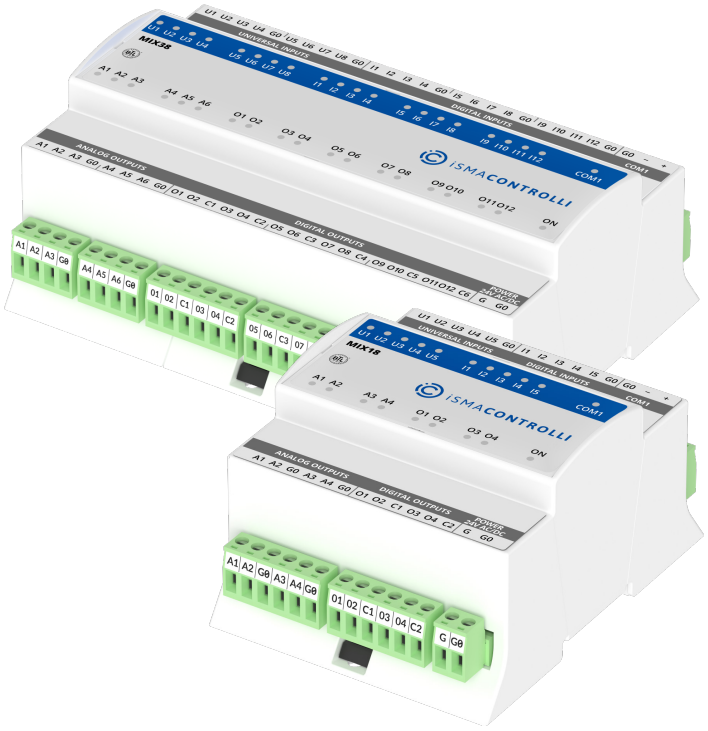
MIX-RS Series

Multiprotocol I/O Modules

MODEL	DESCRIPTION
iSMA-B-MIX38	I/O module with 8 universal inputs, 12 digital inputs, 6 analog outputs, 12 digital outputs, and RS485 BACnet MS/TP and Modbus RTU/ASCII communication
iSMA-B-MIX18	I/O module with 5 universal inputs, 5 digital inputs, 4 analog outputs, 4 digital outputs, and RS485 BACnet MS/TP and Modbus RTU/ASCII communication



APPLICATION AND USE

Multiprotocol I/O modules of the MIX-RS series are designed to create distributed control systems by extending the capabilities of building controllers like MAC36NL, iSMA-B-J8, or AAC20 with inputs and outputs, using a serial bus connection and open communication protocols, BACnet MS/TP and Modbus RTU/ASCII. All the MIX series modules are equipped with the types of I/Os most commonly used in building automation (MIX of all types of I/Os in one unit). The factory-equipped most popular open communication protocols, Modbus and BACnet, are selected using a DIP switch. Devices configured to communicate in the Modbus RTU/ASCII protocol operate as server devices, and devices configured to communicate in the BACnet MS/TP protocol work as client or server devices. 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. The modules are addressed using rotary switches, which facilitates and accelerates the process of commissioning the system. Built-in mini USB allows for the initial configuration of the unit without an additional power supply.

FEATURES

- Mix of all I/O types
- BACnet MS/TP, BACnet Slave, and Modbus RTU/ASCII, selected with a DIP switch
- RS485 communication port, half-duplex
- 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 a signal type of universal inputs
- Digital outputs 230 V AC max. 3 A allow for a direct control without additional relays
- Analog outputs with max. 20 mA load per channel (60 mA maximum total load) allow for a direct control of relays (12 V DC) or SSR with PWM support
- LEDs indicate the status of inputs and outputs
- Simple and fast addressing from 0 to 99 using rotary switches
- UL listed
- BTL certified

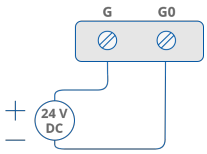
TECHNICAL SPECIFICATION

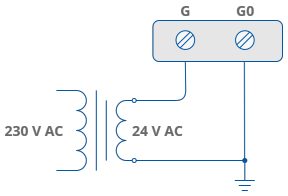
DESCRIPTION		MIX-RS I/O MODULES
Power supply	Voltage	24 V AC/DC ± 20%
Universal inputs	Number of inputs	8 (MIX38), 5 (MIX18)

The performances stated in this sheet can be modified without any prior notice.

