



Main features

- Ranges: from 0...10 to 0...1000 bar
- Output signal 4...20mA 2-wires / 0.1...5.1Vdc / 0.1...10.1Vdc / 0...5Vdc / 0...10Vdc / 1...5Vdc / 1...6Vdc / 1...10Vdc
- Protection rating: IP65/IP67
- Wetted parts: 17-4PH Stainless Steel
- Flush fitting stainless steel measuring diaphragm
- Digital Autozero & Span function

TPFADA Series flush diaphragm pressure transmitters are based on bonded strain gauge on stainless steel technology.

Thanks to the strong flush diaphragm made with 17-4 PH stainless steel, TPFADA is particularly suitable for pressure measurement where the media is with high viscosity (thick fluids, oils, rubber, pulps, chemical products, etc.) and the traditional transducers with internal measuring chamber cannot be used.

The high thickness of the diaphragm makes the product very reliable and suitable for heavy industrial application.

Internal state of the art electronics allows a wide range of current

and voltage signal outputs, as well as the innovative "Digital Autozero & Span" function is able to perform an easy and quick automatic zero adjustment after the installation, simply with the touch of a magnetic pen, supplied as standard.

TECHNICAL DATA

	Output signal	VOLTAGE	CURRENT
Accuracy (1)		H $\pm 0.2\%$ FSO typical ($\pm 0.3\%$ FSO max) 0-60...0-1000 bar M $\pm 0.5\%$ FSO typical ($\pm 0.6\%$ FSO max) 0-10...0-50 bar	
Measurement range		from 0...10 to 0...1000 bar / from 0...150 to 0...15000 psi	
Resolution		Infinite	
Overpressure (without degrading performance) (2)		3 x Full Scale (max 2000 bar)	
Pressure containment (Burst test) (3)		4 x Full Scale (max 2000 bar)	
Pressure media		Fluid compatible with Inox 17-4PH	
Body materials		Inox AISI 304, Nylon 66F35VO	
Power supply		B/M/P/R 10...30Vdc C/N/I/Q 15...30Vdc	10...30Vdc
Supply sensitivity		< 0,0015% FSO/V	
Measuring principle		Bonded strain gauge on stainless steel (4 active arms)	
Insulation resistance		> 1000 M Ω @ 50Vdc	
Zero output signal		B, C, M, N, P, Q, R	4mA (E)
Full scale output signal		B, C, M, N, P, Q, R	20mA (E)
Max current absorption		13mA	32mA
Max allowed load		1mA	see diagram
Zero adjustment		$\pm 10\%$ FSO digital, with magnetic pen	
Span adjustment		$\pm 5\%$ FSO digital, with magnetic pen	
Calibration signal		80% FSO nominal	
Long term stability		< 0.1% FSO/Year typical	
Operating temperature range (process) (5)		-40...+120°C (-40...+248°F)	
Compensated temperature range (4)		-10...+85°C (14...+185°F)	
Storage temperature range		-40...+125°C (-40...+257°F)	
Temperature effects over compensated range (zero-span)		$\pm 0.01\%$ FSO/°C typical ($\pm 0,02\%$ FSO/°C max.)	
Response time (10...90%FSO)		< 1 msec.	
Start-up time		< 500 msec.	
Mounting position effects		Negligible	
Humidity		Up to 100%RH non-condensing	
Weight		110 gr. nominal	
Mechanical shock		100g/11msec according to IEC 60068-2-27	
Vibrations		20g max at 10...2000Hz according to IEC 60068-2-6	
Ingress protection		IP65/IP66/IP67	
Output short circuit and reverse polarity protection		YES	

FSO = Full Scale Output (output signal at rated pressure)

1 Includes combined effects of Non-Linearity BFSI (Best Fit Straight Line), Hysteresis and Repeatability

2 tested for more than 1000 strokes with single duration < 2msec.

3 tested for more than 100 strokes with single duration < 2msec.

