









- Various Resistance Sensing Elements
- DIN or M12 Electrical Connector
- Wide Process Temperature Ranges from -30°C to 250°C
- Various Sizes and Materials for your applications
- IP65 Weather Proof for better dust and moisture resistance

A temperature sensor is a device to measure temperature by an electrical signal. The typical sensing element is RTD (Resistance Temperature Detector) or thermocouple(T/C).

The RTD is a variable resistor that will change its electrical resistance depending on temperature. The platinum is commonly used as an RTD sensing element due to its purity, linearity and stability over a wide range of temperatures. A thermocouple is made by two dissimilar metals that generate electrical voltage in direct proportion to changes in temperature. HAWK SD model is with a DIN or M12 electrical connection and a element installed in a metallic drawn and top-welded stem tube. temperature sensor provides the better dust and moisture resistance. It is easy to install for general applications to offer the better environment resistance.

Specifications

Sensing Element:

Platinum $100\Omega/500\Omega/1000\Omega$, Nickel 120Ω , Copper 10Ω , Single, Double or Triple Resistance Element.

Tolerance(°C)-PT100:

JIS/DIN

Class A: $\pm (0.15+0.002|t|)$ Class B: $\pm (0.3+0.005|t|)$

ASTM

Class A: $\pm (0.13+0.0017|t|)$ Class B: $\pm (0.25+0.0042|t|)$

Stem Diameter:

1/4" diameter-standard, 3/8", 1/2", 6mm, 8mm, 10mm, 12mm, other diameters available.

Stem Material:

SS304, SS316, SS316L, SS310, Inconel.

Stem Length:

2 1/2", 4", 6", 9", 12", 15", 18", 24" standard lengths, available in other stem lengths.

Electrical Connection:

Terminal Box to DIN43650A-PG9, DIN43650A-G1/2, M12 Conduit.

Thread Connection Style:

Fixed Rigid Male/Female, Sliding Compression Male/Female, Plain.

1/2", 3/8", 1/4" NPT standard, JIS, DIN, M14*1.0 and M20*1.5 available.

Flange Connection Style:

ANSI Flange 1/2".......2" (150LB...2500LB rating), JIS Flange 15A.......50A (10K.......63K rating), DIN Flange DN15.......DN50 (PN2.5.......PN400Bar rating).

Sanitary Connection Style:

1/2"(DN15).......5"(DN125) Tri-Clamp, APC, IDF, SMS, Cherr-Tank, Spud, DIN11851, Cheer-Brrell I Line, RTJ(APV).

Terminal Block (Insulation): Sn/PA.

Environment Temperature: -25...+85°C.

-25...+05 C.

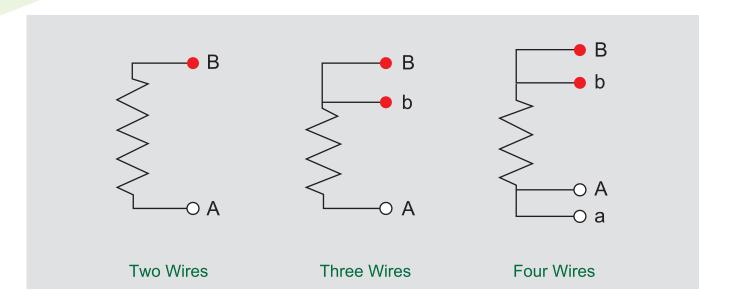
Weatherproof IP65.

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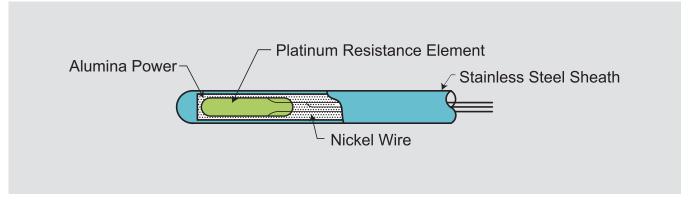








RTD Structure



The resistance sensing element include Platinum, Nickel, Copper and other components. The platinum is most popular and commonly used due to its purity, linearity and stability over a wide range of temperatures.

