Intrinsically Safe Process Indicators

Product features

- Display in engineering units
- 4 1/2 digit LCD, 20.5 mm character height
- 4-20 mA loop powered
- Min / Max values detection
- 2 isolated limit outputs
- 0.03% accuracy, ±20 ppm / °C
- Intrinsically safe (zone 1, 2)
- Easy on-site configuration
- DT9000: IP 65
  DT9002: IP 65 front
  IP 30 rear





The **DT9000, DT9002 Intrinsically Safe Process Indicators** enable linear process variables to be displayed in engineering units in even the most hazardous plant areas (zone 1, zone 2). Two isolated outputs are available with different operating modes for limit signaling or for simple control purposes. Both indicators are loop-powered from 4-20 mA signals, dropping less than 2 V at 20 mA.
Large 4 ½-digit, 20.5 mm height liquid crystal display make process variables easily visible at a distance.
A label defining the appropriate engineering unit is attached to the right of the display. Both indicators can be set up to reverse the display „direction" (i.e. to produce a decreasing displayed value for a rising signal input) and to display a decimal point if required.
Easy on-site configuration through the front panel keypad is a major advantage of the microcontroller-based technology.
The settings of zero and full-scale values are non-interactive, making the configuration process rapid and simple. The configuration parameters: scaling, decimal point position, display refresh rate, signal filtering, limit modes, limit values, etc. are stored in EEPROM. A two level password protects the settings from unauthorised changes.
The **DT9000** is housed in a moulded polycarbonate case which is dust-tight and houseproof to IP 65 to allow for installation in the field or on the control panel. The **DT9002** is housed in a DIN standard 144 x 72 mm ABS case with IP 65 protection from the front and IP 30 protection from the back side, for installation on the control panel.

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Technical specification

Intrinsical safety data:	
Certification:	BKI 15 ATEX 0027 X
Protection marking:	Ⓔx II 1G Ex ia IIC T6 Ga (-20 °C < Ta < +60 °C)
Input safety data:	Ci=10 nF, Li~0, Ui=30 V, Ii=100 mA, Pi=0.75 W
Limit outputs safety data:	Ci~0, Li~0, Ui=10 V, Ii=16 mA, Pi=40 mW, Uo=10 V, Io=0.2 mA, Po=0.5 mW
Input parameters:	
Input signal:	DC current
Characteristics:	linear
Measurement range:	4-20 mA
Overrange:	3.5-20.5 mA
Sampling:	15 measurement / sec
Number of averaged samples:	1; 2; 4; 8; 16; 32 (selectable)
On input terminals:	< 2.2 V @ I= 4 mA, < 2 V @ I= 20 mA
Accuracy:	0.02% @ Ta = 23 °C ±2 °C 0.05% @ -20 °C < Ta < +60 °C
Display / Manual controls:	
Display:	4 1/2 digit, 7 segments, decimal point and negative sign
Display unit:	LCD, 20.5 mm character height
Range:	-19999 - +19999
Display value assigned to 4 mA:	anywhere within the range
Display value assigned to 20 mA:	anywhere within the range
Decimal point:	its position can be selected, or it can be switched off
Display refreshing time:	0.1; 0.3; 0.5; 1.0; 2.0 sec (selectable)
Manual controls:	3 membrane push-buttons on the front cover
Power supply:	
Power supply:	4-20 mA loop-powered, reverse polarity protected
Output parameters:	
Output:	2 limit outputs
Output type:	optically isolated passive switching transistor
Leakage current:	I < 0.1 mA @ 9 V
Voltage drop:	U < 1 V @ 10 mA
Load rating:	10 V, 16 mA max. (Ex safety data)
Refreshing time:	same as the display refreshing time
Hysteresis:	0 - ±999
Ambient conditions:	
Operating temperature range:	-20 - +60 °C
Relative humidity:	90% (max., non-condensing)
Place of installation:	potentially explosive area, zone 1, zone 2, safe area
Electromagnetic compatibility (EMC) accordance with the standard EN 61326-1:2013:	
Immunity:	-A- criterion
Noise emission:	-A- class
General data:	
Housing:	DT9000: moulded polycarbonate case, installable as a field or panel instrument DT9002: DIN standard ABS case installable as a panel instrument
Connection:	DT9000: IP 65 cable entry, push-in direct connection DT9002: push-in direct connection
Connection cable:	0.25-1.5 mm² (max.)
Dimensions:	DT9000: 160 x 80 x 90 mm (width x height x depth) DT9002: 144 x 72 x 60 mm (width x height x depth)
Weight:	0.7 kg (DT9000) 0.4 kg (DT9002)
Protection:	IP 65 (DT9000) IP 65 front, IP 30 rear (DT9002)

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

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