

## M210

## Digital output module – 8 relays



### Summary

The M210 digital output module is a microprocessor-controlled, communicative 8 binary outputs module. The module uses a RS485 bus with Modbus RTU for communication, and can be easily integrated in a variety of supervision and control systems.

### Applications

- HVAC and industrial control systems – binary signal control: fans, pumps, lights etc.

### Function

The M210 module controls six normally open and two change-over relays.

All outputs are galvanically separated from each other as well as from the control and communication part.

The module uses RS485 bus for communication and is connected to the process station either directly (to MiniPLC), or through M011 (optically separated RS485 to RS232 converter). Removable connectors are used for incoming and outgoing data line so that mounting is fast and easy. The module mounts on a DIN rail.

The communication circuits are protected against overvoltage. If the module is terminating the communication bus, i.e. it is the last in line, a terminating 120  $\Omega$  resistor may be switched on by switching the BUS END DIP switch to ON. Two LEDs located inside of the housing enable fast diagnostics – power up and communication (Tx). Eight LEDs at the outputs indicate the status of each of the outputs separately.

To put the module to default settings, set the INIT DIP switch 4 to ON and power the module. The Modbus address will be 1, communication speed 9600 bps, 8 N 1. Then it is possible to readdress the module. When done, set the INIT switch to OFF and remove and apply power again.

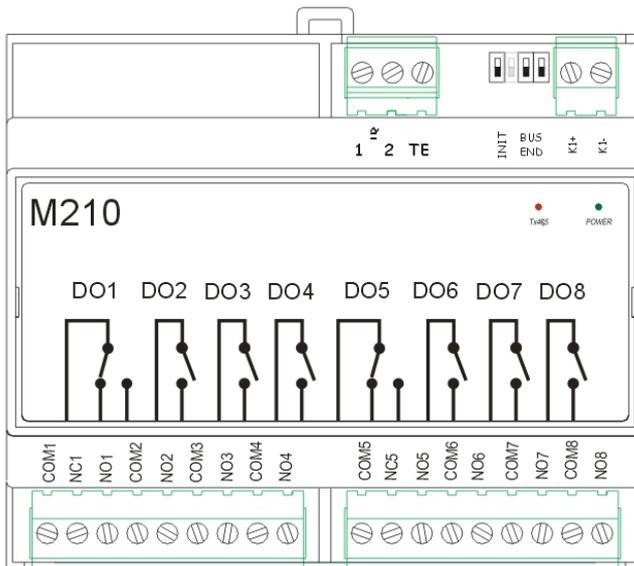
Connection examples: see *domat - Technical application notes*.

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

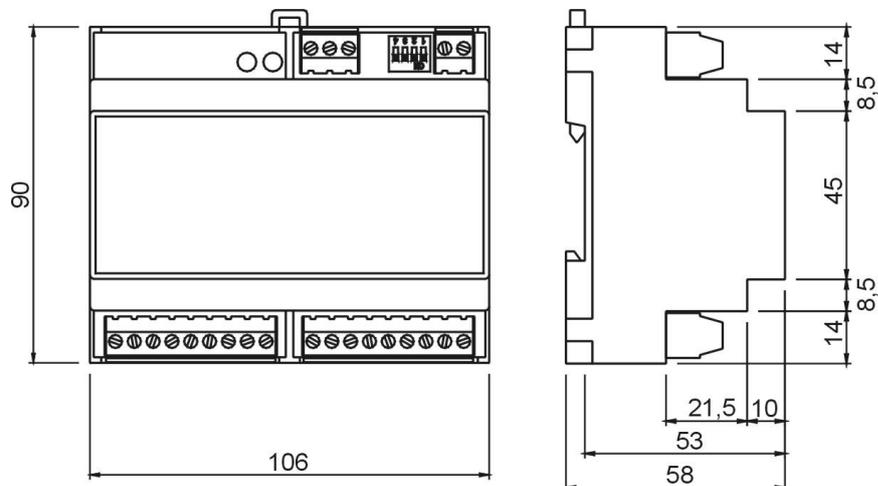
Supply voltage	10 ÷ 35 V DC, 14 ÷ 24 V AC
Consumption	3 W
Working temperature of the module	0 ÷ 70°C
Communication	RS485, 1200 ... 115200 bit/s
Max. bus length	1200m
Max. number of modules on the bus	256
Number of binary outputs	8, galvanically separated
Relay types	DO1, DO5 C/O; DO2, 3, 4, 6, 7,8 NO
Nominal contact load C/O relay (NO relay)	8A/250 V AC, 8A/24V DC (5A/250V AC, 5A/30V DC)
Max. switched power	2000VA, 192W (1250VA, 150W)
Max switched voltage	380V AC or 150V DC (270V AC or 30V DC)
Max. switched current	10A (5A)
Number of switch cycles	- electrical 10 <sup>5</sup> - mechanical min. 5*10 <sup>5</sup>
Resistance when on	max. 30 mΩ (max. 300 mΩ)
Dimensions	see below

## Terminals



NO1 to NO8	Normally open
NC1 and NC4	Normally closed
COM1 to COM8	Common terminal
1 a 2	Power (any polarity)
K1+	Data bus RS485+
K1-	Data bus RS485-
BUS END	terminating resistor DIP - SW 1 and 2 set to ON
INIT	To put the module to INIT mode (bus address 1, baud rate 9600 bps 8N1) set the DIP - SW 4 to ON and power up the module

## Dimensions



07/2013 Subject to technical changes.