

Instruction Manual

Multi-Transmitter *Base BM Switch*

1 Introduction

1.1 Notes on the operating instructions

These operating instructions are intended to ensure optimum installation, commissioning, operation and maintenance of the device and must be read prior to these actions. Keep this documentation handy and accessible to every user in order to be able to refer to it if necessary. If any difficulties should nevertheless arise during commissioning or operation, please do not make any unauthorized modifications to the device. Doing so could jeopardize your warranty claim. In such cases, please contact us immediately:

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1.2 Intended purpose and foreseeable misuse

The Base BM transmitter is used to measure differential pressure, relative humidity and temperature in the specified measuring range and convert them into a proportional analog signal. The device may only be used in the specified measuring ranges. Do not use the device in potentially explosive atmospheres. No liability is accepted for damage resulting from improper use. In this case, warranty claims become invalid. Unauthorized structural modifications as well as additions or conversions to the device are prohibited.

2 Notes for your safety

To avoid danger to all persons involved, this device must only be installed and commissioned by qualified and trained personnel. Furthermore, persons using this device must take measures to protect themselves from direct contact with the live parts and must have read and understood these instructions.

3 Installation and startup

3.1 Mounting

Wall mounting:

The Base BM transmitter can be attached to the wall via the side lugs using dowels and screws. Mount the device on a vertical, smooth surface make sure that the device is not mounted in the immediate vicinity of sources of interference or heat.

Duct mounting: The unit is mounted directly to a ventilation duct using the duct flange provided. The duct flange is mounted to the appropriate duct opening using the self-tapping screws supplied. The sensor tube is

inserted through the duct flange to the desired depth and secured with the locking screw. Make sure that the device is not mounted in the immediate vicinity of sources of interference or heat.

3.2 Wiring diagram and Operating elements

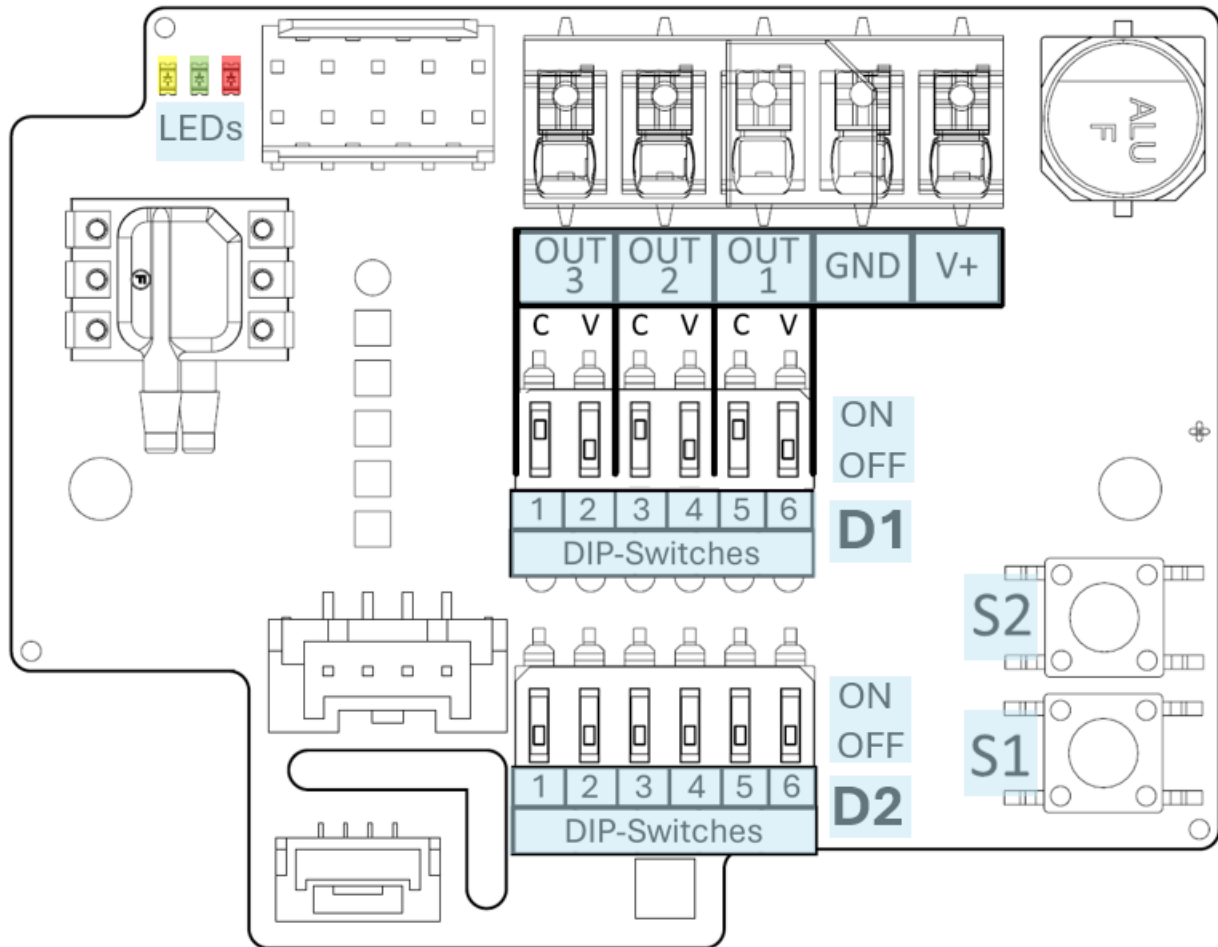


Figure 1 Wiring diagram and operating elements

V+: Supply Voltage (+)

