GEFRAN

OIL-FILLED MELT PRESSURE TRANSMITTERS

WD SERIES

DP404 CAN OPEN digital output

The WD series of Gefran, are pressure transmitters for using in High temperature environment.
The main characteristic of this series is the capability to read temperature of the media up to 315°C.
The constructive principle is based on the hydraulic trasmission of the pressure.
The fluid-filled system assures the temperature stability.
The phisical measure is transformed in a electrical measure by means of thick film on stainless steel technology.

MAIN FEATURES

Electrical

- Digital output signal with DP404 CAN OPEN communication protocol
- Transmission frequency (Baud rate): 10 Kbaud to 1Mbaud (default 500 Kbaud)
- Software selection of Baud rate and ID nodes
- Operation with 1 or 2 settable alarm limits
- “Autozero” for temperature compensation
- Zero and span drift compensation
- 80% FSO calibration signal
- Filling with certifyd oil FDA, CFR178.3620 and CFR172.878

Mecanical

- Pressure ranges: 0-35 to 0-1000 bar/0-500 to 0-15000 psi
- Precision: < ± 0.25% FSO (H); < ±0.5% FSO (M)
- Extensimetric measurement principle with Wheatstone jumper
- Hydraulic transmission system to guarantee temperature stability (diathermic oil). Filling with certifyd oil FDA, CFR178.3620 and CFR172.878
- Quantity of oil contained for model: series WD0 (30mm³); series WD1,WD2,WD3 (40mm³)
- Standard threading: 1/2-20 UNF, M18x1.5; other versions on request
- Autozero function by software
- Stainless steel 17-7 PH diaphragm with GTP+ coating

GTP+ (advanced protection)
Coating with high resistance against corrosion, abrasion and high temperature

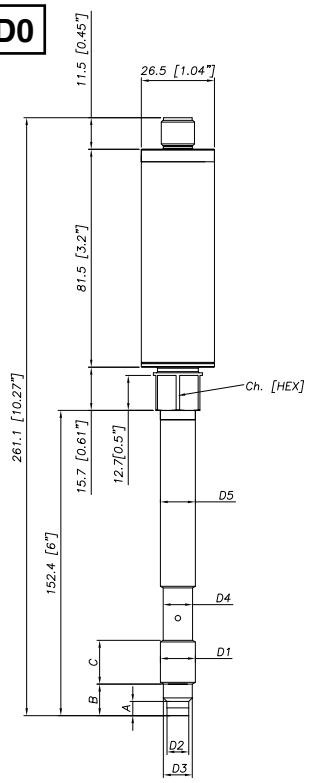
TECHNICAL SPECIFICATIONS

Rated precision, including effects of linearity, repeatability and hysteresis	H < ±0.25%FSO (350…1000 bar) M < ±0.5%FSO (35…1000 bar)
Sampling	16 bit (1)
Pressure ranges	0-500 to 0-15.000 psi 0-35 to 0-1000 bar
Maximum applicable pressure	2 x FSO
Measurement principle	Strain gauge
Power supply	12…40 Vdc
Typical input	20 mA (2)
Insulation resistance (at 50Vdc)	>1000 MOhm
Signal at rated pressure (FSO)	Depends on FSO
Signal at ambient pressure	0
Calibration of ambient pressure	Insertion of an offset
Signal protocol	DP404 CAN OPEN, with baud rate selectable from 10K to 1M baud (default 500 Kbaud)
Response time (10 at 90% FSO)	20 ms
Electronic response time (10 at 90% FSO)	2 ms
Calibration signal	80%FSO
Protection against overvoltage and reverse polarity of power supply	YES
Compensated temperature range of strain Gauge Housing	0…+85°C 32…+185°F
Maximum temperature range of strain Gauge Housing	-30…+105°C -22…+221°F
Thermal drift in compensated range; Zero Calibration Sensitivity	 <0.02 %FSO/°C <0.01 %FSO/°F <0.01 %FSO/°F
Max. diaphragm temperature	315°C (600°F)
Influence due to variation of fluid temperature (zero)	0.04bar/°C 30 Psi/100°F
Standard Material in contact with process medium	Diaphragm: • 17-7PH corrugated diaphragm with GTP+ Stem • 17-4 PH
Thermocouple (model WD2)	STD: Type * J (isolated coupling)
Protection level	IP65
Electrical connections	M12 DIN EN 50044 5-pin connector

(1) resolution: 0.01 bar from 35…500bar; 0.1 bar from 700…1000bar; 0.1 psi from 5000…350psi; 1 psi from 7500…15000psi
(2) Conditions: Power supply 24 Vdc
FSO = Full Scale Output (Signal at rated pressure)

