AIM600, AIM615

6-way converters 4-20 mA, 0-20 mA / RS485

FIEDLER

ELECTRONICS FOR ECOLOGY

- ***6 inputs galvanically separated from the supply voltage and the RS485 serial line***
- ***Measuring channels with ranges 0-20 mA or 4-20 mA with conversion to 0-100% of the measured value for each of the inputs***
- ***Accurate 24 bit converter***
- ***Error condition detection when measuring currents above 20.75 mA and below 3.75 mA (for 4-20 mA ranges)***
- ***Modbus RTU or FINET protocols and adjustable address for connecting multiple AIM6xx modules to one system***
- ***Low current consumption also adapted for battery-powered applications***
- ***Overvoltage protection of inputs and outputs***
- ***Compatible with FIEDLER AMS telemetry stations***

Basic description

The AIM600 and AIM615 measuring modules are used to convert up to 6 current signals 0-20 mA or 4-20 mA to the RS485 data output under the Finet or Modbus RTU protocol.

The AIM615 module contains a galvanically isolated UISO supply voltage source of 15 V DC, intended for powering connected measuring sensors and transducers. The AIM600 module allows the connection of only active current signals supplied from another voltage source.

Both converters are characterized by high measurement accuracy given by the used 24-bit converter, low self-current consumption, supply voltage adapted for power supply from 12 V battery, galvanic separation of inputs from supply voltage and RS485 communication line and high reliability of operation without mechanical setting elements.

Measuring inputs IN1 to IN6

All 6 measuring inputs IN1 to IN6 are factory set to measure current in the range of 4-20 mA. Under the Modbus RTU protocol, the measuring range of the inputs can be reset to 0-20 mA. The actual measuring range of the transmitter allows to process current signals in the range of 0 to 22 mA.

Measuring channels K1 to K6

Each of the inputs IN1 to IN6 is assigned 1 measuring channel K1 to K6. The AIM6xx modules thus contain 6 measuring channels accessible via the RS485 bus under the Finet or Modbus RTU protocols. The value of each channel takes values in the range 0 to 100% according to the set measuring range 0-20 mA (0 mA = 0%) or 4-20 mA (4 mA = 0%).

Error messages:

An increase in the measured current above 20.75 mA is signaled on the respective channel by error code E25.

For the measuring range of 4-20 mA, a current drop below 3.75 mA is also signaled by this error code. An input current of less than 3 mA (or disconnection of the input from the signal source) is signaled by error code E13.

Examples of use

- Extension of the number of analog inputs of measuring stations and telemetry stations
- Connection of an analog signal to an optical line or radio network
- Addition of simple PLC and control units with the required number of analog inputs

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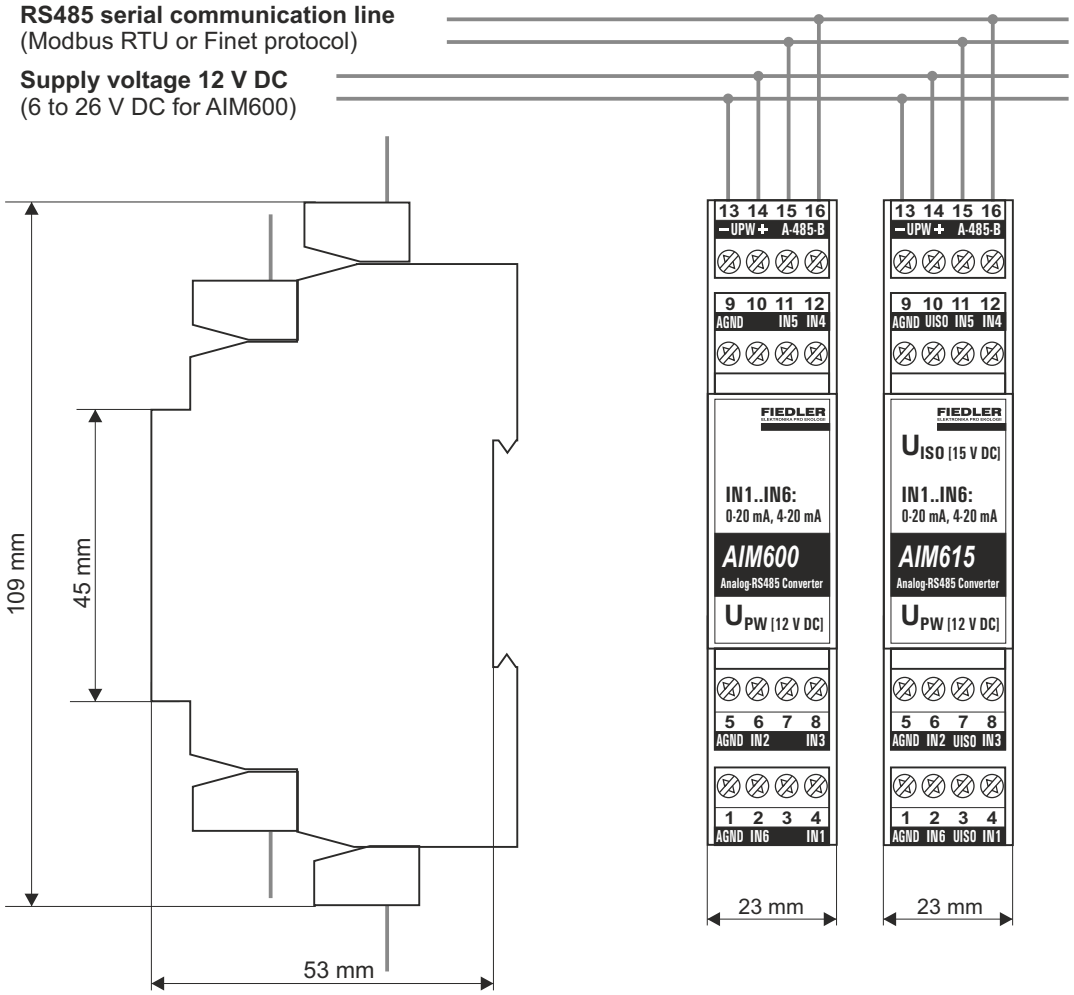
6-way converters 4-20 mA, 0-20 mA / RS485 Modbus RTU

Terminal connections and dimensions of AIM615, AIM600 converters



Technical parameters

	AIM600	AIM615
Inputs:	6 (IN 1 to IN 6)	
Measuring ranges:	4 - 20 mA (0 - 20 mA)	
Measurement error:	<± 0.1% of range	
Measurement time of one channel:	<0.3 s	
Serial input resistance of inputs IN1 to IN6:	50 R; tk: 15 ppm	
Output:	RS485, connecting cable length up to 500 m	
Communication protocols:	Modbus RTU or FINET,	
Default communication address:	60 + (0 to 16 according to the setting of the mechanical switch on the board)	
Measuring channels:	K1 to K6	
Measuring channel range:	0 .. 100% of measuring range	
Measuring channel format:	float (for Modbus RTU and for FINET)	
Supply voltage:	6 to 26 V DC	11 to 13 V DC
Current consumption:	<15 mA	<200 mA
UISO output voltage:	---	15 V DC (galvanic isolation 1000 V)
Mechanical dimensions (l x w x h):	109 mm x 23 mm x 57 mm	
Weight:	75 g	77 g
Operating and storage temperature:	-40 °C to +80 °C	
Mounting method:	DIN rail 35 mm	
Degree of protection:	IP20	

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