

SfAR-1M-1AI1DO



Modbus I/O Module

MODEL	DESCRIPTION
SfAR-1M-1AI1DO	Modbus I/O module with 1 analog input and 1 digital output



APPLICATION AND USE

SfAR-1M-1AI1DO is a controller's I/O extension, and it can also be used as a standalone application controller. It is perfect for controlling lights level according to light measurement and other similar applications. The module has 1 analog input (AI) and 1 digital output (DO). The analog input can work in 7 modes as a voltage or current input. The digital output is an NPN transistor output. All inputs and outputs are isolated from the logic with optoisolators. A built-in RS485 interface allows an easy connection over the Modbus RTU/ASCII protocol. A 32-bit ARM core processor provides fast processing and communication. The module is equipped with a set of LEDs used to indicate the status of I/Os, power supply, and RS485 communication. Configuration of the module is carried out with our free software, the SfAR Configurator. A built-in mini USB allows for performing a primary configuration of the unit without an additional power supply.

FEATURES

- 1 analog input with 16-bit resolution and support for current and voltage ranges
- 1 digital output, which can be set when analog alarm limits are exceeded
- ADC processing time: 16 ms/channel
- Built-in LEDs for device status indication
- Modbus RTU/ASCII communication
- Baud rate: 2400-115200 bps
- Up to 128 modules on the bus
- Built-in mini USB type B port for configuration
- Space-saving housing
- DIN rail mounting

TECHNICAL SPECIFICATION

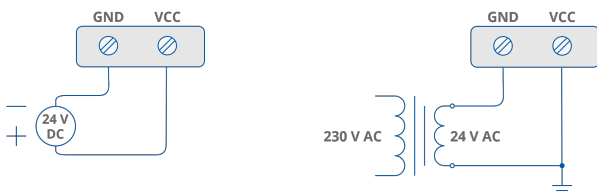
DESCRIPTION		SfAR-1M-1AI1DO
Power supply	Voltage	10-38 V DC; 10-28 V AC
Analog input	Number of inputs	1
	Voltage input	0-1 V DC, resolution 1 mV
		-1-1 V DC, resolution 1 mV
		0-10 V DC, resolution 1.5 mV
	-10-10 V DC, resolution 1.5 mV	
	Input impedance: 100 kΩ	
	Measurement accuracy: ±0.2%	

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

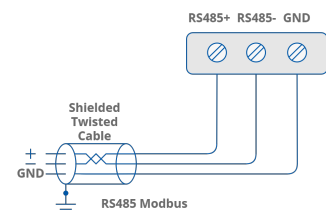
DESCRIPTION		SfAR-1M-1AI1DO
Analog input	Current input	0-20 mA, resolution 3.75 μ A 4-20 mA, resolution 3.75 μ A -20-20 mA, resolution 3.75 μ A
		Input impedance: 100 k Ω
		Measurement accuracy: \pm 0.1%
		Maximum input current: \pm 35 mA
	Measurement resolution	16-bit
	Processing time	70 ms/channel
Digital output	Number of outputs	1
	Maximum current load	250 mA
	Maximum voltage load	50 V DC
TX	RS485 interface	Up to 128 devices
	Communication protocol	Modbus RTU/ASCII
	Ports	3-pin screw connector
	Baud rate	2400-115200 bps
USB	mini USB	Type B, for configuration
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	2-pin (power supply), 3-pin (RS485, I/O)
	Maximum cable size	2.5 mm ² (18...12 AWG)
Housing	Material	Self-extinguishing plastic (PC/ABS)
	Cooling	Internal air circulation
	Mounting	DIN (DIN EN 50022 norm)
Dimensions	Width	90.00 mm/3.54 in
	Length	56.40 mm/2.22 in
	Height	17.50 mm/0.69 in