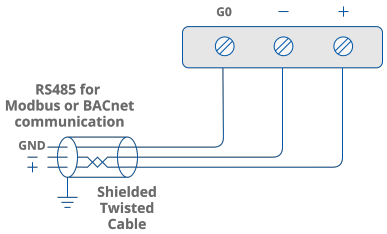
DESCRIPTION		MIX-RS I/O MODULES	
Universal inputs	Voltage input	Voltage measurement: 0-10 V DC Input impedance: 100 kΩ Measurement accuracy: ±0.1% Measurement resolution: 3 mV at 12-bit and 1 mV at 16-bit	
	Current input	Current measurement: 0-20 mA Required external resistor: 200 Ω Measurement accuracy: ±1.1% Measurement resolution: 15 µA at 12-bit and 5 µA at 16-bit	
	Digital input	Output current ~1 mA	
	Resistance input	Measurement of resistance: 0-1000 kΩ Measurement resolution for 20 kΩ load: 20 Ω at 12-bit and 1 Ω at 16-bit Measurement resolution for PT1000 and NI1000: 0.1 Ω at 16-bit Resistance measurement method: voltage divider	
	Temperature input	Measurement with RTDS (Real Time Digital Simulator) attached Accuracy: ±0.1˚C The PT1000 and NI1000 sensors use 16-bit resolution	
	Measurement resolution	12-bit (default), 16-bit	
	Processing time	10 ms/channel at 12-bit 140 ms/channel at 16-bit	
Digital inputs	Number of inputs	12 (MIX38), 5 (MIX18)	
	Type	Dry contact or fast pulse counter	
	Maximum input frequency	100 Hz saved in the EEPROM memory	
Analog outputs	Number of outputs	6 (MIX38), 4 (MIX18)	
	Voltage range	0-10 V DC	
	Maximum load current	20 mA	
	Resolution	12-bit	
	Accuracy	±0.5%	
Digital outputs	Number of outputs	12 (MIX38), 4 (MIX18)	
	Maximum loads:	UL compliant ratings	Maximum ratings
	Resistive load (AC1)	3 A at 24 V AC 3 A at 30 V DC	3 A at 230 V AC 3 A at 30 V DC
	Inductive load (AC3)	8 VA at 24 V AC 30 W at 30 V DC	75 VA at 230 V AC 30 W at 30 V DC
COM1	RS485 interface	Up to 128 devices	
		Half-duplex	
	Communication protocol	Modbus RTU/ASCII, BACnet MS/TP	
	Ports	Screw connector	
	Baud rate	2400-115200	
	Address	0-99 set by a rotary switch	
USB1	USB 2.0	mini USB type B	
Ingress protection	IP rating	IP 40 for indoor installation	
Temperature	Storage	-40°C to +85°C (-40°F to +185°F)	
	Operating	-10°C to +50°C (14°F to 122°F)	
Humidity	Relative	5 to 95% RH (without condensation)	
Screw connectors	Type	Removable screw terminals	
	Maximum cable size	2.5 mm^2 (18...12 AWG)	
Housing	Material	Self-extinguishing plastic (PC/ABS)	
	Mounting	DIN (DIN EN 50022 norm)	
Dimensions	Module:	MIX38	MIX18
	Width	160.20 mm/6.31 in	87.80 mm/3.46 in
	Length	111.40 mm/4.39 in	111.40 mm/4.39 in
	Height	62.00 mm/2.44 in	62.00 mm/2.44 in

