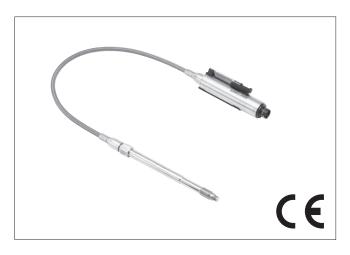
GEFRAN

MELT PRESSURE TRANSMITTERS

I3 SERIES

mV/V Output



"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 < 1ms

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).

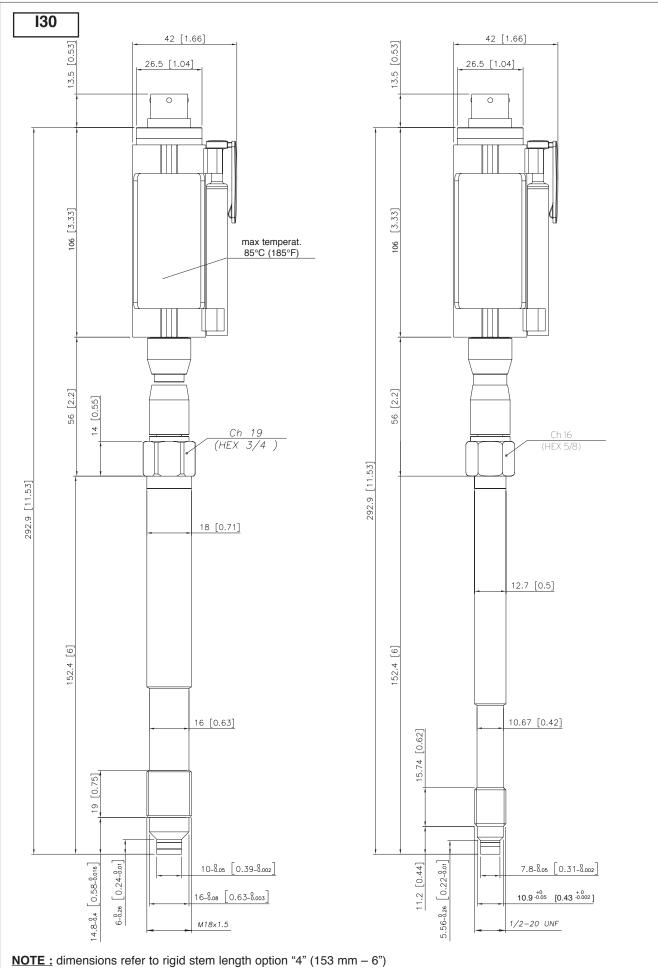
The operating principle is piezoresistive.

