

MIET-AF-10

Universal Air Flow Meter – DPT FLOW U

Measures air flow and velocity



Model summary and technical data

Each device is individually temperature compensated.

 The calculation based on Universal formula: $V = k \times \sqrt{\Delta P(\text{Pa})}$, the unit is given in the menu

DPT Flow - D for display - AZ for autozero	P range	Scalable Air flow range or Air velocity range	Accuracy for pressure ** over operation temp. -5...+50°C	Long term stability typical 1 year	
				without -AZ	with -AZ
DPT Flow-U-7000 (-D, -AZ)	0...7000 Pa	0-1...50 m³/s 0-4000...200000 m³/h 0-2000...100000 cfm 0-1000...50000 l/s 0-10...100 m/s 0-2000...20000 f/m	±7 Pa + ±1.5% from reading	≤ ± 1 Pa	≤ ± 24 Pa*
DPT Flow-U-5000 (-D, -AZ)	0...5000 Pa		±7 Pa + ±1.5% from reading	≤ ± 1 Pa	≤ ± 24 Pa*
DPT Flow-U-2000 (-D, -AZ)	0...2000 Pa		±5 Pa + ±1.5% from reading	≤ ± 1 Pa	≤ ± 8 Pa*
DPT Flow-U-1000 (-D, -AZ)	0...1000 Pa		±5 Pa + ±1.5% from reading	≤ ± 1 Pa	≤ ± 8 Pa*

**) including: general accuracy, temperature drift, linearity, hysteresis and repetition error

*) - AZ model recommended

Display

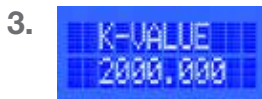
Alphanumeric display with MENU user interface. The display can be ordered separately for installation purposes.

Bursting pressure	30 kPa
Suitable media	Air and non-aggressive gases
Measuring element	Piezoresistive

MENU selections and initialization instructions for installation

If buttons are not pressed within 20 seconds the device returns to normal measuring mode.

Press select >2 seconds to enter editing mode



1. Select functional mode for the Flow meter; **Common probe**.

2. When **Common probe** is selected, choose formula unit **m³/h**, m³/s, f/min, m/s, l/s or cfm.

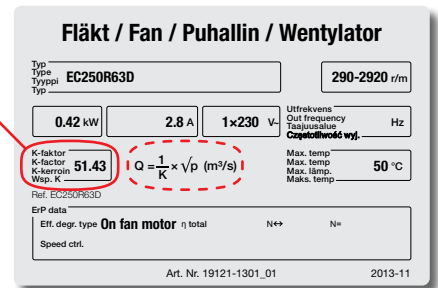
3. Set the right **K-value**. [The Common Probe formula: $q = k \times \sqrt{\Delta P}$] See label “**Fläkt / Fan / Puhallin / Wentylator**”, placed on the unit, for correct formula and specific data for your fan.

In this example the *K-factor* is 51.43 and the formula for the *K-value* is

$$\frac{1}{\text{K-factor}} = \text{K-value}$$

which gives us

$$\frac{1}{51.43} = 0.019$$



4. Select **pressure unit for display and output**; Pa, psi, “WC, mmWC, mbar or kPa



5. **Pressure output scale**
Flow volume: m³/s, **m³/h**, cfm, l/s
Velocity: m/s or f/min



6. Select **flow unit for display and output**;
Flow volume: m³/s, m³/h, cfm, **l/s**
Velocity: m/s, feet/min
(Pa value is always shown on display first row)



7. **Flow output scale**
m³/s 0...10V = 0,025 ... 50 m³/s
m³/h 0...10V = 100 ... 200 000 m³/h
cfm 0...10V = 50 ... 100 000 cfm
l/s 0...10V = 25 ... 50 000 l/s
m/s 0...10V = 10 ... 100 m/s
f/min 0...10V = 2000 ... 20 000 f/min



