domat
control system

M430   Digital input module, 32 DI

Summary

The M430 digital input module is a microprocessor-controlled, communicative 32 binary inputs module. The module uses a RS485 bus with Modbus RTU, and can be easily integrated in a variety of supervision and control systems.

Application

- **HVAC and industrial control systems – binary signal acquisition**

Function

The inputs are designed for small voltage up to 50 V DC, 30 V AC. Inputs DI1 to DI24 have common ground – GND1. Inputs DI25 to DI32 have common ground – GND2. The GNDx terminals are not interconnected inside of the module and therefore each of them may host another potential. The inputs are optically separated from the rest of the circuitry.

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

Removable connectors are used for incoming and outgoing data line so that mounting is fast and easy. As some communication cables include more pairs in one cable, free cores may be used for powering the module. The module is installed 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 Ω resistor may be switched on by short-circuiting of the BUS END DIP switches (1, 2). Two LEDs located inside of the housing enable fast diagnostics – power up and communication. 32 LEDs at the inputs indicate the status of each of the inputs separately.

All settings are stored in a EEPROM. The module is equipped by a watchdog.

Technical data

Supply voltage	10 V ÷ 35 V DC, 14 V ÷ 24 V AC
Consumption	1000 mW
Working temperature of the module	0 ÷ 70°C
Communication	RS485, 1200 ... 115200 bit/s
Max. bus length	1200 m
Max. number of modules on the bus	256
Number of binary inputs	32
Input voltage for log. „0"	max. 5 V AC/DC
Input voltage for log. „1"	18 ... 30 V DC, 18... 26 V AC; 7 mA
Terminals	screw terminals, removable, for wire 0,14 – 1 mm^2 DI1...DI32, GND: 3.5 mm distance G, G0, TE, K+, K-: 5 mm distance
LEDs	green: PWR (on if power OK) red: Tx485 (flashing if module transmitting on the bus)
Dimensions	106 (l) x 90 (w) x 58 (h) mm

Terminals
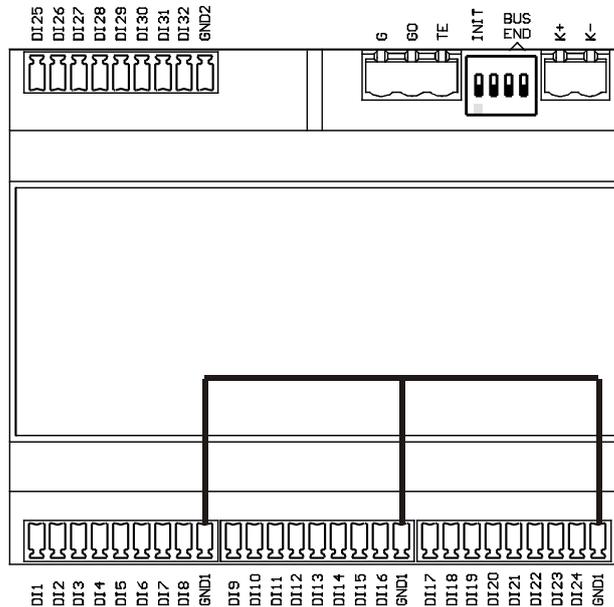
Terminal marking

Terminals	Description
DI1 to DI32	**+** (positive) terminals of digital inputs
GND1	COM **–** (negative) terminals for DI1 to DI24
GND2	COM **–** (negative) terminals for DI25 to DI32
G, G0	Power (any polarity)
K+	Data bus RS485 +
K-	Data bus RS485 -
BUS END	bus terminating resistor DIP - SW 1 and 2 switch to ON
INIT	To set the module in the INIT mode (address 1, baud rate 9600 bps, 8N1) set the DIP - SW 4 to ON and apply power

01/2014 Subject to technical changes.