

Main Features

- Ranges: from 4 to 1000 bar
- Supply 8...32V
- Nominal Output Signal:
 - Digital CANopen® profile DS404
 - Digital J1939
- Compact size
- Wetted parts: Stainless steel
- Electromagnetic immunity up to 100 V/m

KMC pressure transmitters are based on film sensing element deposited on stainless steel diaphragm.

Thanks to the latest state of the art SMD electronics and compact all stainless steel construction, this products are extremely robust and reliable, specially suitable for mobile hydraulics applications.

In particular the KMC series combines high accuracy with temperature stability, resistance to extreme environmental conditions and digital outputs with mobile hydraulics typical protocols.

The digital signal, in addition to the pressure measurement, also contains the data related to the temperature of the device.

FS = Full scale

- 1) Incl. Non-Linearity, Hysteresis, Repeatability, Zero-offset and Span-offset tolerance (acc. to IEC 62828-2)
- 2) The operating pressure range is intended from 0.5 to 100% FS
- 3) Time within which the rated performance is achieved
- 4) See possible restrictions in the paragraphs "Electrical connections" and "Accessories on request".

TECHNICAL DATA

Non Linearity (BFSL)

± 0.15% FS (typ); ± 0.25% FS (max)

Hysteresis

+ 0.1% FS (typ); + 0.15% FS (max)

Repeatability

± 0.025% FS (typ); ± 0.05% FS (max)

Zero offset tolerance

± 0.15% FS (typ); ± 0.25% FS (max)

Span offset tolerance

± 0.15% FS (typ); ± 0.25% FS (max)

Accuracy at room temperature (1)

< ± 0.5% FS

Pressure ranges (2)

From 4 bar to 1000 bar (See table)

Overvoltage

36 Vdc continuous

48 Vdc according to ISO7637-2 Pulse 5

Insulation voltage

500 Vdc

Overpressure (without degrading performance)

See table

Pressure containment (burst test)

See table

Pressure Media

Fluids compatible with Stainless Steel AISI 430F and 17-4 PH

Housing

Stainless Steel AISI 304

Long term stability (accuracy)

<0,2%FS per year (within compensated temperature range -20...+85 °C and nominal pressure range)

Operating temperature range (process)

-40...+125°C (-40...+257°F)

Operating temperature range (ambient) (4)

-40...+125°C (-40...+257°F)

Compensated temperature range

-20...+85°C (-4...+185°F)

Storage temperature range

-40...+125°C (-40...+257°F)

Temperature effects over compensated range (zero)

± 0.01% FS/°C typ (± 0.02% FS/°C max.)

Temperature effects over compensated range (span)

± 0.01% FS/°C typ (± 0.02% FS/°C max.)

Measuring frequency

4 KHz

Response time (10...90%FS)

< 1 msec.

Warm-up time (3)

< 30 sec.

