automatyka

BD SENSORS
pressure measurement

DMP 333

Industrial Pressure Transmitter

- piezoresistive stainless steel sensor
- accuracy:
  0.175 / 0.125 / 0.05 % FSO BFSL
  (0.35 / 0.25 / 0.1 % FSO IEC 60770)
- nominal pressure ranges
  from 0 ... 60 bar
  up to 0 ... 600 bar

The DMP 333 pressure transmitter is specially designed for use in hydraulic equipment under severe operation conditions.

Demands of machine and equipment manufacurers for ruggedness and reliability have been optimally fulfilled.

These features of the DMP 333, combined with outstanding measuring parameters and excellent offset stability, offer the user an easy-to-use, reliable and rugged pressure transmitter.

Typical areas of use are hydraulic systems in:

- machine tools
- hydraulic presses
- injection moulding machines
- handling equipment and mobile hydraulics
- elevated platforms
- test stands

Characteristics

- small thermal effect
- excellent linearity
- good long term stability
- option Ex: II 1 G EEx ia IIC T4
  (only for 4 ... 20 mA / 2-wire)
  (TÜV 03 ATEX 2006 X)
- customer specific versions:
  - variety of electrical and mechanical connections
  - other versions on request

CE Ex

DMP 333
Industrial Pressure Transmitter

TÜV CERT
DIN EN ISO 9001

DMP 333

Industrial Pressure Transmitter — Technical Data

Input pressure range

Nominal pressure gauge [1]	[bar]	60	100	160	250	400	600
Nominal pressure abs.	[bar]	60	100	160	250	400	600
Permissible overpressure	[bar]	140	340	340	600	600	1000

Output signal / Supply

Standard	2-wire:	4 ... 20 mA	/ V_S = 12 ... 36 V_{DC}	Ex-protection:	V_S = 14 ... 28 V_{DC}
Optional	3-wire:	0 ... 20 mA	/ V_S = 14 ... 36 V_{DC}		
		0 ... 10 V	/ V_S = 14 ... 36 V_{DC}		

Performance

Accuracy [2]	standard:	≤ ± 0.35 % FSO	(BFSL: ≤ ± 0.175 % FSO)
	option:	≤ ± 0.25 % FSO	(BFSL: ≤ ± 0.125 % FSO)
		≤ ± 0.1 % FSO	(BFSL: ≤ ± 0.05 % FSO)
Permissible load	current 2-wire:	$R_{max} = [(V_S - V_{S\,min}) / 0.02]\ \Omega$	
	current 3-wire:	R_{max} = 500 Ω	
	voltage 3-wire:	R_{mi114n} = 10 kΩ	
Influence effects	supply:	0.05 % FSO / 10 V	
	load:	0.05 % FSO / kΩ	
Long term stability	≤ ± 0.1 % FSO / year		
Response time	< 5 ms		

Thermal errors (Offset and Span)

Tolerance band	≤ ± 0.75 % FSO
TC, average	± 0.07 % FSO / 10 K
in compensated range	0 ... 70 °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
Option Ex-protection DX13-DMP 333	II 1 G EEx ia IIC T4 (only with 4 ... 20 mA / 2-wire) safety technical maximum values: V_i = 28 V, I_i = 93 mA, P_i = 660 mW

Mechanical stability

Vibration	10 g RMS (20 ... 2000 Hz)
Shock	100 g / 11 ms

Permissible temperatures

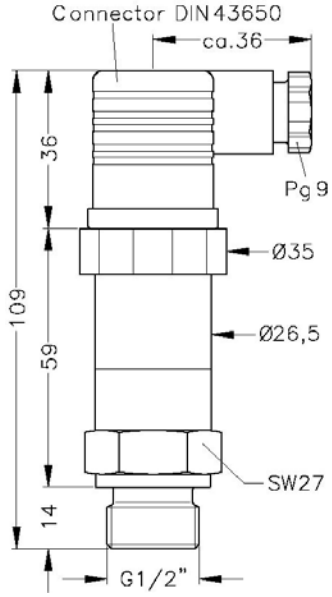
Medium	-25 ... 125 °C
Electronics / environment	-25 ... 85 °C
Storage	-40 ... 125 °C

[1] measurement starts with ambient pressure

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

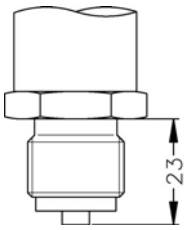
Mechanical connection

Standard

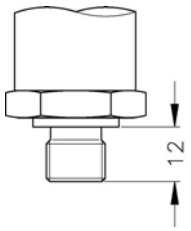


G1/2“ DIN 3852
M20 x 1.5

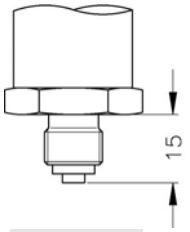
Optional



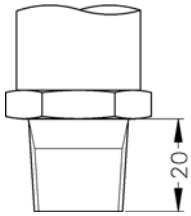
G1/2“ EN 837
M20 x 1.5



G1/4“ DIN 3852
M10 x 1
M12 x 1
M12 x 1.5



G1/4“ EN 837

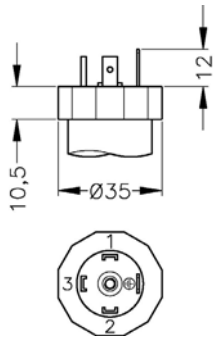


1/2“ NPT

⇨ Total length of devices with Ex-protection increases by 26.5 mm!
⇨ Total length of devices with accuracy 0.1 % FSO IEC 60770 increases by 45 mm! (standard and Ex-protection)

