

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 V transmitter supply on the input for two wire transmitters
- Non-linearity: <0,01%
- Temperature-coefficient: 25 ppm / °C typ.
- 20-50 VDC / 19-35 VAC,
90-250 V AC/DC power supply
- TS-35 rail mounting, 12,5 mm width



Type designation

DT1102 19-50 VDC / 19-35 VAC power supply

DT1102 PS 90-250 V AC/DC power supply

DT1102 (PS) Switch Selectable Input-Output Galvanic Isolator provide 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*

current: 0 (4) mA - 20 mA

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:	20-50 VDC / 19-35 VAC
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DT1102 PS: 90-250 V AC/DC

The transmission parameters are outstandingly good: the nonlinearity is $< 0,01 \%$, and the temperature coefficient is $< 25 \text{ ppm} / ^\circ\text{C}$ typical.

Front panel LED's indicate the power on state and the error states (input / output overrange, internal errors, ...).

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, 2-10V
Overload:	400 mA (current input) 100 V (voltage input)
Input resistencia (current input) :	10 ohm
Input resistencia (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:	>5 Mohm (current output) <0.5 ohm (voltage output)
Error of output @ 25 °C ±2 °C:	±0,05%
Nonlinearity:	0,01 % (max.)
Temperature coefficient:	tip.: 25 ppm / °C; max.: 50 ppm / °C
Supply-voltage effect:	practically zero
Settling time:	250 ms (90 %) / 300 ms (99 %)

Galvanic isolation:

Working Voltage:	250 Veff (between the input, the output and the power supply terminals)
Test voltage:	2500 VDC (1 min.)

Power supply:

Supply voltage:	DT1102: 20-50 VDC / 19-35 VAC
	DT1102 PS: 90-250 V AC/DC
Power consumption:	DT1102: ≤ 1,6 W / 2,2 VA
	DT1102 PS: ≤ 1,8 W / 2.4 VA

Ambient conditions:

Operating temperature range:	0-50°C
Storage temperature range:	-20 - +70 °C
Relative humidity:	90 % (max., non-condensing)
Place of installation:	cabinet
Mounting position:	vertical (horizontal rail position)

Electromagnetic compatibility (EMC)

Accordance with the standard EN 61326-1:2007

Emission: MSZ EN 55011:2000-A- class

Immunity:

ESD:	4 kV/8 kV surface / air
BURST:	2 kV/1 kV power / signal
SURGE:	1 kV
Conducted RF immunity:	3 Veff
Power failure bypass:	20 ms @ 190-250 VAC

General data:

Housing:	TS-35 rail mounting housing material: polyamide PA6.6
Fireproof class:	V2-V0 / UL94
Connection:	Pluggable screw-terminal
Connecting cable:	1,5 mm ²
Dimensions:	12,5 x 108 x 114 mm (width x height x depth)
Mass:	0,15 kg
Ingress Protection (EN 60529):	IP 20 (MSZ EN 60529)

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