



FdxCompact AO-8-C

8 channel analogue output module

- Screwless installation with click-on DIN-rail communication bus and power connectors
- Push-in spring connectors for cables
- Individually detachable terminal blocks per channel



Connect and control

The 8 channel analogue output module is used to generate voltage control signals.

Its 8 individually configurable channels are short-circuit protected, can send out precise voltages from 0 to 10 V, and have parametrisable safeguard values in case of a rupture in communication from a serial Modbus master FX-controller.

Technical features

Dimensions:	134 x 78 x 19 mm
Installation width:	22.5 mm
Weight:	90 gr
Operating temperature:	0 to +40°C
Recommended power supply:	25 mA @ 24VDC (+/- 10%)
Output current & voltage:	max. 20 mA @ 10 V (max.load of 500 Ω)
Communication:	Modbus RTU (RS485) at speeds up to 57600 bps

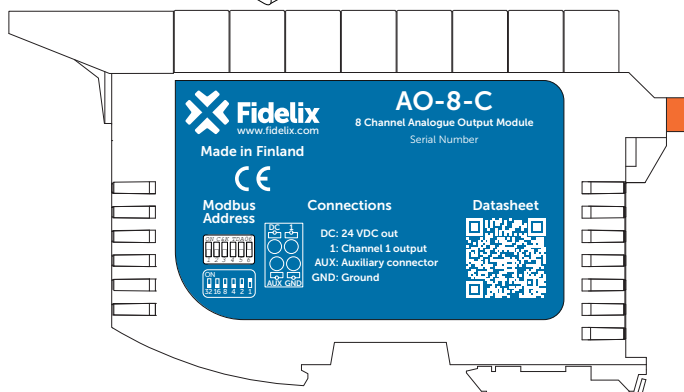
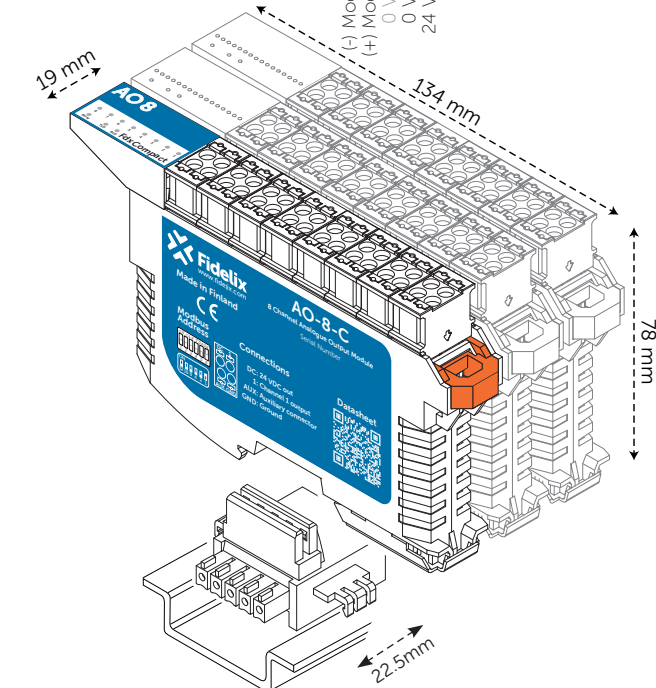
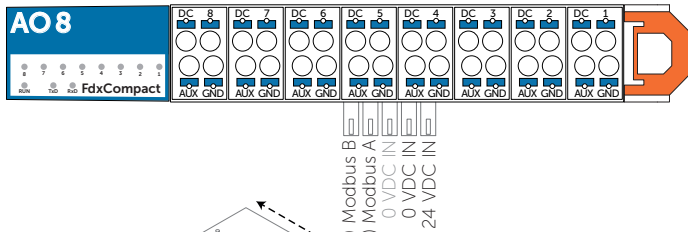
Power and communication: Power and the communication bus are connected to the AO-8-C module by clicking it onto the connector, which in its turn clicks onto the DIN rail. The FdxCompact controllers provide both natively, or you can use the connectors from the Fdx-Terminal-C set. The middle connector is internally connected to the 0 VDC IN.