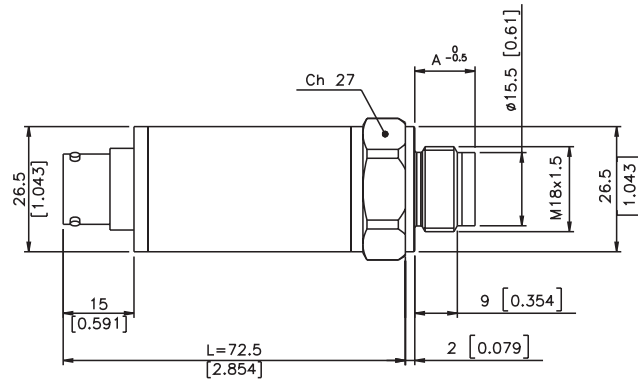
4 temperature outside compensated range may cause zero signal drift

5 ambient and/or electronics part temperature must not exceed 105°C

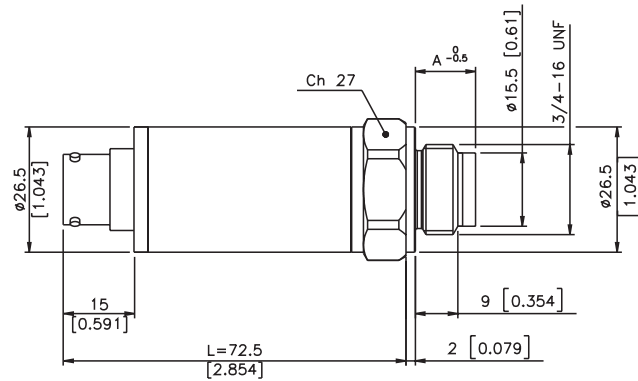
MECHANICAL DIMENSIONS - Process Connections

Dimensions: mm [inches]

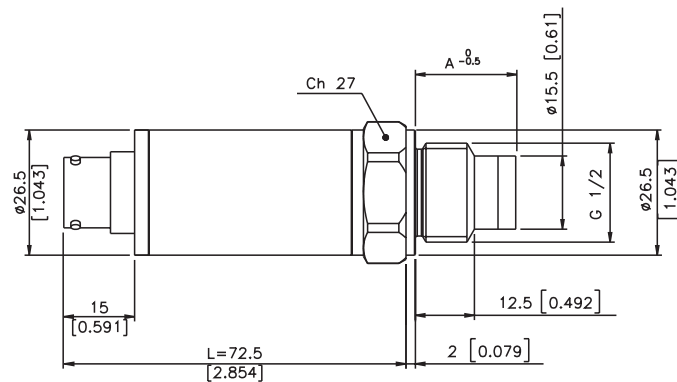
Connection
M18 x 1.5
(code **G**)



Connection
3/4" - 16 UNF
(code L)



Connection
1/2" G male
(code **M**)

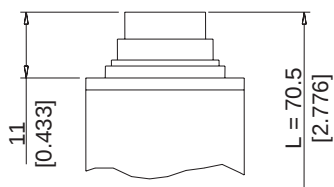


ATTENTION: for installation use a maximum torque force of 40Nm

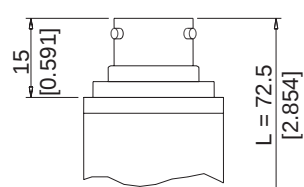
Pressure range		Dimension "A" (mm)			Pressure range		Dimension "A" (mm)			Pressure range		Dimension "A" (mm)		
PSI	BAR	M18x1.5 (G)	3/4" (L)	1/2" (M)	PSI	BAR	M18x1.5 (G)	3/4" (L)	1/2" (M)	PSI	BAR	M18x1.5 (G)	3/4" (L)	1/2" (M)
150	10	13	13	20.5	750	50	13.5	13.5	21		250	14.1	14.1	21.6
250	16				1000	60				5000	350			
300	20				1500	100					400			
	25				2500	160				7500	500			
	30				3000	200					600			
500	35									10000	700			
	40									15000	1000			

ELECTRICAL CONNECTION

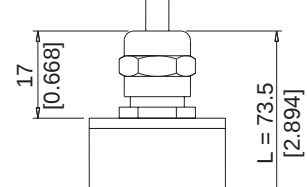
P - 7 pole connector



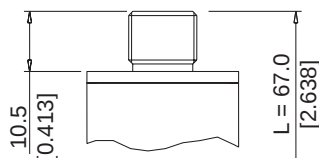
V - 6 pole connector



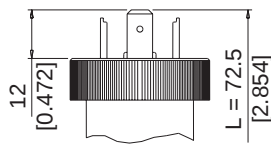
F - 4/6 pole cable



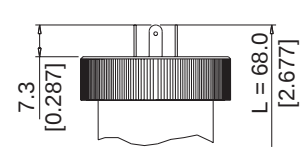
**Z - 4 pole connector
M12 x 1**



**E - 4 pole connector
solenoid**

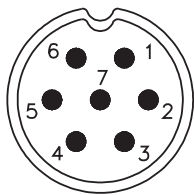


**M - 4 pole connector
microsolenoid**



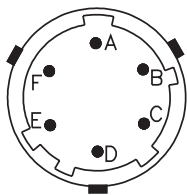
ELECTRICAL CONNECTION - Connectors

P - 7 pole connector



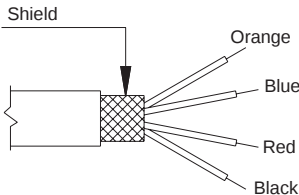
Male connector 09-127-09-07
Protection IP67

