



PT RECTANGLE MOTOR TEMPERATURE SENSOR

- Epoxy Resin Encapsulation
- Teflon® Insulated Lead-wire
- Wide Temperature Design

Product Description

The temperature sensors are mainly used to monitor the temperature of the stator winding, transfer the temperature of the objects into a resistance output. Pt thermistors connected to Teflon® wire, sensor assembly encapsulated by epoxy resin and plastic housing.

Features

- PT thermistor
- Temperature range: $-40^{\circ}\text{C} \sim +200^{\circ}\text{C}$
- Insulation resistance: $\geq 100\text{Mohm}$
- High-pot strength: $>2300\text{VAC}$
- Plastic housing encapsulation
- Lead Wire: Teflon®

Applications

- Motor stator
- Industrial system
- Air conditioning systems
- White Goods

Sensor specifications

Assembly Encapsulation	Plastic housing
Sensor Dimension	4.3*2.4*17
Temperature Coefficient of Resistance	3850 ppm/°C
Temperature Range	-40°C~+200°C
Resistance Accuracy	Class A or Class B
Operating Current	PT100 Max. 1.0mA
	PT1000 Max. 0.3mA
Insulation Resistance	≥100MΩ, 500 VDC, at room temperature
Dielectric Strength	2300VAC, 0.5mA Max, at room temperature
Response time	t ₅₀ in water <3s
Wire Size	22AWG

Recommended Storage Conditions

The recommended storage conditions.

Parameter	Symbol	Min	Typical	Max	Units
Storage Temperature Range	T _{store}	-20	+25	+85	°C

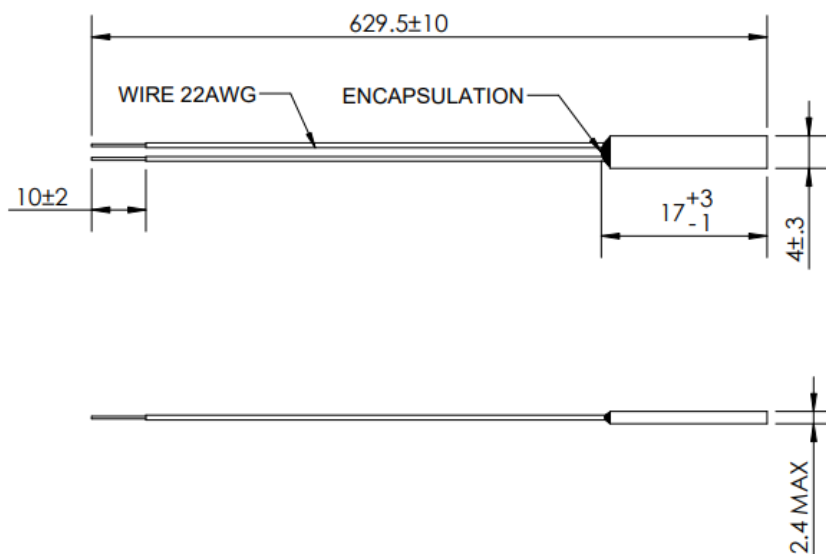
Installation Tips

- For the sensor assembly to accurately track temperature, it should be installed as deep as possible into a well or holder to let the sensor head as closer as measurement point.
- Don't grip the sensor head with high pressure.

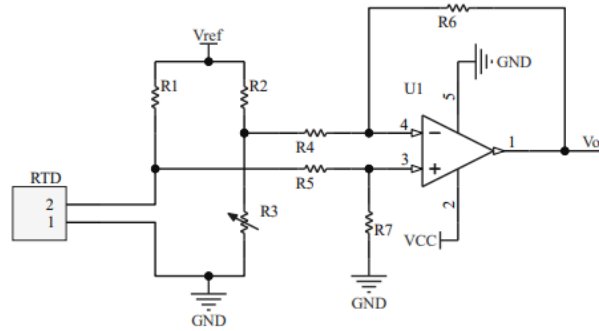
Compliance

- RoHS and Reach Compliance

Diagrams and Dimensions



Circuit Suggestion



Calculation Formulas

The calculation formulas of these Pt-RTD according to DIN EN 60751:

Condition	Formulas
For $T \geq 0^{\circ}\text{C}$	$R(t) = R(0) * (1+At+Bt^2)$
For $T < 0^{\circ}\text{C}$	$R(t) = R(0) * [1+At+Bt^2+C(t-100)t^3]$
Coefficients	$A = 3.9083\text{E-}03, B = -5.775\text{E-}07, C = -4.183\text{E-}12$

Tolerances: class F0.15 (A): $\pm (0.15+0.002*|T/^{\circ}\text{C}|)$ $^{\circ}\text{C}$ (-50 ~ +300 $^{\circ}\text{C}$)

Tolerances: class F0.3 (B): $\pm (0.3+0.005*|T/^{\circ}\text{C}|)$ $^{\circ}\text{C}$ (-70 ~ +500 $^{\circ}\text{C}$)

Customize parameter

Model Sensor	Resistance [Ω] @ +0 $^{\circ}\text{C}$	Tolerance
1	100	class F0.15 (A)
2	100	class F0.3 (B)
3	1,000	class F0.15 (A)
4	1,000	class F0.3 (B)

Total Length	Wire color
---- Define 'L' Length in mm	Yellow

Ordering Information

Description	Stocked Part Number
L = 629.5 \pm 10 mm / PT100 CLA / Yellow cable	20016310-00
L = 629.5 \pm 10 mm / PT1000 CLA / Yellow cable	20017374-00

Change History

<i>Date</i>	<i>Version</i>	<i>Change Description</i>
2022-08-08	A	Initial Release
2023-02-16	A1	Updated the part number

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