DRUCK & TEMPERATUR
LEITENBERGER GMBH

DMP 304

Industrial Pressure Transmitter for Ultra High Pressure

accuracy according to IEC 60770:
standard: 0.5 % FSO
option: 0.25 % FSO

Nominal pressure

from 0 ... 2 000 bar up to 0 ... 6 000 bar

Output signals

2-wire: 4 ... 20 mA
3-wire: 0 … 10 V (on request)

Special characteristics

- adjustability of offset and span via front sided potentiometers
- pressure port 9/16" UNF
- 80 % calibration signal with MIL / Bendix plug

Optional versions

- IS-version:
  Ex ia = intrinsically safe for gases
- accuracy according to IEC 60770:
  0.25 % FSO
- pressure port M20x1.5 and M16x1.5

The ultra-high-pressure transmitter type **DMP 304** has been especially designed for applications with highest demand on precision and reliability.
DMP 304 series is based on a compensated strain gauge, bonded onto a stainless steel diaphragm.

Due to the rugged stainless steel housing usage under extreme conditions and in IS-required areas is no problem.

Preferred areas of use are

- hydraulic circuits
- water jet cutting
- high pressure applications in chemical and petrochemical industry

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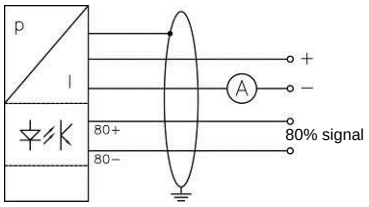
Input pressure range					
Nominal pressure gauge	[bar]	2 000	4 000	5 000	6 000
Overpressure	[bar]	3 000	5 000	6 000	7 000
Burst pressure	[bar]	4 000	8 000	10 000	10 000

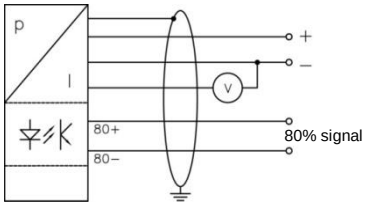
Output signal / Supply	
Standard	2-wire: 4 ... 20 mA / V_S = 10 ... 30 V_{DC}
IS-protection	2-wire: 4 ... 20 mA / V_S = 10 ... 28 V_{DC}
Option 3-wire (on request)	3-wire: 0 ... 10 V / V_S = 14 ... 36 V_{DC}
Performance	
Accuracy[1]	standard: ≤ ± 0.50 % FSO option: ≤ ± 0.25 % FSO (on request)
Permissible load	current 2-wire: $R_{max} = [(V_S - V_{S\ min}) / 0.02\ A]\ \Omega$ voltage 3-wire: R_{min} = 10 kΩ
Influence effects	supply 0.05 % FSO / 10 V load: 0.05 % FSO / kΩ
Long term stability	≤ ± 0.2 % FSO / year at reference conditions
Response time	< 2.5 msec
Adjustability	Via a front sided potentiometer is an adjustment of the offset possible within the range of ± 5 % of the nominal pressure range, without an influence of characteristic curve and accuracy.
[1] accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)	
Calibration (only with MIL / Bendix plug)	
Calibration signal accuracy	≤ ± 0.25 % FSO
Calibration	80 % FSO calibration (e.g. for 4 ... 20 mA / 2-wire: signal = 0.8*16 mA + 4 mA = 16.8 mA)
Thermal effects (Offset and Span)	
Thermal error	≤ ± 0.2 % FSO / 10 K in compensated range -20 ... 85 °C
Permissible temperatures	
Permissible temperatures	medium: -40 ... 85 °C electronics / environment: -25 ... 85 °C storage: -40 ... 85 °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 (20 ... 2000 Hz)
Shock	100 g / 11 msec
Materials	
Pressure port / diaphragm	stainless steel 1.4548 (17-4 PH)
Housing	standard: stainless steel 1.4301 (304)
Seals (media wetted)	none (welded version)
Media wetted parts	pressure port, diaphragm
IS-protection (only for 4 ... 20 mA / 2-wire)	
Approval DX17-DMP 304	zone 0: II 1G Ex ia IIC T4
Safety technical maximum values	U_i = 28 V, I_i = 93 mA, P_i = 660 mW
Permissible temperatures for environment	in zone 0: -20 ... 60 °C with p_{atm} 0.8 bar up to 1.1 bar zone 1 and higher: -25 ... 70 °C
Connecting cables (by factory)	cable capacity: signal line/shield as well as signal line/signal line: 160 pF/m cable inductance: signal line/shield as well as signal line/signal line: 1 µH/m
Miscellaneous	
Insulation strength / resistance	standard: insulation strength 100 MΩ @ 35 V IS-version: insulation resistance 100 MΩ @ 35 V_{DC} 100 MΩ @ 500 V_{AC} (relative to housing)
Current consumption	2-wire signal output current: max. 28 mA 3-wire signal output voltage: max. 15 mA
Weight	approx. 260 g
Installation position	any
CE-conformity	EMC Directive: 2004/108/EC Pressure Equipment Directive: 97/23/EC (module A)

Wiring diagrams

2-wire-system (current)



3-wire-system (voltage)