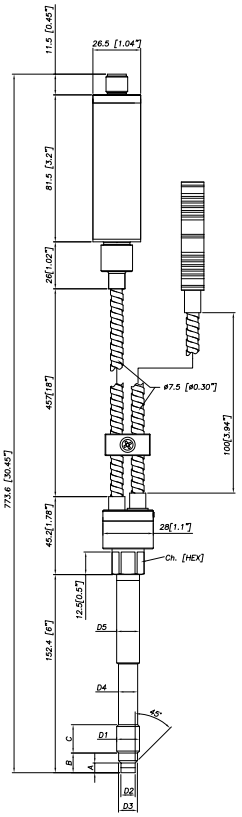
MECHANICAL DIMENSIONS

WD0

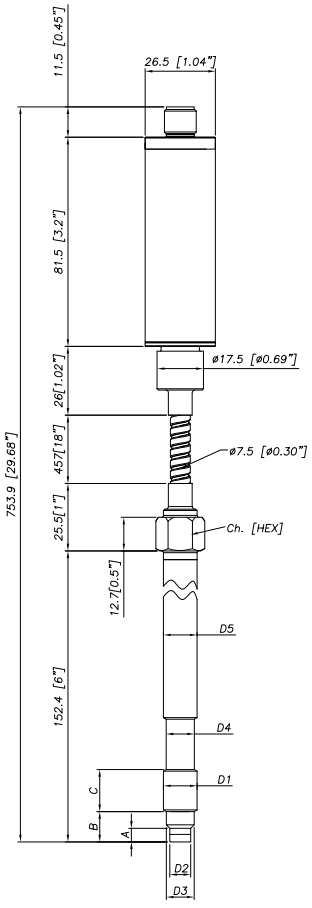


D1	**1/2 - 20UNF**
D2	ø7.8 -0.05 [ø0.31" -0.002]
D3	ø10.5 -0.025 [ø0.41" -0.001]
D4	ø10.67 [ø0.42"]
D5	ø12.7 [ø0.5"]
A	5.56 -0.26 [0.22" -0.01]
B	11.2 [0.44"]
C	15.74 [0.62"]
Ch [Hex]	16 [5/8"]

WD2

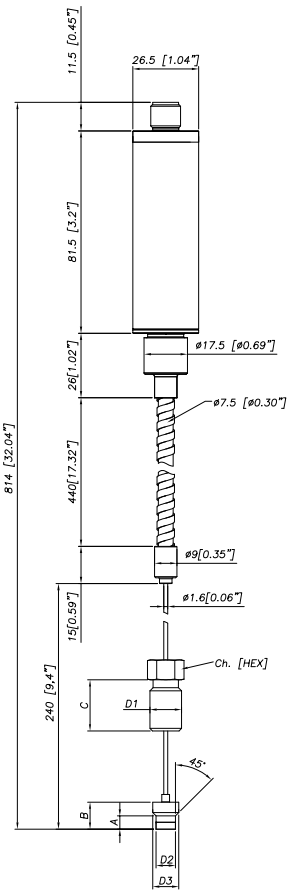


WD1



D1	**M18x1,5**
D2	ø10 -0.05 [ø0.394" -0.002]
D3	ø16 -0.08 [ø0.63" -0.003]
D4	ø16 -0.4 [ø0.63" -0.016]
D5	ø18 [ø0.71"]
A	6 -0.26 [0.24" -0.01]
B	14.8 -0.4 [0.58" -0.016]
C	19 [0.75"]
Ch [Hex]	19 [3/4"]

WD3



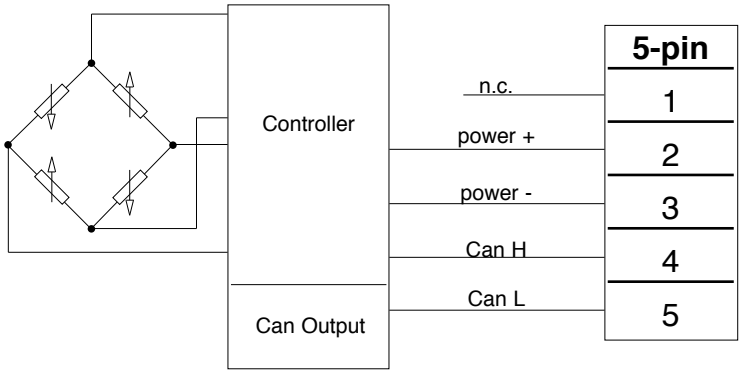
	Exposed capillary
D1	1/2-20UNF
D2	.307/.305" [7.80/7.75mm]
D3	.414/.412" [10.52/10.46mm]
A	.125/.120" [3.18/3.05mm]
B	.318/.312" [8.08/7.92mm]
C	.81" [20.6mm]

