



SPECIFICATION		
Power supply	Voltage	10-38 V DC; 10-28 V AC
	Power consumption	7 W @ 24 V DC 9 VA @ 24 V AC
Digital inputs	4x, logical "0": 0-3 V, logical "1": 6-36 V	
	Isolation	3650 Vrms
Relay outputs	3x Relay outputs	
	Resistive load AC1: 3 A @ 230 V AC or 3 A @ 30 V DC	
	Inductive load AC3: 75 VA @ 230V AC or 30 W @ 30 V DC	
	Contact material	AgSnO <sub>2</sub>
Interface	RS485, up to 128 devices on the bus	
Baudrate	Ethernet 10/100 Mbps	
Ingress protection	from 2400 to 115200 bps	
Temperature	IP40 - for indoor installation	
Relative humidity	Operating -10°C - +50°C; Storage - 40°C - +85°C	
Connectors	5 to 95% RH (without condensation)	
Dimension	Max 2.5 mm <sup>2</sup>	
Mounting	119,1 mm x 101 mm x 22,6 mm	
Housing material	DIN rail mounting (DIN EN 50022)	
	Plastic, self-extinguishing PC/ABS	

**TOP PANEL**

State of relay outputs 1-3      Power status      1-5 - Setting the device address  
6 - Restore default settings

State of digital inputs 1-4      RS485 Communication      MiniUSB

DIGITAL INPUTS	RELAY OUTPUTS	
<p style="text-align: center;"><b>Connection of input</b></p>	<p style="text-align: center;"><b>Connection of resistive load</b></p>	<p style="text-align: center;"><b>Connection of electrovalve</b></p>
COMMUNICATION	POWER SUPPLY	
<p style="text-align: center;"><b>RS485 Communication</b></p>	<p style="text-align: center;"><b>DC Voltage</b></p>	<p style="text-align: center;"><b>AC Voltage</b></p>
<b>WARNING</b>	<b>TERMINALS OF THE DEVICE</b>	
<p>•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.</p> <p>• Before wiring, or removing/mounting the product, be sure to turn the power OFF. Failure to do so might cause electric shock.</p> <p>• Do not touch electrically charged parts such as the power terminals. Doing so might cause electric shock.</p> <p>• Do not disassemble the product. Doing so might cause electric shock or faulty operation.</p> <p>• 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.</p> <p>• Firmly tighten the wires to the terminal. Insufficient tightening of the wires to the terminal might cause fire</p>		

## Registered access

Modbus	Dec	Hex	Register Name	Access	Description
30001	0	0x00	Version/Type	Read	Version and Type of the device
30002	1	0x01	Address	Read	Module address SFAR-S-ETH
40003	2	0x02	Baud rate	Read & write	Transmission speed
40004	3	0x03	Stop bits	Read & write	Stop bits
40005	4	0x04	Parity	Read & write	Parity
40007	6	0x06	Modbus Mode	Read & write	Modbus protocol type
40009	8	0x08	Watchdog	Read & write	Function watchdog for outputs [ms]
40013	12	0x0C	Default Outputs State	Read & write	Default state of outputslit bit → output active
40014	13	0x0D	Operating mode	Read & write	Modbus mode TCP0 – Device Table; 1 – Gateway Modbus TCP
40015	14	0x0E	Slow Rate	Read & write	Frequency of queries in Device Table mode [ms]
40016	15	0x0F	Normal Rate	Read & write	Frequency of queries in Device Table mode [ms]
40017	16	0x10	Fast Rate	Read & write	Frequency of queries in Device Table mode [ms]
40033	32	0x20	Received packets LSR (Least Significant Reg.)	Read & write	The amount of received packets
40034	33	0x21	Received packets MSR (Most Significant Reg.)	Read & write	
40035	34	0x22	Incorrect packets LSR	Read & write	The amount of received incorrect packets
40036	35	0x23	Incorrect packets MSR	Read & write	
40037	36	0x24	Sent packets LSR	Read & write	The amount of sent packets
40038	37	0x25	Sent packets MSR	Read & write	
30051	50	0x32	Inputs	Read	Inputs status lit bit → input active
40052	51	0x33	Outputs	Read & write	Outputs status
40053	52	0x34	Counter 0 LSR	Read & write	32-bits counter 0
40054	53	0x35	Counter 0 MSR	Read & write	
40055	54	0x36	Counter 1 LSR	Read & write	32-bits counter 1
40056	55	0x37	Counter 1 MSR	Read & write	
40057	56	0x38	Counter 2 LSR	Read & write	32-bits counter 2
40058	57	0x39	Counter 2 MSR	Read & write	
40059	58	0x3A	Counter 3 LSR	Read & write	32-bits counter 3
40060	59	0x3B	Counter 3 MSR	Read & write	
40061	60	0x3C	Reset counters	Read & write	Reset counterslit bit → counter reset



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](mailto: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.