



IMP 339

Industrial Pressure Transmitter

Stainless Steel Sensor

accuracy according to IEC 60770:
0.35 % FSO

Nominal pressure

from 0 ... 60 bar to 0 ... 600 bar

Output signals

2-wire: 4 ... 20 mA

3-wire: 0 ... 20 mA / 0 ... 10 V

others on request

Special characteristics

- ▶ mechanical connection:
G 1/4" flush
- ▶ suitable for viscous
and pasty media

Optional versions

- ▶ IS-version
Ex ia = intrinsically safe for
gases and dusts
- ▶ several electrical connections
- ▶ customer specific versions

The IMP 339 industrial pressure transmitter features a G 1/4" flush pressure port and was designed for the use in a range of machinery including metering systems. It is ideal for measuring the pressure of viscous and pasty media, as only a small dead space is created.

Material accumulation, dripping and stringing in machinery is eliminated. This increases the efficiency and reliability of your machines.

The IMP 339 is available with various electrical connections, ensuring an excellent adaption to the application conditions.

Preferred areas of use are:



Plant and machine engineering
- especially conveyor plants and
dosing systems



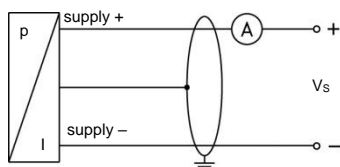
Hydraulics



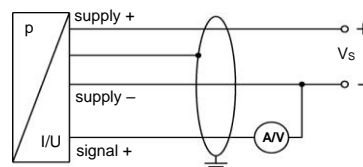
Input pressure range ¹							
Nominal pressure gauge / abs.	[bar]	60	100	160	250	400	600 ²
Overpressure	[bar]	210	210	600	600	1050	1050
Burst pressure ≥	[bar]	300	300	750	750	1200	1400
¹ nominal pressure $p_N < 60$ bar on request							
² nominal pressure 600 bar without UL certification							
Output signal / Supply							
Standard	2-wire: 4 ... 20 mA / $V_S = 8 \dots 32 V_{DC}$						
Option IS-version	2-wire: 4 ... 20 mA / $V_S = 10 \dots 28 V_{DC}$						
Options 3-wire	3-wire: 0 ... 20 mA / $V_S = 14 \dots 30 V_{DC}$ 0 ... 10 V / $V_S = 14 \dots 30 V_{DC}$						
Performance							
Accuracy ³	≤ ± 0.35 % FSO						
Permissible load	current 2-wire: $R_{max} = [(V_S - V_{S min}) / 0.02 A] \Omega$ current 3-wire: $R_{max} = 500 \Omega$ voltage 3-wire: $R_{min} = 10 k\Omega$						
Influence effects	supply: 0.05 % FSO / 10 V load: 0.05 % FSO / kΩ						
Long term stability	≤ ± 0.1 % FSO / year at reference conditions						
Response time	2-wire: ≤ 10 msec 3-wire: ≤ 3 msec						
³ accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)							
Thermal effects (offset and span)							
Tolerance band	≤ ± 1 % FSO						
in compensated range	-20 ... 85 °C						
Permissible temperatures							
Medium	-40 ... 125 °C						
Electronics / environment	-40 ... 85 °C						
Storage	-40 ... 100 °C						
Electrical protection							
Short-circuit protection	permanent						
Reverse polarity protection	no damage, but also no function						
Electromagnetic compatibility	emission and immunity according to EN 61326						
Mechanical stability							
Vibration	10 g RMS (25 ... 2000 Hz)			according to DIN EN 60068-2-6			
Shock	100 g / 11 msec			according to DIN EN 60068-2-27			
Materials							
Pressure port	stainless steel 1.4548 (17-4 PH ERS)						
Housing	stainless steel 1.4404 (316 L)						
Option compact field housing	stainless steel 1.4301 (304) cable gland M12x1.5, brass, nickel plated (clamping range 2 ... 8 mm)						
Seals	FKM; others on request						
Diaphragm	stainless steel 1.4435 (316 L)						
Media wetted parts	pressure port, diaphragm						
Explosion protection (only for 4 ... 20 mA / 2-wire)							
Approvals DX19-IMP 339	IBExU 10 ATEX 1068 X / IECEx IBE 12.0027X zone 0: II 1G Ex ia IIC T4 Ga zone 20: II 1D Ex ia IIIC T135 °C Da						
Safety technical maximum values	$U_i = 28 V_{DC}$, $I_i = 93$ mA, $P_i = 660$ mW, $C_i \approx 0$ nF, $L_i \approx 0$ μH, $C_{iGND} \approx 27$ nF						
Permissible temperatures for environment	in zone 0: -20 ... 60 °C with p_{atm} 0.8 bar up to 1.1 bar in zone 1 or higher: -40/-20 ... 70 °C						
Connecting cables (by factory)	cable capacitance: signal line/shield also signal line/signal line: 160 pF/m cable inductance: signal line/shield also signal line/signal line: 1 μH/m						
Miscellaneous							
Current consumption	signal output current: max. 25 mA signal output voltage: max. 7 mA						
Weight	approx. 120 g						
Installation position	any ⁴						
Operational life	100 million load cycles						
CE-conformity	EMC Directive: 2014/30/EU			Pressure Equipment Directive: 2014/68/EU (module A) ⁵			
ATEX Directive	2014/34/EU						
⁴ Pressure transmitters are calibrated in a vertical position with the pressure connection down.							
⁵ This directive is only valid for devices with maximum permissible overpressure > 200 bar							

