GEFRAN

TSA

PRESSURE TRANSMITTER

Main Features

- *Pressure range: 0...2 bar to 0...30 bar (0...30 to 0...300psi)*
- *Voltage/Current output signal*
- *Protection class: IP65/IP67*
- *Materials in contact: AISI304 and AISI316*
- *Permitted temperature range -20...+85°C*
- *Precision class: 0,20% FSO*
- *Filling Fluid: sylicon oil (available on request: fluid for food industry applications)*

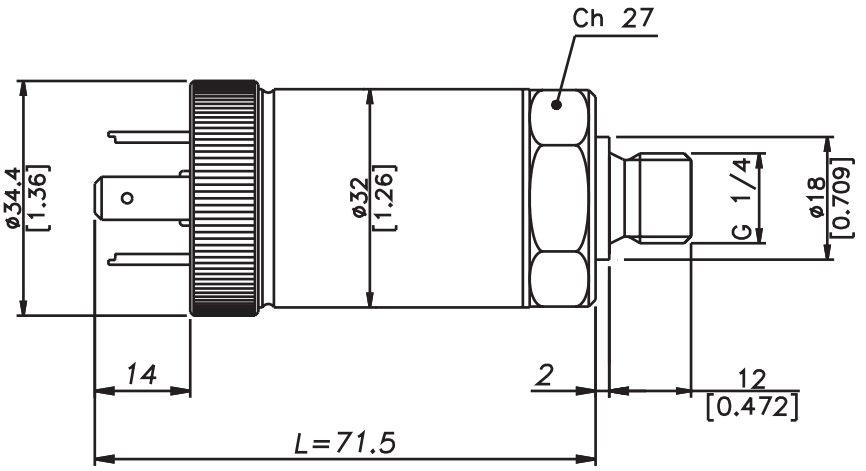
Series TSA transmitters are based on the piezoresistive measurement principle.
Thanks to highly stable electronic components, these transmitters can be used in applications requiring long-distance signal transmission or in smart control systems.
TSA pressure transmitters were developed mainly for measuring pressures in the industrial refrigeration and air conditioning fields. They are also used to monitor and control other mechanical installations.

TECHNICAL DATA

Output signal	**VOLTAGE**	**CURRENT**
Sensor class (**1**)	< 0,2% FSO	
Resolution	Infinite	
Max. applicable pressure (without decay) (**2**)	3 times Full Scale (max 60bar)	
Resistance to bursting (**3**)	5 times Full Scale (max. 100 bar)	
Ambient pressure signal: ± 0,5%	**B/C** 0,1Vdc **M/N** 0Vdc **P/Q/R** 1Vdc	**E** 4mA
Rated pressure signal: ± 0,5%	**B** 5,1Vdc **C** 10,1Vdc **M/P** 5Vdc **N/Q** 10Vdc **R** 6Vdc	**E** 20mA
Power supply	15...30Vdc	10...30Vdc
Max. input on power supply	< 13mA	<32mA
Max. response time (10...90%FSO)	< 1 ms	
Compensated temperature range	0...85°C	
Permitted temperature range	-20...+85°C	
Storage temperature range	-30...+90°C	
Thermal drift in compensated range (zero-sens)	< 0,02% FSO/°C	
Isolation resistance	> 1000 Mohm to 50V	
Protection	IP65/IP67	
Max. allowed load	1mA	see diagram
Output short circuit protection and reverse power polarity	YES	
Output pulse overvoltage protection	YES	NO
Outer case materials	AISI 304 stainless steel Nylon 66GF35V0	

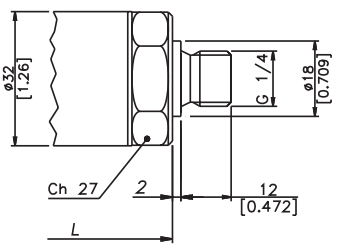
FSO = Full Scale Output
1 BFSL (Best Fit Straight Line) method
2 tested for more than 1000 strokes with single duration <2msec.
3 tested for more than 100 strokes with single duration <2msec.

