



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.

"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.

### TECHNICAL SPECIFICATIONS

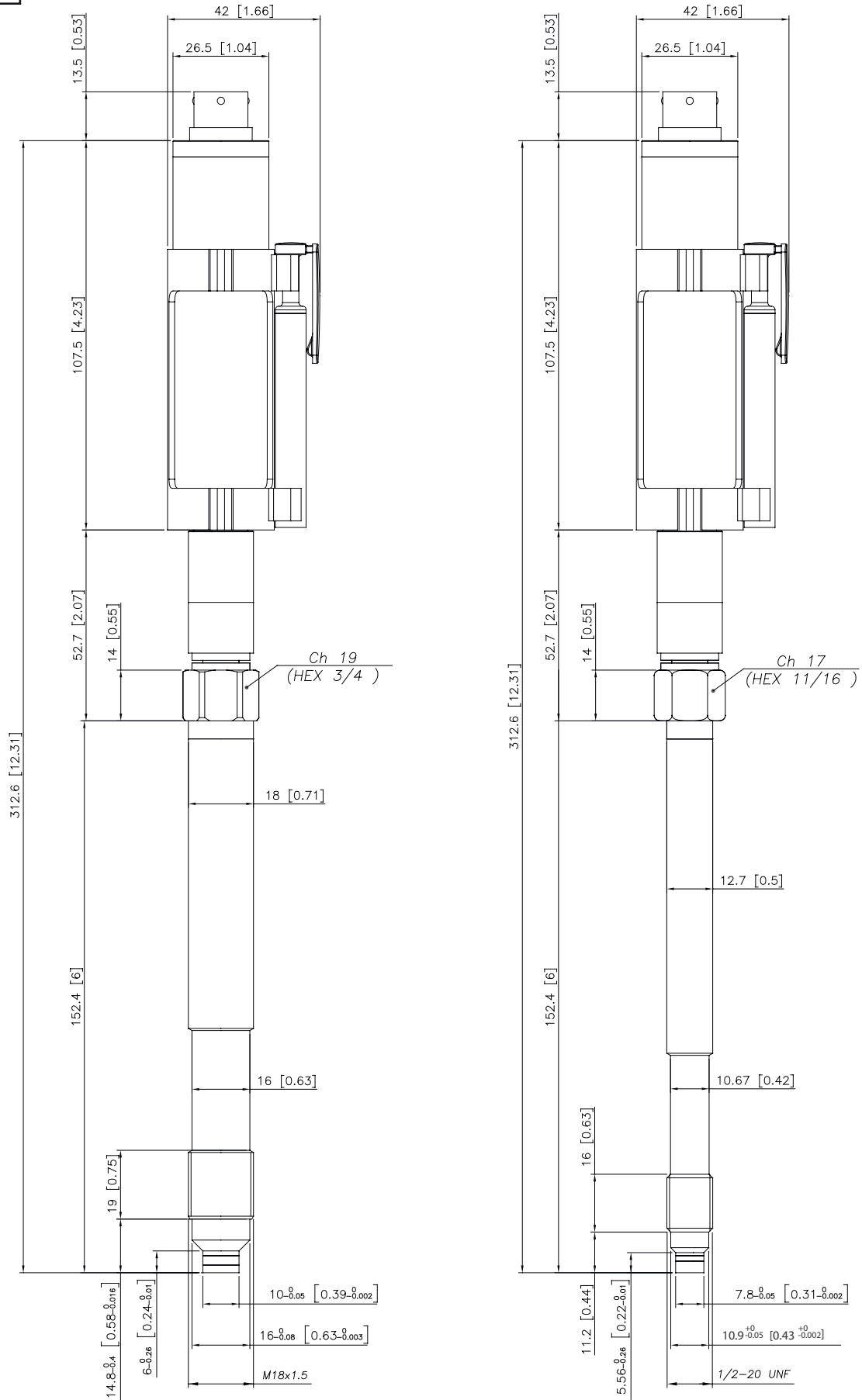
Accuracy (1)	H <math>\leq \pm 0.25\% \text{FSO}</math> M <math>\leq \pm 0.5\% \text{FSO}</math>
Resolution	16 bit
Measurement range	0..100 to 0..1000bar 0..1500 to 0..15000psi
Maximum overpressure	1.5 x FS (maximum pressure 1200bar/17400psi)
(without degrading performances)	
Measurement principle	Piezoresistivo
Power supply	8...12Vdc (10Vdc typical)
Input impedance	350 Ohm $\pm$ 10%
Insulation resistance (at 50Vdc)	>1000 MOhm
Output signal Full Scale FSO	2,5mV/V (option 2) 3,33mV/V (option 3)
Zero signals adjustment	"Autozero" function
(tolerance $\pm$ 0.5% FSO)	
Output impedance	350 Ohm $\pm$ 10%
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
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 I32)	STD: Type "J" (isolated junction) Type "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

