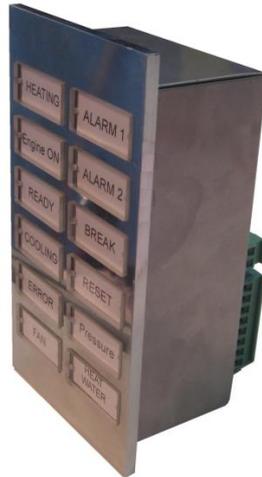


MT020

Alarm and fault indicator



Summary

MT020 is a microprocessor controlled indicator for 12 alarm signals. It communicates over RS485 bus with Modbus RTU and is easy to integrate into a number of control and automation systems.

Application

- **Alarm indication at power distribution plants**

Function

The indicator features 12 backlit windows which contain alarm descriptions printed on white or coloured standard office paper (80 g/m²). Each window has a separate plastic cover. At voltage presence or loss (configurable) at a particular input, the window starts to flash and activates the alarm summary relay. The relay may be utilized for hardware alarm summary among more indicators, or for horn activation etc.

By activating the ACK input the indication changes to steady light and the relay goes off. After the input signal is inactive, the indication goes off. By bringing voltage to the TEST input all indications are activated.

Removable connectors are used for incoming and outgoing data line so that mounting is fast and easy. The indicator is installed in an aperture into the front panel of the switchboard. The device is mechanically compatible (except for connectors) with **PT12** (product of former ZPA Čakovice) and can be used as a replacement.

States of individual inputs can be read over the bus, it is also possible to acknowledge alarms remotely (from a PLC or SCADA, or a Modbus terminal, such as domat **HT110**).

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 jumpers. Red LED indicates communication (TX), and green LED power on.

All settings (address, baudrate, input configuration...) are stored in a EEPROM. The module is equipped by a watchdog. Address and other parameters are configured by means of a free software, domat.exe (see www.rcware.eu), or by direct writing into the Modbus registers. The Modbus table is available as a separate document.

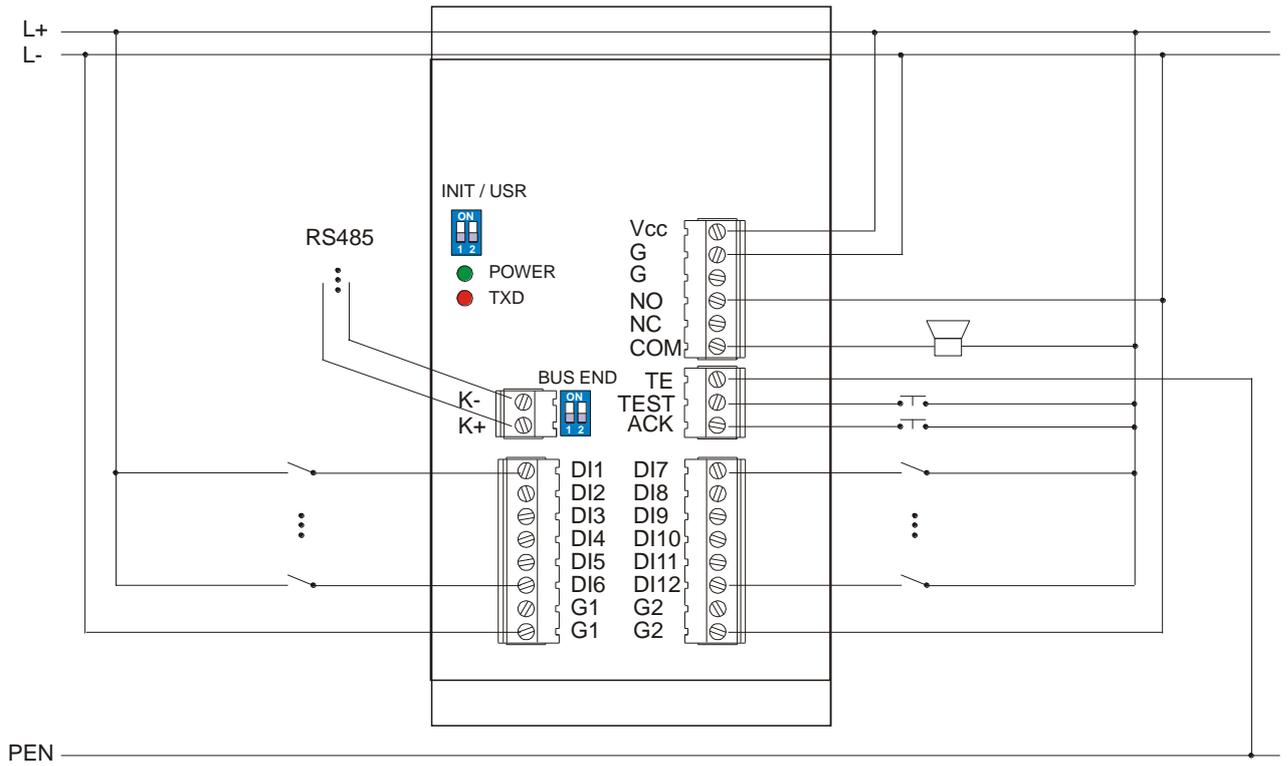
Technical data

Supply voltage	220 V DC
Consumption	appr. 5 VA
Ambient temperature	0 ÷ 70°C
Communication	RS485, 1200 ... 115200 bit/s, Modbus RTU
Max. bus length	1200m
Max. number of modules on the bus	250
Inputs	12
Input voltage	110...220 V DC
Indication	white LED, high intensity
Acknowledge	ACK input or bus
Terminals	Removable screw terminals, wire 0,14 – 1,5 mm ²
Dimensions	see below
Mounting aperture	85 x 142 mm

Terminals

VCC	power 220 V DC positive
G	power negative
NO	summary relay – logical OR of all active alarms (normally open)
NC	summary relay (normally closed)
COM	summary relay (common)
TE	technical ground
TEST	lamp test: 110...220 V DC against G lights up all indicators
ACK	acknowledge: 110...220 V DC against G acknowledges new alarms
K+	communication Modbus RTU RS485 +
K-	communication Modbus RTU RS485 -
DI1	alarm input 1 (110...220 V DC against G1)
DI2	alarm input 2 (110...220 V DC against G1)
DI3	alarm input 3 (110...220 V DC against G1)
DI4	alarm input 4 (110...220 V DC against G1)
DI5	alarm input 5 (110...220 V DC against G1)
DI6	alarm input 6 (110...220 V DC against G1)
G1	common (-) DI1 to DI6
DI7	alarm input 7 (110...220 V DC against G2)
DI8	alarm input 8 (110...220 V DC against G2)
DI9	alarm input 9 (110...220 V DC against G2)
DI10	alarm input 10 (110...220 V DC against G2)
DI11	alarm input 11 (110...220 V DC against G2)
DI12	alarm input 12 (110...220 V DC against G2)
G2	common (-) DI7 to DI12

Connection



Dimensions

The mounting aperture dimensions in the panel are 85 x 142 mm.