V - 6 pole connector



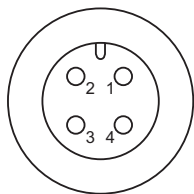
Male connector VPT02A10-6PT2
Protection IP66

F - 4 pole cable



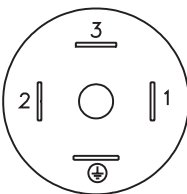
Shielded cable 4x0.25 - 1m. (output E)
Protection IP65

Z - 4 pole male connector
M12 x 1



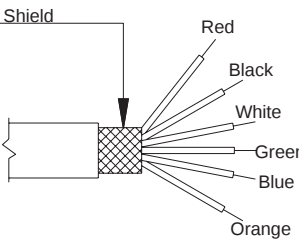
4 pole series 713 male connector
Protection IP67

E - 4 pole solenoid connector
M - 4 pole microsolenoid connector



Solenoid DIN 43650A - ISO4400
Protection IP65
Microsolenoid DIN 43650C - ISO4400
Protection IP65

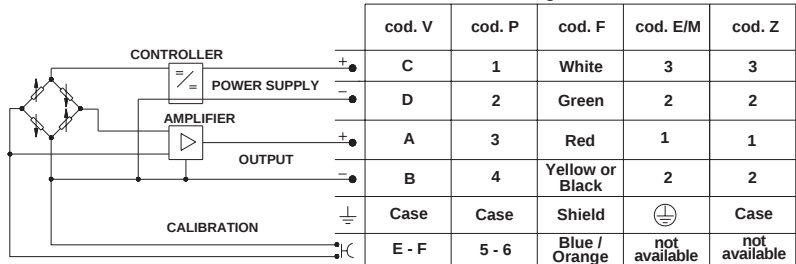
F - 6 pole cable



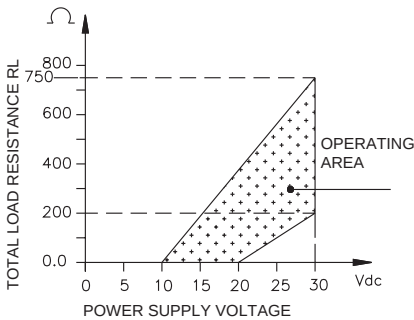
Shielded cable 6x0.25 - 1m
Protection IP65

ELECTRICAL CONNECTION - connection diagrams

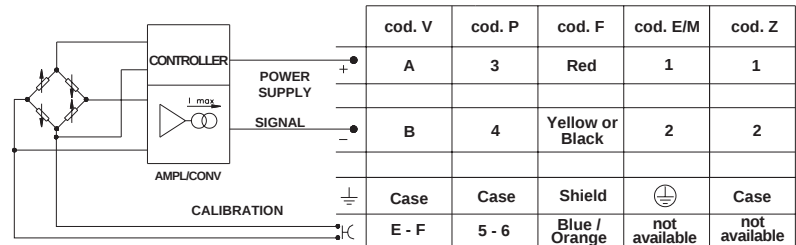
VOLTAGE AMPLIFIED OUTPUT - mod. B/C/M/N/P/Q/R



LOAD DIAGRAM
(Current output)



CURRENT AMPLIFIED OUTPUT - mod. E



DIGITAL AUTOZERO & SPAN - Technical data

	Autozero	±10%FS max with zero setting within the sensor accuracy class, @ °T Amb.
	Autozero Setting Time	1...10 seconds
	Fine Autozero Adjustment	Resolution 6 mV (voltage output); 12 µA (current output)
	Fine Autozero Adjustment Amplitude	±100 mV (voltage output), ±0.16 mA (current output) by successive steps with maximum setting time 5 sec. for step
	Calibration Function	Signal output generation of 80%FS @ °T Amb.
	Calibration Function Setting Time	> 1 sec. (by contacts closed in CAL position)
	Autospan	±5%FS max with span setting within the sensor accuracy class, @ °T Amb.
	Autospan Setting Time	1...10 sec. (by contacts closed in CAL position)
	Partial Reset	Restore of zero factory setting
	Partial Reset Setting Time	30...60 sec
	Total Reset	Restore of complete factory setting
	Total Reset Setting Time	> 60 sec.
	Function Activation	By pen with magnetic head (PKIT 312) supplied as standard
	For complete functionality and how to use the digital Autozero & Span feature, please download the relevant operating manual on our website www.gefran.com	