Typical Applications

- Medical and Pharmaceutical industry
- Dairy processing
- Food and Beverage processing
- Power generating stations

- Offshore Oil platforms
- Pulp and Paper mills
- Waste water treatment
- Petrochemical, Oil and Gas processing

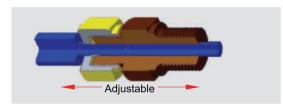






Bixed/Rigid Type:

The fixed/rigs type is the most common connection. This threaded type connection is directly attached to the process by means of a male or female NPT, BSP, BSPT or other threads.



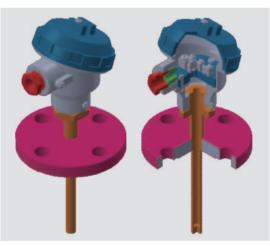
Sliding Type:

The sliding type allows to adjust the variable inserted length of bulb for best performance.



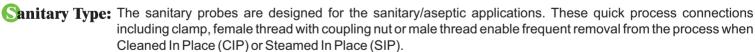
Plain Type:

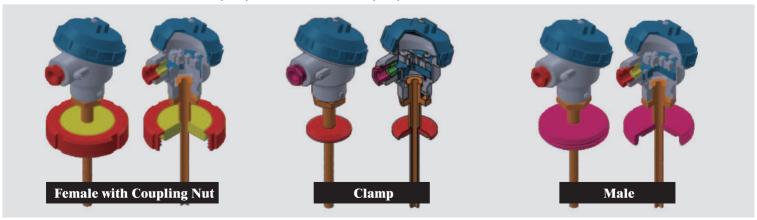
The plain bulbs are suitable for open tank applications without any pressure or combine with thermowell for the applications where fixed installation is not required.



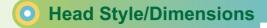
Pange Type:

The flange connection is directly attached to the process by means of a ANSI, DIN or JIS flange. This connection is most popular for a piping system and have been designed to meet the needs of standard industrial applications and installations.

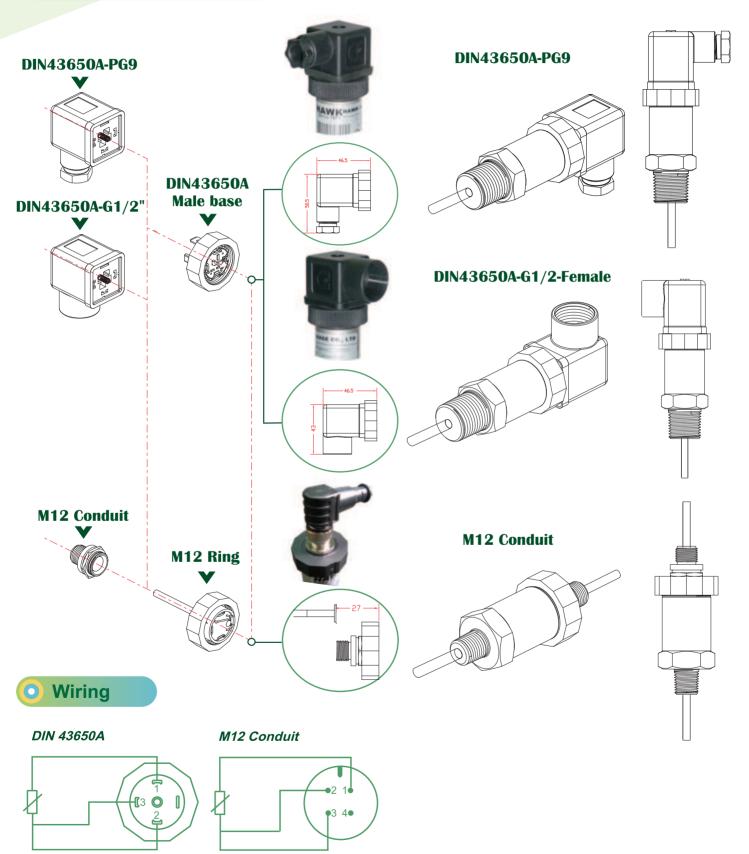














Accessories/Options



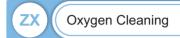


- Certificate of Accuracy (Factory)
- Certificate of Accuracy (TAF)
- Certificate of Accuracy (NIST)















