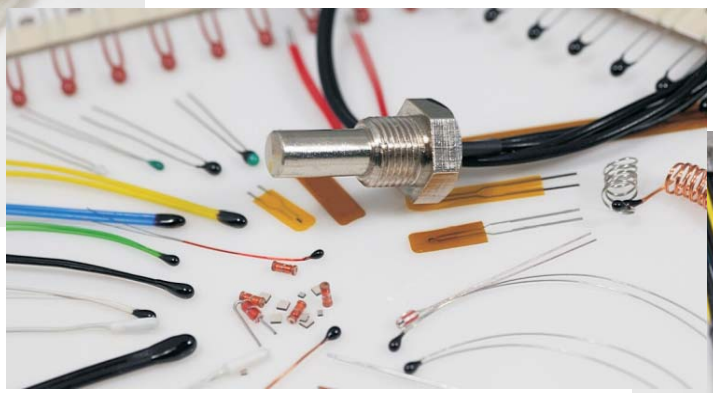
FocuSens®

Thermistors

Temperature Sensors



High Reliable Sensors/ High Temperature /High Voltage/Waterproof/Fast Response

China Expert Factory Thermistors/ Temperature Sensors / Sensitive Components

Flexible Custom Design

eLco

COMPONENTES ELECTRÓNICOS ELCO, S.A.
Cl. de Can Ribes, 10 - 08520 Les Franqueses del Vallès
Telf. 93 879 01 94 - elcobcn@elcocomponentes.com

Focus Sensing and Control Technology Co.,LTD

http://www.focusens.com
Email: info@focusens.com

Focus Sensing and Control Technology Co.,LTD

About Us

Focusens are Chinese Sensor Expert that have more than 15 years field experience.

We are committed to provide high quality thermal Components NTC thermistors , PTC thermistors , NTC sensors, PT100 PT1000 RTD sensors ,thermocouples, Silicon liner PTC sensors as well as digital sensors .

Our activities covers all over the world. Key players like Bosch, Schneider， Samsung as well as Chinese manufacturers like Galanz, Medtronic , Mindray ,BYD etc. are among our clients list.

Flexible custom design and prompt delivery are our always advantages.

Meanwhile we accept OEM on customers´ design.

Contact us now for details and improve projects efficiency with our expertise!

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For more Focusens products please contact us for separate part of catalogue

Temp.Humidity Transmitter / Thermal Fuse / Thermal Protector /Level Sensor etc.

MFE-1 Series

Overmoulding Temperature Sensor

MFE-1 series temperature sensor is plastic overmoulding sensor. TPE, PVC material as standard material, with different mounting request it can be injected into different size and type.

NTC, RTD elements are most popular sensing element.

Special advantage of MFE-1 series is high water proof, with IP67 as standard class, it can reach IP68 on request.

Another advantage is custom flexible, size, mounting type, sensing type and material type can be customized according to application condition.

Typical Applications

- Refrigerator
- Water heater
- Washing Machine and Tumble Dryer
- Ambient temperature measurement

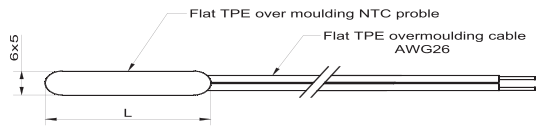
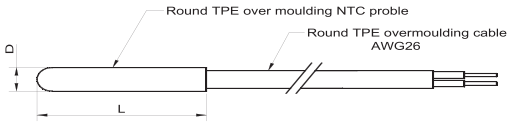
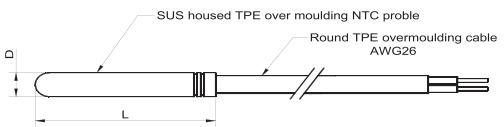
Features

- Excellent insulating property and waterproof
- High mechanical strength
- High reliability and long term stability

Technical Data

Item	Parameter
Water and Dust proof	IP67
Sensing element	NTC Thermistor
Temperature range	-30 - +105°C
Response time	water (0.4 m/s) T0.63=30s
Dissipation Factor	2.5mW/°C
Long-term stability	Drift 3% after 1000h heat or cold store (80°C / -30°C)
Dielectric strength	1500VAC
Insulation resistance	100MΩ@500VDC

Dimensions (mm)

Part No.	Dimensions
MFE-1A	
MFE-1B	
MFE-1C	

Different type of connector available, please contact our sales staff.

MFE-2 Series

Epoxy Encapsulation Type Temperature Sensor

MFE-2 series temperature sensor is epoxy encapsulation type sensor.
NTC, RTD elements are most popular sensing element.
Special advantage of MFE-2 series is cost saving and compact size.

Another advantage is custom flexible, size, mounting type, sensing type and material type can be customized according to application condition.

Typical Applications

- HVAC
- Ambient temperature measurement
- Glasshouse

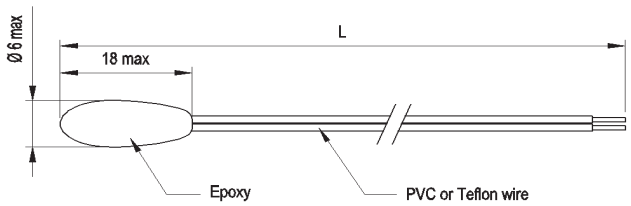
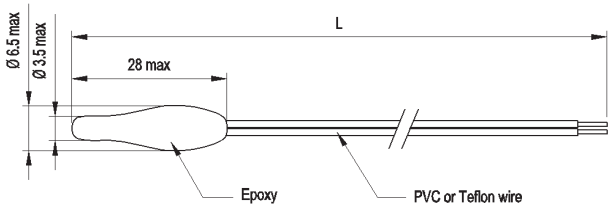
Features

- High mechanical strength
- High reliability and long term stability

Technical Data

Item	Parameter
water and Dust proof	IP66
Sensing element	NTC Thermistor
Temperature range	-30 - +105°C
Response time	water (0.4 m/s) T0.63=30s
Dissipation Factor	2.5mW/°C
Long-term stability	Drift 3% after 1000h heat or cold store (80°C / -30°C)
Dielectric strength	1500VAC
Insulation resistance	100MΩ@500VDC

Dimensions (mm)

Part No.	Dimensions
MFE-2A	
MFE-2B	

Note: Length require for customer define.

MFT Series

Temperature Sensor

MFT series temperature sensor using NTC thermistor as temperature sensing element. Products can be custom according to different temperature environment or application.

With our mature craft, it can be made with a variety of specifications, customers can use directly without fabricating.

Typical Applications

- Ice maker machine
- Refrigerator
- Heat Pump
- Water heater
- Floor heating System
- General Application etc.

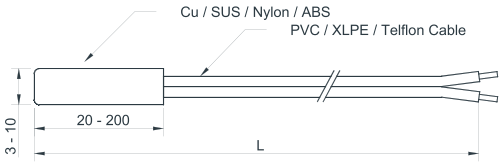
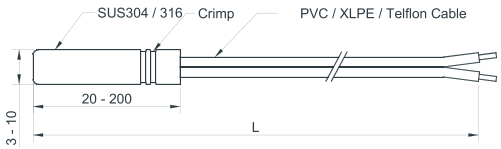
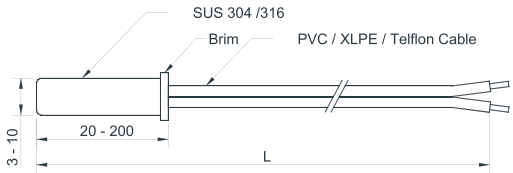
Features

- SUS，Cu, Plastic housings for food grade
- Suitable for general temperature work in

Technical Data

Item	Parameter
Sensing Element	NTC Thermistor various R and B value on request
Temperature range	-40°C to +105°C
Response time	Water (0.4m/s) T0.63 ≤ 30s
Dissipation Factor	≥ 2.5mW/°C
Long-term stability	Drift ≤ 3% after 1000h heat or cold store (80°C / -30°C)
Dielectric Strength	1500VAC
Insulation Resistance	≥100MΩ 500VDC

Dimensions (mm)

Part No.	Dimensions	Application
MFT-A		**Feature** Moisture proof Available for various temperature ranges. Shell has a variety of choice **Application** House hold Air-conditioner Refrigerate, heater
MFT-B		**Feature** Corrosion resistance, good sealing **Application** White Goods Small household electrical appliance Electrical Toys Ambient temperature measurement etc.
MFT-C		**Feature** Corrosion resistance Good sealing **Application** White Goods Ambient temperature measurement etc.

Other options:

Standard value: R25℃: 10K B25/85℃: 3435, different NTC R-T curve

Different probe and wire size and color available.

Different size SUS housings available for sensor mounting protection

Different type of connector is available

MFL Series

Temperature Sensor

MFL series temperature sensor using the NTC resistance element, according to the different temperature environment or application, through the mature technology, fabricate into a variety of specifications of the sensor, customers can use directly without fabricating.

