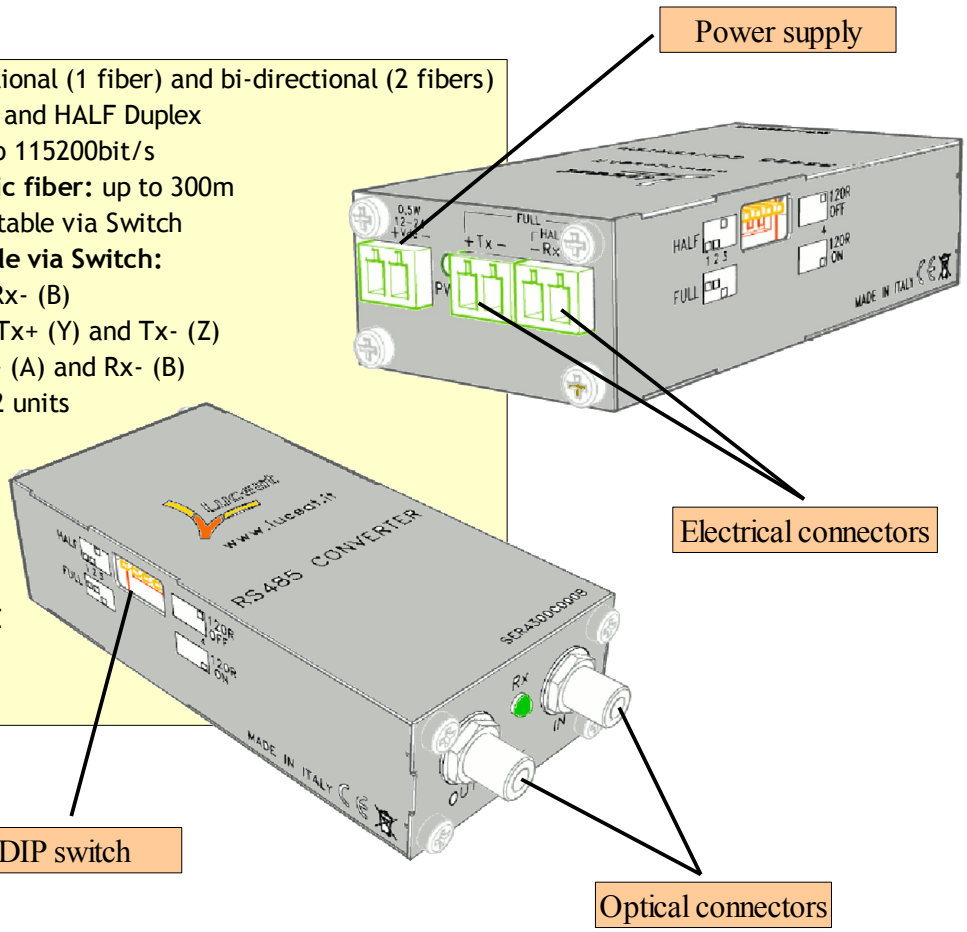
RS 485

INSTALLATION MANUAL

Transmission type: mono-directional (1 fiber) and bi-directional (2 fibers)
Supported transmissions: FULL and HALF Duplex
Transmission speed: 300bit/s to 115200bit/s
Transmission distance on plastic fiber: up to 300m
Line termination: 120ohm selectable via Switch
Electrical connections selectable via Switch:
HALF DUPLEX: Rx+ (A) and Rx- (B)
FULL DUPLEX: Transmitter: Tx+ (Y) and Tx- (Z)
Receiver: Rx+ (A) and Rx- (B)
Connectible electrical units: 32 units
Optical connections: 2xF-SMA
Power supply: 12-24Vdc +-10%
Consumption: 0,5W max
Protection grade: IP20
Weight: 85g
Certification: EMC 2004/108/CE
Temperature: -20° / +70°
Assembling: on DIN guide



Installation

- Select via Switch the transmission type (HALF or FULL duplex)
See Tab A

- Perform electrical connections:
  - With HALF Duplex: connect only 2 wires to Rx+ e Rx- terminals
  - With FULL Duplex: connect to Rx+ and Rx- the wire pair that has to transmit data to the optical door, whereas the wire pair that will receive data from the optical door, has to be connected to Tx+ and Tx-

