

“IMPACT” is Gefran’s exclusive series of high-temperature pressure sensors that use the piezoresistive principle. The main characteristic of “IMPACT” sensors is that they do not contain any transmission fluid.

The sensitive element, directly positioned behind the contact membrane, is realised in silicon through microprocessing techniques.

The micro structure includes the measurement membrane and piezoresistors.

The minimum deflection required by the sensitive element makes it possible to use very robust mechanics.

The process contact membrane can be up to 15 times thicker than the membrane used in traditional Melt sensors.

ADVANTAGES

- Total compatibility with the European RoHS Directive
- High strength
- Long life
- Working temperature: up to 350°C
- Excellent read stability over time
- Fast response time

MAIN FEATURES

- Pressure ranges:
0-100 to 0-1000 bar / 0-1500 to 0-15000 psi
- Accuracy: $< \pm 0.25\%$ FSO (H); $< \pm 0.5\%$ FSO (M)
- Standard threading 1/2-20UNF, M18x1.5; other versions on request
- Other types of diaphragms are available on request
- Autozero function on board / external option
- 15-5 PH stainless steel diaphragm GTP coated

AUTOZERO FUNCTION

All signal variations in the absence of pressure can be eliminated by using the Autozero function.

This function is activated by closing a magnetic contact located on the transmitter housing or by means of external autozero.

The procedure is permitted only with pressure at zero”.

The Autozero function should be activated ONLY when the sensor is completely installed on the system.

The “IMPACT” series of Gefran, are pressure transmitters, without transmission fluid, for using in High temperature environment (350°C).

Medium pressure is transferred directly to the sensitive silicon element via a thick diaphragm.

Strain is transduced by a micro-worked silicon structure (MEMS).

The operating principle is piezoresistive.

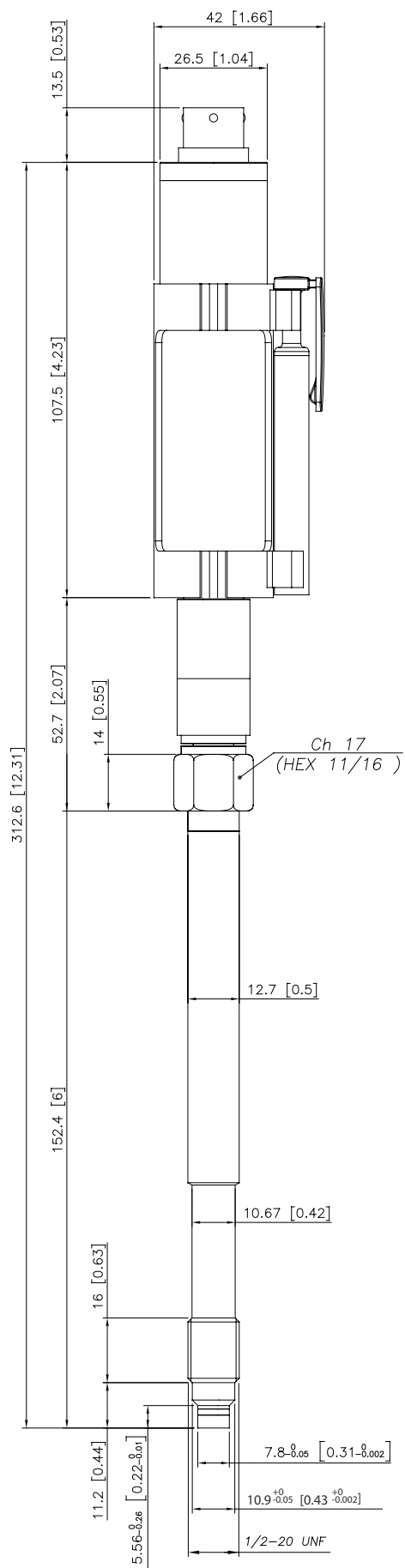
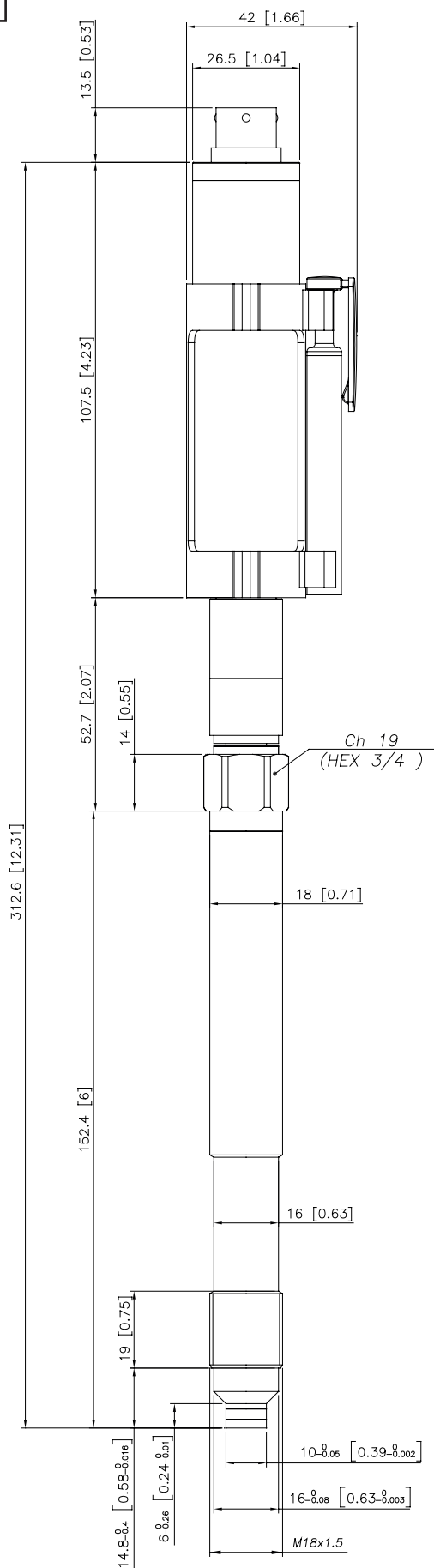
TECHNICAL SPECIFICATIONS