Typical Applications

- Coffee Machine

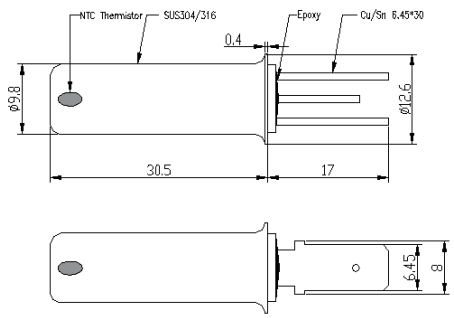
Features

- Easy installation
- Fast response
- High level of water proof and durability

Technical Data

Item	Parameter
Sensing Element	NTC Thermistor various R and B value on request
Temperature range	-20°C to +110°C
Response time	Water (0.4m/s) T0.63 ≤ 30s
Dissipation Factor	≤100 mW/°C
Long-term stability	Drift ≤ 3% after 1000h heat or cold store (80°C / -30°C)
Dielectric Strength	1500VAC
Insulation Resistance	≥100MΩ 500VDC

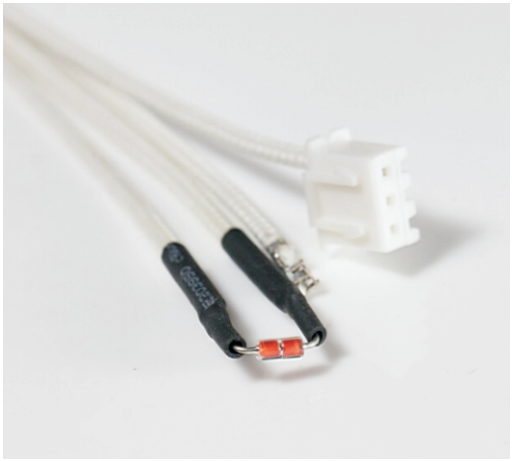
Dimensions (mm)

Part No.	Dimensions	Application
MFL-A		**Feature** ● Fast response ● Easy installation **Application** ● Coffee machine

MFP-1 Series

Temperature Sensor

MFP-1 series temperature sensor using the NTC thermistor element, according to the different temperature environment or application, through the mature technology, fabricate into a variety of specifications of the sensor, customers can use directly without fabricating.
MFP-1 Series Sensor is simply connected to silicon rubber or other high temperature lead wire. NTC protect by silicon rubber tube or Teflon tube.



Typical Applications

- Rice Cooker
- Induction cooker
- Ambient temp etc.

Features

- Simply connected to high temperature lead wire
- Protected by silicon rubber tube or Teflon tube.

Technical Data

Item	Parameter
Sensing Element	NTC Thermistor various R and B value on request
Temperature range	-20°C to +200°C
Response time	T0.63 ≤ 60s in air
Dissipation Factor	≥ 2.5mW/°C
Long-term stability	Drift ≤ 3% after 1000h heat or cold store (80°C / -30°C)
Dielectric Strength	1000VAC
Insulation Resistance	≥100MΩ 500VDC

MFP-2 Series

Temperature Sensor

MFP-2 series temperature sensor using the NTC thermistor element. It is surface mounting type sensor fixed to devices with mounting screw of different required size .

Products can be custom according to different temperature environment or application.

With our mature craft, it can be made with a variety of specifications, customers can use directly without fabricating.

Typical Applications

- Refrigerator
- HVAC
- Projector
- Motor
- Lithium Battery Protect
- Heat sink

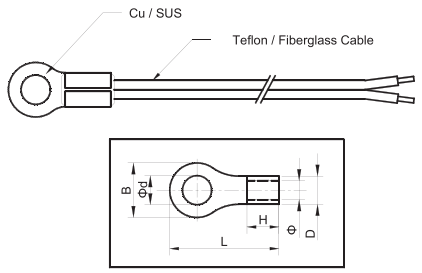
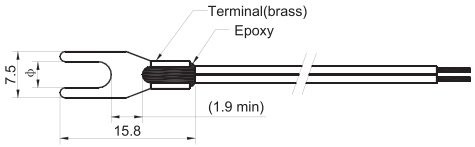
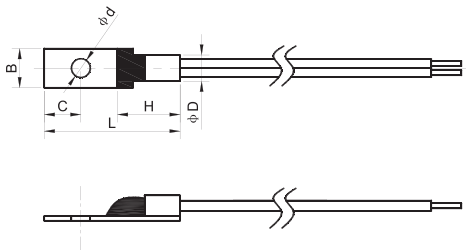
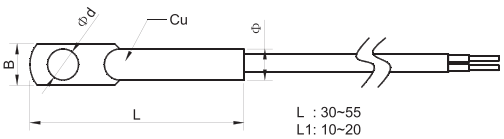
Features

- Standard Lug terminal sensor with NTC element
- Easy installation.

Technical Data

Item	Parameter
Sensing Element	NTC Thermistor various R and B value on request
Temperature range	-30°C to +150°C
Response time	Water (0.4m/s) T0.63 ≤ 30 s
Dissipation Factor	≥ 2.5mW/°C
Long-term stability	Drift ≤ 3% after 1000h heat or cold store (80°C / -30°C)
Dielectric Strength	1500VAC
Insulation Resistance	≥100MΩ 500VDC

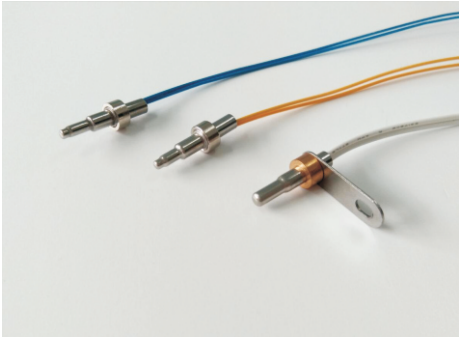
Dimension (mm)

Part No.	Dimensions	Application
MFP-2A		Application ● Lithium Battery Protect ● Motor
MFP-2B		Application ● Heat sink ● Projector
MFP-2C		Application ● Heat sink
MFP-2D		Application ● Heat blade cutter ● Lithium Battery Protect ● Motor

MFP-3 series temperature sensor using the NTC thermistor element. It is immersing type sensor probing sensor into liquid or air chamber which temperature to be measured.

Products can be custom according to different temperature environment or application.

With our mature craft, it can be made with a variety of specifications, customers can use directly without fabricating.



Typical Applications

- Toilet seat heating
- Water heater
- Floor heating and
- Cogeneration systems

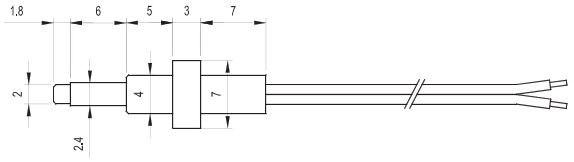
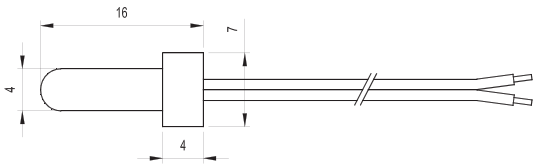
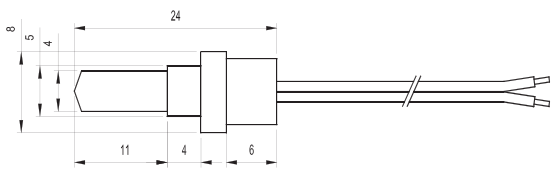
Features

- Moisture-proof
- Fast response
- Small time constant

Technical Data

Item	Parameter
Sensing Element	NTC Thermistor various R and B value on request
Temperature range	-20°C to +120°C
Response time	Water (0.4m/s) T0.63 ≤ 30s
Dissipation Factor	≥ 2.5mW/°C
Long-term stability	Drift ≤ 3% after 1000h heat or cold store (80°C / -30°C)
Dielectric Strength	1500VAC
Insulation Resistance	≥100MΩ 500VDC

Dimensions (mm)

Part No.	Dimensions	Application
MFP-3A		**Feature** Moisture-proof Small time constant Fast respond **Application** Drinking water heater Toilet seat heating Water heater
MFP-3B		**Feature** Moisture-proof Small time constant Fast respond **Application** Drinking water heater Water heater Floor heating
MFP-3C		**Feature** Moisture-proof Small time constant Fast respond **Application** Cogeneration system equipment water storage tanks for solar systems
MFP-3D		**Feature** Moisture-proof Small time constant Fast respond **Application** Drinking water heater Drinking machine Coffee machine

MFP-4 Series

Temperature Sensor

MFP-4 series temperature sensor using the NTC thermistor element. It is flange mounting type sensor probing sensor into liquid or air chamber which temperature to be measured.

Products can be custom according to different temperature environment or application.

With our mature craft, it can be made with a variety of specifications, customers can use directly without fabricating.

Typical Applications

- Toaster oven
- Constant temperature liquid bath
- Constant temperature chambers
- Food waste disposer
- Dish washer.

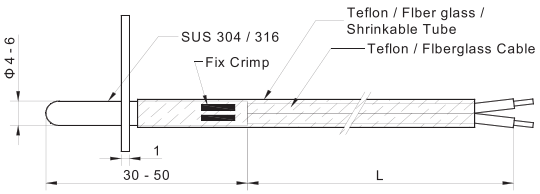
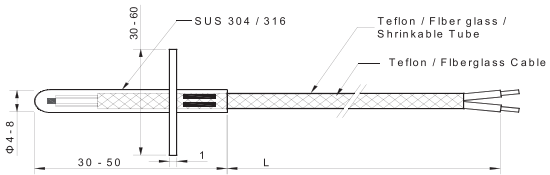
Features

- Easy installation
- Fast response
- High level of water proof and durability

Technical Data

Item	Parameter
Sensing Element	NTC Thermistor various R and B value on request
Temperature range	-20°C to +250°C
Response time	Water (0.4m/s) T0.63 ≤ 12s
Dissipation Factor	≥ 2.5mW/°C
Long-term stability	Drift ≤ 3% after 1000h heat or cold store (80°C / -30°C)
Dielectric Strength	1500VAC
Insulation Resistance	≥100MΩ 500VDC

Dimensions (mm)

Part No.	Dimensions	Application
MFP-4A		Feature ● Fast response ● High level of water proof and durability Application ● Toaster oven ● Food waste dispose
MFP-4B		Feature ● Fast response ● High level of water proof and durability Application ● Constant temperature liquid bath ● Constant temperature chambers

Other option:

Different probe and wire size and color available.

