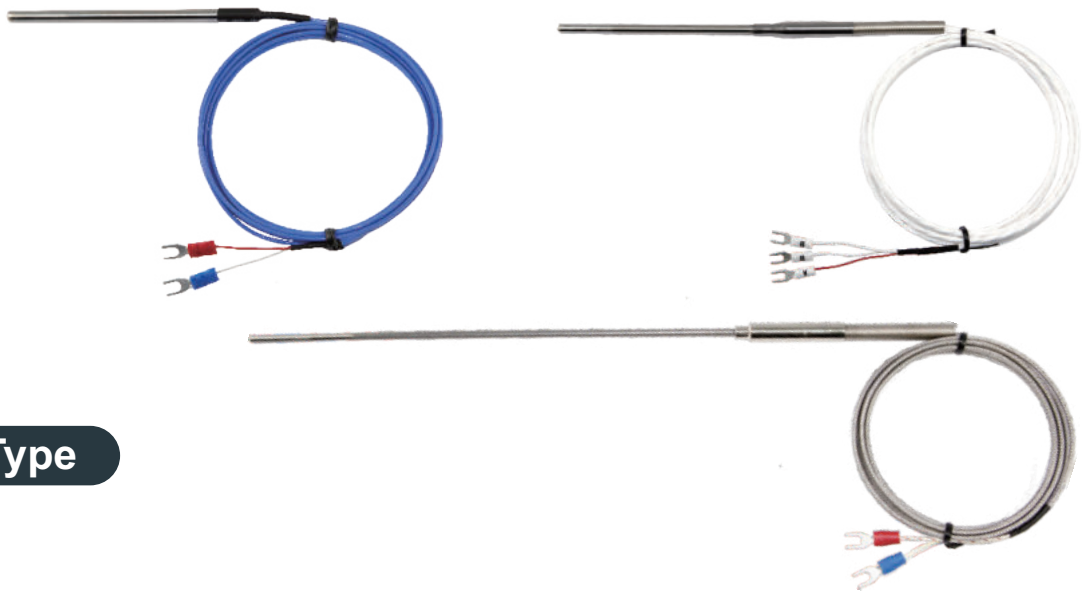
HAWK®
Since 1971

TEMPERATURE PROBE SENSOR/DETECTOR

Plain Type

P-4D



ISO 9000 Certified

P Type

- Resistance/Thermocouple Elements
- Adjustable spring is available
- Easy to install and remove via threaded process fitting
- Various probe directions for different applications
- Easy and simple installation

The HAWK ***P model*** plain type temperature sensor without external process connections. This thermocouple is a common temperature sensor with a simple structure. It is widely used in industrial and laboratory applications without pressure environment.

Specifications

Sensing Element:
K(Ni-Cr, Ni-Al)...0/+1200°C,
E(Ni-Cr, Ni-Cu)...-200/+900°C,
J(Fe, Ni-Cr)...-50/750°C,
T(Cr, Ni-Cr)...-200/+350°C,
N(Ni-Cr-Si, Ni-Si)...0/1200°C,
Platinum 100Ω/500Ω/1000Ω,
Nickel 120Ω, Copper 10Ω,
Single, Double or Tripple Resistance,
Element.

Tolerance (°C)-PT100:
JIS/DIN

ClassA	ClassB
±(0.15+0.002|t|)	±(0.3+0.005|t|)

ASTM

ClassA	ClassB
±(0.13+0.0017|t|)	±(0.25+0.0042|t|)

Probe Size:
1/4" diameter-Standard, 3/8", 3.2mm, 6mm, 8mm, 10mm, 12mm, others dia available.

Probe Length:
10mm, 20mm, 1/2", 1", 1 1/2" standard lengths, others available.

Probe Direction:
3, 4, 5, 6, 7, 8, 9 o'clock

Probe Material:
SS304, SS316, SS316L.

Transition Style:
Standard, Spring or Armor.

Insulation/Conductor:
Fiberglass, PVC or PTFE.

Wire Termination:
Plain Leads-not stripped, Stripped.
Lead 3mm, Spade lug,
Standard Male Plug, Mini Male Plug,
Standard Female Socket,
Mini Female Socket,
Terminal Pin or others.

