CS-PT1800 Pressure Transmitter

(Product Specification)

XI'AN CHINASTAR M&C LIMITED

成 为 全 球 传 感 器 界 有 影 响 力 的 创 新 型 公 司

To Be An Influential And Innovative Enterprise In Global Sensor Field

Revision History

Date	Rev	Revision Contents	Revisor
	A	First Release	
	B		
	C		
	D		
	E		
	F		
	G		
	H		
	I		
	J		
	K		

Note: The revised resume on this page is for internal viewing only.

CS-PT1800

Description

PT1800 pressure transmitter is a pressure transmitter specially developed for refrigerant pressure measurement. The selection of ceramic capacitive sensitive components and special calibration circuits can realize pressure measurement based on absolute vacuum or sealed gauge pressure. The product can withstand large destructive pressure, and also has the advantages of high accuracy at working temperature, high waterproof level, anti-condensation water, etc. It is an ideal choice for refrigerant pressure measurement.

We can supply you with different pressure units and process connections in short order to meet the requirements of your specific operating application.

Applications

- Multi-line air conditioning
- Precision computer room air conditioning
- Interrow refrigeration air conditioning
- Air source heat pump

Features

- Ceramic capacitor core
- Good linearity, small temperature drift
- High overload
- Fully sealed, anti-condensation
- Protection level IP67
- Forward and reverse overvoltage
- Suitable for mass production

Performance Specifications

Temperature：20～25℃；Power supply：5VDC；Relative humidity：45%～75%； ambient atmospheric pressure：86KPa～106KPa;

Pressure Range	-1~10bar…50bar (Sealed Gage)
Standard Range	A：0~20bar
	B：0~46bar
	C：0~50bar
Overload Pressure	200%F.S
Burst Pressure	300%F.S
Accuracy at 25℃	±1.5%F.S (include no-linearity, hysteresis, repeatability, and calibration error) Note 1
Total Error Accuracy	±2.5%F.S (include no-linearity, hysteresis, repeatability, and calibration error) Note 1
Long-term Stability.	±0.25％F.S/year
Response Time	(10%~90%)≤10ms
Medium Temperature	-35℃~120℃
Ambient Temperature	-35℃~105℃
Storage Temperature	-35℃~105℃
Output Signal	0.5~4.5 VDC (Ratio) Note 2
Supply Voltage	5±0.25VDC
Current without Load	≤ 10mA
Output Load	≥ 10KΩ
Overvoltage	20VDC
Reverse Voltage	-14VDC
Insulate Resistance	≥100MΩ@500VDC
Dielectric Strength	1800VAC@1s or 1500VAC@1min (no spark, arc, no damage)
ESD	Contact ±8kV, air ±15kV
EMC	EN 61000-6-2，EN 61000-6-3
IP Rating	IP67
Random Vibration	10g，5~2000Hz
Shock	X/Y/Z, 20g, half-sine 11ms
Drop (any Axis)	1m
Pressure Connector	7/16-20UNF-2B; Φ6.35 straight coppertube; Φ6.35 bent copper tube(90°); Φ6.35 bent copper tube(90°)

