

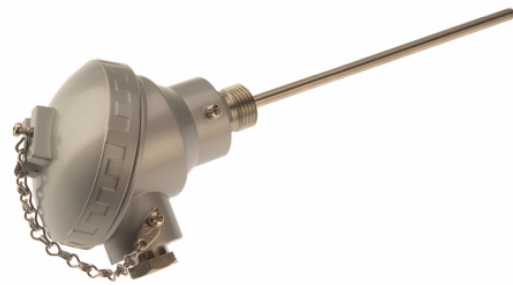
Datasheet

Platinum Resistance Pt100 Probe with Terminal Head

With or without 1/2"BSPP process connection, aluminium alloy head termination



(without process connection)



(with process connection – 1/2"BSPP parallel)

- Heavy duty Pt100 probe with terminal head
- Class B, 4 wire connection
- Available in probe lengths between 150mm & 600mm
- 6.0mm diameter in 316 stainless steel
- With or without 1/2"BSPP parallel process connection
- IP67 aluminium alloy weatherproof connection head
- Sensor temperature rating -100°C to +450°C
- Conforms to IEC 751

What is the difference between a RTD and PRT sensor?
 Nothing. RTD means resistance thermometer detector (the sensing element) and PRT means Platinum resistance thermometer (the whole assembly) i.e. a PRT uses a RTD.

Specifications

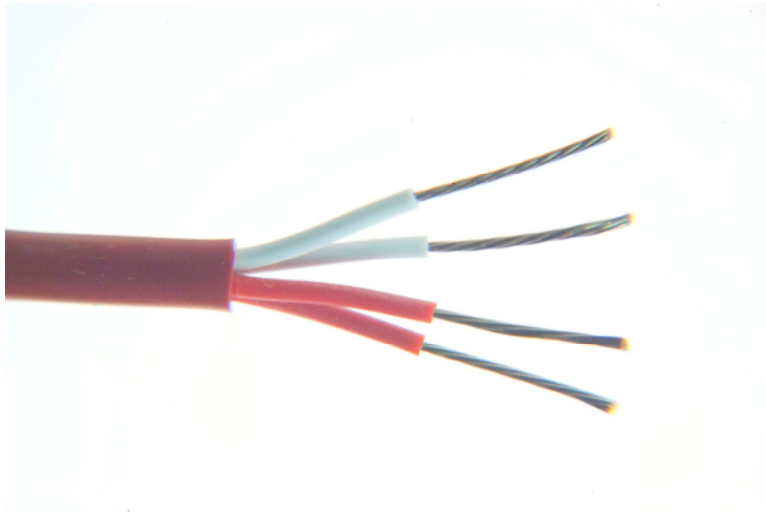
Sensor type: Pt100 (100 Ohms @ 0°C) to IEC 751, Class B, 4 wire
 Construction: 6.0mm diameter stem in 316 stainless steel
 Termination: IP67 aluminium alloy weatherproof connection head with 4 wire connection block, M20 x 1.5mm cable entry (gland included)
 Process connection: 1/2"BSPP parallel (where applicable)
 Probe temperature range: -100°C to +450°C (connection head @ 170°C)

| Probe Dia Ø | Probe length | 1/2"BSPP process connection | Allied code | RS order code |
|-------------|--------------|-----------------------------|-------------|-----------------|
| 6.0mm | 200mm | No | 70637790 | 285-633 |
| 6.0mm | 400mm | No | 70637791 | 285-649 |
| 6.0mm | 600mm | No | 70637792 | 285-655 |
| 6.0mm | 150mm | Yes | 70644355 | 455-4040 |
| 6.0mm | 250mm | Yes | 70644356 | 455-4056 |
| 6.0mm | 500mm | Yes | 70644357 | 455-4062 |

Need RTD Cable or Pt100/Pt1000 Detectors?

