

Pressure range

-1 ... 1 mbar / 0 ... 0.3 – 50 mbar



## Technical overview

### Pressure range

Relative and differential -1 ... 1 mbar / 0 ... 0.3 – 50 mbar

### Operating conditions

Medium		Medium / ambient	Air and neutral gases	
Temperature		Storage	0 ... +70 °C	
		No condensation	-10 ... +70 °C	
Tolerable overload on one side	Application at over pressure range	≤ 3 mbar	P1 = 50 mbar	P2 = 4 mbar
		> 3 mbar	P1 = 100 mbar	P2 = 4 mbar
	Application at under pressure range	≤ 3 mbar	P1 = -4 mbar	P2 = -50 mbar
		> 3 mbar	P1 = -4 mbar	P2 = -100 mbar
Rupture pressure		ambient temperature	2 x overload	
		70 °C	1.5 x overload	

### Materials in contact with medium

Sensor	Ceramic Al <sub>2</sub> O <sub>3</sub> (96%)
Diaphragm	Silicone
Housing	Polycarbonat PC

### Electrical overview

2 wire	Output <sup>1)</sup>	Power supply <sup>1)</sup>	Load	Current consumption <sup>2)</sup>
	4 ... 20 mA	8.0 ... 33 VDC	$< \frac{\text{supply voltage} - 8 \text{ V}}{0.02 \text{ A}}$ [Ohm]	< 20 mA
3 wire	0 ... 10 V	13.5 ... 33 VDC / 24 VAC ±15%	> 10 kOhm	< 10 mA
	0 ... 20 mA	13.5 ... 33 VDC / 24 VAC ±15%	< 500 Ohm	< 30 mA
	4 ... 20 mA	13.5 ... 33 VDC / 24 VAC ±15%	< 500 Ohm	< 30 mA
	0 ... 5 V <sup>3)</sup>	6.5 ... 33 VDC / 24 VAC ±15%	> 10 kOhm	< 10 mA
Filter			Response time switchable by	off / 0.2s / 1s / 5s / 20s
Polarity reversal protection	Short circuit proof and protected against polarity reversal. Each connection is protected against crossover up to max. supply voltage.			

### Dynamic response

Response time	< 20 ms
Load cycle	< 10 Hz

### Protection standard

Without cover	IP 00
With cover	IP 54
	IP 65

### Display

LCD Display	Double spaced	per 8 digit alphanumeric
Module MODBUS	At additional backlight LCD-Display	30 mA current consumption
	RTU RS-485	

### Ranges of adjustment

The zero point is adjustable by reset button.  
The Full scale is adjustable by DIP-Switch and additional by the turbopot.

### Adjustability

Optional version with self configurable parameters (see order code selection table)

### Electrical connection

Screw terminals for wire and stranded conductors up to 1.5 mm<sup>2</sup>  
Cable gland with built-in strain relief PG11

### Pressure connection

Connection pipe Ø 6.2 mm

### Mounting instructions

Installation arrangement	Recommendation:	Vertical, with pressure connections downwards
Mounting		Mounting bracket (integrated in case)

### Tests / Admissions

UL	
Electromagnetic compatibility	CE-conformity acc. EN 61326-2-3

### Weight

Without display	~ 90 g
With display	~ 100 g

### Packaging

Single packaging in cardboard	
Multiple packaging	20 / 40 / 120

## Accuracy

Parameter	Unit	±0.5 mbar	0 ... 1 mbar	0 ... 3 mbar	0 ... 5 mbar	0 ... 10 - 50 mbar
Tolerance zero point	max. % fs	±1.0	±1.0	±0.7	±0.7	±0.7
Tolerance zero full scale	max. % fs	±1.0	±1.0	±0.7	±0.7	±0.7
Resolution	% fs	0.2	0.2	0.1	0.1	0.1
Total of linearity, hysteresis and repeatability	max. % fs	±1.0	±1.0	±1.0	±1.0	±0.6
Long term stability acc. to DIN EN 60770	% fs	±1.0	±1.0	±1.0	±1.0	±1.0
TC zero point <sup>4)</sup>	typ. % fs/10K	±0.2	±0.2	±0.2	±0.1	±0.1
TC zero point <sup>4)</sup>	max. % fs/10K	±1.0	±1.0	±0.5	±0.4	±0.4
TC sensitivity <sup>4)</sup>	typ. % fs/10K	±0.3	±0.3	±0.2	±0.1	±0.1
TC sensitivity <sup>4)</sup>	max. % fs/10K	±0.6	±0.6	±0.5	±0.5	±0.2