Mounting position effects

Negligible

Humidity

Up to 100%RH non-condensing

Weight

50 gr. nominal

Mechanical shock

100g 6ms according to IEC 60068-2-27

50g 11ms according to ISO 19014-3

Vibrations

20g max at 10...2000 Hz according to IEC 60068-2-6

Random ASD 10...2000Hz according to ISO 19014-3

Ingress protection

IP67/IP69K with female homologated connector mounted

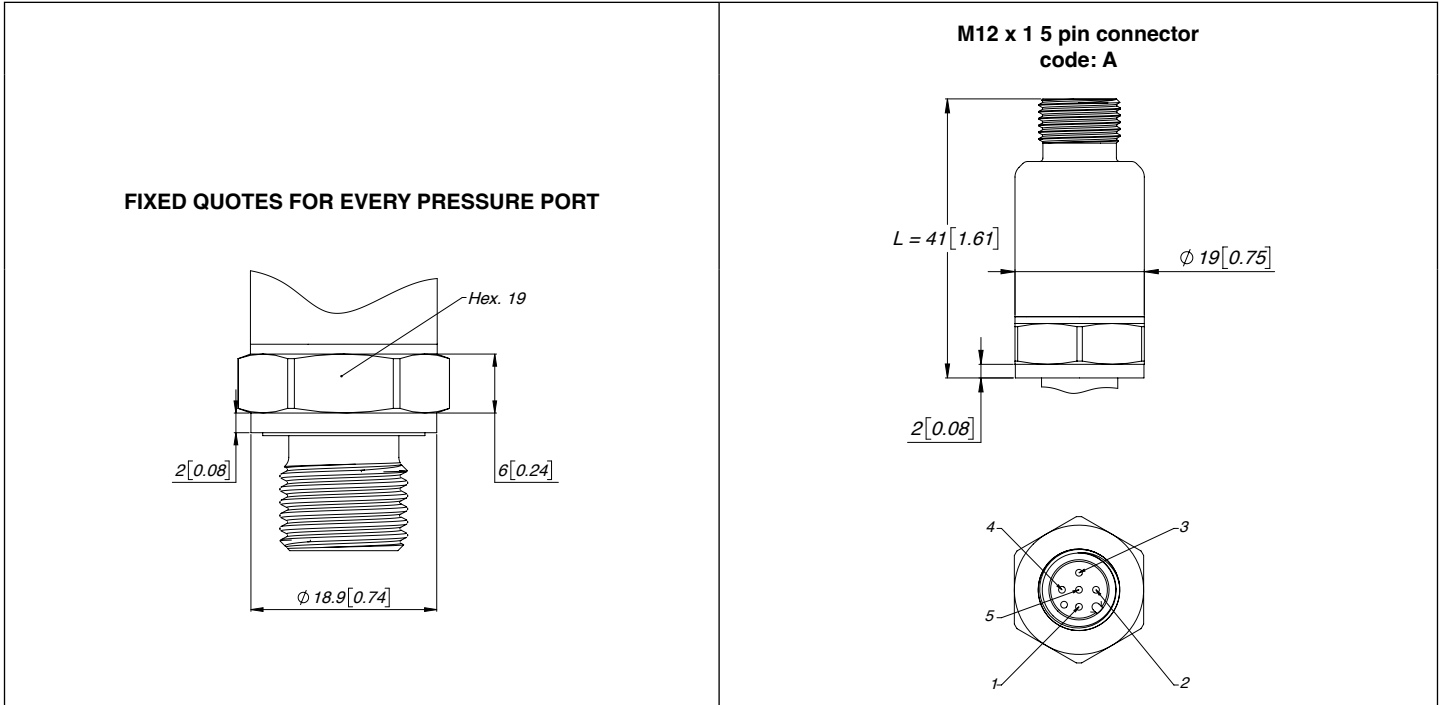
Output short circuit and reverse polarity protection