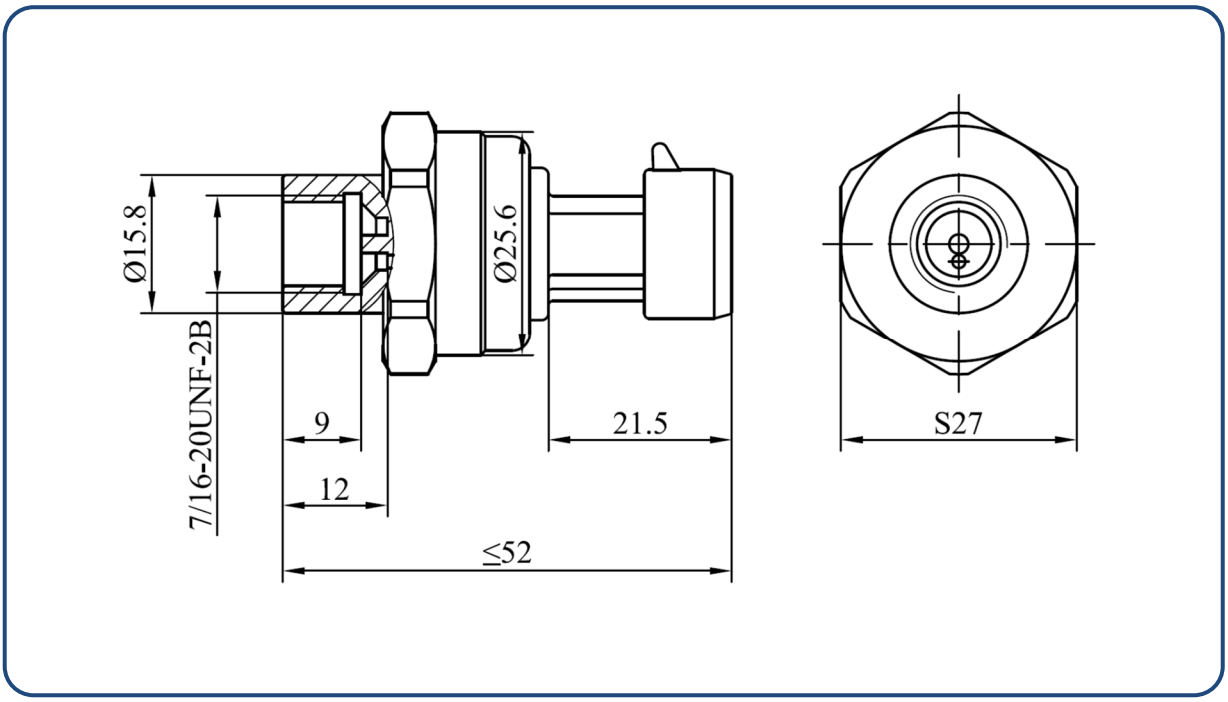
Shell Material	Brass Note 3 Straight copper interface + brass housing Note 3 90° elbow copper interface + stainless steel housing Note 3
Electrical Connection	Packard Metri-Pack; Epoxy-encapsulated leads +XHP-3 connector; Epoxy-encapsulated leads +XHB-3Y connector
Seal Material	Neoprene
Applicable Refrigerant Medium	R12，R21，R22，R31，R32，R134a，R404a，R407C，R410a，R502，R507

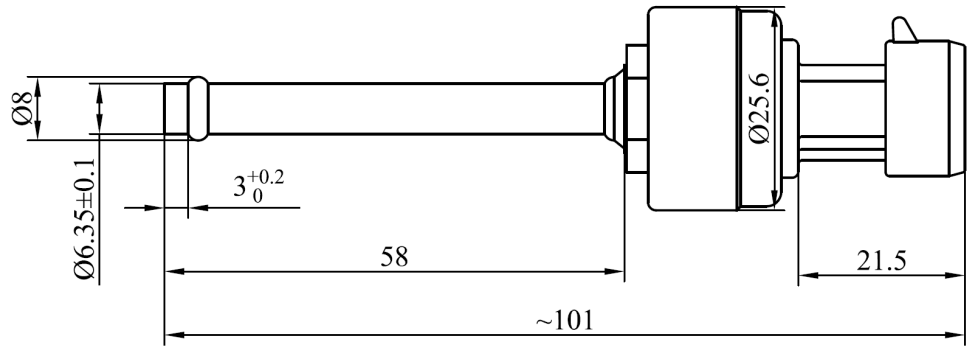
Note 1：0barG=101.325kpaA (Define 1 atm as 0bar)

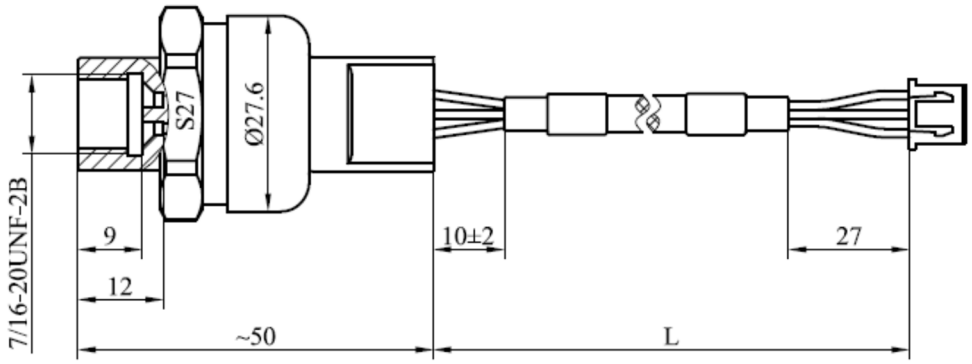
Note 2：The product defaults to full-scale output of 4.5VDC without clamping. That is, when the product is in normal use (the input pressure is not overloaded), the full-scale output is 4.5VDC. When the product is overloaded (the pressure exceeds the product's measurement range), the output voltage will exceed 4.5VDC, but it still maintains a linear relationship with the input pressure (that is, the output voltage increases proportionally with the increase of the input pressure, and the magnitude of the overload pressure can still be tested at this time). When the overload pressure continues to increase, the output cut-off voltage is 4.95VDC.