TEMPERATURE PROBE SENSOR/DETECTOR
Plain Type

P-4D

Tolerance Thermocouple

	JIS C1605/DIN(IEC 584-2)			ASTM E230
Code	Class 1	Class 2	Class 3	STD / SP
K-TYPE	-40°C~375°C ±1.5°C	-40°C~333°C ±2.5°C	-167°C~40°C ±2.5°C	STD...±0.75% or ±2.2°C(4°F)
	375°C~1000°C ±0.004 · t	333°C~1200°C ±0.0075 · t	-200°C~-167°C ±0.0015 · t	SP...±0.4% or ±1.1°C(2°F)
N-TYPE	-40°C~375°C ±1.5°C	-40°C~333°C ±2.5°C	-167°C~40°C ±2.5°C	STD...±0.75% or ±2.2°C(4°F)
	375°C~1000°C ±0.004 · t	333°C~1200°C ±0.0075 · t	-200°C~-167°C ±0.0015 · t	SP...±0.4% or ±1.1°C(2°F)
E-TYPE	-40°C~375°C ±1.5°C	-40°C~333°C ±2.5°C	-167°C~40°C ±2.5°C	STD...±0.5% or ±1.7°C(3.1°F)
	375°C~800°C ±0.004 · t	333°C~900°C ±0.0075 · t	-200°C~-167°C ±0.0015 · t	SP...±0.4% or ±1°C(1.8°F)
J-TYPE	-40°C~375°C ±1.5°C	-40°C~333°C ±2.5°C	-	STD...±0.75% or ±2.2°C(4°F)
	375°C~750°C ±0.004 · t	333°C~750°C ±0.0075 · t	-	SP...±0.4% or ±1.1°C(2°F)
T-TYPE	-40°C~125°C ±0.5°C	-40°C~133°C ±1°C	-67°C~40°C ±1°C	STD...±0.75% or ±1°C(1.8°F)
	125°C~350°C ±0.004 · t	133°C~350°C ±0.0075 · t	-200°C~-67°C ±0.0015 · t	SP...±0.4% or ±0.5°C(0.9°F)

Measuring Junction Type

(A)

Grounded Type

Ungrounded Type

(B)

Ungrounded Separated Type

(C)

Exposed Type

(A) The thermocouple is grounded to the protective tube. It is with fair response than unground type. It is not suitable for the noisy an dangerous location such us electromagnetic induction interfered by radio frequency.

(B) The thermocouple is covered with insulator. It responses slower than grounded type. For most applications, it can ensure a long-life. It is available in two control loop separately.

(C) The thermocouple is exposed. It is with rapid reponse, but not good in airtightness, insulation and machanical strength.

Typical Applications

- ▶ Laboratory temperature monitoring
- ▶ Surface or electronic component temperature sensing
- ▶ Basic open-environment temperature monitoring
- ▶ Temperature zone measurement in heaters or ceramic furnaces