YES

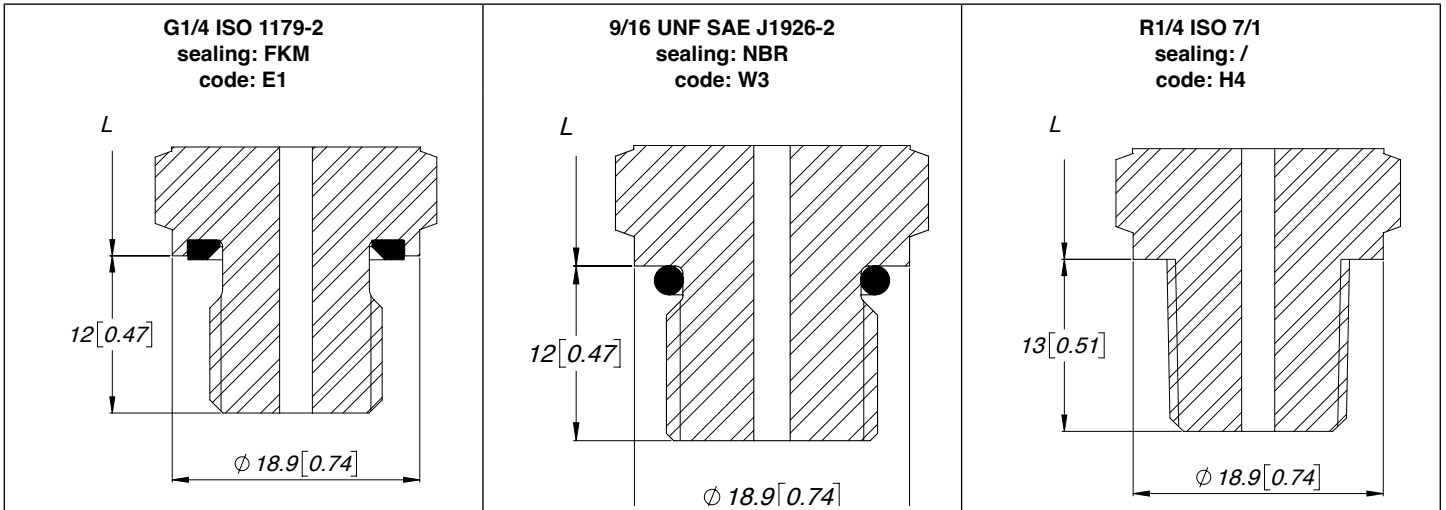
PRESSURE RANGES

RANGE (Bar)	4	6	10	16	20	25	40	60	100	160	200	250	400	600	1000
Overpressure (Bar)	8	12	20	32	40	50	80	120	200	320	400	500	800	1200	1200
Burst pressure (Bar)	16	24	40	64	80	100	160	240	400	640	800	1000	1500	1500	1500

MECHANICAL DIMENSIONS

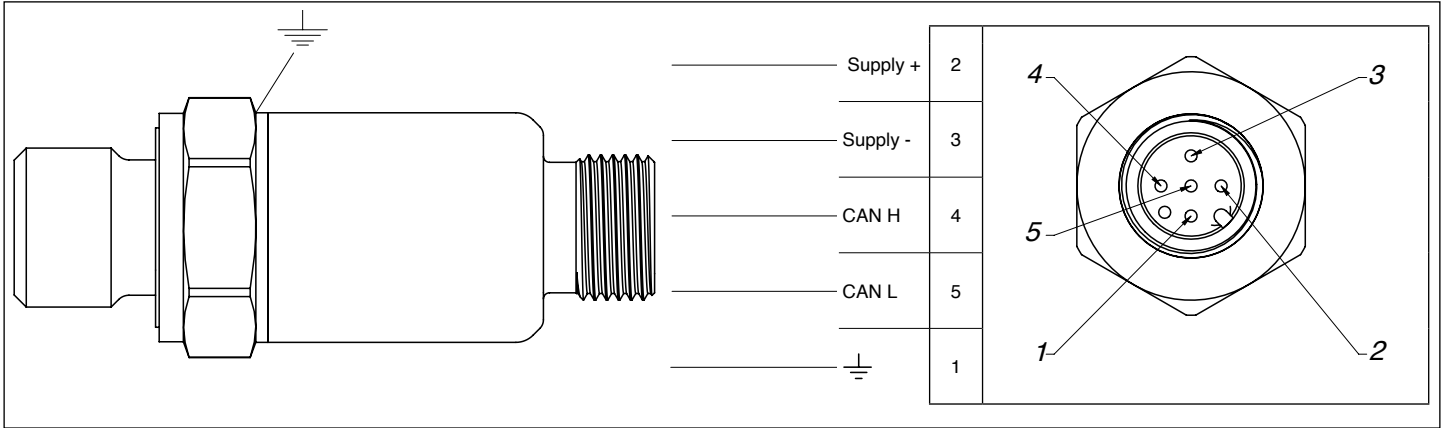


MECHANICAL DIMENSIONS



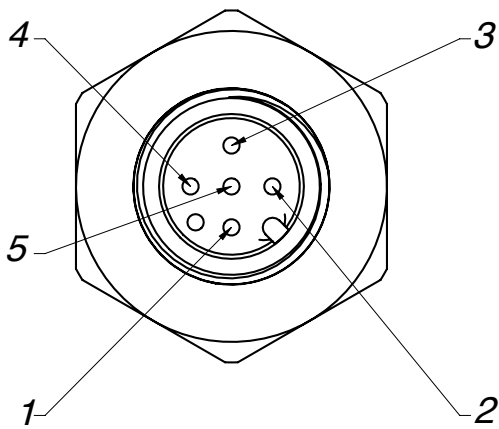
Dimensions in mm. [inches]
Max tightening torque = 30 Nm (Max)