GND: Supply and Output Ground (-)

Out1: Output Differential Pressure (+)

Out2: Output Humidity (+)

Out3: Output Temperature (+)

DIP-Switches D1: For output settings voltage (V) or current (C) (see [3.4](#))

DIP-Switches D2: For range, output and time constant settings (see [3.4](#))

LEDs: Indicator for operating and error mode (see [4.2](#))

Button S1: For Factory reset (see [4.2](#))

Button S2: For Adjustment (see [4.1](#))

3.3 Installation

Connect the supply voltage as well as the output wiring according to Figure 1. For this purpose run the cables through the cable glands attached to the housing and connect them to the screw terminals provided. In order to guarantee the specified accuracy, the sensor should only be put into operation after a run-in time of 1 hour.

3.4 Settings and configurations

The **DIP Switch D2** 1-6 can be used to change the settings of range, time constant and output signal:

Range Variant 250 Pa	Range Variant 2500 Pa	Range Variant 7000 Pa	DIP 1	DIP 2	DIP 3	DIP 4	DIP 5	DIP 6
0... 250 Pa	0... 2500 Pa	0... 7000 Pa	OFF	OFF	OFF			
0... 100 Pa	0... 2000 Pa	0... 5000 Pa	OFF	OFF	ON			
0... 50 Pa	0... 1500 Pa	0... 4000 Pa	OFF	ON	OFF			
0... 25 Pa	0... 1000 Pa	0... 3000 Pa	OFF	ON	ON			
-25... 25 Pa	0... 500 Pa	0... 2000 Pa	ON	OFF	OFF			
-50... 50 Pa	0... 250 Pa	0... 1500 Pa	ON	OFF	ON			
-100... 100 Pa	0... 100 Pa	0... 1000 Pa	ON	ON	OFF			
-150... 150 Pa	-100... 100 Pa	-1000... 1000 Pa	ON	ON	ON			
Time Constant (Diff. Pressure Output)			DIP 1	DIP 2	DIP 3	DIP 4	DIP 5	DIP 6
50 ms						OFF		
500 ms						ON		
Output *			DIP 1	DIP 2	DIP 3	DIP 4	DIP 5	DIP 6
4... 20 mA							OFF	OFF
0... 20 mA							OFF	ON
0... 10 V							ON	OFF
2... 10 V							ON	ON

Figure 2 Settings of DIP-Switches D2 1-6

* To switch the outputs, you must also switch **DIP switches D1** 1-6 to physically switch between voltage and current output:

Output 1+2+3	DIP 1	DIP 2	DIP 3	DIP 4	DIP 5	DIP 6
4... 20 mA / 0... 20 mA	ON	OFF	ON	OFF	ON	OFF
0... 10 V / 2... 10 V	OFF	ON	OFF	ON	OFF	ON

Figure 3 Output Settings for DIP-Switches D1 1-6

4 Adjustment and maintenance

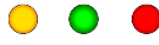
4.1 Adjustments

It is possible to adjust the differential pressure sensor at two adjustment points, the lowest point of the initial ordered measuring range and the highest point of the max. measuring range.

- To start the adjustment, apply the corresponding pressure, i.e. the lower value of the measuring range or the upper value of the measuring range (i.e. upper value for variant 250 Pa, apply 250 Pa).
- The transmitter automatically recognizes from the applied pressure whether the lower or the upper measuring range value is to be corrected. If you want to calibrate the transmitter 0 Pa, simply leave the two pressure connections open to the environment.
- Then press and hold button S2 for 2 seconds.

4.2 Operating and error mode indicators

The LED on the circuit board (see 3.2) and an optionally installed display can be used to display various operating states and error messages. The table below describes the displayed messages and LED statuses. If the error that has occurred is not listed, please contact FSM AG as soon as possible or send the device in for repair with a meaningful error description.

LED	Display (if available)	Remarks
	FSM - base v1.0.0.0	Startup procedure Active for 2 seconds before entering measurement mode automatically.
	Pa 982.2 rH 43.0 oC 23.4	Measurement mode
	Correction Zero/ampl	Taring mode For starting taring procedure, see button description above (long press S2).
		Shutdown procedure
	Pa 982.2 rH 43.0 oC 23.4	Measurement mode using factory defaults Store user settings permanently (long press and hold S2). Note: Usually, new taring procedure is needed.
	Error	Internal failure Try a) factory reset (S1-S1-S1-S1) or b) reboot (long press and hold S1+S2)
	Adjustment needed	Adjustment corrupt Please contact service!
	Config + Update	Update/Config mode Device restart needed.

off: ● on: ● blink slowly: 🌟 blink fast: 🌟

Figure 4 Operating and error mode indicators

5 Disposal

Incorrect disposal can be hazardous to the environment. Device components and packaging materials must be disposed of in an environmentally friendly manner in accordance with the country-specific waste treatment and disposal regulations.