iSMA-B-MINI

The product group of **I/O modules MINI series** has been designed to complement the I/O modules of the MIX series.

Unlike the MIX series, the MINI line is dedicated to all applications, where hand operating switches are required. The built-in light, cooling and heating algorithms make them applicable as the standalone controllers. Additionally, the modules support time relay modes dedicated for present detectors.

Like in case of the MIX modules, the modules are factory-equipped with the two most popular open communication protocols: **Modbus (ASCII, RTU, TCP/IP) and BACnet (MSTP, IP)**, which are selected using DIP switches. There are two versions of the modules, namely: modules with interface RS485, and modules with interfaces Ethernet and RS485. Devices with interfaces Ethernet and RS485 have the added functionality of " **Modbus Gateway** TCP/IP to Modbus ASCII/RTU", enabling you to connect additional modules /devices which communicate via Modbus RS485. One major advantage of supporting our modules with open communication standards is the versatility to install them in both new and completed installations, as part of an existing BMS.

Addressing the modules is via rotary switches, which facilitates and accelerates the process of commissioning the system. Built-in mini USB allows for initial configuration of the unit without power supply.

Key Features

- 14 different types
- Small dimension
- Manual override switches
- Built-in light, cooling and heating control modes
- Present sensor support modes
- All Digital Inputs work as fast counters up to 100 Hz
- Universal Inputs have 16-bit resolution which increase the accuracy of measurement
- Wide range of supported temperature sensors (NTC, PT1000 etc.)
- Automatic detection of the signal type in the case of Universal Inputs
- Digital Outputs 230 V AC max. 3 A or 8 A allow direct control without additional relays
- Triac Outputs: 0,5 A @ 24 V AC, 0,5 A @ 230 V AC
- Analog Output with max. 20 mA load allow direct control of relays (12 V DC) or SSR with PWM support
- LEDs indicate the status of inputs and outputs
- Supports open standards: BACnet or Modbus
- Built-in Modbus Gateway TCP/IP to RS485
- 1x Fast Ethernet
- Simple and fast addressing from 1 to 99

iSMA-B-MINI

Specification

Universal Inputs (UI)

All Universal Inputs have 16-bit resolution which support the following types of inputs:

- Temperature input support the following types of sensors: 10K3A1, 10K4A1, Carel 10K, 20K6A1, 2.2K3A1, 3K3A1, 30K6A1, SIE1, TAC1, SAT1, Pt1000, Ni1000

  For sensor Pt1000 and Ni1000 use only 16-bit resolution

- Voltage input 0-10 V DC: input resistance 100 kΩ accuracy ±0,1% measurement resolution 3 mV @ 12-bit and 1 mV @ 16-bit
- Current input 0-20 mA (external resistor 200 Ω required)
- Resistive input 0-1000 kΩ: measurement resolution for 20 kΩ load 20 Ω @ 12-bit and 1 Ω @ 16-bit
- Dry contact input

Digital Inputs (DI)

- Dry contact inputs
- Fast pulse counter up to 100 Hz save in EEPROM memory

Analog Outputs (AO)

All Analog Outputs are equipped with 12-bit ADC provides 10 mV resolution and accuracy less than ±0,5%. They support the following output types:

- Output 0-10 V DC maximum load up to 20 mA
- PWM: 0,01 Hz, 0,1 Hz, 1 Hz, 10 Hz, 100 Hz

Digital Outputs (DO)

- Relay output (NO) max. 3 A @ 230 V AC/30 V DC
- Relay output (NC/NO) max. 8 A @ 230 V AC/30 V DC

Triac Outputs (TO)

- Triac Outputs: 0,5 A @ 24 V AC, 0,5 A @ 230 V AC

Platform

- ARM Cortex-M3

Communication

- Interface RS485 half-duplex
- 1x Fast Ethernet - only version IP
- Up to 99 devices on the bus
- Protocols: Modbus or BACnet
- Baud rate: 2400 to 115200 bps

Power supply

- 24 V AC/DC

Housing

- Dimension: 35x110x62 mm
- Construction: UL approved, self-extinguishing plastic (PC/ABS)
- DIN rail mounting DIN (DIN EN 50022 norm)
- Cooling: internal air circulation

Environment

- Operating temperature: -10°C to 50°C
- Storage temperature: -40°C to 85°C
- Relative humidity: 5% to 95%, no condensation
- Ingress Protection Rating: IP40 – for indoor installation

	UI	DI	AO	DO	TO	Modbus RS485	Modbus TCP/IP	BACnet MSTP	BACnet IP
4I4O-H		4		4 *		✓		✓	
4I4O-H-IP		4		4 *		✓	✓		✓
4O-H				4 **		✓		✓	
4O-H-IP				4 **		✓	✓		✓
4TO-H					4	✓		✓	
4TO-H-IP					4	✓	✓		✓
4U4A-H	4		4			✓		✓	
4U4A-H-IP	4		4			✓	✓		✓
4U4O-H	4			4 *		✓		✓	
4U4O-H-IP	4			4 *		✓	✓		✓
8I		8				✓		✓	
8I-IP		8				✓	✓		✓
8U	8					✓		✓	
8U-IP	8					✓	✓		✓
	✓ Voltage ✓ Current ✓ Resistive ✓ Dry contact	✓ Dry contact ✓ Fast pulse counter up to 100 Hz	✓ Voltage ✓ PWM ✓ Max. load up to 20 mA	* (NO) 3 A @ 230 V AC ** (NC/NO) 8 A @ 230 V AC	✓ 0,5 A @ 24 V AC ✓ 0,5 A @ 230 V AC	✓ RTU ✓ ASCII	✓ Modbus Gateway IP/RS485	✓ Master ✓ Slave	