NOTE : dimensions refer to rigid stem length option "4" (153 mm – 6")

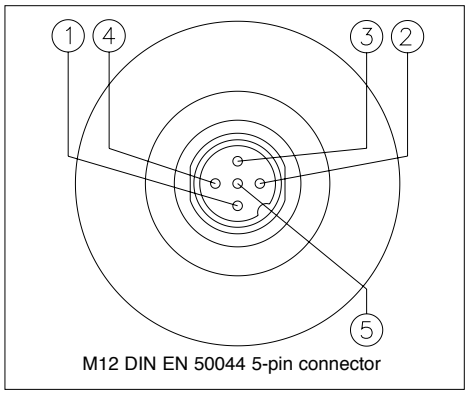
WARNING : For installation use a maximum tightening torque of 56 Nm(500 in-lb)

ELECTRICAL CONNECTIONS

CAN BUS DP404 DIGITAL OUTPUT



Shielding is connected to transducer body. It is advisable to ground it on the instrument side as well.



M12 DIN EN 50044 5-pin connector

ACCESSORIES

Connectors

5 pin female connector (IP65 protection)	**CON031**

Extension cords

5-pin connector with cord length 1 meter (3.3 ft)	**PCAV161**
5-pin connector with cord length 2 meters (7 ft)	**PCAV162**
5-pin connector with cord length 5 meters (17 ft)	**PCAV163**
Other lengths	**on request**

Cord color code

Conn.	Wire
1	n.c.
2	Red
3	Black
4	White
5	Blue

Accessories

Fastening bracket	**SF18**
Protective plug for 1/2 - 20 UNF	**SC12**
Protective plug for M18x1.5	**SC18**
Punch kit for 1/2-20 UNF	**KF12**
Punch kit for M18x1.5	**KF18**
Cleaning kit for 1/2-20 UNF	**CT12**
Cleaning kit for M18x1.5	**CT18**

ORDER CODE

W - □ - □ - □ - □ - □ - □ - □ - □ - **000**

000= Special executions of the standard version or custom versions may be ordered on request

OUTPUT SIGNAL	
CAN BUS	**D**

CONFIGURATION	
Rigid rod	**0**
Rigid + flexible rod	**1**
With thermocouple	**2**
Exposed capillary	**3**

CONNECTOR	
Standard	
5-pin M12	**5**

PRECISION CLASS	
± 0.25% (ranges ≥100 bar/1500 psi)	**H**
± 0.5%	**M**

MEASUREMENT RANGE			
bar		psi	
35	**B35U**	**500**	**P05C**
50	**B05D**	**750**	**P75D**
70	**B07D**	**1000**	**P01M**
100	**B01C**	**1500**	**P15C**
200	**B02C**	**3000**	**P03M**
350	**B35D**	**5000**	**P05M**
500	**B05C**	**7500**	**P75C**
700	**B07C**	**10000**	**P10M**
1000	**B01M**	**15000**	**P15M**

LENGTH OF FLEXIBLE ROD(*) (mm / inches)		
Standard (WD0)		
0	none	
Standard (WD1, WD2)		
D	457mm	18”
E	610mm	24”
F	760mm	30”
Standard (WD3)		
L	711mm	28”
On request		
A	76mm	3”
B	152mm	6”
C	300mm	12”

LENGHT OF RIGID ROD (*) (mm / inches)		
Standard (WD0, WD1, WD2)*		
4	153mm	6”
5	318mm	12.5”
Standard (WD3)		
0	none	
On request		
1	38mm	1.5”
2	50mm	2”
3	76mm	3”
6	350mm	14”
7	400mm	16”
8	456mm	18”

THREADING	
Standard	
1	1/2 - 20 UNF
4	M18 x 1.5

(*) note: max. total length of rigid/flexible rod is 914 mm-36”

Example

WD0-5-M-B07C-1-4-0-000
Oil-filled melt pressure transducer with Can output, 5-pin connector, 1/2 - 20 UNF threading, pressure range 700 bar, precision class 0.5%, 153 mm (6”) rigid rod.

WD1-5-M-P03M-1-4-D-000
Oil-filled melt pressure transducer with Can output, 5-pin connector, 1/2 - 20 UNF threading, pressure range 3000 bar, precision class 0.5%, 153 mm (6”) rigid rod, 457 mm (18”) flexible rod.

Sensors are manufactured in compliance with:
- EMC compatibility directive
- RoHS directive

Electrical installation requirements and Conformity certificate are available on our web site: www.gefran.com

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