

IMP 17.609



OEM Pressure Transmitter

Application

- ▶ refrigeration

Characteristics

- ▶ stainless steel sensor, welded
- ▶ accuracy 0.5 % FSO according to IEC 60770
- ▶ nominal pressure ranges from 0 ... 6 bar up to 0 ... 60 bar
-1 ... 6 bar up to -1 ... 60 bar

Technical Data



Pressure ranges							
Nominal pressure gauge	[bar]	6	10	16	25	40	60
Overpressure	[bar]	14	35	35	70	140	140
Burst pressure \geq	[bar]	28	70	70	140	280	280
Vacuum resistance		unlimited					

Vacuum ranges							
Nominal pressure gauge	[bar]	-1 ... 6	-1 ... 10	-1 ... 16	-1 ... 25	-1 ... 40	-1 ... 60
Overpressure	[bar]	14	35	35	70	140	140
Burst pressure	[bar]	28	70	70	140	280	280

Output signal / Supply	
Standard	2-wire: 4 ... 20 mA / $V_S = 8 \dots 32 V_{DC}$
Options 3-wire	3-wire: 0 ... 10 V / $V_S = 14 \dots 30 V_{DC}$ 3-wire ratiometric: $V_{sig} = 0.5 \dots 4.5 V$ / $V_S = 5 \pm 0.5 V_{DC}$

Performance	
Accuracy ¹	$\leq \pm 0.5 \% \text{ FSO}$
Permissible load	2-wire: $R_{max} = [(V_S - V_S \text{ min}) / 0.02 \text{ A}] \Omega$ 3-wire: $R_{min} = 10 \text{ k}\Omega$
Influence effects	supply: 0.05 % FSO / 10 V load: 0.05 % FSO / k Ω
Response time	2-wire: $\leq 10 \text{ msec}$ 3-wire: $\leq 3 \text{ msec}$
Measuring rate	1 kHz

¹ accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)

Thermal effects (Offset and Span) / Permissible temperatures			
Thermal error	$\leq \pm 0.3 \% \text{ FSO} / 10 \text{ K}$	in compensated range	0 ... 70 °C
Permissible temperatures	medium: -40 ... 125 °C	electronics / environment:	-40 ... 85 °C storage: -40 ... 85 °C

Electrical protection	
Short-circuit protection	permanent 3-wire ratiometric: none
Reverse polarity protection	no damage, but also no function
Electromagnetic protection	emission and immunity according to EN 61326

Mechanical stability	
Vibration	20 g, 25 Hz ... 2 kHz according to DIN EN 60068-2-6
Shock	500 g / 1 msec according to DIN EN 60068-2-27

Materials

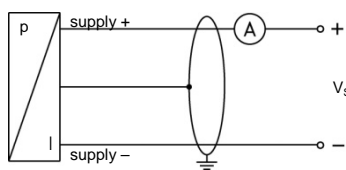
Pressure port	stainless steel 1.4571 (316Ti)
Housing	stainless steel 1.4301 (304)
Seal of sensor	none (welded)
Diaphragm	stainless steel 1.4542 (630)
Media wetted parts	pressure port, diaphragm

Miscellaneous

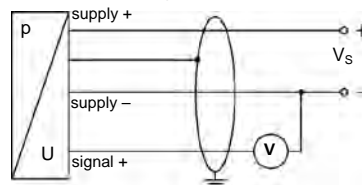
Mechanical connection	7/16"-20 UNF	
Weight	approx. 120 g	
Current consumption	2-wire: max. 25 mA	3-wire ratiometric: typ. 3 mA
	3-wire voltage: max. 7 mA (short circuit current: max. 20 mA)	
Long term stability	≤ ± 0.3 % FSO / year at reference conditions	
Operational life	> 100 x 10 ⁶ pressure cycles	
CE-conformity	EMC Directive: 2004/108/EC	

Wiring diagrams

2-wire-system (current)



