BD|SIMEX
a division of **BD|SENSORS**

PMI-8I

- • multi counters module
- • 8 independent voltage inputs
- • RS-485 / Modbus RTU
- • LEDs for module operation
  and Modbus transmission signalling

CE

Connection terminals

Multi counters module PMI-8I allows to counting of pulses delivered to 8 isolated binary inputs independently. All counters are 32 bit long and can be read and cleared by user at any time. Occurrence of HIGH state on particular input is signalled by green LEDs marked IN1 to IN8. Incrementation of counter occurs after falling edge on particular input (input state changes from HIGH to LOW). It is essential that pulses have fulfill some time restrictions. These restrictions depend on settings of implemented internal digital filter, which allows to eliminate signal oscillations corresponding to contacts bouncing (of mechanical sensors).

Standard functions of MODBUS RTU protocol make internal registers (like: address, device ID, counters content etc.) accessible via RS-485 interface.

All PMI-8I operating functions, available via the RS-485, can be implemented from any typical visualization software or, for instance, with a suitably PAC-99X controller.

- galvanic separation of the digital inputs from the module supply voltages,
- internal digital filter,
- signalling MODBUS correct operation and transmission,
- input signals connected by means of the socket-plug connectors,
- signalling of inputs states.


front view

bottom view

Connection and principle of operation

Connect the supply voltage to the module (+Uz, -Uz, typically 24V DC) and two wires RS-485 (A+, B-) communication interface. Module voltage inputs are located on the lower edge of the case (look: bottom view).

Directly after power on the device is signalling its normal operation flashing green LED, marked „RUN" (about 2 times/sec.). Short flashes of LED marked "TX/ERROR" signalize activity of RS-485 interface (data flow between module and Master device) and permanent light of this LED means malfunction of the device.

Module makes the measurements from eight inputs in cycles. While power off, current states of counters, filter state and device address are stored into EEPROM memory. After power on these values are restored and counters continue count from value stored while power off.
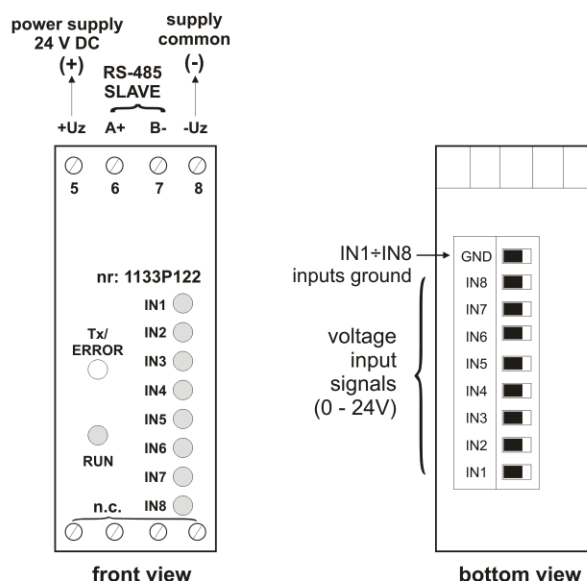
Technical data

Power supply voltage: 24V DC typical
Maximum supply voltage fluctuations: 16V DC...30V DC
External fuse: T - type, max. 1 A
Current consumption: 20 mA typical
Number of independent inputs: 8 binary
Input levels: LOW state: 0V
                HIGH state: 24V (min. 8V)
Minimum duration of LOW and HIGH state: 50 µs
Counters capacity: 4 294 967 295 (32 bits)
Galvanic separation: all 8 inputs are galvanically isolated from module supply and RS-485 interface
Communication interface: RS-485, 8N1
Transmission protocol: Modbus RTU
Baud rate: 1200...115200 bit/s
Number of modules in a single network: max. 128
Data memory: non-volatile memory, EEPROM type
Operating temperature: 0...50°C
Storage temperature: -10...70°C
Humidity: max. 90%, non-condensing
Protection class: IP 20 (housing and connection clips)
Installation method: on the 35 mm strip
Case dimensions: 101 x 22,5 x 80 mm

Ordering

PMI-8I-005-N1

V.01.2010