- no additional root-extracted errors

- For changing diaphragm position, compensable with zero point reset

Test conditions: 25 °C, 45% rF, Power supply 24 VDC  
TC z.p. / TC z.p. 0 ... 70 °C

<sup>1)</sup> Adjustable by DIP-Switch

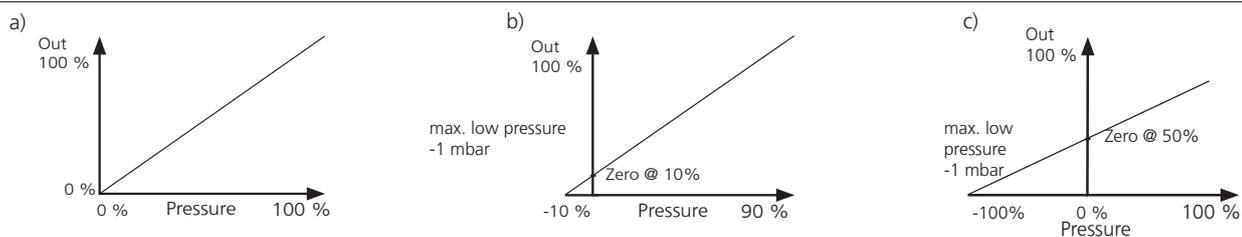
<sup>2)</sup> At nominal pressure

<sup>3)</sup> Additional adjustable by software (with LCD-Display only)

<sup>4)</sup> TC = Temperature coefficient

		1	2	3	4	5	6	7	8	9	10
<b>Order code selection table</b>		699. X X X X X X X X X X									
Pre-adjustment	max. range	9									
	middle range	B									
	min. range	C									
Signal range selectable	Pressure range of 0 % bis 100% fs		1								
	Pressure range of -10 % bis 90% fs		2								
	Pressure range of -100 % bis 100% fs		3								
Pressure range selectable	mbar (hPa)	Pa	mmWS	inH <sub>2</sub> O							
	0 ... 0.3/0.5	30/50	3/5	0.1/0.2	1)	0					
	0 ... 0.3/0.5/1	30/50/100	3/5/10	0.1/0.2/0.3	2)	1					
	0 ... 0.5/1/3	50/100/300	5/10/30	0.3/0.5/1	1)	2					
	0 ... 1/3/5	100/300/500	10/30/50	0.5/1/2	1)	3					
	0 ... 3/5/10	300/500/1000	30/50/100	1/2/3	1)	4					
	0 ... 5/10/16	500/1000/1600	50/100/160	2/3/5	1)	5					
	0 ... 10/16/25	1000/1600/2500	100/160/250	3/5/10	1)	6					
Pressure unit	0 ... 16/25/50	1600/2500/5000	160/250/500	5/10/20	1)	7					
	mbar						0				
	hPa						4				
	Pa						2				
	kPa						5				
	mmWS						3				
Output signal / adjustment	inH <sub>2</sub> O						6				
	Linear	without Filter	dual DIP-Switch			1		0			
	Linear	with Filter (transposable)	tenfold DIP-Switch			2					
	Square root extracted	without Filter	dual DIP-Switch			4		0			
	Square root extracted	with Filter (transposable)	tenfold DIP-Switch			3					
Output / power supply	0 ... 10 V	13.5 ... 33 VDC / 24 VAC ± 15 %	(3 wire)					1			
	0 ... 20 mA	13.5 ... 33 VDC / 24 VAC ± 15 %	(3 wire)					3			
	4 ... 20 mA	13.5 ... 33 VDC / 24 VAC ± 15 %	(3 wire)					4			
	4 ... 20 mA	8.0 ... 33 VDC	(2 wire)					5			
Option	Output signal complimentary selectabel, at delivery no pre-adjustment					9		2	6		
	without display									0	
	with display in pressure unit chosen above									1	
	with display in % fs									2	
Pressure connection / Pressure orifices	with module MODBUS						2,3	1	3		
	Connection pipe Ø 6.2 mm without pressure orifice										1
	Connection pipe Ø 6.2 mm pressure orifice on P1										2
	Connection pipe Ø 6.2 mm pressure orifice on P2										3
Accessories / Connection Kit	Connection pipe Ø 6.2 mm pressure orifice on P1 and P2										4
	IP 54 without										0
	IP 54 with connection kit (metal), 90° angled including tube 2 m long (Fig. 1)										1
	IP 54 with connection kit (plastic), straight including tube 2 m long (Fig. 2)										2
	IP 65 without										3
Pressure range variation	IP 65 with connection kit (metal), 90° angled including tube 2 m long (Fig. 1)										4
	IP 65 with connection kit (plastic), straight including tube 2 m long (Fig. 2)										5
	Indicate W and state range on order (e.g.: W0 ... + 8mbar/OUT1...6V)					9	1				W

