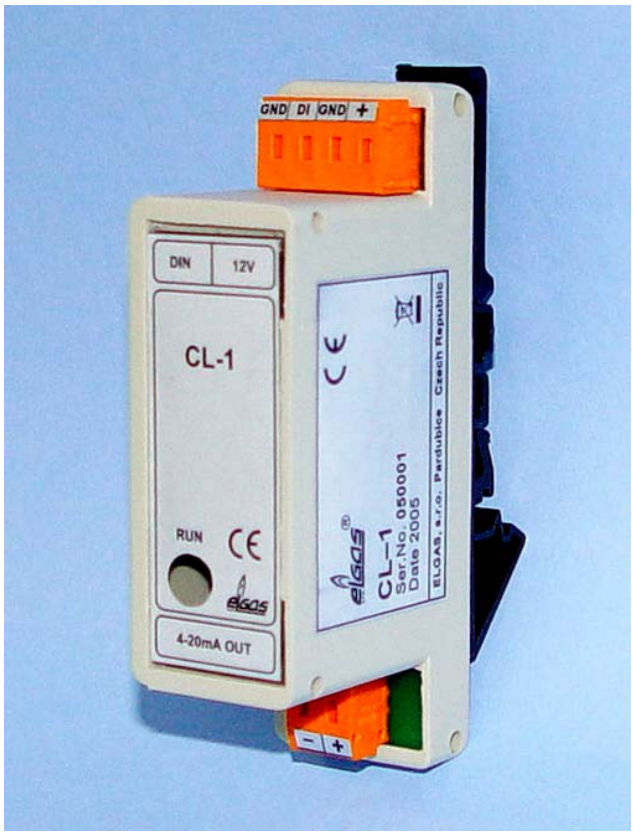
CL-1

Module of current loop

Technical description

Manual



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Content

1 Technical description

Module CL-1 is a convertor of digital signal on current output 4-20 mA. Module may be connected to the digital outputs of gas volume conversion device ELCOR-2 and microELCOR-2. Gas volume conversion devices may generate continuous current output through CL-1, which is proportional to measured quantities (for example pressure, temperature, flow rate). It is possible to connect up to 4 analog outputs to the gas volume conversion device ELCOR-2.

Module has got two galvanic separated circuits – circuit of digital input and circuit of current output. These circuits require external power supply. It concerns about passive transmitter from the point of current line.

Output current is controled in the range 3.5 mA – 24 mA. Information about value of output current is transfered by secured digital communication into module. Period of updating for output current is given by setting of connected corrector – value of output current is set at the moment of received data from corrector. Such moment is indicated on module CL-1 by short light up of green LED diode.

Value of output current may be set through configuration switch on value 3.5 mA or 24 mA after switch on of the feeding. This value will remain on the output till digital input will receive new data from corrector.

Module CL-1 is delivered in plastic box for assembly on DIN rail 35 mm. CL-1 is determined for assembly into switchboard.

2 Indication of module state

For indication of module state is determined green LED diode .

- Status of module

  Status of module is indicated through LED diode for time of first 4 seconds after connection of voltage feeding to the clamps of current output (clamps 4-20 mA OUT). Whether module is working properly (OK), then LED diode during 4 seconds lights up after start up. Whether module has got an error, then LED diode will 3x quickly light up after switch on of the power supply.

- Connection into current line

  LED diode lights up after status identification (after expiration about 4 seconds from connection of voltage feeding to the clamps of current output) till the updating moment of output current value, when diode will shortly fade and again light up.

- Updating of output current value

  LED diode will switch off shortly (about 100 ms) at the moment, when module will receive valid data on digital input. New information about output current is received by device. In such moment is value of output current updated.

3 Configuration of module

Setting of module can be performed through DIP switch, which is available after opening of the box. Box is assembled with two side parts. For opening of the box should be used suitable tool (for example screwdriver) and with its help can be separated both parts from each other. During such operation should be paid attention that box will not be damaged.

Switch no. 1 is determined for setting of output current after switch on of power supply for current output (OFF – 3.5 mA, ON - 24 mA)

Switch no. 2 is not used

Switch no. 3 is not used

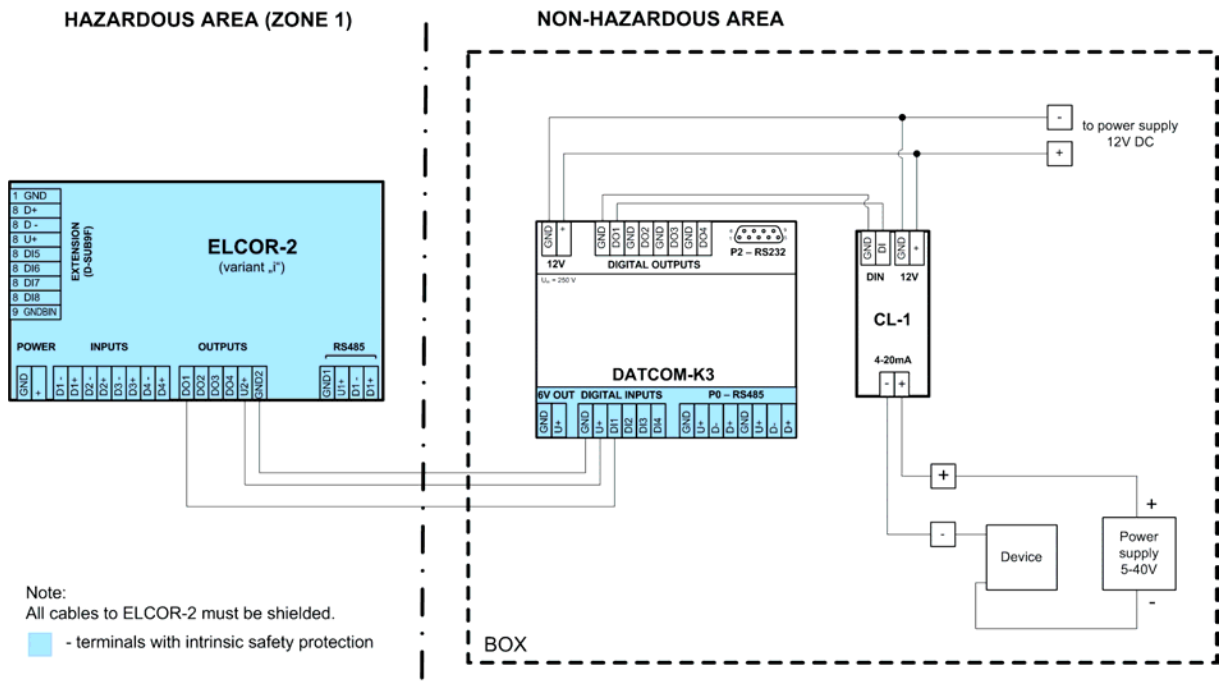
Switch no. 4 indicates firmware version – after switching from position OFF to ON LED diode informs about firmware version (for example: 1.01 version - LED diode will once light up very shortly, 1.02 version - LED diode will twice light up very shortly, and so on)

