GEFRAN

TK

PRESSURE TRANSMITTER



Main Features

- *Ranges: from 0...3 to 0...1000 bar and ranges from -1...+1 to -1...+10 bar*
- *Output signal 4...20mA 2-wires / 0.1...5.1Vdc / 0.1...10.1Vdc / 0...5Vdc / 0...10Vdc / 1...5Vdc / 1...10Vdc*
- *Protection rating: IP65/IP67*
- *Wetted parts AISI 430F and 17-4PH*
- *Available with a variety of process connections, both standard and custom*

TK transmitters are based on the extensimetric thick film measuring principle. Thanks to highly stable electronic components, these transmitters can be used in applications requiring long-distance signal transmission or in smart control systems. TK pressure transmitters are designed mainly to measure pressure in oil, air, and hydraulic circuits. They can also be used in the technical and process measurement application as well as for compressors, presses and mobile hydraulic.

TECHNICAL DATA

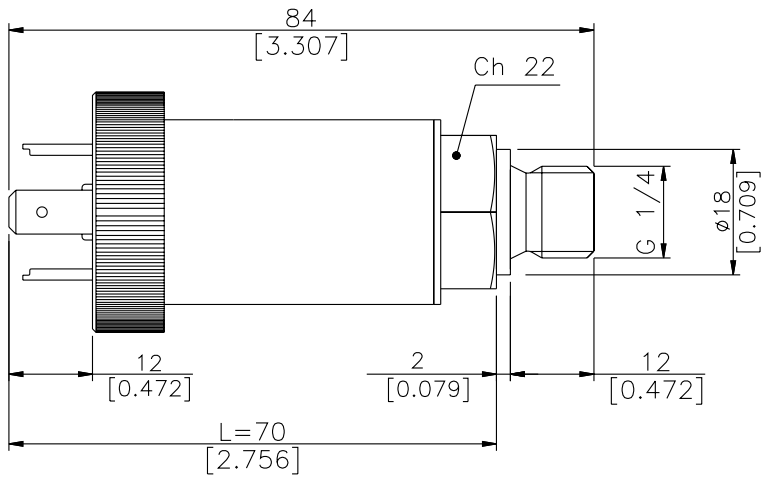
Output signal	**VOLTAGE**	**CURRENT**
Accuracy (**1**)	H ± 0.25% FS typical (± 0.3% FS max) M ± 0.5% FS typical (± 0.6% FS max)	
Measurement range	from 0...3 bar to 0...1000 bar; from -1...+1 bar to -1...+10bar	
Resolution	Infinite	
Overpressure (without degrading performance) (**2**)	See table	
Pressure containment (burst test) (**3**)	See table	
Pressure Media	Fluid compatible with Inox 17-4 PH/AISI 430F	
Body materials	Inox AISI 304	
Power supply	**B/M/P/R** 10...30Vdc **C/N/Q** 15...30Vdc	10...30Vdc
Supply Sensitivity	< 0.0015% FS/V	
Output noise (RMS 10-400Hz)	< 0.05% FS	
Insulation resistance	> 1000 MΩ @ 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
Long term stability	< 0.2% FS/per year	
Operating temperature range (process)	-40...+105°C (-40...+221°F)	
Compensated temperature range	-10...+85°C (+14...+185°F)	
Storage temperature range	-40...+125°C (-40...+257°F)	
Temperature effects over compensated range (zero-span)	± 0.012% FS/°C typical (± 0.02% FS/°C max.)	
Response time (10...90%FS)	< 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/11ms according to IEC 60068-2-27	
Vibrations	20g max at 10-2000Hz according to IEC 60068-2-6	
Ingress protection	sealed to IP65/IP66/IP67	
Output short circuit and reverse polarity protection	YES	

FS = Full Scale
(1) BFSL method (Best Fit Straight Line): includes combined effects of Non-Linearity, Hysteresis and Repeatability (acc. to IEC 62828-2)
(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)	**-1/+1**	**-1/+2**	**-1/+3**	**-1/+5**	**-1/+10**	**3**	**4**	**5**	**6**	**7**	**10**	**16**	**20**	**25**	**30**	**40**	**50**	**60**	**100**	**160**	**200**	**250**	**350**	**400**	**500**	**600**	**700**	**1000**
Overpressure	2	4	6	10	20	6	8	10	12	14	20	32	40	50	60	80	100	120	200	320	400	500	700	800	1000	1200	1200	1200
Burst test	12	12	12	20	40	12	16	20	24	28	40	64	80	100	120	160	200	240	400	640	800	1000	1200	1200	1200	1500	1500	1500

INSTALLATION DRAWINGS

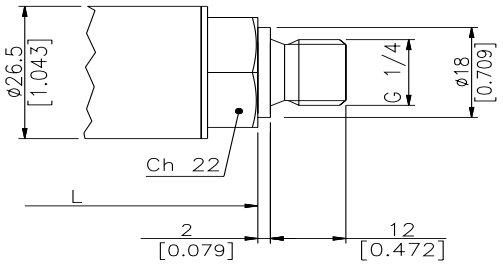
Dimensions: mm [inches]



