Finecables
NTC / PTC
Temperature Sensor Probes

www.finecables.com

Finecables Thermistors

Finecables thermistors and RTDs are the sensor of choice for diverse markets such as Industrial Controls, Medical Electronics, HVAC-R, Aerospace,White Goods and Food Handling.

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About Finecables

Finecables, established in 2003, is committed to being the world's leading manufacturer in industrial connectivity. At Finecables, we combine a strong customer focus along with a wealth of practical industry experience in order to provide our clients all around the world with reliable and innovative connectivity products as well as excellent customer service. Additionally, we continue to extend our self-owned brand @ Finecables in various applications by developing customized products, and has been focusing on the development of temperature sensors. Our production capacity is already more than 50 million PCS yearly.

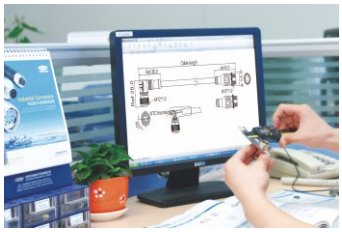
Corporate Culture

Finecables corporate culture consists of passion, dedication and commitment. We are greatly enthusiastic about what we do and helping our customers realize their dreams and ambitions. We are committed to industrial connectivity and place great emphasis on building long-term partnerships and mutually beneficial relationships with both customers and suppliers. Very simply, we are your ideal business partner!

Products

As a manufacturer of temperature sensors and professional wire harness connection products integrating design, manufacturing, sales and service, according to customer needs, Finecables adheres to innovation and constantly develops new products to provide customers with the following products:

- Film Sealing NTC Thermistor
- Single-ended Glass Encapsulated NTC Thermistor
- Red Enamelled Wire Epoxy Temperature Sensor NTC Thermistor
- Epoxy-coated NTC Thermistor
- Glass Sealing NTC Thermistor
- Epoxy Encapsulated NTC Thermistor
- Platinum Surface Temperature Sensor
- Platinum Temperature Sensor with stainless-steel housing
- Thread-mountable Platinum Temperature Sensor
- Platinum Temperature Sensor with jacketed cable
- Platinum Temperature Sensor for oven applications
- Platinum Temperature Sensor with ceramic housing



R&D

With years of experience and technological acquisition and accumulation in industrial connectivity, the R&D team at Finecables utilizes powerful tooling ability and productivity to continue to raise the bar for industry standards. Our unique competitive advantage allows us to research and develop innovative total solutions and fully realize our customer's specific requirements and requests. So far, Finecables has developed over 20,000 kinds of connectors totally.

Quality

With years of experience and technology acquisition and accumulation in the field of temperature sensors, the Finecables research and development team continues to improve the standards of the industry by leveraging its strong processing capabilities and productivity. Our unique competitive advantages enable us to research and develop innovative holistic solutions that fully meet the specific requirements and requirements of our customers. To date, Finecables has developed hundreds of temperature sensors for customers. ISO9001, ISO14001, ISO 45001, ISO13485 represent our quality value.

Finecables fulfills its core value of "Promptness, Excellence, Awareness, and Gratitude", by insisting our long-term partnership and win-win cooperation with both customers and suppliers.

Finecables offers a broad range of thermistors, RTDs, probes and assemblies for demanding temperature sensing applications worldwide. Recognized for their accuracy and long-term reliability, Finecables thermistors and RTDs are the sensor of choice for diverse markets such as Industrial Controls, Medical Electronics, HVAC-R, Aerospace,White Goods and Food Handling.

Thermistor Probes and Assemblies

Finecables probe assemblies are valuable for sensing temperature in a variety of industries. Standard and customized probe assemblies offer very precise and extremely reliable thermal monitoring in the most demanding applications.

NTC and PTC Probes

A temperature sensor is generally a small diameter cylinder (between 0.5 and 8 mm), varying in length (between 50 mm and several meters), rigid or deformable and immersed in the media to be measured: solid, liquid or gas. The choice depends on the following criteria: temperature range, precision, response time, media to be measured, overall dimensions, pressure, corrosion, attachment and connection.

The NTC technology is used predominantly for domestic applications based on the ambient temperature (-40°C to 150°C), is suited to industrial applications between -40°C and 300°C.

The PTC technology is suited to industrial applications between -50°C and 500°C.

Thermistor Probes Supply

Finecables adopts worldclass thermistor to ensure the highly accurate precision as well as the long term stability.

Temperature Sensor RTDs

Finecables RTDs exhibit a nearly linear temperature-resistance curve as well as high accuracy over a very wide temperature range. Their unique characteristics result in a device especially suitable for use in extreme environmental conditions.

The Strength of Finecables Temperature Sensor probe

- Customized assembly solution and various encapsulation design.
- Robust stainless steel housing that provides an IP67 environmental protection rating.
- Remote or direct mountable; compatible with 4-wire probes .
- Housing design permits sensors to be mounted directly next to each other or in restrictive places.
- 4-pin M12 connection promotes easy integration in existing applications.

Capabilities

- Custom Probe Assemblies
- High Precision Thermistors
- Custom R-T Curves
- R-T Curve Matching
- Moisture Resistant Sensors
- Prototyping
- Extensive Quality Testing

Key Considerations

- Operating Temperature
- Operating Environment
- Base Resistance Value
- Tolerance/Accuracy
- Interchangeability
- Thermal Response Time
- R-T Characteristics
- Beta

Finecables Temperature Sensor Selection Chart

Sensor Element Type	Characteristics	Typical Operating Temperature Range	Typical Resistance Value Options	Accuracy Options	Encapsulation	Key Advantages
NTC Thermistors	Exhibit a decrease in electrical resistance when subjected to an increase in body temperature	-40°C to +300°C	100Ω up to 5MΩ at 25°C	±0.05°C to±1.0°C over wide temp ranges ±1% to±10% at 25°C or other specified temp	Leaded: · Glass Encapsulated Axial Leads · Epoxy Coated-Radial Leads · Glass Coated-Radial Leads · Encapsulated in a Probe Assembly SMT: · End-Banded Chip · Top/Bottom Terminated Chip · Glass Encapsulated MELF	· Cost efficient · Excellent long-term stability · Fast thermal response · Wide range of styles available
PTC-RTDs	Exhibit a positive, predictable and nearly linear change in resistance when subjected to a corresponding change in their body temperature	-50°C to +500°C	100Ω, 500Ω 1000Ωat 0°C	±0.06% to±0.24% at 0°C	· Radial Leaded · SMT · Encapsulated in a Probe Assembly	· Nearly linear output · High accuracy · High temperature capability

Applications

HVAC/R

- Residential & Commercial A/C
- Chilled Water Systems
- Outdoor Temperature Sensors
- Condenser, Evaporator & Duct Sensors
- Instant Water Heaters

White Goods

- Oven Temperature Control
- Consumer Refrigerators/ Freezers
- Washing Machines
- Clothes Dryers
- Water Heaters

Food Service

- Commercial Coffee Makers
- Hot/Cold Beverage Dispensers
- Food Thermometers
- Walk-in & Reach-in Refrigerators/Freezers
- Temperature Controlled Display Cases

Alternative Energy

- Hydrogen Fuel Cell Sensors
- Battery Fuel Gauges
- Solar Panel
- Geothermal

Medical

- Blood Analysis Equipment
- Infant Incubators
- Skin Temperature Monitors
- Blood Dialysis Equipment
- Patient Warming Equipment

Industrial

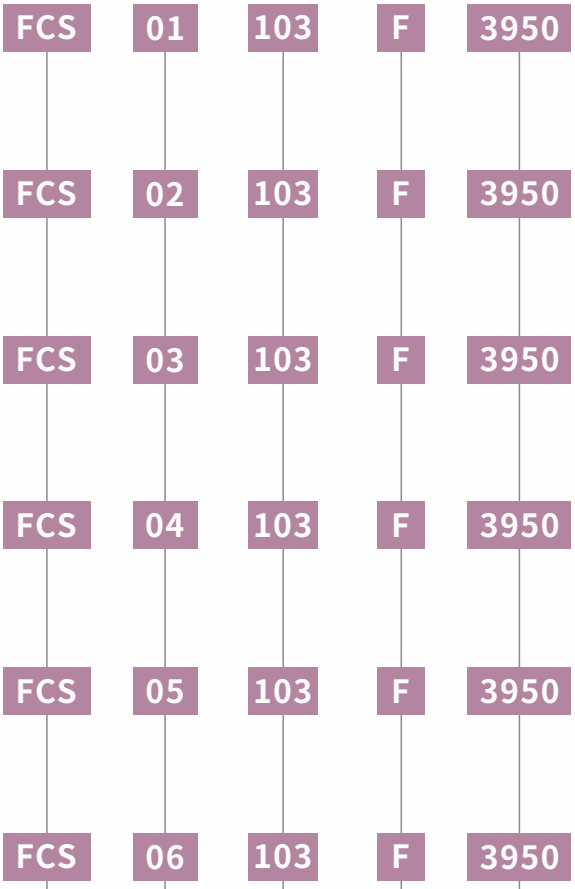
- Fluid Flow Measurement
- Crystal Ovens
- Welding Equipment
- Industrial Process Controls

Finecables
NTC THERMISTORS

for various applications

- HVAC
- Refrigeration
- Floor Heating
- Surface Temperature Measurement
- Corrosive Environments

NTC Thermistor Ordering information



Finecables

Thermistor

01: Epoxy Encapsulated NTC Thermistor
02: Film Sealing NTC Thermistor
03: Single-ended Glass Encapsulated NTC Thermistor
04: Red Enamelled Wire Epoxy Temperature Sensor NTC Thermistor
05: Epoxy-coated NTC Thermistor
06: Glass Sealing NTC Thermistor

B Constant

395x10(K)
(See the resistance table for details)

Resistance tolerance

F=±1%
G=±2%
H=±3%
J=±5%

Resistance at 25°C

$10x10^3\Omega$
(See the resistance table for details)

Epoxy Encapsulated NTC Thermistor

Description

It is a radial type NTC thermistor, that is composed of epoxy-coated sensor head and two lead wires of Sn coated.

LNT series is designed for easy soldering to wire harness of ciruit board (PCB)

Features

- THE products are the epoxy resin coating type for the same direction lead
- A wide range of resistance: 1kΩ to 500kΩ
- High precision of resistance value and B value
- High test accuracy
- Small volume, fast reflection speed
- Able to work stably for a long time with good consistency
- Operating temperature range: -40~+125°C

Applications

- Air conditioning equipment, heating equipment, medical instruments, temperature control instrument, electronic gifts, electronic temperature and humidity meter, automobile temperature measurement, electronic calendar, rechargeable battery pack and charger.

Main Technical Parameters

Type	Rated resistance value（R25）		B Value	Working temperature	Dissipation factor (mW/°C)	Thermal time constant（S）
	Resistance value（KΩ）	Allowable deviation（± %）	Nominal Value			
FCS01-102-3435	1	±1% ±2% ±3% ±5%	3435	-40°C ~ +125°C	⩾3.0 Still in the air	⩽7 Still in the air
FCS01-202-3435	2		3435			
FCS01-2.252-3935	2.252		3935			
FCS01-472-3950	4.7		3950			
FCS01-502-3470	5		3470			
FCS01-502-3950	5		3950			
FCS01-682-3977	6.8		3977			
FCS01-682-4200	6.8		4200			
FCS01-103-3435	10		3435			
FCS01-103-3470	10		3470			
FCS01-103-3600	10		3600			
FCS01-103-3950	10		3950			
FCS01-103-3977	10		3977			
FCS01-103-4100	10		4100			
FCS01-203-3950	20		3950			
FCS01-233-3950	23		3950			
FCS01-303-3950	30		3950			
FCS01-40.27-3950	40.27		3950			
FCS01-473-3950	47		3950			
FCS01-49.12-3950	49.12		3950			
FCS01-503-3950	50		3950			
FCS01-503-3990	50		3990			
FCS01-503-4050	50		4050			
FCS01-104-3950	100		3950			
FCS01-104-3990	100		3990			
FCS01-104-4200	100		4050			

Note: Special parameters can be customized!

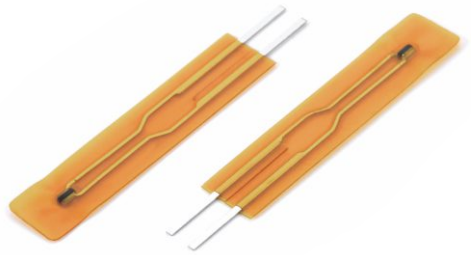
Film Sealing NTC Thermistor

Description

It is a film type thermistor, composed of a NTC chip soldered in a thin lead frame, then insulated with polymer film, for low profile application. The maximum thickness is only 0.6mm(typically 0.5mm). Film type thermistor cab measure the surface temperature more efficiently, or can be installed inside a tiny gap.

Features

- It are film sealed with 2 SN leads
- High thermal induction speed, high sensitivity
- Good stability and high reliability
- Good insulation
- High resistance value precision
- Small volume, light weight, strong structure, easy to install automatically



Applications

- Computer Products
- Computer Cpu Cooling Fans
- Printers
- Household Appliances, etc.

Main Technical Parameters

Type	Rated resistance value（R25）		B Value	Working temperature	Dissipation factor (mW/℃)	Thermal time constant（S）
	Resistance value（KΩ）	Allowable deviation（± %）	Nominal Value			
FCS02-503-F-3470	5	±1% ±2% ±3% ±5%	3470	-40℃ ~ +125℃	⩾0.7 Still in the air	⩽5 Still in the air
FCS02-103-F-3380	10		3380			
FCS02-103-F-3435	10		3435			
FCS02-103-F-3950	10		3950			
FCS02-203-F-3950	20		3950			
FCS02-503-F-3950	50		3950			
FCS02-104-F-3950	100		3950			
FCS02-204-F-3950	200		3950			

Note: Special parameters can be customized!

Single-ended Glass Encapsulated NTC Thermistor

Description

Glass sealing type thermistor is designed for high reliability and wide temperature range of operation. give excellent high temperature stability as well as durability on humidity.

Features

- Products are radial lead single-end glass package type
- Good stability and high reliability
- Wide range of resistance: 1kΩ to 200kΩ
- High precision of resistance value and b value
- Glass package, can be used in high temperature and high humidity And other harsh environments
- Small volume, strong structure, convenient for automatic installation
- The temperature range is -40°C~+300°C
- Rated power: ⩽25mw
- Heat sensitivity should be fast, high sensitivity

Applications

- Temperature control and temperature detection of household appliances such as induction cooker, electric pressure cooker, electric rice cooker, electric oven, disinfection cabinet, microwave oven, automobile temperature measurement, electric heating stove, etc.
- Electronic thermometer
- Temperature control and detection of industrial, medical, environmental, meteorological and food processing equipment
- Temperature control and detection of thermometer and hygrometer.

Main Technical Parameters

Type	Rated resistance value（R25）		B Value	Working temperature	Dissipation factor (mW/°C)	Thermal time constant（S）
	Resistance value（KΩ）	Allowable deviation（± %）	Nominal Value			
FCS03-2.3K-F-3950	2.3	±1% ±2% ±3% ±5%	3950	-40°C ~ +125°C	⩾0.7 Still in the air	⩽5 Still in the air
FCS03-502-F-3470	5		3470			
FCS03-103-F-3435	10		3435			
FCS03-503-F-3950	50		3950			
FCS03-104-F-3950	100		3950			
FCS03-204-F-3950	200		3950			

Note: Special parameters can be customized!

Red Enamelled Wire Epoxy Temperature Sensor NTC Thermistor

Description

It is sensor element was connected to very thin enamel insulated wires, then coated with epoxy for encapsulation.

Features

- Products are of the same direction enameled wire epoxy resin coating type
- A wide range of resistance: 1kΩ to 200kΩ
- High precision of resistance value and B value
- Good insulation, high reliability, small time constant
- Small volume, fast reflection speed
- Able to work stably for a long time with good consistency
- Operating temperature range: -40~+110°C

Applications

- Air conditioning equipment
- Heating equipment
- Medical instruments
- Temperature control instrument
- Electronic gifts
- Electronic temperature and humidity meter
- Automobile temperature
- Electronic calendar
- Rechargeable battery pack
- Charger
- Notebook battery
- LED shower, etc

Main Technical Parameters

Type	Rated resistance value (R25)		B Value	Working temperature	Dissipation factor (mW/°C)	Thermal time constant (S)
	Resistance value (KΩ)	Allowable deviation (± %)	Nominal Value			
FCS04-202-F-3435	2	±1% ±2% ±3% ±5%	3435	-40°C ~ +110°C	⩾0.7 Still in the air	⩽6 Still in the air
FCS04-502-F-3470	5		3470			
FCS04-682-F-3950	6.8		3950			
FCS04-103-F-3435	10		3435			
FCS04-103-F-3470	10		3470			
FCS04-103-F-3950	10		3950			
FCS04-203-F-3950	20		3950			
FCS04-503-F-3950	50		3950			
FCS04-683-F-3950	68		3950			
FCS04-873-F-3950	87		3950			
FCS04-104-F-3950	100		3950			
FCS04-104-F-3990	100		3990			
FCS04-204-F-3950	200		3950			
FCS04-204-F-4260	200		4260			

Note: Special parameters can be customized!

Epoxy-coated NTC Thermistor

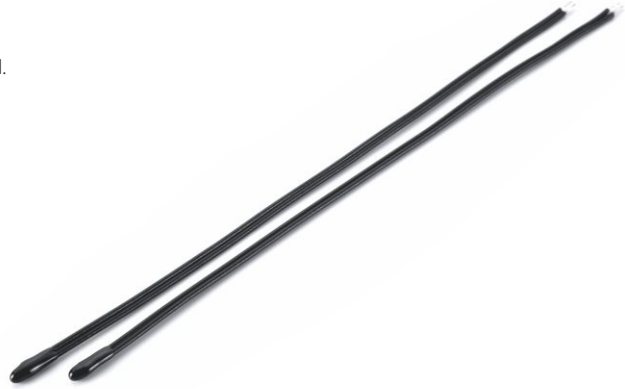
Description

It is a radial type NTC thermistor, that is composed of epoxy-coated sensor head and two lead wires of Sn coated.

LNT series is designed for easy soldering to wire harness of ciruit board (PCB)

Features

- It is composed of epoxy-coated sensor head and two lead wires of Sn coated.
- Wide Resistance Range: 0.1K~ 500K
- High resistance value and high B-constant
- Moisture Proof, good insulation, high reliability, small time constant
- Small volume, fast response
- Steady work constantly and good consistency
- Temperature range: -40 ~ +125°C



Applications

- Residential & Commercial A / C
- Water Heaters
- Medical instruments
- temperature control meters
- Electronic gifts; Electronic thermometers
- Automotive thermometers; Electronic calendar
- Rechargeable batteries and chargers; Notebook batteries.

Main Technical Parameters

Type	Rated resistance value（R25）		B Value	Working temperature	Dissipation factor (mW/°C)	Thermal time constant（S）
	Resistance value（KΩ）	Allowable deviation（± %）	Nominal Value			
FCS05-102-3435	1	±1% ±2% ±3% ±5%	3435	-40°C ~ +200°C	⩾2.0 Still in the air	⩽15 Still in the air
FCS05-202-3435	2		3435			
FCS05-2.252-3950	2.252		3950			
FCS05-472-3950	4.7		3950			
FCS05-502-3470	5		3470			
FCS05-502-3950	5		3950			
FCS05-682-3950	6.8		3950			
FCS05-103-3435	10		3435			
FCS05-103-3470	10		3470			
FCS05-103-3600	10		3600			
FCS05-103-3950	10		3950			
FCS05-103-3977	10		3977			
FCS05-103-4100	10		4100			
FCS05-153-3950	15		3950			
FCS05-203-3950	20		3950			
FCS05-233-3950	23		3950			
FCS05-303-3950	30		3950			
FCS05-333-3950	33		3950			
FCS05-40.27-3950	40.27		3950			
FCS05-473-3950	47		3950			
FCS05-503-3950	50		3950			
FCS05-503-3990	50		3990			
FCS05-503-4050	50		4050			
FCS05-104-3950	100		3950			
FCS05-104-3990	100		3990			
FCS05-104-4200	100		4050			
FCS05-204-3950	200		3950			
FCS05-204-4260	200		4260			

Note: Special parameters can be customized!