Accuracy (1)	H $< \pm 0.25\%$ FSO M $< \pm 0.5\%$ FSO
Resolution	16 Bit
Measurement range	0..100 a 0..1000bar 0..1500 a 0..15000ps
Maximum overpressure (without degrading performances)	1.5 x FS (pressure max 1200bar/17400psi)
Measurement principle	Piezoresistivo
Power supply	15...30Vdc N, C, B, M,
Maximum current absorption	25mA
Insulation resistance (at 50Vdc)	> 1000 MOhm
Output signal Full Scale FSO	5Vdc (M) - 10Vdc (N) 5,1Vdc (B) - 10,1Vdc (C)
Zero balance (tolerance $\pm 0.25\%$ FSO)	0Vdc (M, N) 0.1Vdc (B, C)
Zero signals adjustment (tolerance $\pm 0.25\%$ FSO)	Autozero” function
Maximum allowed load	1mA
Response time (10...90% FSO)	8ms
Output noise (RMS 10-400Hz)	$< 0.025\%$ FSO
Calibration signal	80% FSO
Output short circuit and supply reverse polarity protection	YES
Supply from output protection	YES
Compensated temperature range housing	0...+85°C
Operating temperature range housing	-30...+85°C
Storage temperature range housing	-40...+125°C
Maximum diaphragm temperature	350°C / 660°F
Zero signal variation due to process temperature variation in range (20-350°C)	$< \pm 1,2\%$ FSO
Span signal variation due to process temperature variation in range (20-350°C)	$< \pm 1\%$ FSO
Std contact diaphragm with process	15-5 PH GTP
Thermocouple (Model IN2)	STD: Tipo “J” (isolated junction) Tipo “K” (on request)
Protection degree (with 6-pole female connector)	IP65
Electrical connection	Conn. 6-pin VPT07RA10-6PT (PT02A-10-6P)

FSO = Full scale output (1) BFSL method (Best Fit Straight Line):
includes combined effects of Non-Linearity, Hysteresis and Repeatability.

