

Datasheet | *base BM switch*

base BM

Humidity & Temperature
& Differential pressure
transmitter

The simplest way of
precise measurement.



Highlights:

- Humidity, temperature, and differential pressure transmitters for HVAC and pharmaceutical applications
- High accuracy in the smallest of spaces
- Switchable measuring ranges and output signals
- For wall or duct mounting
- Sensor protection with metal mesh or sintered filter
- Optional display

Technical Specifications

Measurement data rel. Humidity & Temperature			
Measurement range Selectable via model code	Relative Humidity 0 ... 100 %rH [H]	Temperature -20... 80 °C [T1] -20... 60 °C [T2] 0... 50 °C [T3] -10... 50°C [T4]	
Units Selectable via model code under “Display”	Relative Humidity %rH	Temperature °C [C] °F [F]	
Accuracies	See Figure 1	See Figure 2	
Long-term-stability Maximum accuracy value of mean ± 1σ (data from one production year), measured at 25 °C	Relative Humidity Max. ± 0,5 % rH/Year	Temperature Max. ± 0,05 K/Year	
Measurement data Differential Pressure			
Measurement range Selectable via model code Switchable via DIP switch	Variant 250 Pa [OP250P] 0... 250 Pa (Default) 0... 100 Pa 0... 50 Pa 0... 25 Pa -25... 25 Pa -50... 50 Pa -100... 100 Pa -150... 150 Pa	Variant 2500 Pa [OP2500P] 0... 2500 Pa (Default) 0... 2000 Pa 0... 1500 Pa 0... 1000 Pa 0... 500 Pa 0... 250 Pa 0... 100 Pa -100... 100 Pa	Variant 7000 Pa [OP7000P] 0... 7000 Pa (Default) 0... 5000 Pa 0... 4000 Pa 0... 3000 Pa 0... 2500 Pa 0... 1500 Pa 0... 1000 Pa -1000... 1000 Pa
Overpressure resistance	200 hPa	200 hPa	1000 hPa
Overall accuracy	±1 Pa	±10 Pa	±30 Pa
Units Selectable via model code	Pa [PA] hPa [HP] mbar [MB] inchWC [WC]		
Long-term-stability	≤ 0,2% FS / Year		
Temperature drift	≤ 0,06% FS / K		
Time constant Switchable via DIP switch	50 ms (Default) 1000 ms		
Elektrical Data			
Supply voltage	22...27 VAC (50 Hz) / 19...31 VDC Supply influence: <0.05% of the selected measuring range		

Output signals Switchable via DIP switch	Analog Three-Wire [3WI] 4... 20 mA (Default) 0... 10 V 2... 10 V 0... 20 mA Output assignment: Out1: Differential pressure + Out2: rel. Humidity + Out3: Temperature +
Load resistance	Voltage Output: $\geq 2k \Omega$ Current Output: $\leq 500 \Omega$
Burden influence	$\leq 0,3\%$ of the selected measuring range
Electrical connector	Push-In-clamps max. 1,5 mm ²
Operating conditions	Rel. Humidity: 0... 95% rF (non-condensing) Temperature: -20°C... 80 °C (sensor probe) -20... 60°C (housing)
Storage conditions	Rel. Humidity: 0... 95% rF (non-condensing) Temperature: -20°C... 80°C
Housing	
Material Housing	Bayblend PC-ABS UL94 V0
Mounting variant Selectable via model code	Room sensor (see drawing Room variant S. 5) [R] Duct sensor (see drawing Duct variant S. 5) [D]
Material Sensor probe housing	AL6063
Material Filter Selectable via model code	Wire mesh filter [W] Sinter filter [S]
Pressure connectors	2 x $\varnothing 6,6 \times 10$ mm (for flexible tubes $\varnothing 6$ mm)
Cable gland	Skintop M16 x 1,5 mm (4,5 - 10 mm)
Protection class	Housing: IP65 Sensor probe: IP20
Display Selectable via model code	LC-Display without backlighting, 4 lines, 10 digits each LC-Display with units: Pa °C %rH [DPAC] LC-Display with units: Pa °F %rH [DPAF] LC-Display with units: hPa °C %rH [DHPC] LC-Display with units: hPa °F %rH [DHPF] LC-Display with units: mbar °C %rH [DMBC] LC-Display with units: mbar °F %rH [DMBF] LC-Display with units: inchWC °C %rH [DWCC] LC-Display with units: inchWC °F %rH [DWCF]

