TPS

PRESSURE TRANSDUCER

Main features

- *Ranges: from 0...10 bar to 0...1000 bar (0...150psi to 0...15000psi)*
- *Accuracy: ± 0.15% FSO typical*
- *Protection rating: IP65/IP67*
- *Wetted parts 17-4PH*
- *Temperature range -40...+105°C*

Series TPS transducers are based on the extensimetric measurement principle with strain gauges on metal base.
An innovative mechanical structure makes the transducer completely insensitive to tightening during installation.
This transducer is suitable for all those applications where in addition to ruggedness and reliability high accuracy is required.

TECHNICAL DATA

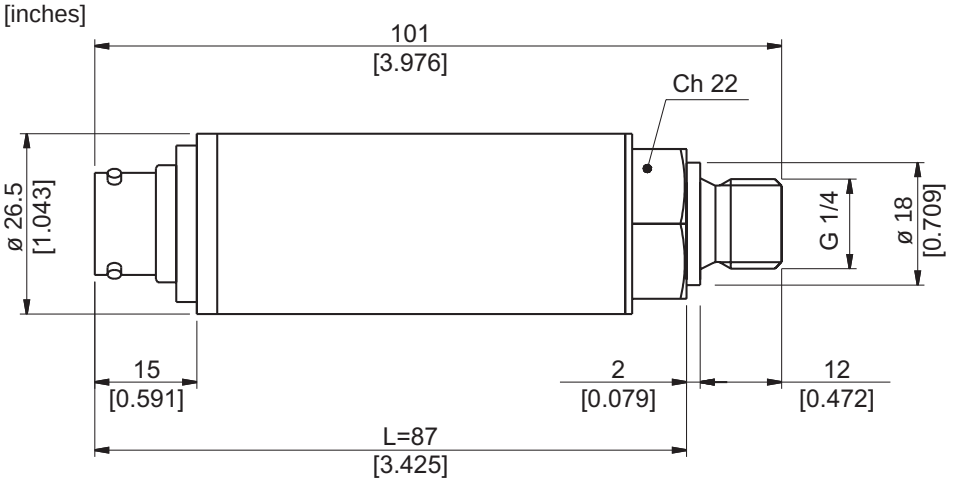
Accuracy (**1**)	± 0.15% FSO typical; ± 0.2% FSO max >200bar/3000psi ± 0.25% FSO typical; ± 0.5% FSO max ≤200bar/3000psi
Resolution	Infinite
Overpressure (without degrading performance) (**2**)	See table
Pressure containment (Burst test) (**3**)	See table
Wetted parts	Fluid compatible with INOX 17-4PH Stainless Steel
Body materials	INOX AISI 304 Stainless Steel and Nylon 66GF35V0
Power supply	10 (max 15) Vdc/ac RMS
Common mode voltage	Typical 5V @ 10V supply
Output impedance	350 Ω (± 1)
Load impedance	> 1000 KΩ
Insulation resistance	> 1000 MΩ @ 50Volt
Zero offset and span setting	± 0.5% FSO
Output voltage (sensitivity)	10...40bar / 150...500psi 1,5mV/V 50...60bar / 750...1000psi 2mV/V 100...1000bar / 1500...15000psi 3mV/V
Long term stability	< 0.1% FSO per year
Operating temperature range (process)	-40...+105°C (-40...+221°F)
Compensated temperature range	-20...+85°C (-4...+185°F)
Storage temperature range	-40...+125°C (-40...+257°F)
Temperature effects over compensated range (zero-span)	± 0.01% FSO/°C typical (± 0.02% FSO/°C max.)
Mounting position effects	Negligible
Humidity	Up to 100% RH non condensing
Weight	130 gr. nominal
Mechanical shock	100 g / 1 msec. according to IEC 68-2-6
Vibrations	20 g max @ 15-2000Hz according to IEC68-2-6
Ingress protection	IP65/IP66/IP67

FSO = Full Scale Output
1 BFSL method (Best Fit Straight Line): includes combined effects of Non-Linearity, 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.