Different size SUS housings available for sensor mounting protection

Different type of connector available

MFP-5 Series

Temperature Sensor

MFP-5 series temperature sensor using the NTC thermistor element.
It is screw type sensor mount onto devices by screwing housing.

Products can be custom according to different temperature environment or application.

With our mature craft, it can be made with a variety of specifications, customers can use directly without fabricating.

Typical Applications

- Water heater
- Coffee machine
- Water boiler
- Solar systems

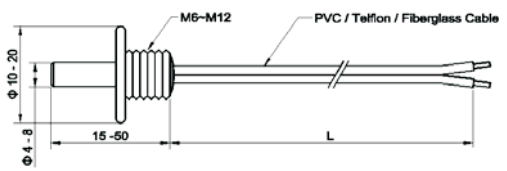
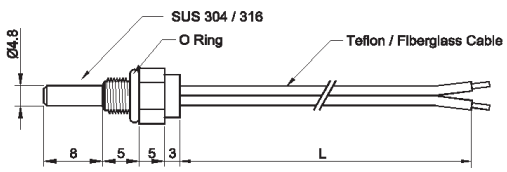
Features

- Screw and nut mounting
- Solid structure
- Waterproof and fast response

Technical Data

Item	Parameter
Sensing Element	NTC Thermistor various R and B value on request
Temperature range	-30°C to +125°C
Response time	Water (0.4m/s) T0.63 ≤ 30s
Dissipation Factor	≥ 2.5mW/°C
Long-term stability	Drift ≤ 3% after 1000h heat or cold store (80°C / -30°C)
Dielectric Strength	1500VAC
Insulation Resistance	≥100MΩ 500VDC

Dimensions (mm)

Part No.	*Dimensions*	Application
MFP-6A		**Feature** ● Moisture-proof small time constant ● End-end thread ● Fast respond **Application** ● Water boiler
MFP-6B		**Feature** ● Front-end thread ● SUS Housings **Application** ● Water heater ● Coffee machine ● Solar systems

Other options:

Different probe and wire size and color available.

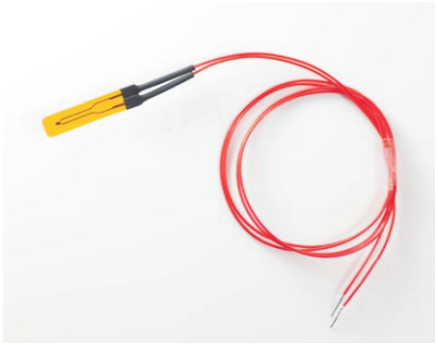
Different size SUS housings available for sensor mounting protection

Different type of connector available

MFP-6 Series

Temperature Sensor

MFP-6 series temperature sensor using the thin film type NTC resistance element, according to the different temperature environment or application, through the mature technology, fabricate into a variety of specifications of the sensor, customers can use directly without fabricating.



Typical Applications

- Duplicator
- Battery pack
- Electronic calendar
- Thermometer
- Temperature measuring etc.

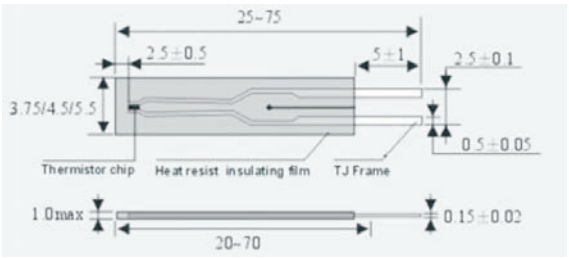
Features

- Thin film NTC sensing element.
- Miniature designed.
- High precision
- Quick response
- Good stability

Technical Data

Item	Parameter
Sensing Element	Thin NTC Thermistor various R and B value on request
Temperature range	-30°C to +120°C
Response time	T0.63 ≤ 60s in air
Dissipation Factor	Approx 0.9 mW/°C
Long-term stability	Drift ≤ 3% after 1000h heat or cold store (80°C / -30°C)
Dielectric Strength	700VAC
Insulation Resistance	≥100MΩ 500VDC

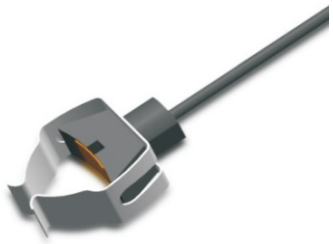
Dimensions (mm)

Part No.	*Dimensions*	Application
MFP-6		**Feature** ● Thin film,miniature designed ● Fast respond ● Quick response and good stability **Application** ● Duplicator ● Battery pack etc.

MFP-7 Series

Temperature Sensor

MFP-7 series temperature sensor using the NTC resistance element, according to the different temperature environment or application, through the mature technology, fabricate into a variety of specifications of the sensor, customers can use directly without fabricating.



Typical Applications

- Pipe heating
- Floor heating
- Cogeneration systems

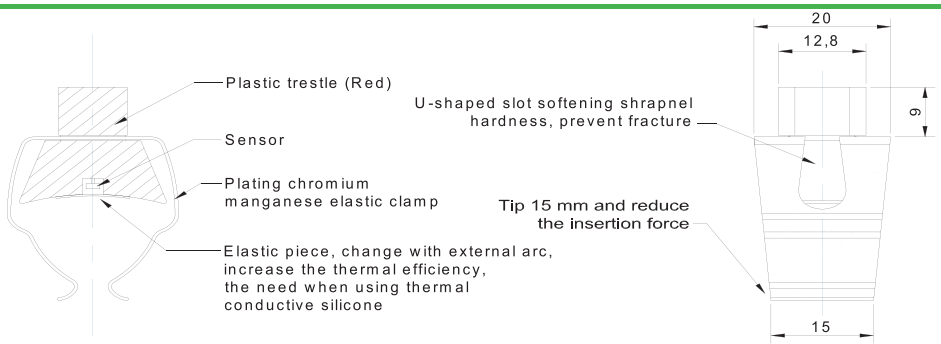
Features

- Fast response
- High temperature measuring precision
- Small volume, convenient installation
- Heat resistant plastic shell
- High reliability and long term stability

Technical Data

Item	Parameter
Sensing Element	NTC Thermistor various R and B value on request
Temperature range	-40°C to +105°C
Response time	Water (0.4m/s) T0.63 ≤ 30s
Dissipation Factor	≥ 2.5mW/°C
Long-term stability	Drift ≤ 3% after 1000h heat or cold store (80°C / -30°C)
Dielectric Strength	1500VAC
Insulation Resistance	≥100MΩ 500VDC

Dimensions (mm)

Part No.	Dimensions
MFP-7A	

Other options:

Different NTC R-T curve can be choose

Different probe and wire size and color available

Different size SUS housings available for sensor mounting protection

Different type of connector available

NTC Temperature Sensor Ordering Code

Ordering code

Below ordering code applicable for NTC thermistor sensor MFE-1 , MFE-2 , MFT , MFP-1 , MFP-2 , MFP-3 , MFP-4 , MFP-6 , MFP-7

MFX	x	xxx	x	xxx	x	x	x	x
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

1. Housings Type.

Code	Description
MFE	Epoxy encapsulation type/ injection molding type
MFT	Tubular type
MFL	Insert lead type
MFP-1	Line pressing type
MFP-2	Surface installation type
MFP-3	Multi-step type
MFP-4	Flange shape type
MFP-5	Threaded fastening installation
MFP-6	Thin film NTC assembly
MFP-7	Pipe clamp type

2. Sub-class: Housings shape.

3. Resistance value at 25°C.

4. Resistance tolerance.

Code	Tolerance (25°C)%	Code	Tolerance (25°C)%
E	±0.5	H	±3.0
F	±1.0	J	±5.0
G	±2.0	K	±10.0

5. Beta value, unit: K.

6. Beta value Temperature code.

Code	T1/T2
A	25/50(Default)
B	25/85
E	Defined by Customer

7. Wire type.

8. Wire length.
   The 1st and 2nd digits are for the significant figures of the length and the 3rd indicate the numbering of the zeros following.
   Example: 1m = 102, 10m=103.

9. Housings Drawing number.

FTY Series PTC Sensor

Silicon Temperature Sensor

The temperature sensor is a kind of silicon temperature sensor, it have a positive temperature coefficient of resistance (PTC) and suitable for use in measurement and control systems.

Tolerances of 0.5% or other special selections are available on request.

