

MOD-AO8 Modbus Analogue Output Modules

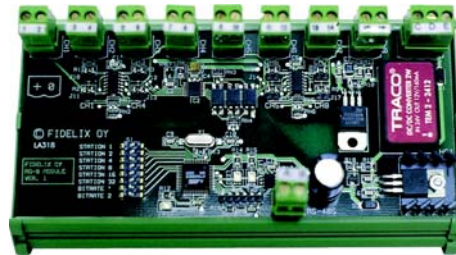
MOD-AO8 8-Channel Analog Output Module is used to generate voltage controlling signals. It can be used to generate 0..10Vdc or 2..10Vdc signal levels.

All outputs are short circuit protected. If serial communication between module and outstation (Modbus master) fails, each output can preserve their current states or get preset values as programmed.

All important values are saved to eeprom during power off. Module address and communication speed is selected via bit switch.

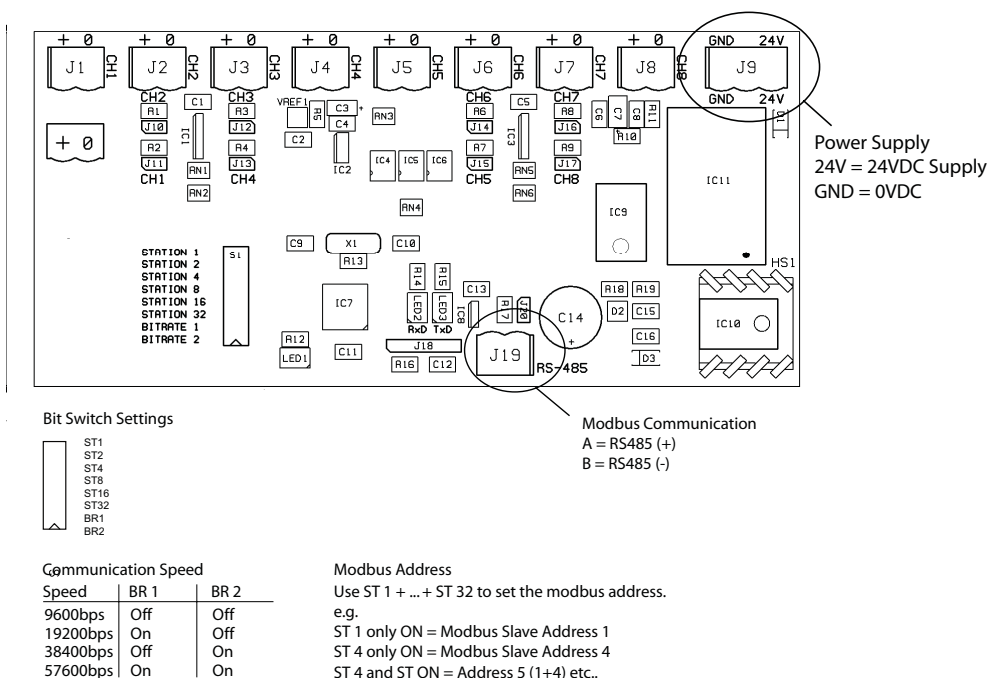
Features

- 8 Analogue 0..10Vdc Outputs
- Galvanically Isolated Outputs
- 10-Bit Digital to Analogue converter
- Programmable Preset Values
- Plug-in Terminals
- DIN-rail Mounting
- RS-485 Communication using Modbus RTU



Model Type	Model	Description
	MOD-AO8	8 Analogue 0..10Vdc Output Module, Modbus Communications.
Technical Data	Operating Voltage	20..26Vdc
	Power Consumption	45..60mA
	Communication	Modbus RTU
	Communication Speed	9600 bps, 19200 bps, 38400 bps or 57600 bps
	Address Range	1..63 via bit switch
	Maximum Output Voltage	10Vdc
	Maximum Output Current	20 mA
	Operating Temp	0..50°C
Dimensions	W160 x H95 x D65 mm	

Wiring Details



Modbus Registers

The MOD-AO8 is a Modbus RTU slave. Via the Modbus communication each analogue output can be set to the required position. The communication speed and address are selectable via bit switches. The other settings for the Modbus communication are: 8 data bits, Parity None and 1 Stop Bit.

For further information on the Modbus registers please refer to the *Modbus IO-Module Configuration Guide*.

Register	Parameter Description	Data Type	Value	Range
FUNCTION CODE 06 - WRITE SINGLE HOLDING REGISTER				
40001	Analogue Output 1	16 bit	0..1023 ^{*1}	0..10.0V
40002	Analogue Output 2	16 bit	0..1023 ^{*1}	0..10.0V
40003	Analogue Output 3	16 bit	0..1023 ^{*1}	0..10.0V
40004	Analogue Output 4	16 bit	0..1023 ^{*1}	0..10.0V
40005	Analogue Output 5	16 bit	0..1023 ^{*1}	0..10.0V
40006	Analogue Output 6	16 bit	0..1023 ^{*1}	0..10.0V
40007	Analogue Output 7	16 bit	0..1023 ^{*1}	0..10.0V
40008	Analogue Output 8	16 bit	0..1023 ^{*1}	0..10.0V
40010	Analogue Output 1 Preset Register	16 bit	0..1023 ^{*2}	0..10.0V
40011	Analogue Output 2 Preset Register	16 bit	0..1023 ^{*2}	0..10.0V
40012	Analogue Output 3 Preset Register	16 bit	0..1023 ^{*2}	0..10.0V
40013	Analogue Output 4 Preset Register	16 bit	0..1023 ^{*2}	0..10.0V
40014	Analogue Output 5 Preset Register	16 bit	0..1023 ^{*2}	0..10.0V
40015	Analogue Output 6 Preset Register	16 bit	0..1023 ^{*2}	0..10.0V
40016	Analogue Output 7 Preset Register	16 bit	0..1023 ^{*2}	0..10.0V
40017	Analogue Output 8 Preset Register	16 bit	0..1023 ^{*2}	0..10.0V

NOTE 1: If the analogue output preset register bit 15 has been set (see Note 2) and if the module will not receive Modbus update from the Modbus master, the analogue output is set after 30 seconds to the value configured in the corresponding preset register.

NOTE 2: Bit 15 (value = 32768) is required to be set to enable the preset register value be used in case of power failure or communication failure. If not set the current output value is preserved in case of communication failure. Communication failure mode is activated if the module does not receive any Modbus messages within 30 seconds.

Example: To set Analogue Output 1 Preset Value to 10V write to the register 1023 + 32768 = 33791