Glass Sealing NTC Thermistor

Description

NTC chip is hermetically sealed in (DO-35) tube, on this diode type thermistor. It is designed for the application of moderate temperatura range operation

Features

- It is glass encapasulated with axial lead
- Good stability, high reliability
- Wide resistance range: 1K ~ 1000K
- High resistance value and high B-constant, high precision
- High temperature or other harsh environment
- Small Size, strong structure, easy to automatic installation
- Temperature: -40°C ~ + 300°C
- Rated Power: ⩽50mw
- Fast Thermal Induction, high sensitivity and so on

Applications

- Induction cooker, electric pressure cooker, electric cooker, electric oven, disinfection cabinet, water dispenser, microwave oven, car temperature, electric heater and other household appliances temperature control and temperature testing.
- Office Automation Equipment (such as photocopiers, printers, etc.) temperature detection and temperature retesting.
- Industrial, medical, environmental, meteorological, food processing equipment temperature control and testing.
- Temperature protection of rechargeable batteries and chargers.
- Temperature compensation for instrument coils, integrated circuits, quartz crystal oscillator and thermocouples.

Main Technical Parameters

Type	Rated resistance value (R25)		B Value	Working temperature	Dissipation factor (mW/°C)	Thermal time constant (S)
	Resistance value (KΩ)	Allowable deviation (± %)	Nominal Value			
FCS06-202-3435	2	±1% ±2% ±3% ±5%	3435	-40°C ~ +250°C	⩾2.0 Still in the air	⩽12 Still in the air
FCS06-502-3470	5		3470			
FCS06-103-3435	10		3435			
FCS06-103-3600	10		3600			
FCS06-103-3700	10		3700			
FCS06-103-3950	10		3950			
FCS06-103-4100	10		4100			
FCS06-203-3950	20		3950			
FCS06-233-3950	23		3950			
FCS06-303-3950	30		3950			
FCS06-40.27-3979	40.27		3979			
FCS06-473-3950	47		3950			
FCS06-503-3950	50		3950			
FCS06-503-4050	50		4050			
FCS06-104-3899	100		3899			
FCS06-104-3950	100		3950			
FCS06-104-3990	100		3990			
FCS06-104-4050	100		4050			
FCS06-104-4200	100		4200			
FCS06-204-4260	200		4260	-40°C ~ +250°C		
FCS06-504-4260	500		4260			
FCS06-504-4400	500		4400			

Note: Special parameters can be customized!

Finecables
NTC THERMISTORS

for various applications

- HVAC
- Refrigeration
- Floor Heating
- Surface Temperature Measurement
- Corrosive Environments

Finecables NTC thermistors are manufactured from a specially-formulated metal oxide ceramic material that is extremely accurate in sensing temperature. Same high quality material is used in wide variety of housings and leaded parts for various applications such as: HVAC, Refrigeration, Floor Heating, Surface Temperature Measurement and Corrosive Environments.

1. Zero-power Resistance of Thermistor: R

Measured by zero-power in specified ambient temperature.

R= R0 exp B (1/T-1/T0)

R: Resistance in ambient temperature T (K)

(K: absolute temperature)

R0: Resistance in ambient temperature T0 (K)

B: B-Constant of Thermistor

2. B-Constant

Calculated between two specified ambient temperatures by the next formula.

T and T0 is absolute temperature (K).

B= n (R/R0) / (1/T-1/T0)

3. Thermal Dissipation Constant

It shows necessary electric power that Thermistor's temperature rises 1°C by self-heating.

It is calculated by the next formula (mW/°C).

When electric power P (mW) is spent in ambient

temperature T1 and thermistor temperature rises T2,

the formula is as follows

P= C (T2-T1)

C: Thermal dissipation constant (mW/°C)

Thermal dissipation constant is varied with dimensions, measurement conditions, etc.

4. Thermal Time Constant

Period in which the thermistor's temperature will change 63.2% of its temperature difference from ambient

temperature T0 (°C) to T1 (°C).

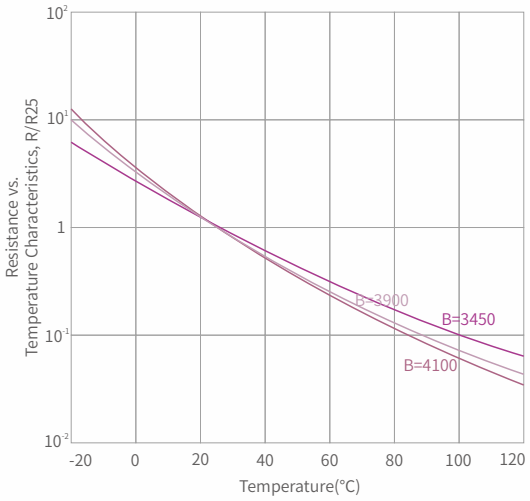
5. Rated Electric Power

It shows the required electric power that causes the thermistor's temperature to rise to a specified temperature byself-heating, at ambient temperature of 25 °C.

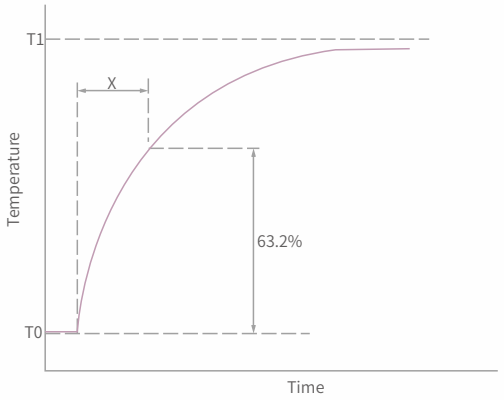
6. Permissible Operating Current

It is possible to keep the thermistor's temperature rising max. 1°C.

■ Resistance vs. Temperature



■ Thermal Time Constant



NTC Part Number System

TS01 (**) - 10 C B 25

Temperature
Sensors series Probe Assembly

Wire section
14=0.14mm²
25=0.25mm²
34=0.34mm²
50=0.50mm²
.....

Cable color
B=Black
G=Gray
W=White
R=Red
.....

Cable Sheath
C=PVC
R=PUR
T=TPE
F=FEP
S=Silicone rubber
G=Fiberglass
P=PFA
.....

Cable Length
03=0.3m
10=1m
20=2m
100=10m
.....

Thermistor

Type eg: FCS 01 103 F 3950

Finecables

Thermistor
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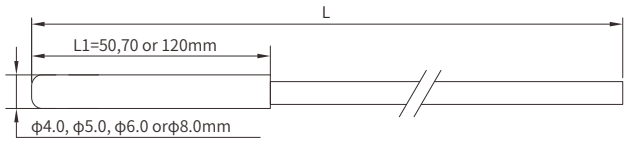
02: Film Sealing NTC Thermistor
03: Single-ended Glass Encapsulated NTC Thermistor
04: Red Enamelled Wire Epoxy Temperature Sensor NTC Thermistor
05: Epoxy-coated NTC Thermistor
06: Glass Sealing NTC Thermistor

Resistance at 25°C
$10x10^3\Omega$
(See the resistance table for details)

Resistance tolerance
F=±1%
G=±2%
H=±3%
J=±5%

B Constant
395x10(K)
(See the resistance table for details)

Probe Assembly / Cylinder Stainless steel tubing



Note: Various sizes are optional or customizable

Description

NTC thermistor potted at the tip of durable Cylinder Stainless steel tube

Application

- Automobile air conditioner & radiators and showcase
- refrigerators (ambient)
- Air conditioner outdoor units & pipes incl. discharge pipes and dehumidifier (solid inside/surface)
- Freezing machines(water); chiller lubricant(oil)

Features

- A thermistor element is sealed in a stainless steel protection tube.
- Many variants of the protection tube are available.

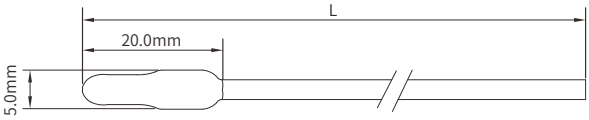
Main Technical Parameters

Type	Rated resistance value（R25）		B Value	Working temperature	Dissipation factor (mW/°C)	Thermal time constant（S）
	Resistance value（KΩ）	Allowable deviation（±%）	Nominal Value			
TS01(FCS01-102-3435)-XXXXXX	1	±1% ±2% ±3% ±5%	3435	-40°C ~ +125°C	⩾3.0 Still in the air	⩽7 Still in the air
TS01(FCS01-202-3435)-XXXXXX	2		3435			
TS01(FCS01-2.252-3935)-XXXXXX	2.252		3935			
TS01(FCS01-472-3950)-XXXXXX	4.7		3950			
TS01(FCS01-502-3470)-XXXXXX	5		3470			
TS01(FCS01-502-3950)-XXXXXX	5		3950			
TS01(FCS01-682-3977)-XXXXXX	6.8		3977			
TS01(FCS01-682-4200)-XXXXXX	6.8		4200			
TS01(FCS01-103-3435)-XXXXXX	10		3435			
TS01(FCS01-103-3470)-XXXXXX	10		3470			
TS01(FCS01-103-3600)-XXXXXX	10		3600			
TS01(FCS01-103-3950)-XXXXXX	10		3950			
TS01(FCS01-103-3977)-XXXXXX	10		3977			
TS01(FCS01-103-4100)-XXXXXX	10		4100			
TS01(FCS01-203-3950)-XXXXXX	20		3950			
TS01(FCS01-233-3950)-XXXXXX	23		3950			
TS01(FCS01-303-3950)-XXXXXX	30		3950			
TS01(FCS01-40.27-3950)-XXXXXX	40.27		3950			
TS01(FCS01-473-3950)-XXXXXX	47		3950			
TS01(FCS01-49.12-3950)-XXXXXX	49.12		3950			
TS01(FCS01-503-3950)-XXXXXX	50		3950			
TS01(FCS01-503-3990)-XXXXXX	50		3990			
TS01(FCS01-503-4050)-XXXXXX	50		4050			
TS01(FCS01-104-3950)-XXXXXX	100		3950			
TS01(FCS01-104-3990)-XXXXXX	100		3990			
TS01(FCS01-104-4200)-XXXXXX	100		4050			

Note: more sensor part number refers to page 18

TS02 Series

Probe Assembly /Epoxy



Note: Various sizes are optional or customizable

Description

Epoxy dip coated thermistor, soldered between jacketed Teflon / PVC wires

Application

- Air conditioners (room and outdoor air)
- Automobile air conditioners & heaters (ambient)
- Water heater tanks (surface)
- Fan heaters, washer dryers, printer & multi-function printer
- Chambers(ambient)

Features

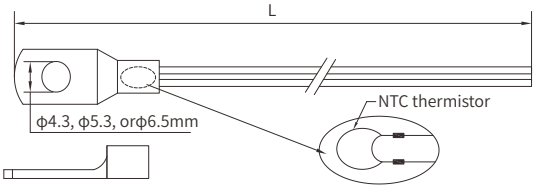
- A thermistor element is sealed with epoxy resin.
- Applicable to a wide temperature range.
- A bare thermistor chip is sealed with epoxy resin.
- Lower cost than using a glass-encapsulated thermistor element.

Main Technical Parameters

Type	Rated resistance value (R25)		B Value	Working temperature	Dissipation factor (mW/°C)	Thermal time constant (S)
	Resistance value (KΩ)	Allowable deviation (±%)	Nominal Value			
TS02(FCS01-102-3435)-XXXXXX	1	±1% ±2% ±3% ±5%	3435	-40°C ~ +125°C	⩾3.0 Still in the air	⩽7 Still in the air
TS02(FCS01-202-3435)-XXXXXX	2		3435			
TS02(FCS01-2.252-3935)-XXXXXX	2.252		3935			
TS02(FCS01-472-3950)-XXXXXX	4.7		3950			
TS02(FCS01-502-3470)-XXXXXX	5		3470			
TS02(FCS01-502-3950)-XXXXXX	5		3950			
TS02(FCS01-682-3977)-XXXXXX	6.8		3977			
TS02(FCS01-682-4200)-XXXXXX	6.8		4200			
TS02(FCS01-103-3435)-XXXXXX	10		3435			
TS02(FCS01-103-3470)-XXXXXX	10		3470			
TS02(FCS01-103-3600)-XXXXXX	10		3600			
TS02(FCS01-103-3950)-XXXXXX	10		3950			
TS02(FCS01-103-3977)-XXXXXX	10		3977			
TS02(FCS01-103-4100)-XXXXXX	10		4100			
TS02(FCS01-203-3950)-XXXXXX	20		3950			
TS02(FCS01-233-3950)-XXXXXX	23		3950			
TS02(FCS01-303-3950)-XXXXXX	30		3950			
TS02(FCS01-40.27-3950)-XXXXXX	40.27		3950			
TS02(FCS01-473-3950)-XXXXXX	47		3950			
TS02(FCS01-49.12-3950)-XXXXXX	49.12		3950			
TS02(FCS01-503-3950)-XXXXXX	50		3950			
TS02(FCS01-503-3990)-XXXXXX	50		3990			
TS02(FCS01-503-4050)-XXXXXX	50		4050			
TS02(FCS01-104-3950)-XXXXXX	100		3950			
TS02(FCS01-104-3990)-XXXXXX	100		3990			
TS02(FCS01-104-4200)-XXXXXX	100		4050			

Note: more sensor part number refers to page 18

Probe Assembly /Ring Lug



Note: Various sizes are optional or customizable

Description

NTC thermistor element is sealed into a lug terminal.

Application

- BMS (Battery Management System)
- EV/HEV motors & inverters (solid)
- Liquid level detection automobile inverters, water heater tanks and heat pump water heaters(surface)
- Automobile battery chargers, air conditioner outdoor units and heatsinks (surface)

Features

- Temperature measurement speed
- Small smll size
- Good stability, resistance to vibration
- Scratch-proof plan
- Applicable to a wide temperature range

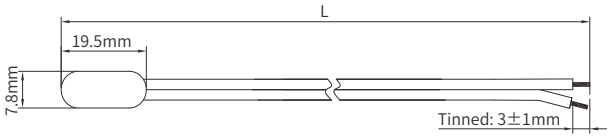
Main Technical Parameters

Type	Rated resistance value（R25）		B Value	Working temperature	Dissipation factor (mW/°C)	Thermal time constant（S）
	Resistance value（KΩ）	Allowable deviation（±%）	Nominal Value			
TS03(FCS01-102-3435)-XXXXXX	1	±1% ±2% ±3% ±5%	3435	-40°C ~ +125°C	⩾3.0 Still in the air	⩽7 Still in the air
TS03(FCS01-202-3435)-XXXXXX	2		3435			
TS03(FCS01-2.252-3935)-XXXXXX	2.252		3935			
TS03(FCS01-472-3950)-XXXXXX	4.7		3950			
TS03(FCS01-502-3470)-XXXXXX	5		3470			
TS03(FCS01-502-3950)-XXXXXX	5		3950			
TS03(FCS01-682-3977)-XXXXXX	6.8		3977			
TS03(FCS01-682-4200)-XXXXXX	6.8		4200			
TS03(FCS01-103-3435)-XXXXXX	10		3435			
TS03(FCS01-103-3470)-XXXXXX	10		3470			
TS03(FCS01-103-3600)-XXXXXX	10		3600			
TS03(FCS01-103-3950)-XXXXXX	10		3950			
TS03(FCS01-103-3977)-XXXXXX	10		3977			
TS03(FCS01-103-4100)-XXXXXX	10		4100			
TS03(FCS01-203-3950)-XXXXXX	20		3950			
TS03(FCS01-233-3950)-XXXXXX	23		3950			
TS03(FCS01-303-3950)-XXXXXX	30		3950			
TS03(FCS01-40.27-3950)-XXXXXX	40.27		3950			
TS03(FCS01-473-3950)-XXXXXX	47		3950			
TS03(FCS01-49.12-3950)-XXXXXX	49.12		3950			
TS03(FCS01-503-3950)-XXXXXX	50		3950			
TS03(FCS01-503-3990)-XXXXXX	50		3990			
TS03(FCS01-503-4050)-XXXXXX	50		4050			
TS03(FCS01-104-3950)-XXXXXX	100		3950			
TS03(FCS01-104-3990)-XXXXXX	100		3990			
TS03(FCS01-104-4200)-XXXXXX	100		4050			

Note: more sensor part number refers to page 18

TS04 Series

Probe Assembly /Molding



Note: Various sizes are optional or customizable

Description

NTC thermistor element is sealed into plastic overmolding

Applications

- Temperature measurement in refrigerator.

Features

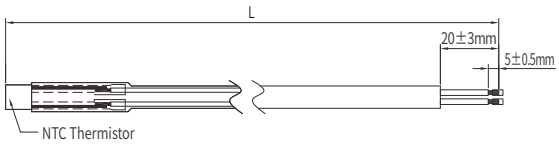
- Applicable to detect temperature in low temperature environment
- Temperature measurement speed
- Small size
- Good stability, resistance to vibration
- Applicable to a wide temperature range

Main Technical Parameters

Type	Rated resistance value (R25)		B Value	Working temperature	Dissipation factor (mW/°C)	Thermal time constant (S)
	Resistance value (KΩ)	Allowable deviation (±%)	Nominal Value			
TS04(FCS01-102-3435)-XXXXXX	1	±1% ±2% ±3% ±5%	3435	-40°C ~ +125°C	⩾3.0 Still in the air	⩽7 Still in the air
TS04(FCS01-202-3435)-XXXXXX	2		3435			
TS04(FCS01-2.252-3935)-XXXXXX	2.252		3935			
TS04(FCS01-472-3950)-XXXXXX	4.7		3950			
TS04(FCS01-502-3470)-XXXXXX	5		3470			
TS04(FCS01-502-3950)-XXXXXX	5		3950			
TS04(FCS01-682-3977)-XXXXXX	6.8		3977			
TS04(FCS01-682-4200)-XXXXXX	6.8		4200			
TS04(FCS01-103-3435)-XXXXXX	10		3435			
TS04(FCS01-103-3470)-XXXXXX	10		3470			
TS04(FCS01-103-3600)-XXXXXX	10		3600			
TS04(FCS01-103-3950)-XXXXXX	10		3950			
TS04(FCS01-103-3977)-XXXXXX	10		3977			
TS04(FCS01-103-4100)-XXXXXX	10		4100			
TS04(FCS01-203-3950)-XXXXXX	20		3950			
TS04(FCS01-233-3950)-XXXXXX	23		3950			
TS04(FCS01-303-3950)-XXXXXX	30		3950			
TS04(FCS01-40.27-3950)-XXXXXX	40.27		3950			
TS04(FCS01-473-3950)-XXXXXX	47		3950			
TS04(FCS01-49.12-3950)-XXXXXX	49.12		3950			
TS04(FCS01-503-3950)-XXXXXX	50		3950			
TS04(FCS01-503-3990)-XXXXXX	50		3990			
TS04(FCS01-503-4050)-XXXXXX	50		4050			
TS04(FCS01-104-3950)-XXXXXX	100		3950			
TS04(FCS01-104-3990)-XXXXXX	100		3990			
TS04(FCS01-104-4200)-XXXXXX	100		4050			

Note: more sensor part number refers to page 18

Probe Assembly / plastic Tubing



Note: Various sizes are optional or customizable

Description

NTC thermistor fixed by plastic tube

Applications

- Automobile air conditioner & radiators and showcase refrigerators(ambient) etc.