Typical Applications	Features
Temperature measurement	High accuracy and reliability
Control system	Long term stability
	Positive temperature coefficient
	Virtually linear characteristic

Technical Data

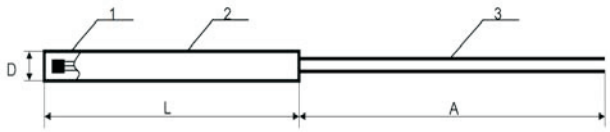
Item	Parameter
Sensing Element	silicon sensor element
Max working temperatures range	-40°C to +150°C
Max.Contanstant current @25°C	10mA
Rated working current @25°C	5mA
Rated Power: PDIS	50mW
Thermal Time Constant	Within 60s in still liquid

KTY83-110 / 120/121/122/150/151 packed in DO3

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
	Sensor Resistance					
	KTY83-110		990	-	1010	Ω
	KTY83-120		980	-	1020	Ω
R25	KTY83-121	Isen(cont):1mA	980	-	1000	Ω
	KTY83-122		1000	-	1020	Ω
	KTY83-150		950	-	1050	Ω
	KTY83-151		950	-	1000	Ω
TC	Temperature coefficient		-	0.76	-	%/K
R100/R25	Resistance ratio	Tamb= 100 °C and 25 °C	1.65	1.67	1.69	
R-55/R25	Resistance ratio	Tamb = -55 °C and 25 °C	0.49	0.50	0.51	
τ	thermal time constant(1)	in still air	-	60	-	s
		in still liquid	-	38	-	s
		in flowing liquid	-	20	-	s
	rated temperature range		-40	-	+150	°C

Note: Thermal time constant is the time taken for the sensor to reach 63.2% of the total temperature difference.

Sensor Assembly



Item	Description	Remarks
1	Temperature Sensing Element	KTY83-110 / 120/121/122/150/151
2	House(1)	Various housing material and size available
3	cable	2 -4 wires, various wire material, gauge and length available

(1) Please consult the sales staff

Ordering code

FTY	XX	X	X	X	X	X	X
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

(1) Focusens PTC series temperature sensor product.

(2) House shape.

Code	Type
1x	Epoxy package
2x	Round tube
3x	Naked resistance sensor without shell
4x	surface installation
5x	Multi-step type house
6x	Threaded fastening installation
7x	Flange shape
8x	Pipe clamp type

(3) Resistance value at 25°C, unit kΩ

(4) Resistance tolerance at 25°C. If tolerance is 20Ω showed by “2”.

(5) Tolerance Direction.

Code	Type
0	Bilateral tolerance
1	Negative Tolerance
2	Positive Tolerance

(6) House size, please consult the sales staff.

(7) Wire type.

Code	Material	Code	Material
P	PVC	G	Fiber Glass
E	PTFE	T	Teflon

(8) Wire length, unit:

FWZ Series RTD Sensor

Temperature Sensor PT100/ PT1000/ Cu / Ni

RTD (Resistance Temperature Detector) temperature sensor with high accuracy, good resolution, safe and reliable, convenient use, can be directly measured during the manufacture of all kinds of liquid, vapour and gas medium temperature.

Applications

- Coffee machine
- Drying machine
- Vehicle air conditioner
- Industrial temperature control equipment

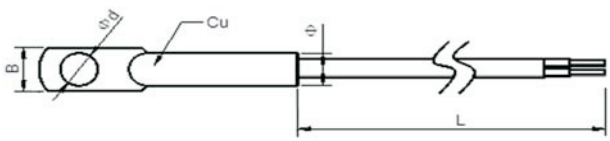
Features

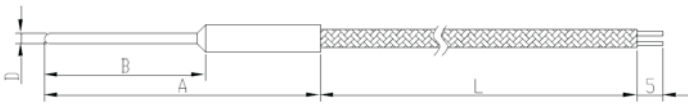
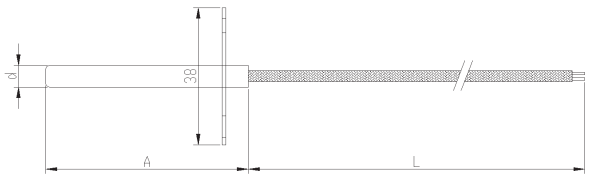
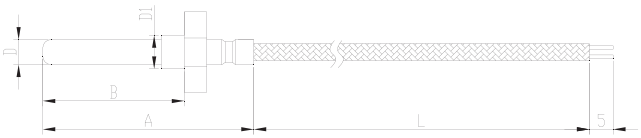
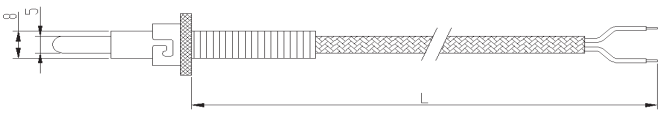
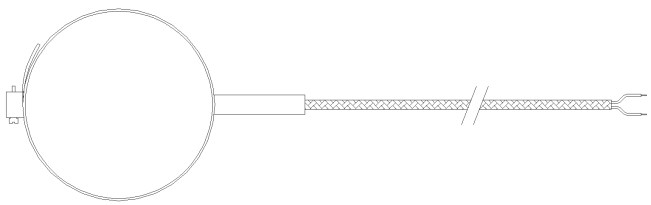
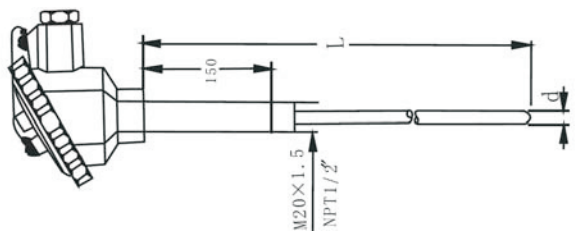
- High precision
- Perfect stability
- Reliability and long product life

Technical Data

Item	Parameter
Temperature element	PT100, PT500, PT1000
Measuring range	-50~200°C, -50~350°C, -50~600°C
Accuracy	DIN Class A or B
Response time	10S (0.63τ)
Insulation Resistance	100Mohm
Cable material:	PVC, Teflon, Silicon latex Fiberglass
Housing	SUS304 or SUS316

Dimensions (mm)

Item	DWG	Description
1		D: Φ4~8 A: 15~1000 L: By Customer require Temp. Range: -50~200°C Response time: 20sec. in still air App: HVAC, refrigeration, Lab
1		D: Φ4~8 A: 30~500 L: By Customer require Temp. Range: -50~250°C Response time: 20sec. in still air App: HVAC, refrigeration, Lab
2		Custom define housing L: 30~55 L1: By Customer require Temp. Range: -50~250°C Response time: 20sec. in still air App: HVAC, refrigeration, Lab

Item	DWG	Description
3.		D: Φ4~8 A: 30~500 L: By Customer require Temp. Range: -50~+350°C Response time: 30sec. in still air For handle operation
3		D: Φ6 A: 20~227 L: By Customer require Temp. Range: -50~+350°C Response time: 30sec. in still air App: Industrial Equipment & Components
4	 Screw thread type (D1): M8×1, M12×1, M14×1,M16×1.5, G1/4, G1/2…	D: Φ3~8 A: 30~500 L: By Customer require Temp. Range: -50~+350°C Response time: 30sec. in still air App: HVAC, refrigeration, Lab
4	 Screw thread type (D1): M8×1, M12×1, M14×1,M16×1.5, G1/4, G1/2…	D: Φ3~16 A: 100~500 L: By Customer require Temp. Range: -50~+500°C Response time: 30sec. in still air For High Temp. Requirement
5		L: By Customer require Temp. Range: -50~+300°C Response time: 30sec. in still air For High Temp. requirement
6		Hose Clamp can be defined by Customer A: 250~1400 L: By Customer require Temp. Range: -50~+500°C Response time: 20sec. in still air For Pipe Temp. measurement
7		D: Φ3~8 A: 250~1400 L: By Customer require Temp. Range: -50~+500°C Response time: 30sec. in still air For High Temp. requirement

Ordering code

FWZ	P	A	-	1	1		S	501
1	2	3		4	5		6	7

1. Focusens RTD series temperature sensor

2. RTD Element Material

Code	Description
P	Pt100
R	Pt1000
C	Cu500
N	Ni

3. RTD precision class (check with our sales)

Code	Description
A	Class A
B	Class B
C	Class C
D	Other special class

4. Number of building in RTD element

Code	Description
1	Simplex element
2	Duplex element

5. Mounting and Fixing

Code	Description
1	Tubular type
2	Surface installation type
3	Flange shape type
4	Hat shape tube type
5	Threaded fastening installation
6	Compression spring installation type
7	Pipe tie type
8	Armoured type
9	
0	Other custom RTD sensor

6. Wire Material

Code	Description
P	PVC
T	Teflon
S	Silicon latex
G	Fiberglass
B	Metal braid shield

7. Wire Length

The 1st and 2nd digits are for the significant figures of the length and the 3rd indicate the numbering of the zeros following.

Example: 1m = 102, 10m=103.

FWR Series Thermocouple Sensor

Thermocouple K/ N/ E/ J/ T/ S Type

Thermocouples are a widely used type of temperature sensor for measurement and control and can also be used to convert a temperature gradient into electricity.

A thermocouple consists of two conductors of different materials (usually metal alloys) that produce a voltage in the vicinity of the point where the two conductors are in contact.