**130**

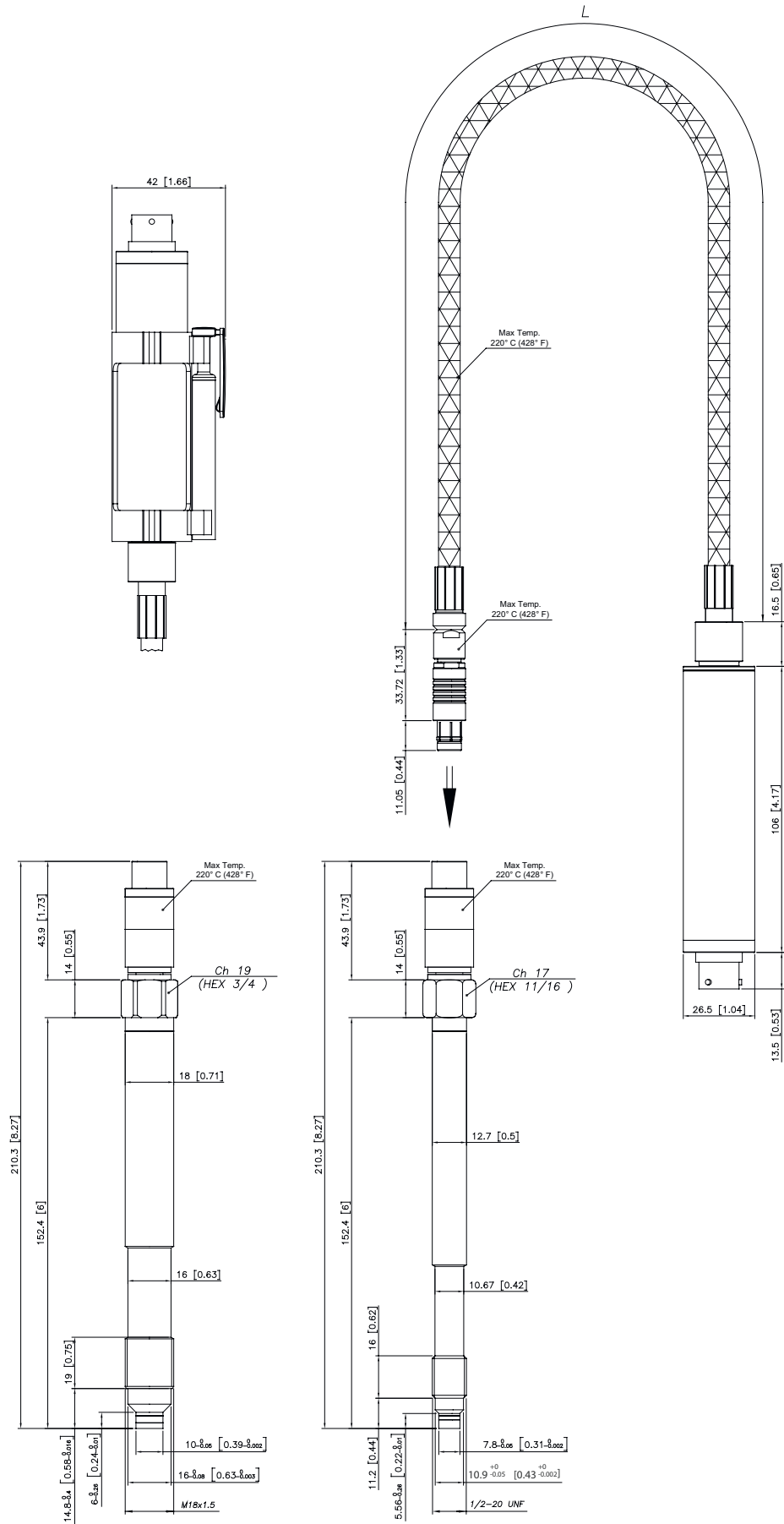


**NOTE :** dimensions refer to rigid stem length option "4" (153 mm – 6")

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

# MECHANICAL DIMENSIONS

**I31M**

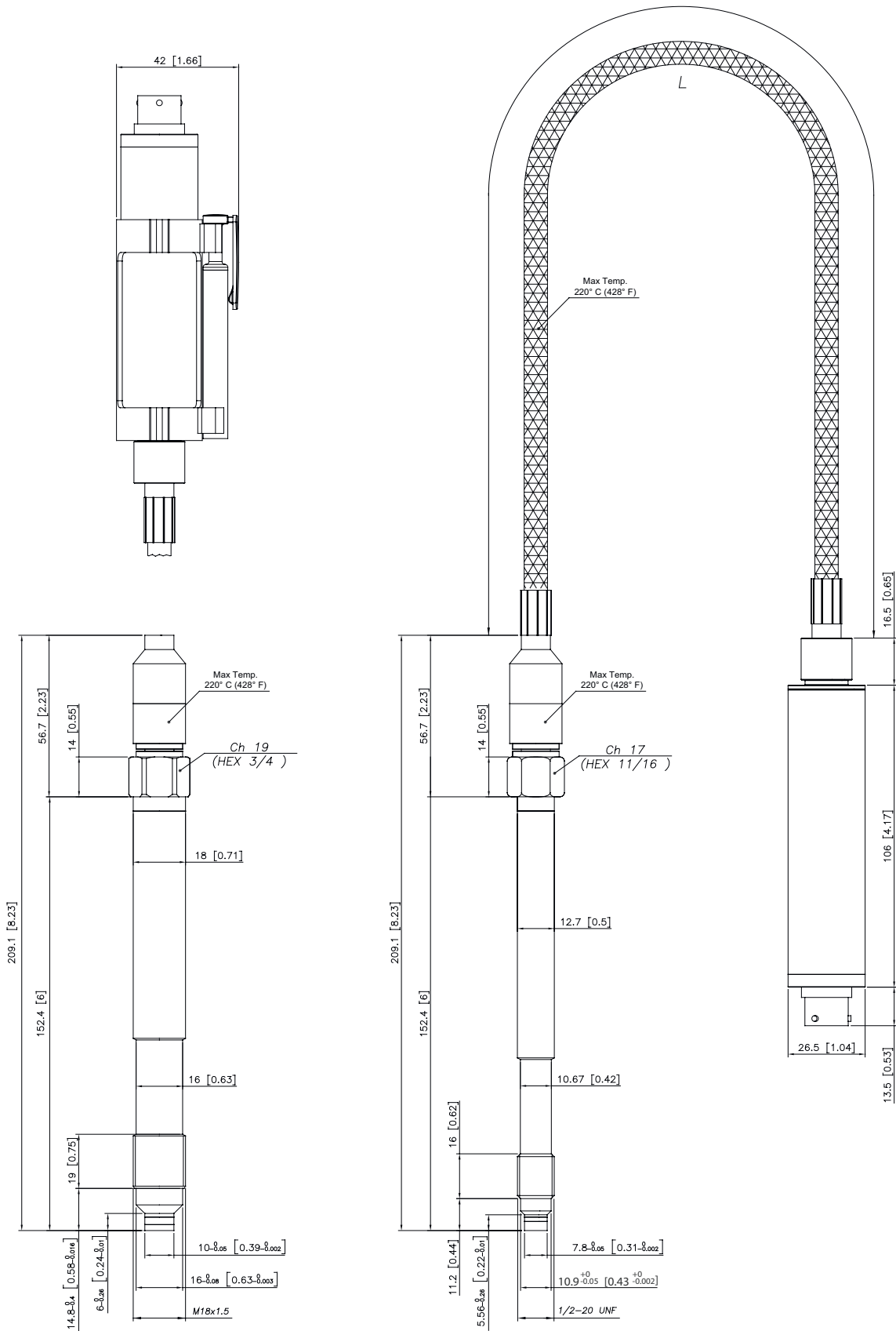


