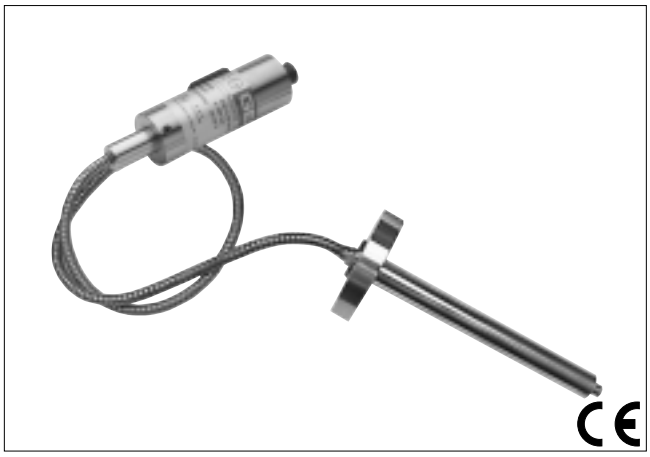
GEFRAN

FLANGE STEM MOUNT MELT PRESSURE TRANSMITTERS FOR APPLICATIONS IN POTENTIALLY EXPLOSIVE ATMOSPHERES

MX4 SERIES

4-20mA Output



The MX4 series of Gefran, are pressure transmitters for using in High temperature environment.
The main characteristic of this series is the capability to read temperature of the media up to 400°C.
The constructive principle is based on the hydraulic trasmission of the pressure.
The fluid-filled system assures the temperature stability.
The phisical measure is transformed in a electrical measure by means the strain-gauge technology.

MAIN FEATURES

- Pressure ranges: 0-25 to 0-2000bar / 0-360 to 0-30000psi
- Extensimetric measurement principle with Wheatstone bridge
- Precision: < ±0.25% FSO (H); < ±0.5% FSO (M)
- Calibration signal 80% FSO internally generated
- Completely interchangeable with all existing products
- Protection level: IP65 (6-pin connector)
- Flange Mounting
- Stainless steel diaphragm 15-5 PH with GTP
- For ranges below 100bar-1500psi: 17-7 PH corrugated stainless steel diaphragm with GTP coating
- Other diaphragm types available on request

TECHNICAL SPECIFICATIONS

Rated precision, including effects of Linearity, Repeatability and Hysteresis	**H** < ±0.25%FSO (100...2000 bar) **M** < ±0.5%FSO (25...2000 bar)
Resolution	Infinite
Pressure ranges	0...25 to 0...2000bar 0...360 to 0...30000psi
Maximum applicable pressure	2 x FS 1,5 x FS beyond 1000bar/15000psi
Principle of measurement	Strain gauge
Power supply	12...30Vdc
Maximum input	30mA
Isolation resistance (at 50 Vdc)	> 1000 MΩ
Signal at rated pressure (FSO)	20mA
Zero balancing	4mA
Calibration: Rated pressure Room pressure	5% FSO min. 10bar (150psi)
Maximum load	see diagram (page 3)
Response time (10 at 90% FSO)	~ 4ms
Output noise (RMS 10-400Hz)	< 0.05% FSO
Calibration signal	80% FSO
Protection against overvoltages and power supply polarity reverse	YES
Protection against pulses injected on output	YES in compliance with 89/336/EEC
Temperature range of Strain Gauge Housing	-20...+70°C -4...+158°F
Thermal drift in compensated range: Zero/Calibrat/Sensitivity	< 0.02% FSO/°C < 0.01% FSO/°F
Maximum temperature of diaphragm	400°C 750°F
Influence due to fluid temperature change (zero)	0.02 bar/°C 15 psi/100°F
Contact diaphragm - standard with process	15-5PH with GTP coating 17-7 PH corrugated with GTP coating for range < 100 bar (1500 psi)
Sealing	Copper washer silver plated
Protection level (with 6-pin female connector installed)	IP65
Electrical connections	6-pin conn. VPT07RA10-6PT (PT02A-10-6P) 8-pin conn. PC02E-12-8P

