

## Intrinsically Safe Tachometer

### Product features

- NAMUR, switching transistor, contact inputs
- 4 limit outputs
- 4-20 mA scalable analog output
- The following parameters can be set: teeth number, transmission ratio, limit values, 4-20 mA scale
- Large (25 mm) LCD
- Intrinsically safe, usable in potentially explosive environment
- IP 65 protection



The **DT920 Intrinsically Safe Tachometer** enable the revolutions per minute (RPM) of a shaft of a spin-dryer, of a stirrer etc. to be displayed in even the most hazardous plant areas (zone 1, 2). Various kinds of two wire sensors (magnetic, optical, with NAMUR, transistor, contact output) are possible to connect to the input of the instrument.

The **DT920** receive the impulses generated by the sensor, the parameters, that is: the number of teeth of the dial, the transmission ratio can be set by using the front panel membrane keypad.

The instrument have four optically isolated transistor outputs for limit signalling or for simple control purposes.

The **DT920** optionally may be equipped with a 4-20 mA transmitter output. The output is scalable: the 20 mA value can be assigned to any RPM values. The output can be used either for signal processing, or for the operation a secondary display.

The **DT920** 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.

Large 4 digit, 25 mm height liquid crystal display make RPM value easily visible at a distance.

**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 0036 X  
 Protection marking:  II 2G Ex ia IIC T4 Gb (-20 °C < Ta < +60 °C)

**Safety data pertaining to intrinsic safety:**

	Uo [V]	Io [mA]	Po [mW]	Co [uF]	Lo [mH]	Ui [V]	Ii [mA]	Pi [W]	Ci [uF]	Li [mH]
Power supply:	--	--	--	--	--	22.4	91	2.1	0	0.73
NAMUR input:	8.61	8.72	37.5	5	100	--	--	--	--	--
Digital outputs:	5	1.35	1.6	0	0	30	35	0,2	0	0
Analogue outputs:	8.61	49.7	107	5	10	--	--	--	--	--

**Input parameters:**

Digital inputs:  
 Input: for the connection of NAMUR (DIN 19234) / contact / switching transistor  
 No-load voltage / inner resistance: 8.2 V / 1 kohm  
 Frequency range: 0.3-5000 Hz

**Output parameters:**

**Analogue output:**

Output signal: DC current  
 Range: 4-20 mA  
 Overdrive: 10%  
 Overvoltage protection: 8.6 V (limiter)  
 Overcurrent protection: 50 mA (limiter)  
 Error of the output signal: 0.5% (max.)  
 Temperature-coefficient: 50 ppm / OC (typically)  
 Supply-voltage effect: practically zero  
 Loading-effect: practically zero

**Digital outputs:**

Output: 4 passive switching transistor  
 Load rating: 30 V, 35 mA, 200 mW

**Display / manual controls:**

Display: 4 digit LCD, 7 segments, decimal point  
 Display unit: 25 mm character height  
 Display range: 0.000-9999  
 Accuracy: ±1 digit  
 Indicators: 4 LED for limit values  
 Manual controls: 4 push-buttons on the front cover

**Power supply:**

Supply voltage: 18 VDC (intrinsically safe)  
 Supply current: 70 mA  
 Consumption: 1.4 W (max.)

**Ambient conditions:**

Operating temperature range: -20 - +60°C  
 Relative humidity: 90% (max., non-condensing)  
 Place of installation: potentially explosive area

**Electromagnetic compatibility (EMC)**

**accordance with the standard EN 61326-1**

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

**General data:**

Housing: moulded polycarbonate case; installable as a field or panel-instrument  
 Connection: IP 65 cable entry, screw terminal  
 Connection cable: 0.25-1.5 mm<sup>2</sup>  
 Dimensions / weight: 167 × 87 × 95 mm (width × height × depth) / 0.8 kg  
 Protection: IP 65

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