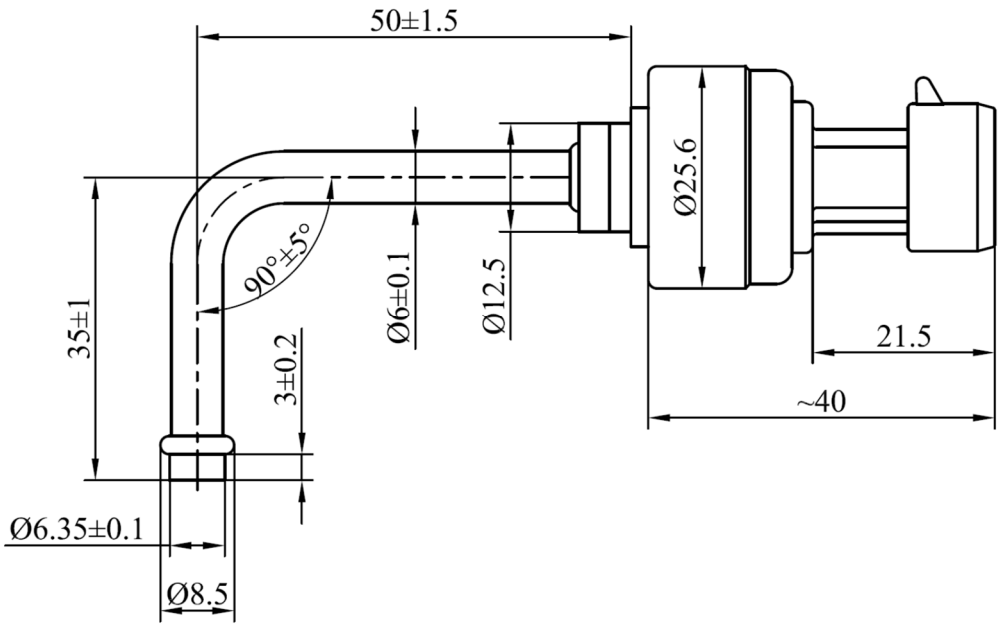
Note 3：High temperature & high humidity storage conditions will cause the brass housing and purple copper interface surface oxidized & discolored, but this phenomenon does not affect the sensor's function or performance"

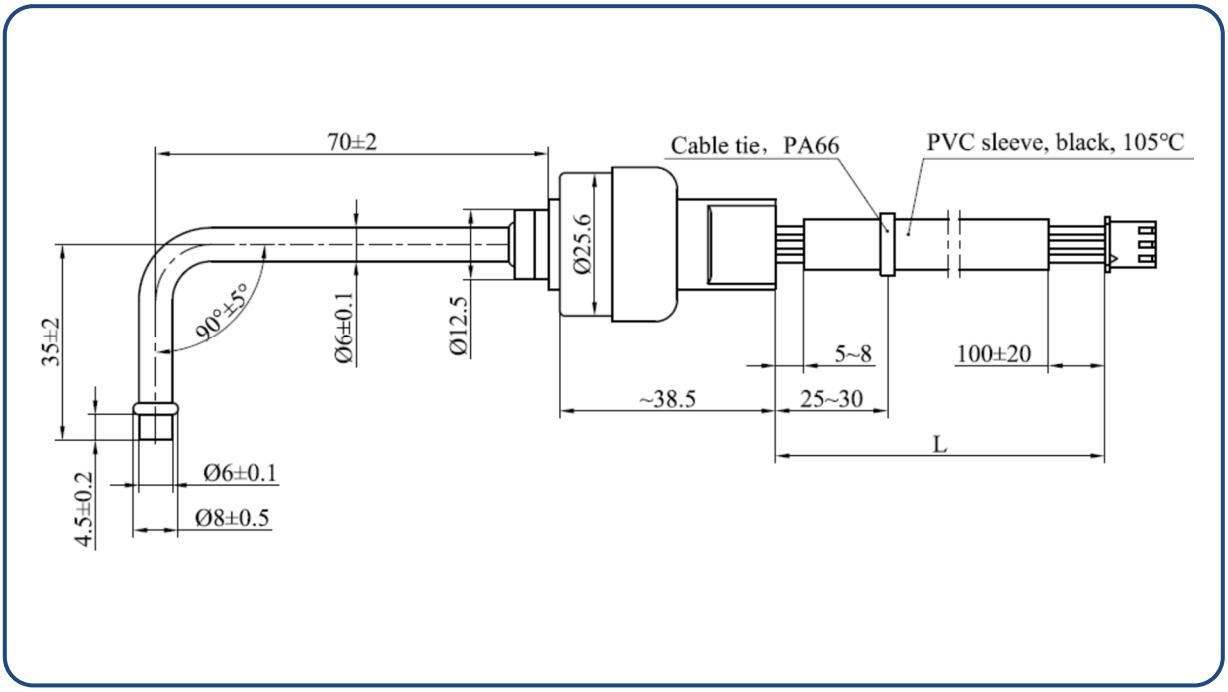
Structure and Dimension (mm)



