

## Differential pressure transmitter with linearized airflow display and output

Data sheet: MDS185E/99-06-08  
Supersedes:

## Micaflex MF-FD

### APPLICATION

The Micaflex MF-FD is a differential pressure transmitter designed for measuring airflows in conjunction with all types of measuring equipment with a known flow constant.

### MOUNTING

The transmitter is designed for wall mounting or recessed in a wall or cabinet door. A mounting kit is needed for recessed mounting.

### PRESSURE CONNECTION

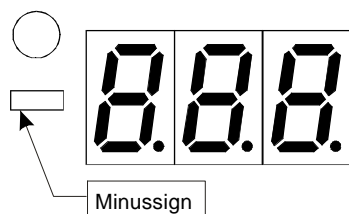
Measuring outlets are connected by means of 8/6 mm HT plastic tubing.

### INDICATION

The indicator has a 3-digit display which shows pressure or flow rate. The flowrate display is scaleable for the desired reading. Alternating between pressure and flow is by means of a miniature switch.

### SCALING

To scale the display, the transmitter need only be energized. The transmitter is forced to the full measuring range by means of a miniature switch. A potentiometer is used to adjust the estimated value of the flowrate display and the decimal points are selected by means of miniature switches. Adjustment does not affect the output signal.



### OUTPUT SIGNAL

Optional output signal 0...10 VDC or 4...20 mA.

### DAMPING

Damping prevents fluctuations in the output signal and display in the event of rapid temporary pressure changes. As supplied, the Micaflex MF-FD is set for 1.5-second damping. This is selectable in four steps between 0.05 seconds and 2.2 seconds.



### POWER SUPPLY

The MF-FD is designed for running on 24 VAC or 20...32 VDC. The transmitter can be fitted with a transformer module for 24, 115 or 230 VAC.

### ALARM UNIT

The MF-FD can be fitted with an alarm unit having zero-voltage switching contacts which initiate an alarm at high or low airflows. Setting of the desired alarm function is by means of a miniature switch. The selected breakpoint is displayed on the indicator. Switching between airflow indication and breakpoint is by means of a miniature switch. The alarm unit features a steplessly adjustable time delay between 0 and 60 seconds. After the set time delay the relay switches to alarm mode and the display starts flashing. Resetting takes place instantaneously when the airflow is within the set limits.

**TECHNICAL DATA**

**Indicator:** Integral 3-digit

**Supply voltage:** 24 ± 15% VAC  
20...32 VDC

**Transformer (accessory):** 24,115 or 230 VAC 50/60 Hz

**Power consumption:** Max 3 VA (24VAC)  
Max 6 VA (230VAC)

**Measuring ranges:** 0...100 Pa  
(Standard) 0...200 Pa  
0...500 Pa  
0...1 kPa  
0...2 kPa  
0...5 kPa  
(Special) Other ranges are obtainable.

**Overload:** Max. 50 kPa

**Output signal:** 4...20 mA max  $R_L = 400 \Omega$   
0...10 Volt  $R_i = 0 \Omega$

**Skale:** Pa or kPa and optional  
airflow display

**Ambient temperature:** 0...55°C

**Measurement error, pressure:**  $\leq \pm 1.0\%$  of pressure range  
(SS IEC 770)

**Measurement error, airflow:** See table below

**Temperature drift:** Max. 0.5 % per 10°C

**Damping:** Optional time constants of  
0.05, 0.7, 1.5 and 2.2 s

**Degree of protection::** IP 65

**Electr. Connection, signal terminal board:** Max 2 x 1.5 mm<sup>2</sup> per connection

**Electr. Connection, 230 V transformer:** Max 1 x 1.5 mm<sup>2</sup> per connection

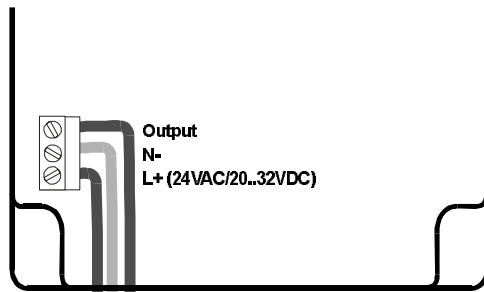
**Cable lead-through:** 2 holes, PR 15,2

**Pressure connection:** 8/6 mm HT plastic tubing

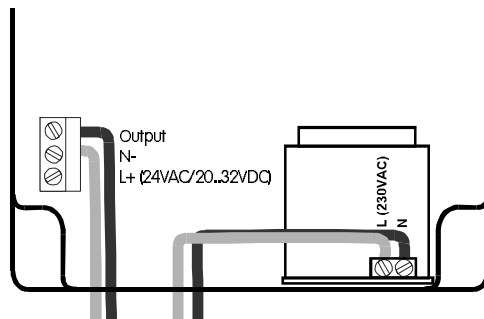
**Dimensions:** WxHxD = 120 x 122 x 92 mm

**Maintenance**  
The MF-FD normally requires no regular service but we recommend checking the zero point once a year.

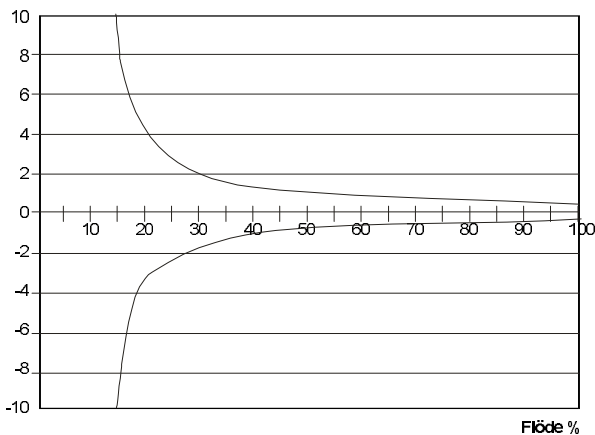
**Connection 24 VAC, 20...32 VDC (Standard)**



**Connection 230 VAC (Accessory)**



**Measurement error, % of flowrate range**



**Accessories**

- Transformer 24, 115 or 230 VAC
- Alarm unit
- Airflow sensor MFS
- Mounting kit for recessed mounting
- Monoblock valve 2-TK mounted on transmitter
- Monoblock valve 2-TK with wall bracket
- Yellow 8/6 HT tubing, per metre or 50 m reel

Transformer and alarm unit cannot be mounted on the same transmitter.

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