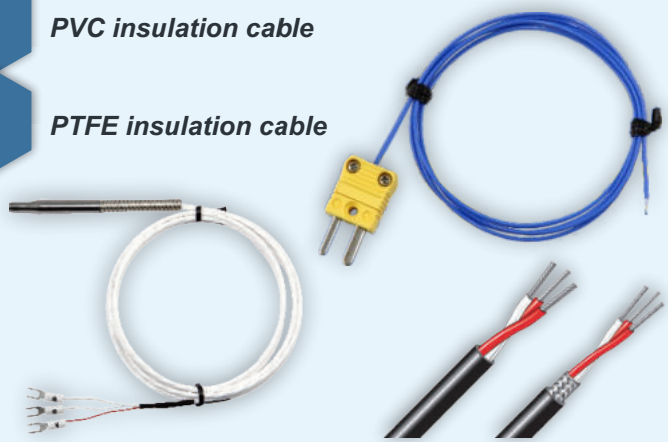
Heater or Test Tube Measurement

TEMPERATURE PROBE SENSOR/DETECTOR
Plain Type

Insulation/Conductor

C *PVC insulation cable*

F *PTFE insulation cable*



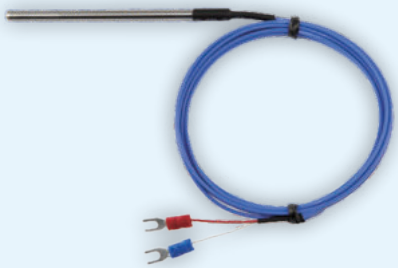
P *Fiberglass insulation cable*

G *Glass coating shield SUS cover insulation cable*

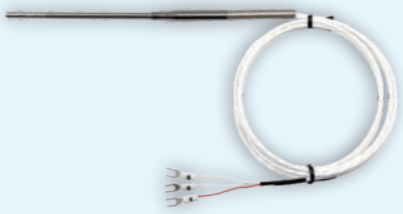
Transition Type

A *SS Armor Transition*

P *Standard Transition*



S *Spring Transition*

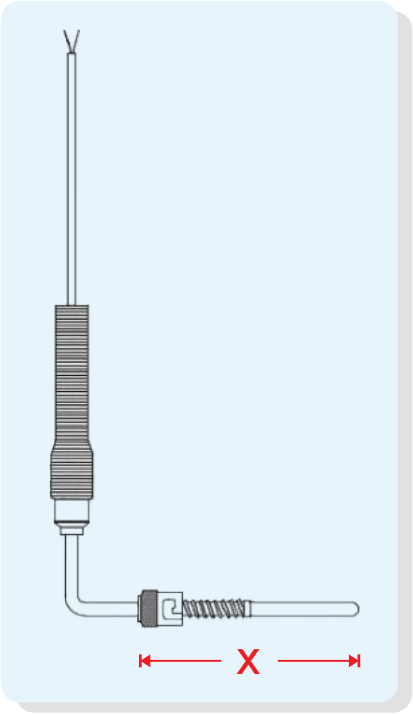


TEMPERATURE PROBE SENSOR/DETECTOR

Plain Type

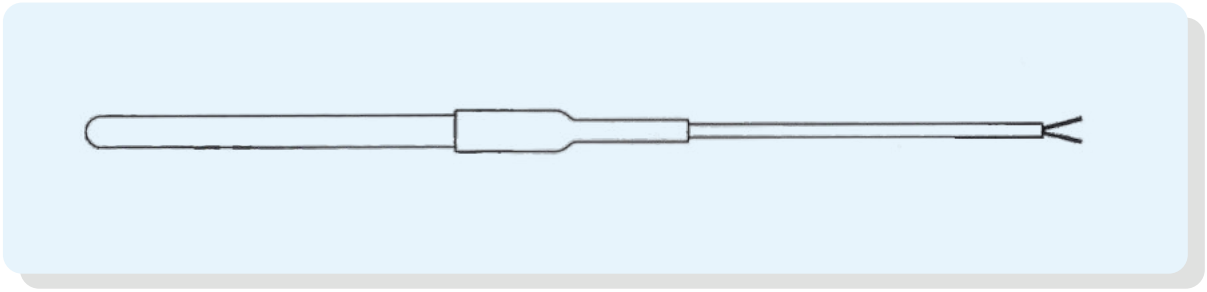
P-4D

Drawings

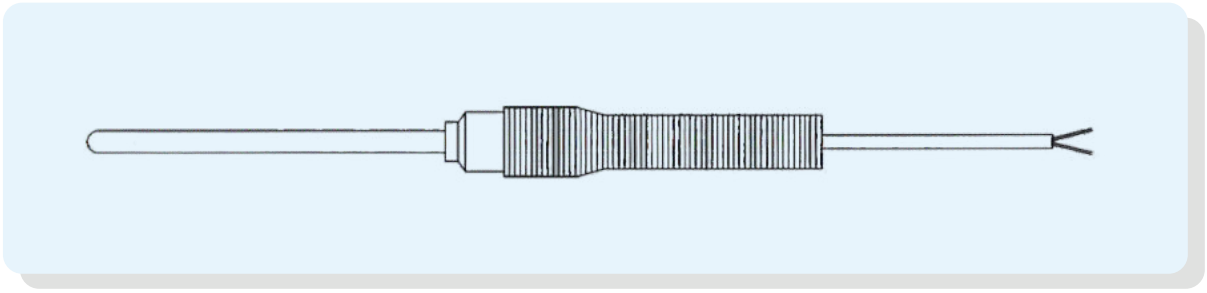


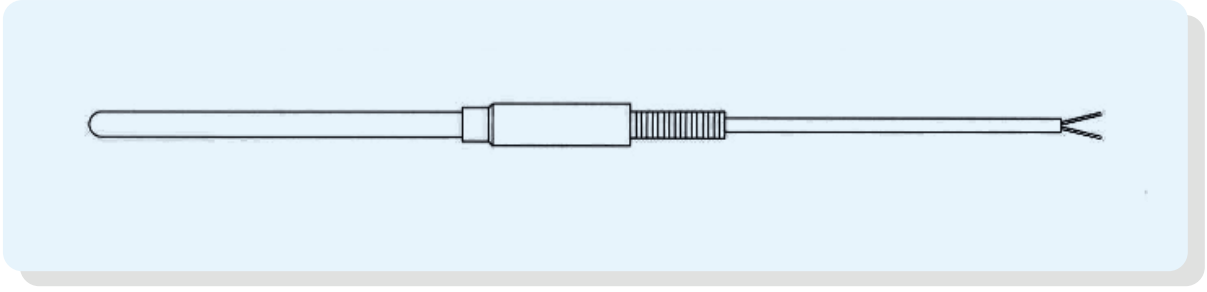
3 O'CLOCK DIRECTION

STANDARD TRANSITION



SPRING TRANSITION





Accessories/Options

- ZC Certificate of Accuracy (Factory)
- ZE Certificate of Accuracy (TAF)
- ZI Certificate of Accuracy (NIST)

- ZN NACE-MR0175 Heat Treatment
- ZX Oxygen Cleaning

Titanium Coating Stem TE

TC PFA Lining Stem

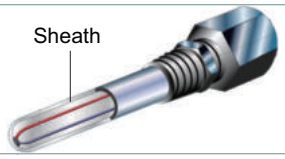
TC PTFE Coating Stem

Load Spring KS

KN Pipe Nipple Extension

KU Nipple Union Nipple Extension

KH Sheath Type



ZY Stainless Steel Tag Plate

Order Information

P-4D-P1 | 3030 | K | J2 | A | 006 | 075 | S | 000 | G | S | 2 | P | 000 | C | P | H- | XX

Option (XX)