FSO = Full Scale Output (Signal at rated pressure)

Main intrinsic safety characteristics

Transmitter designed and produced in compliance with Directive 94/9/CE ATEX and according to European standards.
For the second group (II-surfaces), category 1,
explosive atmosphere with presence of gases, fumes or mists (G)
protection mode Ex ia IIC T5, T4 room temperature -20°C/+55°C//+70°C

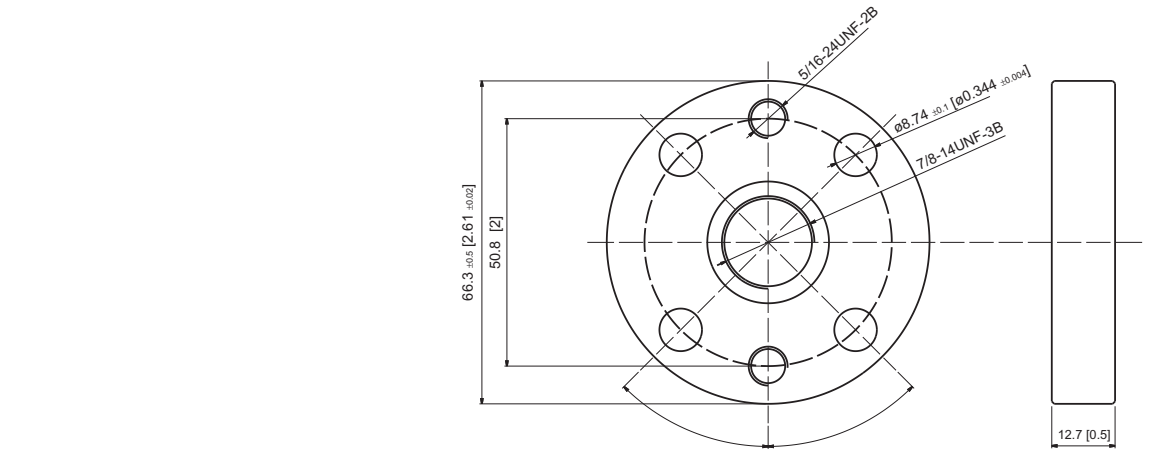
Maximum voltage	30 V
Maximum current	100 mA
Maximum power	0.75 W
Equivalent inductance (*)	0.23 mH
Equivalent capacity (*)	26 nF

