Fidelix

multi-24

Freely programmable field controller

- 12 universal inputs
- 4 digital outputs (relays)
- 4 TRIAC outputs (PWM)
- 4 analogue outputs
- 100% freely programmable
- Detachable spring-cage connectors
- Simultaneously Modbus server and client on 2 physically separate RS485 ports

Program, connect, measure and control

The multi-24 is a controller that can be used for numerous applications, such as hotel rooms, district heating or small ventilation systems.

The module's CPU runs its code independently, enabling swift and accurate reactions to changing measurements. Programmed using the international standard IEC 61131-3, the multi-24 can be used as a stand-alone controller, and/or the module can be connected via Modbus RTU to a building management system to receive settings and commands, or send out alarms or other data. The internal Flash memory of the module makes sure all values are saved even during power or communication interruptions.

The controller can be Modbus server, and simultaneously act as Modbus client for intelligent local sensors or terminals, like the Fidelix Modbus multiDISPLAY.

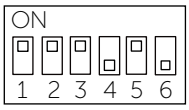
Additionally, the multi-24 can be equipped with an enocean transceiver to connect wireless sensors and actuators, or an MP-bus chip.

Technical features

Dimensions:	125 x 126 (x52) mm
Operating voltage:	24 VDC / 16-26 VAC
Power consumption:	100 mA + 4 x 30 mA per active relay
Operating temperature:	0 to +50 °C
Supported inputs:	digital or analogue (0..10V, resistive, (0)4..20(25) mA)
Analogue output voltage:	0..10 VDC (10 mA max)
TRIAC outputs:	PWM sinking (NPN) (1 A max)
Relay outputs:	230 VAC (6 A max)

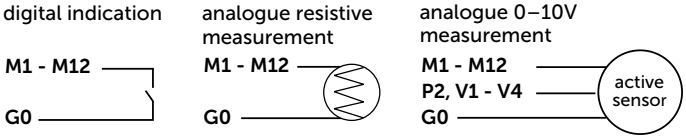
Modbus address: The server address of the module is set by changing the position of dip-switches 1-6. Each dip-switch represents a binary value: dip-switch 1 = 32, dip-switch 2 = 16, dip-switch 3 = 8, dip-switch 4 = 4, dip-switch 5 = 2, dip-switch 6 = 1.

Example: To set the Modbus address of the module to 21, set dip-switches 2, 4 and 6 to ON, and dip-switches 1, 3 and 5 to OFF . (dip-switch 2 = 16, dip-switch 4 = 4, dip-switch 6 = 1. 16+4+1 = 21)



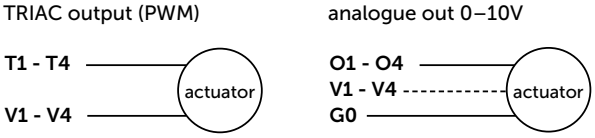
Modbus speed on the server connectors: Use no parity, 8 data bits and 1 stop bit, and the multi-24 module will auto-detect the communication speed of the bus (9600, 19200, 38400 or 57600 bps). If the multi-24 is the last module in the Modbus loop, the loop must be closed by connecting a 120 Ω resistor between the A and the B side of the RS-485 loop (MA and MB).

Measurements: The type of measurement (digital or analogue, voltage or resistance) is set in the software. All input types but voltage measurement put 3.33 V on the measurement inlets.
Connections should be done according to the following schematics:



Also current emitting sensors ((0)4..20(25) mA) can be connected to the inputs of the multi-24. An additional resistance of 137Ω has to be used. For more details, consult the multi-24 programming manual.

Output: There are four 0..10V analogue outputs, and 4 TRIAC (PWM) outputs on the multi-24. The minimum and maximum values for the analogue outputs can be set in the software. The maximum load is 1A per TRIAC output, and 10 mA per 0..10V output. Connections are to be done following these schematics:



Encasing / box: The multi-24 can be ordered without cover to be mounted atop a DIN-rail, in a closed-cover encasing (as show on the photograph above) to be mounted on a DIN rail, or in an IP55, non-flammable polystyrene, IEC 695-2-1 installation box.