PFA Lining Stem









PTFE Coating Stem

Fiberglass Insulation Cable

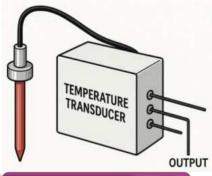
PVC Insulation Cable





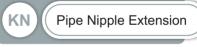


Titanium Coating Stem



- 0...10V Transducer (Analog 3 Wires)
 - 0...5V Transducer **VB** (Analog 3 Wires)
 - 1...5V Transducer VC (Analog 3 Wires)
- 0.5...4.5V Transducer **VD** (Analog 3 Wires)
 - 1...6V Transducer VE (Analog 3 Wires)
- 4...20mA Transducer (Analog 2 Wires)















Load Spring





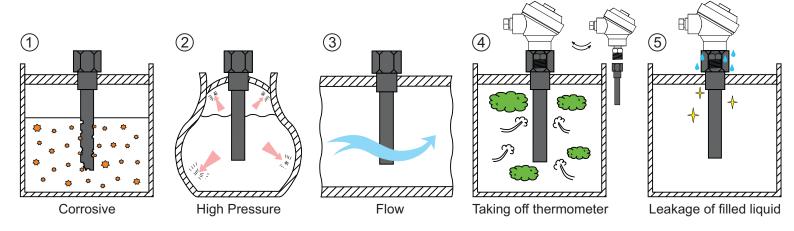


Thermowells

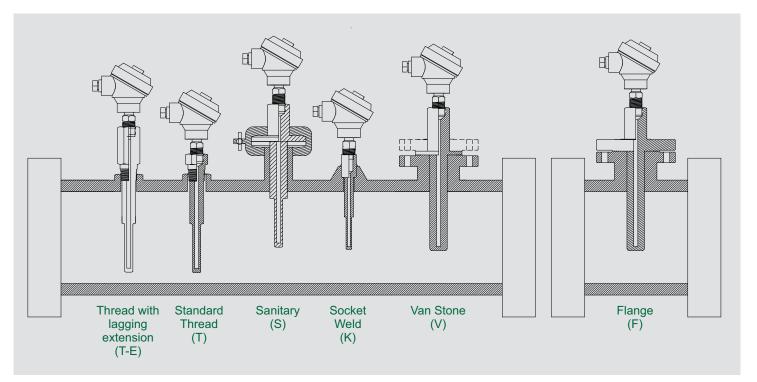


In the case of following conditions, thermowell should be provide to protect bulb:

- 1) In case of corrosive fluid, thermowell with suitable material is necessary.
- 2) In case of high pressure, necessary to use thermowell suitable for operating pressure.
- 3) In case of fluid with flow, necessary to use thermowell suitable for flow and viscosity.
- 4) In case of fluid leaking out when taking off the thermometer, necessary to use thermowell.
- 5) In case of filled liquid in thermometer is leak out from bulb and it is harmful, necessary to use thermowell.



Please refer to HAWK thermowell data sheets for detailed information.

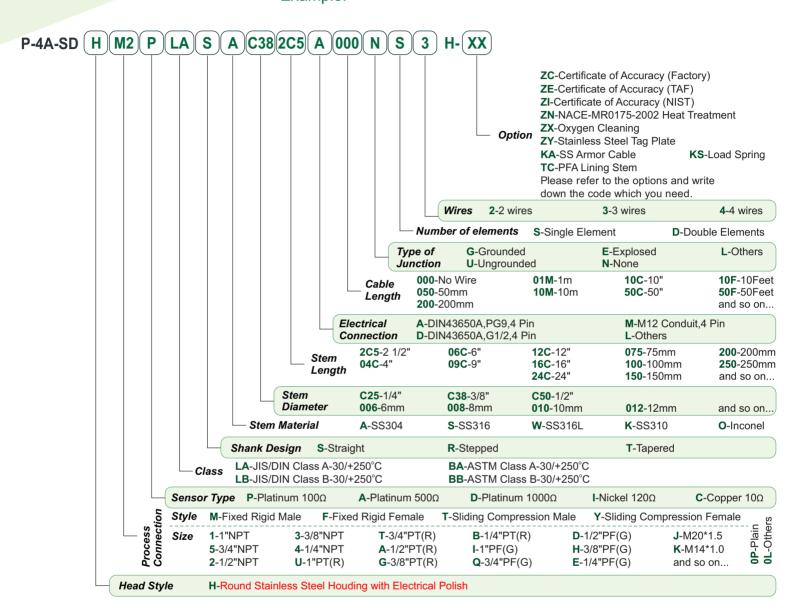






* For Thread&Plain Style Example:

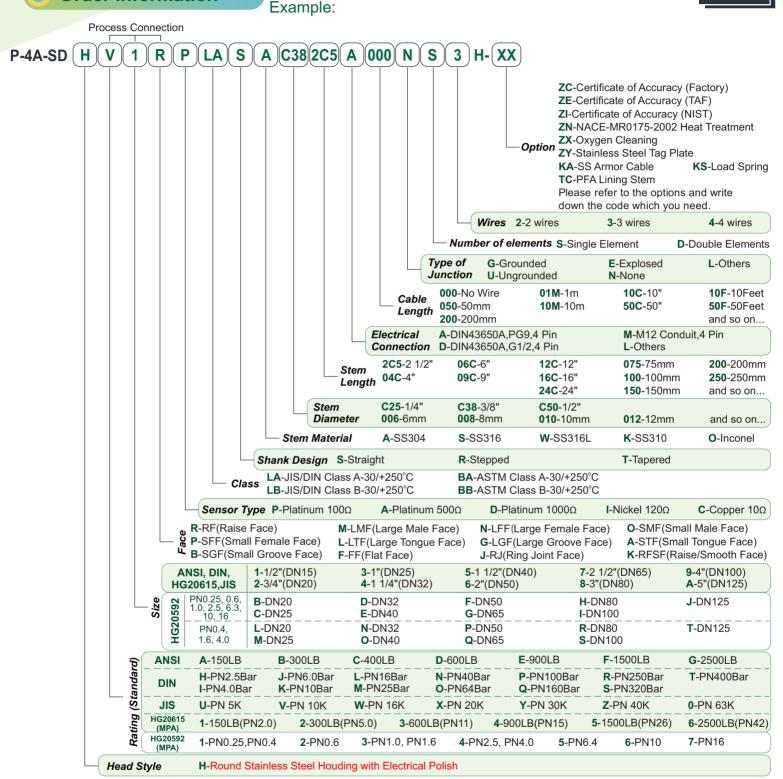




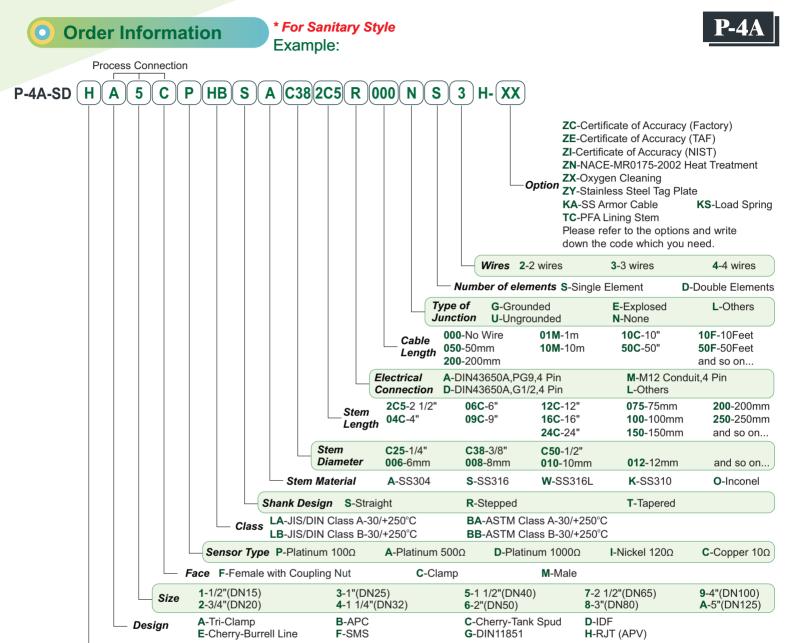












H-Round Stainless Steel Houding with Electrical Polish

Head Style



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
- 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.



Data Sheet No: MKDP4ASDA2-E