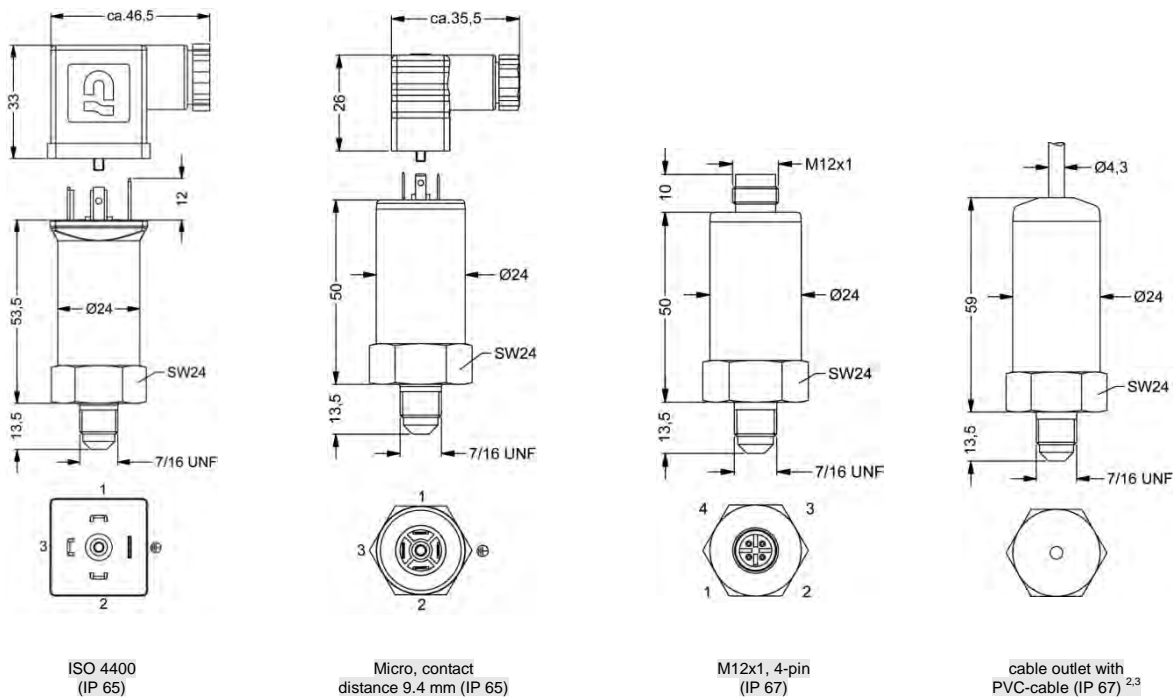
3-wire-system (voltage)



Pin configuration

Electrical connection	ISO 4400	Micro (contact distance 9.4 mm)	M12x1 (4-pin), plastic	cable colours (DIN 47100)
Supply +	1	1	1	wh (white)
Supply -	2	2	2	bn (brown)
Signal + (for 3-wire)	3	3	3	gn (green)
Shield	ground pin	ground pin	4	ye/gn (yellow / green)

Dimensions (in mm)



² standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70 °C)

³ different cable types and lengths available, permissible temperature depends on kind of cable

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Input		[bar]																			
	6	6	0	0	1																
	10	1	0	0	2																
	16	1	6	0	2																
	25	2	5	0	2																
	40	4	0	0	2																
	60	6	0	0	2																
	-1 ... 6	V	6	0	2																
	-1 ... 10	V	1	0	3																
	-1 ... 16	V	1	6	3																
	-1 ... 25	V	2	5	3																
	-1 ... 40	V	4	0	3																
	-1 ... 60	V	6	0	3																
	customer	9	9	9																consult	
Pressure																					
	gauge				R																
Output																					
	4 ... 20 mA / 2-wire				1																
	0 ... 10 V / 3-wire				3																
	0.5 ... 4.5 V / 3-wire ratiometric				R																
Accuracy																					
	0.5 % FSO				5																
	customer				9																consult
Electrical connection																					
	Male and female plug ISO 4400				1	0	0														
	Male and female plug Micro				C	1	0														
	Male plug M12x1 (4-pin), plastic				M	0	0														
	Cable outlet with PVC-cable				T	A	0														
	customer				9	9	9														consult
Mechanical connection / Seal																					
	7/16"-20 UNF								U	0	0	2									
	customer								9	9	9	9									consult
Special version																					
	standard																				
	customer																				consult

¹ standard: 2 m PVC cable without ventilation tube (permissible temperatur: -5 ... 70 °C)