Features

- A thermistor element is fixed by a plastic protection tube
- Many variants material of the protection tube are available
- Fast response
- Lower cost than using a encapsulated thermistor element

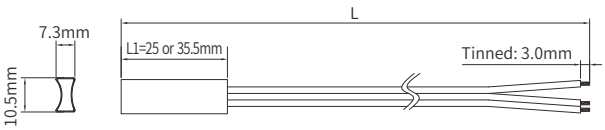
Main Technical Parameters

Type	Rated resistance value (R25)		B Value	Working temperature	Dissipation factor (mW/°C)	Thermal time constant (S)
	Resistance value (KΩ)	Allowable deviation (±%)	Nominal Value			
TS05(FCS01-102-3435)-XXXXXX	1	±1% ±2% ±3% ±5%	3435	-40°C ~ +125°C	⩾3.0 Still in the air	⩽7 Still in the air
TS05(FCS01-202-3435)-XXXXXX	2		3435			
TS05(FCS01-2.252-3935)-XXXXXX	2.252		3935			
TS05(FCS01-472-3950)-XXXXXX	4.7		3950			
TS05(FCS01-502-3470)-XXXXXX	5		3470			
TS05(FCS01-502-3950)-XXXXXX	5		3950			
TS05(FCS01-682-3977)-XXXXXX	6.8		3977			
TS05(FCS01-682-4200)-XXXXXX	6.8		4200			
TS05(FCS01-103-3435)-XXXXXX	10		3435			
TS05(FCS01-103-3470)-XXXXXX	10		3470			
TS05(FCS01-103-3600)-XXXXXX	10		3600			
TS05(FCS01-103-3950)-XXXXXX	10		3950			
TS05(FCS01-103-3977)-XXXXXX	10		3977			
TS05(FCS01-103-4100)-XXXXXX	10		4100			
TS05(FCS01-203-3950)-XXXXXX	20		3950			
TS05(FCS01-233-3950)-XXXXXX	23		3950			
TS05(FCS01-303-3950)-XXXXXX	30		3950			
TS05(FCS01-40.27-3950)-XXXXXX	40.27		3950			
TS05(FCS01-473-3950)-XXXXXX	47		3950			
TS05(FCS01-49.12-3950)-XXXXXX	49.12		3950			
TS05(FCS01-503-3950)-XXXXXX	50		3950			
TS05(FCS01-503-3990)-XXXXXX	50		3990			
TS05(FCS01-503-4050)-XXXXXX	50		4050			
TS05(FCS01-104-3950)-XXXXXX	100		3950			
TS05(FCS01-104-3990)-XXXXXX	100		3990			
TS05(FCS01-104-4200)-XXXXXX	100		4050			

Note: more sensor part number refers to page 18

TS06 Series

Probe Assembly /Square brass tubing



Note: Various sizes are optional or customizable

Description

NTC thermistor potted at the tip of square brass tube

Application

- Automobile air conditioner & radiators and showcase refrigerators (ambient)
- Air conditioner outdoor units & pipes incl. discharge pipes and dehumidifier (solid inside/surface)
- Freezing machines(water); chiller lubricant(oil).

Features

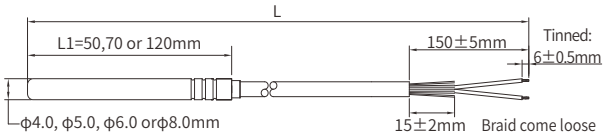
- A thermistor element is sealed in a brass protection tube.
- Many variants of the protection tube are available.

Main Technical Parameters

Type	Rated resistance value (R25)		B Value	Working temperature	Dissipation factor (mW/°C)	Thermal time constant (S)
	Resistance value (KΩ)	Allowable deviation (±%)	Nominal Value			
TS06(FCS01-102-3435)-XXXXXX	1	±1% ±2% ±3% ±5%	3435	-40°C ~ +125°C	⩾3.0 Still in the air	⩽7 Still in the air
TS06(FCS01-202-3435)-XXXXXX	2		3435			
TS06(FCS01-2.252-3935)-XXXXXX	2.252		3935			
TS06(FCS01-472-3950)-XXXXXX	4.7		3950			
TS06(FCS01-502-3470)-XXXXXX	5		3470			
TS06(FCS01-502-3950)-XXXXXX	5		3950			
TS06(FCS01-682-3977)-XXXXXX	6.8		3977			
TS06(FCS01-682-4200)-XXXXXX	6.8		4200			
TS06(FCS01-103-3435)-XXXXXX	10		3435			
TS06(FCS01-103-3470)-XXXXXX	10		3470			
TS06(FCS01-103-3600)-XXXXXX	10		3600			
TS06(FCS01-103-3950)-XXXXXX	10		3950			
TS06(FCS01-103-3977)-XXXXXX	10		3977			
TS06(FCS01-103-4100)-XXXXXX	10		4100			
TS06(FCS01-203-3950)-XXXXXX	20		3950			
TS06(FCS01-233-3950)-XXXXXX	23		3950			
TS06(FCS01-303-3950)-XXXXXX	30		3950			
TS06(FCS01-40.27-3950)-XXXXXX	40.27		3950			
TS06(FCS01-473-3950)-XXXXXX	47		3950			
TS06(FCS01-49.12-3950)-XXXXXX	49.12		3950			
TS06(FCS01-503-3950)-XXXXXX	50		3950			
TS06(FCS01-503-3990)-XXXXXX	50		3990			
TS06(FCS01-503-4050)-XXXXXX	50		4050			
TS06(FCS01-104-3950)-XXXXXX	100		3950			
TS06(FCS01-104-3990)-XXXXXX	100		3990			
TS06(FCS01-104-4200)-XXXXXX	100		4050			

Note: more sensor part number refers to page 18

Probe Assembly /Cylinder Stainless steel tubing &Ring pressure



Note: Various sizes are optional or customizable

Description

NTC thermistor potted at the tip of durable Cylinder Stainless steel tube and Ring pressure three rings

Application

- Automobile air conditioner & radiators and showcase refrigerators (ambient)
- air conditioner outdoor units & pipes incl. discharge pipes and dehumidifier (solid inside/surface)
- freezing machines(water); chiller lubricant(oil)

Features

- A thermistor element is sealed in a stainless steel protection tube.
- Many variants of the protection tube are available.
- Applicable to a wide temperature range.
- Good waterproof performance

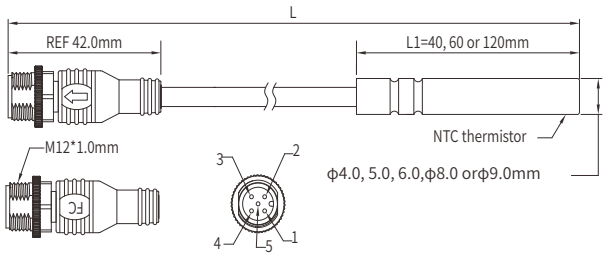
Main Technical Parameters

Type	Rated resistance value (R25)		B Value	Working temperature	Dissipation factor (mW/°C)	Thermal time constant (S)
	Resistance value (KΩ)	Allowable deviation (±%)	Nominal Value			
TS07(FCS01-102-3435)-XXXXXX	1	±1% ±2% ±3% ±5%	3435	-40°C ~ +125°C	⩾3.0 Still in the air	⩽7 Still in the air
TS07(FCS01-202-3435)-XXXXXX	2		3435			
TS07(FCS01-2.252-3935)-XXXXXX	2.252		3935			
TS07(FCS01-472-3950)-XXXXXX	4.7		3950			
TS07(FCS01-502-3470)-XXXXXX	5		3470			
TS07(FCS01-502-3950)-XXXXXX	5		3950			
TS07(FCS01-682-3977)-XXXXXX	6.8		3977			
TS07(FCS01-682-4200)-XXXXXX	6.8		4200			
TS07(FCS01-103-3435)-XXXXXX	10		3435			
TS07(FCS01-103-3470)-XXXXXX	10		3470			
TS07(FCS01-103-3600)-XXXXXX	10		3600			
TS07(FCS01-103-3950)-XXXXXX	10		3950			
TS07(FCS01-103-3977)-XXXXXX	10		3977			
TS07(FCS01-103-4100)-XXXXXX	10		4100			
TS07(FCS01-203-3950)-XXXXXX	20		3950			
TS07(FCS01-233-3950)-XXXXXX	23		3950			
TS07(FCS01-303-3950)-XXXXXX	30		3950			
TS07(FCS01-40.27-3950)-XXXXXX	40.27		3950			
TS07(FCS01-473-3950)-XXXXXX	47		3950			
TS07(FCS01-49.12-3950)-XXXXXX	49.12		3950			
TS07(FCS01-503-3950)-XXXXXX	50		3950			
TS07(FCS01-503-3990)-XXXXXX	50		3990			
TS07(FCS01-503-4050)-XXXXXX	50		4050			
TS07(FCS01-104-3950)-XXXXXX	100		3950			
TS07(FCS01-104-3990)-XXXXXX	100		3990			
TS07(FCS01-104-4200)-XXXXXX	100		4050			

Note: more sensor part number refers to page 18

TS08 Series

Probe Assembly /Cylinder Stainless steel tubing with M series connector



Note: Various sizes are optional or customizable

Description

NTC thermistor potted at the tip of durable Cylinder Stainless steel tube with M series connector of cable end.

Application

- Automobile air conditioner & radiators and showcase refrigerators(ambient)
- Air conditioner outdoor units & pipes incl. discharge pipes and dehumidifier (solid inside/surface)
- Freezing machines(water)
- Chiller lubricant(oil)

Features

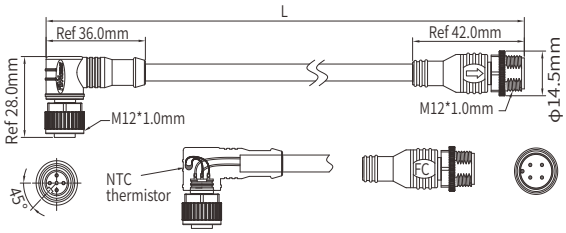
- Thermistor element is sealed in a stainless steel protection tube.
- Many variants of the protection tube are available.
- M12(or M8/M5) connetor of cable end are available.

Main Technical Parameters

Type	Rated resistance value（R25）		B Value	Working temperature	Dissipation factor (mW/°C)	Thermal time constant（S）
	Resistance value（KΩ）	Allowable deviation（±%）	Nominal Value			
TS08(FCS01-102-3435)-XXXXXX	1	±1% ±2% ±3% ±5%	3435	-40°C ~ +125°C	⩾3.0 Still in the air	⩽7 Still in the air
TS08(FCS01-202-3435)-XXXXXX	2		3435			
TS08(FCS01-2.252-3935)-XXXXXX	2.252		3935			
TS08(FCS01-472-3950)-XXXXXX	4.7		3950			
TS08(FCS01-502-3470)-XXXXXX	5		3470			
TS08(FCS01-502-3950)-XXXXXX	5		3950			
TS08(FCS01-682-3977)-XXXXXX	6.8		3977			
TS08(FCS01-682-4200)-XXXXXX	6.8		4200			
TS08(FCS01-103-3435)-XXXXXX	10		3435			
TS08(FCS01-103-3470)-XXXXXX	10		3470			
TS08(FCS01-103-3600)-XXXXXX	10		3600			
TS08(FCS01-103-3950)-XXXXXX	10		3950			
TS08(FCS01-103-3977)-XXXXXX	10		3977			
TS08(FCS01-103-4100)-XXXXXX	10		4100			
TS08(FCS01-203-3950)-XXXXXX	20		3950			
TS08(FCS01-233-3950)-XXXXXX	23		3950			
TS08(FCS01-303-3950)-XXXXXX	30		3950			
TS08(FCS01-40.27-3950)-XXXXXX	40.27		3950			
TS08(FCS01-473-3950)-XXXXXX	47		3950			
TS08(FCS01-49.12-3950)-XXXXXX	49.12		3950			
TS08(FCS01-503-3950)-XXXXXX	50		3950			
TS08(FCS01-503-3990)-XXXXXX	50		3990			
TS08(FCS01-503-4050)-XXXXXX	50		4050			
TS08(FCS01-104-3950)-XXXXXX	100		3950			
TS08(FCS01-104-3990)-XXXXXX	100		3990			
TS08(FCS01-104-4200)-XXXXXX	100		4050			

Note: more sensor part number refers to page 18

Probe Assembly /molding of M12 connector



Note: Various sizes are optional or customizable

Description

NTC thermistor element is sealed into plastic overmolding of M12 connector.

Applications

- Temperature measurement in signal control equipment.

Features

- Applicable to detect temperature in low temperature environment
- Temperature measurement speed
- Temperature sensor and M12 connector integrated
- Good stability, resistance to vibration
- Applicable to a wide temperature range

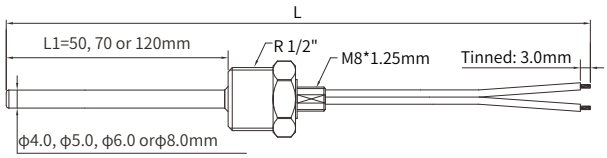
Main Technical Parameters

Type	Rated resistance value (R25)		B Value	Working temperature	Dissipation factor (mW/°C)	Thermal time constant (S)
	Resistance value (KΩ)	Allowable deviation (±%)	Nominal Value			
TS09(FCS01-102-3435)-XXXXXX	1	±1% ±2% ±3% ±5%	3435	-40°C ~ +125°C	⩾3.0 Still in the air	⩽7 Still in the air
TS09(FCS01-202-3435)-XXXXXX	2		3435			
TS09(FCS01-2.252-3935)-XXXXXX	2.252		3935			
TS09(FCS01-472-3950)-XXXXXX	4.7		3950			
TS09(FCS01-502-3470)-XXXXXX	5		3470			
TS09(FCS01-502-3950)-XXXXXX	5		3950			
TS09(FCS01-682-3977)-XXXXXX	6.8		3977			
TS09(FCS01-682-4200)-XXXXXX	6.8		4200			
TS09(FCS01-103-3435)-XXXXXX	10		3435			
TS09(FCS01-103-3470)-XXXXXX	10		3470			
TS09(FCS01-103-3600)-XXXXXX	10		3600			
TS09(FCS01-103-3950)-XXXXXX	10		3950			
TS09(FCS01-103-3977)-XXXXXX	10		3977			
TS09(FCS01-103-4100)-XXXXXX	10		4100			
TS09(FCS01-203-3950)-XXXXXX	20		3950			
TS09(FCS01-233-3950)-XXXXXX	23		3950			
TS09(FCS01-303-3950)-XXXXXX	30		3950			
TS09(FCS01-40.27-3950)-XXXXXX	40.27		3950			
TS09(FCS01-473-3950)-XXXXXX	47		3950			
TS09(FCS01-49.12-3950)-XXXXXX	49.12		3950			
TS09(FCS01-503-3950)-XXXXXX	50		3950			
TS09(FCS01-503-3990)-XXXXXX	50		3990			
TS09(FCS01-503-4050)-XXXXXX	50		4050			
TS09(FCS01-104-3950)-XXXXXX	100		3950			
TS09(FCS01-104-3990)-XXXXXX	100		3990			
TS09(FCS01-104-4200)-XXXXXX	100		4050			

Note: more sensor part number refers to page 18

TS10 Series

Probe Assembly /Threaded metal tubing & hex



Note: Various sizes are optional or customizable

Description

NTC thermistor potted at the tip of durable stainless alloy tube, with thread hex screw

Application

- Tank boiler water temperature detection, temperature detection machine
- Medical device temperature detection, temperature detection
- Refrigerator heat converter

Features

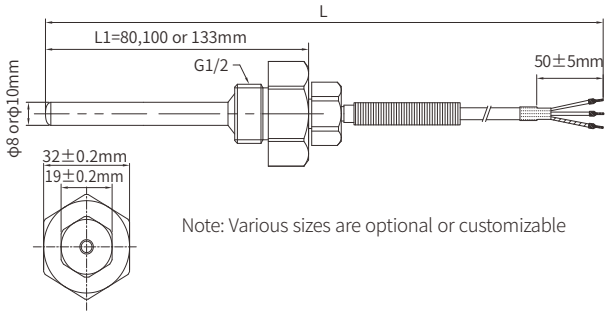
- Tapered threads will pull tight for a fluid-tight seal
- Ideal for extreme conditions such as corrosive environments
- Fast response, with high accuracy (to ±1%) due to the
- Potting of thermistor at the very tip of the assembly

Main Technical Parameters

Type	Rated resistance value (R25)		B Value	Working temperature	Dissipation factor (mW/°C)	Thermal time constant (S)
	Resistance value (KΩ)	Allowable deviation (±%)	Nominal Value			
TS10(FCS01-102-3435)-XXXXXX	1	±1% ±2% ±3% ±5%	3435	-40°C ~ +125°C	⩾3.0 Still in the air	⩽7 Still in the air
TS10(FCS01-202-3435)-XXXXXX	2		3435			
TS10(FCS01-2.252-3935)-XXXXXX	2.252		3935			
TS10(FCS01-472-3950)-XXXXXX	4.7		3950			
TS10(FCS01-502-3470)-XXXXXX	5		3470			
TS10(FCS01-502-3950)-XXXXXX	5		3950			
TS10(FCS01-682-3977)-XXXXXX	6.8		3977			
TS10(FCS01-682-4200)-XXXXXX	6.8		4200			
TS10(FCS01-103-3435)-XXXXXX	10		3435			
TS10(FCS01-103-3470)-XXXXXX	10		3470			
TS10(FCS01-103-3600)-XXXXXX	10		3600			
TS10(FCS01-103-3950)-XXXXXX	10		3950			
TS10(FCS01-103-3977)-XXXXXX	10		3977			
TS10(FCS01-103-4100)-XXXXXX	10		4100			
TS10(FCS01-203-3950)-XXXXXX	20		3950			
TS10(FCS01-233-3950)-XXXXXX	23		3950			
TS10(FCS01-303-3950)-XXXXXX	30		3950			
TS10(FCS01-40.27-3950)-XXXXXX	40.27		3950			
TS10(FCS01-473-3950)-XXXXXX	47		3950			
TS10(FCS01-49.12-3950)-XXXXXX	49.12		3950			
TS10(FCS01-503-3950)-XXXXXX	50		3950			
TS10(FCS01-503-3990)-XXXXXX	50		3990			
TS10(FCS01-503-4050)-XXXXXX	50		4050			
TS10(FCS01-104-3950)-XXXXXX	100		3950			
TS10(FCS01-104-3990)-XXXXXX	100		3990			
TS10(FCS01-104-4200)-XXXXXX	100		4050			

Note: more sensor part number refers to page 18

Probe Assembly /Threaded metal tubing & hex



Note: Various sizes are optional or customizable

Description

NTC thermistor potted at the tip of durable stainless alloy tube, with thread hex screw

Application

- Tank boiler water temperature detection
- Medical device temperature detection
- Refrigerator heat converter temperature detection
- Hot water boiler tank water temperature detection
- Medical device temperature detection
- Temperature detection machine

Features

- Tapered threads will pull tight for a fluid-tight seal
- Ideal for extreme conditions such as corrosive environments
- Fast response, with high accuracy (to ±1%) due to the
- Potting of thermistor at the very tip of the assembly
- Due to the combination of the thermal resistance fo the stainless steel protection tube and the glass package, the mechanical strength issuperior
- Wateproof products-equipped with glass encapsulation thermistor