4 Technical data

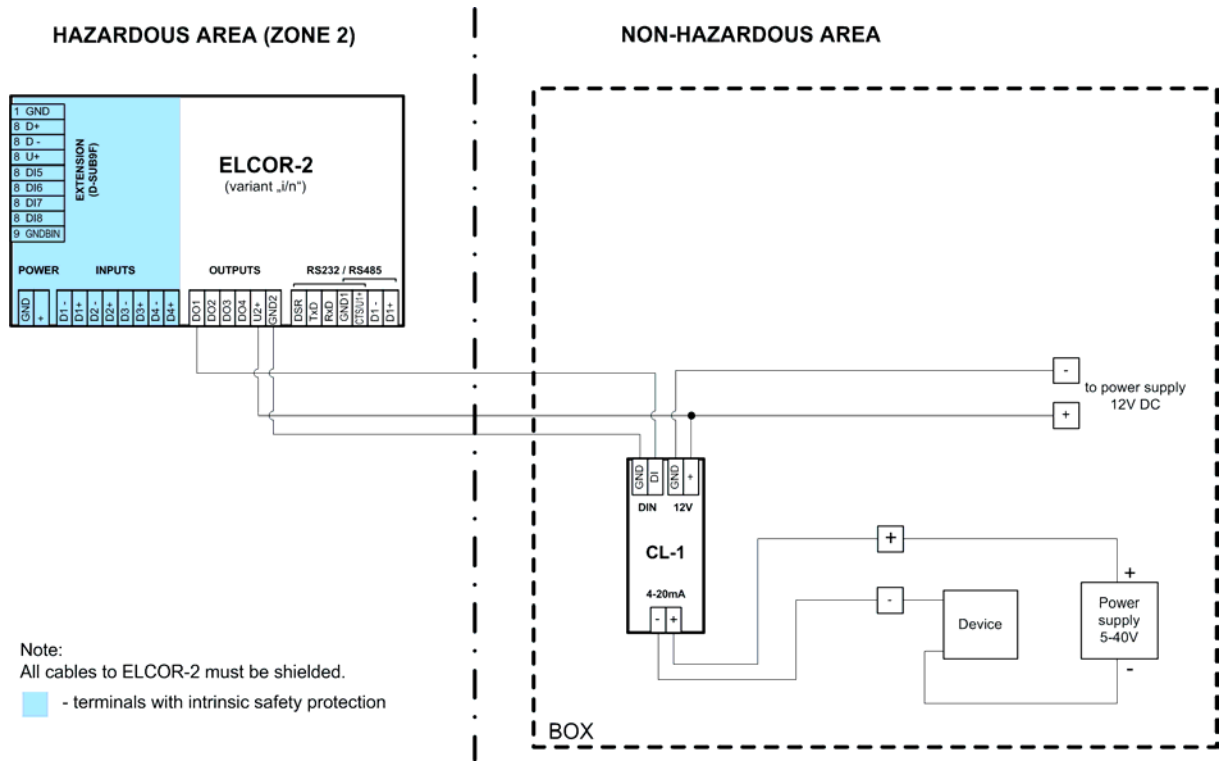
Voltage feeding of digital input (clamps 12 V)	
Range of voltage feeding	3 to 15 V
Current consumption	max. 2 mA
Maximum length of cable	30 m
Digital input (clamps DI)	
Connecting of digital output of corrector, resp. digital output of intrinsically safe separator	
Maximum length of cable	30 m
Current output (clamps 4 - 20 mA OUT)	
Range of voltage feeding	5 V to 40 V
Range of output current	3.5 – 24 mA
Resolution	16 bits
Accuracy	0.25 % from range (at 25 °C)
Temperature error	50 ppm/°C
Galvanic separation from circuits of digital input	
Mechanical configuration	
Plastic box	assembly on DIN rail

Dimensions (w x h x d)	27 x 42 x 96 mm (height without holder)
Clamps	1.5 mm^2 for connection of cables
Protection class	IP20
Ambient temperature	-25 °C to +60 °C
Storage temperature	-40 °C to +85 °C
Humidity	0 % to 95 % relative, without condensation
Weight	0.1 kg

5 Example of connection to digital output of corrector



*p*icture no. 1 ELCOR-2 „i" (microELCOR-2) - *connection through intrinsically safe separator*



picture no. 2 ELCOR-2 „i/n" – direct connection

Module of current loop CL-1		
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