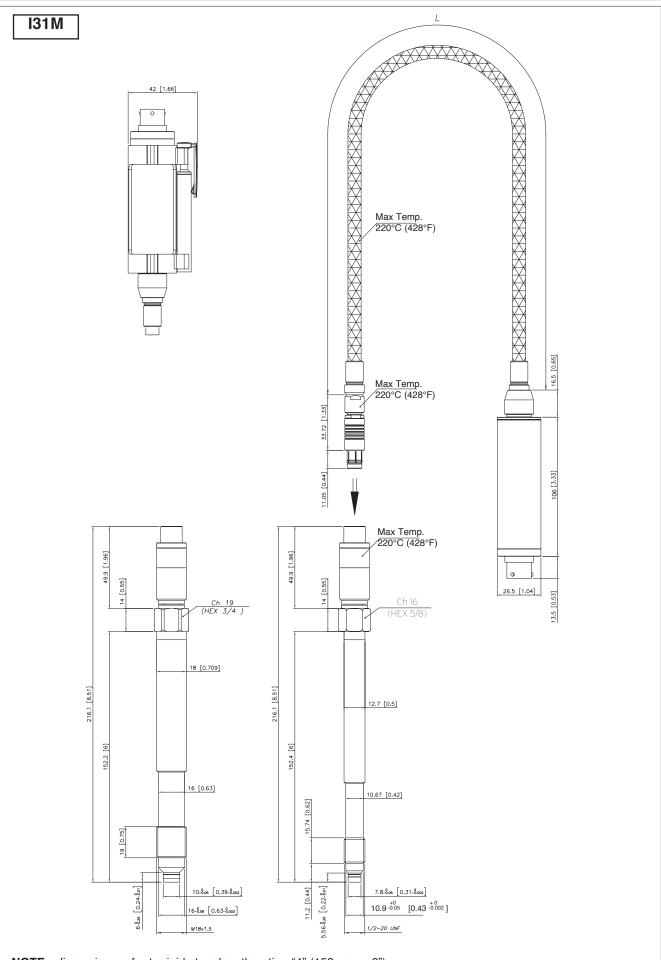
TECHNICAL SPECIFICATIONS

Resolution M <±0.5%FSO	Accuracy (1)	H <±0.25%FSO	
Measurement range Measurement range Maximum overpressure (without degrading performances) Measurement principle Power supply Imput impedance Insulation resistance (at 50Vdc) Output signal Full Scale FSO Vitollerance ± 0.5% FSO) Output impedance Response time (1090% FSO) Output noise (RMS 10-400Hz) Calibration signal Output short circuit and supply reverse polarity protection Supply from output protection Supply from output protection Compensed temperature range housing Operating temperature range housing Maximum diaphragm temperature Zero signal variation due to process temperature variation in range (20-350°C) Std contact diaphragm with process Thermocouple (Model I32) Measurement voriation on 1.1500 to 015000psi 2 x FS 1.5 x FS above 700bar/10000psi Piezoresistivo 812Vdc (10Vdc typical) Piezoresistivo 1.5 x FS above 700bar/10000psi Piezoresistivo 812Vdc (10Vdc typical) 812Vdc (10Vdc typical) 812Vdc (10Vdc typical) 9 inezoresistivo 812Vdc (10Vdc typical) 812Vdc (10Vdc typical) 9 inezoresistivo 812Vdc (10Vdc typical) 1000 MOhm 2,5mV/V (option 2) 3,33mV/V (option 2) 3,33mV/V (option 2) 3,33mV/V (option 3) "Autozero" function 8 ms (option 1ms) 4 025% FSO 8 ms (option 1ms) 4 025% FSO YES Output short circuit and supply reverse polarity protection YES Output short circuit and supply reverse polarity protection YES Output short circuit and supply reverse polarity protection YES Output short circuit and supply reverse polarity protection YES Output short circuit and supply reverse polarity protection YES Output short circuit and supply reverse polarity protection YES Output short circuit and supply reverse polarity protection YES Output short and supply reverse polarity protection YES Output short and supply reverse polarity protection Smy FSO		M <±0.5%FSO	
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Maximum overpressure (without degrading performances) Measurement principle Power supply Imput impedance Insulation resistance (at 50Vdc) Output signal Full Scale FSO Output impedance Response time (1090% FSO) Output signal Output signal Output signal Output signal Output noise (RMS 10-400Hz) Output signal Output signal Output signal Output signal Output impedance Response time (1090% FSO) Output noise (RMS 10-400Hz) Output signal Output short circuit and supply reverse polarity protection Supply from output protection Operating temperature range housing Operating temperature range housing Maximum diaphragm temperature Z x FS 1.5 x FS above 700bar/10000psi Piezoresistivo 812Vdc (10Vdc typical) 350 Ohm ± 10% 2,5mV/V (option 2) 3,33mV/V (option 3) "Autozero" function "Autozero" function "Autozero" function Sms (option 1ms) VES VES VES VES Output short circuit and supply reverse polarity protection Supply from output protection YES Compensed temperature range housing Operating temperature range housing Assimum diaphragm temperature 350 Ohm ± 10% 812Vdc (10Vdc typical) #Autozero" function #Autozero	Measurement range	0100 to 01000bar	
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Measurement principle Piezoresistivo Power supply 812Vdc (10Vdc typical) Imput impedance 350 Ohm ± 10% Insulation resistance (at 50Vdc) >1000 MOhm Output signal Full Scale FSO 2,5mV/V (option 2) 3,33mV/V (option 3) 2 zero signals adjustment (tollerance ± 0.5% FSO) "Autozero" function Output impedance 350 Ohm ± 10% Response time (1090% FSO) 8ms (option 1ms) Output noise (RMS 10-400Hz) < 0.025% FSO	Maximum overpressure	2 x FS	
Power supply R12Vdc (10Vdc typical)	(without degrading performances)	1.5 x FS above 700bar/10000psi	
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Output noise (RMS 10-400Hz) Calibration signal Output short circuit and supply reverse polarity protection Supply from output protection Compensed temperature range housing Operating temperature range housing Operating temperature range housing Storage temperature range housing Maximum diaphragm temperature Zero signal variation due to process temperature variation in range (20-350°C) Full-scale signal variation due to process temperature variation in range (20-350°C) Std contact diaphragm with process Thermocouple (Model I32) Protection degree (with 6-pole female connector) Conn. 6-pin VPT07RA10-6PT	Output impedance	350 Ohm ± 10%	