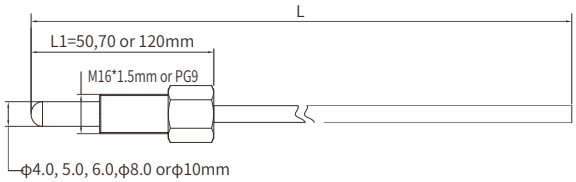
Main Technical Parameters

Type	Rated resistance value（R25）		B Value	Working temperature	Dissipation factor (mW/°C)	Thermal time constant（S）
	Resistance value（KΩ）	Allowable deviation（±%）	Nominal Value			
TS11(FCS01-102-3435)-XXXXXX	1	±1% ±2% ±3% ±5%	3435	-40°C ~ +125°C	⩾3.0 Still in the air	⩽7 Still in the air
TS11(FCS01-202-3435)-XXXXXX	2		3435			
TS11(FCS01-2.252-3935)-XXXXXX	2.252		3935			
TS11(FCS01-472-3950)-XXXXXX	4.7		3950			
TS11(FCS01-502-3470)-XXXXXX	5		3470			
TS11(FCS01-502-3950)-XXXXXX	5		3950			
TS11(FCS01-682-3977)-XXXXXX	6.8		3977			
TS11(FCS01-682-4200)-XXXXXX	6.8		4200			
TS11(FCS01-103-3435)-XXXXXX	10		3435			
TS11(FCS01-103-3470)-XXXXXX	10		3470			
TS11(FCS01-103-3600)-XXXXXX	10		3600			
TS11(FCS01-103-3950)-XXXXXX	10		3950			
TS11(FCS01-103-3977)-XXXXXX	10		3977			
TS11(FCS01-103-4100)-XXXXXX	10		4100			
TS11(FCS01-203-3950)-XXXXXX	20		3950			
TS11(FCS01-233-3950)-XXXXXX	23		3950			
TS11(FCS01-303-3950)-XXXXXX	30		3950			
TS11(FCS01-40.27-3950)-XXXXXX	40.27		3950			
TS11(FCS01-473-3950)-XXXXXX	47		3950			
TS11(FCS01-49.12-3950)-XXXXXX	49.12		3950			
TS11(FCS01-503-3950)-XXXXXX	50		3950			
TS11(FCS01-503-3990)-XXXXXX	50		3990			
TS11(FCS01-503-4050)-XXXXXX	50		4050			
TS11(FCS01-104-3950)-XXXXXX	100		3950			
TS11(FCS01-104-3990)-XXXXXX	100		3990			
TS11(FCS01-104-4200)-XXXXXX	100		4050			

Note: more sensor part number refers to page 18

TS12 Series

Probe Assembly / threaded metal tubing & hex



Note: Various sizes are optional or customizable

Description

NTC thermistor potted at the tip of durable brass alloy tube, with thread hex screw

Application

Automobile engines (solid), engine (oil), radiators (water)

Features

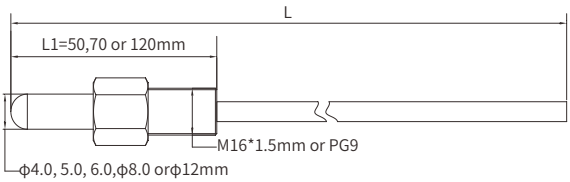
- Epoxy resin-sealed into a cut protection tube
- Highly heat and oil resistant epoxy resin
- Threads will pull tight for a fluid-tight seal
- Ideal for extreme conditions such as corrosive environments
- Fast response, with high accuracy (to ±1%) due to the potting of thermistor at the very tip of the assembly

Main Technical Parameters

Type	Rated resistance value (R25)		B Value	Working temperature	Dissipation factor (mW/°C)	Thermal time constant (S)
	Resistance value (KΩ)	Allowable deviation (±%)	Nominal Value			
TS12(FCS01-102-3435)-XXXXXX	1	±1% ±2% ±3% ±5%	3435	-40°C ~ +125°C	⩾3.0 Still in the air	⩽7 Still in the air
TS12(FCS01-202-3435)-XXXXXX	2		3435			
TS12(FCS01-2.252-3935)-XXXXXX	2.252		3935			
TS12(FCS01-472-3950)-XXXXXX	4.7		3950			
TS12(FCS01-502-3470)-XXXXXX	5		3470			
TS12(FCS01-502-3950)-XXXXXX	5		3950			
TS12(FCS01-682-3977)-XXXXXX	6.8		3977			
TS12(FCS01-682-4200)-XXXXXX	6.8		4200			
TS12(FCS01-103-3435)-XXXXXX	10		3435			
TS12(FCS01-103-3470)-XXXXXX	10		3470			
TS12(FCS01-103-3600)-XXXXXX	10		3600			
TS12(FCS01-103-3950)-XXXXXX	10		3950			
TS12(FCS01-103-3977)-XXXXXX	10		3977			
TS12(FCS01-103-4100)-XXXXXX	10		4100			
TS12(FCS01-203-3950)-XXXXXX	20		3950			
TS12(FCS01-233-3950)-XXXXXX	23		3950			
TS12(FCS01-303-3950)-XXXXXX	30		3950			
TS12(FCS01-40.27-3950)-XXXXXX	40.27		3950			
TS12(FCS01-473-3950)-XXXXXX	47		3950			
TS12(FCS01-49.12-3950)-XXXXXX	49.12		3950			
TS12(FCS01-503-3950)-XXXXXX	50		3950			
TS12(FCS01-503-3990)-XXXXXX	50		3990			
TS12(FCS01-503-4050)-XXXXXX	50		4050			
TS12(FCS01-104-3950)-XXXXXX	100		3950			
TS12(FCS01-104-3990)-XXXXXX	100		3990			
TS12(FCS01-104-4200)-XXXXXX	100		4050			

Note: more sensor part number refers to page 18

Probe Assembly / threaded metal tubing & hex



Note: Various sizes are optional or customizable

Description

NTC thermistor potted at the tip of durable brass alloy tube, with thread hex screw

Applications

- Automobile engines(solid), engine(oil), radiators(water)

Features

- Epoxy resin-sealed into a cut protection tube
- Highly heat and oil resistant epoxy resin
- Threads will pull tight for a fluid-tight seal
- Ideal for extreme conditions such as corrosive environments
- Fast response, with high accuracy (to ±1%) due to the potting of thermistor at the very tip of the assembly

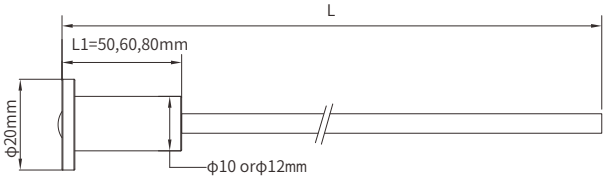
Main Technical Parameters

Type	Rated resistance value (R25)		B Value	Working temperature	Dissipation factor (mW/°C)	Thermal time constant (S)
	Resistance value (KΩ)	Allowable deviation (±%)	Nominal Value			
TS13(FCS01-102-3435)-XXXXXX	1	±1% ±2% ±3% ±5%	3435	-40°C ~ +125°C	⩾3.0 Still in the air	⩽7 Still in the air
TS13(FCS01-202-3435)-XXXXXX	2		3435			
TS13(FCS01-2.252-3935)-XXXXXX	2.252		3935			
TS13(FCS01-472-3950)-XXXXXX	4.7		3950			
TS13(FCS01-502-3470)-XXXXXX	5		3470			
TS13(FCS01-502-3950)-XXXXXX	5		3950			
TS13(FCS01-682-3977)-XXXXXX	6.8		3977			
TS13(FCS01-682-4200)-XXXXXX	6.8		4200			
TS13(FCS01-103-3435)-XXXXXX	10		3435			
TS13(FCS01-103-3470)-XXXXXX	10		3470			
TS13(FCS01-103-3600)-XXXXXX	10		3600			
TS13(FCS01-103-3950)-XXXXXX	10		3950			
TS13(FCS01-103-3977)-XXXXXX	10		3977			
TS13(FCS01-103-4100)-XXXXXX	10		4100			
TS13(FCS01-203-3950)-XXXXXX	20		3950			
TS13(FCS01-233-3950)-XXXXXX	23		3950			
TS13(FCS01-303-3950)-XXXXXX	30		3950			
TS13(FCS01-40.27-3950)-XXXXXX	40.27		3950			
TS13(FCS01-473-3950)-XXXXXX	47		3950			
TS13(FCS01-49.12-3950)-XXXXXX	49.12		3950			
TS13(FCS01-503-3950)-XXXXXX	50		3950			
TS13(FCS01-503-3990)-XXXXXX	50		3990			
TS13(FCS01-503-4050)-XXXXXX	50		4050			
TS13(FCS01-104-3950)-XXXXXX	100		3950			
TS13(FCS01-104-3990)-XXXXXX	100		3990			
TS13(FCS01-104-4200)-XXXXXX	100		4050			

Note: more sensor part number refers to page 18

TS14 Series

Probe Assembly /T-type brass tubing



Note: Various sizes are optional or customizable

Description

NTC thermistor potted at the tip of T-type brass tube

Features

A thermistor element is sealed in a brass protection tube

Many variants of the protection tube are available

Application

- Automobile air conditioner & radiators and showcase
- Refrigerators(ambient)
- Air conditioner outdoor units & pipes incl. discharge pipes and
- Duhmidifiers (solid inside/surface)
- Freezing machines(water)
- Chiller lubricant(oil)

Main Technical Parameters

Type	Rated resistance value（R25）		B Value	Working temperature	Dissipation factor (mW/°C)	Thermal time constant（S）
	Resistance value（KΩ）	Allowable deviation（±%）	Nominal Value			
TS14(FCS01-102-3435)-XXXXXX	1	±1% ±2% ±3% ±5%	3435	-40°C ~ +125°C	⩾3.0 Still in the air	⩽7 Still in the air
TS14(FCS01-202-3435)-XXXXXX	2		3435			
TS14(FCS01-2.252-3935)-XXXXXX	2.252		3935			
TS14(FCS01-472-3950)-XXXXXX	4.7		3950			
TS14(FCS01-502-3470)-XXXXXX	5		3470			
TS14(FCS01-502-3950)-XXXXXX	5		3950			
TS14(FCS01-682-3977)-XXXXXX	6.8		3977			
TS14(FCS01-682-4200)-XXXXXX	6.8		4200			
TS14(FCS01-103-3435)-XXXXXX	10		3435			
TS14(FCS01-103-3470)-XXXXXX	10		3470			
TS14(FCS01-103-3600)-XXXXXX	10		3600			
TS14(FCS01-103-3950)-XXXXXX	10		3950			
TS14(FCS01-103-3977)-XXXXXX	10		3977			
TS14(FCS01-103-4100)-XXXXXX	10		4100			
TS14(FCS01-203-3950)-XXXXXX	20		3950			
TS14(FCS01-233-3950)-XXXXXX	23		3950			
TS14(FCS01-303-3950)-XXXXXX	30		3950			
TS14(FCS01-40.27-3950)-XXXXXX	40.27		3950			
TS14(FCS01-473-3950)-XXXXXX	47		3950			
TS14(FCS01-49.12-3950)-XXXXXX	49.12		3950			
TS14(FCS01-503-3950)-XXXXXX	50		3950			
TS14(FCS01-503-3990)-XXXXXX	50		3990			
TS14(FCS01-503-4050)-XXXXXX	50		4050			
TS14(FCS01-104-3950)-XXXXXX	100		3950			
TS14(FCS01-104-3990)-XXXXXX	100		3990			
TS14(FCS01-104-4200)-XXXXXX	100		4050			

Note: more sensor part number refers to page 18

Finecables
PTC THERMISTORS

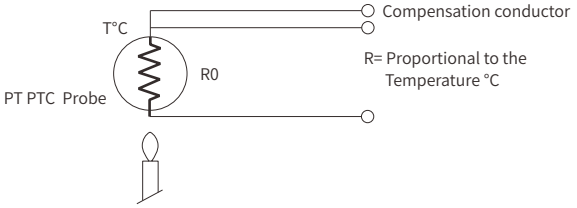
for various applications

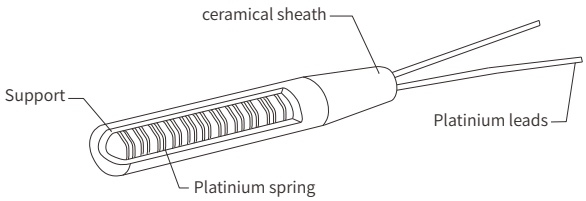
- Automotive
- White Goods
- HVAC
- Energy Management
- Medical and Industrial Equipment

The PTC technology

(PT 100/500/1000)

A PT 100/500/1000 probe is a resistor whose value in ohm (Ω) increases in proportion to the temperature (100 at 0°C).





The resistance measurement is carried out by the current circulation generated by a measuring device or a regulator, through copper interconnecting wires.

The compensation for the interconnection conductor resistance is obtained by an artifice which consists in connecting a third wire (industrial applications) or even a fourth wire (laboratory applications).

The colours of the wires (white and red), the resistance variation and the precision class are defined in EN 60751 standard: t = temperature measured in°C.

The sensitive element is inserted into a rigid sheath having a minimum diameter of and a minimum length of, and then extended by wires, a flexible cable or a cable with a mineral insulator.

The customary diameters of the rigid sheaths for probes are 4, 5, 6 and 8 mm.

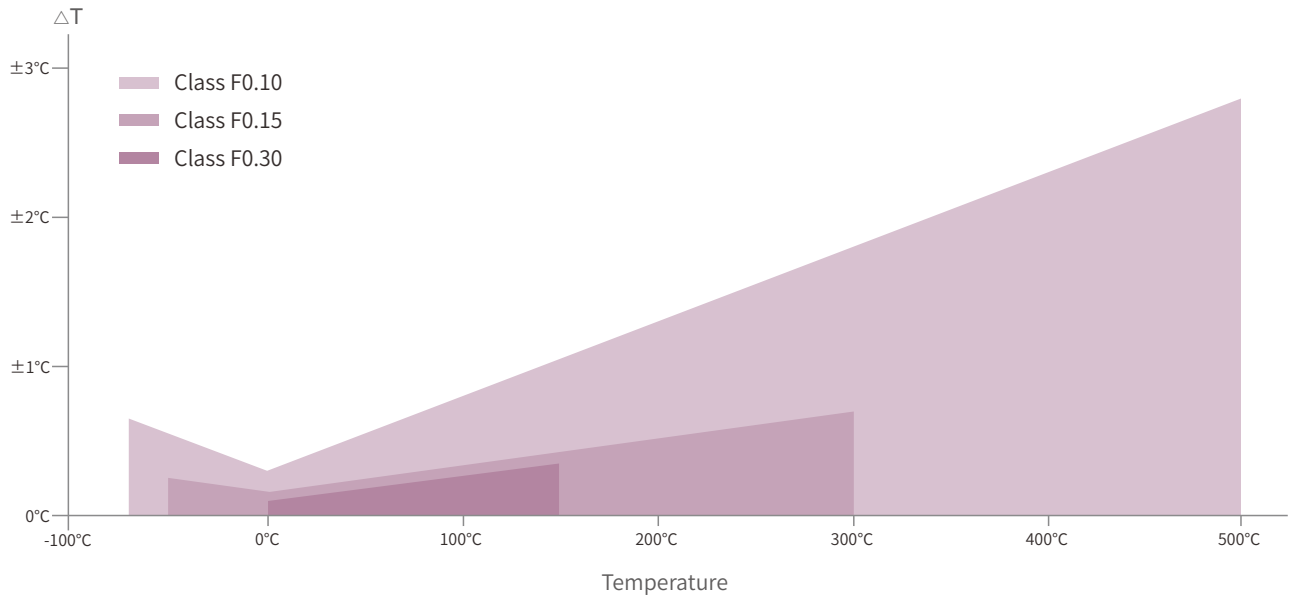
Metallic protection sheaths are generally of AISI 316/ DIN 1.4401 stainless steel when immersed in a fluid and AISI 304 / DIN 1.4301 stainless steel when inserted into a thermometer well.

The response time of a probe depends on its diameter (approximately 4 sec in water for 3 mm diameter and 11 sec for 8 mm diameter).

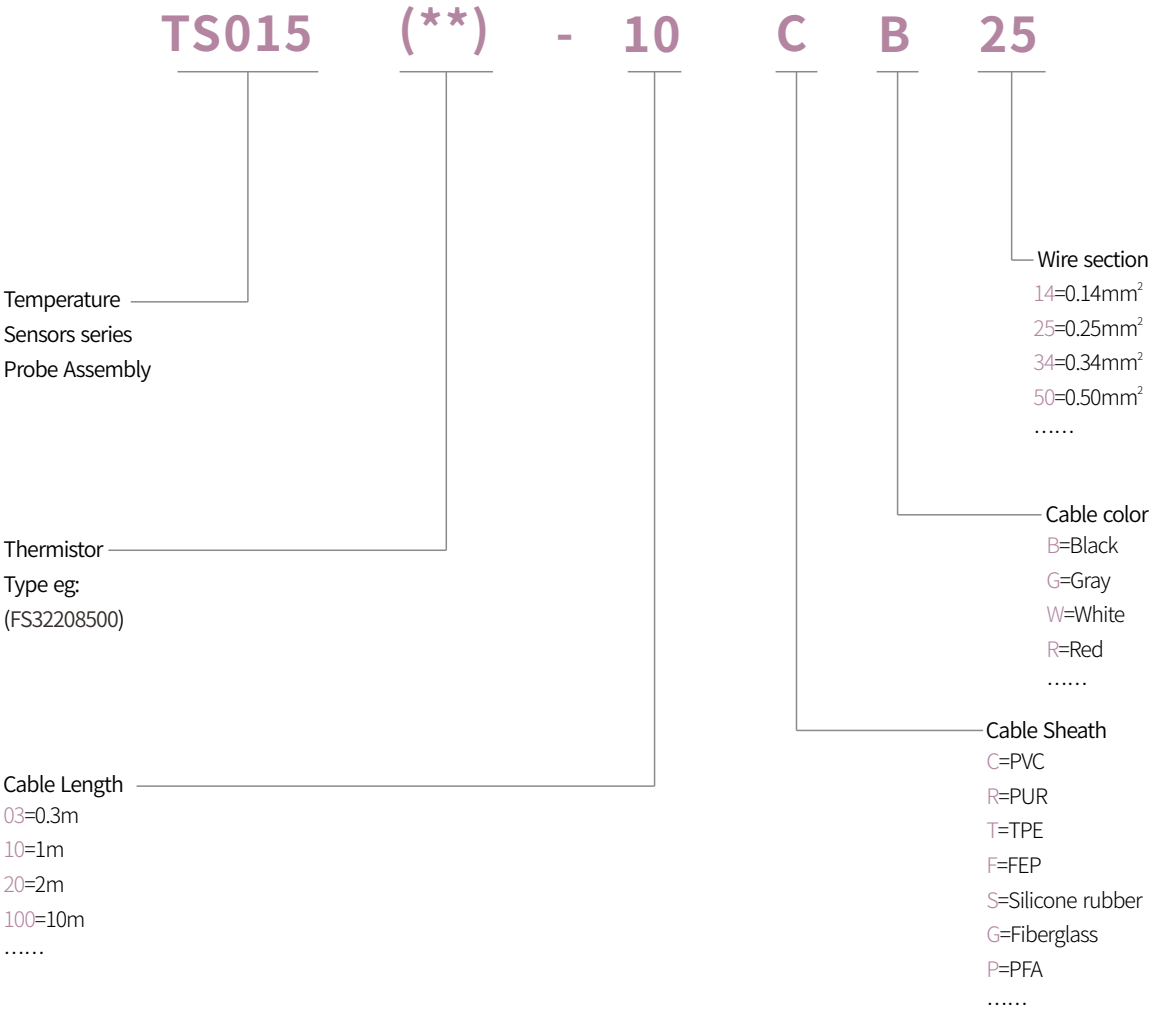
The interconnection cables (one white conductor and two red conductors) provide a way of connecting the probes to a measuring or regulating device.

