



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 transmission of the pressure.

The fluid-filled system assures the temperature stability. The physical measure is transformed in a electrical measure by means the strain-gauge 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 certified oil FDA, CFR178.3620 and CFR172.878

Mechanical

- Pressure ranges: 0-35 to 0-1000 bar/0-500 to 0-15000 psi
- Precision: $< \pm 0.25\%$ FSO (H); $< \pm 0.5\%$ FSO (M)
- Extensimetric measurement principle with Wheatstone jumper
- Hydraulic transmission system to guarantee temperature stability (diathermic oil). Filling with certified oil FDA, CFR178.3620 and CFR172.878
- Quantity of oil contained for model: series WDE0 (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 $< \pm 0.25\%$ FSO (350...1000 bar) M $< \pm 0.5\%$ 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	$< 0.02\%$ FSO/°C
Calibration Sensitivity	$< 0.01\%$ 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

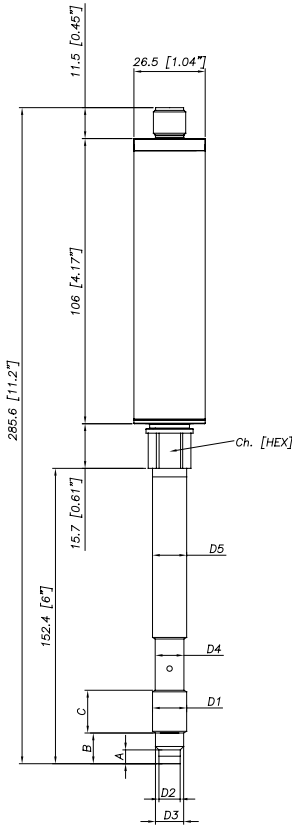
(1) resolution: 0.01 bar from 35...500bar; 0.1 bar from 700...1000bar;
0.1 psi from 5000...350psi; 1 psi from 7500...15000psi

(2) Conditions: Power supply 24 Vdc

FSO = Full Scale Output (Signal at rated pressure)

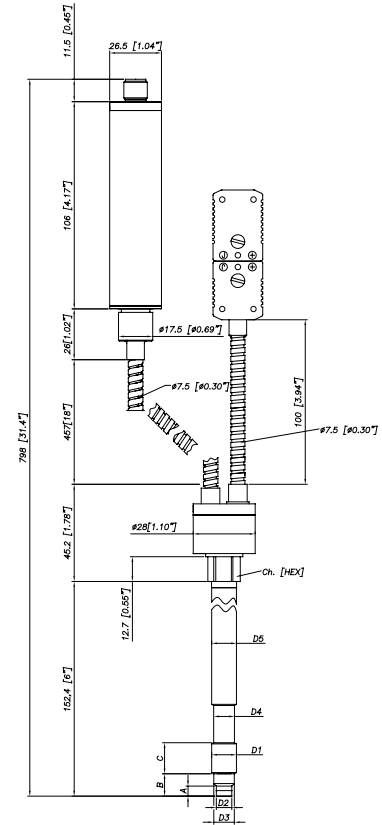
MECHANICAL DIMENSIONS

WD0

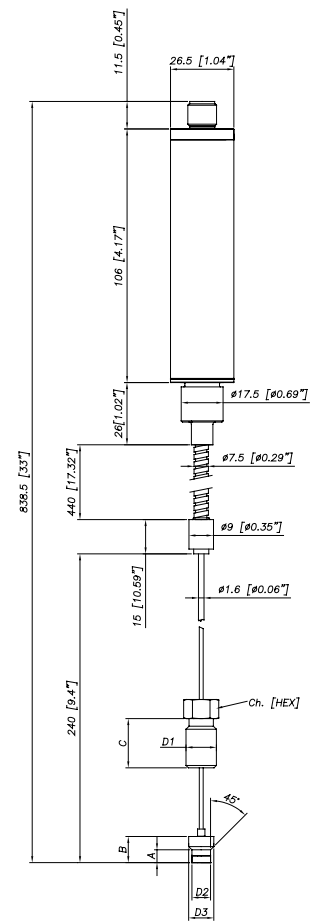


D1	1/2 - 20UNF
D2	$\phi 7.8 -0.05$ [$\phi 0.31$ " -0.002]
D3	$\phi 10.5 -0.025$ [$\phi 0.41$ " -0.001]
D4	$\phi 10.67$ [$\phi 0.42$ "]
D5	$\phi 12.7$ [$\phi 0.5$ "]
A	$5.56 -0.26$ [0.22 " -0.01]
B	11.2 [0.44 "]
C	15.74 [0.62 "]
Ch [Hex]	16 [$5/8$ "]

