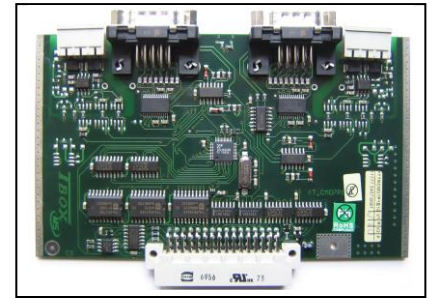


TBOX MS-SERIAL

Version 3.05

TBOX MS-SERIAL

- 2 x Serial Ports
- Each port : RS232 or RS485



Technical Specifications



General

Consumption	30 mA
Replacement	Hot insertable/removable. There is no risk to damage hardware, but a reset is required
Test	Automatic test of the access of the card by the CPU (See LED 'CS' below)

LED

Cs	Card Selection: card corresponding to card declared in TWinSoft.
ER	Error: card type not corresponding to the one declared in TWinSoft.

RS 232 – RS 485

Quantity	2 ports
Mode	RS232 or RS485 (no simultaneous use of both modes)
Baudrates (bps)	300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200
Data bits	7, 8
Parity	none, even, odd, mark (parity bit=1), space (parity bit=0)
Stop bits	1, 1.5, 2
Isolation	No isolation. Gnd is linked to earth by internal connection
RS232	<u>Signals:</u> RxD, TxD, CTS, RTS, DTR, DSR, DCD, RI <u>Connector:</u> 9 pin Sub-D (male)
RS485	<u>Cabling:</u> 2 wires (A+ and B-) for multi-points connection <u>Termination:</u> no need for termination resistor (failsafe bias resistors included: pullup and pulldown resistors which assures a logical level TRUE when A and B are opened or in short circuit) <u>Number of slaves:</u> 256 (if RS485 technology of slaves allows it too) <u>Connector:</u> screw connector (3 x 5.08 mm)

LEDs (common to 2 ports)

RxD	Indicates reception of data
TxD	Indicates transmission of data

Environment

Temperature storage	-40°C to 85°C
Temperature working (ambient)	Industrial Temperature: -40°C to 70°C
Humidity	15 to 95 % without condensation
Altitude	Max. 5000 m

Dimensions

Without connector	Height x Depth x Width: 150 x 83 x 29 mm
Weight	300 g

Approvals

CE, UL, CSA, C-Tick

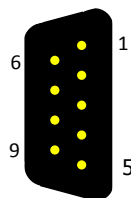
Cabling Schematic

RS 232

Connector: RS232, 9 Pin Sub D

Pin out:

1. DCD (input)
2. RxD (input)
3. TxD (output)
4. DTR (output)
5. Gnd
6. DSR (input)
7. RTS (output)
8. CTS (input)
- 9.



Cabling to a PC

<i>TBox MS</i> - COMx	PC - DB 9
RxD 2	2 RxD
TxD 3	3 TxD
GND 5	5 GND
RTS 7	7 RTS
CTS 8	8 CTS

Cabling to a Printer

<i>TBox MS</i> - COMx	Printer - DB 25
RxD 2	2 TxD
TxD 3	3 RxD
GND 5	7 GND
RTS 7	5 CTS
CTS 8	4 RTS

RS 485

Connector: **Screw connector** (3 x 5.08 mm)

**Cabling several
CPU together:**

**A to A
B to B
Gnd to Gnd**

1. **Use a twisted pair** for signal A and B.
2. **RS 485 is not isolated.** If cabling equipment in different building (different Earth), you have to use ACC-RS485 (see your local distributor)
3. **Maximum length** depends on quality of cable, speed and quantity of stations (max. 32 stations).
In good condition, guaranteed to 1.2 km (max. 32 stations @ 9600 Bps)
In practice, longer distance can be reached with lower Baudrate and less station.
4. **Cable:**
 - Twisted pair (2 pairs)
 - section: minimum 0.5mm²
 - screening : pair and global screening
 - reference: Li2YCY-PIMF
5. **Termination:** Termination is normally not required. It might depend on the remote equipment, on quality of the signal and speed. In case of communication error, a resistor of 120 ohms (1/4 watt) could be cabled between A+ and B-