Considering the low level of the transmitted signal, it is preferable to use shielded cables.

Resistance vs. Temperature

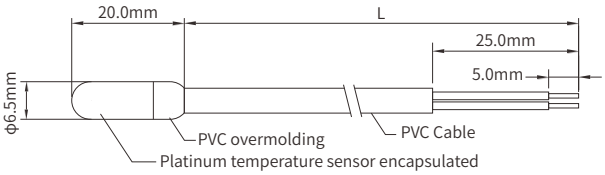


PTC Part Number System



TS15 Series

Platinum Surface Temperature Sensor according to DIN EN 60751



Note: Various sizes are optional or customizable

Description

The Pt-RTD element is fully enclosed in a molded polypropylene housing. Integrated thru-hole allows for easy mounting via ascrew, rivet, etc. and is particularly suitable for surface measurements. Preferred applications include temperature measurement in gaseous media as well as in heating and air conditioning technology. The housing material is largely resistant to greases, organic and inorganic bases and alkalis (medium concentration).

Application

- Heating, ventilating, and air-conditioning
- Data logging
- General purpose temperature sensing

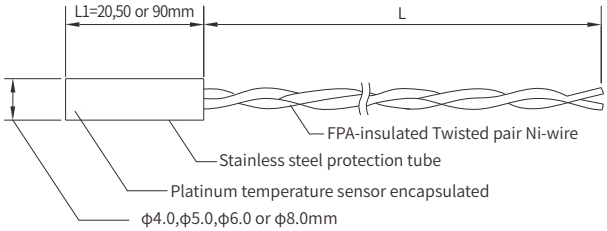
Features

- Abrasion-resistant jacketed cable
- Versatile, multi-purpose design
- Available in Pt100 or Pt500 resistance values
- +105°C maximum operating temperature

Ordering information

Nominal Resistance R0	Tolerance DIN EN 60751 1996-07	Tolerance DIN EN 60751 2009-05	Encapsulation
100 Ohm at 0°C	Class 1/3 B	F 0.1	TS15(FS32208500)-XXXXXX
	Class A	F 0.15	TS15(FS32208498)-XXXXXX
	Class B	F 0.3	TS15(FS32208392)-XXXXXX
500 Ohm at 0°C	Class 1/3 B	F 0.1	TS15(FS32208502)-XXXXXX
	Class A	F 0.15	TS15(FS32208501)-XXXXXX
	Class B	F 0.3	TS15(FS32208414)-XXXXXX
1000 Ohm at 0°C	Class 1/3 B	F 0.1	TS15(FS32208537)-XXXXXX
	Class A	F 0.15	TS15(FS32208503)-XXXXXX
	Class B	F 0.3	TS15(FS32208499)-XXXXXX

Platinum Temperature Sensor with stainless-steel housing according to DIN EN 60751



Note: Various sizes are optional or customizable

Description

The PTC element is completely moulded in stainless steel housing. The dimensionally stable protective tube allows easy mounting in the according holes. Preferred applications for temperature measurement would be in gaseous media and in heating and air conditioning at elevated temperatures. In a temperature range between 0°C and +100°C, the sensor is suitable for particularly accurate measurements. The housing material is resistant to oils, organic and inorganic bases and alkalis (medium concentration) and protects the sensor from mechanical damage.

Application

- Heating, ventilating, and air-conditioning
- Data logging
- Laboratory instrumentation
- Oven temperature
- Hi-temp temperature sensing

Features

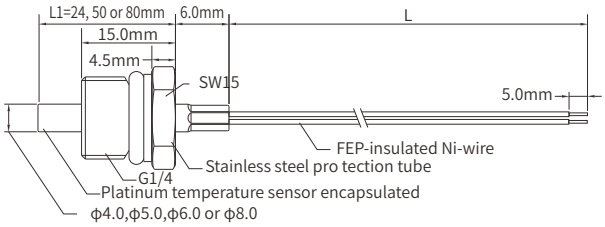
- Corrosion-resistant stainless-steel protective housing
- High-temperature fiberglass-insulated connection wires
- Widely used for a variety of temperature- sensing applications
- Available in Pt100 or Pt500 resistance values
- +200°C maximum operating temperature

Ordering information

Nominal Resistance R0	Tolerance DIN EN 60751 1996-07	Tolerance DIN EN 60751 2009-05	Order Number
100 Ohm at 0°C	Class 1/3 B	F 0.1	TS16(FS32208500)-XXXXXX
	Class A	F 0.15	TS16(FS32208498)-XXXXXX
	Class B	F 0.3	TS16(FS32208392)-XXXXXX
500 Ohm at 0°C	Class 1/3 B	F 0.1	TS16(FS32208502)-XXXXXX
	Class A	F 0.15	TS16(FS32208501)-XXXXXX
	Class B	F 0.3	TS16(FS32208414)-XXXXXX
1000 Ohm at 0°C	Class 1/3 B	F 0.1	TS16(FS32208537)-XXXXXX
	Class A	F 0.15	TS16(FS32208503)-XXXXXX
	Class B	F 0.3	TS16(FS32208499)-XXXXXX

TS17 Series

Thread-mountable Platinum Temperature Sensor according to DIN EN 60751



Note: Various sizes are optional or customizable

Description

The Pt measuring resistor is completely mounted in a brass housing. The thread allows easy mounting via the according threaded holes and is thus particularly suitable for measurements with improved force and form fit. Preferred applications for temperature measurement are in gaseous media and in heating and air conditioning at elevated temperatures. The housing material is resistant to oils, fats, organic and inorganic bases and alkalis (medium concentration) and protects the sensor from mechanical damage.

Application

- Temperature sensing in
- Heat sinks
- Motor casings
- Bearing casings
- Mechanical equipment

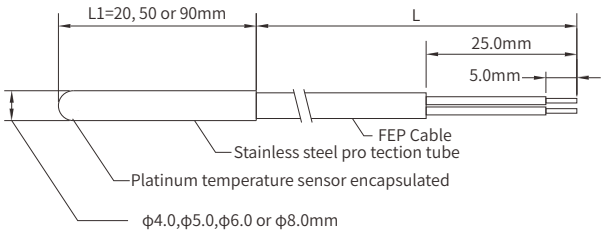
Features

- Easy surface mounting via integrated G 1/4 thread
- Brass housing provides good thermal transfer
- Rugged FEP-insulated connection wires
- Available in Pt100 and Pt1000 resistance values
- +200°C maximum operating temperature

Ordering information

Nominal Resistance R0	Tolerance DIN EN 60751 1996-07	Tolerance DIN EN 60751 2009-05	Order Number
100 Ohm at 0°C	Class 1/3 B	F 0.1	TS17(FS32208500)-XXXXXX
	Class A	F 0.15	TS17(FS32208498)-XXXXXX
	Class B	F 0.3	TS17(FS32208392)-XXXXXX
500 Ohm at 0°C	Class 1/3 B	F 0.1	TS17(FS32208502)-XXXXXX
	Class A	F 0.15	TS17(FS32208501)-XXXXXX
	Class B	F 0.3	TS17(FS32208414)-XXXXXX
1000 Ohm at 0°C	Class 1/3 B	F 0.1	TS17(FS32208537)-XXXXXX
	Class A	F 0.15	TS17(FS32208503)-XXXXXX
	Class B	F 0.3	TS17(FS32208499)-XXXXXX

Platinum Temperature Sensor with jacketed cable according to DIN EN 60751



Note: Various sizes are optional or customizable

Description

The Pt-RTD is completely encapsulated in a closed stainless-steel housing and connected with a sheathed cable. The dimensionally stable protective tube allows easy mounting in according holes. Preferred applications for temperature measurement are in gaseous media and in heating and air conditioning at elevated temperatures. The housing material is resistant to oils, fats, organic and inorganic bases and alkalis (medium concentration) and protects the sensor from mechanical damage.

Application

- Heating, ventilating, and air-conditioning
- Data logging
- Laboratory instrumentation

Features

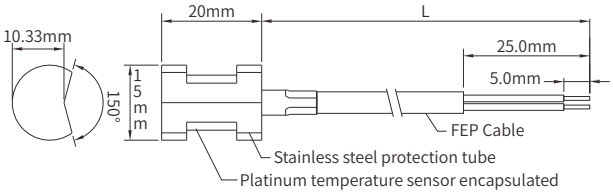
- Corrosion-resistant stainless-steel protective housing
- Abrasion-resistant PFA jacketed cable
- Widely used for a variety of temperature- sensing applications
- Available in Pt100 or Pt1000 resistance values
- +250°C maximum operating temperature

Ordering information

Nominal Resistance R0	Tolerance DIN EN 60751 1996-07	Tolerance DIN EN 60751 2009-05	Order Number
100 Ohm at 0°C	Class 1/3 B	F 0.1	TS18(FS32208500)-XXXXXX
	Class A	F 0.15	TS18(FS32208498)-XXXXXX
	Class B	F 0.3	TS18(FS32208392)-XXXXXX
500 Ohm at 0°C	Class 1/3 B	F 0.1	TS18(FS32208502)-XXXXXX
	Class A	F 0.15	TS18(FS32208501)-XXXXXX
	Class B	F 0.3	TS18(FS32208414)-XXXXXX
1000 Ohm at 0°C	Class 1/3 B	F 0.1	TS18(FS32208537)-XXXXXX
	Class A	F 0.15	TS18(FS32208503)-XXXXXX
	Class B	F 0.3	TS18(FS32208499)-XXXXXX

TS19 Series

Platinum Temperature Sensor for oven applications according to DIN EN 60751



Note: Various sizes are optional or customizable

Description

The Pt-RTD is completely encapsulated in a closed stainless-steel housing and connected with a sheathed cable. The dimensionally stable protective tube allows easy mounting in according holes. Preferred applications for temperature measurement are in gaseous media and in heating and air conditioning at elevated temperatures. The housing material is resistant to oils, fats, organic and inorganic bases and alkalis (medium concentration) and protects the sensor from mechanical damage.

Application

- Oven temperature
- Heating, ventilating, and air conditioning
- General purpose temperature sensing

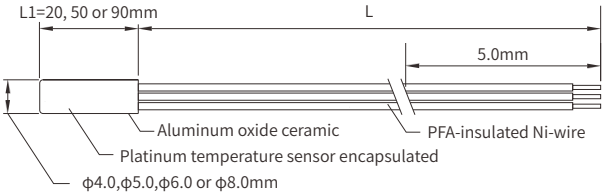
Features

- Corrosion-resistant stainless-steel protective housing
- Abrasion-resistant PFA jacketed cable
- Widely used for a variety of temperature- sensing applications
- Available in Pt100 or Pt1000 resistance values
- +250°C maximum operating temperature

Ordering information

Nominal Resistance R0	Tolerance DIN EN 60751 1996-07	Tolerance DIN EN 60751 2009-05	Order Number
100 Ohm at 0°C	Class 1/3 B	F 0.1	TS21(FS32208500)-XXXXXX
	Class A	F 0.15	TS21(FS32208498)-XXXXXX
	Class B	F 0.3	TS21(FS32208392)-XXXXXX
500 Ohm at 0°C	Class 1/3 B	F 0.1	TS21(FS32208502)-XXXXXX
	Class A	F 0.15	TS21(FS32208501)-XXXXXX
	Class B	F 0.3	TS21(FS32208414)-XXXXXX
1000 Ohm at 0°C	Class 1/3 B	F 0.1	TS21(FS32208537)-XXXXXX
	Class A	F 0.15	TS21(FS32208503)-XXXXXX
	Class B	F 0.3	TS21(FS32208499)-XXXXXX

Platinum Temperature Sensor with ceramic housing according to DIN EN 60751



Note: Various sizes are optional or customizable

Description

The Pt-RTD is completely encapsulated in a ceramic housing. The dimensionally stable protective tube allows easy mounting in according holes. Preferred applications for temperature measurement are in gaseous media, in heating and air conditioning as well as in electrical insulated or non-metallic required sensor bodies.

Application

- Temperature probe assembly
- Heating, ventilating, and air conditioning
- Laboratory instrumentation
- Laboratory ovens
- Applications requiring an electrically insulating or non-metallic
- sensor body

Features

- Alumina ceramic housing provides excellent electrical isolation
- Small diameter (0.135", 3.43mm) allows insertion into metal housings with OD of 0.156" (3.96mm) & larger
- Widely used for a variety of temperature sensing applications
- Available in Pt100 or Pt1000 resistance values
- +260°C maximum operating temperature

Ordering information

Nominal Resistance R0	Tolerance DIN EN 60751 1996-07	Tolerance DIN EN 60751 2009-05	Order Number
100 Ohm at 0°C	Class 1/3 B	F 0.1	TS19(FS32208500)-XXXXXX
	Class A	F 0.15	TS19(FS32208498)-XXXXXX
	Class B	F 0.3	TS19(FS32208392)-XXXXXX
500 Ohm at 0°C	Class 1/3 B	F 0.1	TS19(FS32208502)-XXXXXX
	Class A	F 0.15	TS19(FS32208501)-XXXXXX
	Class B	F 0.3	TS19(FS32208414)-XXXXXX
1000 Ohm at 0°C	Class 1/3 B	F 0.1	TS19(FS32208537)-XXXXXX
	Class A	F 0.15	TS19(FS32208503)-XXXXXX
	Class B	F 0.3	TS19(FS32208499)-XXXXXX

Table with deviations for class F 0.3 (B) and F 0.15 (A) according to DIN EN 60751

$t \geq 0$: $R(t) = R_0 * (1 + A*t + B*t^2)$

with

$A = 3{,}9083 * 10^{-3}\ °C^{-1}$

$B = -5{,}775 * 10^{-7}\ °C^{-2}$

Class F 0.3 (B): $\triangle t = (0{,}3 + 0{,}005 * |t|)\ °C$

$t < 0$: $R(t) = R_0 * (1 + A*t + B*t^2 + C*(t-100°C)*t^3$

with

$A = 3{,}9083 * 10^{-3} °C^{-1}$

$B = -5{,}775 * 10^{-7} °C^{-2}$

$C = -4{,}183 * 10^{-12} °C^{-4}$

Class F 0.15 (A): $\triangle t = (0{,}15 + 0{,}002 * |t|)\ °C$

Nominal value: 100Ω

Temperature	Nominal Resistance	Tolerance class F 0.3 (B)		Tolerance class F 0.15 (A)	
		Resistance deviation	Temperature deviation	Resistance deviation	Temperature deviation
[°C]	[Ω]	[+/-Ω]	[+/- K]	[+/- Ω]	[+/- K]
-70	72.33	0.24	0.65	/	/
-60	76.33	0.23	0.60	/	/
-50	80.31	0.21	0.55	0.10	0.25
-40	84.27	0.20	0.50	0.09	0.23
-30	88.22	0.18	0.45	0.08	0.21
-20	92.16	0.16	0.40	0.07	0.19
-10	96.09	0.14	0.35	0.07	0.17
0	100.00	0.12	0.30	0.06	0.15
10	103.90	0.14	0.35	0.07	0.17
20	107.79	0.16	0.40	0.07	0.19
30	111.67	0.17	0.45	0.08	0.21
40	115.54	0.19	0.50	0.09	0.23
50	119.40	0.21	0.55	0.10	0.25
60	123.24	0.23	0.60	0.10	0.27
70	127.08	0.25	0.65	0.11	0.29
80	130.90	0.27	0.70	0.12	0.31
90	134.71	0.29	0.75	0.13	0.33
100	138.51	0.30	0.80	0.13	0.35
110	142.29	0.32	0.85	0.14	0.37
120	146.07	0.34	0.90	0.15	0.39
130	149.83	0.36	0.95	0.15	0.41
140	153.58	0.37	1.00	0.16	0.43
150	157.33	0.39	1.05	0.17	0.45
160	161.05	0.41	1.10	0.18	0.47
170	164.77	0.43	1.15	0.18	0.49
180	168.48	0.44	1.20	0.19	0.51
190	172.17	0.46	1.25	0.20	0.53
200	175.86	0.48	1.30	0.20	0.55
210	179.53	0.49	1.35	0.21	0.57
220	183.19	0.51	1.40	0.22	0.59
230	186.84	0.53	1.45	0.22	0.61
240	190.47	0.54	1.50	0.23	0.63
250	194.10	0.56	1.55	0.24	0.65
260	197.71	0.58	1.60	0.24	0.67
270	201.31	0.59	1.65	0.25	0.69
280	204.90	0.61	1.70	0.25	0.71
290	208.48	0.63	1.75	0.26	0.73
300	212.05	0.64	1.80	0.27	0.75
310	215.61	0.66	1.85	/	/
320	219.15	0.67	1.90	/	/
330	222.68	0.69	1.95	/	/
340	226.21	0.70	2.00	/	/
350	229.72	0.72	2.05	/	/
360	233.21	0.73	2.10	/	/
370	236.70	0.75	2.15	/	/
380	240.18	0.76	2.20	/	/
390	243.64	0.78	2.25	/	/
400	247.09	0.79	2.30	/	/
410	250.53	0.81	2.35	/	/
420	253.96	0.82	2.40	/	/
430	257.38	0.84	2.45	/	/
440	260.78	0.85	2.50	/	/
450	264.18	0.86	2.55	/	/
460	267.56	0.88	2.60	/	/
470	270.93	0.89	2.65	/	/
480	274.29	0.91	2.70	/	/
490	277.64	0.92	2.75	/	/
500	280.98	0.93	2.80	/	/
510	284.30	0.95	2.85	/	/
520	287.62	0.96	2.90	/	/
530	290.92	0.97	2.95	/	/
540	294.21	0.99	3.00	/	/
550	297.49	1.00	3.05	/	/

Table with deviations for class F 0.3 (B) and F 0.15 (A) according to DIN EN 60751