RTD Extension Cable – 4 core (10 or 25 metre reel)

Platinum Resistance Thermometer Extension Cable – Silicone Rubber Insulated



- Silicone rubber insulated cable for extending Platinum Resistance Thermometers
- Can be used to extend up to 4 wire RTD configurations
- Commonly used with Pt100Ω thermometers but suitable with other types Pt130/500/1000Ω etc.
- 4 core silicone rubber insulated 7/0.2mm tin plated copper conductors, twisted together with silicone rubber outer jacket
- Cores colour coded 2 x Red / 2 x White to IEC-751
- Good electrical and mechanical properties, highly flexible, resistant to oils, acids and other adverse fluids
- Good heat resistance up to 200°C
- Insulation rating -40°C to 200°C
- Supplied in 10 or 25 metre reel lengths

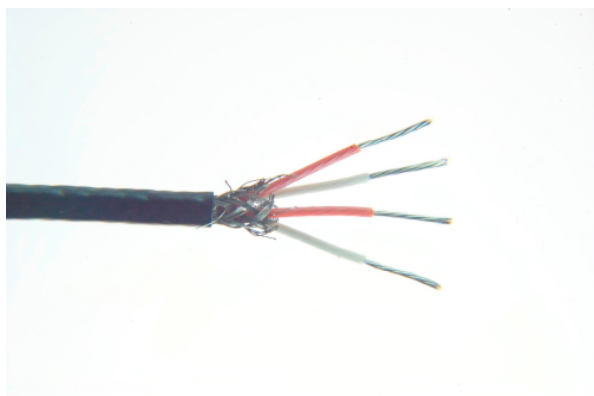
| Type | Conductors | mm ² | Cores (4 core) | Jacket | Reel Length | Allied Code | RS order Code |
|------|------------|-----------------|--------------------|--------|-------------|-------------|-----------------|
| RTD | 7/0.2mm | 0.219 | 2x Red / 2 x White | Brown | 10 metres | 70657147 | 827-5823 |
| RTD | 7/0.2mm | 0.219 | 2x Red / 2 x White | Brown | 25 metres | 70644361 | 455-4242 |

Overall sheath Dimension (approx.)

4.0mmØ

RTD Extension Cable – 4 & 6 core PFA

Platinum Resistance Thermometer Extension Cable, PFA insulated & screened



4 core (cores: 2 x red / 2 white)

6 core (cores: 4 x red / 2 x white)

- PFA insulated cable for extending Platinum Resistance Thermometers
- High temperature to 260°C, extruded PFA Teflon® construction
- Commonly used for Pt100Ω thermometers, also suitable with other types such as Pt130, Pt500 & Pt1000Ω
- 4 & 6 core available – to extend 2, 3 or 4 wire RTD configurations, the 6 core can be used to extend 2 x 3 wire duplex (dual element) configurations
- Construction – PFA insulated 7/0.2mm tin plated copper conductors, twisted cores with nylon cord, tin plated copper braided screen with PFA insulated outer jacket
- Cores colour coded Red & White in accordance with IEC-751, black outer jacket
- Good mechanical strength and flexibility, resistant to oils, acids and other adverse fluids
- Insulation rating -75°C to 260°C
- See below for available reel lengths

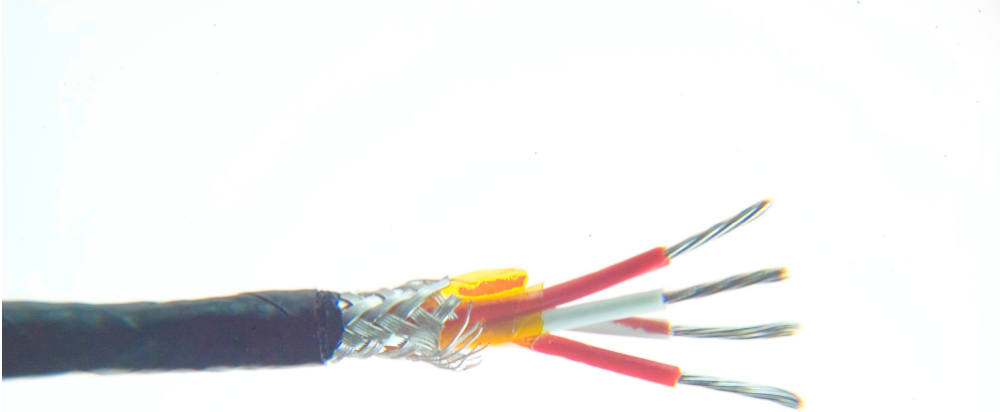
| Type | Conductors | mm ² | Cores | Screen | Jacket | Reel Length | Allied Code | RS |
|------|------------|-----------------|-------|--------|--------|-------------|-------------|----------|
| RTD | 7/0.2mm | 0.219 | x 4 | Yes | Black | 10 metres | 70646175 | 611-8078 |
| RTD | 7/0.2mm | 0.219 | x 4 | Yes | Black | 25 metres | 70646176 | 611-8090 |
| RTD | 7/0.2mm | 0.219 | x 4 | Yes | Black | 50 metres | 70657148 | 827-5827 |
| RTD | 7/0.2mm | 0.219 | x 4 | Yes | Black | 100 metres | 70657150 | 827-5836 |
| RTD | 7/0.2mm | 0.219 | x 6 | Yes | Black | 25 metres | 70646177 | 611-8107 |
| RTD | 7/0.2mm | 0.219 | x 6 | Yes | Black | 50 metres | 70657151 | 827-5839 |