MEASUR. RANGE (Bar)	**10**	**16**	**20**	**25**	**30**	**35**	**40**	**50**	**60**	**100**	**160**	**200**	**250**	**350**	**400**	**500**	**600**	**700**	**1000**
Overpressure	30	48	60	75	90	105	120	150	180	300	480	600	750	1050	1200	1500	1800	2000	2000
Burst test	50	80	100	125	150	175	200	250	280	500	800	1000	1250	1750	2000	2500	2500	2500	2500

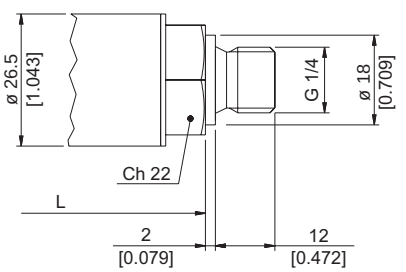
INSTALLATION DRAWINGS

Dimensions: mm [inches]

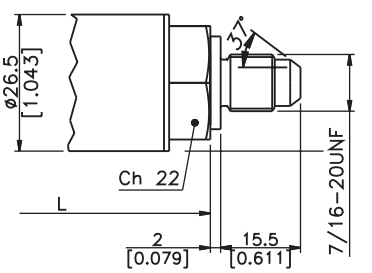


PRESSURE CONNECTION

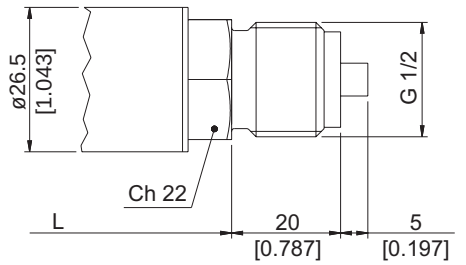
(1) G 1/4 MALE (DIN 3852-A)



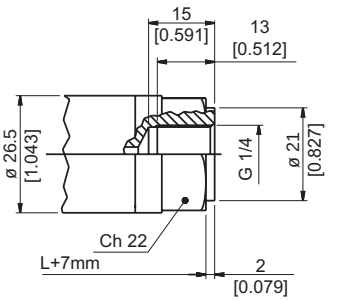
(2) SAE 04 AS4395 - E



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

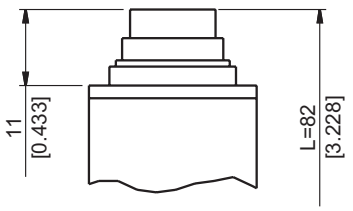


(4) G 1/4 FEMALE

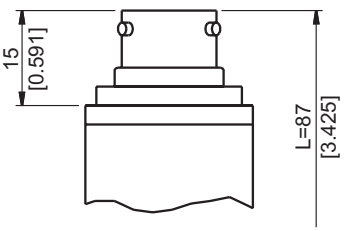


ELECTRICAL CONNECTION

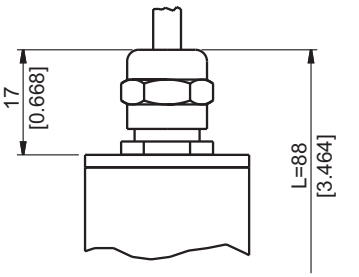
P - 7 pole connector



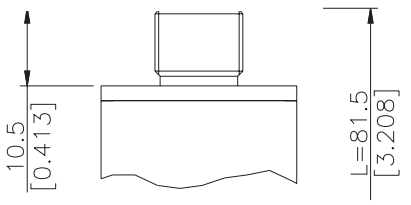
V - 6 pole connector



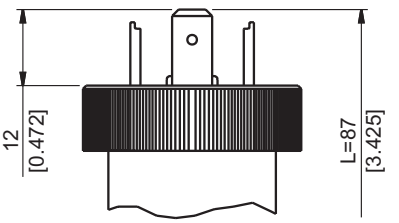
F - 6 pole cable



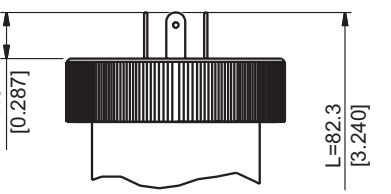
Z - 4 pole connector M12 x 1



E - 4 pole connector solenoid

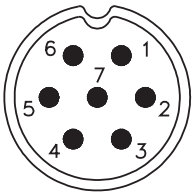


M - 4 pole connector microsolenoid



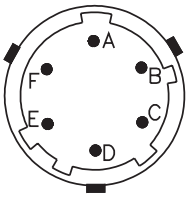
ELECTRICAL CONNECTION - Connectors

P - 7-pole connector



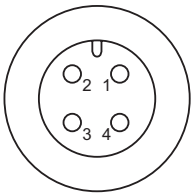
Male connettor 09-127-09-07
Protection IP67

V - 6-pole connector



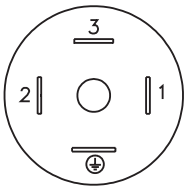
Male connettor VPT02A10-6PT2
Protection IP66

