DIGITAL DATA LINK INTERFACE

IT 4232 — ISL 485

Converter
RS 232 / RS 485

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

Insulator for
RS 485 line

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 SFERE converters).

FUNCTIONS

input		output
RS 232 **(IT 4232)**	RS 485 **(ISL 485)**	RS 485

- **The IT 4232** 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 garanteeing 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 tranmission 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 ISL 485** allows connecting various transmitters / receivers on the same RS 485 line, while garanteeing 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).

S ®

sfere

The friendly interface

- **Connection by DIN plug :**

The **ISL 485** and the **IT 4232** 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 4232
- RS 485 marked "input" for the ISL 485

EXTERNAL VIEW

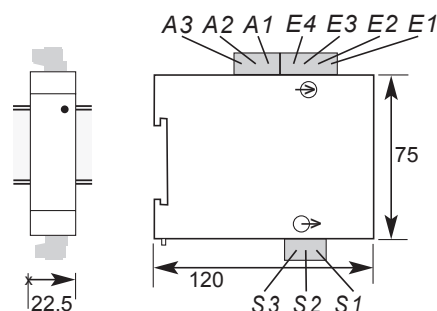Case : Self-extinguishing black UL94VO ABS
Latching on symmetrical DIN rail.
Plug off connectors for screwed connections (2.5mm², flexible or rigid)
Dimensions : (H x L x D)
75 x 22.5 x 120 mm (H = 108, with terminals)
Protection : Case / terminals : IP 20
Weight : 160g (with packaging)

A3 A2 A1 E4 E3 E2 E1

75

22,5   120   S3 S2 S1

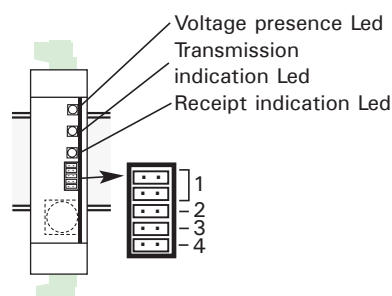|		
Galvanic partition	2.5 kV - 50 Hz - 1min. between supply / RS 232 or RS 485 / RS 485 output	
Power supply	Low Voltage : 20 to 40 V AC and 20 to 64 V DC or High Voltage : 90 to 270 V AC and 88 to 350 V DC	
Max. power draw	3VA 2.5W (IT 4232)	4VA 3W (ISL 485)
Max. transmission speed	120 kbits (IT 4232)	1.5 Mbits (ISL 485)
	No configuration of the speed or of the transmission format	
Termination resistor	150 Ω for Modbus and Profibus DP type A / 220Ω for Profibus DP type B	
Polarisation resistor [1]	390 Ω	
Transmission control [1]	By RTS signal on RS 232 interface, or automatic (IT 4232)	automatic (ISL 485) -
[1] *Configurable by internal jumpers*	Turn around time = 64 µs in mode automatic	

Layout of the configuration jumpers :

L V **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 4232**
> - **RS 485 marked "output" for the ISL 485**
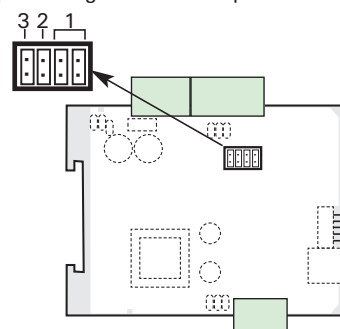
• Configuration of the IT 4232 / ISL 485 outputs
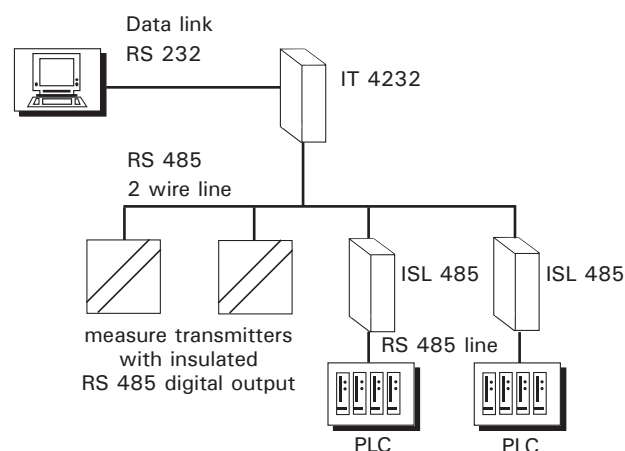(straps accessible with front face taken off)

Voltage presence Led
Transmission indication Led
Receipt indication Led

1- **Polarisation resistors 390Ω.**
2- **Termination resistor** [2] **150Ω**
3- **Termination resistor** [2] **220Ω**
4- **Control of the transmission validation either automatic (presence of the jumper), or piloted by the RTS signal (absence of the jumper)** [3].

• Configuration of the ISL 485 input
(jumpers accessble with open casing : view of components face)

Network example

Data link
RS 232

IT 4232

RS 485
2 wire line

ISL 485   ISL 485

RS 485 line

measure transmitters with insulated RS 485 digital output

PLC   PLC

[2] 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.*

[3] The presence of jumper **4** is compulsory for the ISL 485

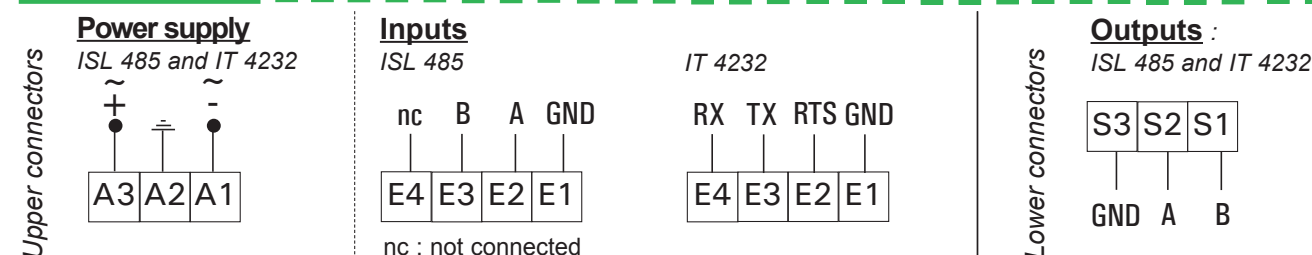## Ordering examples : IT 4232 or ISL 485

Power supply : 3 : Low Voltage
     2 : High Voltage

• For an RS 232 / RS 485 converter in 230 V power supply request reference : **IT 4232 -2**

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

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

WIRING

Power supply
ISL 485 and IT 4232

~ + | ⏚ | ~ -
| A3 | A2 | A1 |

Inputs
ISL 485

nc | B | A | GND
| E4 | E3 | E2 | E1 |

nc : not connected

IT 4232

RX | TX | RTS | GND
| E4 | E3 | E2 | E1 |

Outputs :
ISL 485 and IT 4232

| S3 | S2 | S1 |

GND   A   B

Upper connectors

Lower connectors

Your representative