iSMA-B-MIX

The product group of **I/O modules of the MIX series** has been designed for building distributed control systems using JACE or AAC20 devices.

All the MIX Series modules have been equipped with the most commonly used types of I/O in building automation (MIX of all types of I/O in one unit).

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: modules with RS485 interface and with 2x Ethernet and RS485 interfaces. Devices with 2x Ethernet and RS485 interfaces have the added functionality of "Modbus Gateway TCP/IP to Modbus ASCII/RTU", enabling for the connection of additional modules/devices that communicate via Modbus RS485. One major advantage of supporting the 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 takes place 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

- A large number of all types of I/O
- All Digital Inputs work as fast counters up to 100 Hz
- Universal Inputs have 16-bit resolution which increases the accuracy of measurement
- Wide range of supported temperature sensors in Celsius and Fahrenheit degrees (NTC, PT1000 etc.)
- Automatic detection of the signal type in the case of Universal Inputs
- Digital Outputs 230 V AC max. 3 A allow for direct control without additional relays
- 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
- RS485 communication port, half-duplex
- 2x Fast Ethernet with built-in switch
- Built-in Modbus Gateway TCP/IP to RS485
- Simple and fast addressing from 1 to 99

iSMA-B-MIX

Specification

Universal Inputs (UI)

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

Temperature input supports the following types of sensors:

1. In Celsius degrees: 10K3A1, 10K4A1, Carel 10K, 20K6A1, 2.2K3A1, 3K3A1, 30K6A1, SIE1, TAC1, SAT1, Pt1000, Ni1000 0C, Ni 1000 20C, Ni1000 LG
2. In Fahrenheit degrees: 10K Type2, 10K type3, 20K, 3K, PT 1000, Ni 1000 32F, Ni 1000 70F

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

Platform

- ARM Cortex-M3

Communication

- Interface RS485 half-duplex
- 2x Ethernet with built-in switch- 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 MIX18: 88x110x62 mm (3.4646x4.331x2.441 in)
- Dimension MIX38: 160x110x62 mm (6.2993x4.331x2.441 in)
- 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 (14°F to 122°F)
- Storage temperature: -40°C to 85°C (-40°F to 185°F)
- Relative humidity: 5% to 95%, no condensation
- Ingress Protection Rating: IP40 – for indoor installation

	UI	DI	AO	DO	Modbus RS485	Modbus TCP/IP	Bacnet MSTP	Bacnet IP
MIX18	5	5	4	4	✓		✓	
MIX18 -IP	5	5	4	4	✓	✓		✓
MIX38	8	12	6	12	✓		✓	
MIX38 -IP	8	12	6	12	✓	✓		✓
	✓ 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	✓ RTU ✓ ASCII	✓ Modbus Gateway IP/RS485	✓ Master ✓ Slave	