MECHANICAL DIMENSIONS

INO

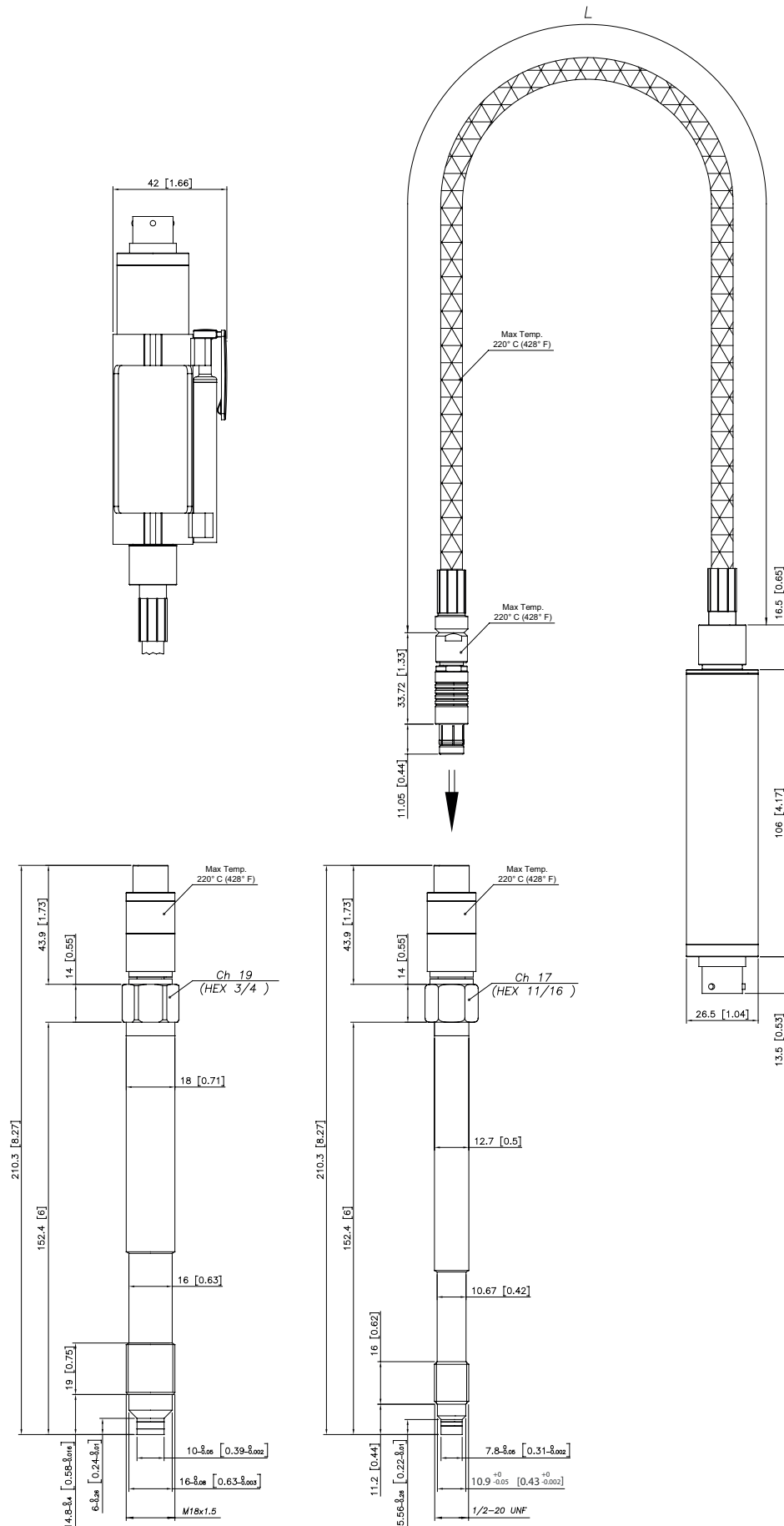


NOTE : dimensions refer to rigid stem length option "4" (153 mm – 6")

WARNING : For installation use a maximum tightening torque of 40 Nm (355 in-lb)

