

Intrinsically Safe Isolators / Power Supplies

Product features

- 0-20 mA / 4-20 mA / 0-10 V inputs
- 0-20 mA / 4-20 mA / 0-10 V outputs
- 17 VDC / 18 VDC transmitter supply
- Non-linearity < 0.01%
- Temperature-coefficient < 50 ppm / °C
- 19-29 VDC supply voltage
- TS-35 rail mounting, 12.5 mm width
- 18 different types



Type Designation

		Output		
		I0	I4	U10
		0-20 mA	4-20 mA	0-10 V
Input	I0	0-20 mA	○ ●	○ ●
	I4	4-20 mA	○ ●	○ ●
	U10	0-10 V	○ ●	○ ●

DT1300	□ □ □	18	18 VDC Transmitter PS
DT1300	□ □ □	17	17 VDC Transmitter PS

The safety data of 17 VDC / 18 VDC transmitter-supply significantly differ!

The **DT1300 ... Intrinsically Safe Isolators / Power Supplies** provide signal transmission between transmitters operate in zone 0, zone 1 potentially explosive area and the signal processing units operate in the safe area.

The **DT1300 ...** family galvanically isolate the input, the output and the power supply.

The intrinsically safe input signal may be 0-20 mA, 4-20 mA, 0-10 V, the output signal also may be 0-20 mA, 4-20 mA, 0-10 V.

The isolators available with two different transmitter supplies (17 VDC or 18 VDC). The safety data these two types differ considerably from each other, thus they can be flexibly matched to the various transmitters. The transmission parameters of the isolators are outstandingly good: the non-linearity is <0.01% and the temperature coefficient is <50 ppm / °C.

The supply voltage range is 19-29 VDC, thus the isolators are insensitive to the supply voltage change.

Intrinsic safety data:

Certification: BKI 04 ATEX 114 X
 Protection marking: Ex II (1) GD [EEx ia] IIC (-20°C <Ta< +50°C)

Safety data:

Type	Uo [V]	Io [mA]	Po [mW]	IIC		IIB	
				Co [nF]	Lo [mH]	Co [nF]	Lo [mH]
DT1300 ...18	26	95	620	88	3	680	6
DT1300 ...17	21	160	850	165	1	1000	5

Um: 250 Veff

Input parameters:

Input signal: DC current or DC voltage
 Ranges: see the table on the previous page
 Input resistance (current input): 68 ohm
 Input resistance (voltage input): 1 Mohm
 Overdrive: 5%

Transmitter power supply:

DT1300 ...18: 17.5 VDC @ 20 mA load
 DT1300 ...17: 16.5 VDC @ 20 mA load

Output parameters:

Output type: DC current or DC voltage
 Ranges: see the table on the previous page
 Burden (current output): 800 ohm (max.)
 Load (voltage output): 500 ohm (min.)
 Error: 0.05% @ Ta = 23°C ± 2°C
 Non-linearity: 0.01% (max.)
 Temperature-coefficient: 50 ppm / °C (max.)
 Supply-voltage effect: practically zero
 Response time: 10 ms (10-90%)

Galvanic isolation:

Operating isolation voltage: 250 Veff (between the input, the output, and the supply voltage terminals)
 Test voltage: 2500 VDC

Power supply:

Supply voltage: 19-29 VDC
 Consumption: 2.2 W

Ambient conditions:

Operating temperature range: -20°C-50°C
 Relative humidity: 90% (max., non-condensing)
 Place of installation: safe area, cabinet
 Installation: with 5 mm space

Electromagnetic compatibility (EMC)

accordance with the standard EN 61326:2000:

Immunity: -B- criterion
 Noise emission: -A- class

General data:

Housing: terminal assembly box, rail mounting on TS-35 rail, material: polyamide PA6.6
 Connection: plug-in screw terminal
 Connection cable: 0.25-2.5 mm²
 Dimensions / weight: 12.5 x 99 x 115 mm (width x height x depth) / 0.15 kg
 Protection: IP 20

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