MOD-PULSE8 Modbus Pulse Counter Modules

MOD-PULSE8 modules are designed to count pulses from meters such as energy, gas, water and heat meters. The meter readings are stored in the built-in memory of the device and are available via RS-485 Modbus interface for management devices.

MOD-PULSE8 modules have 8 pulse counting registers/inputs. Each register can log values up to 999,999,999.

Features

- Converts Digital Volt-Free Contacts to Modbus Messages
- Up to 8 Volt-Free Inputs Supported
- Ideal for Integrating Pulse Energy and Water Meters to Communicating Systems
- RS485 Modbus Communication
- DIN-rail mounting

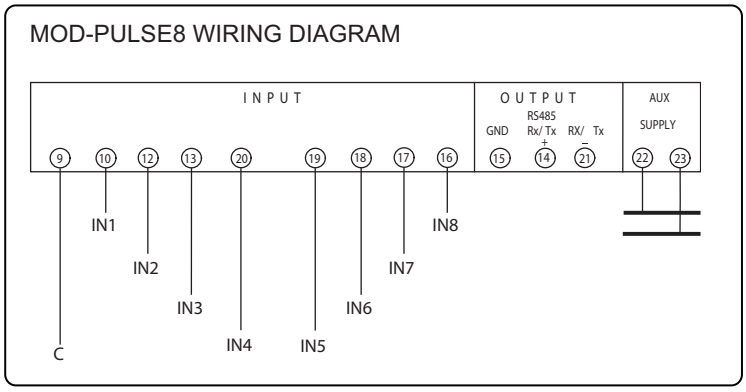
	Model	Description
Model Type	**MOD-PULSE8**	MOD-PULSE8 Pulse / Modbus Counter Module

Technical Data	Power Supply	230Vac, 47..63Hz < 4VA
	INPUTS	
	Inputs	8 SPST-NO Contacts (potential free)
	Max. Distance	Max recommended distance between pulse devices and the counter is 10m.
	Input Pulse Waveform	ON >= 20ms OFF > 20ms
	Input Frequency	Max. 25Hz
	Connection	8 Inputs with Common Point
	Max. Display	999.999.999 (9 digit)
	RS485 MODBUS COMMUNICATION	
	General	Galvanically insulated from supply
	Transferred Data	8 Registers
	Interface	RS485 - 3 Wire
	Protocol	Modbus / Jbus
	Address	1..255
	Stop Bit	1
	Parity	None
	Baud Rate	1200 .. 9600 bits /s
	Max. No. of Counters	32 (maximum number of Modbus devices)
	Max. Distance	1200m (depending on the baud rate and installation conditions)

PROGRAMMNIG	
Parameter Programming	Via DIP switches on the front frame
Programmable Parameters	Address, Baud Rate
INSULATION	
Insulation	Installation Gategory: III Pollution Degree: 2 Insulation Voltage Rating: 450V
ENVIRONMENTAL CONDITIONS	
Ambient Temperature	0..45°C
Storage Temperature	-25..70°C
Agency Listings	Emission DIN EN 50081-1 EN55011 Immunity DIN EN 50082-2
Connections	Screw Terminals for Wire Up To 4mm^2
Mounting	Snap-On 35mm DIN-rail, Top Hat
Housing	Self-extinguishable Policarbonate
Protection Class	IP50 (front frame), IP20 (terminals)
Dimensions	4 Module DIN 43880