MECHANICAL DIMENSIONS

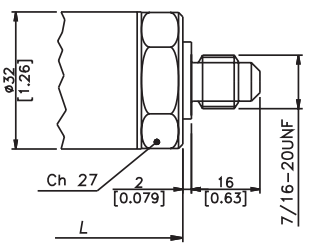


PROCESS CONNECTIONS

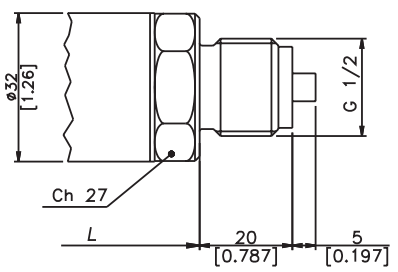
(1) G 1/4 MALE (DIN 3852-A)



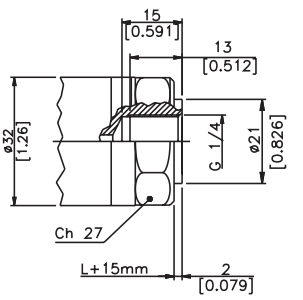
(2) 1/4 SAE (7/16-20 UNF)



(3) G 1/2 A (DIN 16288)

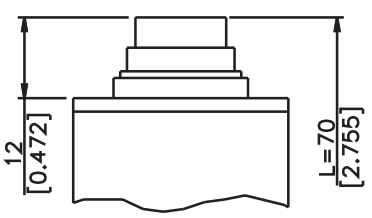


(4) G 1/4 FEMALE

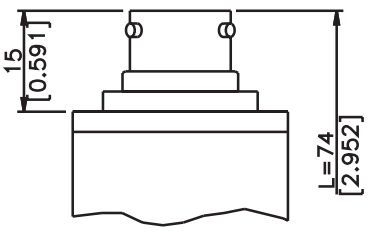


ELECTRICAL CONNECTIONS

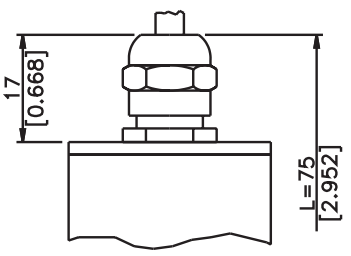
P - 7 pole connector



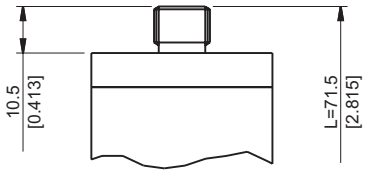
V - 6 pole connector



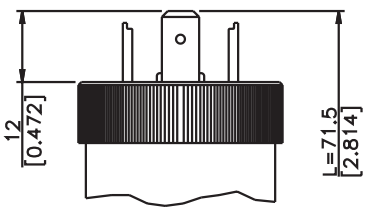
F - 4 pole connector



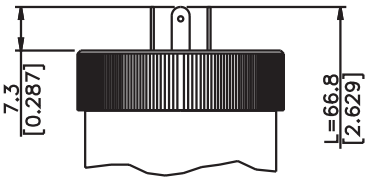
Z - 4 pole connector M12x1



E - 4 pole connector solenoid

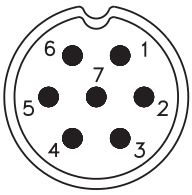


M - 4 pole connector microsolenoid



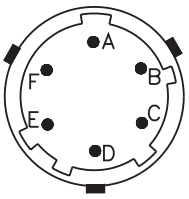
ELECTRICAL CONNECTIONS - Connectors

P - 7 pole connector



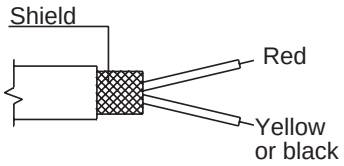
Male connector 09-127-09-07
Protection IP67

V - 6 pole connector



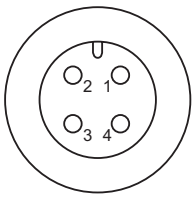
Male connector VPT02A10-6PT2
Protection IP66

F - 2-4 pole cable



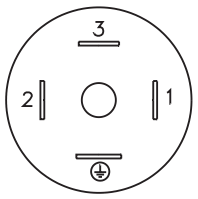
Shielded cable 2x0,25 - 2m. (output E)
Protection IP65

Z - 4-pole male connector M12 x 1

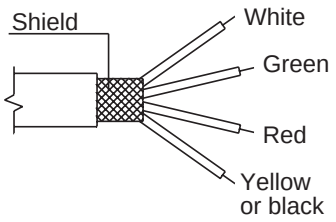


4 pole male connector
713 series
Protection IP67

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



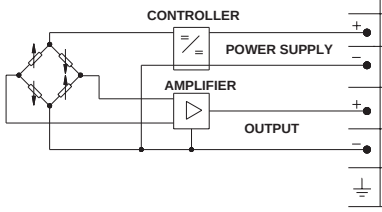
E - Solenoid 400 DIN 46350A - ISO4400
Protection IP65
M - Microsolenoid 400 DIN 46350B - ISO4400
Protection IP65