$t \geq 0$: $R(t) = R_0 * (1 + A*t + B*t^2)$

with

$A = 3{,}9083 * 10^{-3}\ °C^{-1}$

$B = -5{,}775 * 10^{-7}\ °C^{-2}$

Class F 0.3 (B): $\triangle t = (0{,}3 + 0{,}005 * | t |)\ °C$

$t < 0$: $R(t) = R_0 * (1 + A*t + B*t^2 + C*(t-100°C)*t^3$

with

$A = 3{,}9083 * 10^{-3} °C^{-1}$

$B = -5{,}775 * 10^{-7} °C^{-2}$

$C = -4{,}183 * 10^{-12} °C^{-4}$

Class F 0.15 (A): $\triangle t = (0{,}15 + 0{,}002 * | t |)\ °C$

Nominal value: 500Ω

Temperature	Nominal Resistance	Tolerance class F 0.3 (B)		Tolerance class F 0.15 (A)	
		Resistance deviation	Temperature deviation	Resistance deviation	Temperature deviation
[°C]	[Ω]	[+/-Ω]	[+/- K]	[+/- Ω]	[+/- K]
-70	361.67	1.22	0.65	/	/
-60	381.64	1.15	0.60	/	/
-50	401.53	1.07	0.55	0.49	0.25
-40	421.35	0.98	0.50	0.45	0.23
-30	441.11	0.88	0.45	0.41	0.21
-20	460.80	0.79	0.40	0.37	0.19
-10	480.43	0.69	0.35	0.33	0.17
0	500.00	0.59	0.30	0.29	0.15
10	519.51	0.68	0.35	0.33	0.17
20	538.97	0.78	0.40	0.37	0.19
30	558.36	0.87	0.45	0.41	0.21
40	577.70	0.97	0.50	0.44	0.23
50	596.99	1.06	0.55	0.48	0.25
60	616.21	1.15	0.60	0.52	0.27
70	635.38	1.24	0.65	0.55	0.29
80	654.48	1.34	0.70	0.59	0.31
90	673.53	1.43	0.75	0.63	0.33
100	692.53	1.52	0.80	0.66	0.35
110	711.46	1.61	0.85	0.70	0.37
120	730.34	1.70	0.90	0.74	0.39
130	749.16	1.79	0.95	0.77	0.41
140	767.92	1.87	1.00	0.81	0.43
150	786.63	1.96	1.05	0.84	0.45
160	805.27	2.05	1.10	0.88	0.47
170	823.86	2.13	1.15	0.91	0.49
180	842.39	2.22	1.20	0.94	0.51
190	860.86	2.31	1.25	0.98	0.53
200	879.28	2.39	1.30	1.01	0.55
210	897.64	2.47	1.35	1.04	0.57
220	915.94	2.56	1.40	1.08	0.59
230	934.18	2.64	1.45	1.11	0.61
240	952.36	2.72	1.50	1.14	0.63
250	970.49	2.81	1.55	1.18	0.65
260	988.56	2.89	1.60	1.21	0.67
270	1006.57	2.97	1.65	1.24	0.69
280	1024.52	3.05	1.70	1.27	0.71
290	1042.42	3.13	1.75	1.30	0.73
300	1060.26	3.21	1.80	1.34	0.75
310	1078.04	3.28	1.85	/	/
320	1095.76	3.36	1.90	/	/
330	1113.42	3.44	1.95	/	/
340	1131.03	3.52	2.00	/	/
350	1148.58	3.59	2.05	/	/
360	1166.07	3.67	2.10	/	/
370	1183.51	3.74	2.15	/	/
380	1200.88	3.82	2.20	/	/
390	1218.20	3.89	2.25	/	/
400	1235.46	3.96	2.30	/	/
410	1252.66	4.04	2.35	/	/
420	1269.81	4.11	2.40	/	/
430	1286.89	4.18	2.45	/	/
440	1303.92	4.25	2.50	/	/
450	1320.90	4.32	2.55	/	/
460	1337.81	4.39	2.60	/	/
470	1354.67	4.46	2.65	/	/
480	1371.46	4.53	2.70	/	/
490	1388.20	4.60	2.75	/	/
500	1404.89	4.66	2.80	/	/
510	1421.51	4.73	2.85	/	/
520	1438.08	4.80	2.90	/	/
530	1454.59	4.86	2.95	/	/
540	1471.04	4.93	3.00	/	/
550	1487.44	4.99	3.05	/	/

Table with deviations for class F 0.3 (B) and F 0.15 (A) according to DIN EN 60751

$t \geq 0$: $R(t) = R_0 * (1 + A*t + B*t^2)$

with

$A = 3{,}9083 * 10^{-3}\ °C^{-1}$

$B = -5{,}775 * 10^{-7}\ °C^{-2}$

Class F 0.3 (B): $\triangle t = (0{,}3 + 0{,}005 * | t |)\ °C$

$t < 0$: $R(t) = R_0 * (1 + A*t + B*t^2 + C*(t-100°C)*t^3$

with

$A = 3{,}9083 * 10^{-3} °C^{-1}$

$B = -5{,}775 * 10^{-7} °C^{-2}$

$C = -4{,}183 * 10^{-12} °C^{-4}$

Class F 0.15 (A): $\triangle t = (0{,}15 + 0{,}002 * | t |)\ °C$

Nominal value: 1000Ω

Temperature	Nominal Resistance	Tolerance class F 0.3 (B)		Tolerance class F 0.15 (A)	
		Resistance deviation	Temperature deviation	Resistance deviation	Temperature deviation
[°C]	[Ω]	[+/-Ω]	[+/- K]	[+/- Ω]	[+/- K]
-70	723.35	2.43	0.65	/	/
-60	763.28	2.30	0.60	/	/
-50	803.06	2.14	0.55	0.97	0.25
-40	842.71	1.96	0.50	0.90	0.23
-30	882.22	1.77	0.45	0.82	0.21
-20	921.60	1.57	0.40	0.75	0.19
-10	960.86	1.37	0.35	0.67	0.17
0	1000.00	1.17	0.30	0.59	0.15
10	1039.03	1.36	0.35	0.66	0.17
20	1077.94	1.55	0.40	0.74	0.19
30	1116.73	1.74	0.45	0.81	0.21
40	1155.41	1.93	0.50	0.89	0.23
50	1193.97	2.12	0.55	0.96	0.25
60	1232.42	2.30	0.60	1.04	0.27
70	1270.75	2.49	0.65	1.11	0.29
80	1308.97	2.67	0.70	1.18	0.31
90	1347.07	2.85	0.75	1.26	0.33
100	1385.06	3.03	0.80	1.33	0.35
110	1422.93	3.21	0.85	1.40	0.37
120	1460.68	3.39	0.90	1.47	0.39
130	1498.32	3.57	0.95	1.54	0.41
140	1535.84	3.75	1.00	1.61	0.43
150	1573.25	3.92	1.05	1.68	0.45
160	1610.54	4.10	1.10	1.75	0.47
170	1647.72	4.27	1.15	1.82	0.49
180	1684.78	4.44	1.20	1.89	0.51
190	1721.73	4.61	1.25	1.96	0.53
200	1758.56	4.78	1.30	2.02	0.55
210	1795.28	4.95	1.35	2.09	0.57
220	1831.88	5.12	1.40	2.16	0.59
230	1868.36	5.28	1.45	2.22	0.61
240	1904.73	5.45	1.50	2.29	0.63
250	1940.98	5.61	1.55	2.35	0.65
260	1977.12	5.77	1.60	2.42	0.67
270	2013.14	5.93	1.65	2.48	0.69
280	2049.05	6.09	1.70	2.55	0.71
290	2084.84	6.25	1.75	2.61	0.73
300	2120.52	6.41	1.80	2.67	0.75
310	2156.08	6.57	1.85	/	/
320	2191.52	6.72	1.90	/	/
330	2226.85	6.88	1.95	/	/
340	2262.06	7.03	2.00	/	/
350	2297.16	7.18	2.05	/	/
360	2332.14	7.33	2.10	/	/
370	2367.01	7.48	2.15	/	/
380	2401.76	7.63	2.20	/	/
390	2436.40	7.78	2.25	/	/
400	2470.92	7.93	2.30	/	/
410	2505.33	8.07	2.35	/	/
420	2539.62	8.22	2.40	/	/
430	2573.79	8.36	2.45	/	/
440	2607.85	8.50	2.50	/	/
450	2641.79	8.64	2.55	/	/
460	2675.62	8.78	2.60	/	/
470	2709.33	8.92	2.65	/	/
480	2742.93	9.06	2.70	/	/
490	2776.41	9.19	2.75	/	/
500	2809.78	9.33	2.80	/	/
510	2843.03	9.46	2.85	/	/
520	2876.16	9.59	2.90	/	/
530	2909.18	9.72	2.95	/	/
540	2942.08	9.85	3.00	/	/
550	2974.87	9.98	3.05	/	/

Resistance value according to DIN EN 60751

$t \geq 0$: $R(t) = R_0 * (1 + A*t + B*t^2)$

with

$A = 3{,}9083 * 10^{-3}\ °C^{-1}$

$B = -5{,}775 * 10^{-7}\ °C^{-2}$

$t < 0$: $R(t) = R_0 * (1 + A*t + B*t^2 + C*(t-100°C)*t^3$

with

$A = 3{,}9083 * 10^{-3} °C^{-1}$

$B = -5{,}775 * 10^{-7} °C^{-2}$

$C = -4{,}183 * 10^{-12} °C^{-4}$

Nominal value: 100Ω

Temperature in °C	0	1	2	3	4	5	6	7	8	9
-200	18.52	18.95	19.38	19.82	20.25	20.25	170.70	21.54	21.97	22.40
-190	22.83	23.25	23.68	24.11	24.54	24.54	174.38	25.82	26.24	26.67
-180	27.10	27.52	27.95	28.37	28.80	28.80	178.06	30.07	30.49	30.91
-170	31.34	31.76	32.18	32.60	33.02	33.02	181.72	34.28	34.70	35.12
-160	35.54	35.96	36.38	36.80	37.22	37.22	185.38	38.47	38.89	39.31
-150	39.72	40.14	40.56	40.97	41.39	41.39	189.02	42.63	43.05	43.46
-140	43.88	44.29	44.70	45.12	45.53	45.53	192.65	46.77	47.18	47.59
-130	48.00	48.42	48.83	49.24	49.65	49.65	196.27	50.88	51.29	51.70
-120	52.11	52.52	52.93	53.34	53.75	53.75	199.87	54.97	55.38	55.79
-110	56.19	56.60	57.01	57.41	57.82	57.82	203.47	59.04	59.44	59.85
-100	60.26	60.66	61.07	61.47	61.88	61.88	207.05	63.09	63.49	63.90
-90	64.30	64.70	65.11	65.51	65.91	65.91	210.63	67.12	67.52	67.92
-80	68.33	68.73	69.13	69.53	69.93	69.93	214.19	71.13	71.53	71.93
-70	72.33	72.73	73.13	73.53	73.93	73.93	217.74	75.13	75.53	75.93
-60	76.33	76.73	77.12	77.52	77.92	77.92	221.27	79.11	79.51	79.91
-50	80.31	80.70	81.10	81.50	81.89	81.89	224.80	83.08	83.48	83.87
-40	84.27	84.67	85.06	85.46	85.85	85.85	228.31	87.04	87.43	87.83
-30	88.22	88.62	89.01	89.40	89.80	89.80	231.82	90.98	91.37	91.77
-20	92.16	92.55	92.95	93.34	93.73	93.73	235.31	94.91	95.30	95.69
-10	96.09	96.48	96.87	97.26	97.65	97.65	238.79	98.83	99.22	99.61
0	100.00	100.39	100.78	101.17	101.56	101.56	242.26	102.73	103.12	103.51
10	103.90	104.29	104.68	105.07	105.46	105.46	245.71	106.63	107.02	107.40
20	107.79	108.18	108.57	108.96	109.35	109.35	21.11	110.51	110.90	111.29
30	111.67	112.06	112.45	112.83	113.22	113.22	25.39	114.38	114.77	115.15
40	115.54	115.93	116.31	116.70	117.08	117.08	29.64	118.24	118.63	119.01
50	119.40	119.78	120.17	120.55	120.94	120.94	33.86	122.09	122.47	122.86
60	123.24	123.63	124.01	124.39	124.78	124.78	38.05	125.93	126.31	126.69
70	127.08	127.46	127.84	128.22	128.61	128.61	42.22	129.75	130.13	130.52
80	130.90	131.28	131.66	132.04	132.42	132.42	46.36	133.57	133.95	134.33
90	134.71	135.09	135.47	135.85	136.23	136.23	50.47	137.37	137.75	138.13
100	138.51	138.88	139.26	139.64	140.02	140.02	54.56	141.16	141.54	141.91
110	142.29	142.67	143.05	143.43	143.80	143.80	58.63	144.94	145.31	145.69
120	146.07	146.44	146.82	147.20	147.57	147.57	62.68	148.70	149.08	149.46
130	149.83	150.21	150.58	150.96	151.33	151.33	66.72	152.46	152.83	153.21
140	153.58	153.96	154.33	154.71	155.08	155.08	70.73	156.20	156.58	156.95
150	157.33	157.70	158.07	158.45	158.82	158.82	74.73	159.94	160.31	160.68
160	161.05	161.43	161.80	162.17	162.54	162.54	78.72	163.66	164.03	164.40
170	164.77	165.14	165.51	165.89	166.26	166.26	82.69	167.37	167.74	168.11
180	168.48	168.85	169.22	169.59	169.96	169.96	86.64	171.07	171.43	171.80
190	172.17	172.54	172.91	173.28	173.65	173.65	90.59	174.75	175.12	175.49
200	175.86	176.22	176.59	176.96	177.33	177.33	94.52	178.43	178.79	179.16
210	179.53	179.89	180.26	180.63	180.99	180.99	98.44	182.09	182.46	182.82
220	183.19	183.55	183.92	184.28	184.65	184.65	102.34	185.74	186.11	186.47
230	186.84	187.20	187.56	187.93	188.29	188.29	106.24	189.38	189.75	190.11
240	190.47	190.84	191.20	191.56	191.92	191.92	110.12	193.01	193.37	193.74
250	194.10	194.46	194.82	195.18	195.55	195.55	114.00	196.63	196.99	197.35
260	197.71	198.07	198.43	198.79	199.15	199.15	117.86	200.23	200.59	200.95
270	201.31	201.67	202.03	202.39	202.75	202.75	121.71	203.83	204.19	204.55
280	204.90	205.26	205.62	205.98	206.34	206.34	125.54	207.41	207.77	208.13
290	208.48	208.84	209.20	209.56	209.91	209.91	129.37	210.98	211.34	211.70
300	212.05	212.41	212.76	213.12	213.48	213.48	133.18	214.54	214.90	215.25
310	215.61	215.96	216.32	216.67	217.03	217.03	136.99	218.09	218.44	218.80
320	219.15	219.51	219.86	220.21	220.57	220.57	140.78	221.63	221.98	222.33
330	222.68	223.04	223.39	223.74	224.09	224.09	144.56	225.15	225.50	225.85
340	226.21	226.56	226.91	227.26	227.61	227.61	148.33	228.66	229.02	229.37
350	229.72	230.07	230.42	230.77	231.12	231.12	152.08	232.17	232.52	232.87
360	233.21	233.56	233.91	234.26	234.61	234.61	155.83	235.66	236.00	236.35
370	236.70	237.05	237.40	237.74	238.09	238.09	159.56	239.13	239.48	239.83
380	240.18	240.52	240.87	241.22	241.56	241.56	163.29	242.60	242.95	243.29
390	243.64	243.99	244.33	244.68	245.02	245.02	167.00	246.06	246.40	246.75
400	247.09	247.44	247.78	248.13	248.47	248.47	249.16	249.50	249.85	250.19
410	250.53	250.88	251.22	251.66	251.91	251.91	252.59	252.93	253.28	253.62
420	253.96	254.30	254.65	254.99	255.33	255.33	256.01	256.35	256.70	257.04
430	257.38	257.72	258.06	258.40	258.74	258.74	259.42	259.76	260.10	260.44

Resistance value according to DIN EN 60751

Nominal value: 100Ω

Temperature in °C	0	1	2	3	4	5	6	7	8	9
440	260.78	261.12	261.46	261.46	262.14	262.48	262.82	263.16	263.50	263.84
450	264.18	264.52	264.86	264.86	265.53	265.87	266.21	266.55	266.89	267.22
460	267.56	267.90	268.24	268.24	268.91	269.25	269.59	269.92	270.26	270.60
470	270.93	271.27	271.61	271.61	272.28	272.61	272.95	273.29	273.62	273.96
480	274.29	274.63	274.96	274.96	275.63	275.97	276.30	276.64	276.97	277.31
490	277.64	277.98	278.31	278.31	278.98	279.31	279.64	279.98	280.31	280.64
500	280.98	281.31	281.64	281.64	282.31	282.64	282.97	283.31	283.64	283.97
510	284.30	284.63	284.97	284.97	285.63	285.96	286.29	286.62	286.95	287.29
520	287.62	287.95	288.28	288.28	288.94	289.27	289.60	289.93	290.26	290.59
530	290.92	291.25	291.58	291.58	292.24	292.56	292.89	293.22	293.55	293.88
540	294.21	294.54	294.86	294.86	295.52	295.85	296.18	296.50	296.83	297.16
550	297.49	297.81	298.14	298.14	298.80	299.12	299.45	299.78	300.10	300.43
560	300.75	301.08	301.41	301.41	302.06	302.38	302.71	303.03	303.36	303.69
570	304.01	304.34	304.66	304.66	305.31	305.63	305.96	306.28	306.61	306.93
580	307.25	307.58	307.90	307.90	308.55	308.87	309.20	309.52	309.84	310.16
590	310.49	310.81	311.13	311.13	311.78	312.10	312.42	312.74	313.06	313.39
600	313.71	314.03	314.35	314.35	314.99	315.31	315.64	315.96	316.28	316.60
610	316.92	317.24	317.56	317.56	318.20	318.52	318.84	319.16	319.48	319.80
620	320.12	320.43	320.75	320.75	321.39	321.71	322.03	322.35	322.67	322.98
630	323.30	323.62	323.94	323.94	324.57	324.89	325.21	325.53	325.84	326.16
640	326.48	326.79	327.11	327.11	327.74	328.06	328.38	328.69	329.01	329.32
650	329.64	329.96	330.27	330.27	330.90	331.22	331.53	331.85	332.16	332.48
660	332.79	333.11	333.42	333.42	334.05	334.36	334.68	334.99	335.31	335.62
670	335.93	336.25	336.56	336.56	337.18	337.50	337.81	338.12	338.44	338.75
680	339.06	339.37	339.69	339.69	340.31	340.62	340.93	341.24	341.56	341.87
690	342.18	342.49	342.80	342.80	343.42	343.73	344.04	344.35	344.66	344.97
700	345.28	345.59	345.90	345.90	346.52	346.83	347.14	347.45	347.76	348.07
710	348.38	348.69	348.99	348.99	349.61	349.92	350.23	350.54	350.84	351.15
720	351.46	351.77	352.08	352.08	352.69	353.00	353.30	353.61	353.92	354.22
730	354.53	354.84	355.14	355.14	355.76	356.06	356.37	356.67	356.98	357.28
740	357.59	357.90	358.20	358.20	358.81	359.12	359.42	359.72	360.03	360.33
750	360.64	360.94	361.25	361.25	361.85	362.16	362.46	362.76	363.07	363.37
760	363.67	363.98	364.28	364.28	364.89	365.19	365.49	365.79	366.10	366.40
770	366.70	367.00	367.30	367.30	367.91	368.21	368.51	368.81	369.11	369.41
780	369.71	370.01	370.31	370.31	370.91	371.21	371.51	371.81	372.11	372.41
790	372.71	373.01	373.31	373.31	373.91	374.21	374.51	374.81	375.11	375.41
800	375.70	376.00	376.30	376.30	376.90	377.19	377.49	377.79	378.09	378.39
810	378.68	378.98	379.28	379.28	379.87	380.17	380.46	380.76	381.06	381.35
820	381.65	381.95	382.24	382.24	382.83	383.13	383.42	383.72	384.01	384.31
830	384.60	384.90	385.19	385.19	385.78	386.08	386.37	386.67	386.96	387.25
840	387.55	387.84	388.14	388.14	388.72	389.02	389.31	389.60	389.90	390.19
850	390.48	390.77	391.07	391.07	391.65	391.94	392.23	392.53	392.82	393.11

