disconnected from the RS 485 output network :

- RS 232 for the IT 232
- RS 485 marked "input" for the IS 485

## Dimensions




- **Dimensions** : (H x L x D)  
75 x 22.5 x 120 mm (H = 108, with terminals)
- Case : Self-extinguishing black UL94VO ABS
- Latching on symmetrical DIN rail.
- Plug off connectors for screwed connections (2.5mm<sup>2</sup>, flexible or rigid)
- **Protection** : Case / terminals : IP 20
- **Weight** : 160g (with packaging)

# Technical features at 23°C

<b>Galvanic partition</b>	2.5 kV - 50 Hz - 1min. between supply / RS 232 or RS 485 / RS 485 output	
<b>Power supply</b>	Low Voltage : 20 to 40 V AC and 20 to 64 V DC or High Voltage : 90 to 270 V AC and 88 to 350 V DC	
<b>Max. power draw</b>	3VA 2.5W (IT 232)	4VA 3W (IS 485)
<b>Max. transmission speed</b>	120 kbits (IT 232)	1.5 Mbits (IS 485)
	No configuration of the speed or of the transmission format	
<b>Termination resistor</b>	150 $\Omega$ for Modbus and Profibus DP type A / 220 $\Omega$ for Profibus DP type B	
<b>Polarisation resistor <sup>(1)</sup></b>	390 $\Omega$	
<b>Transmission control <sup>(1)</sup></b>	By RTS signal on RS 232 interface, or automatic (IT 232)	automatic (IS 485) -
<sup>(1)</sup> Configurable by internal jumpers		
Turn around time = 64 $\mu$ s in mode automatic		

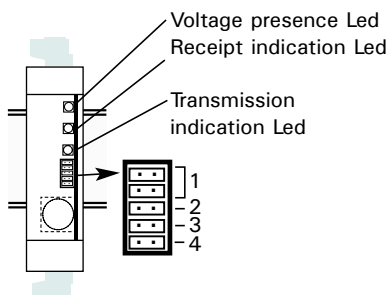
## Layout of the configuration jumpers :

 All these operations must be performed with the instrument not on tension.

The jumpers, the leds and the DIN plug are at the line potential :  
- RS 485 for the IT 232  
- RS 485 marked "output" for the IS 485

### • Configuration of the IT 232 / IS 485 outputs

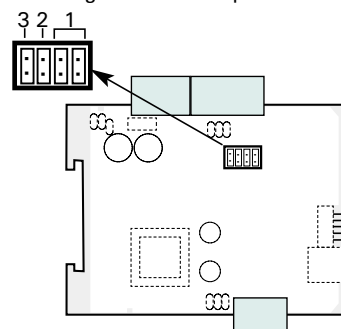
(straps accessible with front face taken off)



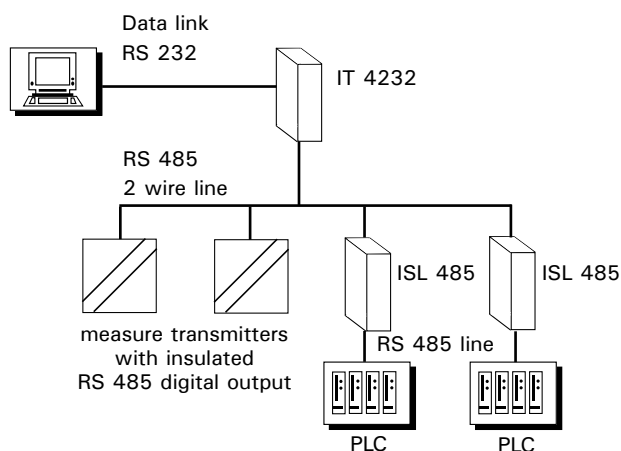
- 1- Polarisation resistors 390 $\Omega$ .
- 2- Termination resistor <sup>(2)</sup> 150 $\Omega$
- 3- Termination resistor <sup>(2)</sup> 220 $\Omega$
- 4- Control of the transmission validation either automatic (presence of the jumper), or piloted by the RTS signal (absence of the jumper)<sup>(3)</sup>.

### • Configuration of the IS 485 input

(jumpers accessible with open casing : view of components face)



## Network example



<sup>(2)</sup> The termination resistors allow reducing the parasite reflections generated on a long high-flow line. They are unnecessary if the environment is free from disturbances, and if flow and distance are included in following limits :  
1000 m at 9600 bits/sec. or 100 m at 120 Kbits/sec.

<sup>(3)</sup> The presence of jumper 4 is compulsory for the IS 485

## Ordering examples : IT 232 or IS 485

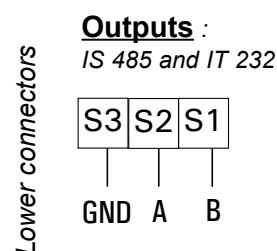
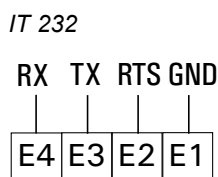
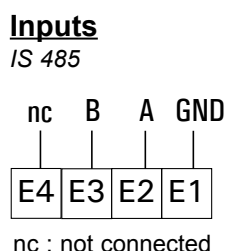
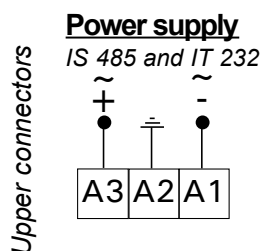
**Power supply** : 3 : Low Voltage  
2 : High Voltage

• For an RS 232 / RS 485 converter in 230 V power supply request reference : **IT 232 -2**

• For an RS 485 / RS 485 converter in 230 V power supply request reference : **IS 485 -2**

*This instrument is dedicated to industrial applications. It has to be mounted in an electrical switchbox, or equivalent.*

# Wirings



**J.B. ELECTRONICA INDUSTRIAL, S.L.**

SISTEMAS ELECTRONICOS,  
COMPONENTES PARA AUTOMATIZACION

Pintor Huguet, 55  
Tel: (+34) 93 736 21 05  
Fax: (+34) 93 736 22 82  
08226 TERRASSA (Barcelona)  
www.jbelectronica.com  
info@jbelectronica.com