DPA Flow

Differential Pressure/Air Flow Transmitter

**Datasheet**

Subject to technical alteration
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**Application**

Differential pressure and flow transmitter for monitoring and control of air filters, fans, industrial cold air circuits, flows in ventilation ducts with 2 outputs 0..10 V. Eight selectable measuring ranges for differential pressure and a free measuring range for the flow rate are available. Screw mounting onto flat surface is possible. The device is prepared for mounting on DIN rail TS35 (35x7,5 mm) according to EN 60715.

**Types available**

Flow Meter/Air Velocity
DPA Flow 2500

**Security Advice – Caution**

The installation and assembly of electrical equipment should only be performed by authorized personnel.

The product should only be used for the intended application. Unauthorised modifications are prohibited! The product must not be used in relation with any equipment that in case of a failure may threaten, directly or indirectly, human health or life or result in danger to human beings, animals or assets. Ensure all power is disconnected before installing. Do not connect to live/operating equipment.

Please comply with
- Local laws, health & safety regulations, technical standards and regulations
- Condition of the device at the time of installation, to ensure safe installation
- This data sheet and installation manual

**Notes on Disposal**

As a component of a large-scale fixed installation, Thermokon products are intended to be used permanently as part of a building or a structure at a pre-defined and dedicated location, hence the Waste Electrical and Electronic Act (WEEE) is not applicable. However, most of the products may contain valuable materials that should be recycled and not disposed of as domestic waste. Please note the relevant regulations for local disposal.
Technical Data

<table>
<thead>
<tr>
<th>Category</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring values</td>
<td>flow meter, differential pressure</td>
</tr>
<tr>
<td>Medium</td>
<td>air and non-aggressive gases</td>
</tr>
<tr>
<td>Output voltage</td>
<td>0..10 V, min. load 10 kΩ</td>
</tr>
<tr>
<td>Power supply</td>
<td>15..24 V = (±10%) or 24 V ~ (±10%)</td>
</tr>
<tr>
<td>Power consumption</td>
<td>typ. 1.1 W (24 V =)</td>
</tr>
<tr>
<td>Measuring range pressure</td>
<td>-100..+100</td>
</tr>
<tr>
<td>Measuring range velocity</td>
<td>0..600.000 m³/h (configurable), 0..5.000 m³/h (default)</td>
</tr>
<tr>
<td>Accuracy pressure</td>
<td>measuring range ≤500 Pa: ±5 Pa; measuring range &gt;500 Pa: ±10 Pa</td>
</tr>
<tr>
<td>Max. overpressure</td>
<td>400 kPa</td>
</tr>
<tr>
<td>Calibration</td>
<td>automatic zero-point calibration</td>
</tr>
<tr>
<td>Sensor</td>
<td>piezo measuring element</td>
</tr>
<tr>
<td>Display</td>
<td>LCD 37.5x31.6 mm</td>
</tr>
<tr>
<td>Enclosure</td>
<td>hinged lid enclosure, PA6, pure white</td>
</tr>
<tr>
<td>Protection</td>
<td>IP54 according to EN 60529, IP65 with bolted cover</td>
</tr>
<tr>
<td>Connection entry</td>
<td>M20 for cable max. Ø=8 mm, seal insert for double cable entry for wire max Ø=6 mm</td>
</tr>
<tr>
<td>Connection electrical</td>
<td>terminal block, max. 1.5 mm²</td>
</tr>
<tr>
<td>Connection mechanical</td>
<td>pressure connection male Ø=5.0 mm / Ø=6.3 mm, connection tube: PVC, soft</td>
</tr>
<tr>
<td>Ambient condition</td>
<td>-10...+50 °C, max. 85% rH short term condensation</td>
</tr>
<tr>
<td>Weight</td>
<td>150 g</td>
</tr>
<tr>
<td>Mounting</td>
<td>screw mounting onto flat surface, prepared for mounting on DIN rail TS35 (35x7.5 mm) according to EN 60715</td>
</tr>
<tr>
<td>Delivery content</td>
<td>4 mounting screws, 2 plastic duct flanges, 2 m PVC connection tube</td>
</tr>
</tbody>
</table>

Mounting Advices

Before installing the device, please check the leak tightness of the pressure lines.

Connection Plan

Automatic Zero-Point Calibration

Transmitters equipped with the auto zero calibration are maintenance free.

The auto-zero calibration electronically adjusts the transmitter zero every 10 minutes. The function eliminates all output signal drift due to thermal, electronic or mechanical effects. The auto-zero adjustment takes approx. 1 second after which the device returns to its normal measuring mode. During the 1 second adjustment period, the output and display values will freeze to the latest measured value.
**Configuration**

**MAIN Menu:**
- Pressure
- Flow
- Display
- Reset Device
- EXIT

**Menu Pressure**
- Pressure:
  - Unit: Pa
  - Range: +500
  - BACK
- Unit:
  - Pa
  - kPa
  - mbar
  - inWC

**Measuring range settings of the 0..10 V output, pressure**
(default: 0..+500 Pa)

**Menu Flow**
- Flow:
  - Unit: m³/h
  - Range: 5000
  - Parameter
  - BACK
- Unit:
  - m³/h
  - m³/s
  - cfm

**Measuring range settings of the 0..10 V output, flow**
(default: 0..5000 m³/h)

*The response time is the period from the detection of a change of value to the change of the electrical output.*
(default: 04s)

**Parameter:**
- Response time
- k-Value
- Altitude
- BACK

**Conversion factor according to data from fan manufacturer**
(default: 1500.000)

**Display Values:**
- Flow + Press.
- only Flow
- only Press.

**Reset Device:**
- YES
- NO
- BACK

*By set the standing height, the correlation between the air pressure and the height is established and the measured pressure is more precise.*
(default: 0400m)
Operation

DIP 1  Invert analog signal
ON  10..0 V | 5..0 V
OFF (default)  0..10 V | 0..5 V

DIP 2  Analog signal output
ON  0..5 V
OFF (default)  0..10 V

DIP 3  Fan manufacturer
OFF (default)  Rosenberg, Cometri, Gebhardt Nicotra
OFF  Ziehl-Abegg, EBM-Papst
ON  Fläkt Woods

DIP 4  LCD-Backlight
OFF (default)  Backlight OFF
ON  Backlight ON

Dimensions (mm)

To gain protection IP 65 according to EN 60527 the cover has to be bolted at the prepared position, e.g. using a screw 3.5x10 mm according to EN 7981.

Accessories (enclosed in shipment)

- fixing screw  Item No. 289870
- plastic duct flange  Item No. 484596
- 2 m PVC connection tube  Item No. 484268
  Ø 4/7 mm  Item No. 255165
- Spring for mounting on DIN rail TS35