T thermocouple show the perfect properties at low temperature, suitable for -200 ~ 350°C temperature measurement

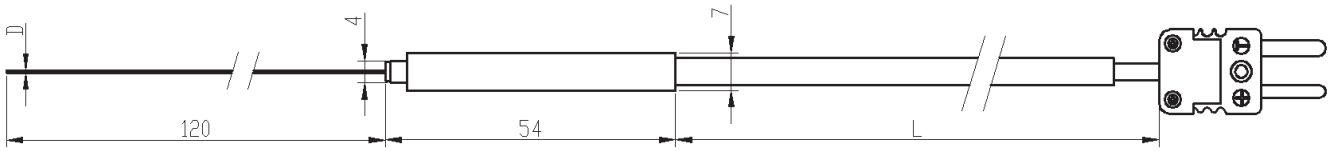
Applications

- Disinfection cabinet
- Cold storage
- Industrial equipment

Features

- With quick response, reducing dynamic err
- Optional installation methods
- Wide measuring range
- High mechanical strength, good pressure-resistant performance

Dimensions (Sample) (mm)



Material	Polarity	Color
Cu – 100%	Positive	Red
Ni – 45%, Cu – 55%	negative	white

D	Recommend Operate Temp.(°C)	Short time Max Temperature(°C)
0.2, 0.3	150	200
0.5, 0.8	200	250
1.0, 1.2	250	300
1.6, 2.0	300	350

Ordering code

FWR	T	1	C	2	-	1
1	2	3	4	5		6

1. Focusens Thermocouple temperature sensor

2. Thermocouple class

Class	Thermocouple Material
K	NiCr – NiSi
N	NiCrSi – NiSi
E	NiCr – CuNi
J	Fe – CuNi
T	Cu – CuNi
S	PtRh10-Pt

3. Thermocouple filament number

Code	Description
1	Simplex sensing element
2	Duplex sensing element

4. Thermocouple Conductive with housing

Code	Description
I	Insulated with housing
C	Conductive with housing

5. Mounting and Fixing

Code	Description
1	Without fixing device
2	Threaded connector
3	Movable flange
4	Fixed flange
5	Elbow tube connector
6	Threaded cone connection
7	Straight tube connection
8	Fixed threaded tube connection
9	Movable threaded tube connection

6. Junction Box

Code	Description
1	Anti-spray type
2	Water-proof type

FST Series Digital Sensor

LM35 Precision Temperature Sensors

The LM35 series are precision integrated-circuit temperature sensors, whose output voltage is linearly proportional to the Celsius (Centigrade) temperature. The LM35 thus has an advantage over linear temperature sensors calibrated in ° Kelvin, as the user is not required to subtract a large constant voltage from its output to obtain convenient Centigrade scaling.

Typical Applications	Features
Heater systems Measuring instruments Washing machines Over-heating protection	• Measures temperatures from –55°C to +100°C (– 67°F to +212°F) • Thermometer resolution is user-selectable from 9 to 12 bits

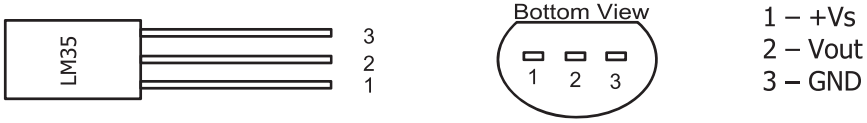
Technical Data

Parameter	Temperature
Power Supply	0 - 30V
Sensor	DS18B20
Measurement Range	-40°C - +150°C
Accuracy	±0.5°C accuracy from –10°C to +85°C
	±2°C accuracy from -55°C to +125°C
Work Current	1.5mA
Standby Current	1uA
Output Pin Sink Current	4mA (@ VI/O=0.4V)
Response	Converts temperature to 12-bit digital word in 750 ms (max.)
Output	Open-drain 1-Wire interface pin.
Drift	±0.2°C on a 1000h stress test at +125°C with VDD= 5.5V

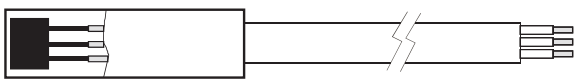
Note：

1. House material, size and configuration adjustable according to mounting requirement.
2. Cable insulation, gauge and length adaptable with requirement.
3. Other accessories available on request.
4. If only monitor the environment temperature, may be used MAX31820, but power supply from 3.0V to 3.7V, and ±0.5°C Accuracy from +10°C to +45°C

Dimensions (mm)



Sensor Assembly



SERIES	SENSOR	OUTPUT	T-SCALING(1)	HOUSES(2)
FST	(LM35) :LM35 Series	(V):Voltage Output		

Note: (1) See Technical Data.

(2) Please contact with sales department

FST Series Digital Sensor

DS18B20 Programmable Resolution 1-Wire Digital Temperature Sensor

The DS18B20 digital thermometer provides 9-bit to 12-bit Celsius temperature measurements and has an alarm function with nonvolatile user-programmable upper and lower trigger points. The DS18B20 communicates over a 1-Wire bus that by definition requires only one data line (and ground) for communication with a central microprocessor. It has an operating temperature range of -55°C to +125°C and is accurate to ±0.5°C over the range of -10°C to +85°C.

Typical Applications	Features
•Heater systems Measuring instruments Washing machines Over-heating protection	• Measures temperatures from –55°C to +100°C (– 67°F to +212°F) • Thermometer resolution is user-selectable from 9 to 12 bits

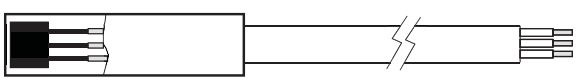
Technical Data

Parameter	Temperature
● Power Supply	● 3.0~5.5V
● Sensor	● DS18B20
● Measurement Range	● -55°C - +125°C
● Accuracy	● ±0.5°C accuracy from –10°C to +85°C
	● ±2°C accuracy from -55°C to +125°C
● Work Current	● 1.5mA
● Standby Current	● 1uA
● Output Pin Sink Current	● 4mA (@ VI/O=0.4V)
● Response	● Converts temperature to 12-bit digital word in 750 ms (max.)
● Output	● Open-drain 1-Wire interface pin.
● Drift	● ±0.2°C on a 1000h stress test at +125°C with VDD= 5.5V

Note : 1. House material, size and configuration adjustable according to mounting requirement.
2. Cable insulation, gauge and length adaptable with requirement.
3. Other accessories available on request.
4. If only monitor the environment temperature, may be used MAX31820, but power supply from 3.0V to 3.7V, and ±0.5°C Accuracy from +10°C to +45°C
5. 1-wire communication protocol see MAXIM “DS18B20” datasheet

Dimensions (mm)

Sensor Assembly



Ordering Guide

SERIES	SENSOR	OUTPUT	T-SCALING	HOUSES(1)
FST	(DS18B20): DS18B20	(D) Digital Output	(T5): -55°C TO 125°C	

Note: (1) Please contact with sales departme

FST Series Digital Sensor

AD590 2-Terminal IC Temperature Transducer

The AD590 is a 2-terminal integrated circuit temperature transducer that produces an output current proportional to absolute temperature. For supply voltages between 4 V and 30 V, the device acts as a high impedance, constant current regulator passing 1 μA/K. Laser trimming of the chip's thin-film resistors is used to calibrate the device to 298.2 μA output at 298.2 K (25°C).

Typical Applications

- -Refrigerator,
- -Air conditioner,
- -Granary,
- -Ice house,
- -Industrial equipment

Features

- Wide power supply range: 4 V to 30 V
- Linear current output: 1 μA/K
- Wide temperature range: −55°C to +150°C
- 2-terminal device: voltage in/current out
- Excellent linearity: ±0.3°C over full range (AD590M)

Technical Data

Parameter	Temperature			
Power Supply	4 - 30V			
Sensor	DA590J	DA590K	DA590L	DA590M
Measurement Range	−55°C to +150°C			
Accuracy(1)(°C)	±5.0	±2.5	±1.0	±0.5
Output Current @ 25°C	298.2uA			
Temperature Coefficient	1uA/K			
Response	20us			
Output	Current Output			
Reverse Bias Leakage Current(2)	10pA			

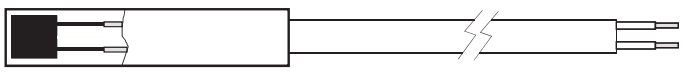
Note :

(1) 25°C and VS = 5 V, unless otherwise noted.

(2) Leakage current doubles every 10°C.

(3) Detailed specification see Analog Devices AD590 Datasheet.

Sensor Assembly



Ordering Guide

SERIES		SENSOR		OUTPUT	T-SCALING	HOUSES(1)
FST	-	(AD590):AD590x(2)	-	(C): Current Output	(T7): −55°C to +150°C	

Note:

(1) Please contact with sales department

(2) X-optional alphabet J,K,L,M.

FHR400 Series

High Precision Temperature Sensor

The FHR400 series high precision NTC temperature sensor are specifically used for medical application monitoring body temperature condition.

Compatible with all accept YSI 400 series sensor monitoring equipment. Such as GE, HP, Japan photoelectric, philips, Siemens, mindray, treasure Wright monitor, etc.