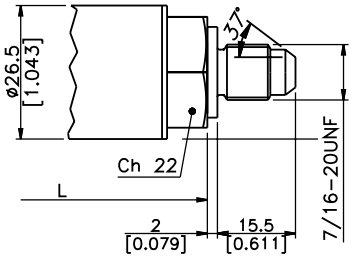
Recommended tightening torque: 30 Nm
Maximum tightening torque: 40 Nm

PRESSURE CONNECTION

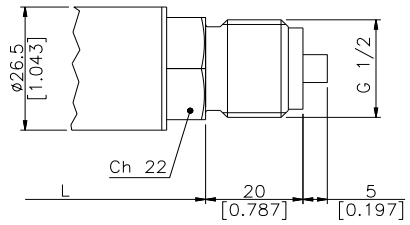
(1) G 1/4 MALE (DIN 3852-A)



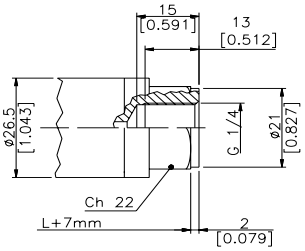
(2) SAE 04 AS4395 - E



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

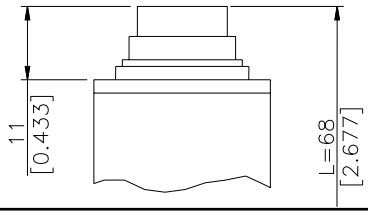


(4) G 1/4 FEMALE

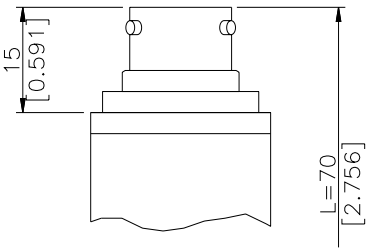


ELECTRICAL CONNECTION

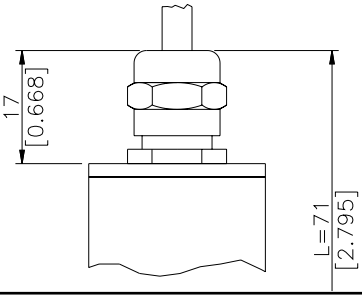
P - 7 pole connector



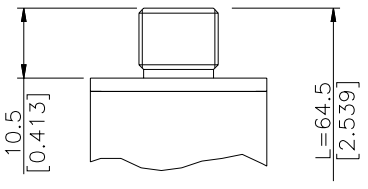
V - 6 pole connector



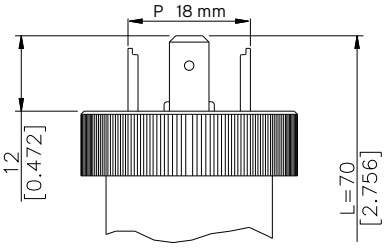
F - 4 pole cable



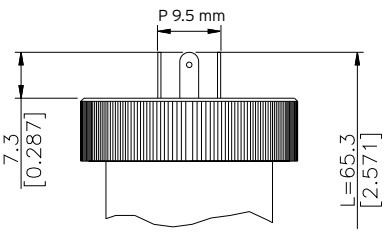
Z - 4 pole connector M12 x 1



E - 4 pole connector EN 175301-803A

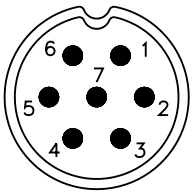


M - 4 pole connector EN 175301-803C



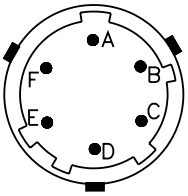
ELECTRICAL CONNECTION - Connectors

P - 7-pole connector M16x0.75



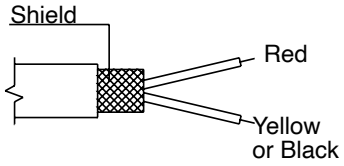
Protection IP67

V - 6-pole bayonet connector



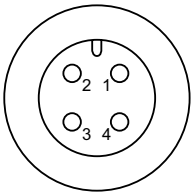
Protection IP66

F - 2 pole cable



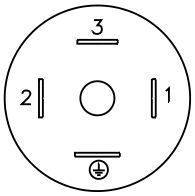
Shielded cable 2x0.25 - 2m. (output E)
Protection IP65

Z - M12 x 1 connector



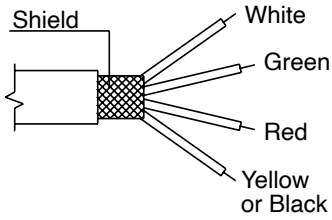
4 pole male connector
Protection IP67

E - EN 175301-803A
M - EN 175301-803C



4 pin type A
Protection IP65
4 pin type C
Protection IP65

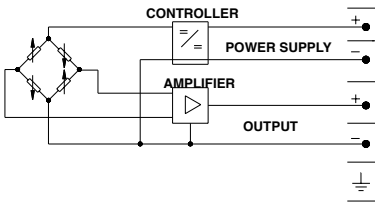
F - 4 pole cable



Shielded cable 4x0.25 - 2m
Protection IP65

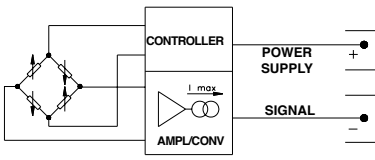
ELECTRICAL CONNECTION - connection diagrams

