

# Model 105C Pressure Transmitters

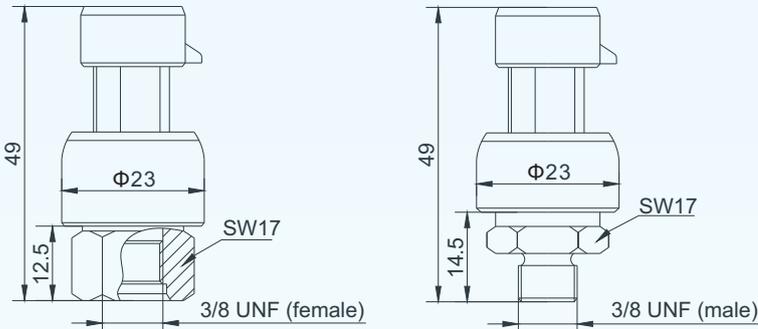
## Description

The 105C Pressure Transmitter is developed for automotive industry, HVAC systems, and refrigerator systems (heat pump production with R-22 refrigerant). The transmitter is made from BCM 301B ceramic pressure sensor which is based on thick-film technology. The ceramic sensor is placed into a 316L stainless steel fitting sealed by an O-ring.

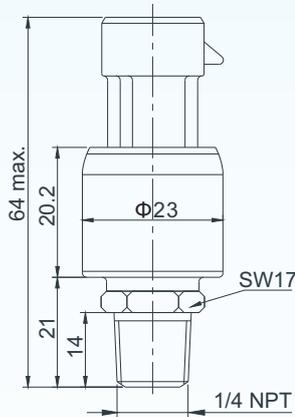
The 105C can have a number of options for its process connection in order to meet different needs and has its electrical interface made with a 3-pin Packard connector (12065287).

Featuring an inner-cavity process connection, the 105C is designed for automotive industry and household appliances to measure pressure of gases, dilute fluids, or air with pressure reference of gauge.

## Dimensions:



dimensions of 105C with range  $\leq$  100bar



dimensions of 105C with range  $>$  100bar

## Features

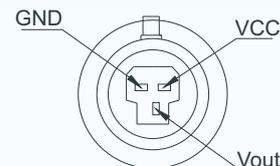
- middle pressure ranges: 2.5bar, ..., 400bar
- process connection: 3/8 UNF male/female
- wetted parts materials: 316L stainless steel
- housing protection: IP65

## Applications

- automotive industry
- refrigerator systems
- HVAC systems
- air compressors
- household appliances



## Electrical connection:



3-pin Packard connector (12065287)

**BCM SENSOR TECHNOLOGIES BVBA**

### Technical Data

Parameters		Units	Specifications	Notes
pressure medium			gases or dilute fluids	1
pressure references & ranges	gauge	bar	0~2.5, ~4, ~6, ~10, ~16, ~25, ~40, ~60, ~100, ~160, ~250, ~400	2
proof pressure		%fs	200	3
burst pressure		%fs	250	
output signal	current loop	mA	4~20 (standard)	4
	voltage output	V	0~5, 0.5~4.5 (ratiometric)	
	digital output		CAN open, SPI	
accuracy		%fs	≤ ±0.5 (standard), ≤ ±1	5
long-term stability		%fs/year	≤ ±0.2	
power supply (Vs)	current loop	Vdc	12 < Vs ≤ 36	
	voltage output		5	
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	-20 ~ +85	
operating temperature range		°C	-40 ~ +135 (option: -50 ~ +150 °C, available on request)	
storage temperature range		°C	-40 ~ +135	
temperature coefficient of zero		%fso/°C	≤ ±0.03	
temperature coefficient of span		%fso/°C	≤ ±0.03	
vibration resistance (20, ..., 2000 Hz)		g	10	
life time		cycles	10 <sup>8</sup>	
response time		ms	≤ 1	6
seal			O-ring (fluorine rubber)	
pressure diaphragm			ceramic (96% Al <sub>2</sub> O <sub>3</sub> )	
wetted parts material			316L SS (standard), PVDF, mono-block 17-4PH	
electrical interface			3-pin (3P) Packard connector (12065287)	
			shielded PVC cable, 1m	
environment protection			IP65	
net weight		gram	~40	

- Notes:
1. The pressure medium should be compatible with wetted parts material and pressure diaphragm.
  2. For customized pressure ranges, consult BCM.
  3. "fs" means full scale, and refers to maximum working pressure or rated pressure.
  4. Option: other ratiometric output available on request. The ratiometric output equals with 10%~90% of Vs.
  5. Including non-linearity, hysteresis and repeatability.
  6. Response time for a 0 bar to fs step change, 10% to 90% rise time of leading edge.

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

### Ordering Information

<b>parameter (par.) 1: model</b>						
105C						
<b>par. 2: pressure range and reference</b>						
2.5bar	G	25bar	G	250bar	G	G: gauge pressure
4bar	G	40bar	G	400bar	G	
6bar	G	60bar	G			
10bar	G	100bar	G			
16bar	G	160bar	G			
<b>par. 3: output signal</b>						
4/20 mA		0.5/4.5 V		0/5 V	CANopen	SPI
<b>par. 4: accuracy</b>						
0.5%fs		1%fs				
<b>par. 5: mechanical interface</b>						
3/8UNF(male)		3/8UNF(female)		1/4NPT(male)		
customized threads available on request						
<b>par. 6: electrical interface</b>						
3P Packard connector (standard for analog output)						
PVC cable (standard for digital output)						
customized interface available on request						
<b>par. 7: customized specifications</b>						
“(*)” is necessary only if any customized parameter is required, otherwise it is neglectable.						
<b>par. 1</b>	<b>par. 2</b>	<b>par. 3</b>	<b>par. 4</b>	<b>par. 5</b>	<b>par. 6</b>	<b>par. 7</b>

### Examples of Ordering Code

- standard product:  
105C-0/16barG-4/20mA-0.5%fs-3/8UNF(male)-3P Packard connector
- customized product:  
105C-0/150barG-4/20mA-0.5%fs-1/4NPT(male)-3P Packard connector-(\*)

(\*): - Customized pressure range = 0~50 barG.  
- Operating temperature range = -50 ~ +150 °C.