Overall sheath Dimension (approx.)

4 core: 3.2mmØ
6 core: 3.8mmØ

RTD Extension Cable – 4 core PTFE (10 & 25 reel lengths)

Platinum Resistance Thermometer Extension Cable, PTFE insulated & screened



- PTFE insulated cable for extending Platinum Resistance Thermometers
- High temperature to 260°C, wrapped PTFE tape construction
- Can be used to extend 2, 3 or 4 wire RTD configurations
- Commonly used for Pt100Ω thermometers, also suitable with other types such as Pt130, Pt500 & Pt1000Ω
- 4 core PTFE insulated 7/0.2mm silver plated copper conductors, twisted cores, Mylar tape, silver plated copper braided screen with PTFE insulated outer jacket
- Cores colour coded 2 x Red / 2 x White to IEC-751 + black outer jacket
- Good mechanical strength and flexibility, resistant to oils, acids and other adverse fluids, steam, gasses etc.
- Insulation rating -75°C to 260°C
- Supplied in 10, & 25 metre reel lengths

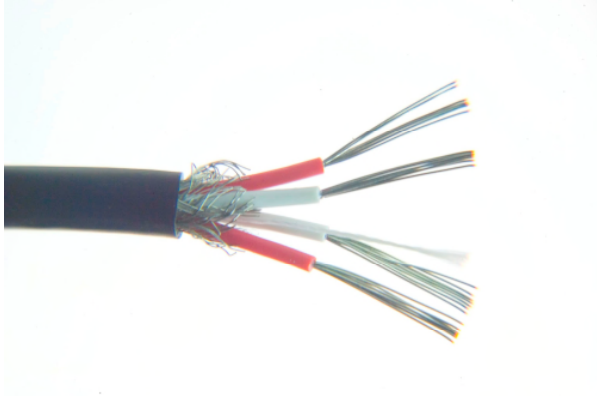
| Type | Conductors | mm ² | Cores (4 core) | Screen | Jacket | Reel Length | Allied Code | RS order code |
|------|------------|-----------------|-----------------|--------|--------|-------------|-------------|-----------------|
| RTD | 7/0.2mm | 0.219 | 2x Red/2x White | Yes | Black | 10 metres | 70644773 | 492-9775 |
| RTD | 7/0.2mm | 0.219 | 2x Red/2x White | Yes | Black | 25 metres | 70642885 | 290-4976 |

Overall sheath Dimension (approx.)

3.5mmØ

RTD Extension Cable – 4 core PVC (10, 25 & 50 reel lengths)

Platinum Resistance Thermometer Extension Cable, PVC insulated & screened



- PVC insulated cable for extending Platinum Resistance Thermometers
- Can be used to extend 2, 3 or 4 wire RTD configurations
- Commonly used for Pt100Ω thermometers but also suitable with other types such as Pt130, Pt500 & Pt1000Ω
- 4 core PVC insulated 7/0.2mm tin plated copper conductors, twisted cores, polyester tape & nylon cord, tin plated copper braided screen with PVC insulated outer jacket
- Cores colour coded 2 x Red / 2 x White to IEC-751 with black outer jacket
- Heat resistant PVC to 105°C
- Good for general purpose cable, highly flexible & waterproof
- Insulation rating -10°C to 105°C
- Supplied in 10, 25 & 50 metre reel lengths