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



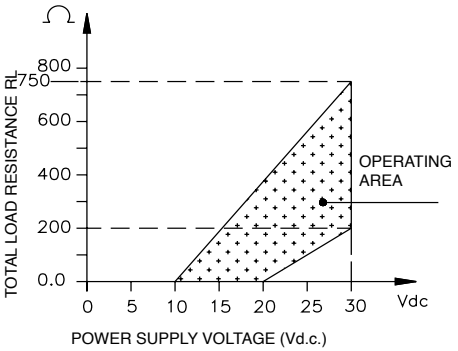
	cod. V	cod. P	cod. F	cod. E/M	cod. Z
+	C	1	White	3	3
–	D	2	Green	2	2
+	A	3	Red	1	1
–	B	4	Yellow or Black	2	2
⏚	Case	Custodia	Shield	⏚	Custodia

CURRENT AMPLIFIED OUTPUT - mod. **E**



	cod. V	cod. P	cod. F	cod. E/M	cod. Z
+	A	3	Red	1	1
–	B	4	Yellow or Black	2	2
⏚	Custodia	Custodia	Shield	⏚	Custodia

LOAD DIAGRAM
(Current output)



ACCESSORIES ON REQUEST

Connectors Plugs

Connection E
EN 175301-803 4 poles type A (P.18)
Prot. IP65 — **CON 006**

Connection Z
4 poles connector Prot. IP67 — **CON 293**

Connection M
EN 175301-803 4 poles type C (P.9.5)
Prot. IP65 — **CON 008**

Connection P
7 poles female cable connector Prot. IP67 — **CON 321**

Connection V
6 poles 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	
Connector	**Wire**
A	Red
B	Yellow/Black
C	White
D	Green
E	Blue
F	Orange

ORDERING INFORMATION

Pressure transmitter **TK** ☐ ☐ ☐ ☐☐☐☐ ☐ ☐ ☐

OUTPUT SIGNAL	
Standard	
0.1 ... 10.1 Vdc	**C**
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**

PRESSURE CONNECTION	
Standard	
G 1/4 gas male (DIN 3852-A)	**1**
7/16-20 UNF-2A male (SAE 4 per AS4395-E)	**2**
G 1/2A (DIN 16288)	**3**
On request	
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 gas male (DIN 3852-E)	**E**
M12 x 1.5 male	**R**
7/16-20 UNF-2A male (SAE 4 per J1926-2) (*)	**K**
7/16-20 UNF-2A female (SAE 4)	**F**

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

ELECTRICAL CONNECTION	
Standard	
EN 175301-803 type A (P 18 mm)	**E**
Shielded cable	**F**
4 pole connector M12 x 1	**Z**
On request	
EN 175301-803 type C (P 9.5 mm)	**M**
7 pole connector M16x0.75	**P**
6 pole bayonet connector	**V**

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

RESPONSE TIME	
V	Fast (< 1 msec)

ACCURCY	
H	± 0.25% FS Typical
M	± 0.5% FS Typical

MEASUREMENT RANGE					
	bar		**bar**		**psi**
N01U	-1..+1 *	**B03D**	0..30	**V15U**	-15..+15 *
N02U	-1..+2 *	**B04D**	0..40	**V03D**	-15..+30 *
N03U	-1..+3 *	**B05D**	0..50	**V05D**	-15..+50 *
N05U	-1..+5	**B06D**	0..60	**V75U**	-15..+75
N01D	-1..+10	**B01C**	0..100	**V01C**	-15..+100
B03U	0..3	**B16D**	0..160	**P05D**	0..50
B04U	0..4	**B02C**	0..200	**P75U**	0..75
B05U	0..5	**B25D**	0..250	**P01C**	0..100
B06U	0..6	**B35D**	0..350	**P15D**	0..150
B07U	0..7	**B04C**	0..400	**P25D**	0..250
B01D	0..10	**B05C**	0..500	**P03C**	0..300
B16U	0..16	**B06C**	0..600	**P05C**	0..500
B02D	0..20	**B07C**	0..700	**P75D**	0..750
B25U	0..25	**B01M**	0..1000	**P01M**	0..1000
				P15C	0..1500
				P25C	0..2500
				P03M	0..3000
				P05M	0..5000
				P75C	0..7500
				P10M	0..10000
				P15M	0..15000

* only M class

CALIBRATION STANDARDS
Instruments manufactured by Gefran are calibrated against precision pressure calibration equipment wich is traceable to International Standards.

Es: TK - E - 1 - E - B04C - H - V
Pressure transmitter TK with 4 to 20 mA output signal, G1/4 male pressure connection, EN 175301-803A connector, 0...400 bar pressure range, ± 0.25% FS accuracy, 1 msec response time

Sensors are manufactured in compliance with:
- EMC 2014/30/EU compatibility directive
- RoHS 2011/65/EU 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

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