

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

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

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

The DT1300 ... Intrinsic 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.

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

Intrinsic safety data:

Certification: BKI 14 ATEX 0013
 Protection marking:  II (1)G [Ex ia Ga] IIC / IIB (-20 °C < Ta < +50 °C)
 II (1)D [Ex ia Da] IIIC (-20 °C < Ta < +50 °C)

Safety data:

Type	U _o [V]	I _o [mA]	P _o [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

U_m: 250 V_{eff}

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.) at 17.5 V transducer supply
 600 ohm (max.) at 16.5 V transducer supply
 Load (voltage output): 500 ohm
 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 V_{eff} (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 - +50 °C
 Relative humidity: 90% (max., non-condensing)
 Place of installation: safe area, cabinet
 Installation: with 5 mm space, vertical position

Electromagnetic compatibility (EMC)

accordance with the standard EN 61326-1

Immunity: industrial area
 Noise emission: Group 1, Class B

General data:

Housing: terminal assembly box, rail mounting on TS-35 rail,
 material: polyamide PA6.6
 Connection: plug-in screw terminal
 Connection cable: 0.25-1.5 mm² (max.)
 Dimensions: 12.5 × 99 × 115 mm (width × height × depth)
 Weight: 0.15 kg
 Protection: IP 20

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