Z - 4 pole M12 x 1 male connector



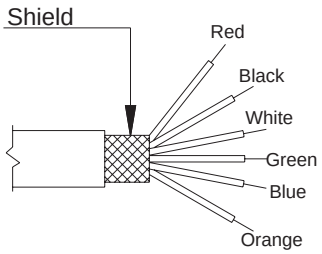
Male connettor 4 pole series 713
Protection IP67

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



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

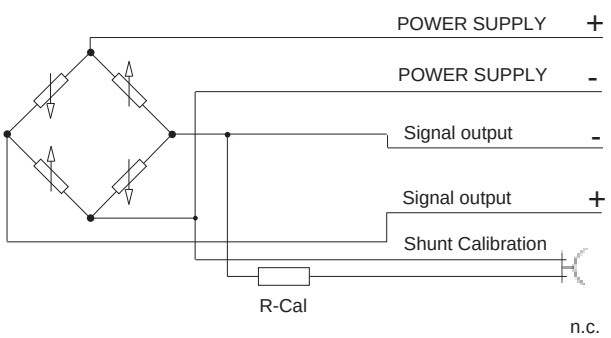
F - 6 pole cable



F - Shielded cable
6 x 0.25 - 1m.

ELECTRICAL CONNECTION - connection diagrams

mV/V output



Code **V**	Code **P**	Code **F**	Code **E/M**	Code **Z**
C	1	White	3	1
D	2	Green	⏚	2
B	4	Black or Yellow	2	4
A	3	Red	1	3
E - F	5 - 6	Blue/ Orange or Violet	*Not available*	*Not available*
	7			

Cable shield connected to transducer body

ACCESSORIES ON REQUEST

Connectors plugs

Connection V
6 poles female cable connector Prot. IP66 — **CON 300**
Connection P
7 poles female cable connector Prot. IP40 — **CON 320**
7 poles female cable connector 90° Prot. IP40 — **CON 322**
7 poles female cable connector Prot. IP67 — **CON 321**

Connection E
3 poles connector + ground DIN43650A ISO4400
Prot. IP65 — **CON 006**
Connection M
3 poles connector + ground DIN43650C ISO4400
Prot. IP65 — **CON 008**

EXTENSION CABLES

6-pin connector with 8m (25ft) cable	**C08W**
6-pin connector with 15m (50ft) cable	**C15W**
6-pin connector with 25m (75ft) cable	**C25W**
6-pin connector with 30m (100ft) cable	**C30W**
Other lengths	**consult factory**

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

ORDERING INFORMATION

Pressure transducer **TPS** □ □ □□□□ □ □

PRESSURE CONNECTION	
Standard	
G 1/4 gas male	**1**
On request	
7/16-20 UNF-2A male (SAE 4 for AS4395-E)	**2**
G 1/2A (DIN 16288)	**3**
G 1/4 gas female	**4**
1/8-27 NPT female	**5**
1/4-18 NPT female	**6**
1/4-18 NPT male	**7**
M14 x 1.5 male	**8**
1/8-27 NPT male	**9**
G 1/4 male (DIN 3852-E)	**E**
M12 x 1.5 male	**R**
7/16-20 UNF-2A male (SAE 4 for J1926-2) (*)	**K**
7/16-20 UNF-2A female (SAE 4)	**F**

(*) Max. working pressure: 630 bar (9137 psi)

ELECTRICAL CONNECTION	
4-pole connector solenoid	**E**
shielded cable	**F**
4-pole connector	**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.

ACCURACY	
T	±0,15% FSO typical >200bar/3000psi ±0,25% FSO typical ≤200bar/3000psi

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		
B03D	0..30		
B35U	0..35	**P05C**	0..500
B04D	0..40		
B05D	0..50	**P75D**	0..750
B06D	0..60	**P01M**	0..1000
B01C	0..100	**P15C**	0..1500
B16D	0..160	**P02M**	0..2000
B02C	0..200	**P25C**	0..2500
B25D	0..250	**P03M**	0..3000
B35D	0..350	**P04M**	0..4000
B04C	0..400	**P05M**	0..5000
B05C	0..500	**P75C**	0..7500
B06C	0..600		
B07C	0..700	**P10M**	0..10000
B01M	0..1000	**P15M**	0..15000

CALIBRATION STANDARDS

Instruments are calibrated against precision pressure calibration equipment which is traceable to International Standards.

Ex.: **TPS - 4 - V - B07C - T**
Pressure transducer TPS with G 1/4 female process connection, 6 pole connector, 0...700 bar measurement range, ± 0.15% FSO accuracy.

cod. TPS - 01/06