WD2

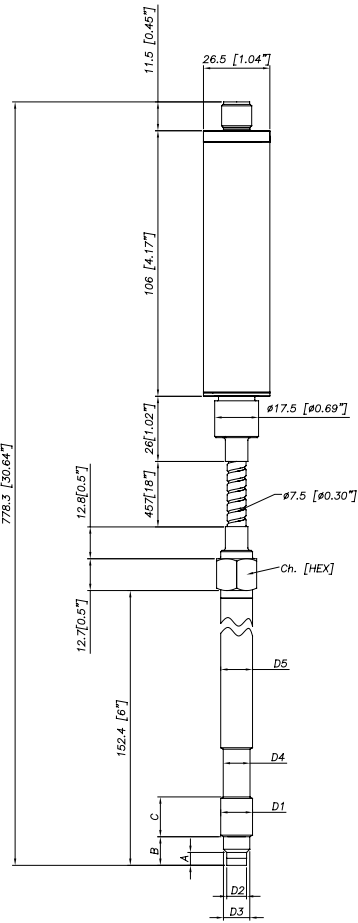


WD3



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]

WD1



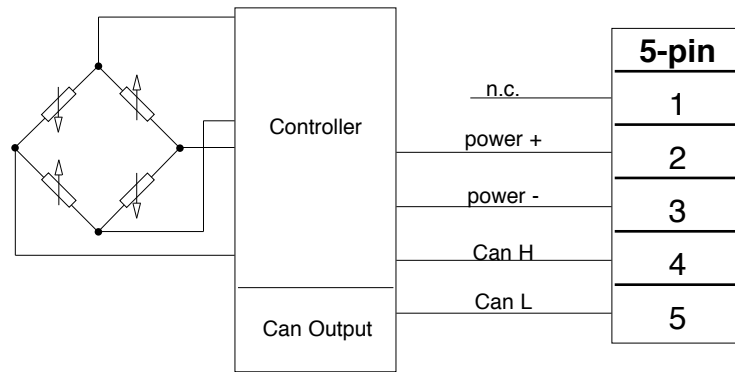
D1	M18x1,5
D2	$\phi 10 -0.05$ [$\phi 0.394$ " -0.002]
D3	$\phi 16 -0.08$ [$\phi 0.63$ " -0.003]
D4	$\phi 16 -0.4$ [$\phi 0.63$ " -0.016]
D5	$\phi 18$ [$\phi 0.71$ "]
A	$6 -0.26$ [0.24 " -0.01]
B	$14.8 -0.4$ [0.58 " -0.016]
C	19 [0.75 "]
Ch [Hex]	19 [$3/4$ "]

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

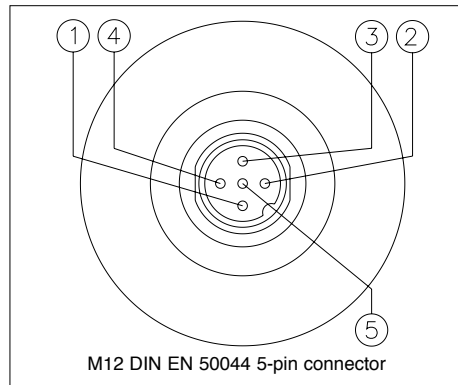
WARNING : For installation use a maximum tightening torque of 56 Nm(500 in-lb)

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.



ACCESSORIES

Connectors

5 pin female connector (IP65 protection)

CON031

Extension cords

5-pin connector with cord length 1 meter (3.3 ft)
 5-pin connector with cord length 2 meters (7 ft)
 5-pin connector with cord length 5 meters (17 ft)

PCAV161
PCAV162
PCAV163

Other lengths

on request

Accessories

Fastening bracket
 Protective plug for 1/2 - 20 UNF
 Protective plug for M18x1.5
 Punch kit for 1/2-20 UNF
 Punch kit for M18x1.5
 Cleaning kit for 1/2-20 UNF
 Cleaning kit for M18x1.5

SF18
SC12
SC18
KF12
KF18
CT12
CT18

Cord color code

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

ORDER CODE

W - - - - - 000

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

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

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"

LENGTH 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 2004/108/CE compatibility directive
- RoHS 2002/95/CE directive

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

GEFRAN spa reserves the right to make aesthetic or functional changes at any time and without notice.

GEFRAN spa
 via Sebina, 74
 25050 PROVAGLIO D'ISEO (BS) - ITALIA
 tel. 0309888.1 - fax. 0309839063
 Internet: <http://www.gefran.com>