### Range of characteristic line



### Depending on the version parameters are adjustable by customer

Version	Variable parameters
Dual DIP-Switch	Pressure ranges in grades
Tenfold DIP-Switch	Pressure ranges in grades; stepless adjustable with Turbo-Poti / output signals / filter (off / on) / response curve (linear / root extracted)
Tenfold DIP-Switch with Display	Pressure ranges in grades; stepless adjustable with Turbo-Poti / pressure units / pressure range character / output signals; additional 0 ... 5 V / filter (off / 0.2s / 1s / 5s / 20s) / response curve (linear / root extracted) / backlight (off / 5min / on)

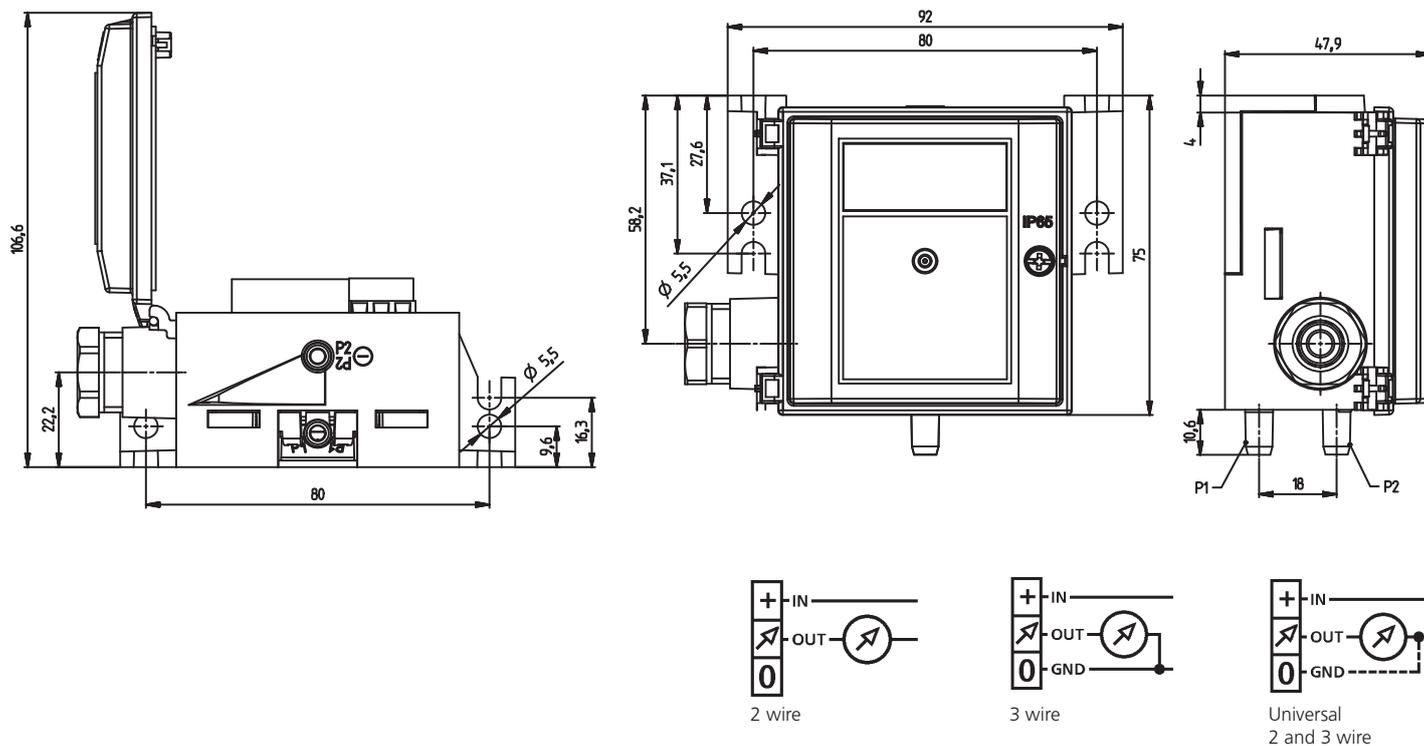