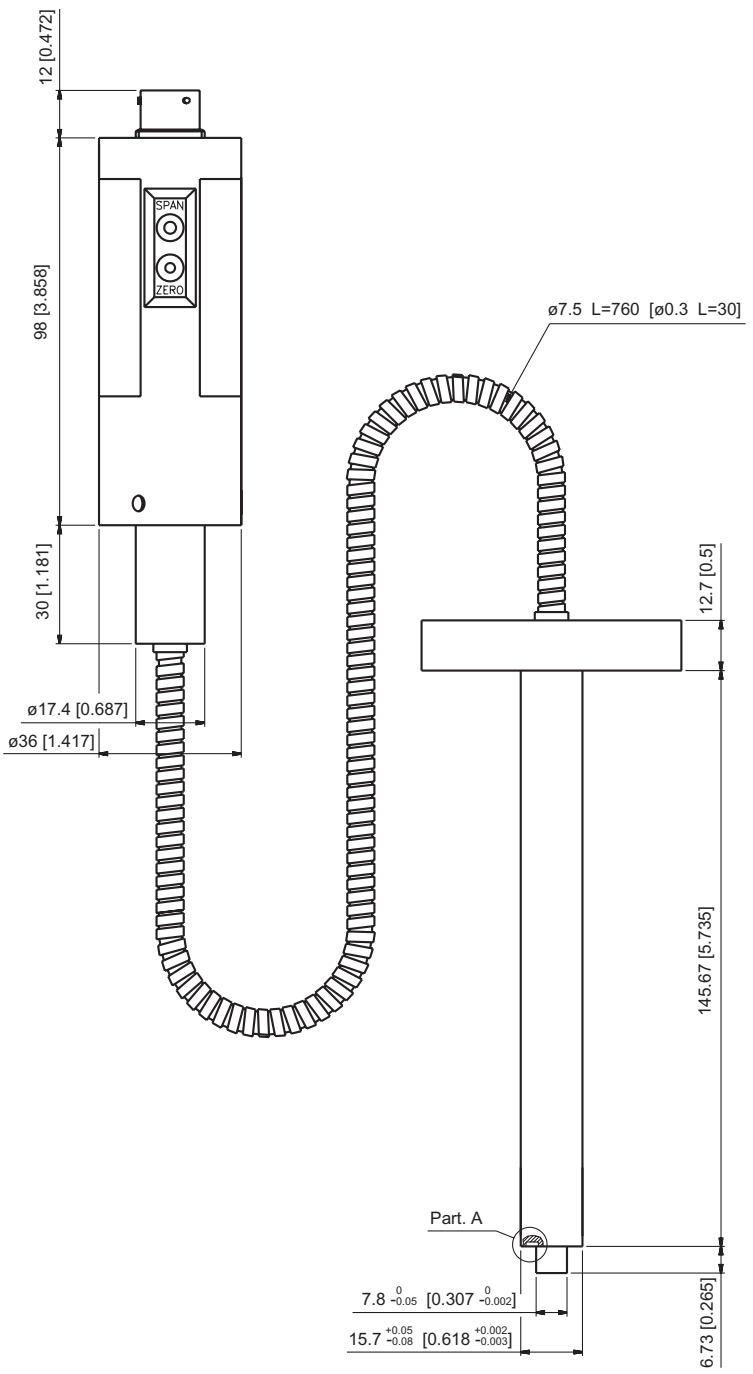
(*)includes inductance levels and capacity of a cable: (typical L 1microH/m and typical C 100pF/m) with maximum length 15m.

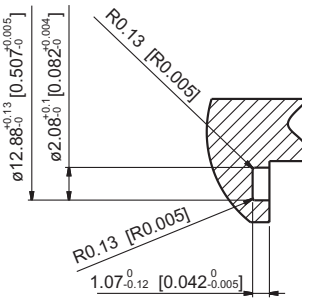
Power at zener barrier or active barrier. For version MX2, the thermocouple must be connected to EX-i circuits with devices assigned to galvanic separation and with protection mode [EX ia] IIC.

EC-Type Examination Certificate number:
CESI 02 ATEX 107

MECHANICAL DIMENSIONS







ELECTRICAL CHARACTERISTICS AND TEMPERATURE CLASSES

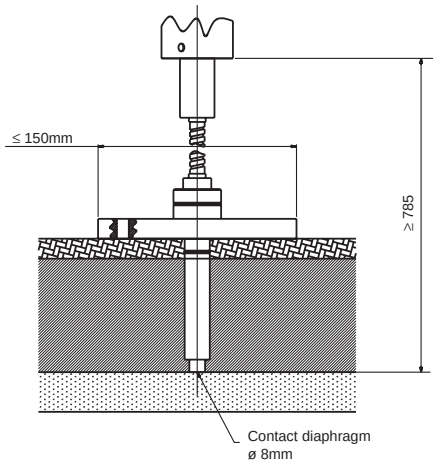
MODEL	(*) DISTANCE L2	TEMPERATURE CLASSES	ROOM TEMPERATURE
MX4	> 785mm	T5	-20...+55°C
		T4	-20...+70°C

(*) with the level (L) in fig. 1, the table sets the minimum distance that the electrical circuit has to maintain from the block at high temperature.

thermal isolating material with adequate thickness for the process temperature

installation Vs process

fluid at temperature Max. (400°C)