Calibration signal Output short circuit and supply reverse polarity protection Supply from output protection Compensed temperature range housing Operating temperature range housing Operating temperature range housing Storage temperature range housing Maximum diaphragm temperature Zero signal variation due to process temperature variation in range (20-350°C) Full-scale signal variation due to process temperature variation in range (20-350°C) Std contact diaphragm with process Thermocouple (Model I32) Protection degree (with 6-pole female connector) 80% FSO YES YES YES YES SEM 1-85°C -40+125°C <= 41,2%FSO <= ± 1,2%FSO <= ± 1,2%FSO <= ± 1,2%FSO <= ± 1%FSO <= ± 1 %FSO <= ± 1 %FSO	Response time (1090% FSO)	8ms (option 1ms)	
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Maximum diaphragm temperature Zero signal variation due to process temperature variation in range (20-350°C) Full-scale signal variation due to process temperature variation in range (20-350°C) Std contact diaphragm with process Thermocouple (Model I32) Protection degree (with 6-pole female connector) Maximum diaphragm temperature 350°C < ± 1,2%FSO < ± 1%FSO < 5 PH GTP STD: Type "J" (isolated junction) Type "K" (on request) IP65 Electrical connection Conn. 6-pin VPT07RA10-6PT	Operating temperature range housing	-30+85°C	
Zero signal variation due to process temperature variation in range (20-350°C) Full-scale signal variation due to process temperature variation in range (20-350°C) Std contact diaphragm with process Thermocouple (Model I32) Protection degree (with 6-pole female connector) Electrical connection S ± 1,2%FSO < ± 1,2%FSO	Storage temperature range housing	-40+125°C	
temperature variation in range (20-350°C) Full-scale signal variation due to process temperature variation in range (20-350°C) Std contact diaphragm with process Thermocouple (Model I32) Protection degree (with 6-pole female connector) Electrical connection Conn. 6-pin VPT07RA10-6PT	Maximum diaphragm temperature	350°C	
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temperature variation in range (20-350°C) Std contact diaphragm with process Thermocouple (Model I32) Protection degree (with 6-pole female connector) Std contact diaphragm with process 15-5 PH GTP STD: Type "J" (isolated junction) Type "K" (on request) IP65 Electrical connection Conn. 6-pin VPT07RA10-6PT	temperature variation in range (20-350°C)		
(20-350°C) Std contact diaphragm with process Thermocouple (Model I32) Protection degree (with 6-pole female connector) Electrical connection Std: 5-5 PH GTP STD: Type "J" (isolated junction) Type "K" (on request) IP65 Conn. 6-pin VPT07RA10-6PT	Full-scale signal variation due to process		
Std contact diaphragm with process Thermocouple (Model I32) Protection degree (with 6-pole female connector) Std: Type "J" (isolated junction) Type "K" (on request) IP65 Electrical connection Conn. 6-pin VPT07RA10-6PT	temperature variation in range	< ± 1%FSO	
Thermocouple STD: Type "J" (isolated junction) (Model I32) Type "K" (on request) Protection degree (with 6-pole female connector) Electrical connection Conn. 6-pin VPT07RA10-6PT	(20-350°C)		
(Model I32) Protection degree (with 6-pole female connector) Electrical connection Type "K" (on request) IP65 Conn. 6-pin VPT07RA10-6PT	Std contact diaphragm with process	15-5 PH GTP	
Protection degree IP65 (with 6-pole female connector) Electrical connection Conn. 6-pin VPT07RA10-6PT	Thermocouple	STD: Type "J" (isolated junction)	
(with 6-pole female connector) Electrical connection Conn. 6-pin VPT07RA10-6PT	(Model I32)		
(with 6-pole female connector) Electrical connection Conn. 6-pin VPT07RA10-6PT	Protection degree	IP65	
Electrical connection Conn. 6-pin VPT07RA10-6PT	(with 6-pole female connector)		
	,		
·	Electrical connection	Conn. 6-pin VPT07RA10-6PT	
()		(PT02A-10-6P)	