ELECTRICAL CONNECTION - Connection diagrams



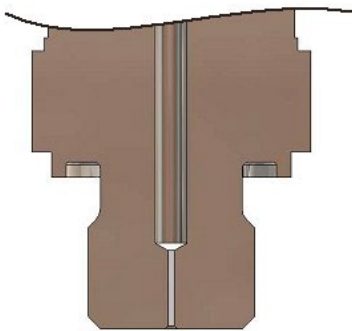
ELECTRICAL CONNECTION - Connectors

M12 x 1 5 pin Connector
code A



Every connector has a protection rating IP69K/IP67 with female connector properly installed.
M12 with female homologated connector mounted, tightening torque 0.6Nm + low strength threadlocker

PRESSURE PEAKS PROTECTION



Many industrial applications, especially in hydraulics, could present dangerous phenomena like cavitation, liquid hammer or pressure peaks, due for example to pumps start and stop or fast closing of a valve.
These phenomena can be harmful to the transducer.

The KMC series, upon request, is available with an integrated pressure snubber which, thanks to a 0.5 mm diameter through hole, eliminates these harmful peaks, to protect the transducer (see ordering information)

ACCESSORIES ON REQUEST

Connector Plugs Connection A

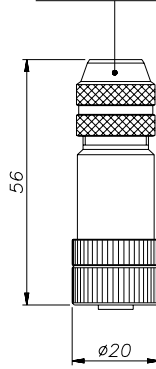
5 pin connector M12x1 - straight
Prot. IP67

CON 031

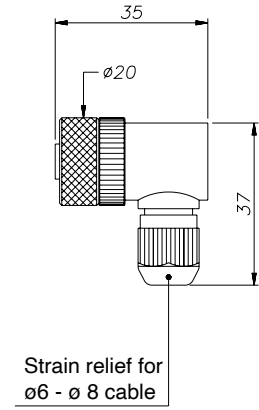
5 pin connector M12x1 - 90°
Prot. IP67

CON 041

Strain relief for $\phi 6.5$ cable



CON 031



CON041

EXTENSION CABLES

Extension cable with female connector, 5 pin M12x1, protection IP67

Length		CODE	
		Straight Connector	90° Connector
2	mt	CAV011	CAV021
5	mt	CAV012	CAV022
10	mt	CAV013	CAV023
15	mt	CAV015	CAV024

Cable color code	
Pin	Wire
1	Brown
2	White
3	Blue
4	Black
5	Grey

ORDERING INFORMATION

KMC - - - - 0 00 - - - 0 0 0 - -

OUTPUT SIGNAL	
CanOpen	C
J1939	J*

* For J available only Baudrate 3 (250 kbit/s)

PROCESS CONNECTIONS	
G 1/4 ISO 1179-2	E1
9/16 UNF SAE J1926-2	W3
R 1/4 ISO 7/1	H4

ELECTRICAL CONNECTIONS	
M12x1 (5-pin)	A

MEASUREMENT RANGE			
bar		bar	
B04U	4	B01C	100
B06U	6	B16D	160
B01D	10	B02C	200
B16U	16	B25D	250
B02D	20	B04C	400
B25U	25	B06C	600
B04D	40	B01M	1000
B06D	60		

Available on request other measurement range and measurements unit

SNUBBER	
without snubber	0
with snubber	S

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

PACKAGING	
Batch of 50pcs in single box	B50

ADDRESS	
Node ID (001 standard) - CANopen® and J1939	001 ... 127
Node ID (J1939 only)	248 ... 253

PDO MAPPING	
Integer PDO data (32 bit) standard	I
Float PDO data (IEEE754 floating point)	F
J1939	X

BAUDRATE	
1 Mbit/s	0
800 kbit/s	1
500 kbit/s	2
250 kbit/s (standard)	3*
125 kbit/s	4
100 kbit/s	5
50 kbit/s	6
20 kbit/s	7

* Only opt.3 available for J1939

Calibration standards

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

Example

KMC-AE1A-B04C-S-0-00-00-3I001000-B50-000

KMC pressure transmitter with CAN Open output signal, G1/4 male with snubber (ISO 1179-2) pressure connection, M12 electrical connector, 0...400 bar pressure range, baudrate 250 kbit/s, Integer PDO data (32 bit), Node ID 001, box 50 pcs.

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