ACCESSORIES ON REQUEST

Connectors

Connection E

3 pole connector + ground DIN43650A ISO4400
Prot. IP65

CON 006

Connection M

3 pole connector + ground DIN43650C ISO4400
Prot. IP65

CON 008

Connection Z

4 pole female cable connector M12x1
Prot. IP67

CON 293

Connection Z

4 pole female cable connector, 90° M12x1
Prot. IP67

CON 050

Connection P

7 pole female cable connector,
Prot. IP67

CON 321

Connection P

7 pole female cable connector,
Prot. IP40

CON 320

Connection P

7 pole female cable connector 90°,
Prot. IP40

CON 322

Connection V

6 pole Female cable connector,
Prot. IP66

CON 300

EXTENSION CABLES

6 pole female connector (CON 300) + 2 m (6.5 ft) of cable (6x0.25)
6 pole female connector (CON 300) + 4 m (13 ft) of cable (6x0.25)
6 pole female connector (CON 300) + 6 m (20 ft) of cable (6x0.25)
6 pole female connector (CON 300) + 8 m (25 ft) of cable (6x0.25)
6 pole female connector (CON 300) + 10 m (33 ft) of cable (6x0.25)
6 pole female connector (CON 300) + 15 m (50 ft) of cable (6x0.25)
6 pole female connector (CON 300) + 20 m (66 ft) of cable (6x0.25)
6 pole female connector (CON 300) + 25 m (82 ft) of cable (6x0.25)
6 pole female connector (CON 300) + 30 m (100 ft) of cable (6x0.25)
Other lengths

C02WLS
C04WLS
C06WLS
C08WLS
C10WLS
C15WLS
C20WLS
C25WLS
C30WLS
on request

Cable color code	
Pin	Wire
A	Red
B	Yellow/Black
C	White
D	Green
E	Blue
F	Orange

ORDERING INFORMATION

Pressure transmitter

TPFADA

OUTPUT SIGNAL	
Standard	
4...20 mA	E
0...10 Vdc	N
On request	
0.1...5.1 Vdc	B
0...5 Vdc	M
1...5 Vdc	P
1...10 Vdc	Q
1...6 Vdc	R
0.1...10.1 Vdc	C
PROCESS CONNECTION	
Standard	
M18x1.5	G
1/2" G male	M
On request	
3/4-16 UNF	L
ELECTRICAL CONNECTION	
6 pole connector	V
7 pole connector	P
M12x1 connector (*)	Z
4/6 pole shielded cable (**)	F
4 pole solenoid connector (*)	E
4 pole microsolenoid connector (*)	M

(*) available Autozero function only, NO Cal and NO Span

(**) 1mt cable included as standard. Custom lengths available, at extra cost.

Mechanical and/or electrical characteristics differing from standard may be arranged on request.

RESPONSE TIME	
V	Fast

ACCURACY	
H	±0.2%FS typical 0...60 - 0...1000 bar (only)
M	±0.5%FS typical 0...10 - 0...50 bar (only)

MEASUREMENT RANGE			
Bar		Psi	
B01D	0...10	P15D	0...150
B16U	0...16	P25D	0...250
B02D	0...20	P03C	0...300
B25U	0...25	P05C	0...500
B03D	0...30	P75D	0...750
B35U	0...35	P01M	0...1000
B04D	0...40	P15C	0...1500
B05D	0...50	P02M	0...2000
B06D	0...60	P25C	0...2500
B01C	0...100	P03M	0...3000
B16D	0...160	P04M	0...4000
B02C	0...200	P05M	0...5000
B25D	0...250	P75C	0...7500
B35D	0...350	P10M	0...10000
B04C	0...400	P15M	0...15000
B05C	0...500		
B06C	0...600		
B07C	0...700		
B01M	0...1000		

CALIBRATION STANDARDS

Instruments manufactured by Gefran are calibrated against precision pressure calibration equipment which is traceable to International Standards

Ex.: TPFADA - M - G - V - B01C - H - V - -

Pressure transmitter: 0...5Vdc output signal, M18x1.5 process connection, 6 pole connector, 0...100 bar measurement range, fast response time, 0.2% FS typical accuracy.

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 any kind of design or functional modification at any moment without prior notice

GEFRAN

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