

DMP 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 DMP 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 DMP 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



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Technical Data

Input pressure range ¹							
Nominal pressure gauge / abs.	[bar]	60	100	160	250	400	600
Overpressure	[bar]	210	210	600	600	1050	1050
Burst pressure \geq	[bar]	300	300	1100	1100	1500	1500
¹ Nominal pressure $P_N < 60$ bar on request							
Output signal / Supply							
Standard	2-wire:	4 ... 20 mA / $V_S = 8 \dots 32 V_{DC}$					
Option IS-protection	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 ²	$\leq \pm 0.35$ % FSO						
Permissible load	current 2-wire: $R_{max} = [(V_S - V_S \text{ min}) / 0.02 \text{ A}] \Omega$ current 3-wire: $R_{max} = 500 \Omega$ voltage 3-wire: $R_{min} = 10 \text{ k}\Omega$						
Influence effects	supply:	0.05 % FSO / 10 V					
	load:	0.05 % FSO / k Ω					
Long term stability	$\leq \pm 0.1$ % FSO / year at reference conditions						
Response time	2-wire: ≤ 10 msec 3-wire: ≤ 3 msec						
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 ... 85 °C						
Permissible temperatures							
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) for G1/4" flush (DIN 3852)						
Housing	stainless steel 1.4404 (316 L)						
Option compact field housing	stainless steel 1.4305 (303), cable gland brass, nickel plated others on request						
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-DMP 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 T 85°C Da						
Safety technical maximum values	$U_i = 28 V_{DC}$, $I_i = 93 \text{ mA}$, $P_i = 660 \text{ mW}$, $C_i \approx 0 \text{ nF}$, $L_i \approx 0 \mu\text{H}$, $C_{IGND} \approx 27 \text{ nF}$						
Ambient temperature range	in zone 0: -20 ... 60 °C with p_{atm} 0.8 bar up to 1.1 bar in zone 1 or higher: -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 $\mu\text{H}/\text{m}$						
Miscellaneous							
Current consumption	signal output current:	max. 25 mA				signal output voltage:	max. 7 mA
Weight	approx. 120 g						
Installation position	any ³						
Operational life	$> 100 \times 10^6$ pressure cycles						
CE-conformity	EMC Directive: 2004/108/EC			Pressure Equipment Directive: 97/23/EC (module A) ⁴			
ATEX Directive	94/9/EG						
³ Pressure transmitters are calibrated in a vertical position with the pressure connection down.							
⁴ This directive is only valid for devices with maximum permissible overpressure > 200 bar							

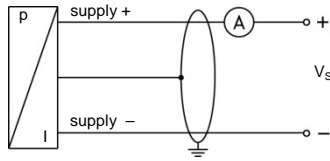
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Industrial Pressure Transmitter

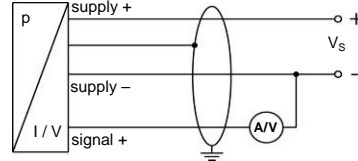
Technical Data

Wiring diagrams

2-wire-system (current)



3-wire-system (current / voltage)



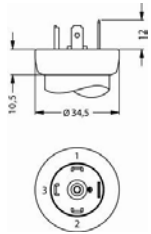
Pin configuration

Electrical connection	ISO 4400	Binder 723 (5-pin)	M12x1 / Metal (4-pin)	field housing	cable colours (DIN 47100)
Supply +	1	3	1	IN +	wh (white)
Supply -	2	4	2	IN -	bn (brown)
Signal + (for 3-wire)	3	1	3	OUT +	gn (green)
Shield	ground pin	5	4		ye/gn (yellow / green)

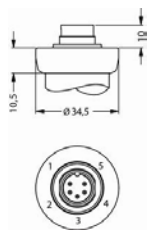
Electrical connections (dimensions in mm)

standard

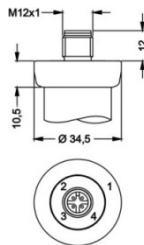
option



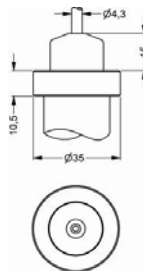
ISO 4400 (IP 65)



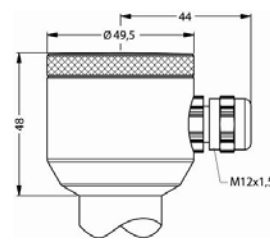
Binder Series 723 5-pin (IP 67)



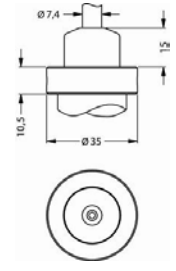
M12x1 4-pin (IP 67)



cable outlet with PVC cable (IP 67)⁵



compact field housing (IP 67)



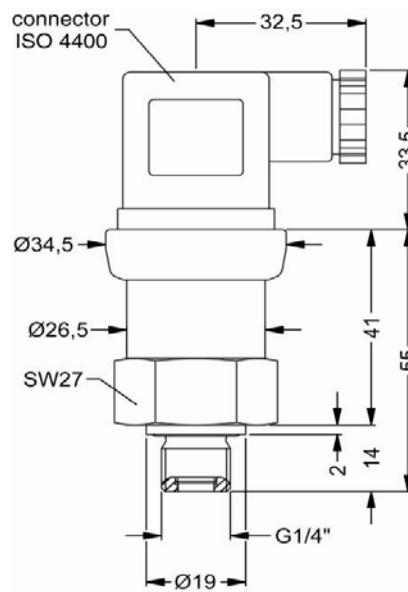
cable outlet, cable with ventilation tube (IP 68)⁶

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

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

⁶ different cable types and lengths available, permissible temperature depends on kind of cable

Mechanical connections (dimensions in mm)



G1/4" flush DIN 3852

Ordering code DMP 339

DMP 339



Pressure										
	gauge	1	3	5						
	absolute	1	3	6						
Input										
	[bar]									
	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		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
Accuracy										
	0.35 %									3
	customer									9
Electrical connection										
	Male and female plug ISO 4400									1
	Male plug Binder series 723 (5-pin)									0
	Cable outlet with PVC cable ²									0
	Cable outlet ³									T
	Male plug M12x1 (4-pin) / metal									A
	Compact field housing									R
	stainless steel 1.4305 (303)									0
	customer									M
Mechanical connection										
	G1/4" DIN 3852									1
	with flush sensor									0
	customer									2
Seals										
	FKM									1
	customer									9
Special version										
	standard									0
	customer									0
										9
										9
										9
										consult

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

² standard: 2 m PVC cable without ventilation tube (permissible temperature: $-5 \dots 70^\circ\text{C}$), others on request

³ cable with ventilation tube (code TR0 = PVC cable), different cable types and lengths available, price without cable