SENSOR_CNSE Series

Epoxy resin encapsulation structure

◆ Application Introduction

The thermistor sensor with an epoxy resin encapsulated head is an electronic measurement component that integrates temperature sensing with reliable protection. The core of this sensor is the thermistor chip, which is highly sensitive to temperature changes and efficiently converts temperature signals into resistance value signals. Epoxy resin, used as the encapsulation material for the head, possesses many excellent properties.

It is hard yet tough, providing solid physical protection for the thermistor chip, effectively resisting external mechanical shock, vibration, and abrasion, ensuring the chip's stability and reliability in complex environments.

Simultaneously, epoxy resin offers excellent electrical insulation, preventing electrical short circuits between the chip and the external environment, ensuring the sensor's normal operation.

Additionally, epoxy resin has good chemical stability, able to withstand corrosion from various chemicals, adapting to different working environments.

◆ Features

1. Temperature measurement accuracy up to ±0.1℃, meeting high-precision application requirements
2. Supports a temperature measurement range of -40℃ to +150℃
3. Dual epoxy resin encapsulation model offers better moisture resistance
4. The thermistor features fast response characteristics, enabling real-time reflection of temperature changes

◆ Applications

1. New Energy Vehicles
2. AI Servers, Server Power Supplies, Robots
3. Air Conditioning Systems, Refrigeration Systems
4. Automotive Interior Temperature Sensing
5. Fan Air Temperature Measurement
6. Ambient or Indoor Temperature Measurement

◆ 编码原则

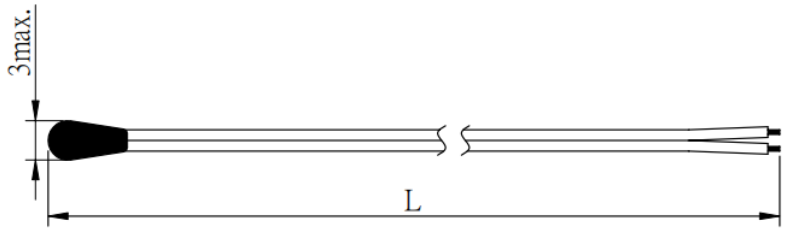
1	2	3	4		5	6	7	8	9		10	11	12~18
Product Type			Series			Resistance Value			Resistance value accuracy		B value		Internal Control Code
CNS	NTC Chip		E0	105℃	Epoxy Resin Encapsulation Structure	103	10KΩ		F	±1%	34	B(25/85)=3435	
			E1	150℃		473	47KΩ		G	±2%	38	B(25/50)=3800	
			E2	80℃		502	5KΩ		H	±3%	39	B(25/50)=3950	
			E3	125℃					J	±5%	40	B(25/85)=4000	

◆ 规格

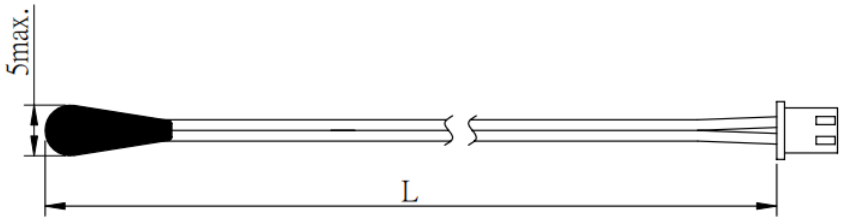
Part Number (Model No.)	Zero Power Resistance at 25℃	Tolerance of Resistance	B-Value	Thermal Dissipation Constant	Thermal Time Constant	Operating Temperature Range
	(KΩ)	(±%)	(K)	(mW/℃)	(s)	(℃)
CNSKC202@MM	2	1,2,3,5	(B25/85)3530	≤ 3	≤ 10	-40℃ ~ 150℃
CNSKC4A2@MM	4.7		(B25/100)3985			
CNSKC502@MM	5		(B25/50)3950			
CNSKC6A2@MM	6.8		(B25/50)3950			
CNSKC103@MM	10		(B25/85)3435			
CNSKC153@MM	15		(B25/50)4150			
CNSKC473@MM	47		(B25/50)3950			
CNSKC104@MM	100		(B25/85)3950			
CNSKC204@MM	200		(B25/50)3899			

K Customer application code May be A、E、F、G、H
C Temperature resistance rating:0(105℃)、1(150℃)、2(80℃)、3(125℃)
@ Resistance value accuracy:F:±1%; G:±2%; H:±3%; J:±5% or difference tolerance of the R25
MM B value

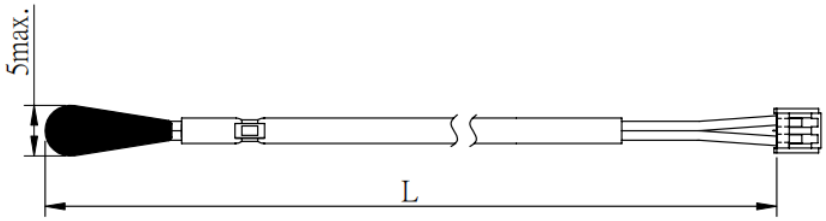
◆ 产品



Application Scope	Industrial control motors, electric tools
Characteristics	Small size, fast response speed
Working Temperature	-40℃~+125℃
Thermal Time Constant	About 10 seconds



Application Scope	Smart toilet, environmental temperature detection, electric bike
Characteristics	Good stability
Working Temperature	-40℃~+125℃
Thermal Time Constant	About 10 seconds



Application Scope	Temperature measurement of air conditioning room temperature
Characteristics	Fast temperature sensing speed
Working Temperature	-40℃~+105℃
Thermal Time Constant	About 10 seconds