Model 722F
High Gauge Pressure Transmitters

Description

The 722F is a pressure transmitter developed for extremely high pressure applications. Depending on the BCM high-quality metal foil strain gauge, this model provides excellent thermal stability and durability.

When the transmitters work with extremely high pressures, safety becomes crucial, so the 722F has its wetted parts made from one block of stainless steel. This monolithic structure greatly improves durability by eliminating welding in the process connection, and there is no internal O-ring needed to seal.

To guarantee safety and reliability, thread types are available according to measured pressures. Featuring an inner-cavity process connection, the transmitter is specially designed to measure pressures of dilute fluids with gauge pressure reference.

By selecting proper electrical interface, the 722F is able to reach the environmental protection rating up to IP67.

Features

- all welded and rugged structure of the wetted parts
- excellent thermal stability
- measuring ranges: 200bar, ..., 5000bar
- accuracy up to 0.5%fs
- 80%fs shunt calibration available on request
- selectable output:
  4~20 mA (standard), 0~5V, 1~5V, and I^2C.
- wide choice of process connection and electrical interface
- protection rating up to IP67

Applications

- water jets
- high pressure hydraulics
- test stands
- pipeline instrumentation
- pumps
- food sterilization

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Technical Data

Parameters		Units	Specifications	Notes
pressure medium			viscous fluid or fluid with particles	1
pressure references & ranges	gauge	bar	0~200, ~400, ~600, ~1,000, ~1,600, ~2,500, ~4,000, ~5,000	2
proof pressure		%fs	120	3
burst pressure		%fs	150	
output signal		mA	4~20 (standard)	4
		V	0.5~4.5 (ratiometric), 0~5, 1~5	
		Digital	I^2C	
accuracy		%fs	⩽ ±0.5 (standard), ⩽ ±1	
long-term stability		%fs/year	⩽ ±0.15	
power supply (Vs)		Vdc	12 < Vs ⩽ 36; 5 (for output = 0.5~4.5 V)	
load resistance for voltage output		kΩ	> 5	
load resistance for current loop		Ω	⩽ (Vs - 12V) / 0.02A	
insulation resistance		MΩ	500 @100Vdc	
compensated temperature range		°C	-10 ~ +60	
operating temperature range		°C	-20 ~ +125	
storage temperature range		°C	-20 ~ +125	
temperature coefficient of zero		%fso/°C	⩽ ±0.005	
temperature coefficient of span		%fso/°C	⩽ ±0.005	
vibration resistance (20, ..., 2000 Hz)		g	10	
life time		cycles	10^8	
response time		ms	⩽ 1	5
seal			all welded	
pressure diaphragm			17-4PH SS	
wetted parts material			17-4PH SS	
electronics housing material			304 SS	
explosive proof			no explosive proof (standard), Ex ia II C T6	
environment protection			IP65 (standard), IP67 (only for cable connection)	
net weight		gram	~500	

Notes:
1. The pressure medium should be compatible with wetted parts material and pressure diaphragm.
2. For customized pressure ranges, consult BCM.
3. “fs” refers to full scale pressure or rated pressure.
4. Including non-linearity, hysteresis and repeatability.
5. Response time for a 0 bar to fs step change, 10% to 90% rise time.

The listed specifications and dimensions are subject to change without prior notice.

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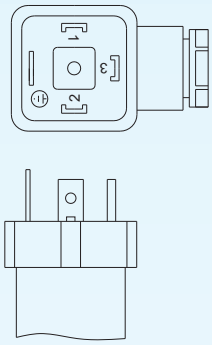
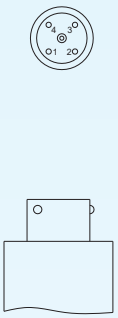
Dimensions

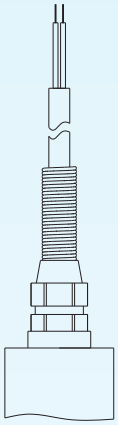
electrical interface



DIN43650
(standard)



