FX-AI-8
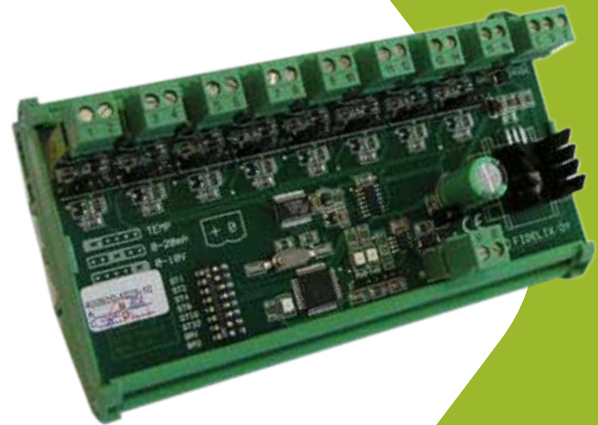## 8 channel Analog Input Module

❯ 8 analogue inputs
❯ DIN-rail mounting
❯ Selectable sensor types
❯ Individually detachable connectors

Connect and measure

The 8 channel input module is used to read input signals from active and passive sensors.
Its 8 individually configurable channels can read data from resistive sensors, current loops or voltage messages, and digital indications. Selection is done using the physical jumpers on the module.
Connect the module to one of our outstations to get reliable, accurate, precise and fast readings from your field equipment.

Technical features

Size (with DIN-rail clamps):	158mm x 90mm (x 65mm height)
Operating voltage:	20-26VDC
Operating temperature:	0 to +50°C
Supported sensor types:	Resistive (NTC, PT1000, Ni, …), 0(4)-20mA, 0(2)-10V

Modbus address: The address of the AI-8 module is set by changing the position of dip-switches 3-8. Each dip-switch represents a binary value, as indicated on the module: dip-switch 3 (ST32) = 32, dip-switch 4 (ST16) = 16, dip-switch 5 (ST8) = 8, dip-switch 6 (ST4) = 4, dip-switch 7 (ST2) = 2, dip-switch 8 (ST1) = 1.

Example: To set the Modbus address of the module to 42, set dip-switches 3, 5 and 7 to ON, and dip-switches 4,6 and 8 to OFF .
(dip-switch 3 = 32, dip-switch 5 = 8, dip-switch 7 = 2. 32+8+2 = 42)
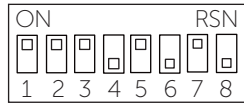
Modbus speed: The AI-8 module communicates, using the Modbus RTU protocol over a serial RS485 connection with 8 databits, no parity and 1 stop bit. To set the Modbus speed at which the module sends and receives data, set dip-switch 1 and 2 as indicated in the table on the right.

Comm. speed	Dip-switch 1	Dip-switch 2
9 600 bps	OFF	OFF
19 200 bps	OFF	ON
38 400 bps	ON	OFF
57 600 bps	ON	ON

On the last module in the Modbus loop, the loop must be closed by connecting a 120 Ω resistor between the A and the B side of the RS-485 loop. This can be done using the modules own terminating resistance by closing the built-in jumper next to the Modbus connectors.

Measurements: Supported sensor types are: resistive sensors (NTC, PT1000, Ni1000, ...), 0(4)-20mA, 0(2)-10V and digital input. The type of measurement (resistance, current, ...) is selected using the jumpers as indicated on the module:

- Connect pins 1 and 2 to use a resistive sensor or to read a digital input.
  The odd numbered connector will send out 2.5V.

- Connect pins 3 and 4 to use a current sending sensor.
  The odd numbered connector will read the incoming current.

- Connect pins 5 and 6 to use a voltage sending sensor.
  The odd numbered connector will read the incoming voltage.

The loop current for resistive sensors is 0.5 mA at1 kΩ or 0.2 mA at 10 kΩ. Analogue to digital conversion uses 20 bits.

Connection examples: