

EP 500

Pressure Transmitter

Special Application:
Level Measurement via Air Bubbling

Characteristics:

- ▶ capacitive ceramic sensor
- ▶ nominal pressure ranges from 0 ... 60 mbar up to 0 ... 20 bar
- ▶ output signal 4 ... 20 mA / 2-wire
- ▶ hat rail housing
- ▶ programming via integrated interface

Technical Data



Input pressure range								
Nominal pressure p_N gauge [bar]	0.06	0.16	0.4	1	2	5	10	20
Nominal pressure p_N abs. [bar]	on request							
Permissible overpressure [bar]	2	4	6	8	15	25	35	40
Permissible vacuum for p_N gauge [bar]	-0.2	-0.3	-0.5			-1		

Output signal / Supply	
Standard	2-wire: 4 ... 20 mA / $V_S = 12 \dots 32 V_{DC}$; $V_{S \text{ Nom.}} = 24 V_{DC}$
Current consumption	max. 21 mA
Performance	
Accuracy ¹	IEC 60770 ² : $\leq \pm 0.2\%$ FSO BFSL: $\leq \pm 0.1\%$ FSO
Turn-on time	700 msec
Permissible load	$R_{\text{max}} = [(V_S - V_{S \text{ min}}) / 0.02 \text{ A}] \Omega$
Long term stability	$\leq \pm 0.1\%$ FSO / year at reference conditions
Response time (10 ... 90 %)	120 msec – without consideration of electronic damping
Measuring rate	8/sec
¹ for nominal pressure ranges ≤ 0.4 bar the accuracy is calculated as follows: $\leq \pm [0.2 + 0.04 \times (\text{nominal pressure range} / \text{adjusted range})] \% \text{ FSO}$	
² accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)	
Thermal effects (offset and span)	
Tolerance band	$\leq \pm 1\%$ FSO
in compensated range	-20 ... 80 °C
Permissible temperatures	
Permissible temperatures	medium: -40 ... 125°C electronics / environment / storage: -40 ... 85°C

EP 500

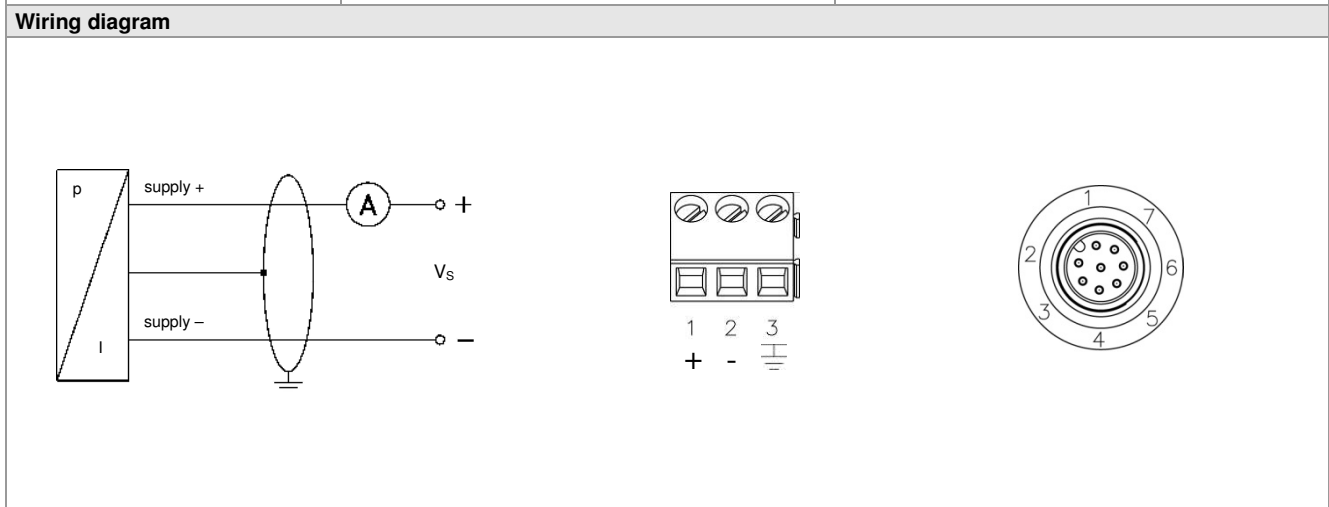
Pressure Transmitter

Technical Data

Electrical protection		
Short-circuit protection	permanent	
Reverse polarity protection	no damage, but also no function	
Electrical connection		
Input	terminal clamps (3-pin)	
Communication connector	M12x1 (8-pin), metal	
Materials		
Pressure port	stainless steel 1.4301	
Housing	version EP 500: version EP 500-500:	PA6 (housing foot: PA66) ABS
Seals (media wetted)	FKM	
Diaphragm	ceramic Al ₂ O ₃ 96 %	
Media wetted parts	pressure port, seals of sensor, diaphragm	
Category of the environment		
Lloyd's Register (LR)	EMV1, EMV2, EMV3	number of certificate: 13/20056
Det Norske Veritas • Germanischer Lloyd (DNV•GL)	temperature: humidity: vibration: electromagnetic compatibility: enclosure:	B B A B -
Miscellaneous		
Ingress protection	IP 00	
Function display	green SMD-LED - lights by information flow through the transmitter	
Installation position	any	
Operational life	100 million load cycles	
Weight	approx. 200 g	
Adjustability	configuration via programming kit CIS 700 ³ ; following configurations are possible: - electronic damping: 0 ... 100 sec - offset: 0 ... 67 % FSO - turn down of span: max. 1:20 - configuration of pressure unit - calibration via connected pressure reference	

³ programming kit has to be ordered separately (software appropriate for Windows®95, 98, 2000, NT Version 4.0 or higher, and XP)

Pin configuration		
Electrical connections	terminal clamps	M12x1 (8-pin), metal
Supply +1	1	-
Supply +2	-	4
Supply -	2	2
Tx	-	5
Rx	-	6
GND	-	7
NC	-	1
Shield	3	3



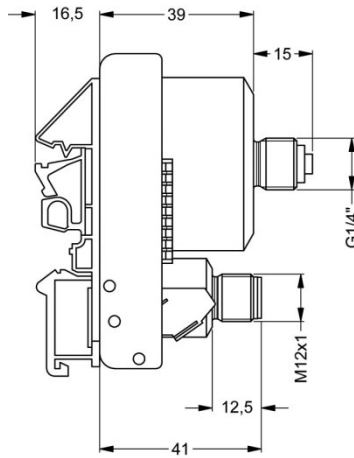
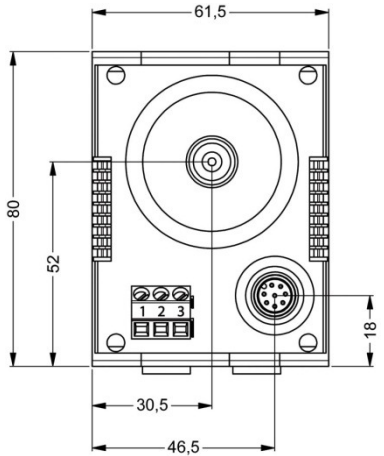
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Technical Data

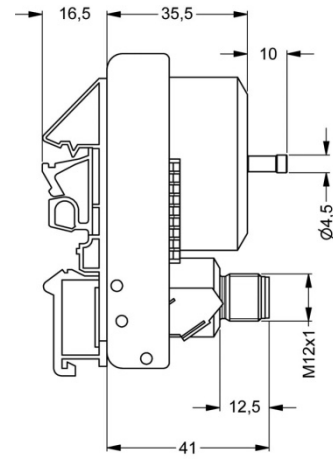
Dimensions (in mm)

standard EP 500:



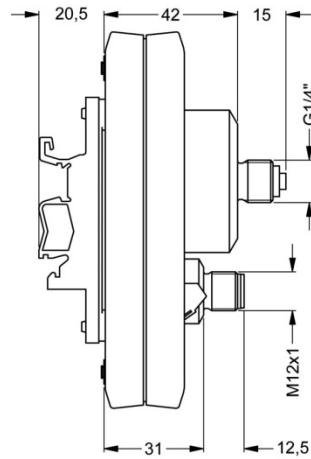
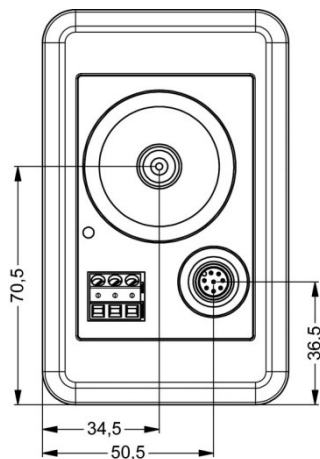
G1/4"

optionally for $p_N \leq 5$ bar:



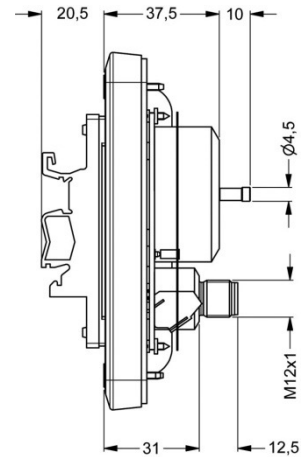
hose connection for flexible hoses $\varnothing 4$ mm

option EP 500-500



G1/4"

optionally for $p_N \leq 5$ bar:



hose connection for flexible hoses $\varnothing 4$ mm

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BD|SENSORS
pressure measurement

Ordering code EP 500

EP 500

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Pressure																
	gauge	U	P	5												
	absolute	U	P	6												consult
Input																
	[bar]															
	0.06			0	6	0	0									
	0.16			1	6	0	0									
	0.4			4	0	0	0									
	1.0			1	0	0	1									
	2.0			2	0	0	1									
	5.0			5	0	0	1									
	10			1	0	0	2									
	20			2	0	0	2									
	customer			9	9	9	9									consult
Output																
	4 ... 20 mA / 2-wire							1								
	customer							9								consult
Accuracy																
	0.2 % FSO								B							
	customer								9							consult
Mechanical connection																
	hose connection Ø 4.5 mm ¹									Y	0	2				
	G1/4" EN 837									4	0	0				
	customer									9	9	9				consult
Seal																
	FKM											1				
	customer											9				consult
Pressure port																
	stainless steel 1.4301 (304)												2			
	customer												9			consult
Diaphragm																
	ceramics Al ₂ O ₃ 96%													2		
	customer													9		consult
Special version																
	standard												0	0	0	
	option												5	0	0	consult
	customer												9	9	9	consult

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