### Accessories <sup>3)</sup>

	Order number
Connection kit for vent duct (metal), 90° angled including tube 2 m long (Fig. 1)	104312
Connection kit for vent duct (plastic), straight including tube 2 m long (Fig. 2)	100064
DIN-rail mounting adaptor (Fig. 3)	112854
Module MODBUS	117305
Calibration certificate	104551

<sup>1)</sup> minimal operating pressure = -50 Pa

<sup>2)</sup> minimal operating pressure = -100 Pa

<sup>3)</sup> Accessories supplied loose



Accessories

Fig. 1

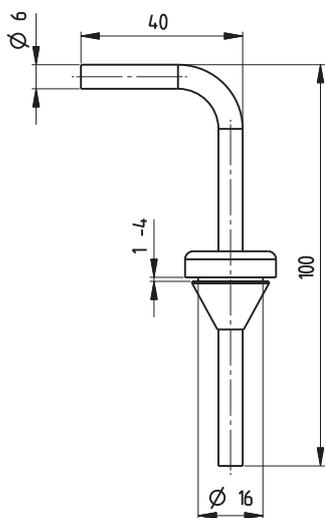


Fig. 2

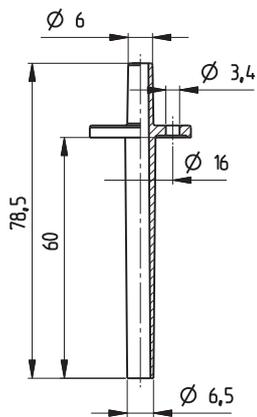
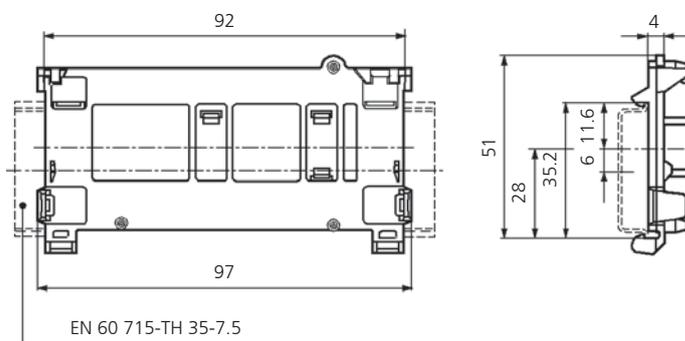


Fig. 3



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