- Perform electrical connections with 2 or 4 wires:
See Tab B

- Connect the plastic optical fiber
- Supply power to the device

Block Layout

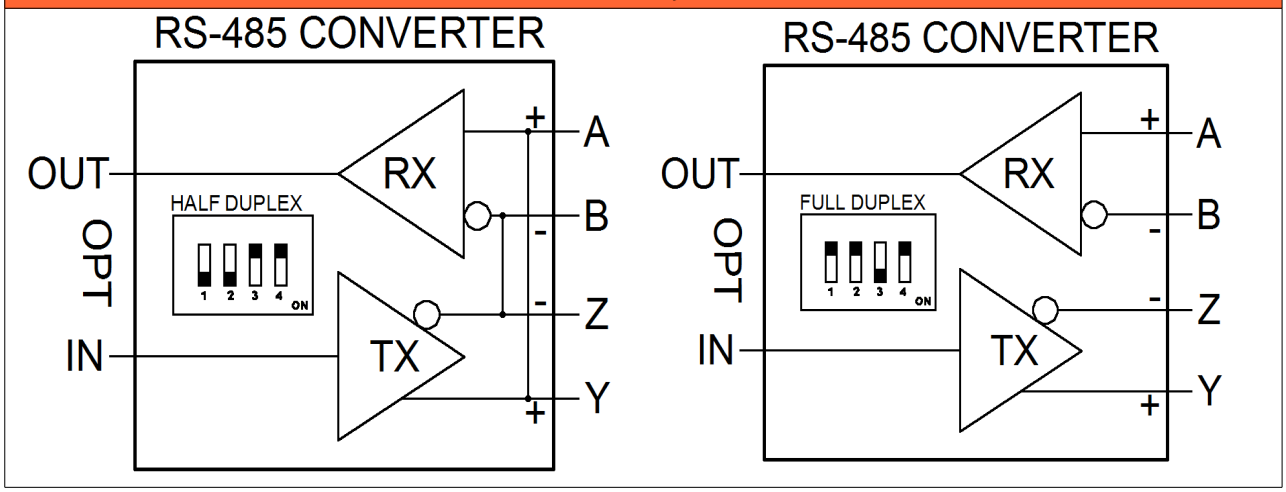
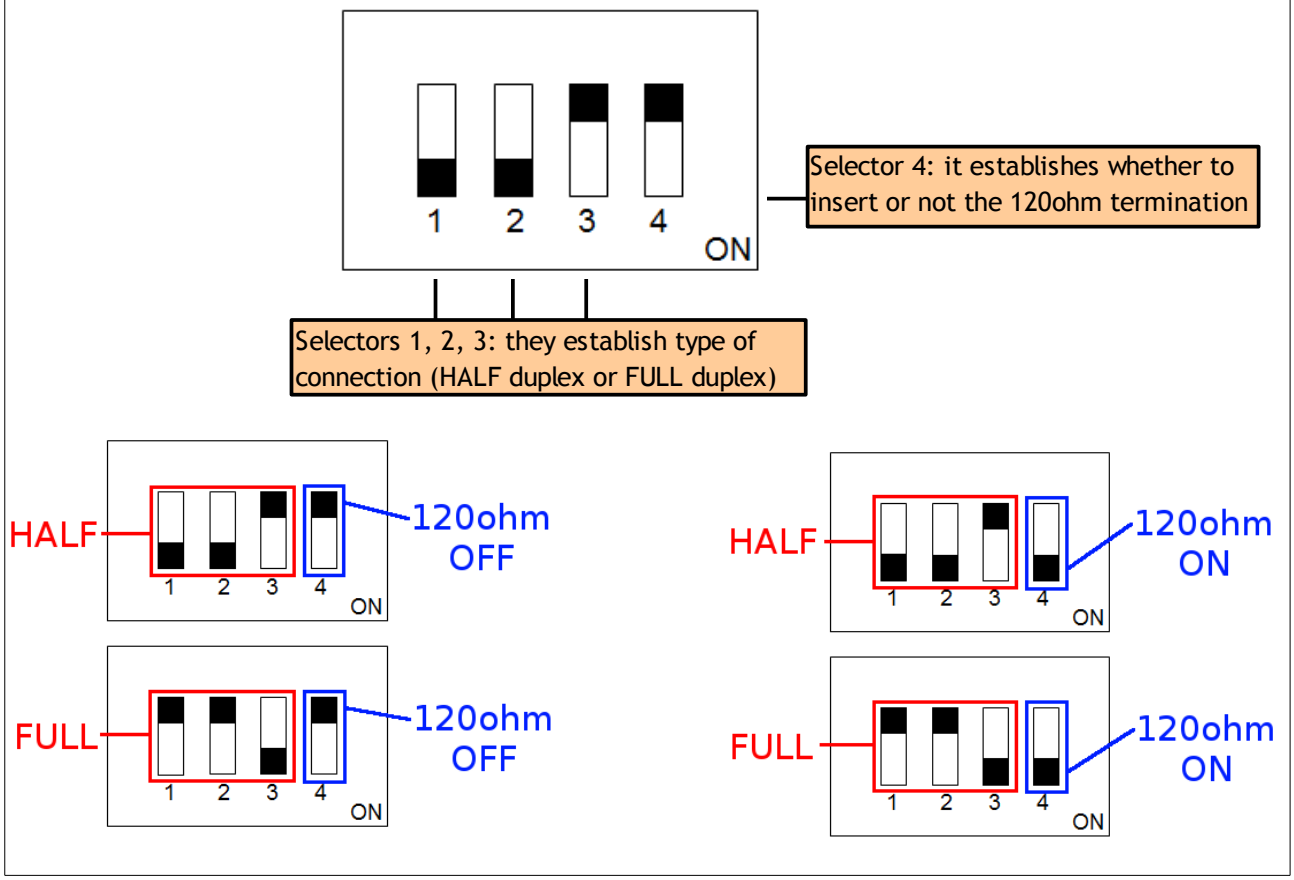