Power Supply

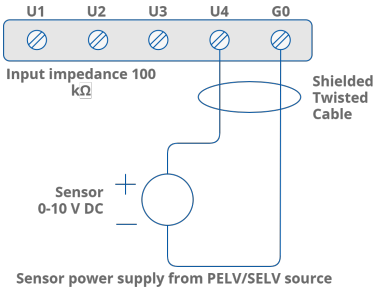


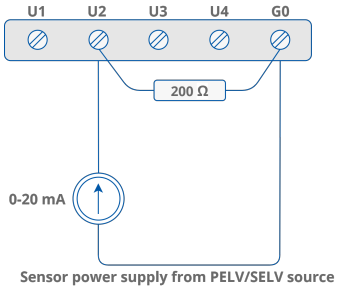


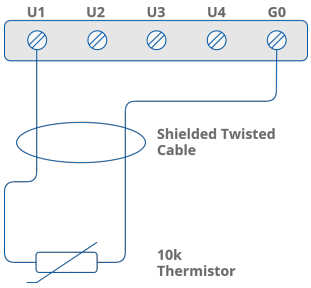
Communication

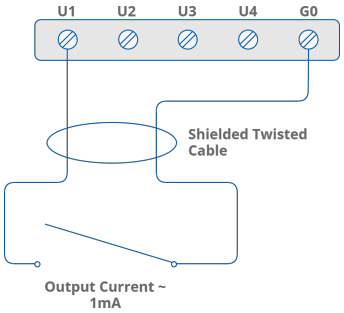


Universal Inputs

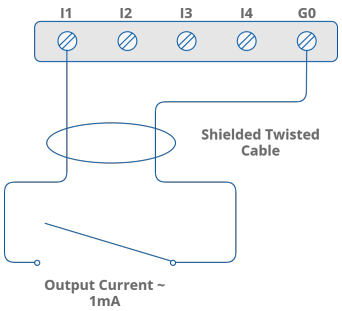


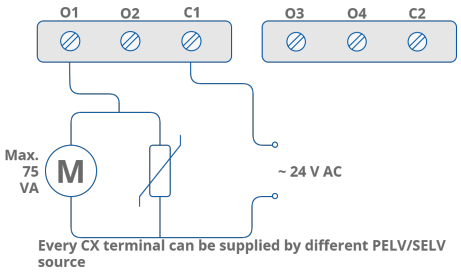




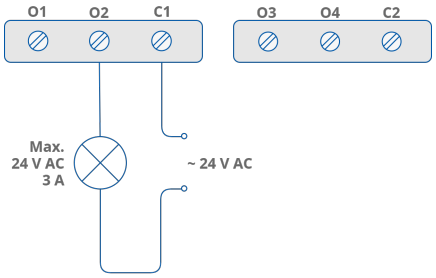


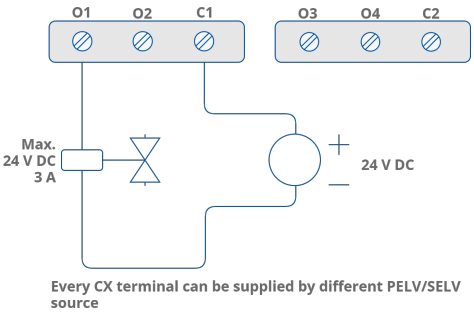
Digital Inputs



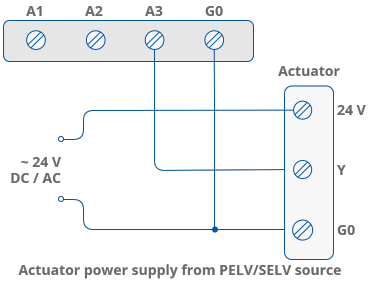