**NOTE :** dimensions refer to rigid stem length option "4" (153 mm – 6")

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

# MECHANICAL DIMENSIONS

I31S

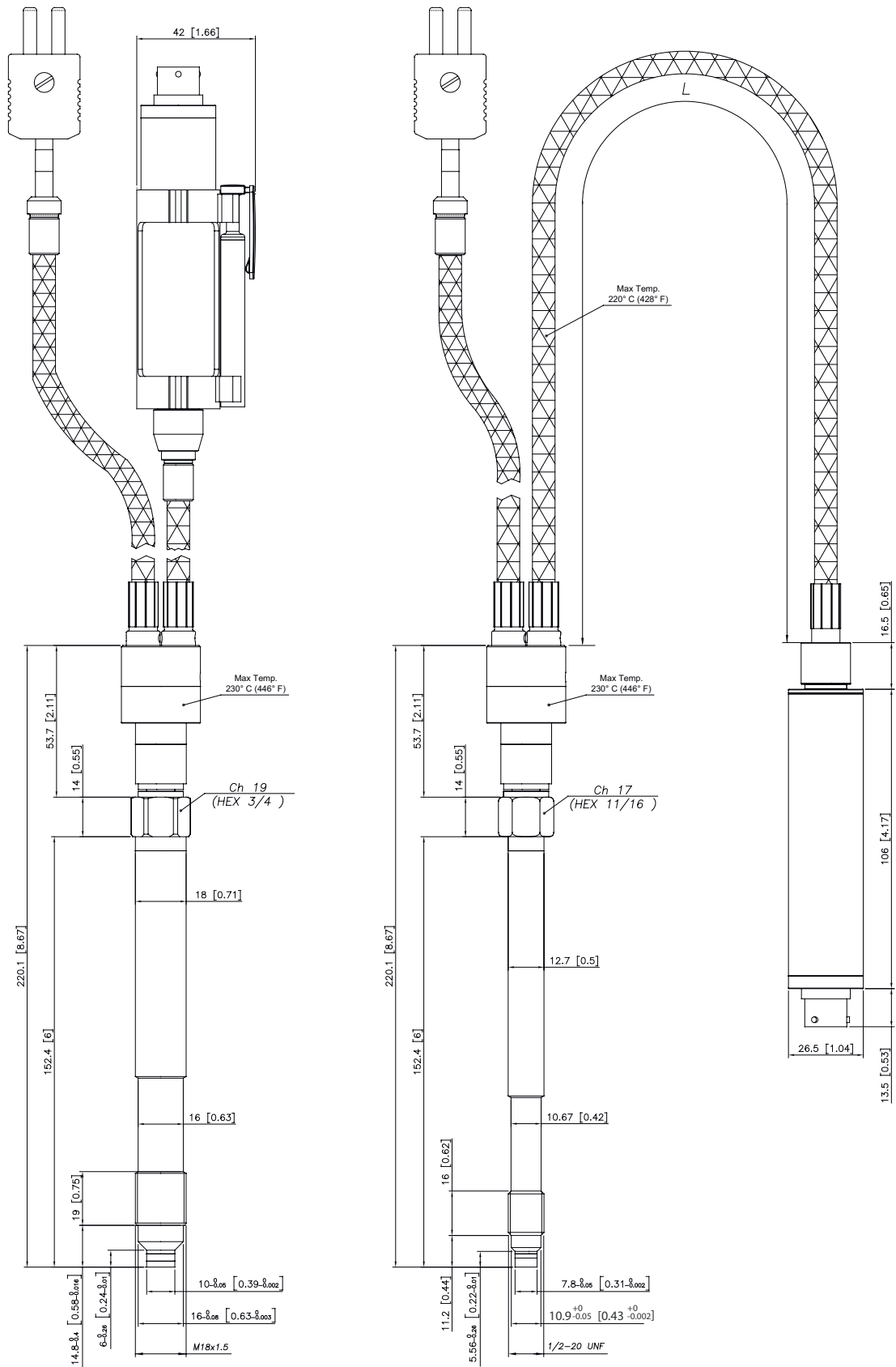


**NOTE :** dimensions refer to rigid stem length option "4" (153 mm – 6")

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

