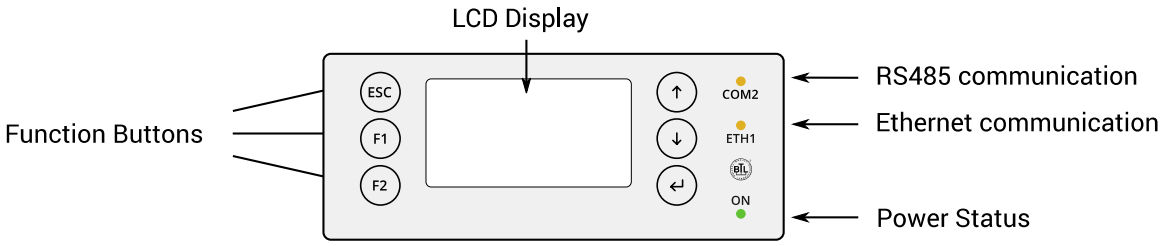
iSMA-B-AAC20-LCD
iSMA-B-AAC20-LCD-D
iSMA-B-AAC20-LCD-M

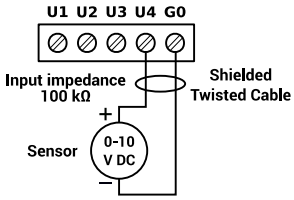
SPECIFICATION		
Power supply	DC: 24 V ± 20%, 5 W/*7 W; AC: 24 V ± 20%, 7.5 VA/*10,5 VA (*with extension)	
Universal inputs	8 - voltage, current, resistance and temperature measurement, dry contact	
Digital inputs	4 - dry contact input, high-speed pulse counter up to 100 Hz	
Digital outputs	4 - relay output; Resistive load max. 3 A @ 230 V AC, 3 A @ 30 V DC Inductive load max. 75 VA @ 230 V AC, 30 W @ 30 V DC	
Analog outputs	6 - 0-10 V DC output, maximum load up to 20 mA (A6 up to 5 mA)	
Processor	Cortex M4 + M0 (204 MHz), Sedona Virtual Machine 1.2.28	
Interface	Standard	2x Ethernet, RS485, Host USB, 1-Wire, RJ12 connector
	Extensions	DALI (opto-isolated, power supply for 130 mA max.) M-Bus (opto-isolated, power supply for 20 devices max.)
Ingress protection	IP40 - for indoor installation	
Temperature	Operating: -10°C to +50°C (14°F to 122°F) Storage -40°C to +85°C (-40°F to +185°F)	
Relative humidity	5 to 95% RH (without condensation)	
Connectors	Separable max 2.5 mm^2 (18 ... 12 AWG)	
Dimensions	106 x 110 x 62 mm (4.17 x 4.33 x 2.44 in)	
Mounting	DIN rail mounting (DIN EN 50022 norm)	
Housing material	Plastic, self-extinguishing PC/ABS	