Table A (DIP switch configuration)



TROUBLESHOOTING

- Termination of line RS-485 (selectable by DIP Switch) prevents the signal reflection along the cable and must be inserted in each device representing one end of the connection.

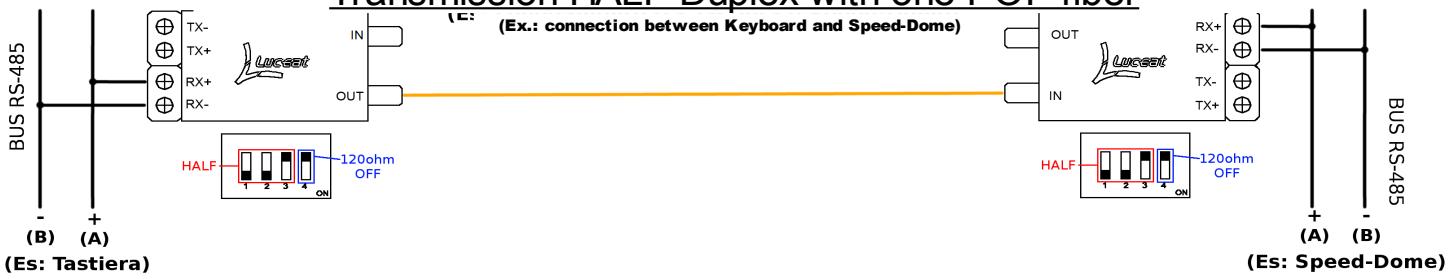
- With devices using a ground connected power supply, you need to connect the cage of the converter to the ground of power supply (the minus terminal of power supply is not connected to electronic mass of the board!).

- For transmission speed of 115200bps connect at least 50m of fiber.

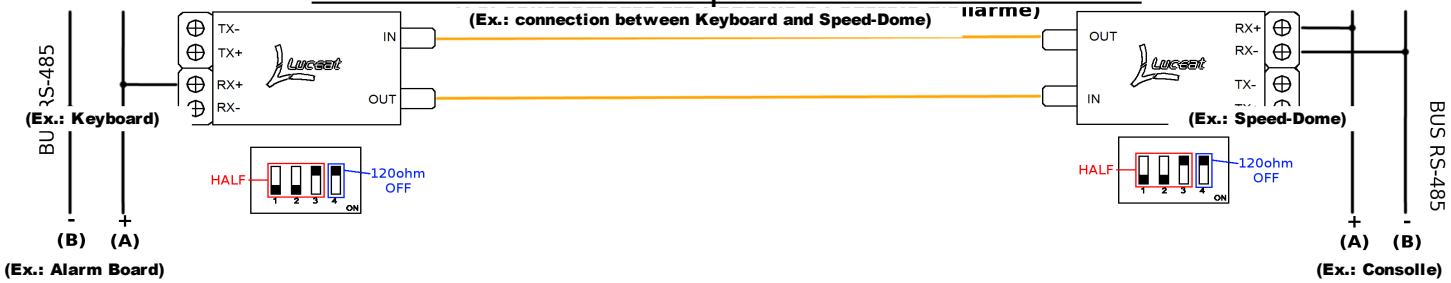
- In order to guarantee immunity from power supply noises, do not connect power supply cables longer than 30m.