Typical Applications

- Accurate temperature sensing and monitoring compatible of YSI400 Series
- Human or animal baby Incubator

Features

- Miniature Size and Fast Response
- ±0.2°C from 25° to 45°C @ 400 series
- Accurate temperature measurement in 3 minutes
- Excellent stability and reliability
- Custom mounting and material configuration
- Moisture proof
-

Technical Data

Item	Parameter
Sensing element	NTC Thermistor
Resistance Value	2.252kohm / 10kohm / 30kohm
B value	3976K @ B25 / 85
Temperature range	0 - +70°C
Tolerance Available	0.2°C @ 25°C - +45°C
Dissipation Factor	2.1mW/°C

400 Series Reusable medical temperature probe

FHR 4211

Body surface / Skin probe

Application	Oral/rectal temperature probe
probe size	adult diameter 12 mm, children diameter 5 mm
compatibility	Compatible with all YSI 402 series sensor adaptable monitoring equipment
Feature	Accurate temperature measurement in 5 minutes
Connector	6.3 mono audio plug
Resistance	2.252kohm

Encapsulation case diameter available with 4 sizes : 12 mm, 10 mm, 7 mm, 5 mm

FHR 4213

Body surface / Skin probe

Application	Oral/rectal temperature probe
probe size	adult diameter 12 mm, children diameter 5 mm
compatibility	Compatible with all accept YSI 404 series sensor monitoring equipment
Feature	Accurate temperature measurement in 3 minutes
Connector	3.5 double track plug
Resistance	10kohm

Encapsulation case diameter available with 4 sizes : 12 mm, 10 mm, 7 mm, 5 mm

FHR 4216

Body surface / Skin probe

Application	Oral/rectal temperature probe
probe size	adult diameter 12 mm, children diameter 5 mm
compatibility	Compatible with all accept YSI 404 series sensor monitoring equipment
Feature	Accurate temperature measurement in 3 minutes
Connector	
Resistance	10kohm

Encapsulation case diameter available with 4 sizes : 12 mm, 10 mm, 7 mm, 5 mm

FHR 4511

In-body probe

Application	Oral/rectal temperature probe
probe size	adult diameter 4.0 mm, children diameter 3.3 mm
compatibility	Compatible with all YSI 401 series sensor adaptable monitoring equipment
Feature	Accurate temperature measurement in 3 minutes
Connector	6.3 mono audio plug
Resistance	2.252kohm

FHR 4513

In-body probe

Application	Oral/rectal temperature probe
probe size	adult diameter 4.0 mm, children diameter 3.3 mm
compatibility	Compatible with all accept YSI 404 series sensor monitoring equipment
Feature	Accurate temperature measurement in 3 minutes
Connector	3.5 double track plug
Resistance	10kohm

* All product line length according to customer requirements

FHD400 Series Disposable temperature sensor

FHD4515

Disposable In-body probe

Application	Disposable twisted wire temperature probe
probe size	Φ4.5PVC tube packaging
Feature	Accurate temperature measurement in 2 minutes
Connector	Molex
Resistance	2.252kohm

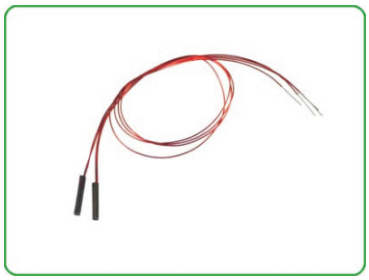
FHD4516

Disposable In-body probe

Application	Disposable twisted wire temperature probe
probe size	Maxφ1.98*7
Feature	Accurate temperature measurement in 2 minutes
Connector	Molex
Resistance	2.252kohm

FHD4729

NTC element



Application	Disposable small temperature probe
probe size	<Φ 1mm
Feature	Accurate temperature measurement in 10 second
Connector	-
Resistance	2.252kohm

Ordering coding

FH	R	4	0	0	0	-	xxx
(1)	(2)	(3)	(4)	(5)	(6)		(7)

(1) FH: Focusens High-Precision product

(2) R: Re-useable, High precision

D: Disposable, High precision.

(3) 4: 400 Series medical Temperature Sensor

(4) Probe size:

Code	Description
1	Disk, Φ12
2	Disk, Φ10
3	Disk, Φ7
4	Disk, Φ5
5	Drop, Φ2.5-3.6
6	Drop, more than Φ3.6
7	less than 1mm
0	By customer

(5) Resistance

Code	Description
1	2.252kohm ± 0.2℃@25~45
2	2.252kohm± 0.2℃@0~70℃
3	10kohm ± 0.2℃@25~45℃
4	10kohm ± 0.2℃@0~70℃
0	By customer

(6) Connector type

Code	Description
1	6.3mm audio straight
2	6.3mm audio bended
3	3.5mm audio straight
4	3.5mm audio bended
5	Molex
6	Medical equipment dedicated connector
9	No Connector
0	By customer

(7) Wire length

MF5A Series

NTC Thermistor

MF5A Series bead temperature thermistor is made of new materials, new technology of production of small type epoxy resin coating of NTC thermistor, has the advantages of high precision and fast response. It is subdivided into various sub-series according to the difference in lead wire configuration.

Typical Applications

- Air conditioning equipment
- Heating equipment
- Medical equipment
- Temperature control instruments
- Electronic gifts
- Electronic temperature and humidity meter
- Auto temperature measurement
- Electronic calendar
- Rechargeable batteries and charger

Features

- Tin plating steel wire radial type epoxy resin encapsulation
- Wide range of resistance
- High precision
- Small size and fast response
- High stability

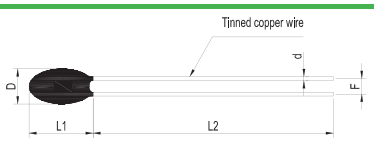
Technical Data

Item	Temperature
Temperature range	-40°C to +150°C
Response time	Water (0.4m/s) T0.63 ≤ 7s
Dissipation factor	≥ 2mW/°C
Long-term stability	Drift ≤ 3% after 1000h heat or cold store (80°C / -30°C)

Dimensions (mm)

Part No. MF5A-2/3

Figure



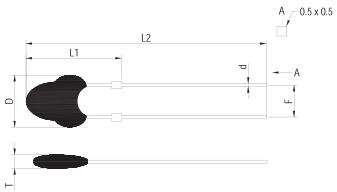
Dimensions

2/3 Tin. Plated copper wire

Code	D_{MAX}	$L1_{MAX}$	$L2_{MIN}$	d ± 0.05	F ± 0.05
2	2	3	25	0.35	1.5
3	3	4	25	0.4 / 0.5	2.5

Part No. MF5A-3E

Figure

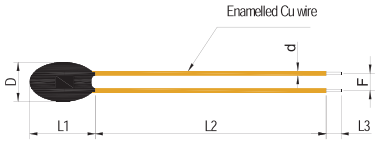


Dimensions

3E/3P:Tinned steel wire

Code	D_{MAX}	$L1_{MAX}$	L_2 ± 1.5	d_{MAX}	F ± 0.5	T_{MAX}
3E	3.8	9.5	17	0.5	2.5	3.5
3P	3.5	20.3	29.5	0.6	2.5	3.5

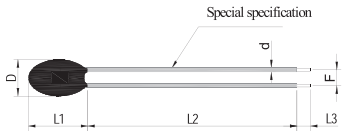
MF5A-4



4:Enameled wire

Code	D_{MAX}	$L1_{MAX}$	$L2_{MIN}$	L 3 ± 1	d ± 0.05	F ±0.05
4	2	3	decided by user	5	0.32	2

MF5A-5



5:Teflon/PVC/XLPE wire Or other

Code	D_{MAX}	$L1_{MAX}$	$L2_{MIN}$	L 3 ±1	d± 0.05	F ± 0.05
5T	3	7	decided by user	5	0.25/0.32/ 0.4	2.0
5P	3	7	decided by user	5	0.25/0.32/ 0.4	2.0
5F	3	7	decided by user	5	0.25/0.32/ 0.4	2.0
5X	3	7	decided by user	5	0.25/0.32/ 0.4	2.0

Ordering code

MF5A (1) x (2) xxx (3) x (4) xxxx (5)

(1) Epoxy coating thermistor MF5A series
(2) Lead wire style code :
Model 2/3: Tin. Plated copper wire
Model 3 E/3P: Tinned steel wire
Model 4: Enameled wire
Model 5:5T: High temperature Teflon wire/5P:PVC wire/5F:XLPE wire /5X: other
Model F: 5F: Customer required material and size
(3) Resistance value at 25°C
(4) Resistance tolerance code : (F : ±1%, G : ±2%, H : ±3%, J : ±5%, K : ±10%)
(5) Beta value

Electrical characteristics

Part No.	Rated Resistance R_{25}	B Value (25/50°C)	Rated Power (mW)	Disst. Coef. (mW/°C)	Themal time Constant (S)	Operating Temp. (°C)
MF5A□□□3100	0.1 ~ 20	3100	≤50	≥2.0 In Still Air	≤7 In Still Air	-40 ~ +150°C
MF5A□□□3270	0.2 ~ 20	3270				
MF5A□□□3380	0.5 ~ 50	3380				
MF5A□□□3470	0.5 ~ 50	3470				
MF5A□□□3600	1 ~ 100	3600				
MF5A□□□3950	5 ~ 100	3950				
MF5A□□□4000	5 ~ 100	4000				
MF5A□□□4050	5 ~ 200	4050				
MF5A□□□4150	10 ~ 250	4150				
MF5A□□□4300	20 ~ 500	4300				
MF5A□□□4500	20 ~ 500	4500				

Notes:

MF56 Series

NTC Thermistor

MF56 series high precision NTC thermistor is packed by polyimide insulation film, its thin film packing enable it works with fast response time and suitable for very compact mounting room.