TOP PANEL

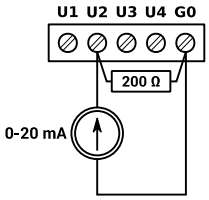


UNIVERSAL INPUTS

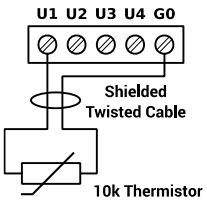
Voltage measurement



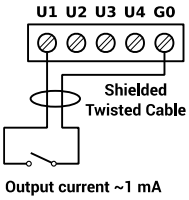
Current measurement



Temperature measurement

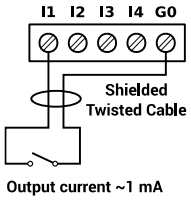


Dry contact input



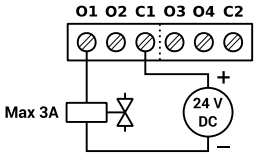
DIGITAL INPUTS

Dry contact input

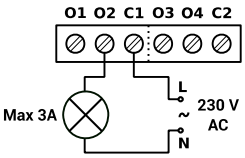


DIGITAL OUTPUTS

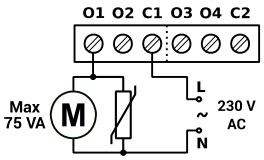
Connection of electrovalve



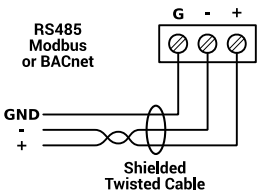
Connection of resistive load



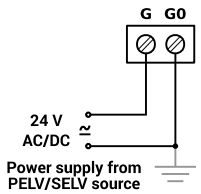
Connection of inductive load



COMMUNICATION

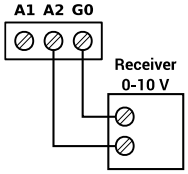


POWER SUPPLY

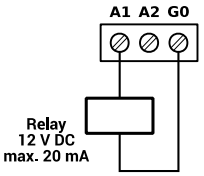


ANALOG OUTPUTS

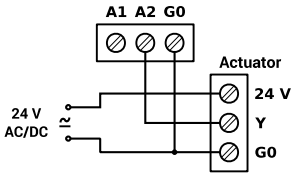
0-10 V output



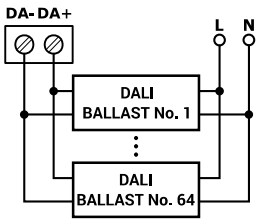
Connection of relay



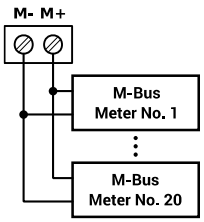
Connection of actuator



DALI



M-Bus

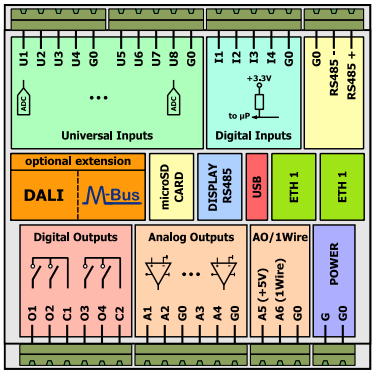


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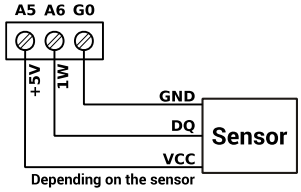
⚠ WARNING ⚠

• Note, an incorrect wiring of this product can damage it and lead to other hazards. Make sure the product has been correctly wired before turning the power ON.
• Before wiring, or removing/mounting the product, be sure to turn the power OFF. Failure to do so might cause electric shock.
• Do not touch electrically charged parts such as the power terminals. Doing so might cause electric shock.
• Do not disassemble the product. Doing so might cause electric shock or faulty operation.
• Use the product within the operating ranges recommended in the specification (temperature, humidity, voltage, shock, mounting direction, atmosphere, etc.). Failure to do so might cause fire or faulty operation.
• Firmly tighten the wires to the terminal. Insufficient tightening of the wires to the terminal might cause fire.

BLOCK DIAGRAM



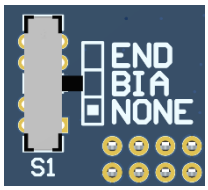
1-WIRE



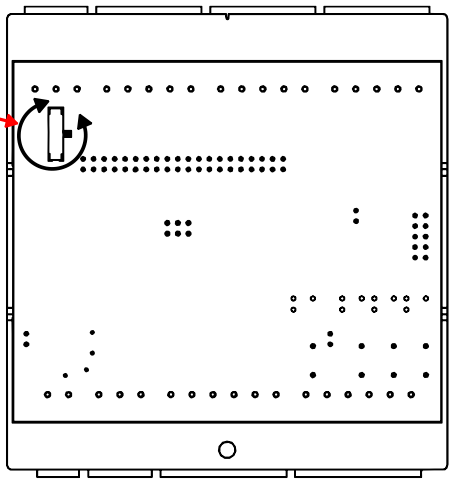
RS485 CONFIGURATION

In the iSMA-B-AAC20 device there is a built-in 3 position switch, which is dedicated to connect 120 Ω termination resistor and/or biasing resistors. It can be accessed by removing the bottom part of enclosure.