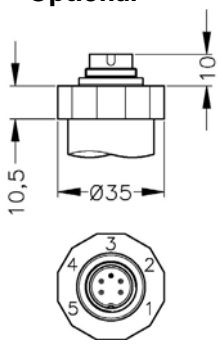
Electrical connection

Standard

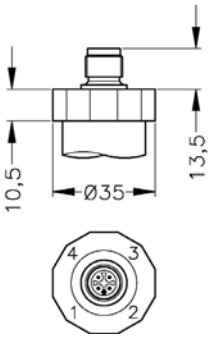


DIN 43650 (IP 65)

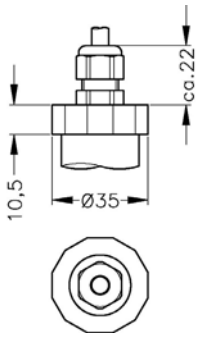
Optional



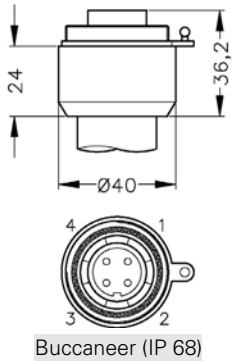
Binder Series 723 (IP 67)



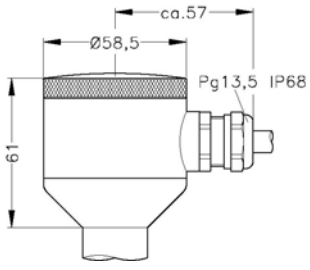
M12x1 4-pin (IP 67)



Cable gland (IP 67) [3]



Buccaneer (IP 68)



Field housing (IP 67)

[3] different cable types and lengths available; standard: 2 m PVC cable

DMP 333

Industrial Pressure Transmitter

Technical Data

Materials

Pressure port	stainless steel 1.4571 (316Ti)
Housing	stainless steel 1.4301 (304) / field housing: 1.4305 (303) with cable gland : brass, nickel plated
Seals (media wetted)	NBR; others on request
Diaphragm	stainless steel 1.4435 (316L)
Media wetted parts	pressure port, seals, diaphragm

Miscellaneous

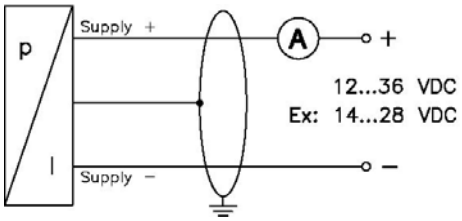
Current consumption	signal output current: max. 25 mA signal output voltage: max. 7 mA
Weight	approx. 140 g
Installation position	any
Operational life	> 100 x 10^6 cycles

Pin configuration

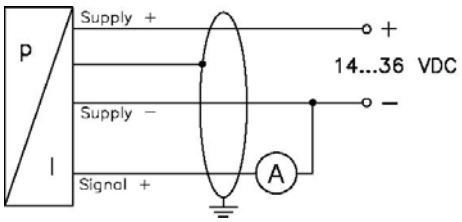
Electrical connection		DIN 43650	Binder 723 (5-pin)	M12x1 (4-pin)	Buccaneer (4-pin)	cable colours (DIN 47100)
2-wire-system	Supply +	1	3	1	1	white
	Supply –	2	4	2	2	brown
	Ground	ground pin	5	4	4	yellow / black
3-wire-system	Supply +	1	3	1	1	white
	Supply –	2	4	2	2	brown
	Signal +	3	1	3	3	green
	Ground	ground pin	5	4	4	yellow / black

Wiring diagrams

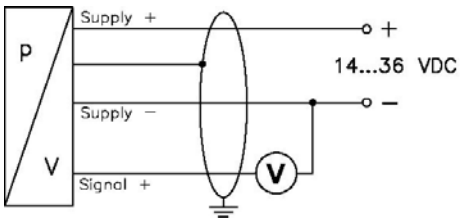
2-wire-system (current)



3-wire-system (current)



3-wire-system (voltage)



Ordering code DMP 333

DMP 333 □□□-□□□□-□-□-□□□-□□□-□-□□□

Pressure																			
	gauge [1]	1	3	0															
	absolut	1	3	1															
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				X	X	X	X											
Output																			
	4 ... 20 mA / 2-wire								1										
	0 ... 20 mA / 3-wire								2										
	0 ... 10 V / 3-wire								3										
	Intrinsic safety for zone 0 / 4 ... 20 mA / 2-wire								E										
	customer								X										
Accuracy																			
standard	0,35 %									3									
option	0,25 %									2									
option	0,1 %									1									
	customer									X									
Electrical Connection																			
	Male and female plug DIN 43650										1	0	0						
	Binder series 723 (5-pin)										2	0	0						
	Cable gland incl. Cable [2]										4	0	0						
	Buccaneer IP68										5	0	0						
	M12x1 (4-pin)										M	0	0						
	Field housing stainless steel										8	0	0						
	customer										X	X	X						
Mechanical Connection																			
	G1/2" DIN 3852													1	0	0			
	G1/2" EN 837													2	0	0			
	G1/4" DIN 3852													3	0	0			
	G1/4" EN 837													4	0	0			
	1/2" NPT													N	0	0			
	customer													X	X	X			
Seals																			
	NBR																5		
	customer																X		
Special version																			
	standard																	0	0	0
	customer																	X	X	X

[1] measurement starts with ambient pressure

[2] different cable types and lengths deliverable, standard: 2 m PVC cable (without ventilation tube), optionally cable with ventilation tube

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