WIRING DIAGRAMS

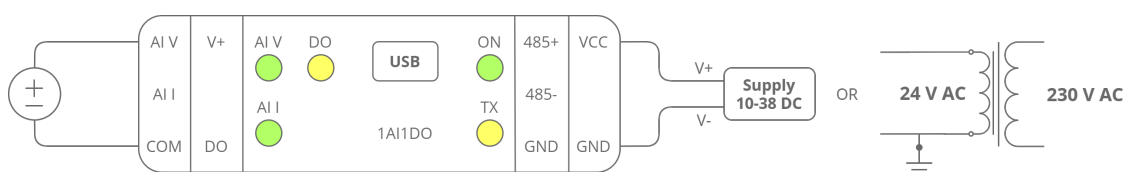
Power Supply

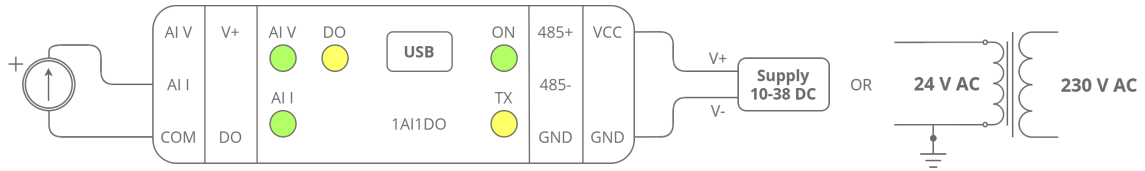


Communication

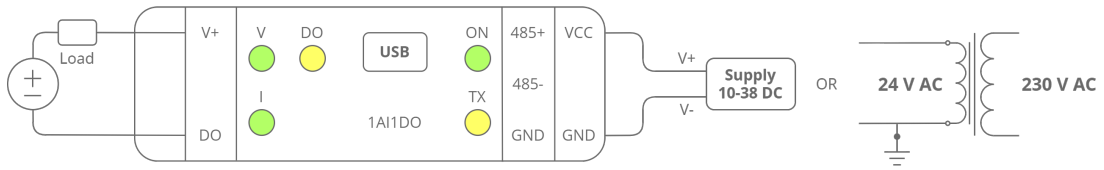
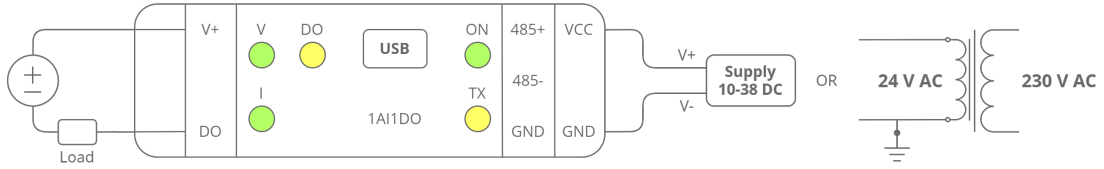


Analog Input





Digital Output



APPLICATION EXAMPLE

Switching on the light according to the measurement of the light level sensor

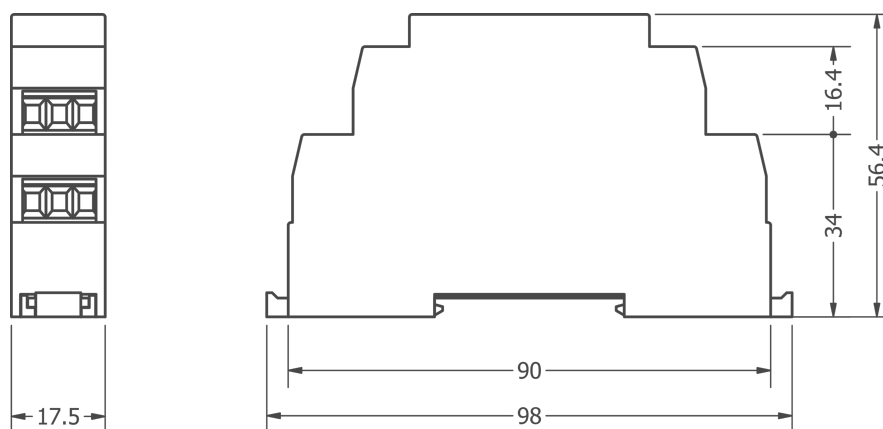


DEDICATED SOFTWARE



SfAR Configurator - Windows-based freeware configuration tool made for Modbus I/O modules.

DIMENSIONS [mm]



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