Resistance value according to DIN EN 60751

$t \geq 0$: $R(t) = R_0 * (1 + A*t + B*t^2)$

with

$A = 3{,}9083 * 10^{-3}\ °C^{-1}$

$B = -5{,}775 * 10^{-7}\ °C^{-2}$

$t < 0$: $R(t) = R_0 * (1 + A*t + B*t^2 + C*(t-100°C)*t^3$

with

$A = 3{,}9083 * 10^{-3} °C^{-1}$

$B = -5{,}775 * 10^{-7} °C^{-2}$

$C = -4{,}183 * 10^{-12} °C^{-4}$

Nominal value: 500Ω

Temperature in °C	0	1	2	3	4	5	6	7	8	9
-200	92.60	94.76	96.92	99.08	101.23	103.39	105.54	107.69	109.84	111.98
-190	114.13	116.27	118.41	120.55	122.69	124.83	126.96	129.09	131.22	133.35
-180	135.48	137.61	139.73	141.86	143.98	146.10	148.22	150.33	152.45	154.56
-170	156.68	158.79	160.90	163.00	165.11	167.21	169.32	171.42	173.52	175.62
-160	177.72	179.81	181.91	184.00	186.09	188.18	190.27	192.36	194.45	196.53
-150	198.62	200.70	202.78	204.86	206.94	209.02	211.09	213.17	215.24	217.31
-140	219.38	221.45	223.52	225.59	227.65	229.72	231.78	233.84	235.91	237.96
-130	240.02	242.08	244.14	246.19	248.25	250.30	252.35	254.40	256.45	258.50
-120	260.55	262.60	264.64	266.68	268.73	270.77	272.81	274.85	276.89	278.93
-110	280.97	283.00	285.04	287.07	289.10	291.13	293.17	295.20	297.22	299.25
-100	301.28	303.31	305.33	307.35	309.38	311.40	313.42	315.44	317.46	319.48
-90	321.50	323.51	325.53	327.55	329.56	331.57	333.59	335.60	337.61	339.62
-80	341.63	343.64	345.64	347.65	349.66	351.66	353.66	355.67	357.67	359.67
-70	361.67	363.67	365.67	367.67	369.67	371.67	373.66	375.66	377.65	379.65
-60	381.64	383.63	385.62	387.61	389.60	391.59	393.58	395.57	397.56	399.55
-50	401.53	403.52	405.50	407.49	409.47	411.45	413.43	415.41	417.39	419.37
-40	421.35	423.33	425.31	427.29	429.26	431.24	433.21	435.19	437.16	439.14
-30	441.11	443.08	445.05	447.02	448.99	450.96	452.93	454.90	456.87	458.83
-20	460.80	462.77	464.73	466.69	468.66	470.62	472.58	474.55	476.51	478.47
-10	480.43	482.39	484.35	486.31	488.26	490.22	492.18	494.13	496.09	498.05
0	500.00	501.95	503.91	505.86	507.81	509.76	511.71	513.66	515.61	517.56
10	519.51	521.46	523.41	525.36	527.30	529.25	531.19	533.14	535.08	537.02
20	538.97	540.91	542.85	544.79	546.73	548.67	550.61	552.55	554.49	556.43
30	558.36	560.30	562.24	564.17	566.11	568.04	569.98	571.91	573.84	575.77
40	577.70	579.63	581.56	583.49	585.42	587.35	589.28	591.21	593.13	595.06
50	596.99	598.91	600.84	602.76	604.68	606.60	608.53	610.45	612.37	614.29
60	616.21	618.13	620.05	621.97	623.88	625.80	627.72	629.63	631.55	633.46
70	635.38	637.29	639.20	641.11	643.03	644.94	646.85	648.76	650.67	652.58
80	654.48	656.39	658.30	660.21	662.11	664.02	665.92	667.83	669.73	671.63
90	673.53	675.44	677.34	679.24	681.14	683.04	684.94	686.84	688.73	690.63
100	692.53	694.42	696.32	698.21	700.11	702.00	703.90	705.79	707.68	709.57
110	711.46	713.35	715.24	717.13	719.02	720.91	722.80	724.68	726.57	728.45
120	730.34	732.22	734.11	735.99	737.87	739.76	741.64	743.52	745.40	747.28
130	749.16	751.04	752.92	754.79	756.67	758.55	760.42	762.30	764.17	766.05
140	767.92	769.79	771.67	773.54	775.41	777.28	779.15	781.02	782.89	784.76
150	786.63	788.49	790.36	792.23	794.09	795.96	797.82	799.68	801.55	803.41
160	805.27	807.13	808.99	810.85	812.71	814.57	816.43	818.29	820.15	822.00
170	823.86	825.72	827.57	829.43	831.28	833.13	834.99	836.84	838.69	840.54
180	842.39	844.24	846.09	847.94	849.79	851.64	853.48	855.33	857.17	859.02
190	860.86	862.71	864.55	866.40	868.24	870.08	871.92	873.76	875.60	877.44
200	879.28	881.12	882.96	884.79	886.63	888.47	890.30	892.14	893.97	895.80
210	897.64	899.47	901.30	903.13	904.96	906.79	908.62	910.45	912.28	914.11
220	915.94	917.76	919.59	921.42	923.24	925.07	926.89	928.71	930.54	932.36
230	934.18	936.00	937.82	939.64	941.46	943.28	945.10	946.91	948.73	950.55
240	952.36	954.18	955.99	957.81	959.62	961.43	963.25	965.06	966.87	968.68
250	970.49	972.30	974.11	975.92	977.73	979.53	981.34	983.14	984.95	986.76
260	988.56	990.36	992.17	993.97	995.77	997.57	999.37	1001.17	1002.97	1004.77
270	1006.57	1008.37	1010.17	1011.96	1013.76	1015.55	1017.35	1019.14	1020.94	1022.73
280	1024.52	1026.32	1028.11	1029.90	1031.69	1033.48	1035.27	1037.06	1038.85	1040.63
290	1042.42	1044.21	1045.99	1047.78	1049.56	1051.35	1053.13	1054.91	1056.69	1058.48
300	1060.26	1062.04	1063.82	1065.60	1067.38	1069.15	1070.93	1072.71	1074.49	1076.26
310	1078.04	1079.81	1081.59	1083.36	1085.13	1086.91	1088.68	1090.45	1092.22	1093.99
320	1095.76	1097.53	1099.30	1101.07	1102.83	1104.60	1106.37	1108.13	1109.90	1111.66
330	1113.42	1115.19	1116.95	1118.71	1120.47	1122.24	1124.00	1125.76	1127.51	1129.27
340	1131.03	1132.79	1134.55	1136.30	1138.06	1139.81	1141.57	1143.32	1145.08	1146.83
350	1148.58	1150.33	1152.08	1153.83	1155.58	1157.33	1159.08	1160.83	1162.58	1164.33
360	1166.07	1167.82	1169.56	1171.31	1173.05	1174.80	1176.54	1178.28	1180.02	1181.76
370	1183.51	1185.25	1186.99	1188.72	1190.46	1192.20	1193.94	1195.67	1197.41	1199.15
380	1200.88	1202.62	1204.35	1206.08	1207.82	1209.55	1211.28	1213.01	1214.74	1216.47
390	1218.20	1219.93	1221.66	1223.38	1225.11	1226.84	1228.56	1230.29	1232.01	1233.74
400	1235.46	1237.18	1238.91	1240.63	1242.35	1244.07	1245.79	1247.51	1249.23	1250.94
410	1252.66	1254.38	1256.10	1257.81	1259.53	1261.24	1262.96	1264.67	1266.38	1268.10
420	1269.81	1271.52	1273.23	1274.94	1276.65	1278.36	1280.07	1281.77	1283.48	1285.19
430	1286.89	1288.60	1290.31	1292.01	1293.71	1295.42	1297.12	1298.82	1300.52	1302.22

Resistance value according to DIN EN 60751

Nominal value: 500Ω

Temperature in °C	0	1	2	3	4	5	6	7	8	9
440	1303.92	1305.62	1307.32	1309.02	1310.72	1312.42	1314.11	1315.81	1317.51	1319.20
450	1320.90	1322.59	1324.28	1325.98	1327.67	1329.36	1331.05	1332.74	1334.43	1336.12
460	1337.81	1339.50	1341.19	1342.87	1344.56	1346.24	1347.93	1349.61	1351.30	1352.98
470	1354.67	1356.35	1358.03	1359.71	1361.39	1363.07	1364.75	1366.43	1368.11	1369.79
480	1371.46	1373.14	1374.82	1376.49	1378.17	1379.84	1381.52	1383.19	1384.86	1386.53
490	1388.20	1389.88	1391.55	1393.22	1394.88	1396.55	1398.22	1399.89	1401.56	1403.22
500	1404.89	1406.55	1408.22	1409.88	1411.54	1413.21	1414.87	1416.53	1418.19	1419.85
510	1421.51	1423.17	1424.83	1426.49	1428.15	1429.80	1431.46	1433.12	1434.77	1436.43
520	1438.08	1439.73	1441.39	1443.04	1444.69	1446.34	1447.99	1449.64	1451.29	1452.94
530	1454.59	1456.24	1457.88	1459.53	1461.18	1462.82	1464.47	1466.11	1467.76	1469.40
540	1471.04	1472.68	1474.32	1475.97	1477.61	1479.25	1480.88	1482.52	1484.16	1485.50
550	1487.44	1489.07	1490.71	1492.34	1493.98	1495.61	1497.24	1498.88	1500.51	1502.14
560	1503.77	1505.40	1507.03	1508.66	1510.29	1511.92	1513.55	1515.17	1516.80	1518.43
570	1520.05	1521.68	1523.30	1524.92	1526.55	1528.17	1529.79	1531.41	1533.03	1534.65
580	1536.27	1537.89	1539.51	1541.13	1542.74	1544.36	1545.98	1547.59	1549.21	1550.82
590	1552.43	1554.05	1555.66	1557.27	1558.88	1560.49	1562.10	1563.71	1565.32	1566.93
600	1568.54	1570.15	1571.75	1573.36	1574.97	1576.57	1578.18	1579.78	1581.38	1582.99
610	1584.59	1586.19	1587.79	1589.39	1590.99	1592.59	1594.19	1595.79	1597.38	1598.98
620	1600.58	1602.17	1603.77	1605.36	1606.96	1608.55	1610.14	1611.74	1613.33	1614.92
630	1616.51	1618.10	1619.69	1621.28	1622.87	1624.45	1626.04	1627.63	1629.21	1630.80
640	1632.38	1633.97	1635.55	1637.14	1638.72	1640.30	1641.88	1643.46	1645.04	1646.62
650	1648.20	1649.78	1651.36	1652.93	1654.51	1656.09	1657.66	1659.24	1660.81	1662.39
660	1663.96	1665.53	1667.10	1668.68	1670.25	1671.82	1673.39	1674.96	1676.53	1678.09
670	1679.66	1681.23	1682.79	1684.36	1685.92	1687.49	1689.05	1690.62	1692.18	1693.74
680	1695.30	1696.87	1698.43	1699.99	1701.55	1703.10	1704.66	1706.22	1707.78	1709.33
690	1710.89	1712.45	1714.00	1715.55	1717.11	1718.66	1720.21	1721.77	1723.32	1724.87
700	1726.42	1727.97	1729.52	1731.06	1732.61	1734.16	1735.71	1737.25	1738.80	1740.34
710	1741.89	1743.43	1744.97	1746.52	1748.06	1749.60	1751.14	1752.68	1754.22	1755.76
720	1757.30	1758.84	1760.38	1761.91	1763.45	1764.98	1766.52	1768.05	1769.59	1771.12
730	1772.65	1774.19	1775.72	1777.25	1778.78	1780.31	1781.84	1783.37	1784.90	1786.42
740	1787.95	1789.48	1791.00	1792.53	1794.05	1795.58	1797.10	1798.62	1800.15	1801.67
750	1803.19	1804.71	1806.23	1807.75	1809.27	1810.79	1812.31	1813.82	1815.34	1816.86
760	1818.37	1819.89	1821.40	1822.92	1824.43	1825.94	1827.45	1828.96	1830.48	1831.99
770	1833.50	1835.00	1836.51	1838.02	1839.53	1841.04	1842.54	1844.05	1845.55	1847.06
780	1848.56	1850.06	1851.57	1853.07	1854.57	1856.07	1857.57	1859.07	1860.57	1862.07
790	1863.57	1865.07	1866.56	1868.06	1869.56	1871.05	1872.55	1874.04	1875.53	1877.03
800	1878.52	1880.01	1881.50	1882.99	1884.48	1885.97	1887.46	1888.95	1890.44	1891.93
810	1893.41	1894.90	1896.38	1897.87	1899.35	1900.84	1902.32	1903.80	1905.29	1906.77
820	1908.25	1909.73	1911.21	1912.69	1914.17	1915.64	1917.12	1918.60	1920.07	1921.55
830	1923.02	1924.50	1925.97	1927.45	1928.92	1930.39	1931.86	1933.33	1934.80	1936.27
840	1937.74	1939.21	1940.68	1942.15	1943.62	1945.08	1946.55	1948.01	1949.48	1950.94
850	1952.41	1953.87	1955.33	1956.79	1958.25	1959.71	1961.17	1962.63	1964.09	1965.55

Resistance value according to DIN EN 60751

$t \geq 0$: $R(t) = R_0 * (1 + A*t + B*t^2)$

with

$A = 3{,}9083 * 10^{-3}\ °C^{-1}$

$B = -5{,}775 * 10^{-7}\ °C^{-2}$

$t < 0$: $R(t) = R_0 * (1 + A*t + B*t^2 + C*(t-100°C)*t^3$

with

$A = 3{,}9083 * 10^{-3} °C^{-1}$

$B = -5{,}775 * 10^{-7} °C^{-2}$

$C = -4{,}183 * 10^{-12} °C^{-4}$

Nominal value: 1000Ω

Temperature in °C	0	1	2	3	4	5	6	7	8	9
-200	185.20	189.52	193.84	198.15	202.47	206.77	211.08	215.38	219.67	223.97
-190	228.25	232.54	236.82	241.10	245.38	249.65	253.92	258.19	262.45	266.71
-180	270.96	275.22	279.47	283.71	287.96	292.20	296.43	300.67	304.90	309.13
-170	313.35	317.57	321.79	326.01	330.22	334.43	338.64	342.84	347.04	351.24
-160	355.43	359.63	363.82	368.00	372.19	376.37	380.55	384.72	388.89	393.06
-150	397.23	401.40	405.56	409.72	413.88	418.03	422.18	426.33	430.48	434.62
-140	438.76	442.90	447.04	451.17	455.31	459.44	463.56	467.69	471.81	475.93
-130	480.05	484.16	488.28	492.39	496.49	500.60	504.70	508.81	512.91	517.00
-120	521.10	525.19	529.28	533.37	537.46	541.54	545.62	549.70	553.78	557.86
-110	561.93	566.00	570.07	574.14	578.21	582.27	586.33	590.39	594.45	598.50
-100	602.56	606.61	610.66	614.71	618.76	622.80	626.84	630.88	634.92	638.96
-90	643.00	647.03	651.06	655.09	659.12	663.15	667.17	671.20	675.22	679.24
-80	683.25	687.27	691.29	695.30	699.31	703.32	707.33	711.34	715.34	719.34
-70	723.35	727.35	731.34	735.34	739.34	743.33	747.32	751.31	755.30	759.29
-60	763.28	767.26	771.25	775.23	779.21	783.19	787.17	791.14	795.12	799.09
-50	803.06	807.03	811.00	814.97	818.94	822.90	826.87	830.83	834.79	838.75
-40	842.71	846.66	850.62	854.57	858.53	862.48	866.43	870.38	874.32	878.27
-30	882.22	886.16	890.10	894.04	897.98	901.92	905.86	909.80	913.73	917.67
-20	921.60	925.53	929.46	933.39	937.32	941.24	945.17	949.09	953.02	956.94
-10	960.86	964.78	968.70	972.61	976.53	980.44	984.36	988.27	992.18	996.09
0	1000.00	1003.91	1007.81	1011.72	1015.62	1019.53	1023.43	1027.33	1031.23	1035.13
10	1039.03	1042.92	1046.82	1050.71	1054.60	1058.50	1062.39	1066.27	1070.16	1074.05
20	1077.94	1081.82	1085.70	1089.59	1093.47	1097.35	1101.23	1105.10	1108.98	1112.86
30	1116.73	1120.60	1124.47	1128.35	1132.22	1136.08	1139.95	1143.82	1147.68	1151.55
40	1155.41	1159.27	1163.13	1166.99	1170.85	1174.70	1178.56	1182.41	1186.27	1190.12
50	1193.97	1197.82	1201.67	1205.52	1209.36	1213.21	1217.05	1220.90	1224.74	1228.58
60	1232.42	1236.26	1240.10	1243.93	1247.77	1251.60	1255.43	1259.26	1263.09	1266.92
70	1270.75	1274.58	1278.40	1282.23	1286.05	1289.87	1293.70	1297.52	1301.33	1305.15
80	1308.97	1312.78	1316.60	1320.41	1324.22	1328.03	1331.84	1335.65	1339.46	1343.26
90	1347.07	1350.87	1354.68	1358.48	1362.28	1366.08	1369.88	1373.67	1377.47	1381.26
100	1385.06	1388.85	1392.64	1396.43	1400.22	1404.01	1407.79	1411.58	1415.36	1419.14
110	1422.93	1426.71	1430.49	1434.26	1438.04	1441.82	1445.59	1449.37	1453.14	1456.91
120	1460.68	1464.45	1468.22	1471.98	1475.75	1479.51	1483.28	1487.04	1490.80	1494.56
130	1498.32	1502.08	1505.83	1509.59	1513.34	1517.10	1520.85	1524.60	1528.35	1532.10
140	1535.84	1539.59	1543.33	1547.08	1550.82	1554.56	1558.30	1562.04	1565.78	1569.52
150	1573.25	1576.99	1580.72	1584.45	1588.18	1591.91	1595.64	1599.37	1603.10	1606.82
160	1610.54	1614.27	1617.99	1621.71	1625.43	1629.15	1632.86	1636.58	1640.30	1644.01
170	1647.72	1651.43	1655.14	1658.85	1662.56	1666.27	1669.97	1673.68	1677.38	1681.08
180	1684.78	1688.48	1692.18	1695.88	1699.58	1703.27	1706.97	1710.66	1714.35	1718.04
190	1721.73	1725.42	1729.11	1732.79	1736.48	1740.16	1743.84	1747.52	1751.20	1754.88
200	1758.56	1762.24	1765.91	1769.59	1773.26	1776.93	1780.60	1784.27	1787.94	1791.61
210	1795.28	1798.94	1802.60	1806.27	1809.93	1813.59	1817.25	1820.91	1824.56	1828.22
220	1831.88	1835.53	1839.18	1842.83	1846.48	1850.13	1853.78	1857.43	1861.07	1864.72
230	1868.36	1872.00	1875.64	1879.28	1882.92	1886.56	1890.19	1893.83	1897.46	1901.10
240	1904.73	1908.36	1911.99	1915.62	1919.24	1922.87	1926.49	1930.12	1933.74	1937.36
250	1940.98	1944.60	1948.22	1951.84	1955.45	1959.07	1962.68	1966.29	1969.90	1973.51
260	1977.12	1980.73	1984.33	1987.94	1991.54	1995.15	1998.75	2002.35	2005.95	2009.54
270	2013.14	2016.74	2020.33	2023.93	2027.52	2031.11	2034.70	2038.29	2041.88	2045.46
280	2049.05	2052.63	2056.22	2059.80	2063.38	2066.96	2070.54	2074.11	2077.69	2081.27
290	2084.84	2088.41	2091.98	2095.55	2099.12	2102.69	2106.26	2109.82	2113.39	2116.95
300	2120.52	2124.08	2127.64	2131.20	2134.75	2138.31	2141.87	2145.42	2148.97	2152.52
310	2156.08	2159.63	2163.17	2166.72	2170.27	2173.81	2177.36	2180.90	2184.44	2187.98
320	2191.52	2195.06	2198.60	2202.13	2205.67	2209.20	2212.73	2216.26	2219.79	2223.32
330	2226.85	2230.38	2233.90	2237.43	2240.95	2244.47	2247.99	2251.51	2255.03	2258.55
340	2262.06	2265.58	2269.09	2272.61	2276.12	2279.63	2283.14	2286.64	2290.15	2293.66
350	2297.16	2300.67	2304.17	2307.67	2311.17	2314.67	2318.17	2321.66	2325.16	2328.65
360	2332.14	2335.64	2339.13	2342.62	2346.11	2349.59	2353.08	2356.56	2360.05	2363.53
370	2367.01	2370.49	2373.97	2377.45	2380.93	2384.40	2387.88	2391.35	2394.82	2398.29
380	2401.76	2405.23	2408.70	2412.17	2415.63	2419.10	2422.56	2426.02	2429.48	2432.94
390	2436.40	2439.86	2443.31	2446.77	2450.22	2453.67	2457.13	2460.58	2464.03	2467.47
400	2470.92	2474.37	2477.81	2481.25	2484.70	2488.14	2491.58	2495.02	2498.45	2501.89
410	2505.33	2508.76	2512.19	2515.62	2519.06	2522.49	2525.91	2529.34	2532.77	2536.19
420	2539.62	2543.04	2546.46	2549.88	2553.30	2556.72	2560.13	2563.55	2566.96	2570.38
430	2573.79	2577.20	2580.61	2584.02	2587.43	2590.83	2594.24	2597.64	2601.05	2604.45