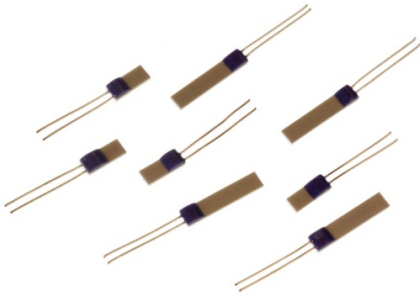
| Type | Conductors | mm ² | Cores (4 core) | Screen | Jacket | Reel Length | Allied Code | RS order code |
|------|------------|-----------------|-----------------|--------|--------|-------------|-------------|---------------|
| RTD | 7/0.2mm | 0.219 | 2x Red/2x White | Yes | Black | 10 metres | 70644772 | 492-9753 |
| RTD | 7/0.2mm | 0.219 | 2x Red/2x White | Yes | Black | 25 metres | 70642884 | 290-4954 |
| RTD | 7/0.2mm | 0.219 | 2x Red/2x White | Yes | Black | 50 metres | 70646179 | 611-8129 |

Overall sheath Dimension (approx.)

4.4mmØ

Platinum Resistance Pt100 & Pt1000 Thin Film Detectors

Platinum Sensing Resistors – Thin Film (Pt100 & Pt1000 Ohm)



Pt100 Elements, Thin Film (100 Ohm)

- Pt100 elements to IEC751 Class A, B and 1/3DIN
- For use from -50°C to $+500^{\circ}\text{C}$
- Thin film construction
- Suitable for surface & immersion applications where protected
- Vibration resistant

Specifications:

| | |
|--|---|
| Sensor type: | Pt100 (100 Ohms @ 0°C) |
| Construction: | Thin film, 10mm tails |
| Temperature range: | -50°C to $+500^{\circ}\text{C}$ |
| Ice point resistance: | 100 Ω |
| Fundamental interval (0°C to 100°C): | 38.5 Ω (nominal) |
| Self-heating: | $<0.5^{\circ}\text{C}/\text{mW}$ |
| Thermal response: | 0.1s |
| Stability: | $\pm 0.05\%$ |

| Resistance | Dimensions (width x length) | Tolerance Class | Allied code | RS order code |
|------------|-----------------------------|-----------------|-------------|-------------------------------|
| Pt100 | 2 x 5.0mm | Class A | 70646146 | 611-7788 |
| Pt100 | 2 x 5.0mm | Class B | 70646148 | 611-7801 |
| Pt100 | 2 x 5.0mm | Class B | 70642888 | 290-5070 (Packet of 5) |
| Pt100 | 2 x 10mm | Class A | 70643577 | 362-9799 |
| Pt100 | 2 x 10mm | Class B | 70641762 | 237-1607 |
| Pt100 | 2.0 x 10mm | 1/3DIN | 70643578 | 362-9812 |
| Pt100 | 2.0 x 2.3mm | Class A | 70643579 | 362-9834 |
| Pt100 | 2.0 x 2.3mm | Class B | 70643580 | 362-9840 |
| Pt100 | 2.0 x 2.3mm | 1/3DIN | 70643581 | 362-9856 |

Pt100 Elements (continued)

| Resistance | Dimensions (width x length) | Tolerance Class | Allied code | RS order code |
|------------|-----------------------------|-----------------|-------------|-----------------|
| Pt100 | 1.2 x 1.6mm | Class A | 70646834 | 666-7362 |
| Pt100 | 1.2 x 1.6mm | Class B | 70646831 | 666-7353 |

| | | | | |
|-------|-------------|---------|----------|-----------------|
| Pt100 | 1.0 x 3.0mm | Class A | 70646833 | 666-7359 |
| Pt100 | 1.0 x 3.0mm | Class B | 70646832 | 666-7356 |
| Pt100 | 2.0 x 5.0mm | 1/3 Din | 70656467 | 814-0162 |
| Pt100 | 1.2 x 4.0mm | Class B | 70656468 | 814-0165 |
| Pt100 | 1.2 x 4.0mm | Class A | 70656469 | 814-0169 |

Pt1000 Elements, Thin Film (1000 Ohm)

- Pt1000 elements to IEC 751 Class A and B
- For use from -50°C to +500°C
- Thin film construction
- Suitable for surface & immersion applications where protected
- Vibration resistant

