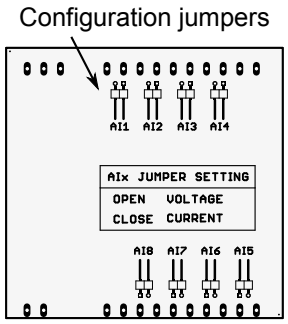
SFAR
Solutions For Automation & Robotics

SDM-8AI

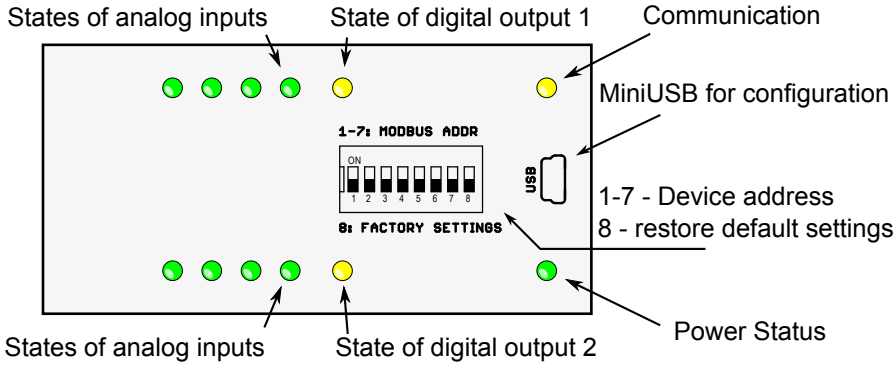
SFAR S.C.
ul. Oliwska 135/6
80-209 Chwaszczyno
www.sfar.pl

TECHNICAL SPECIFICATIONS	
Power Supply	DC: 10-30V 1,25W; AC: 10-28V 1,5VA
Analog Inputs	8 - voltage or current; resolution: 14 bits; ADC processing time: 16ms/channel
Digital outputs	2 - NPN type max voltage: 55VDC; max current: 500mA
Isolation	Max 1500Vrms
Interface	RS485, MODBUS up to 128 devices
Address	Set using switches from 0 to 127, programmable from 128 to 255
Baud rate	from 2400 to 115200 bps
IP	IP40 - for indoor installation
Temperature	Work: -10°C to +50°C; Storage: -40°C to +85°C
Humidity	from 5 to 95% RH (non-condensing)
Connectors	Separable, max 2.5mm^2
Size	88mm x 110mm x 62mm
Mounting	DIN rail mounting (DIN EN 50022 norm)
Housing material	Plastic, self-extinguishing PC/ABS

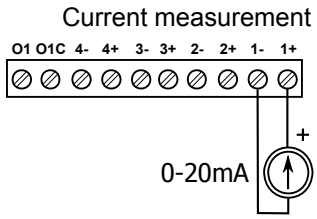
INPUT TYPE CONFIGUTATION

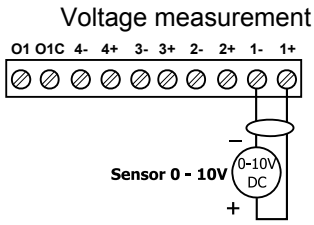


TOP PANEL

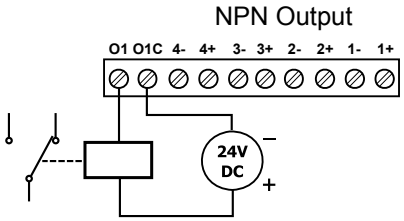


ANALOG INPUTS

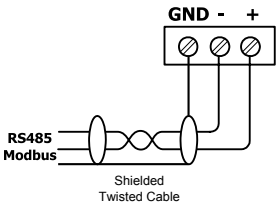




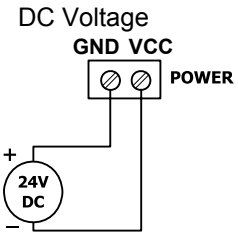
DIGITAL OUTPUT

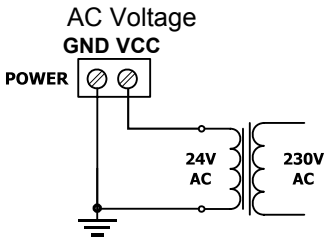


COMMUNICATION



POWER SUPPLY

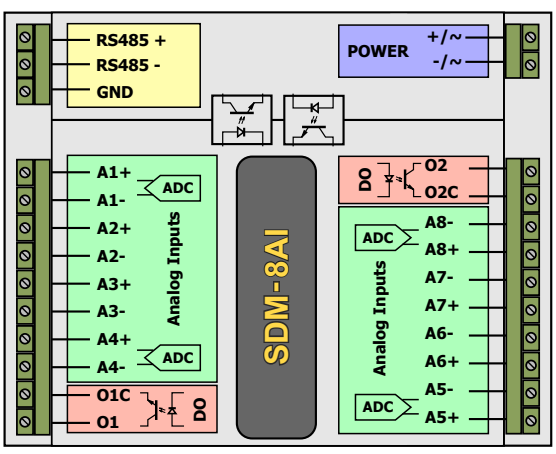




⚠ WARNING ⚠

- Note this 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.