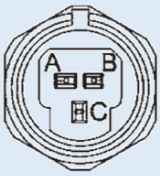

Ø8
Ø6.35±0.1
3 +0.2 0
58
Ø25.6
21.5
~101

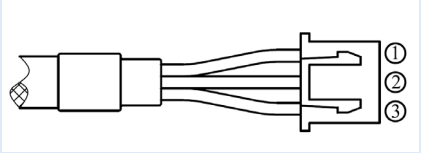

7/16-20UNF-2B
S27
Ø27.6
9
12
~50
10±2
L
27

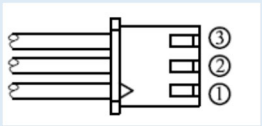

50±1.5
Ø25.6
90°±5°
35±1
Ø6±0.1
Ø12.5
3±0.2
21.5
~40
Ø6.35±0.1
Ø8.5



Electrical Connection

Packard Metri-Pack	PIN	Define	Color of wire
	A	GND	Black
	B	Supply power (VCC)	Red
	C	Voltage output (OUT)	Green

XHP-3	PIN	Define	Color of wire
	①	Supply power (VCC)	Red
	②	Voltage output (Vout)	White
	③	GND	Black

XHP-3	PIN	Define	Color of wire
	①	GND	Black
	②	Voltage output (Vout)	White
	③	Supply power (VCC)	Red

Model Selection Tips

PT1800	Series Pressure Transmitter						
	Code	Measuring Range					
	X	X stands for actual pressure measuring range					
		Code	Pressure Connection				
		7/16U(F)	7/16-20UNF-2B				
		Φ6.35I	Φ6.35 straight copper tube				
		Φ6.35L	Φ6.35 bent copper tube(90°)				
		Φ6L	Φ6 bent copper tube(90°)				
			Code	Electrical Connection			
			P	Packard Metri-Pack			
			U	Epoxy-encapsulated leads			
				Code	Output		
				0545R	0.5～4.5V Ratio Voltage		
					Code	Power Supply	
					03	(5±0.25) VDC	
						Code	Accuracy
						10	±1.0%
						15	±1.5%

PT1800	-X	-7/16U(F)	-P	-0545R	-03	-15

Notes

1. When welding Φ6.35/ Φ6 pressurization copper pipe, cooling measures must be taken to ensure that the temperature of the sensor body does not exceed 120℃, which will damage the sealing performance of the sensor.

2. The transmitter must be used in a medium that is not corrosive to the sealing material and housing material.
3. When the pressure-guiding hole of the transmitter is blocked, it is strictly forbidden to use a sharp tool to clear the pressure-guiding hole. The transmitter should be removed and the pressure-guiding hole should be immersed in a liquid that can dissolve the blockage. After the blockage is dissolved, remove it fall out.
4. It is strictly forbidden to open the transmitter for calibration or maintenance by yourself.
5. If you are not sure whether the transmitter is suitable for the measurement medium used, please contact the factory.
6. The installation location of the transmitter should be selected in a place that is not easy to be bumped and stepped on.
7. Use beyond transmitter overload pressure may cause permanent damage.
8. Where there may be lightning, customers should consider lightning protection measures.

Disposal methods of hazardous wastes such as waste circuit boards and their components after the end of product life.

After the end of the product life, each part shall be distinguished according to the “National hazardous waste list” to determine whether it is hazardous waste. Among them, the waste lithium battery not disassembled is not hazardous waste, and the waste circuit board (including components, chips, plug-ins, pins, etc. attached to the waste circuit board) belongs to hazardous waste.

The part that is not hazardous waste shall be treated as general industrial solid waste, and the lithium battery shall be handed over to the nearby renewable resource recovery department or sent to the product manufacturer for recycling.

Hazardous wastes must be handed over to legally qualified departments for disposal in accordance with national regulations, and shall not be dumped or stacked without authorization.If it is really necessary to store temporarily, protective measures meeting the national environmental protection standards must be taken, and the storage period shall not exceed one year. At the same time, the time and place of temporary storage and the protective measures taken shall be reported to the competent environmental protection department. Hazardous waste transfer activities can be arranged according to the actual production situation. The system shall be strictly implemented in the transfer process.

Statement

The company reserves the right to modify the specifications and contents of this manual. Subject to modification without notice. Due to the update of the product, the individual details of this document may not match the product, please refer to the actual product. The interpretation right of this document belongs to our company.