Accuracies rel. Humidity and Temperature

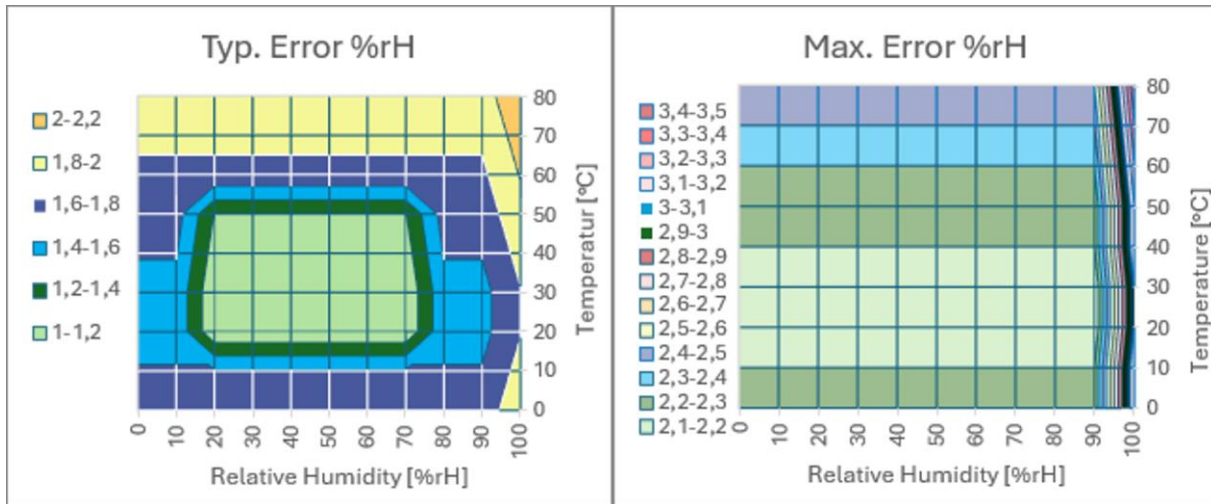


Figure 1 Accuracy relative Humidity

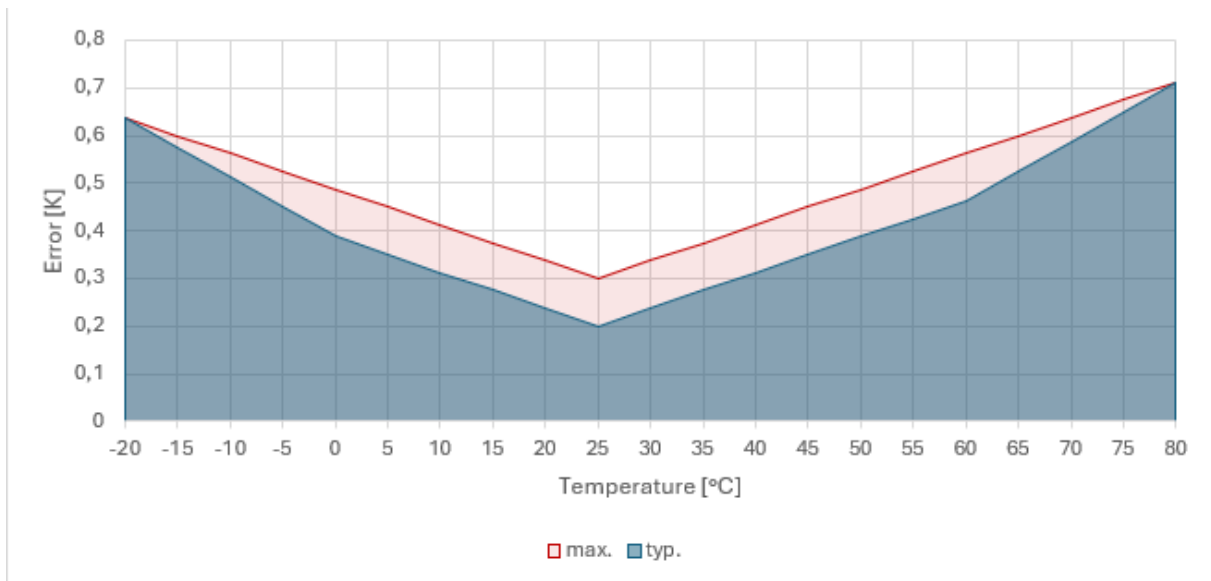
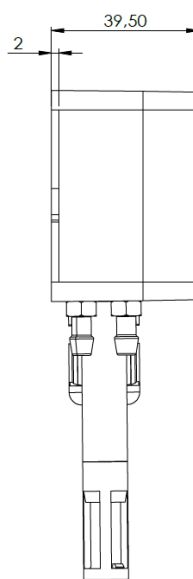
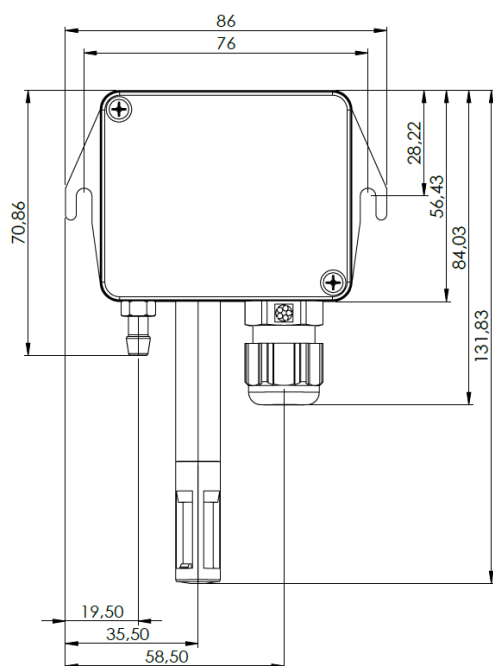
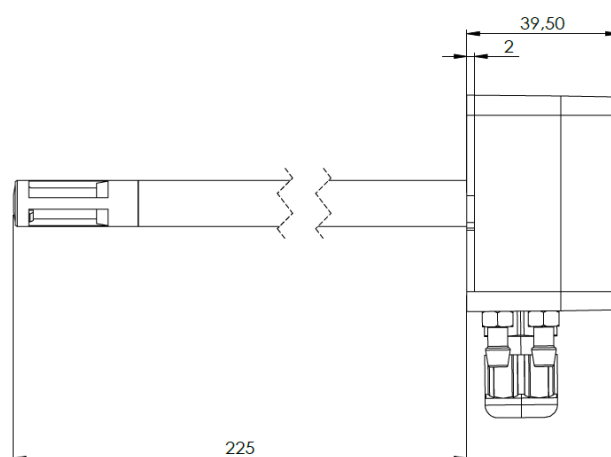
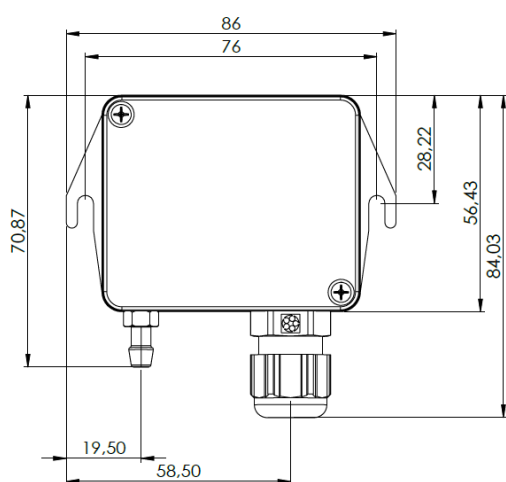