Switch Position	Biasing	Termination 120 Ω
1 (END)	ON	ON
2 (BIA) - default	ON	OFF
3 (NONE)	OFF	OFF



Bottom view of the board



FCC COMPLIANCE NOTE

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

WIRING

- Line power cables must be routed with spatial separation from signal and data transmission cables.
- Analog and digital signal cables should also be separated.
- It is recommended to use shielded cables for analog signals, cable shields should not be interrupted by intermediate terminals.
- The shielding should be earthed directly after the cable enters the cabinet.
- It is recommended to install interference suppressors when switching inductive loads (e.g., coils of contactors, relays, solenoid valves). RC snubbers or varistors are suitable for AC voltage and freewheeling diodes for DC voltage loads. The suppressing elements must be connected as close to the coil as possible.



Please read the instruction before use or operating the device. In case of any questions after reading this document, please contact the iSMA CONTROLLI Support Team (support@ismacontrolli.com).



• Before wiring or removing/mounting the product, make sure to turn the power off. Failure to do so might cause an electric shock.
• Improper wiring of the product can damage it and lead to other hazards. Make sure that the product has been correctly wired before turning the power on.
• Do not touch electrically charged parts such as power terminals. Doing so might cause an electric shock.
• Do not disassemble the product. Doing so might cause an electric shock or faulty operation.



• Use the product only within the operating ranges recommended in the specification (temperature, humidity, voltage, shock, mounting direction, atmosphere, etc.). Failure to do so might cause a fire or faulty operation.
• Firmly tighten the wires to the terminal. Failure to do so might cause a fire.
• Avoid installing the product in close proximity to high-power electrical devices and cables, inductive loads, and switching devices. Proximity of such objects may cause an uncontrolled interference, resulting in an instable operation of the product.
• Proper arrangement of the power and signal cabling affects the operation of the entire control system. Avoid laying the power and signal wiring in parallel cable trays. It can cause interferences in monitored and control signals.
• It is recommended to power controllers/modules with AC/DC power suppliers. They provide better and more stable insulation for devices compared to AC/AC transformer systems, which transmit disturbances and transient phenomena like surges and bursts to devices. They also isolate products from inductive phenomena from other transformers and loads.
• Power supply systems for the product should be protected by external devices limiting overvoltage and effects of lightning discharges.
• Avoid powering the product and its controlled/monitored devices, especially high power and inductive loads, from a single power source. Powering devices from a single power source causes a risk of introducing disturbances from the loads to the control devices.
• If an AC/AC transformer is used to supply control devices, it is strongly recommended to use a maximum 100 VA Class 2 transformer to avoid unwanted inductive effects, which are dangerous for devices.
• Long monitoring and control lines may cause loops in connection with the shared power supply, causing disturbances in the operation of devices, including external communication. It is recommended to use galvanic separators.
• To protect signal and communication lines against external electromagnetic interferences, use properly grounded shielded cables and ferrite beads.
• Switching the digital output relays of large (exceeding specification) inductive loads can cause interference pulses to the electronics installed inside the product. Therefore, it is recommended to use external relays/contactors, etc. to switch such loads. The use of controllers with triac outputs also limits similar overvoltage phenomena.
• Many cases of disturbances and overvoltage in control systems are generated by switched, inductive loads supplied by alternating mains voltage (AC 120/230 V). If they do not have appropriate built-in noise reduction circuits, it is recommended to use external circuits such as snubbers, varistors, or protection diodes to limit these effects.



Electrical installation of this product must be done in accordance with national wiring codes and conform to local regulations.