DTL08

Compact calorimetric mass flow sensor for air

- **Current and voltage outputs for mass flow rate**
- **Limit switch**
- **Additional analog output for temperature**
- **Causes negligible pressure drop**
- **No moving parts**
- **Unaffected by duct diameter, pressure and temperature**

Description:

Model DTL08 mass air flow sensors function according to the proven-reliable calorimetric principle. The sensor tip contains a resistor which is electronically heated. The air flowing around the sensor tip removes heat from it, thus changing its electrical resistance value. A second, unheated resistor detects the air temperature. The temperature difference between both resistors is proportional to the flow rate and thus to the flow volume. Model DTL08 mass air flow sensors are microprocessor based and come standard with linear analog outputs for flow rate and temperature as well as a limit contact.

Typical Applications:

Model DTL08 mass air flow sensors are economical, high-performance units. These devices are used in applications where the flow of straight, non-turbulent air streams has to be measured or monitored. Such applications include the following: HVAC, air-supply systems, air-compressor monitoring, air-consumption measurement, leak monitoring, cooling circuits, and the like.

PKP PROCESS INSTRUMENTS

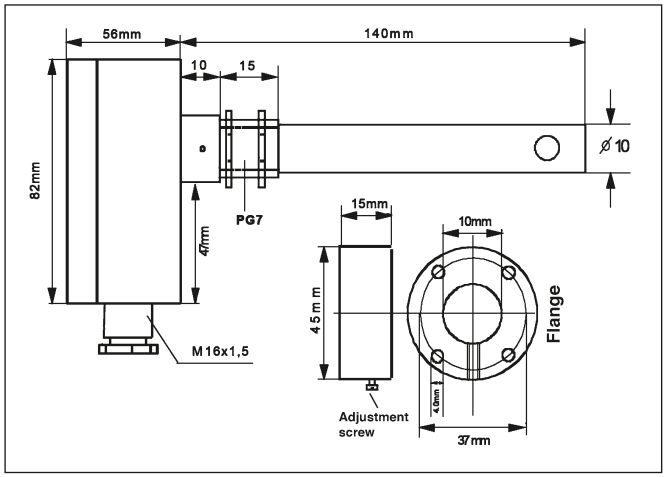
PKP Process Instruments Inc.
10 Brent Drive · Hudson, MA 01749
+1-978-212-0006 · +1-978-568-0060
Email: info@pkp.eu · Internet: www.pkp.eu

PKP Prozessmesstechnik GmbH
Borsigstraße 24 · D-65205 Wiesbaden
+49 (0) 6122-7055-0 · +49 (0) 6122-7055-50
Email: info@pkp.de · Internet: www.pkp.de

Models:

DTL08.ALS ...: Linear analog output for air flow
Linear analog output for temperature
Switch output for flow

Dimensions:



Electrical connection:

10 pin terminal strip:

Pin	assignments
1	+24 VDC
2	Ground
3	0–10 V analog output air temperature (+)
4	0–10 V analog output air flow stream (+)
5	4–20 mA analog output air flow stream (–)
6	4–20 mA analog output air flow stream (+)
7	Transistor output (O/C signal)
8	Relay output (normally closed (N/C))
9	Relay output (normally closed (N/C))
10	Not assigned

Model Coding:

Order Number: **DTL08. | ALS. | 30. | 1. | 0**

Calorimetric mass air flow sensor

Models:
ALS = Analog outputs for flow and temperature, limit contact

Measuring range:
01 = 0–1 m/s
08 = 0–8 m/s
16 = 0–16 m/s
30 = 0–30 m/s

Process connection
1 = PG7 conduit thread (7 mm)
2 = Mounting flange
3 = M16 x 1.5 male thread (with adapter)
4 = G 1/2 male thread (with adapter)

Options:
0 = none
9 = please specify in writing

Technical Specifications:

	DTL08.ALS
Measuring range	0–1 m/s, 0–8 m/s, 0–16 m/s, 0–30 m/s
Analog output: flow **Analog output: temp.** **Switch output**	4–20 mA (Ra = 200 Ohm) 0–10 V (Ra = 10 kOhm) 0–10 V (Ra = 10 kOhm) Relay 200 VDC, 1 A, normally closed (N/C), Transistor output (O/C signal), non-conductive during flow
Accuracy [1]	± 5 % of measured range end value
Reproducibility [1]	± 2 %
Temperature gradient	30 K/min
Power supply:	24 VDC ± 5 %
Power consumption max.	4 VA
Temperature range: Ambient medium:	 –20–+60 °C –25–+80 °C
Sensor: Max. pressure Material Insertion depth Diameter Process connection	 10 bar Brass, nickel-plated 130 mm (other sensor lengths on request) 10 mm PG7 conduit thread (7 mm, standard) Mounting flange; Adapter M16 x 1.5 or 1/2" male thread
Electrical protection: meter housing sensor	 IP 65 IP 54
Electronics housing: Material Dimensions	 Plastic L x W x H = 56 x 84 x 82 mm

[1] Reference conditions: inlet pipe section > 10 x DN, outlet pipe section > 5 x DN, laminar, non-turbulent flow, air at standard conditions: 0 °C and 1.013 bar

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