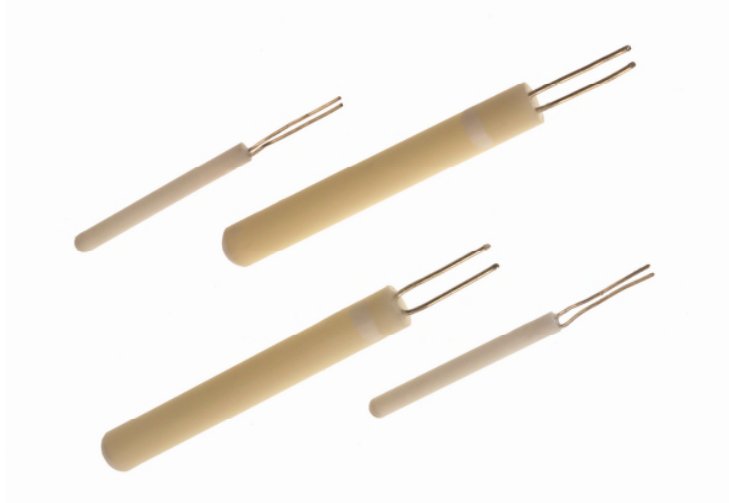
Specifications:

| | |
|--------------------------------------|-------------------------|
| Sensor type: | Pt1000 (1000 Ohms @0°C) |
| Construction: | Thin film, 10mm tails |
| Temperature range: | -50°C to +500°C |
| Ice point resistance: | 1000Ω |
| Fundamental interval (0°C to 100°C): | 385Ω (nominal) |
| Self-heating: | <0.5oC/mW |
| Thermal response: | 0.1s |
| Stability: | ±0.05% |

| Resistance | Dimensions (width x length) | Tolerance Class | Allied code | RS order code |
|-------------------|------------------------------------|------------------------|--------------------|----------------------|
| Pt1000 | 2.0 x 10.0mm | Class A | 70643582 | 362-9907 |
| Pt1000 | 2.0 x 10.0mm | Class B | 70643583 | 362-9913 |
| Pt1000 | 2.0 x 10.0mm | 1/3 Din | 70656472 | 814-0178 |
| Pt1000 | 1.0 x 3.0mm | Class B | 70656470 | 814-0171 |
| Pt1000 | 1.25 x 1.7mm | Class B | 70656471 | 814-0175 |

Resistance Pt100 Wire-Wound Detector Elements

Pt100 platinum resistance thermometer elements in a choice of sizes – single & dual element



- Pt100 elements to IEC 60751 Class A or B
- 100 Ω Ohms @ 0°C
- Single or dual element
- Platinum coil wire-wound construction sealed inside a high purity alumina ceramic body
- Optimum performance & stability
- Temperature range –200°C to +650°C

Specifications:

| | |
|--------------------------------------|---|
| Sensor type: | Pt100 (100 Ohms @ 0°C) |
| Construction: | Wire-Wound, 10mm tails |
| Temperature range: | -200°C to +650°C |
| Ice point resistance: | 100 Ω |
| Fundamental interval (0°C to 100°C): | 38.5 Ω (nominal) |
| Self-heating: | 0.02 to 0.3°C/mW |
| Thermal response: | <0.4s (secs. to 63% of final value – in water @ 1m/s) |
| Measuring current: | 1mA |
| Tolerance Class: | In accordance with IEC 60751 W0.15 (Class A) -100°C to +450°C W0.3 (Class B) -196°C to +660°C |

Continued:

Single element:

| Resistance | Tolerance Class | Diameter ('D') | Length ('L') | Allied code | RS order code |
|------------|-----------------|----------------|--------------|-------------|-----------------|
| Pt100 | Class B | 1.5mm | 8mm | 70646153 | 611-7851 |
| Pt100 | Class A | 1.5mm | 8mm | 70646155 | 611-7873 |
| Pt100 | Class B | 1.5mm | 15mm | 70646154 | 611-7867 |
| Pt100 | Class A | 1.5mm | 15mm | 70646151 | 611-7839 |
| Pt100 | Class B | 2.8mm | 15mm | 70646150 | 611-7823 |
| Pt100 | Class A | 2.8mm | 15mm | 70646152 | 611-7845 |
| Pt100 | Class B | 2.8mm | 25mm | 70646147 | 611-7794 |
| Pt100 | Class A | 2.8mm | 25mm | 70646149 | 611-7817 |

Dual element:

| | | | | | |
|------------|---------|-------|------|----------|-----------------|
| Pt100 (x2) | Class A | 1.5mm | 15mm | 70643873 | 397-1595 |
|------------|---------|-------|------|----------|-----------------|