Table B (connections layout)

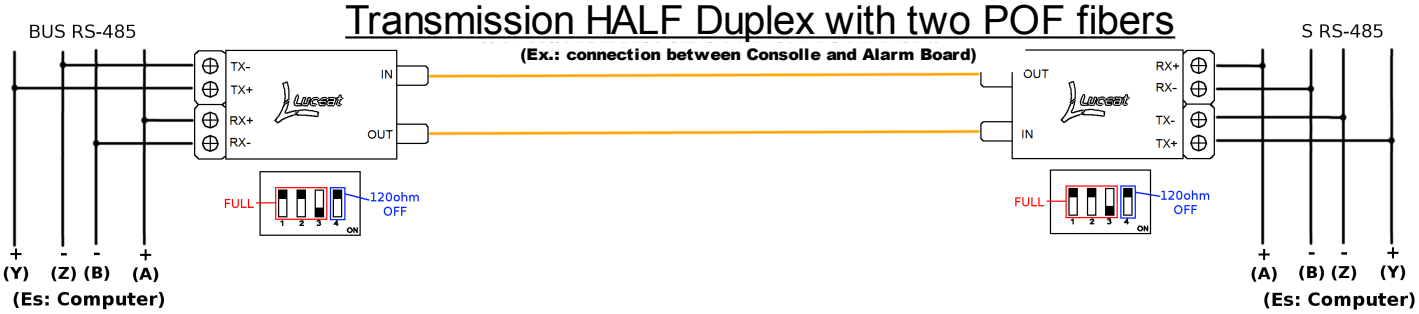
Transmission HALF Duplex with one POF fiber



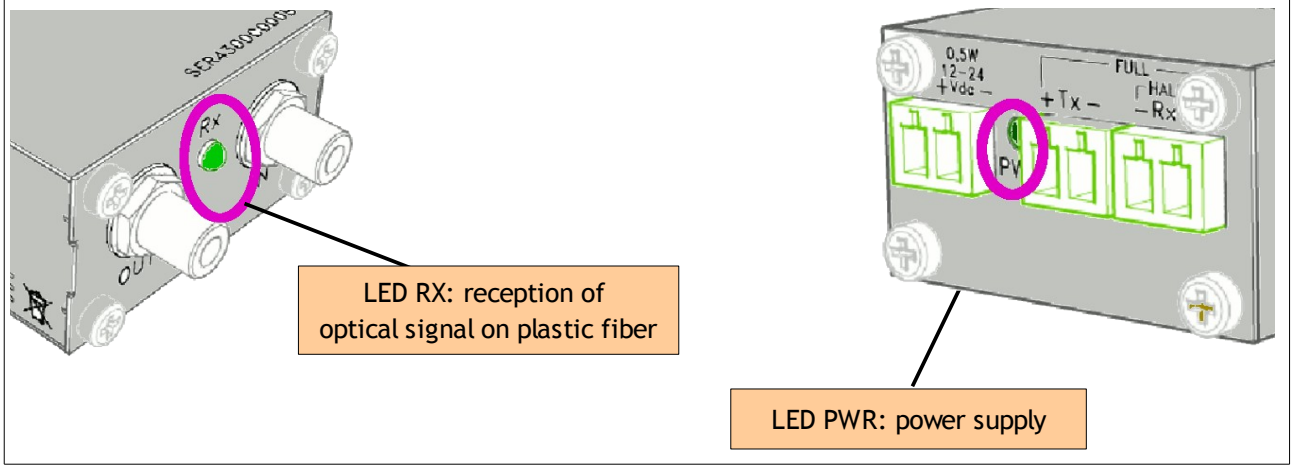
Transmission HALF Duplex with one POF fibers



Transmission HALF Duplex with two POF fibers

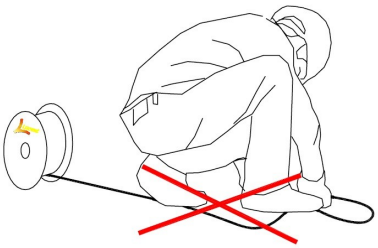


Signals



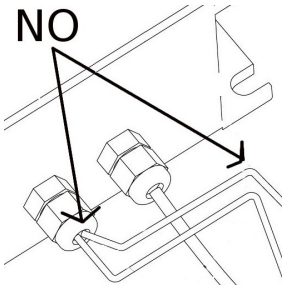
NOT TO DO

(these behaviors increase the plastic fiber attenuation)



(Do not walk on the fiber)

(Do not pull hard on the fiber)



(Do not make sharp bendings)

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