MECHANICAL DIMENSIONS

IN1M



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

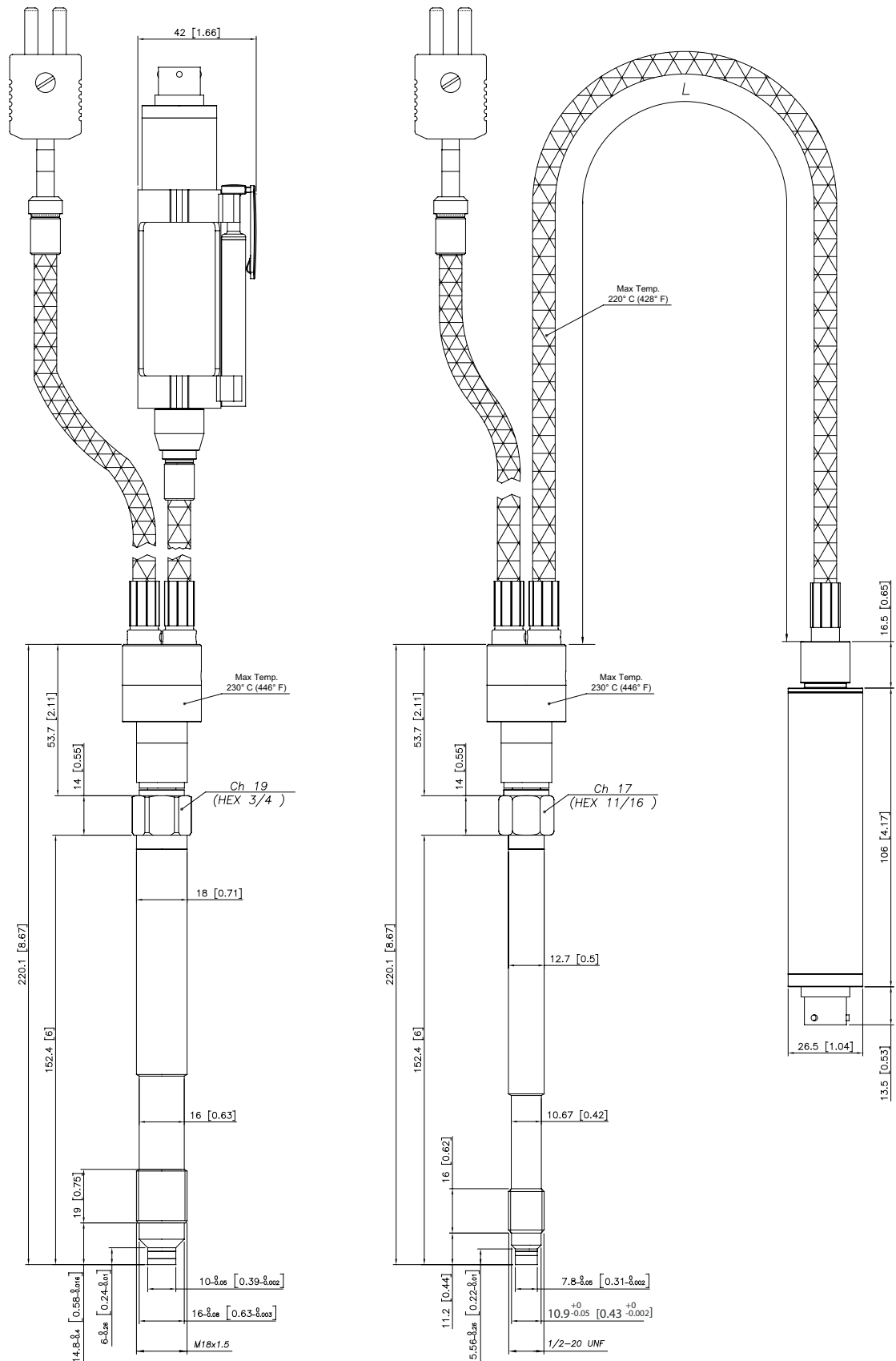
WARNING : For installation use a maximum tightening torque of 40 Nm (355 in-lb)