Shielded cable 4x0,25 - 1m
Protection IP65

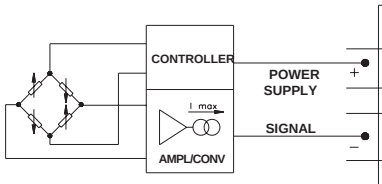
ELECTRICAL CONNECTIONS - connection diagrams

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



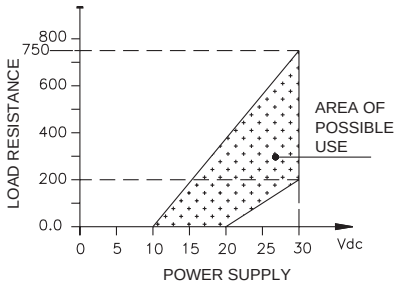
	cod. V	cod. P	cod. F	cod. E/M	cod. Z
+	C	1	White	3	1
−	D	2	Green	2	2
+	A	3	Red	1	3
−	B	4	Black or Yellow	2	2
⏚	Case	Case	Shield	⏚	N.C.

OUTPUT AMPLIFIED IN CURRENT - mod. **E**



	cod. V	cod. P	cod. F	cod. E/M	cod. Z
+	A	3	Rosso	1	1
−	B	4	Black or Yellow	2	2
⏚	Case	Case	Shield	⏚	N.C.

LOAD DIAGRAM (Output current)



ACCESSORIES ON REQUEST

Connectors

Connection E
Connector 3 poles + ground DIN43650A ISO4400 **CON 006**
Prot. IP65

Connection Z
Connector 4 poles
Prot. IP65 **CON 293**

Connection M
Connector 3 poles + ground DIN43650B ISO4400 **CON 008**
Prot. IP65

Connection P
Female cable connector Prot. IP67 **CON 321**

Connection V
Female cable connector Prot. IP66 **CON 300**

EXTENSION CABLES

6-pin connector with 8m (25ft) cable	**C08WLS**
6-pin connector with 15m (50ft) cable	**C15WLS**
6-pin connector with 30m (100ft) cable	**C30WLS**
Other lengths	**consult factory**

Cable color code	
Conn.	**wire**
A	Red
B	Black
C	White
D	Green
E	Blue
F	Orange

ORDER CODE

Pressure transmitter **TSA** □ □ □ □□□□ □ □ □

OUTPUT SIGNAL	
Standard	
4 .. 20 mA	**E**
0 .. 10 Vdc	**N**
On request	
0.1 .. 5.1 Vdc	**B**
0.1 .. 10.1 Vdc	**C**
0 .. 5 Vdc	**M**
1 .. 5 Vdc	**P**
1 .. 10 Vdc	**Q**
1 .. 6 Vdc	**R**

PROCESS CONNECTIONS	
Standard	
G 1/4 gas male	**1**
On request	
1/4 SAE (7/16-20UNF)	**2**
G 1/2A (DIN 16288)	**3**
G 1/4 gas female	**4**
1/4 - 18 NPT male	**7**
M14 x 1,5 male	**8**
1/8 - 27 NPT male	**9**
M12 x 1,5 male	**R**

ELECTRICAL CONNECTIONS	
4-pole connector solenoid	**E**
Shielded cable	**F**
Connector M12x1 4 pole	**Z**
4-pole connector microsolenoid	**M**
7 pole connector	**P**
6 pole connector	**V**

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

RESPONSE TIME	
V	Fast

PRECISION CLASS	
T	0,20% FSO

PRESSURE RANGE			
	bar		**psi**
B02U	0..2	**P03D**	0..30
B2V5	0..2,5	**P05D**	0..50
B04U	0..4	**P75U**	0..75
B05U	0..5	**P01C**	0..100
B06U	0..6	**P15D**	0..150
B07U	0..7	**P25D**	0..250
B01D	0..10	**P03C**	0..300
B16U	0..16		
B02D	0..20		
B25U	0..25		
B03D	0..30		

Ex.: **TSA - N - 1 - P - B03D - T - V**
Pressure transmitter TSA with output signal 0...10Vdc, process connections G 1/4 male, 7 pole connector, pressure range 0...30 bar, precision class 0,20%, 1msec response time.

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