- ZC-Certificate of Accuracy (Factory)
- ZE-Certificate of Accuracy (TAF)
- ZI-Certificate of Accuracy (NIST)
- ZN-NACE-MR0175-2002 Heat Treatment
- ZX-Oxygen Cleaning
- KA-SS Armor Cable
- TC-PFA Lining Stem
- KS-Load Spring
- ZY-Stainless Steel Tag Plate

Please refer to the options and write down the code which you need.

Wire Termination (P)
- P-Plain Leads-not stripped
- S-Stripped Lead 3mm
- L-Spade lug
- T-Terminal Pin
- M-Standard Male Plug
- A-Mini Male Plug
- F-Standard Female Socket
- C-Mini Female Socket

Insulation / Conductor (C)
C-PVC, F-PTFE, P-Fiberglass, N-Nickel, G-Glass Coating Shield SUS Cover

Lead/Armor Lenght (000)
000-Non, 06C-6", 15C-16", 050-50mm, 1M1-1.1m, 2C5-2 1/2", 09C-9", 18C-18", 100-100mm, 1M5-1.5m, 04C-4", 12C-12", 24C-24", 900-900mm, 10M-10m and so on...

Transition Type (P)
P-Standard Transition, A-Armor Transition, S-Spring Transition

Wires (2)
2-2 wires, 3-3 wires, 4-4 wires, 6-6 wires, 8-8 wires, 0-non

Number of elements (S)
S-Single Element, D-Double Elements, T-Tripple Elements

Type of Junction (G)
G-Grounded, U-Ungrounded, L-Others, E-Explosed, N-None

Lagging Extension (000)
000-Non, 06C-6", 15C-16", 050-50mm, 1M1-1.1m, 2C5-2 1/2", 09C-9", 18C-18", 100-100mm, 1M5-1.5m, 04C-4", 12C-12", 24C-24", 900-900mm, 10M-10m and so on...

