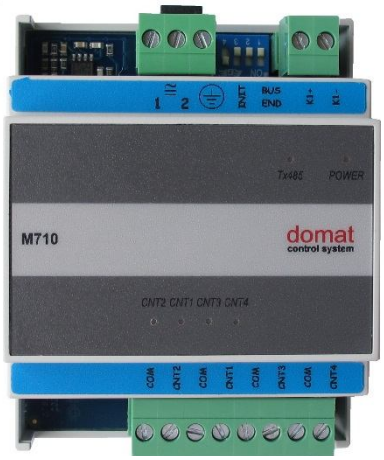
M710 Digital counter module



Summary

The M710 digital counter module is a microprocessor-controlled, communicative 4 binary input counter module. The module uses Modbus RTU on a RS485 bus for communication, and can be easily integrated in a variety of supervision and control systems.

Applications

- **HVAC and industrial control systems – pulse counting from meters etc.**

Functions

The M710 module has four binary inputs which provide 12 V for external contact or open collector signal. The COM terminals are interconnected inside of the module and are common for all inputs.

The module communicates by means of a RS485 data bus. The Modbus RTU communication protocol ensures smooth and easy integration in a number of control and data acquisition systems.

The counters provide 4 byte values (longint). The module offers advanced functions for load shedding algorithm (E-Max): use CNT1 for energy pulses, CNT2 for 15min sync pulses. Additional variables are:

- pulses in current 15 min. period (resets with each sync pulse)
- pulses in last 15 min. period (copy of pulses in current period on period end)
- seconds in current 15 min. period (resets with each sync pulse).

Removable connectors are used for incoming and outgoing data line so that mounting is fast and easy. The module is mounted on a DIN rail.

The communication circuits are protected against overvoltage and galvanically separated from the rest of the module. If the module is terminating the communication bus, i.e. it is the last in line, a terminating 120 Ω resistor may be switched on by short-circuiting of the BUS END jumpers. Two LEDs located inside of the housing

enable fast diagnostics – power up and communication. To set the module to factory defaults (9600 bps, address 1), set the INIT switch to ON and remove power for 2-3 secs.

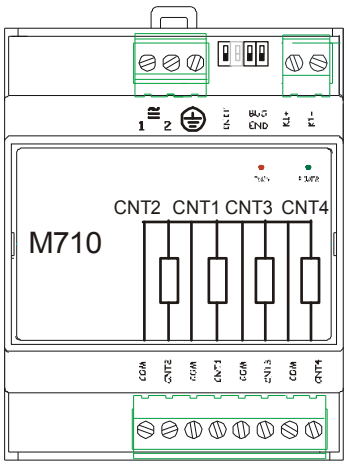
See *domat - Technical application notes* for connection examples.

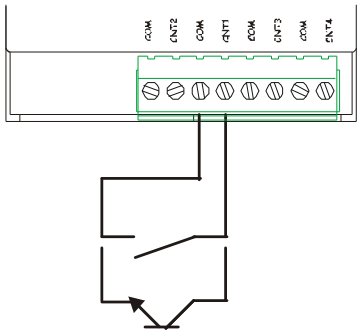
All the settings are backed up in a EEPROM chip. The module is equipped with a watchdog circuit and the communication part is galvanically separated.

Technical data

Supply voltage	10 V ÷ 35 V DC, 14 V ÷ 24 V AC
Consumption	800 mW
Working temperature of the module	0 ÷ 70°C
Communication	RS485, 1200 ... 19200 bit/s
Max. bus length	1200m
Max. number of modules on the bus	250
Number of binary inputs	4
Max. input frequency	50 Hz
Min. „low“ level time	10 ms
Max. distance between input and meter	10 m
Voltage at CNTx	+12 V DC, other voltages (5 V, 24 V on request)
Current CNTx to COM	5 mA
Signal contact type	Reed relay or open collector
Dimensions	see below

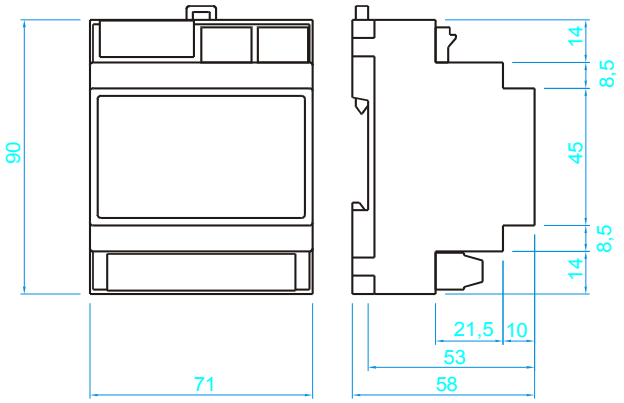
Terminals





Example of connecting of the CNT1 input

Dimensions



RoHS notice

The device contains a non-rechargeable battery which backups the real-time clock and part of the memory. After the device is not operable, please return it to the manufacturer or dispose of it in compliance with local regulations.

Release notes

Version 02/2015 – Changes in distance between counter input and meter.