Typical Applications

- Printer
- Copying machine
- Multi-function machines
- Heat flowmeter
- Lithium Battery

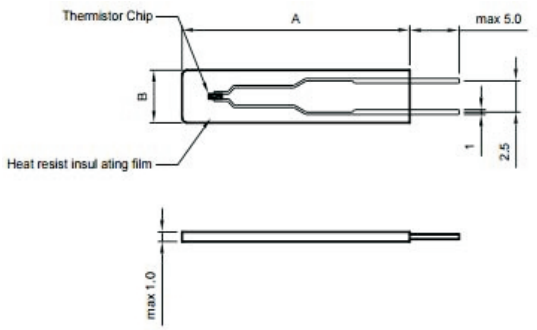
Features

- Thin thickness
- Miniature size
- Radial lead
- Fast response

Electric parameter

Item	Parameter
Resistance Rang	0.3~3000kΩ
Thermal Time	5s in constant temperature oil tank
Operating Temperature Range	-30 - 120 °C
Dissi. Coef. (In the still air)	2 mW/°C
Voltage Withstanding	DC500V, ≥ 100MΩ
Insulation Resistance	AC 500V , ≥ 1minute

Dimensions (mm)



Model	Size	
	A	B
MF5A-6	25~75	3.75-5.5

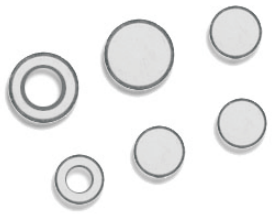
Ordering Guide

MF5A-6	A	103	F	3950	F
FM56 Series NTC thermistor	Size Code (see Dimensions)	Resistance value at 25°C	Resistance tolerancecode F - ±1% G - ±2% H - ±3% J - ±5% K - ±10%	Beta value (25/50)	1Beta tolerance code F - ±1% G - ±2% H - ±3% J - ±5% K - ±10%

MF57 Series

NTC Thermistor

MF57 Series thermistor used for automotive electronics (diesel locomotive, large motor, oil-immersed transformer) of the cooling system for fixed point temperature sensing element, temperature measurement can also be applied to other places.



Typical Applications

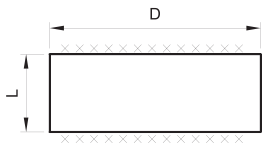
- Temperature sensing and measuring in automobile cooling system
- Larger power electric engine
- Combustion engine
- Oil transformer etc.
- Also applicable for temperature measuring on other occasions.

Features

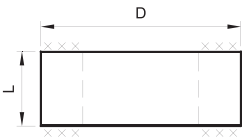
- High reliability and long life
- High sensibility, easy to be replaced
- Wide temperature range
- For Automobile use

Dimensions (mm)

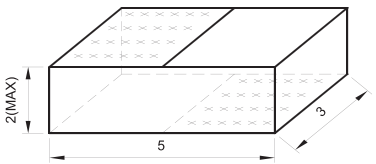
xxx: Sliver Plating Φ D: 5.0 - 10.0 ±0.5 L : 1.2 - 3.0 ±0.2



MF57A



MF57B



MF57C

Ordering code

MF57	A	xxx	x	xxxx	x
(1)	(2)	(3)	(4)	(5)	(6)

(1) MF57 series

(2) Size code, see Dimensions.

(3) Resistance value at 25°C.

(4) Resistance tolerance.

Code	Tolerance (25°C)%	Code	Tolerance (25°C)%
E	±0.5	H	±3.0
F	±1.0	J	±5.0
G	±2.0	K	±10.0

(5) Beta value, unit: K.

(6) B value Temperature code.

Code	T1/T2
A	25/50(Default)
B	25/85
E	Defined by Customer

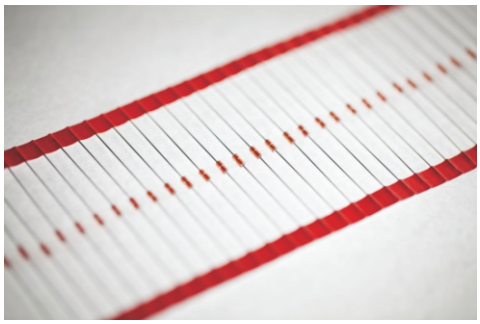
Electrical characteristics

Model	Rate Resistance		B Value		Rated Power	Measuring Power	Themal time Constan	Dissi. Coef.	Operating Temp
	R_{25}	Tolerance	B	Tolerance					
	Ω	%	K	%	W	mW	S	mW/°C	°C
MF57□□□2700	220-630	±1% ±3% ±5%	2700	±1% ±3% ±5%	0.3 0.5	≤0.5	≤60	6~13	-55~+125
MF57□□□3000	270-5.1K		3000						
MF57□□□3300	270-5.1K		3300						
MF57□□□3600	270-5.1K		3600						
MF57□□□3900	270-5.1K		3900						
MF57□□□4100	330-6.8K		4100						
MF57□□□4300	330-6.8K		4300						

MF58 Series

NTC Thermistor

MF58 series high precision NTC thermistor is chip in glass thermistor in small size which is made from new material and by new technique. With the advantage of high precision, fast response, reliable stability, it can be used in air-conditioner, heating apparatus, electric thermometer, liquid level sense, automobile electricity, electrical calendar etc.



Typical Applications

- Air conditioning equipment
- Heating equipment
- Electronic thermometer
- Electronic calendar
- Cell phone batteries
- Office automation facilities

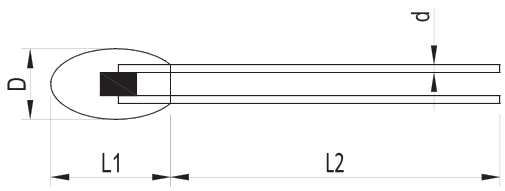
Features

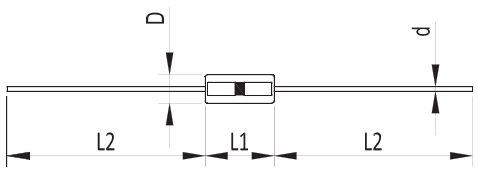
- Small size
- Fast response
- Good interchangeability and consistency
- Radial lead, Axial lead

Physical characteristics

Model	Dissi. Coef.(mW/℃)	Thermal time Constant (s)		P_{MAX} (mW)
	In still air	In still air	In stirred oil	
MF58A	1.2~1.3	10~11	0.9~1.1	≤50
MF58B	0.7~0.8	4~5	0.3~0.4	≤35
MF58C	2.4~2.5	8~10	1.1~1.2	≤100

Dimensions (mm)





MF58A / MF58B MF58C

Model	D_{MAX}	$L1_{MAX}$	$L2_{MAX}$	d±0.05
MF58A	2.2	4.1	30	0.25
MF58B	1.5	2.5	30	0.2

MF58C	1.85	3.85	28	0.5

Ordering code

MF58	A	xxx	x	xxxx	x
(1)	(2)	(3)	(4)	(5)	(6)

(6) Glass thermistor MF58 series
(7) Size code :
Model A: Radial lead glass bead 2.0mm
Model B: Radial lead glass bead 1.5mm
Model C: Axial lead glass DO-35 pack
(8) Resistance value at 25°C
(9) Resistance tolerance.

Code	Tolerance (25°C)%	Code	Tolerance (25°C)%
E	±0.5	H	±3.0
F	±1.0	J	±5.0
G	±2.0	K	±10.0

(10)Beta value, unit: K.

(11)B value Temperature code.

Code	T1/T2
A	25/50(Default)
B	25/85
E	Defined by Customer

Electrical characteristics

Model	Resistance		B Value		Operating Temp.
	R_{25}	Tolerance	B	Tolerance	
	kΩ	%	K	%	°C
MF58□□□3450□	2~10	±1% ±2% ±3% ±5%	3450	±0.5% ±1% ±2%	-40~250
MF58□□□3750□	8~10		3750		
MF58□□□3950□	10~50		3950		
MF58□□□4150□	50~100		4150		
MF58□□□4200□	100~350		4200		
MF58□□□4350□	870~980		4350		
MF58□□□4450□	1000~1500		4450		

Notes:

7. The 1st □ fills with code of dimension.
8. The 2nd □ fills with rated resistance.
9. The 3rd □ fills with resistance precision symbol.
10. The 4th □ fills with B value precision symbol.
11. We will be able to supply products according to client's demands.

MZ6 Series

PTC thermistors

The temperature range is from 60 to 180°C. PTC thermistor beads with different rated response temperatures can be connected in series.

PTC thermistors are used to monitor temperature in machines and installations. The design ensures short response time and easy installation.

Typical Applications

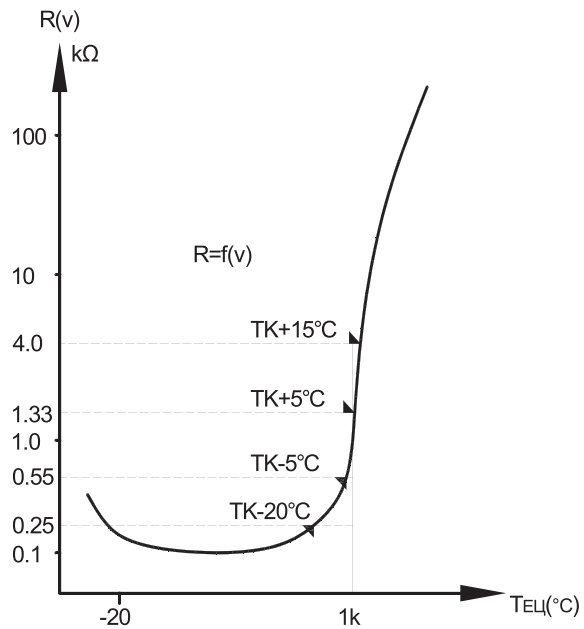
- Motor protect
- Power Device
-
-

Features

- Wide temperature range
- Response fast
- Easy installation

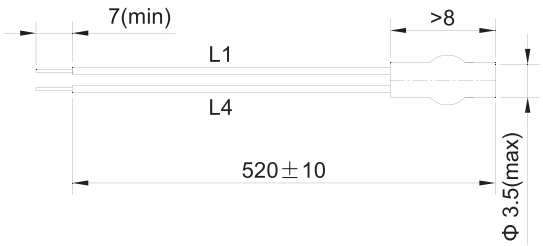
Technical Data

Item	Single	Triple	Unit
Max. Working Voltage(DC)	25	25	V
Rated Control Temperature T_K	To Customer Requirement		°C
Rated Control Temperature TollerenceΔT_1	±5	±5	°C
Reproducibility of TKΔT_2	±0.5	±0.5	°C
Resistance value at 25°C	≤100	≤300	Ω
Resistance value at TK-5°C	≤550	≤1600	Ω
Resistance value at TK+5°C	≥1330	≥4000	Ω
Resistance value at TK+15°C	≥4	≥12	kΩ
Thermal response Time T_a	≤5	≤5	s
Strength of Electrical Insulation U_{is}	AC2.5	AC2.5	kV
Max. Controlled Temperature	180	180	°C
Max. Storage Temperature	180	180	°C
Min Storage Temperature	-40	-40	°C