Resistance value according to DIN EN 60751

Nominal value: 1000Ω

Temperature in °C	0	1	2	3	4	5	6	7	8	9
440	2607.85	2611.25	2614.65	2618.04	2621.44	2624.83	2628.23	2631.62	2635.01	2638.40
450	2641.79	2645.18	2648.57	2651.95	2655.34	2658.72	2662.10	2665.48	2668.86	2672.24
460	2675.62	2679.00	2682.37	2685.75	2689.12	2692.49	2695.86	2699.23	2702.60	2705.97
470	2709.33	2712.70	2716.06	2719.42	2722.78	2726.14	2729.50	2732.86	2736.22	2739.57
480	2742.93	2746.28	2749.63	2752.99	2756.33	2759.68	2763.03	2766.38	2769.72	2773.07
490	2776.41	2779.75	2783.09	2786.43	2789.77	2793.11	2796.44	2799.78	2803.11	2806.44
500	2809.78	2813.11	2816.43	2819.76	2823.09	2826.42	2829.74	2833.06	2836.38	2839.71
510	2843.03	2846.34	2849.66	2852.98	2856.29	2859.61	2862.92	2866.23	2869.54	2872.85
520	2876.16	2879.47	2882.77	2886.08	2889.38	2892.68	2895.99	2899.29	2902.59	2905.88
530	2909.18	2912.48	2915.77	2919.06	2922.36	2925.65	2928.94	2932.22	2935.51	2938.80
540	2942.08	2945.37	2948.65	2951.93	2955.21	2958.49	2961.77	2965.05	2968.32	2971.60
550	2974.87	2978.14	2981.42	2984.69	2987.95	2991.22	2994.49	2997.75	3001.02	3004.28
560	3007.54	3010.81	3014.07	3017.32	3020.58	3023.84	3027.09	3030.35	3033.60	3036.85
570	3040.10	3043.35	3046.60	3049.85	3053.09	3056.34	3059.58	3062.82	3066.06	3069.30
580	3072.54	3075.78	3079.02	3082.25	3085.49	3088.72	3091.95	3095.18	3098.41	3101.64
590	3104.87	3108.10	3111.32	3114.55	3117.77	3120.99	3124.21	3127.43	3130.65	3133.86
600	3137.08	3140.30	3143.51	3146.72	3149.93	3153.14	3156.35	3159.56	3162.77	3165.97
610	3169.18	3172.38	3175.58	3178.78	3181.98	3185.18	3188.38	3191.57	3194.77	3197.96
620	3201.16	3204.35	3207.54	3210.73	3213.92	3217.10	3220.29	3223.47	3226.66	3229.84
630	3233.02	3236.20	3239.38	3242.56	3245.73	3248.91	3252.08	3255.26	3258.43	3261.60
640	3264.77	3267.94	3271.10	3274.27	3277.44	3280.60	3283.76	3286.92	3290.08	3293.24
650	3296.40	3299.56	3302.71	3305.87	3309.02	3312.18	3315.33	3318.48	3321.63	3324.77
660	3327.92	3331.06	3334.21	3337.35	3340.49	3343.64	3346.77	3349.91	3353.05	3356.19
670	3359.32	3362.46	3365.59	3368.72	3371.85	3374.98	3378.11	3381.23	3384.36	3387.49
680	3390.61	3393.73	3396.85	3399.97	3403.09	3406.21	3409.33	3412.44	3415.55	3418.67
690	3421.78	3424.89	3428.00	3431.11	3434.22	3437.32	3440.43	3443.53	3446.63	3449.74
700	3452.84	3455.93	3459.03	3462.13	3465.23	3468.32	3471.41	3474.51	3477.60	3480.69
710	3483.78	3486.86	3489.95	3493.04	3496.12	3499.20	3502.28	3505.37	3508.44	3511.52
720	3514.60	3517.68	3520.75	3523.83	3526.90	3529.97	3533.04	3536.11	3539.18	3542.24
730	3545.31	3548.37	3551.44	3554.50	3557.56	3560.62	3563.68	3566.74	3569.79	3572.85
740	3575.90	3578.96	3582.01	3585.06	3588.11	3591.16	3594.20	3597.25	3600.30	3603.34
750	3606.38	3609.42	3612.46	3615.50	3618.54	3621.58	3624.61	3627.65	3630.68	3633.71
760	3636.74	3639.77	3642.80	3645.83	3648.86	3651.88	3654.91	3657.93	3660.95	3663.97
770	3666.99	3670.01	3673.03	3676.04	3679.06	3682.07	3685.08	3688.10	3691.11	3694.12
780	3697.12	3700.13	3703.14	3706.14	3709.14	3712.15	3715.15	3718.15	3721.15	3724.14
790	3727.14	3730.14	3733.13	3736.12	3739.11	3742.10	3745.09	3748.08	3751.07	3754.06
800	3757.04	3760.02	3763.01	3765.99	3768.97	3771.95	3774.93	3777.90	3780.88	3783.85
810	3786.83	3789.80	3792.77	3795.74	3798.71	3801.68	3804.64	3807.61	3810.57	3813.53
820	3816.50	3819.46	3822.42	3825.37	3828.33	3831.29	3834.24	3837.20	3840.15	3843.10
830	3846.05	3849.00	3851.95	3854.89	3857.84	3860.78	3863.73	3866.67	3869.61	3872.55
840	3875.49	3878.43	3881.36	3884.30	3887.23	3890.16	3893.10	3896.03	3898.96	3901.88
850	3904.81	3907.74	3910.66	3913.59	3916.51	3919.43	3922.35	3925.27	3928.19	3931.10

UL2095 Shielded cable

Technical Data

- Coductor: 28AWG~20AWG
- Tinned, annealed, stranded copper conductor.
- Semi-rigid PVC insulation or PVC insulation
- Cores cabled under aluminum mylar shield
- Tinned stranded copper drain wire
- Tinned copper braid shield, 65% coverage
- Rated temperature: 80°C
- Rated voltage: 300V
- Passes UL VW-1 & CSA FT1 vertical flame test
- For general internal wiring of electronic or electrical equipment

UL style& CUL Type	Cores	Conductor		Insulation		Shield Coverage (%)	Jacket Thickness	Overall Dimeter	Maximun Resistance (Ω/KM) at 20°C
		AWG	No./mm	Nom.Thick (mm)	Nom.Dia. (mm)				
UL2095	2C	28	7/0.127	0.23	0.90	≥65	0.381	3.00	239.00
		26	7/0.16	0.23	1.00	≥65	0.76	3.20	150.00
		24	11/0.16	0.23	1.10	≥65	0.76	3.40	94.20
		22	17/0.16	0.23	1.30	≥65	0.76	3.80	59.40
		20	21/0.178	0.23	1.50	≥65	0.76	4.20	36.70
	3C	28	7/0.127	0.23	0.90	≥65	0.76	3.40	239.00
		26	7/0.16	0.23	1.00	≥65	0.76	3.60	150.00
		24	11/0.16	0.23	1.10	≥65	0.76	3.80	94.20
		22	17/0.16	0.23	1.30	≥65	0.76	4.00	59.40
		20	21/0.178	0.23	1.50	≥65	0.76	4.60	36.70

UL2464 Shielded cable

Technical Data

- Coductor: 28AWG~20AWG
- Tinned stranded copper conductor
- Semi-rigid PVC insulation or PVC insulation
- Cores cabled under aluminum mylar shield
- Tinned stranded copper drain wire
- Tinned copper braid shield, 65% coverage
- PVC jacket unpaired computer and data transmission cable
- Rated temperature: 80°C
- Rated voltage: 300V
- Passes UL VW-1 & CSA FT1 vertical flame test

UL style& CUL Type	Cores	Conductor		Insulation		Shield Coverage (%)	Jacket Thickness	Overall Dimeter	Maximun Resistance (Ω/KM) at 20°C
		AWG	No./mm	Nom.Thick (mm)	Nom.Dia. (mm)				
UL2464	2C	28	7/0.127	0.23	0.90	≥65	0.76	3.80	239.00
		26	7/0.16	0.23	1.00	≥65	0.76	3.90	150.00
		24	11/0.16	0.23	1.10	≥65	0.76	4.00	94.20
		22	17/0.16	0.23	1.30	≥65	0.76	4.40	59.40
		20	21/0.178	0.23	1.50	≥65	0.76	4.80	36.70
	3C	28	7/0.127	0.23	0.90	≥65	0.76	4.00	239.00
		26	7/0.16	0.23	1.00	≥65	0.76	4.20	150.00
		24	11/0.16	0.23	1.10	≥65	0.76	4.40	94.20
		22	17/0.16	0.23	1.30	≥65	0.76	5.00	59.40
		20	21/0.178	0.23	1.50	≥65	0.76	5.30	36.70

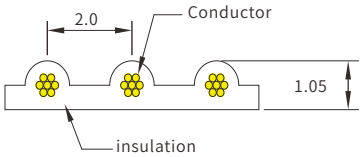
UL20549 Shielded cable

Technical Data

- Coductor: 28AWG~20AWG
- Tinned stranded copper conductor
- SR-PVC/PVC/PP/TPU/XL-PE insulation
- Cores cabled under aluminum mylar shield
- Tinned or bare copper drain wire spiral shielded
- Tinned copper braid shield, 65% coverage
- Rated temperature: 80°C
- Rated voltage: 300V
- Uniform wire thickness for easy stripping and cutting
- Passes UL VW-1 & CSA FT1 or FT2 flame test
- Executed standard: UL758, UL1581, CSA22.2

UL style& CUL Type	Cores	Conductor		Insulation		Shield Coverage (%)	Jacket Thickness	Overall Dimeter	Maximun Resistance (Ω/KM) at 20°C
		AWG	No./mm	Nom.Thick (mm)	Nom.Dia. (mm)				
UL20549	2C	28	7/0.127	0.23	0.90	≥65	0.381	3.5	239.00
		26	7/0.16	0.23	1.00	≥65	0.381	3.8	150.00
		24	11/0.16	0.23	1.10	≥65	0.381	4.1	94.20
		22	17/0.16	0.23	1.30	≥65	0.381	4.3	59.40
		20	21/0.78	0.23	1.50	≥65	0.381	4.8	36.70
	3C	28	7/0.127	0.23	0.90	≥65	0.381	3.60	239.00
		26	7/0.16	0.23	1.00	≥65	0.381	3.90	150.00
		24	11/0.16	0.23	1.10	≥65	0.381	4.20	94.20
		22	17/0.16	0.23	1.30	≥65	0.381	4.40	59.40
		20	21/0.178	0.23	1.50	≥65	0.381	4.90	36.70

UL2651 PVC Flat ribbon wire



Technical Data

- Coductor: 28AWG~20AWG
- Tinned, annealed, stranded or solid copper conductor
- Color -coded PVC insulation.
- Rated temperature: 105℃ . Rated voltage: 300volts
- Uniform thickness of wire to ensure easy stripping and cutting
- Passes UL VW-1&CSA FT1 vertical flamt test
- Executed standard: UL758, UL1581, CSA22.2

UL style& CUL Type	Cores	Conductor		Insulation		No. of core	Maximun Resistance (Ω/KM) at 20°C
		AWG	No./mm	Nom.Thick (mm)	Nom.Dia. (mm)		
UL2651	2C	28	7/0.127	0.23	0.90x2.54	1.27	239
		26	7/0.16	0.23	1.05x4.00	2.00	150
		24	11/0.16	0.23	1.30x5.08	2.54	94.2
		22	17/0.16	0.23	1.30x5.08	2.54	59.4
	3C	28	7/0.127	0.23	0.90x3.81	1.27	239
		26	7/0.16	0.23	1.05x6.00	2.00	150
		24	11/0.16	0.23	1.30x7.62	2.54	94.2
		22	17/0.16	0.23	1.30x7.62	2.54	59.4

UL3132 Silicone Rubber Wire

Technical Data

- Coductor: 28AWG~20AWG
- Tinned stranded copper conductor
- Silicone Rubber insulation
- Rated temperature: 150°C
- Rated voltage: 300V
- Uniform thickness of wire to ensure easy stripping and cutting
- Passes UL & CUL FT2 flame test

UL style&CUL Type	Conductor		Insulation		Stand Put-up		Maximun Resistance (Ω/KM) at 20°C
	AWG	No./mm	Nom.Thick (mm)	Nom.Dia. (mm)	Ft/coil	M/Coil	
UL3132	28	7/0.127	0.381	1.15	2000	610	239.00
	26	7/0.16	0.381	1.25	2000	610	150.00
	24	7/0.20	0.381	1.40	2000	610	94.20
	24	11/0.16	0.381	1.40	2000	610	94.20
	22	7/0.25	0.381	1.55	2000	610	59.40
	22	17/0.16	0.381	1.55	2000	610	59.40
	20	7/0.32	0.381	1.75	2000	610	36.70
	20	21/0.178	0.381	1.75	2000	610	36.70

UL1332 FEP insulation Wire

Technical Data

- Coductor: 28AWG~20AWG
- Tinned stranded copper conductor
- FEP insulation
- Rated temperature: 200°C
- Rated voltage: 300V
- Uniform thickness of wire to ensure easy stripping and cutting
- Passes UL VW-1 &cUL FT1 vertical flame test

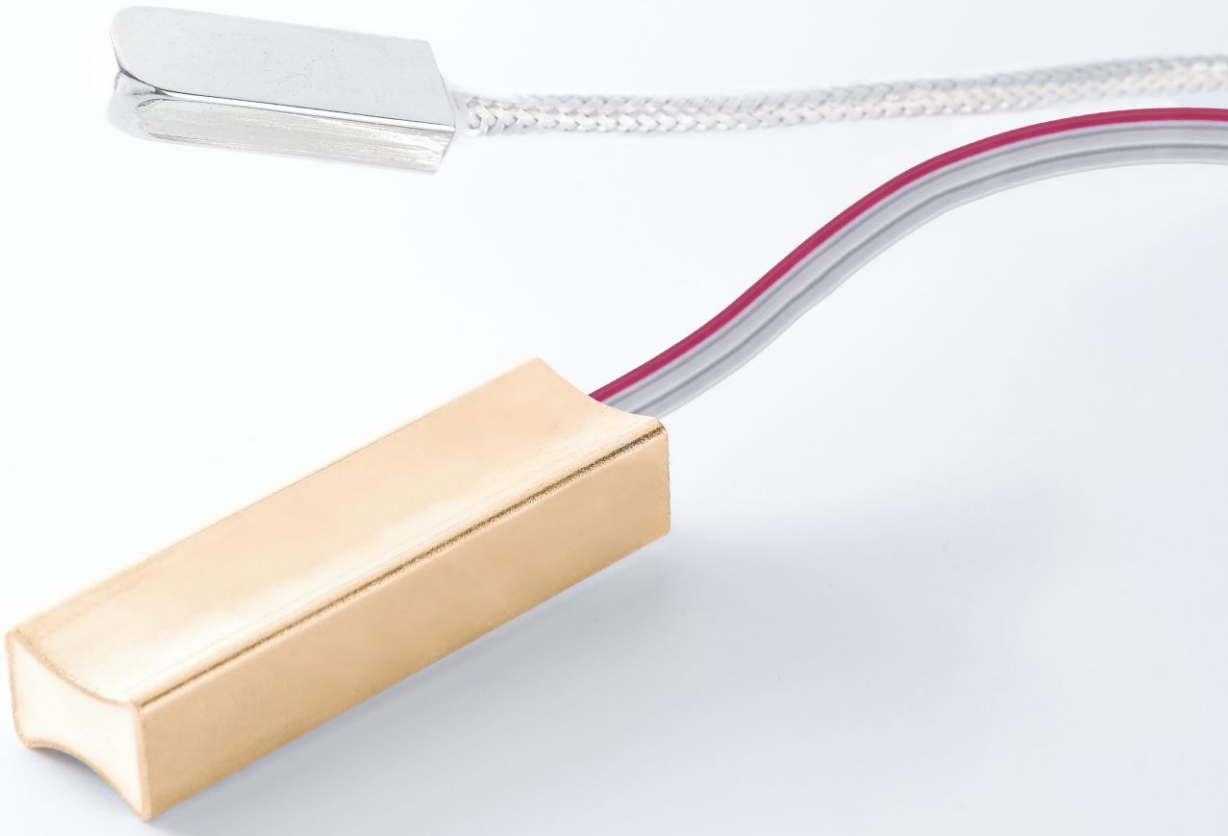
UL style&CUL Type	Conductor		Insulation		Stand Put-up		Maximun Resistance (Ω/KM) at 20°C
	AWG	No./mm	Nom.Thick (mm)	Nom.Dia. (mm)	Ft/coil	M/Coil	
UL1332	28	1/0.32	0.305	0.93	2000	610	227.00
	28	7/0.127	0.305	0.97	2000	610	239.00
	26	7/0.16	0.305	1.15	2000	610	150.00
	26	19/0.10	0.305	1.15	2000	610	150.00
	24	1/0.50	0.305	1.16	2000	610	89.30
	24	7/0.20	0.305	1.26	2000	610	94.20
	24	19/0.12	0.305	1.26	2000	610	94.20
	22	1/0.643	0.33	1.31	2000	610	56.40
	22	7/0.25	0.33	1.42	2000	610	59.40
	22	19/0.15	0.33	1.42	2000	610	59.40
	20	1/0.813	0.33	1.47	2000	610	35.20
	20	7/0.32	0.33	1.65	2000	610	36.70
	20	19/0.19	0.33	1.65	2000	610	36.70

UL10362 Fluorine Plastic insulation Wire

Technical Data

- Coductor: 28AWG~20AWG
- Tinned stranded copper conductor
- PFA insulation
- Rated temperature: 250°C
- Rated voltage: 600V
- Uniform thickness of wire to ensure easy stripping and cutting
- Passes UL & CUL FT1 flame test

UL style&CUL Type	Conductor		Insulation		Stand Put-up		Maximun Resistance (Ω/KM) at 20°C
	AWG	No./mm	Nom.Thick (mm)	Nom.Dia. (mm)	Ft/coil	M/Coil	
UL10362	28	7/0.12	0.254	0.90	2000	610	239.00
	26	7/0.16	0.254	1.00	2000	610	150.00
	24	7/0.20	0.254	1.12	2000	610	94.20
	22	19/0.15	0.254	1.30	2000	610	59.40
	20	19/0.185	0.254	1.45	2000	610	36.70



Edition: 09/2020D

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