Galvanic isolator with passive current output

Product features

- 4-20 mA passive current output
- Selectable input ranges with front panel switches:
  0-20 mA / 4-20 mA / 0-10 V / 2-10 V
- 3 way isolation (input/output/power supply)
- 20 VDC transmitter supply on the input for two wire transmitters
- Non-linearity: < 0.01%
- Temperature-coefficient: 25 ppm / °C typ.
- 24 V ± 10% DC,
  230 V ± 10% AC/DC power supply
- TS-35 rail mounting, 12.5 mm width

Type designation

DT1102 IP	24 VDC POWER SUPPLY
DT1102 IP PS	230 V AC/DC POWER SUPPLY

The **DT1102 IP... galvanic isolators with passive current output** are necessary in cases where signal sources with active (voltage, current) output must be connected to a signal processor with active input.
Active input signal processors are used to receive 4-20 mA two-wire (passive) transmitters, their input powers the transmitter connected to them. The passive current output of the DT1102 IP matches the input of this type of signal processor, solving the connection of active output signal sources.
The DT 1102 IP has three-way isolation, i.e. the input, output and power supply are galvanically isolated from each other. Continuous isolation voltage is 250 VAC_{eff}.
The input ranges are selectable with front panel switches:

- 0-20 mA / 4-20 mA / 0-10 V / 2-10 V

A 20 VDC / 24 mA transmitter power supply is available at the input for powering passive 4-20 mA two-wire transmitters.
The device has two inputs:

- current: 0 (4) mA – 20 mA*
- voltage: 0(2) V – 10 V*

* only one input can be used at the same time

The transmission characteristics are exceptionally good: non-linearity < 0.01%, temperature factor < 25 ppm / °C typically.
The LED indicators on the front panel provide information on the presence of power supply and possible error conditions.

The device can be ordered with two types of power supply:

- DT1102 IP: 24 V ± 10% DC,
- DT1102 IP PS: 230 V ± 10% AC/DC

The device has a 12.5 mm wide terminal box design and can be snapped onto a TS-35 rail.

H-1148 Budapest, Fogarasi út 5., Hungary
Tel.: +361 460-1000 Fax: +361 460-1001 e-mail: datcon@datcon.hu www.datcon.eu
DATCON IPARI ELEKTRONIKAI KFT.

Technical specification

Safety data:	
The connection terminals of the supply voltages are isolated from each other, the isolation is in compliance with the standard EN 61010-1, taking into consideration the following:	
Pollution level:	2
Measurement category:	II
Input parameters:	
Input signal:	DC current or DC voltage
Ranges:	0-20 mA, 4-20 mA, 0-10 V, 2-10 V
Overload:	400 mA (current input) 100 V (voltage input)
Input resistance (current input):	10 ohm
Input resistance (voltage input):	102 kohm
Transmitter power supply:	
Voltage:	> 20 V (20 mA load)
Overcurrent protection:	25 mA
Output parameters:	
Output signal:	4-20 mA passive curent
Ranges:	4-20 mA
Overdriving ability:	22.5 mA
Error of output @ 25 ºC ±2 ºC:	0.1 °C + 0.05% (max.)
Temperature coefficient:	< 20 ppm / °C (typ.); < 50 ppm / °C (max.)
Supply-voltage effect:	practically zero
Settling time:	100 ms
Galvanic isolation:	
Working voltage:	250 V_{eff} (between the input, the output and the power supply terminals) 2500 VDC (1 min.)
Power supply:	
Supply voltage:	24 V ± 10% DC (DT1102 IP) 230 V ± 10% AC/DC (DT1102 IP PS)
Power consumption:	1.6 W (DT1102 IP) 2.4 W / 3.8 VA (DT1102 IP PS)
Ambient conditions:	
Operating temperature range:	0-50 °C (-20 - +50 °C for customer request)
Relative humidity:	90% (max., non-condensing)
Place of installation:	cabinet
Mounting position:	vertical (horizontal rail position)
Electromagnetic compatibility (EMC): Accordance with the standard EN 61326-1	
Noise emission:	Group 1, Class B
Immunity:	industrial area
ESD:	4 kV / 8 kV surface / air
BURST:	2 kV / 1 kV power / signal
SURGE:	1 kV
Conducted RF immunity:	3 V_{eff}
Power failure bypass:	20 ms @ 190-250 VAC
General data:	
Housing:	TS-35 rail mounting housing material: polyamide PA6.6
Connection:	Pluggable screw-terminal
Connecting cable:	1.5 mm² (max.)
Dimensions:	12.5 × 108 × 114 mm (width × height × depth)
Weight:	0.15 kg
Protection:	IP 20

Detailed information see in operating instructions. The Manufacturer maintans the right to change the technical data!

2017.12.14.

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