IN1S



MECHANICAL DIMENSIONS

IN2

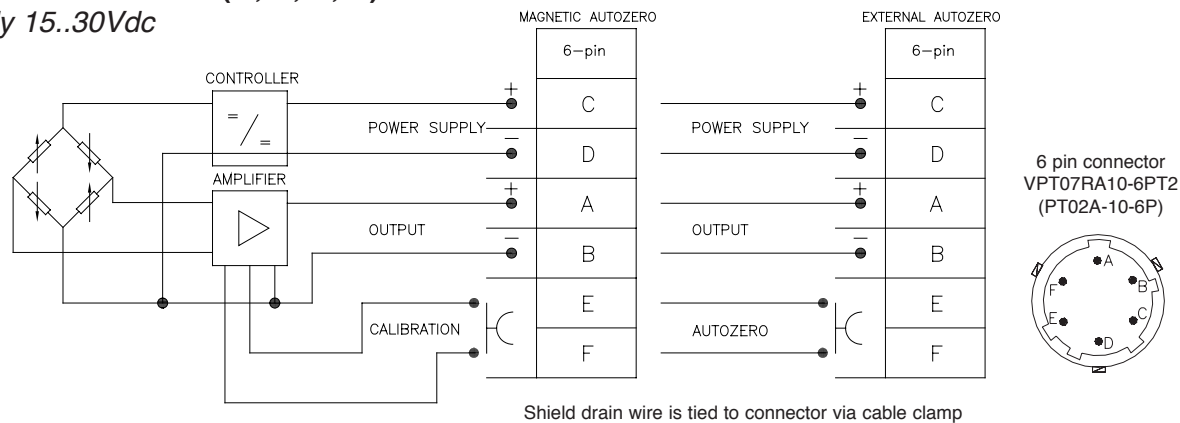


NOTE : dimensions refer to rigid stem length option “4” (153 mm – 6”)

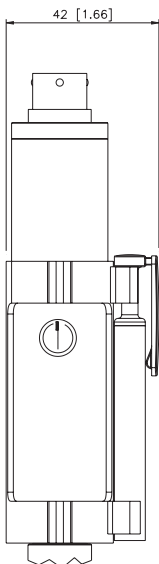
WARNING : For installation use a maximum tightening torque of 40 Nm (355 in-lb)

ELECTRICAL CONNECTIONS

VOLTAGE OUTPUT (M, N, B, C)
Supply 15..30Vdc



AUTOZERO FUNCTION



The Autozero function is activated through a magnetic contact (external magnet supplied with the sensor).
For the external Autozero version short-circuit the correct pin.
See the manual for a complete Autozero function explanation.

ACCESSORIES

Connectors

6-pin female connector (IP65 protection degree)

CON300

Extension cables

- 6-pin connector with 8m (25ft) cable
- 6-pin connector with 15m (50ft) cable
- 6-pin connector with 25m (75ft) cable
- 6-pin connector with 30m (100ft) cable

- C08WLS
- C15WLS
- C25WLS
- C30WLS

Other lengths

on request

Accessories

- Mounting bracket
- Dummy plug for 1/2-20UNF
- Dummy plug for M18x1.5
- Drill kit for 1/2-20UNF
- Drill kit for M18x1.5
- Cleaning kit for 1/2-20UNF
- Cleaning kit for M18x1.5
- Fixing pen clip
- Autozero pen

- SF18
- SC12
- SC18
- KF12
- KF18
- CT12
- CT18
- PKIT309
- PKIT312

Cable color code

Conn.	Wire
A	Red
B	Black
C	White
D	Green
E	Blue
F	Orange

ORDER CODE

I - - - - - - - - - - 000

OUTPUT SIGNAL	
0...5Vdc	M
0...10Vdc	N
0.1...5.1Vdc	B
0.1...10.1Vdc	C

VERSION	
Rigid stem	0
Rigid + flexible stem	1
With thermocouple	2

MECHANICS	
Single fixed	A
Modular fixed	B *
Single Floating	S
Modular Floating	M *

(*) Not available for IN0 and IN2 versions

CONNECTOR	
6 pin	6

ACCURACY CLASS	
0.25% FSO	H
0.5% FSO	M

RANGE			
bar		psi	
20*	B02D	300	P03C
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

* 10 bar (B01D) o 150 psi (P15D)
for M18X1,5 version

000= Standard version
Special or customized versions
available on request

E	External autozero
-	Magnetic autozero

FLEXIBLE STEM LENGTH (L) (mm / inches)

Standard (IN0)

0	none
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Standard (IN1,IN2)

D	457mm	18"
E	610mm	24"
F	760mm	30"

RIGID STEM LENGTH (mm / inches)

4	153mm	6"
5	318mm	12.5"

Available on request

3	76mm	3"
6	350mm	14"
7	400mm	16"
8	456mm	18"

THREAD

Standard

1	1/2 - 20 UNF
4	M18 x 1.5

Example

IN1S-6-M-B07C-1-4-D-000

Melt pressure transducer without filling, 4...20mA output, 6-pin connector, 1/2-20 UNF threading, 700 bar pressure range, 0.5% precision level, 153 mm (6") rigid stem, 457 mm (18") flexible stem.

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 reserves the right to make any kind of design or functional modification at any moment without prior notice

GEFRAN

GEFRAN spa

via Sebina, 74

25050 PROVAGLIO D'ISEO (BS) - ITALIA

tel. 0309888.1 - fax. 0309839063

Internet: <http://www.gefran.com>

DTS_IN_11-2015_ENG