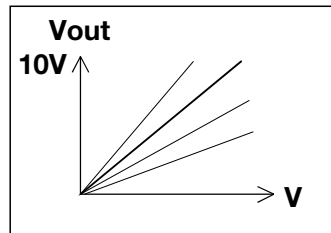
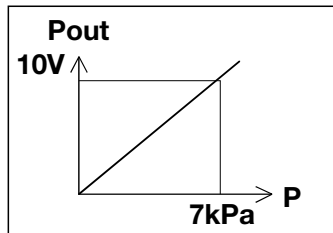
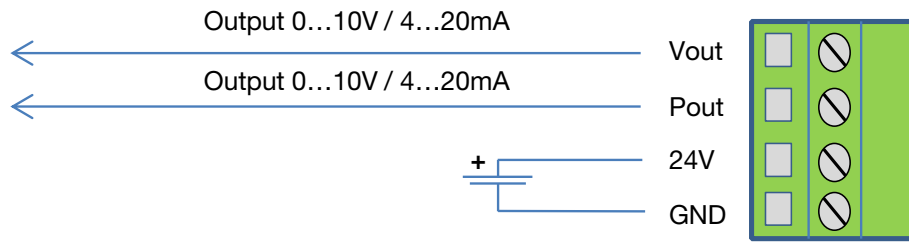
8. Stepless **response time** selection.
1s ... 20s. **Set this to 8s.**



9. Press *Select* and the device returns to normal measuring mode

! When programming, choose the highlighted options.

Electrical connections



V out scale
can be changed

Technical data

Electrical interface

Supply voltage	24 VAC or VDC \pm 10%
Power consumption	< 1.0 W
Output signal	Vout 0...10 VDC, Load R minimum 1k Ω Pout 0...10 VDC, Load R minimum 1k Ω

Materials

Housing	ABS
Cover	PC
Pressure connections	ABS
Duct connectors	ABS
Tubing	PV

Connections

Electrical connections	4 screw terminals, max 1.5 mm ²
Cable entry	M16
Pressure connections	Male \varnothing 5.0 mm and 6.3 mm

Weight

150 grams

Dimensions

90.0 × 71.5 × 36.0 mm

General ambient conditions

Temperature range	
Operation	-5 ... +50 °C
Storage	-20 ... +70 °C
Ambient humidity	0 to 95 % RH

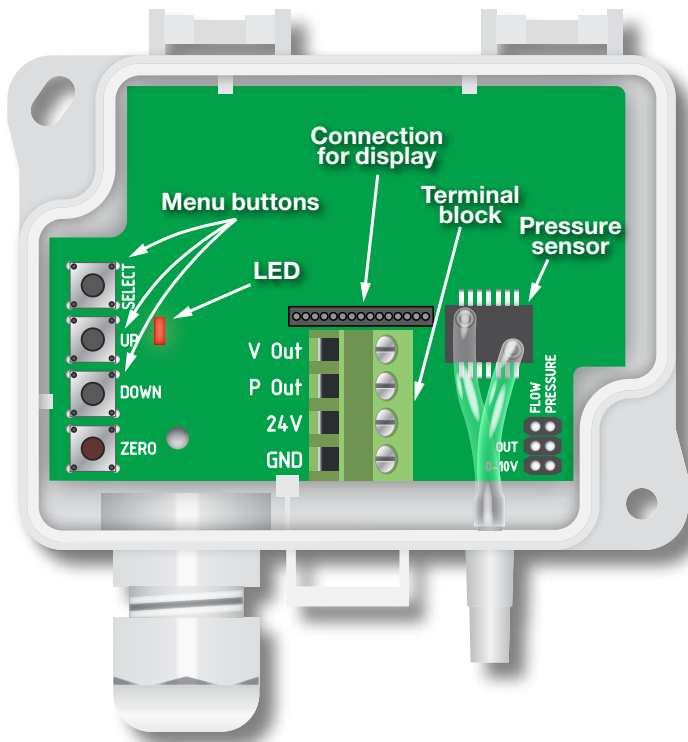
Safety

Protection standard IP54

Conformance

Meets the requirements for CE-marking:
EMC directive 2004/108/EEC
RoHS directive 2002/95/EEC

Auto zero element



Auto zero element makes the DPT FLOW meter maintenance free. Element automatically adjusts the transmitters zero point from time to time, this eliminates the zero point long term drift of the piezoresistive sensing element.

During zero point adjustment the output and display values will freeze to the latest measured value. The automatic zero point adjustment takes 4 seconds. Zero point adjustment is carried out every 10 minutes normally and during warm up the time is shorter a few times.

If the device is not equipped with autozero element, it is recommended to carry out the zero point adjustment every 12 months. Supply voltage must be connected one hour before the zero-point adjustment is carried out.

- 1) Loose both tubes from the pressure inlets + and -
- 2) Push zero button until the red led turns ON.
- 3) Wait until LED turns off and then install tubes again to the pressure inlets

Dimensions