# MECHANICAL DIMENSIONS

**I32**

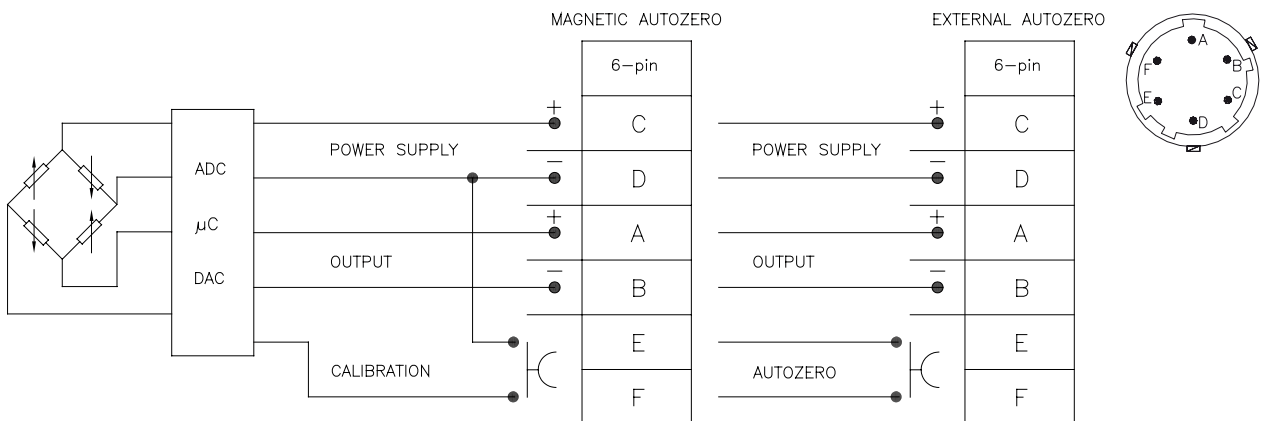


**NOTE :** dimensions refer to rigid stem length option "4" (153 mm – 6")

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

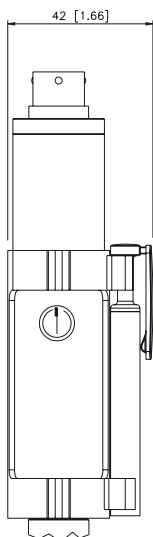
## ELECTRICAL CONNECTIONS

### mV/V Output



Shield drain wire is tied to connector via cable clamp

## 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

### Cable color code

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

### 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

