

# 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.

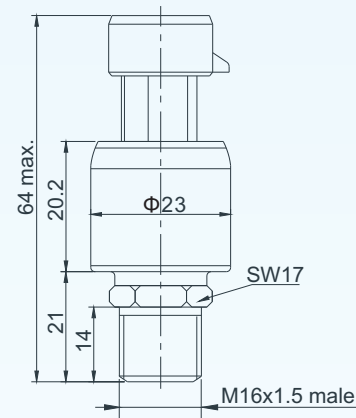
## Features

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

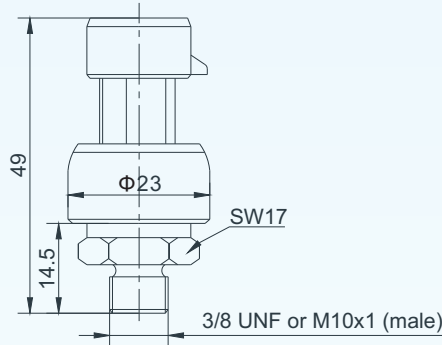
## Applications

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

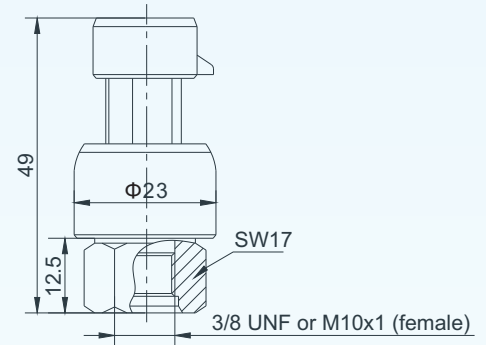
## Dimensions:



dimensions of 105C  
with M16x1.5 male threads

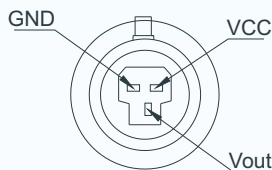


dimensions of 105C  
with 3/8 UNF or M10x1 male threads



dimensions of 105C  
with 3/8 UNF or M10x1 female threads

## Electrical connection:



3-pin Packard connector (12065287)



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### 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)	
	voltage output	V	0~5, 10%~90%Vs ratiometric (e.g., 0.5~4.5V when Vs = 5Vdc)	
	digital output		I <sup>2</sup> C, SPI, CAN open	
accuracy		%fs	≤ ±0.5 (standard), ≤ ±1	4
long-term stability		%fs/year	≤ ±0.2	
power supply (Vs)	current loop	Vdc	12 < Vs ≤ 36	
	voltage output	Vdc	12 < Vs ≤ 36 (for 0/5V), ≥3 (for ratiometric output)	
	digital output	Vdc	3, ..., 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	5
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	
mechanical interface		standard	M16x1.5 male, M10x1 male	
		option	3/8 UNF male, 3/8 UNF female, or other threads on request.	
electrical interface			3-pin (3P) Packard connector 12065287 (not for digital output)	
			shielded cable, cable length = 1m	6
environment protection		gram	IP65	
net weight			~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. Including non-linearity, hysteresis and repeatability.

5. Response time for a 0 bar to fs step change, 10% to 90% rise time of leading edge.

6. Options of cable jacket material are:

(1) PVC cable (temperature range to guarantee cable flexibility: -20°C ~ +70°C); (2) silicone cable (-50°C ~ +180°C);

(3) FEP cable (-100°C ~ +205°C); (4) PTFE cable (-190°C ~ +260°C).

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

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## 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>						
4/20mA		0/5V				
10%/90%Vs = 10%~90%Vs ratiometric (e.g., 0.5~4.5V when Vs = 5Vdc)						
I <sup>2</sup> C		SPI		CANopen		
<b>par. 4: accuracy</b>						
0.5%fs		1%fs				
<b>par. 5: mechanical interface</b>						
standard: M16x1.5(male)			M10x1(male)			
option: 3/8UNF(male)		3/8UNF(female)		M10x1(female)		
other customized threads available on request						
<b>par. 6: electrical interface</b>						
3P Packard connector (standard for analog output)						
PVC* cable (standard for digital output, -20~+70°C)						
*: Other options are:						
- silicone cable (-50~+180°C);						
- FEP cable (-100~+205°C);						
- PTFE cable (-190~+260°C).						
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-M10x1(male)-3P Packard connector

- customized product:

105C-0/150barG-4/20mA-0.5%fs-M16x1.5(male)-3P Packard connector-(\*).

(\*): - Customized pressure range = 0~150 barG.

- Operating temperature range = -50 ~ +150 °C.