Wiring diagrams

2-wire-system (current)



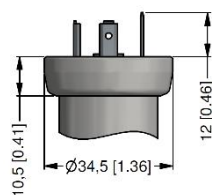
3-wire-system (current / voltage)



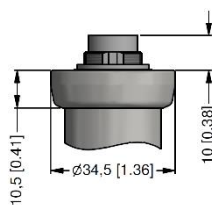
Pin configuration

Electrical connection	ISO 4400	Binder 723 (5-pin)	M12x1 / metal (4-pin)	compact field housing	cable colours (IEC 60757)
Supply +	1	3	1	V _s +	WH (white)
Supply -	2	4	2	V _s -	BN (brown)
Signal + (only for 3-wire)	3	1	3	S+	GN (green)
Shield	ground pin	5	4	GND	GNYE (green-yellow)

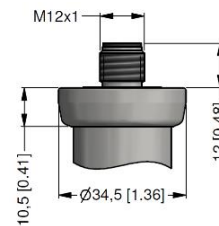
Electrical connections (dimensions mm / in)



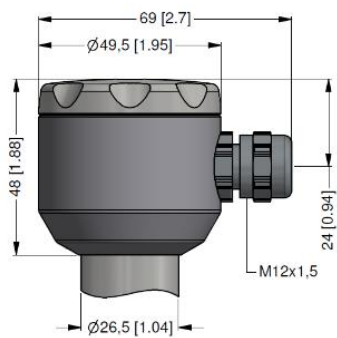
ISO 4400
(IP 65)



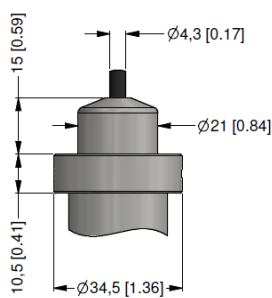
Binder series 723, 5-pin
(IP 67)



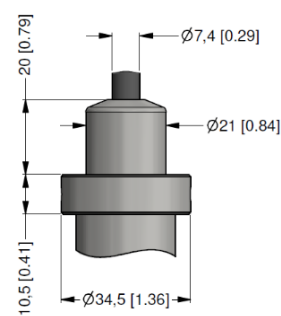
M12x1, 4-pin
(IP 67)



compact field housing
(IP 67)



cable outlet
with PVC-cable (IP 67) ⁶



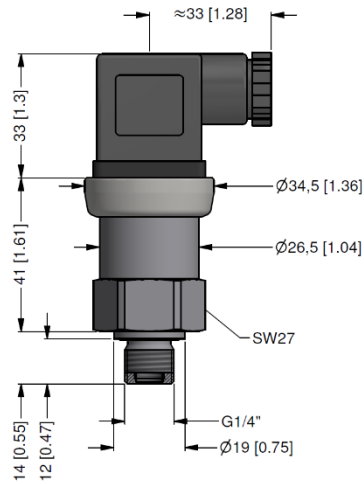
cable outlet, cable with
ventilation tube (IP 68) ⁷

⇒ universal field housing stainless steel 1.4404 (316 L) with cable gland M20x1.5 (ordering code 880) and other versions on request

⁶ standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70 °C)

⁷ different cable types and lengths available, permissible temperature depends on kind of cable

Dimensions (mm / in)



G1/4" flush DIN 3852

Accessories

Plug-on Display PA 430



Functional range

- ▶ free scalable display
- ▶ switch mode, hysteresis, parameterizable deceleration of the contacts
- ▶ display 330 ° rotatable
- ▶ connector 300 ° rotatable
- ▶ no external power supply necessary

Product characteristics

- ▶ plug-on display for pressure transmitter with output signal:
4 ... 20 mA / 2-wire or
0 ... 10 V / 3-wire
- ▶ 4-digit LED display

Optional versions

- ▶ IS-version
- ▶ 1 or 2 programmable contacts

Ordering code IMP 339

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Pressure							
	gauge	1	3	5			
	absolute	1	3	6			
Input [bar] ¹							
	60		6	0	0	2	
	100		1	0	0	3	
	160		1	6	0	3	
	250		2	5	0	3	
	400		4	0	0	3	
	600 ²		6	0	0	3	
	customer		9	9	9	9	consult
Output							
	4 ... 20 mA / 2-wire					1	
	0 ... 20 mA / 3-wire					2	
	0 ... 10 V / 3-wire					3	
	intrinsic safety 4 ... 20 mA / 2-wire					E	
	customer					9	consult
Accuracy							
	0.35 % FSO					3	
	customer					9	consult
Electrical connection							
	male and female plug ISO 4400					1	0 0
	male plug Binder series 723 (5-pin)					2	0 0
	cable outlet with PVC cable (IP67) ³					T	A 0
	cable outlet,						
	cable with ventilation tube (IP68) ⁴					T	R 0
	male plug M12x1 (4-pin) / metal					M	1 0
	compact field housing						
	stainless steel 1.4301 (304)					8	5 0
	customer					9	9 9
Mechanical connection							
	G1/4" DIN 3852					F	0 2
	with flush sensor						
	customer					9	9 9
Seals							
	FKM					1	
	customer					9	
Special version							
	standard						0 0 0
	customer						9 9 9

¹ nominal pressure gauge $p_N < 60$ bar on request

² nominal pressure 600 bar without UL certification

³ standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70°C), others on request

⁴ code TR0 = PVC cable, cable with ventilation tube available in different types and lengths