Modbus address: The address of the AO-8-C module can be set from 1 to 63 by changing the position of dip-switches 1-6. Each dip-switch represents a binary value, as indicated on the module (ST1...ST32).

DIP 1 (32)	DIP 2 (16)	DIP 3 (8)	DIP 4 (4)	DIP 5 (2)	DIP 6 (1)	Modbus address
0	0	0	0	0	1	1
...
1	0	1	0	1	0	42
...
1	1	1	1	1	1	63

Modbus communication: Use no parity, 8 data bits and 1 stop bit, and the AO-8-C module will auto-detect the communication speed of the bus (9600, 19200, 38400 or 57600 bps).

Modbus loop termination: On the last module, the Modbus loop must be closed by connecting a 120 Ω resistor between the A- and the B-side of the RS-485 loop. Use the terminal that is delivered with your FdxCompact controller, or from the Fdx-Terminal-C set.



Installation: Tilt the module with the rounded corner towards the DIN-rail and then slide and click it onto the connector. As the connector is 22.5 mm wide, the small gap between modules allows for tidy and uncluttered cabling.

LEDs: The on-time of the LEDs on the module's label show the output value; from always off (0V) to always on (10V); the on-time of a blinking LED corresponds to the output value.

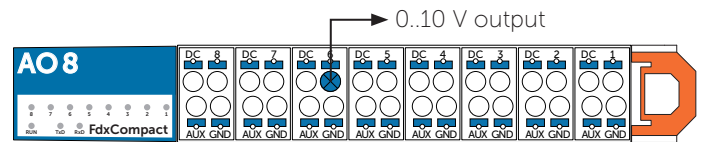
Outputs: Use analogue outputs to generate voltage controlling signals. All outputs are short circuit protected, and can be individually set to send out signals from 0 to 10V, with steps of 0.01V (In the AO point programming on an FX-controller, this is represented with a value from 0.0 to 100.0%).

The maximum output current is 20 mA at 10V, meaning a maximum load of 500 Ω. Because taking a lot of current from the module for a long period of time can cause the module to heat up, it is not recommended to put any heavy load on the module for other purposes than testing or during commissioning.

Default value without communication: Each channel can be configured to preserve its last output value, or to change to a programmable value in case of a rupture in the communication with the serial Modbus master FX-controller of more than 120 seconds.

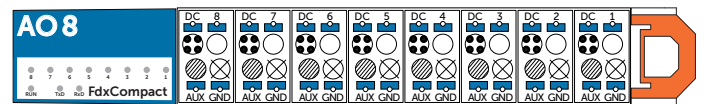
This behaviour is programmed in the AO point programming on an FX-controller.

Connecting outputs: The outgoing 0 to 10V signal comes from the numbered connectors (channel OUT).



DC and GND connectors: The ground and 24 VDC supplied through the bottom from the connectors inside the DIN-rail are also available at each terminal block through the DC and GND labelled connectors.

AUX connectors: The auxiliary connectors (AUX) are a galvanically isolated loop, all connected to each other. These connectors can be used to send for instance an external AC supply voltage to your field devices.



- DC loop: All connected in one loop to the power supply
- ▨ Auxiliary loop: All connected in one galvanically isolated loop
- × Ground loop: All connected in one loop to the power supply

Power consumption: The module is to be powered with 24 VDC and consumes 10 mA in stand-by.

Each channel can use up to 20 mA when the output is active. It is therefore recommended to use a power supply providing at least 90 mA.

Firmware compatibility: The module is supported by firmware for FX-controllers from version 12 upwards. This firmware is compatible with the FX-2030, FX-2030A and the FX-3000-C.