MODUS

RS485 to USB industrial converter

MODUS is an isolated (**1.5kV isolation barrier**) industrial communication device that after its proper installation create a virtual COM port on the PC that converts serial signals, via the USB connection, into RS-485 signals.
It provides a direct link ensuring a high quality electrical separation between a PC equipped with a common USB port and
RS-485 devices equipped with an RJ45 plug, thus offering excellent protection of the PC if the remote devices should fail.

■ *Main Features*

- Compact size
- 1.5kV Isolated barrier
- Extreme versatility by pluggable connections
- Compliant to MODBUS communication protocol
- Usable with common USB and RJ45 Ethernet cables
- Compatible with products provided with RS-485
- Windows XP, Vista, Win-7, Win-8, Win-10 compatible
- Suitable for POWERMASTER software (available for Windows and Android OS)

TECHNICAL DATA

Model type	MODUS		
GENERAL DATA			
Power	Powered from PCs USB port		
Operating temperature	- 40°C...+ 70°C		
Storage temperature	- 40°C...+ 80°C		
Humidity	5…95% r.H. non condensing		
Overvoltage category Pollution degree	▪ EN50178 ▪ IEC60664-1	I 2	
Input / output isolation	1.5kVdc		
Safety Standards	▪ EN60950	(reference)	
EMC Emission	▪ EN55011 (CISPR11) ▪ EN55022 (CISPR22)	Class B Class B	
EMC Immunity	▪ EN61000-4-2 ▪ EN61000-4-3 ▪ EN61000-4-4 ▪ EN61000-4-5	Level 3 Level 3 Level 3 Level 2	
Protection degree	▪ EN60529	IP20	
Vibration sinuosoidal	▪ IEC 60068-2-6	(5-17.8Hz: ±1.6mm; 17.8-500Hz: 2g 2hours / axis (X,Y,Z)	
Shock	▪ IEC 60068-2-27	(30g 6ms, 20g 11ms; 3 bumps / direction, 18 bumps total)	
USB connection	USB-B type		
RS-485 connection	RJ45 Female		
RS-485 specification parameters	▪ 2 wire Half Duplex interface ▪ Baudrates: ▪ Start bits: ▪ Data bits: ▪ Parity: ▪ Stop bits: ▪ Flow control:	 300, 600, 1200, 1800, 2400, 4800, 7200, 9600, 14400, 19200, 38400, 57900, 115200 Bps 1 7, 8 None, Even, Odd, Mark, Space 1, 2 Auto switching	
MODBUS connection	▪ According to MODBUS specification protocol over serial line ▪ 2W-MODBUS RJ45 Pin outs (Half Duplex) ▪ See pin out in the below tables		
Case material	ABS, Flame retardant UL94 HB		
Weight	45g		
Size (W x H x D)	31.8 x 25.4 x 76.2mm		

Notes:
- Technical parameters are typical, measured in laboratory environment at 25°C.
- Data may change without prior notice in order to improve the product.

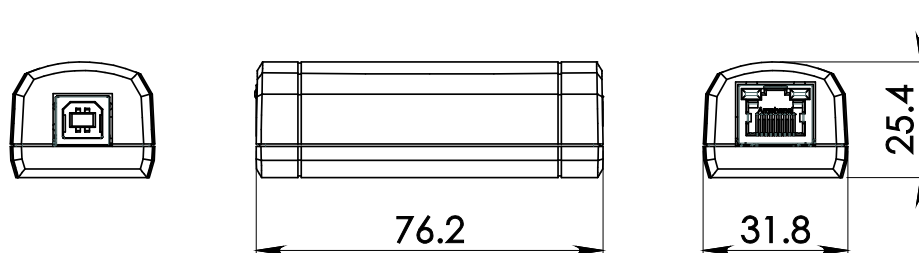**TYPICAL SETUP**

USB-A
RJ45
USB-B

Note:
Before or during the connection the MODUS to the PC USB port, make sure that the driver was already installed or the installation is in progress.
Otherwise, the device cannot be set up correctly, and the communication fails.
Make sure that the Pinout of the devices connected by the RJ45 are compliant according our Pinout system (compliant to MODBUS standard).
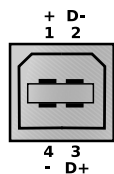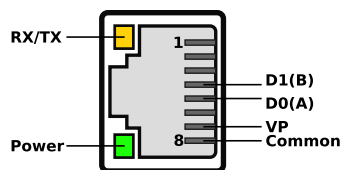
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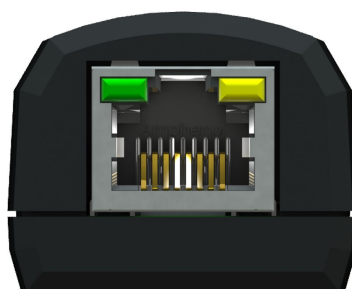## DIMENSIONS

25.4

76.2

31.8

CONNECTION

USB-B Side

RS-485 Side

+ D-
1 2

4 3
- D+

RX/TX — 1
D1(B)
D0(A)
VP
Power — 8 Common

- 1 = VBUS (+5V)
- 2 = Data (D-)
- 3 = Data (D+)
- 4 = GND

- PIN4 = TX/RX D1
- PIN5 = TX/RX D0
- PIN7 = VP (Power Supply)
- PIN8 = Common (GND)

- LED Green = Power status
- LED AMBER = RX/TX Activity