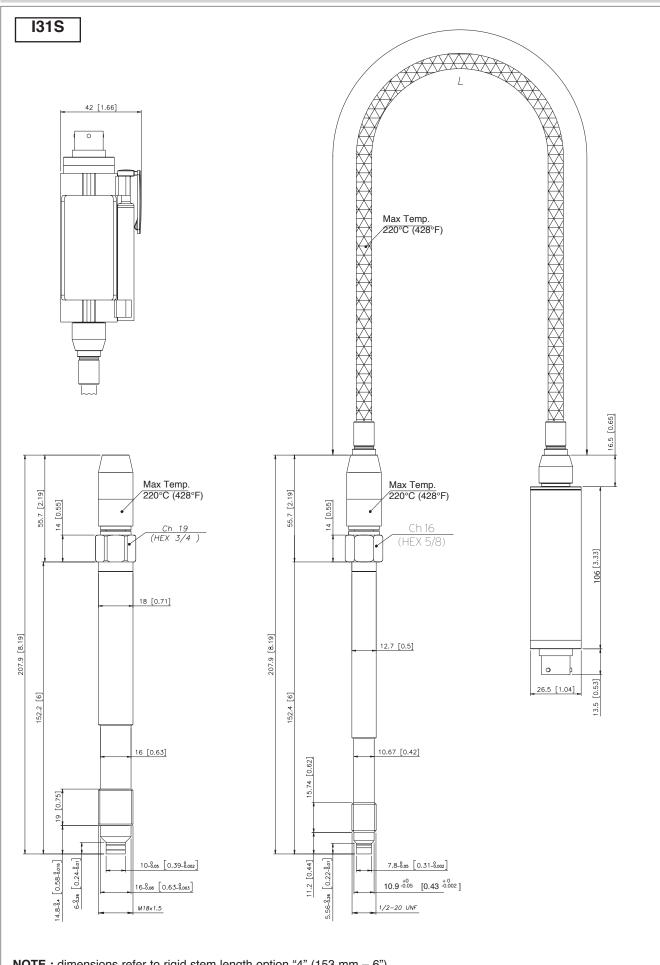
FSO = Full scale output

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

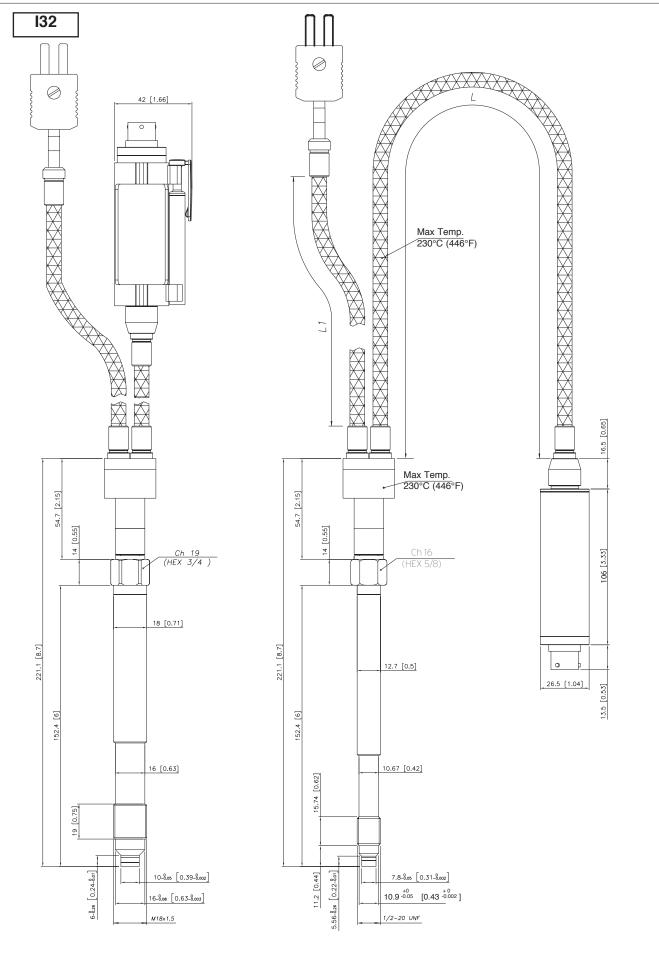




NOTE: dimensions refer to rigid stem length option "4" (153 mm – 6")



