

MicaFlex Microcontroller-based Differential pressure transmitter

MF-P

version 3.x

mi-270gb / 2008-10-13

Application

MF-P is a pressure transmitter designed for measuring of low positive, negative and differential pressure.

Installation

MF-P is designed for wall mounting. Remove the cover and mount the casing using max \varnothing 4 screws in a suitable location. Drill pattern can be found on the backside of the enclosure.

Pressure connections

Pressure connections should be made with Micatrone mounting kits for safe and tight function. Connect the measurement outputs with HT-plastic tube 8/6 mm.

- Connect positive pressure to **[+]** connection.
- Connect negative pressure to **[-]** connection.

NOTE! Leave unused connections open to the atmosphere.

For differential pressure measurement, ensure that the highest absolute pressure is connected to the **[+]** connection. If the transmitter has a pressure range with zero-crossing (i.e -50...50 Pa) the high pressure connection **[+]** is connected to the measuring area and the low pressure connection **[-]** is connected to the reference area.

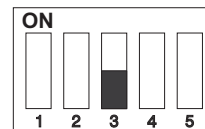
Zero adjustment

Switch on the voltage and wait at least 60 sec. Set the manifold valve in position calibration (if there is no valve, loosen the pressure tubes from

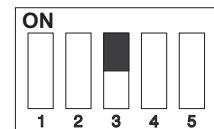
the MF-P). Remove the cover to access the adjustment keys on the main circuit board. Press down the "zero-setting"-button until the LED turns off. Release the button and the zero-setting is finished.

Output signal setting

The Volt and mA output signal has different terminals. Check that the correct output is connected. Place the miniature switch no 3 in position "OFF" for volt signal (factory setting) or in position "ON" for mA-signal.



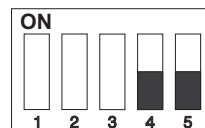
0..10V



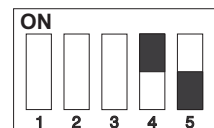
4..20mA

Setting of damping

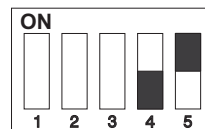
The MF-P offers a possibility to set different damping (time constant). At delivery the damping is set to 1,50 seconds damping. Setting is adjusted with the miniature switch contacts no 4 and 5 (the switch is situated on the bottom left edge of the main circuit board, see figure).



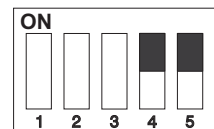
0.05 s



0.70 s



1.50 s

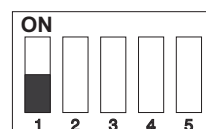


2.20 s

Half measuring range

Place the miniature switch no 1 in position "OFF" for full measuring range (100%) or in position "ON" for half measuring range (50%).

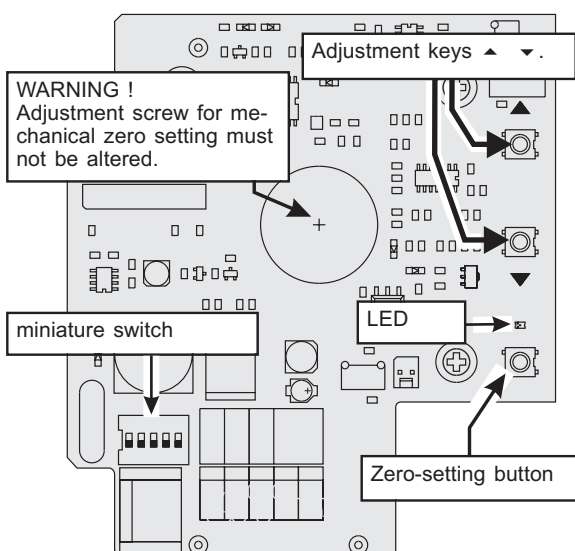
NOTE! The accuracy is always for the full range.



100%



50%



Adjusting the measuring range

The measuring range can be adjusted to correct a measuring deviation. Instruction can be found on our [web site](#).

Technical data

Supply voltage:	24 ± 15% VAC, 20...32 VDC 24, 115, 230 (with transformer), 50/60 Hz
Power cons.:	Max. 3 VA (24VAC) Max 6 VA (230VAC)
Range:	-50..50 Pa 0...50 (0...25*) Pa 0...100 (0...50*) Pa 0...200 (0...100*) Pa 0...500 (0...250*) Pa 0...1 (0...0,5*) kPa 0...2 (0...1,0*) kPa 0...5 (0...2,5*) kPa Other ranges on request.) Half range using a miniature switch. Measuring range with zero-crossing can not be divided.
Max. load:	≤ 50 kPa
Output signal:	4...20 mA max $R_L = 400 \Omega$ 0...10 Volt $R_i = 0 \Omega$
Ambient temp.:	0...55°C
Accuracy:	Max error ± 0,5% of the full range plus ± 0,5 Pa.
Temp.drift:	Max. 0,5 % per 10°C

Damping:	Selectable; 0.05, 0.7, 1.5 or 2.2 s
Degree of protec.:	IP 65
El. connections,	
-rigid cable:	1 x 2.5 mm ² / terminal
-flexible cable:	1 x 1.5 mm ² / terminal
Cable entries:	2 st threaded holes M16x1,5 (cable glands not attached)
Pressure. conn.:	8/6 mm HT-plastic tube
Dimensions:	WxHxD = 122x120x90 mm
Weight:	0,50 kg

Service

MF-P needs normally no service, but we recommend to check the zero point once a year.

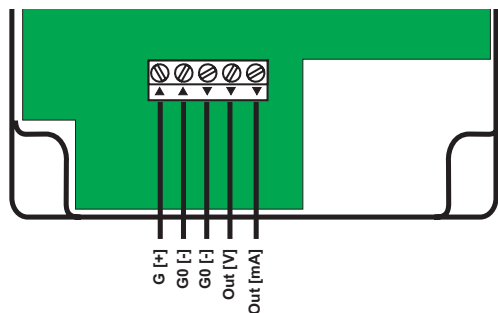
Cleaning

MF-P should be cleaned with a soft cloth and a light detergent. Do not use scouring-powder or dissolvent .

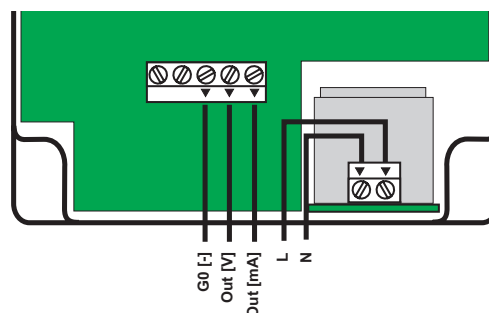
Transformer (Optional)

The output signal is normally NOT galvanically separated to the supply voltage. To obtain galvanic separation between the output signal and the supply voltage on a standard transmitter, the apparatus must be equipped with a plug-in transformer.

Connection 24 VAC / 20...32 VDC
(without transformer)



Connection with transformer
(Transformers available for 24/115/230 VAC)



AB Micatrone
Åldermansvägen 3
SE-171 48 SOLNA
SWEDEN

Telephone: +46 8-470 25 00
Fax: +46 8-470 25 99
Internet: www.micatrone.se
E-mail: info@micatrone.se