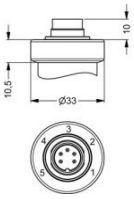
Pin configuration

Electrical connections	Binder 723 (5-pin)	M12x1 (4-pin)	ISO 4400	cable colours (DIN 47100)
Supply + Supply – Signal + (only for 3-wire)	3 4 1	1 2 3	1 2 3	wh (white) bn (brown) gn (green)
Shield	5	4	pin	gn/ye (green / yellow)

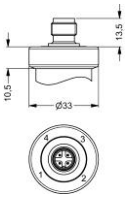
Pin configuration MIL / Bendix plug (optional)

Version	Pin A	Pin B	Pin C	Pin D	Pin E	Pin F
2-wire current signal 4 ... 20 mA	supply +/ signal +	supply -/ signal -	-	-	calibration +	calibration -
3-wire	signal +	supply - / signal - / calibration -	supply +	-	-	calibration +

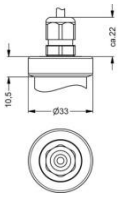
Electrical connections (dimensions in mm)



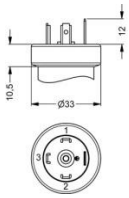
Binder series 723 (IP 67)



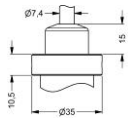
M12x1 4-pin (IP 67)



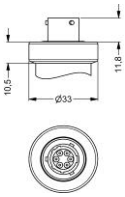
cable outlet
with PVC-cable (IP 67)[2]



ISO 4400 (IP 65)



cable outlet (IP 67)[3]

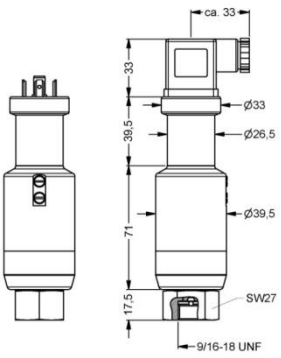


MIL / Bendix plug
(Typ PT 02 A 10-6 P)

[2] *standard: 2 m PVC-cable without air tube (permissible temperature: -5 ... 70 °C)*
[3] *different cable types and lengths available, permissible temperature depends on kind of cable*

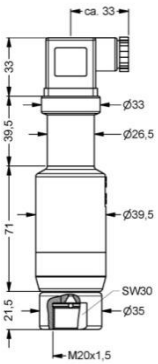
Mechanical connections (dimensions in mm)

Standard

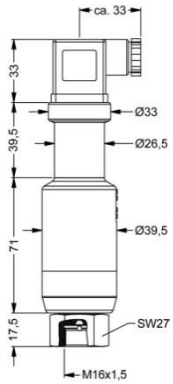


9/16“ UNF internal thread

Option



M20x1,5 internal thread



M16x1,5 internal thread

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Spezifikationsblatt / specification sheet

DMP 304

DMP 304 ☐☐☐ - ☐☐☐☐ - ☐ - ☐ - ☐☐☐ - ☐☐☐ - ☐☐☐

Messgröße	**Pressure**				
relativ		gauge	220		
Eingang	**Input**	**[bar]**			
2 000		2 000	2004		
4 000		4 000	4004		
5 000		5 000	5004		
6 000		6 000	6004		
Sondermessbereiche		customer	9999	auf Anfrage	consult
Ausgang	**Output**				
4 … 20 mA / 2-Leiter		4 … 20 mA / 2-wire	1		
Ex-Schutz 4 … 20 mA / 2-Leiter		Intrinsic safety 4 … 20 mA / 2-wire	E		
0 … 10 V / 3-Leiter		0 … 10 V / 3-wire	3	auf Anfrage	consult
andere		customer	9	auf Anfrage	consult
Genauigkeit	**Accuracy**				
Standard 0,5 %	standard	0.5 %	5		
Option 0,25 %	option	0.25 %	2	auf Anfrage	consult
andere		customer	9	auf Anfrage	consult
Elektrischer Anschluss	**Electrical connection**				
Stecker und Kabeldose ISO 4400		Male and female plug ISO 4400	100		
Stecker Binder Serie 723 (5-polig)		Male plug Binder series 723 (5-pin)	200		
Kabelausgang mit PVC-Kabel		Cable outlet with PVC-cable [1]	TA0		
Kabelausgang		Cable outlet [2]	TR0		
Stecker M12x1 (4-polig), Metall		Male plug M12x1 (4-pin), metal	M10		
MIL-/Bendix (Typ PT 02 A 10-6 P)		MIL-/Bendix (Typ PT 02 A 10-6 P)	BG0	auf Anfrage	consult
andere		customer	999	auf Anfrage	consult
Mechanischer Anschluss	**Mechanical connection**				
9/16" UNF Innengewinde		9/16" UNF internal thread	V00		
M16x1,5 Innengewinde		M16x1.5 internal thread	P00		
M20x1,5 Innengewinde		M20x1.5 internal thread	D28		
andere		customer	999	auf Anfrage	consult
Sonderausführungen	**Special version**				
verstellbar		adjustable	041		
andere		customer	999	auf Anfrage	consult

Preise EXW Thierstein, ausschl. Verpackung **Prices EXW Thierstein, excluding package**

[1] Standard: 2 m PVC-Kabel ohne Belüftungsschlauch (Temperatu standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 … 70 °C), optionally cable with ventilation tube

[2] Kabel in verschiedenen Ausführungen und Längen lieferbar (Ten different cable types and lengths deliverable (permissible temperature depends on kind of cable)

Authorized Distributor

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