Switch Selectable Input-Output Galvanic Isolator

Product features

- Selectable input/output ranges with front panel switches:
  0-20 mA / 4-20 mA / 0-10 V / 2-10 V input
  0-20 mA / 4-20 mA / 0-10 V / 2-10 V output
- 3 way isolation
- 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	24 VDC POWER SUPPLY
DT1102 PS	230 V AC/DC POWER SUPPLY

The **DT1102 (PS) Switch Selectable Input-Output Galvanic Isolator** provides signal transmission and conversion between DC current or DC voltage signal source and signal processing units.
The instruments feature complete 3-way isolation: the input, the output and the power supply are isolated from each other.
Continuous isolation voltage is 250 VAC_{eff}, between the input, the output and the power supply.
The instrument provides 20 VDC / 24 mA on the input for supplying passive two wire transmitters.
The DT1102 is particularly advantageous in industrial plants where different signal levels are in use.
The input/output ranges are selectable with front panel switches:

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

The instruments has two inputs:

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

The instruments has two outputs:

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

* it may be use only one input and one output at a time.

There are two power supply version: DT1102: 24 V ± 10% DC, DT1102 PS: 230 V ± 10% AC/DC.
The transmission parameters are outstandingly good: the non-linearity is < 0.01%, and the temperature coefficient is < 25 ppm / °C TYP.
Front panel LED's indicate the power on state and the error states (input / output overrange, internal errors, ...).

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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:	DC current or DC voltage
Ranges:	0-20 mA, 4-20 mA (current output) 0-10 V, 2-10 V (voltage output)
Overdriving ability:	22.5 mA (current output) 11 V (voltage output)
Load resistance:	≤ 650 ohm (current output) ≥ 500 ohm (voltage output)
Output resistance:	> 3 Mohm (current output) < 0.5 ohm (voltage output)
Error of output:	±0.05% @ 25 ºC ±2 ºC
Non-linearity:	0.01% (max.)
Temperature coefficient:	tip.: 25 ppm / ºC; max.: 50 ppm / ºC
Supply-voltage effect:	practically zero
Settling time:	250 ms (90%) / 300 ms (99%)
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) 230 V ± 10% AC/DC (DT1102 PS)
Power consumption:	1.6 W (DT1102) 2.4 W / 3.8 VA (DT1102 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!

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