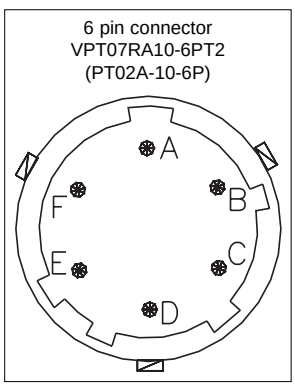


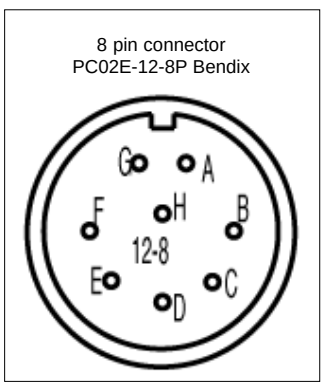
ELECTRICAL CONNECTIONS

Output in current (4...20mA 2 wires)

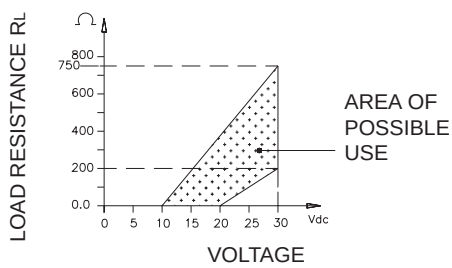
	6-pin	8-pin
Power supply + (12...30Vdc)	A	B
n.c.	C	A
Signal - (4...20mA)	B	D
n.c.	D	C
Calibrtation shunt	E - F	E - F
n.c.		G - H

The cable sheathing is connected to the transducer body



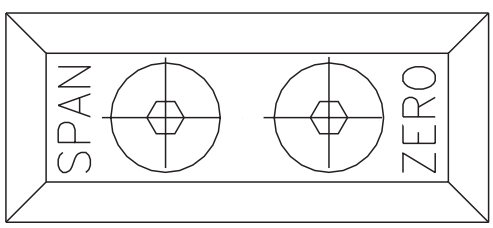


LOAD DIAGRAM (current output)



The diagram shows the best ratio of load to power supply for transmitters with 4…20mA output. For correct function, use a combination of load resistance and voltage that stays in the shaded zone.

SETTINGS



The signal setting to room pressure (ZERO) and the setting to rated pressure (SPAN) can be made with the appropriate trimmers, accessed inside the transmitter after removing the two fastening screws.

The SPAN setting is made during production and must not be changed.

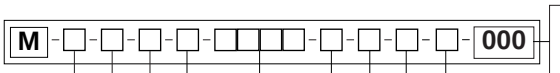
Accessories

Mounting bracket	**SF18**
Copper washer silver plated	**RON007**

Extension cables

6-pin connector with 3mt Atex cable	**PCAV221**
6-pin connector with 4mt Atex cable	**PCAV104**
6-pin connector with 5mt Atex cable	**PCAV105**
6-pin connector with 10mt Atex cable	**PCAV106**

ORDER CODE



000= Special executions of the standard version or of custom versions may be requested.

OUTPUT SIGNAL	
4...20mA	**X**

CONFIGURATION	
Flange mounting	**4**

CONNECTOR	
Standard	
6 pin	**6**
8 pin	**8**

PRECISION CLASS	
0.25% FSO (ranges ≥100 bar/1500 psi)	**H**
0.5% FSO	**M**

MEASUREMENT RANGE			
bar		psi	
25	**B25U**	**360**	**P36D**
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**
1400	**B14C**	**20000**	**P20M**
2000	**B02M**	**30000**	**P30M**

4	T4
5	T5

FLEXIBLE ROD LENGTH		
F	760mm	30”

RIGID ROD LENGTH (mm / inches)		
Standard		
4	153mm	6”
Available on request		
H	102mm	4”
M	229mm	9”
5	305mm	12”

FLANGE MOUNTING	
Standard	
6	ø 66.3mm (2.61”)

Example

MX4-6-M-B07C-6-4-F-4-000

Melt pressure transducer with flange mounting, 4…20mA output, 6-pin connector, pressure range 700bar, precision class 0.5%, 153mm (6") rigid rod, 760mm (30") flexible rod, temperature class T4

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