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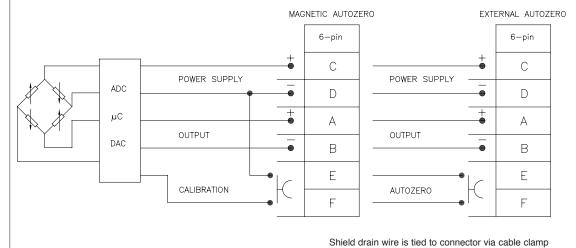


NOTE: dimensions refer to rigid stem length option "4" (153 mm – 6")

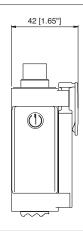
ELECTRICAL CONNECTIONS

mV/V Output

6 pin connector VPT07RA10-6PT2 (PT02A-10-6P)



AUTOZERO FUNCTION



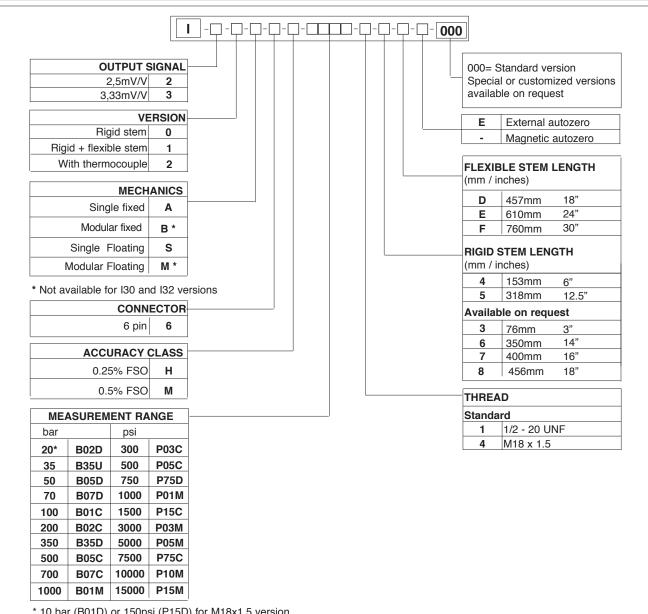
The Autozero function is activated through a magnetic contact (external magnet supplied with the sensor).

See the manual for a complete Autozero function explanation.

ACCESSORIES

6-pin female connector (IP65 protection degree) Extension cables 6-pin connector with 8m (25ft) cable 6-pin connector with 15m (50ft) cable	CON300	Conn.	
6-pin connector with 8m (25ft) cable	000041.0	' '	Dad
6-pin connector with 8m (25ft) cable	00014/1 0	_	Red
	00014/1 0	B	Black
6-pin connector with 15m (50ft) cable	C08WLS	C	White
	C15WLS	D	Green
6-pin connector with 25m (75ft) cable	C25WLS	E	Blue
6-pin connector with 30m (100ft) cable	C30WLS	F	Orange
Other lengths	on request		
Accessories			
Mounting bracket	SF18		
Dummy plug for 1/2-20UNF	SC12		
Dummy plug for M18x1.5	SC18		
Drill kit for 1/2-20UNF	KF12		
Drill kit for M18x1.5	KF18		
Cleaning kit for 1/2-20UNF	CT12		
Cleaning kit for M18x1.5	CT18		
Fixing pen clip	PKIT309		
Autozero pen	PKIT312		

ORDER CODE



^{* 10} bar (B01D) or 150psi (P15D) for M18x1,5 version

Examples

<u>I31S-6-M-B07C-1-4-D-000</u>

Melt pressure transmitter without filling, 3,33mV/V 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



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