

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
- Non-linearity < 0.01%
- Temperature-coefficient < 50 ppm / °C
- 19-29 VDC supply voltage
- TS-35 rail mounting, 12.5 mm width
- 9 different types



Type designation

DT1315			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	●	●	●

The **DT1315 ... Intrinsically Safe Output Isolators** provide signal transmission between the control equipment and signal sources located in the safe area and actuators, current-to-pressure converters, field process indicators, operate in zone 0, zone 1 potentially explosive area. The units galvanically isolate the input, the output and the power supply. The input signal may be 0-20 mA, 4-20 mA, 0-10 V, the intrinsically safe output signal also may be 0-20 mA, 4-20 mA, 0-10 V. 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 15 ATEX 0022 X
 Protection marking: Ex II (1)G [Ex ia Ga] IIC/IIB (-20 °C < Ta < +50 °C)
 Ex II (1)G [Ex ia Da] IIIC (-20 °C < Ta < +50 °C)

Safety data:

U _o [V]	I _o [mA]	P _o [W]	IIC		IIB	
			Co [nF]	Lo [mH]	Co [nF]	Lo [mH]
19.1	91	0.57	150	4	450	12

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%

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
 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: 1.6 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!