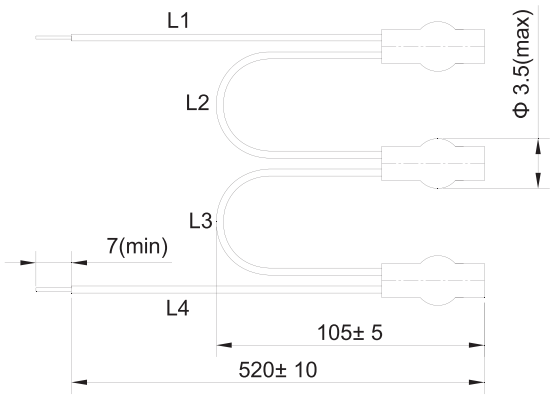


PTC Characteristic Curve

Dimensions (mm)



PTC Single Thermistor



PTC Triple Thermistor

Ordering Guide

MZ6	130	D	S
Positive Sensing Components for Temperature Control	Specified T_K (See **Wire color code**)	E: single thermistor Z: double thermistor D: triple thermistor S: Sextuple thermistor	S: Standard wire length K: Custom designed wire length

Wire color code

T_K(°C)	60	70	80	90	100	105	110	115	120	125
1	White	White	White	Green	Red	Blue	Brown	Blue	Gray	Red
2	Gray	Brown	White	Green	Red	Gray	Brown	Green	Gray	Green

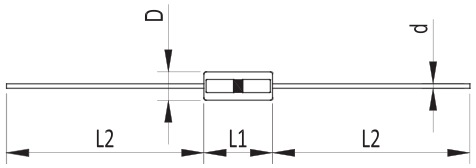
T_K(°C)	130	135	140	145	150	155	160	170	180
1	Blue	Red	White	White	Black	Blue	Blue	White	White
2	Blue	Black	Blue	Black	Black	Black	Red	Green	Red

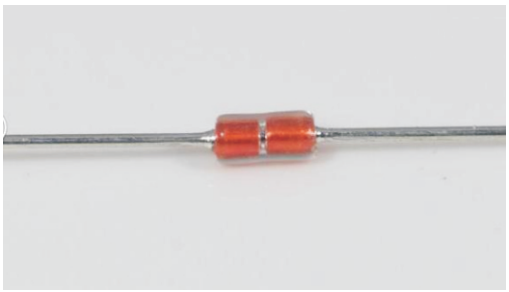
Part Number	Resistance (Ω)	Tolerance (%)	Operating Temperature (℃)	Corresponding to market general models
LPTC83-110	R25=1000	±1%	-40℃ ~ 150℃	KTY83-1KΩ series
LPTC83-120	R25=1000	±2%		
LPTC83-121	R25=1000	-2%		
LPTC83-122	R25=1000	+2%		
LPTC83-150	R25=1000	±5%		
LPTC83-151	R25=1000	-5%		
LPTC83-152	R25=1000	+5%		
LPTC81-110	R25=1000	±1%	-55℃ ~ +150℃	KTY81-1KΩ series
LPTC81-120	R25=1000	±2%		
LPTC81-121	R25=1000	-2%		
LPTC81-122	R25=1000	+2%		
LPTC81-150	R25=1000	±5%		
LPTC81-151	R25=1000	-5%		
LPTC81-152	R25=1000	+5%		
LPTC81-210	R25=2000	±1%	-55℃ ~ +150℃	KTY81-2KΩ series
LPTC81-220	R25=2000	±2%		
LPTC81-221	R25=2000	-2%		
LPTC81-222	R25=2000	+2		
LPTC81-250	R25=2000	±5%		
LPTC81-251	R25=2000	-5%		
LPTC81-252	R25=2000	+5%		
LPTC84-130	R100=1000	±3%	-40℃ ~ +180℃	KTY84 series
LPTC84-150	R100=1000	±5%		
LPTC84-151	R100=1000	-5%		
LPTC84-152	R100=1000	+5%		
LPTC-200	R25=200	±3% ; +5%、-5%	-40℃ ~ +160℃	
LPTC-500	R25=500	±3% ; +5%、-5%		
LPTC-1200	R25=1200	±3% ; +5%、-5%	-50℃ ~ +125℃	
LPTC-1600	R25=1600	±3% ; +5%、-5%		
LPTC-3000	R25=3000	±3%		
LPTC-4000	R25=4050	±3%		

Note: Table ahead included standard PN. More parameters and packing type please contact Focusens sales for details

Our LPTC series silicon PTC thermistor is packed in DO35 glass. The high temperature glass sealing process enable it high reliable and high temperature resist. Tolerence can be ±1%、+2%、-2%、+3%、-3%、+5%、-5%.

Shape and Size (mm)





Model	Pack	D_{MAX}	$L1_{MAX}$	$L2_{MAX}$	d±0.05
LPTC	DO35	1.85	3.85	28	0.5

Typical Application

- Temperature measuring and control for auto
- Household apparatus
- For micro motor
- Temperature measuring and control for medical

Characteristics

- DO35 axial lead thermistor
- Positive Temperature coefficient
- High reliable and steability
- Working temperature range：-40-250℃

Electrical Parameters

Temperature Range	Dissapation Factor (mW/℃)	Time Constant (s)		P_{MAX} (mW)	IMax(mA)
	In still air	In still air	In stering water		
-40-250℃	2.5~5	8~10	1.1~1.2	≤100	1.0

NTC thermistor is Negative Temperature Coefficient of Thermistor resistor, whose primary function is to be exhibit a change in electrical resistance with a change in body temperature. Its resistance decrease with the increase of temperature.
Chip NTC thermistor has smaller size and faster response time, suitable for all kinds of miniaturization of products.

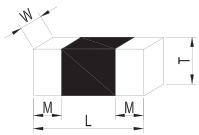
Typical Applications

- Rechargeable batteries and CPU.
- LCD、Crystal oscillator
- Temperature compensation
- Temperature sensing for various types of circuits.

Features

- Small size and fast response
- Corresponding to high B Value

Dimensions (mm)



Size	L(length)	W(width)	T(thickness)	M(width of termination point)
0603 (1608)	.063±.006 (1.6±0.15)	.031±.006 (0.8±0.15)	.037max (0.95max)	.004min (0.10min)
0805 (2012)	.08±.008 (2.0±0.20)	.05±.008 (1.25±0.2)	.05max (1.25max)	.006min (0.15min)
1206 (3216)	.126±.008 (3.2±0.20)	.063±.008 (1.6±0.20)	.063max (1.60max)	.008min (0.20min)

Ordering code

STN	10	xxx	x	xxxx	x	N	T
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

(1) Product Code: Chip NTC Thermistor

(2) Size

Code	Size (Inches)
10	0603
21	0805
31	1206

(3) Rated zero-power resistance (R25)

The first two are significant figure of resistance and the third one expresses number of following zeros.

Tolerance of R25 (%)

Code	Tolerance of R_{25}
E	±0.5
F	±1.0
G	±2.0
H	±3.0
J	±5.0
K	±10.0
X	Special tolerance

(4) B value constant Unit: K

(5) Tolerance of B value (%)

Code	Tolerance of B value
E	±0.5
F	±1.0
G	±2.0
H	±3.0
J	±5.0
X	Special tolerance

(6) Termination Code:

N—Nickel Barrier

(7) Packaging:

T—Tape & Reel,

B—Bulk

Products Application Overview

智能楼宇

Thermistors for
Smart Building

汽车热敏电阻元件

Thermistors for Auto.

智能家居电器

Temp.Sensors for
White Goods

新能源汽车温感器

NTC Sensors for
EV car & Power Supply

智能厨房电器

Temp.Sensors for Kitchen

燃油汽车温感器

Temp.Sensors for Auto.

OA设备

Thermistor for OA

重复使用医疗温感探头

Reusable Medical Sensor

消费电子

Thermistor for Consuming Devices

一次性医用温感探头

Disposable Medical Sensor

仪器仪表

Temp.Sensor for meters

温度保险丝及温控开关

Thermal Fuse & Temp.Protector

Focus Sensing and Control Technology Co.,LTD

Add:No.1 XiSan Road, Electromechanical Industry Park ,

High&New Tech.Zone. Hefei,Anhui,China .PC. 230088

Tel： +86-551-69109668 ， Fax：+86-551-69109669