Pressure and level transmitters

Ceramic Capacitive Refrigerant Transmitter, 0.5–4.5V

Model CS-PT1800

Ceramic capacitive refrigerant pressure transmitter, -1–10bar...50bar sealed gage, with 0.5–4.5 VDC ratio output, ±1.5%F.S total error and IP67 protection.



Range
0–20bar

Protection
IP67

Supply voltage
5±0.25VDC

Features

- Ceramic capacitor core
- Good linearity, small temperature drift
- Fully sealed, anti-condensation
- Forward and reverse overvoltage protection
- Copper tube or 7/16-20UNF-2B connection

Applications

Multi-line air conditioning, Precision computer room air conditioning, Air source heat pumps, Unit plants

Specifications

Performance specifications

Reference conditions	Temperature 20–25°C; power supply 5VDC; relative humidity 45%~75%; ambient atmospheric pressure 86KPa~106KPa
Pressure range	-1–10bar...50bar (Sealed Gage)
Standard range a	0–20bar
Standard range b	0–46bar
Standard range c	0–50bar
Overload pressure	200%F.S
Burst pressure	300%F.S
Accuracy at 25°C	±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

Electrical	
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)
Electrical connection	Packard Metri-Pack; Epoxy-encapsulated leads + XHP-3 connector; Epoxy-encapsulated leads + XHB-3Y connector

Environmental	
Medium temperature	-35°C~120°C
Ambient temperature	-35°C~105°C
Storage temperature	-35°C~105°C
Random vibration	10g, 5–2000Hz
Shock	X/Y/Z, 20g, half-sine 11ms
Drop (any axis)	1m

EMC	
ESD	Contact ±8kV, air ±15kV
EMC	EN 61000-6-2, EN 61000-6-3

Mechanical	
IP rating	IP67
Pressure connector	7/16-20UNF-2B; Φ6.35 straight copper tube; 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
Seal material	Neoprene
Applicable refrigerant medium	R12, R21, R22, R31, R32, R134a, R404a, R407C, R410a, R502, R507

Notes	
Note 1	0barG=101.325kPaA (define 1 atm as 0bar)
Note 2	Default full-scale output is 4.5VDC without clamping. If the product is overloaded the output exceeds 4.5VDC but remains linear with input pressure; with continued overload the output cut-off voltage is 4.95VDC.

Note 3	High temperature and high humidity storage will oxidize and discolor the brass housing and copper interface surface; this does not affect sensor function or performance.

Ordering and support

Pricing, samples, lead time and custom versions: dwinsales@163.com, +86 181 0280 8901.

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Dimensions and wiring



Drawings are for reference. Dimensions in millimetres unless stated.