

Modbus RTU / ASCII Interface - 1 DIN module



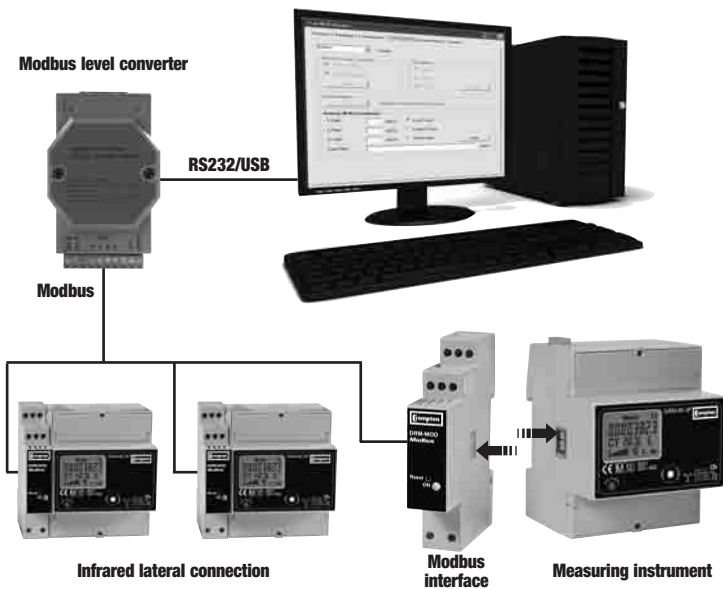
Code	Description
DRM-MOD	Module for Modbus RTU / ASCII connection for energy, power V, I, cosφ, freq.

WARNING
Installation must be carried out and inspected by a specialist or under his supervision.

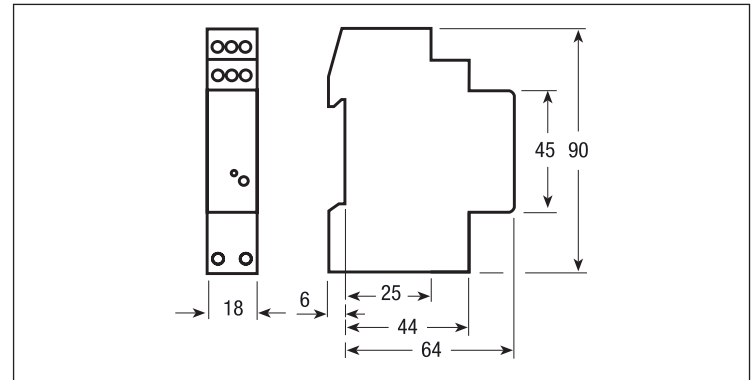
Modbus Interface - Shorthand Guide

1) System Architecture

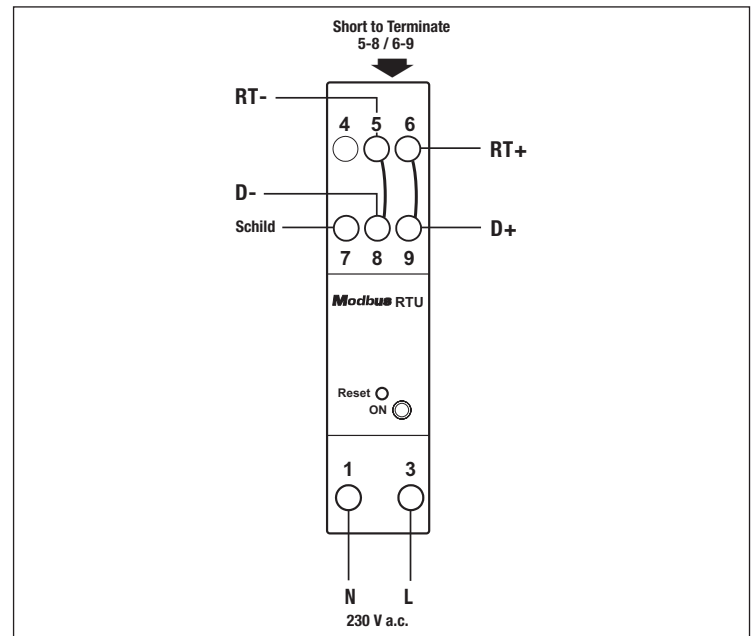
- A typical system is described below. In the picture, the Modbus interface communicates with a remote master application on a PC.



Dimension



Wiring diagram



2) Supply

- Power supply: 230 VAC.

3) Physical Connection

- L, N: line and neutral
- D+ / D-: terminals for data transmission on the RS-485 bus.
- RT+ / RT-: RS-485 bus termination resistor. Have to be connected with D+/D- only if the interface is the last or the first on the bus.
- Shield: terminal to connect the shield cable for protection against noise.

4) Default Setting

- Baud rate: 9600 bit/s
- Protocol: Modbus RTU
- Address: 001
- Parity: even
- Stop bits: 1

5) Quick Start

- Connect the interface to the Modbus data line (D+/D-, Shield, RT+/RT-)
- Place the counter beside the interface in a way that the interface IR port face-up the counter IR port.

6) Front Panel

- A green LED reports the state of the communication with the measuring instrument:
 - LED blinking: communication not active
 - LED ON: communication active
- A reset button, allow to return to the default settings.

Technical data

Data in compliance with IEC 60950-1, EN 61000-6-2, EN 61000-6-3 and EN 61000-4-2			DRM-MOD
General characteristics			
• Housing	DIN 43880	DIN	1 Module
• Mounting	EN 60715	35 mm	DIN rail
• Depth		mm	70
Power supply			
• Auxiliary power rating <i>Un</i>		VAC	230
• Auxiliary power rating		VA	≤10
• Auxiliary voltage range		VAC	0.80 ... 1.20 x <i>Un</i>
• Frequency rating		Hz	50/60
• Frequency range		Hz	45 ... 65
Operating features			
• Model available: for energy, power, V, I, cosφ, freq.			
• Suitable for both single-phase and three-phase energy meters		-	yes
Modbus interface			
• HW interface	RS-485	terminals n°	3 (+/-, cable shield)
• Input resistance		UL (kΩ)	1 (12)
• Termination resistance		Ω	180
• SW protocol	SW selectable	-	Modbus ASCII / Modbus RTU
• Data transfer speed	SW selectable	Baud	≤38.400 - default 9.600
• Parity		-	none/even - default: even
• Addressing		-	1-247
Interface to measuring instrument			
• HW interface	optical IR	n°	2 (Tx, Rx)
• SW protocol		-	proprietary
Safety acc. to IEC 60950-1			
• Degree pollution		-	2
• Overvoltage category		-	II
• Working voltage		VAC	300
• Clearance		mm	≥4
• Creepage distance		mm	≥4
• Test voltage	impulse (1,2/50 μs) peak value		
	on AC power supply	kV	2.5
	on telecommunication network	kV	1.5
	50 Hz 1 min	kV	2.5
• Housing material flame resistance	UL 94	class	V0
Connection terminals			
• Type cage	screw head Z +/-	POZIDRIV	PZ0
• Terminal capacity	solid wire min. (max)	mm ²	0.15 (2.5)
	stranded wire with sleeve min. (max)	mm ²	0.15 (4)
Environmental conditions			
• Operating temperature		°C	-10 ... +55
• Limit temperature of storage		°C	-25 ... +70
• Relative humidity		%	≤80
• Vibrations	sinusoidal vibration amplitude at 50 Hz	mm	±0.25
• Protection class	acc.to IEC 60950-1	-	II
• Degree of protection	housing when mounted in front	-	IP20

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