Figure 2 Accuracy Temperature

Drawing Room Variant [R]



Drawing Duct Variant [D]



Model code

	Example	BM	SW	OP250P	H	T1	3WI	X	R	W	XX
Produkt line	Base BM	BM									
Variant	Switch	SW									
Range	250 Pa	OP250P									
Switchable via DIP-Switch	2500 Pa	OP2500P									
	7000 Pa	OP7000P									
Range rel. Humidity	0... 100 %rH	H									
Range Temperature	-20 °C... 80 °C	T1									
	-20... 60 °C	T2									
	0... 50 °C	T3									
	-10... 50°C	T4									
Output signals	Analog Three-wire	3WI									
Switchable via DIP-Switch											
Display	Display Pa °C %rH	DPAC									
	Display Pa °F %rH	DPAF									
	Display hPa °C %rH	DHPC									
	Display hPa °F %rH	DHPF									
	Display mbar °C %rH	DMBC									
	Display mbar °F %rH	DMBF									
	Display inchWC °C %rH	DWCC									
	Display inchWC °F %rH	DWCF									
	None	X									
Mounting variant	Room	R									
	Duct	D									
Filter material Sensor	Wire mesh filter	W									
	Sinter filter	S									
Special variant	-	XX									

Conformity

Excerpt from the EC Declaration of Conformity

We hereby declare under our sole responsibility that the Base product complies with the requirements of the following directives and harmonized standards and thus complies with the provisions:

2014/35/EU	Low-voltage Directive
2014/30/EU	EMC Directive
2011/65/EU	RoHS Directive
EN 61326-1:2013	Electrical equipment for measurement, control and laboratory use – EMC requirements – Part 1: General requirements
EN 61000-3-2:2014	Electromagnetic compatibility (EMC) – Part 3-2: Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)
EN 61000-3-3:2013	Electromagnetic compatibility (EMC) – Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection
EN 50581:2012	Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

The device is marked with the CE mark.