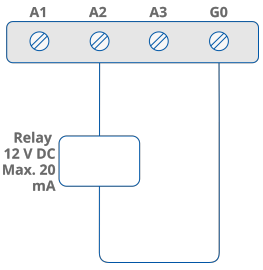
Digital Outputs

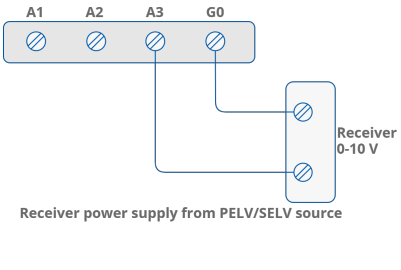




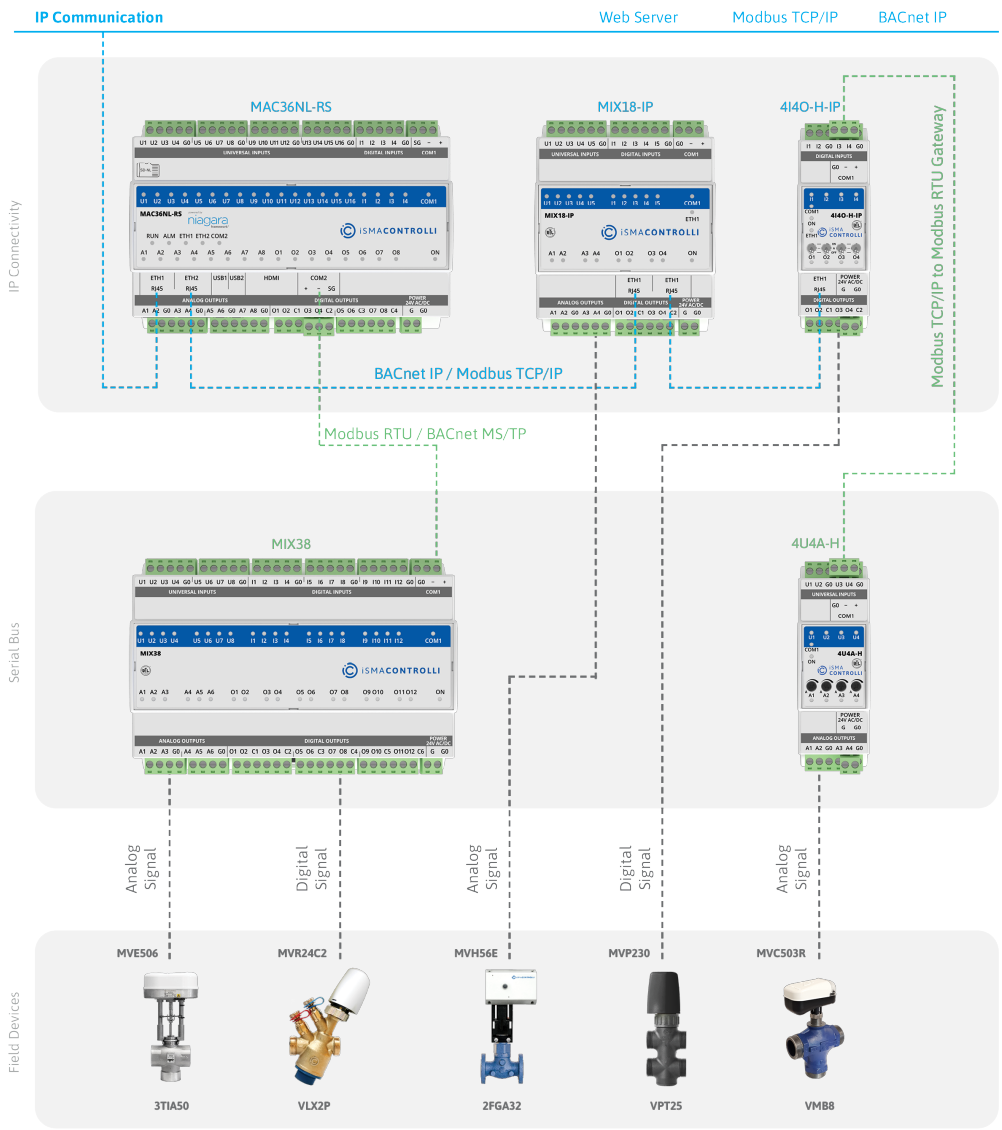
Analog Outputs







APPLICATION EXAMPLE

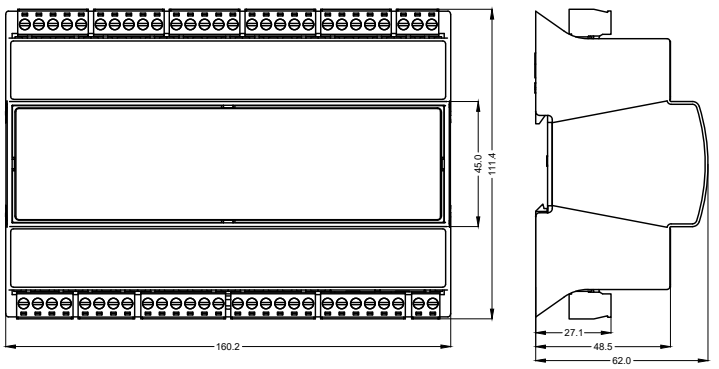


DEDICATED SOFTWARE

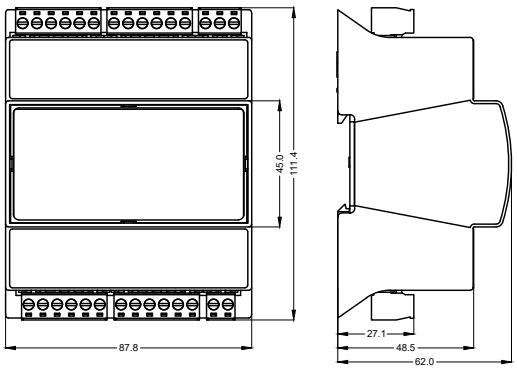
iSMA Configurator - configuration tool for non-programmable iSMA CONTROLLI devices

DIMENSIONS [mm]

MIX38



MIX18



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