SfAR-1M-2DI1AO

Modbus I/O Module

MODEL	DESCRIPTION
SfAR-1M-2DI1AO	Modbus I/O module with 2 digital inputs and 1 analog output

APPLICATION AND USE

SfAR-1M-2DI1AO is designed for connecting inverters without Modbus support into the Modbus network. The module has 2 digital inputs (DI) and 1 analog output (AO). Digital inputs can work as fast pulse counters with up to 1000 counts per sec, or timers measuring the ON state, and also offering a possibility to connect an encoder. Digital inputs support both PNP and NPN input types. The analog output can work as 0-10 V DC, 0-20 mA, or 4-20 mA output. All outputs are isolated from the logic with opto-isolators. 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 additional power supply.

FEATURES

- 2 opto-isolated digital inputs
- 1 analog output with 12-bit resolution
- Each DI can work as 32-bit pulse counter or time counter
- Support for encoder
- Voltage and current ranges
- 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

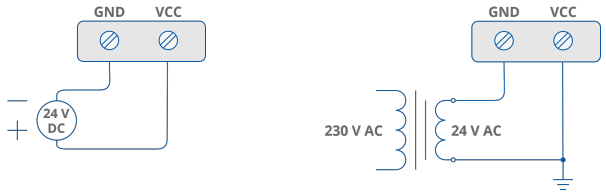
DESCRIPTION		SfAR-1M-2DI1AO
Power supply	Voltage	10-38 V DC; 10-28 V AC
Digital input	Number of inputs	2
	Type	PNP or NPN transistor inputs Fast pulse counter up to 1 kHz Timer Encoder support

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

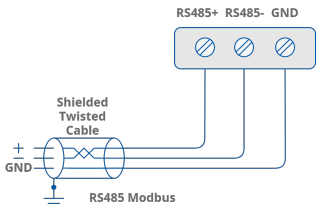
DESCRIPTION		SfAR-1M-2DI1AO
Analog output	Number of outputs	1
	Voltage output	0-10 V DC Resolution: 1.5 mV Maximum current load: 0-10 V 50 mA Accuracy: ± 2%
	Current output	0-20 mA (resolution 5 µA) 4-20 mA (value in ‰ – 1000 steps) (resolution 16 µA) Maximum resistance: 500 Ohm Accuracy: ±1%
	Output resolution	12-bit
	Processing time	16 ms/channel
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 mm² (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

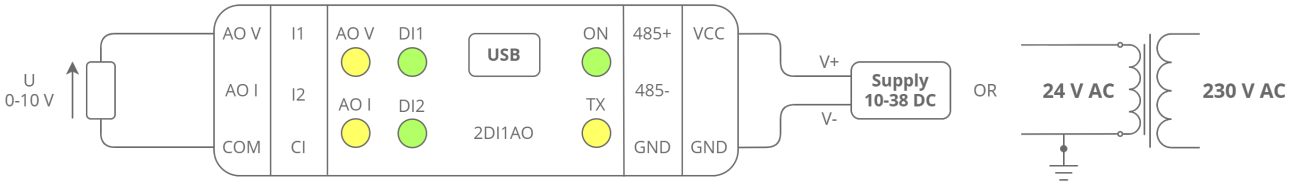
Power Supply



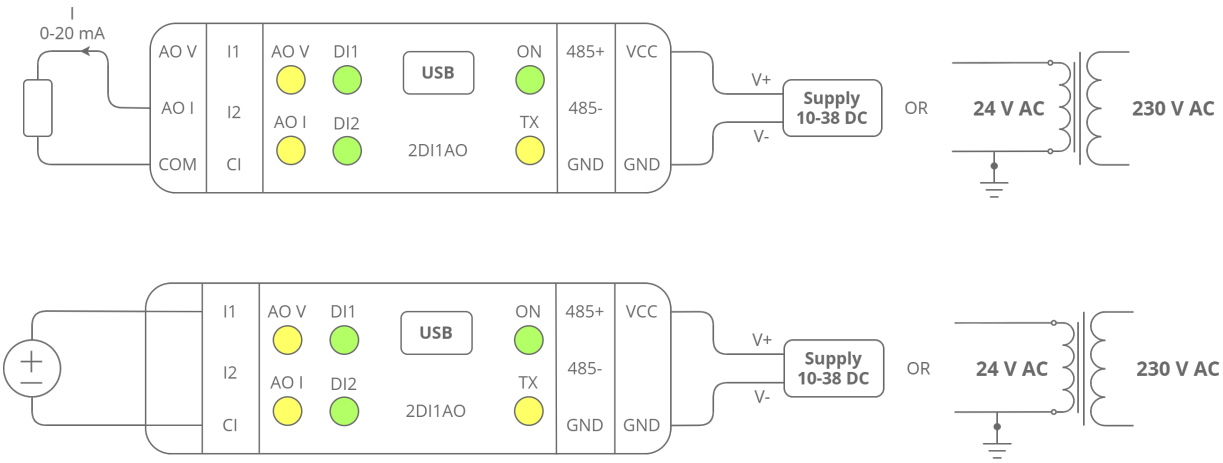
Communication



Digital Input

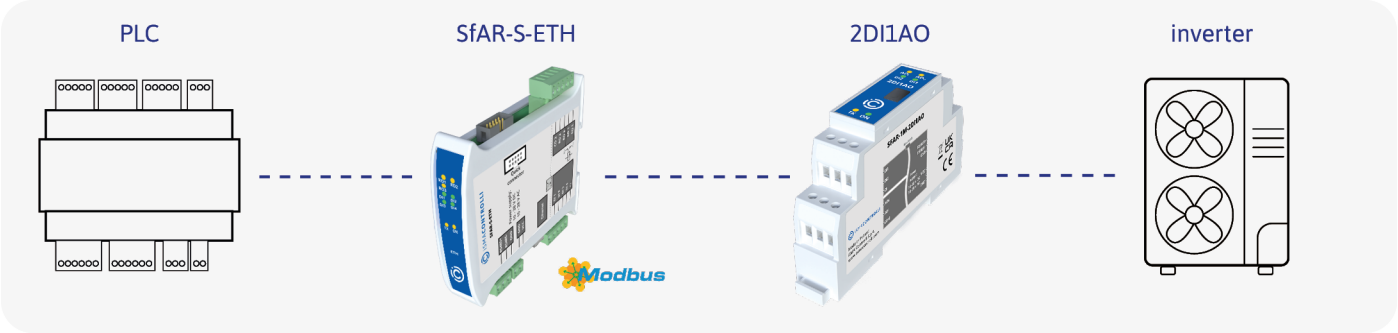


Analog Output



APPLICATION EXAMPLE

Connection of inverter without built-in Modbus to Modbus network



DEDICATED SOFTWARE

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

DIMENSIONS [mm]