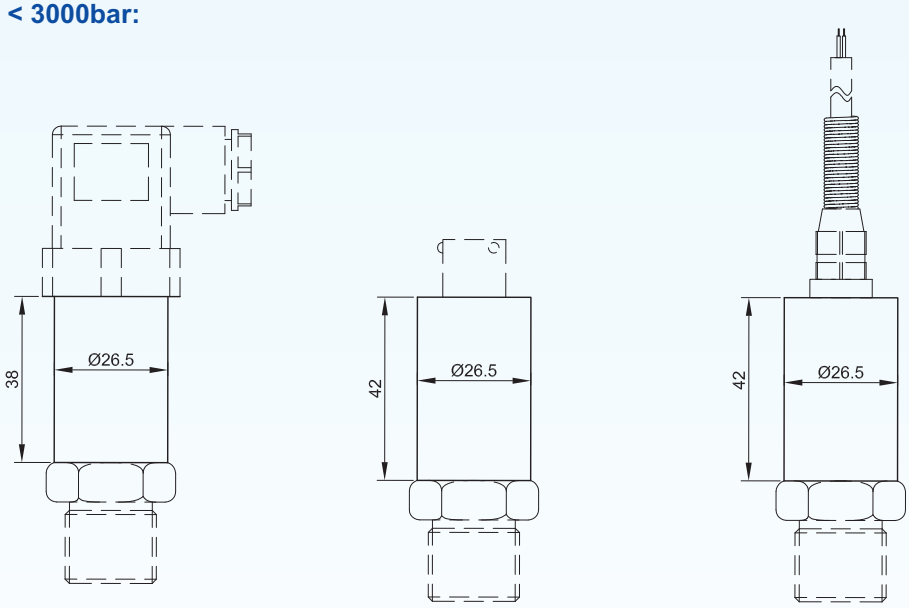
circular connector
with 4 pins



PVC cable
Φ5mm
- 2 wires for current loop
- 3 wires for voltage output
- cable length (L) should be specified in ordering information

electronics housing (casing)

pressure range < 3000bar:



Note: All dimensions are in mm.

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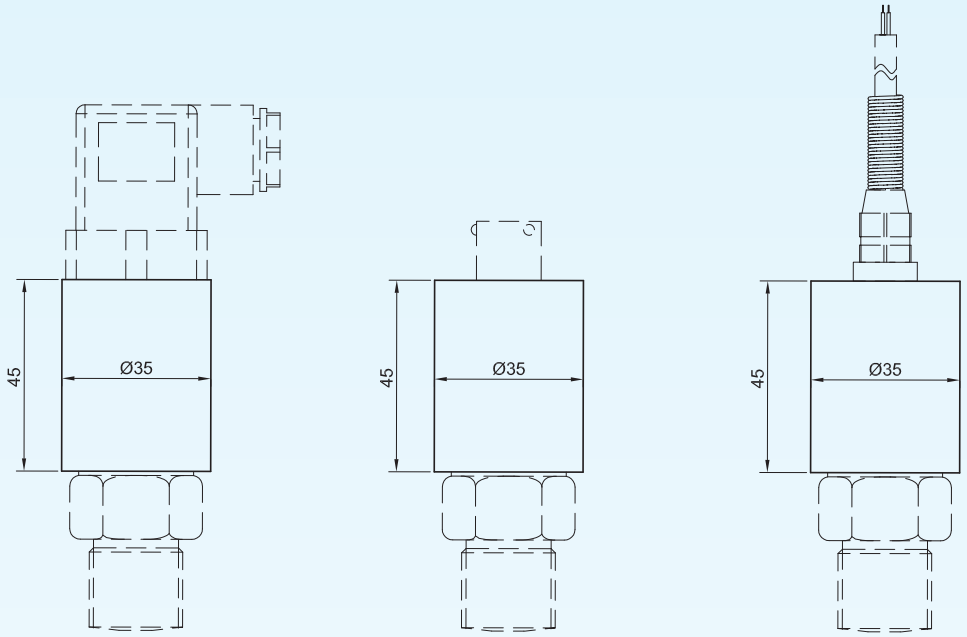
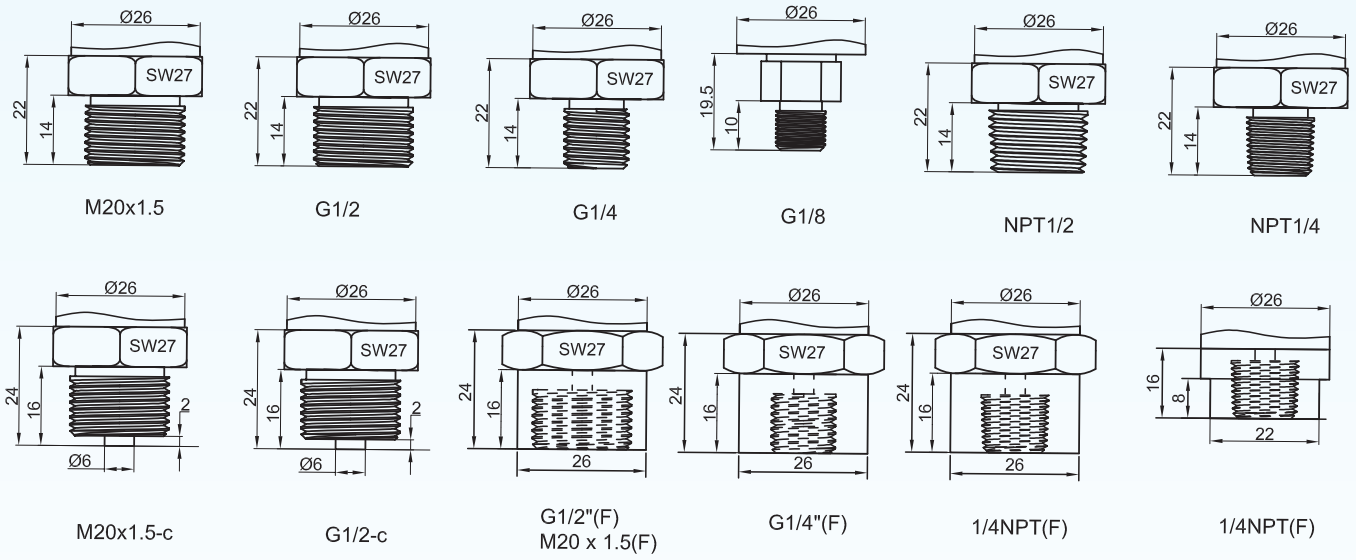
pressure range ≥ 3000bar:



mechanical interface



Note: All dimensions are in mm.

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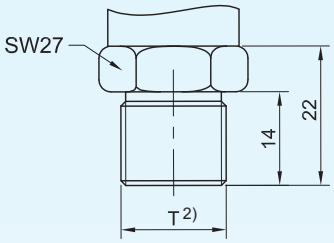
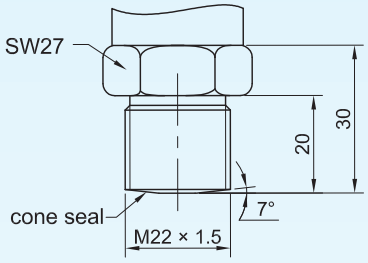
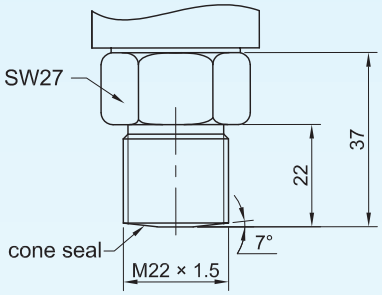
400bar ≤ pressure ranges < 1000bar



1000bar ≤ pressure ranges ≤ 2500bar



pressure ranges > 2500bar



Notes:
1) All dimensions are in mm.
2) T refers to the thread type equal or bigger than G1/2, M20x1.5, or NPT1/2.
3) The mechanical interfaces and the electrical interfaces listed can be combined freely.
4) If other types of interfaces are on request, consult BCM.

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Ordering Information

position (pos.) 1: model

722F

pos. 2: ranges and types

200bar G	1600bar G	G: gauge pressure
400bar G	2500bar G	
600bar G	4000bar G	
1000bar G	5000bar G	

pos. 3: output signal

4/20mA (standard) 0/5V 1/5V I^2C

pos. 4: accuracy

0.5%fs (standard) 1%fs

pos. 5: supply power

24 V (15,..., 36 Vdc)

pos. 6: mechanical interface

Refer to drawings of mechanical interface for available options.

pos. 7: electrical interface

For available connections, refer to drawings of electrical interface.
For cable, code = diameter(Φ)/number of conductors/cable jacket /cable length
5.7/4/PVC/L* = Φ5.7 mm,4-conductors shielded, PVC, L m
*: L = cable length. This value is a customized value.

pos. 8: explosive proof

NE = no explosive proof required (standard)
EX = Ex ia II C T6

pos. 9: environment protection

IP65 (standard) IP66

pos. 10: customized specifications

"(*)" is necessary only if any customized parameter is required, otherwise it is neglectable.

pos.1	pos. 2	pos. 3	pos. 4	pos. 5	pos. 6	pos. 7	pos. 8	pos. 9	pos. 10

Examples of Ordering Code

- standard transmitter:

  722F-600barG-4/20mA-0.5%fs-G1/2-DIN43650-NE-IP65

- customized transmitter:

  722F-2000barG-4/20mA-0.5%fs-G1/2-DIN43650-EX-IP65-(*)

  (*): Customized pressure range = 0~2000 barG.

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