TERMINALS OF THE DEVICE



Version: 1.0

Module Registers

Modbus Address	Register Name	R/W	Description
30001	Version/Type	R	Version and Type of the device
30002	Switches	R	Switches state
40003	Baud rate	RW	RS485 baud rate
40004	Stop Bits & Data Bits	RW	No of Stop bits & Data Bits
40005	Parity	RW	Parity bit
40006	Response Delay	RW	Response delay in ms
40007	Modbus Mode	RW	Modbus Mode (ASCII or RTU)
40033	Received packets LSB	RW	No of received packets
40034	Received packets MSB	RW	
40035	Incorrect packets LSB	RW	No of received packets with error
40036	Incorrect packets MSB	RW	
40037	Sent packets LSB	RW	No of sent packets
40038	Sent packets MSB	RW	
30051	Inputs	R	Connected inputs Bit in high state → signal is connected
40052	Outputs	RW	Alarms state bit 8 and 9 alarm outputs
30053	Analog 1	R	Value of analog input in mV for voltage inputs in µA for current inputs
30054	Analog 2	R	
30055	Analog 3	R	
30056	Analog 4	R	
30057	Analog 5	R	
30058	Analog 6	R	
30059	Analog 7	R	
30060	Analog 8	R	
30061	Value of 1. alarm input	R	Current values of voltage / current for alarm inputs
30062	Value of 2. alarm input	R	
40063	MAX alarm level 1	RW	If the analog signal exceeds this value the corresponding alarm flag is set
40064	MAX alarm level 2	RW	
40065	MAX alarm level 3	RW	
40066	MAX alarm level 4	RW	
40067	MAX alarm level 5	RW	
40068	MAX alarm level 6	RW	
40069	MAX alarm level 7	RW	
40070	MAX alarm level 8	RW	
40071	MIN alarm level 1	RW	If the analog signal is below this value corresponding alarm flag is set
40072	MIN alarm level 2	RW	
40073	MIN alarm level 3	RW	
40074	MIN alarm level 4	RW	
40075	MIN alarm level 5	RW	
40076	MIN alarm level 6	RW	

Modbus Address	Register Name	R/W	Description
40077	MIN alarm level 7	RW	
40078	MIN alarm level 8	RW	
40079	Alarm settings 1	RW	Alarm settings 0 – alarm due to the current analog signal value 1 – Remember the value of the alarm, until reset by the master via Modbus
40080	Alarm settings 2	RW	
40081	Alarm settings 3	RW	
40082	Alarm settings 4	RW	
40083	Alarm settings 5	RW	
40084	Alarm settings 6	RW	
40085	Alarm settings 7	RW	
40086	Alarm settings 8	RW	
40087	Input 1 settings	RW	Analog input mode: 0 – input disabled 1 – voltage 0V to 10V 2 – voltage -10V to 10V 3 – voltage 0V to 1V 4 – voltage -1V to 1V 5 – current 4mA to 20mA 6 – current 0mA to 20mA 7 – current -20mA to 20mA To change the input mode you must to set jumper inside of module
40088	Input 2 settings	RW	
40089	Input 3 settings	RW	
40090	Input 4 settings	RW	
40091	Input 5 settings	RW	
40092	Input 6 settings	RW	
40093	Input 7 settings	RW	
40094	Input 8 settings	RW	
40095	Output 1 settings	RW	Alarm output settings 0 – output is set by PLC +1 – value from input 1 +2 – value from input 2 +4 – value from input 3 +8 – value from input 4 +16 – value from input 5 +32 – value from input 6 +64 – value from input 7 +128 – value from input 8 +256 – Output is set if value is greater than Alarm Value (register 40097 or 40098) („cooling”) +512 – Output is set if value is less than Alarm Value (register 40097 or 40098) („heating”) +1024 – The lowest value from selected inputs +2048 – The greatest value from selected inputs (if not select either of the two above options than is used average value of selected inputs)
40096	Output 2 settings	RW	
40097	Alarm Value 1	RW	Alarm value for outputs
40098	Alarm Value 2	RW	
40099	Alarm hysteresis 1	RW	The hysteresis value for alarm outputs
40100	Alarm hysteresis 2	RW	