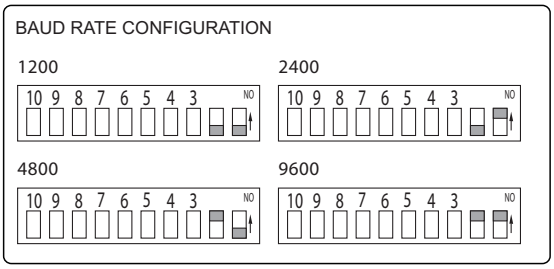
Wiring Diagram

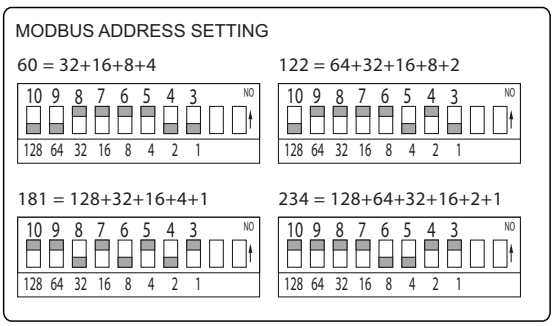
For wiring details please look at the diagram below.



Bit Switch Configuration (Modbus Baud Rate and Address)

To configure the unit baud rate and the Modbus address please refer to the diagrams below. Maximum of 32 devices can be installed in a single Modbus LAN.





Modbus Registers

The pulse input module supports the following Modbus registers and function codes. The baud rate and the Modbus slave is set via bit switches. The parity setting should be set to None with 1 stop bit..

Register	Parameter Description	Data Type	WebBiter Data Type
	FUNCTION CODE 03 - READ HOLDING REGISTERS		
4**2049**	Input Counter 1 Value	4 Bytes (32 bits)	32-Bit Signed
4**2053**	Input Counter 2 Value	4 Bytes (32 bits)	32-Bit Signed
4**2057**	Input Counter 3 Value	4 Bytes (32 bits)	32-Bit Signed
4**2061**	Input Counter 4 Value	4 Bytes (32 bits)	32-Bit Signed
4**2065**	Input Counter 5 Value	4 Bytes (32 bits)	32-Bit Signed
4**2069**	Input Counter 6 Value	4 Bytes (32 bits)	32-Bit Signed
4**2073**	Input Counter 7 Value	4 Bytes (32 bits)	32-Bit Signed
4**2077**	Input Counter 8 Value	4 Bytes (32 bits)	32-Bit Signed
4**2081**	(Port) Real Time Status of the Input (Bit Mapped)	4 Bytes (32 bits)	32-Bit Signed
	ALTERNATIVE REGISTERS		
4**5121**	Input Counter 1 Value	4 Bytes (32 bits)	32-Bit Signed
4**5123**	Input Counter 2 Value	4 Bytes (32 bits)	32-Bit Signed
4**5125**	Input Counter 3 Value	4 Bytes (32 bits)	32-Bit Signed
4**5127**	Input Counter 4 Value	4 Bytes (32 bits)	32-Bit Signed
4**5129**	Input Counter 5 Value	4 Bytes (32 bits)	32-Bit Signed
4**5131**	Input Counter 6 Value	4 Bytes (32 bits)	32-Bit Signed
4**5133**	Input Counter 7 Value	4 Bytes (32 bits)	32-Bit Signed
4**5135**	Input Counter 8 Value	4 Bytes (32 bits)	32-Bit Signed

4 Byte Format

4-Byte

MSB	LSB	MSB	LSB

E.g reading value 562387 (decimal) / 0x0894D3 (Hex) from Slave Address 2 and from the pulse input 1.

Request		Response	
Field Name	*(Hex)*	*Field Name*	*(Hex)*
Modbus Address	**02**	Modbus Address	**02**
Function	**03**	Function	**03**
Starting Address MSB	**08**	Byte Count	**04**
Starting Address LSB	**00**	Register value MSB	**00**
No. of Registers MSB	**00**	Register value LSB	**08**
No. of Registers LSB	**02**	Register value MSB	**94**
Error Check MSB	**D3**	Register value LSB	**D3**
Error Check LSB	**B5**	Error Check MSB	**4B**
		Error Check LSB	**63**

WebBiter RS-485 Modbus Wiring Details using pre-fabricated NET-CAB485 cable.

NET-CAB485 Cable Colour	Pulse 8 Wiring Terminal	Function
Orange/White	14	RS485+
Orange	21	RS485-

Dimensions