Shank Design (S)
S-Straight, R-Stepped, T-Tapered

Stem Length (Including X) (075)
2C5-2 1/2", 04C-4", 06C-6", 09C-9", 12C-12", 16C-16", 24C-24", 075-75mm, 100-100mm, 150-150mm, 200-200mm, 250-250mm and so on...

Stem Diameter (006)
C25-1/4", C32-5/16", C38-3/8", 006-6mm, 008-8mm, 010-10mm, 012-12mm and so on...

Stem Material (A)
A-SS304, S-SS316, W-SS316L

Class (J2)
- J1-JIS/DIN Class 1
- J2-JIS/DIN Class 2
- J3-JIS/DIN Class 3
- AT-ASTM Standard
- AP-ASTM Special
- EA-JIS/DIN Class A-200/+100°C
- EB-JIS/DIN Class B-200/+100°C
- AA-ASTM Class A-200/+100°C
- AB-ASTM Class B-200/+100°C
- LA-JIS/DIN Class A-30/+250°C
- LB-JIS/DIN Class B-30/+250°C
- BA-ASTM Class A-30/+250°C
- BB-ASTM Class B-30/+250°C
- MA-JIS/DIN Class A-50/+450°C
- MB-JIS/DIN Class B-50/+450°C
- CA-ASTM Class A-50/+450°C
- CB-ASTM Class B-50/+450°C
- HA-JIS/DIN Class A 0/+650°C
- HB-JIS/DIN Class B 0/+650°C
- DA-ASTM Class A 0/+650°C
- DB-ASTM Class B 0/+650°C

Sensor Type (K)
K-K-Type, J-J-Type, N-N-Type, D-D-Type, P-Platinum 100Ω, D-Platinum 1000Ω, E-E-Type, T-T-Type, C-C-Type, A-Platinum 500Ω, I-Nickel 120Ω, C-Copper 10Ω

Probe Direction& Length (3030)
- Direction: 3-3 o'clock, 4-4 o'clock, 5-5 o'clock, 6-6 o'clock, 7-7 o'clock, 8-8 o'clock, 9-9 o'clock
- Length (X): 2C5-2 1/2", 04C-4", 06C-6", 09C-9", 12C-12", 16C-16", 24C-24", 075-75mm, 100-100mm, 150-150mm, 200-200mm, 250-250mm and so on...

Limited Warranty and Liability

HAWK GAUGE CO.,LTD warrants all its mechanical instruments to be free from defects in materials and workmanship.

HAWK agrees to repair or replace any thermometers if returned to our factory, transportation charges prepaid, and after which examination reveals is to be defective due to faculty workmanship or material.
This warrant should not apply to subject to the following terms and conditions:

A. The product has not been subjected to misuse, neglect, abuse , accident, incorrect mounting, improper use or misapplication such as negligence, accident, vandalism, shock or vibration.

B. The performance of any system of which HAWK's products are a component part.

C. The product has not been exposed to any other service, range or environment of greater severity than that for which the products were designed.

D. The product has not been altered or repaired by anyone except HAWK GAUGE or its authorized service agencies.

E. The serial number or date code has not been removed, defaced or changed.

F. The actual pressure&temperature occurring exceed the values specified for HAWK Thermometer.

Unless otherwise specified in a manual or warranty card, or agree to in a writing signed by HAWK GAUGE office, HAWK Process gauge products shall be warranted for one years from the date of sale.

This warranty is in lieu of all other warranties expressed or implied, and of all obligations or liabilities on its part for damages including but not limited to consequential damages, following the use of misuse of instruments sold by it. No agent is authorized to assume for it any liability except as set forth above.

Note

HAWK GAUGE CO.,LTD reserves the right to make product improvements and change its specifications at any time stated throughout this brochure without notification. Please contact the factory on all critical dimensions and specifications for verification.
HAWK GAUGE is not expert in the customer's technical field and therefore doesn't warrant suitability of it's product for the application selected by customer.

55 YEARS ANNIVERSARY

1971 – 2025

Data Sheet No: MKDP4DPA2-E