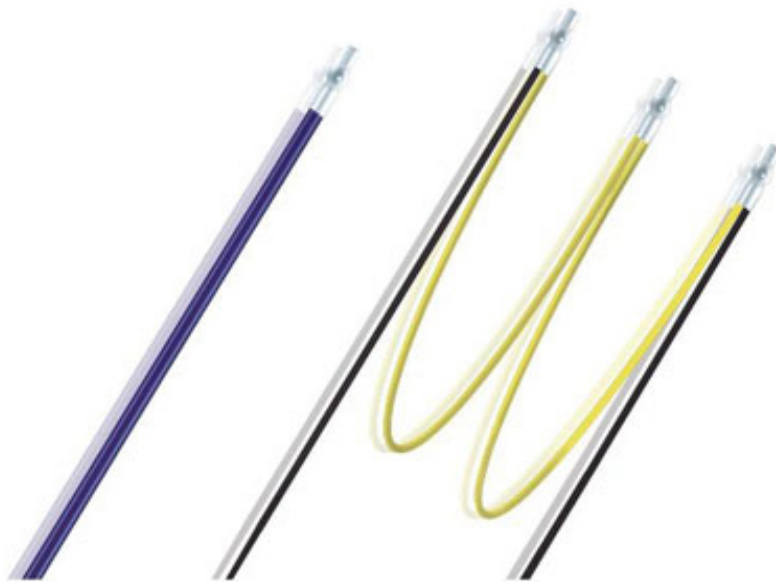


Mz6 Type PTC-Thermistors For Electric Motor Protection

Patent number: ZL 01 2 48476.8 CE File No:TCCE01085



Mz6 type

1.SUMMARIZATION

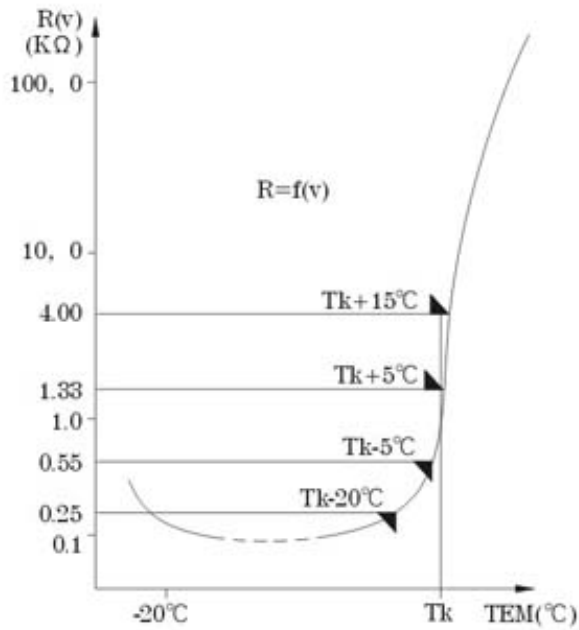
MZ6 Type PTC-Thermistors is for electric motor protection. The key technology was introduced from the United States of America in 1990s. Already has had more than 10 years' production experience. It is available for different products and also available for the over temperature protection on the main parts inside the electric motor. For example, the PTC thermistors are embedded into the three-phase electric motor stator winding. When the temperature of stator winding of electric motor up to the insulation grade temperature of insulated material the resistance of PTC Thermistors will rise at the same time .And the signal is transmitted to the protector to switch off the current of electric motor and finally prevent the electric motor from being burned out .This way is widely used in the world.

2.CHARACTERISTIC

Mz6 Type PTC-Thermistors For Electric Motor Protection accords with the international standard of DIN44081.The dimension is small (size: 1.8 × 0.6mm),response is quick, the kind of products is complete. The performance of PTC Thermistors is stable, and reliable for a long time use. Especially when lacks of phases it can rapidly respond to protect the electric motor as well.

3. TECHNICAL PARAMETER

Technical parameter		Single PTC	Triple PTC	Units
Max.working voltage	U _{max}	30	30	V
Normal Using Voltage/Current	V	≤2.5/<2	≤2.5/<2	V/mA
Rated action temperature	T _k	60~180	60~180	°C
T _k tolerance		±5	±5	°C
T _k repeatability	ΔT	±0.5	±0.5	°C
Resistance in normal tempertaure T=25°C±1°C(V≤2.5V)	R ₂₅	≤100	≤300	Ω
PTC resistance at certain temperature	T _k -5°C	≤550	≤1650	Ω
PTC resistance at certain temperature	T _k +5°C	≥1330	≥3990	Ω
PTC resistance at certain temperature	T _k +15°C	≥4	≥12	KΩ
Resistance (-20°C~T _k -20°C)		≤250	≤750	Ω
T _k Actuation Time	T _d	<5	<5	S
Insulation strength	V	2.5	2.5	KV
Maximum storage temperature	T _{lmax}	125	125	°C
Maximum storage temperature	T _{lmax}	-25	-25	°C
Lead wire color		See the colorful coding below		
Weight	Wt	2	3.5	g



Single core MZ6 thermistor resistance- temperature curve

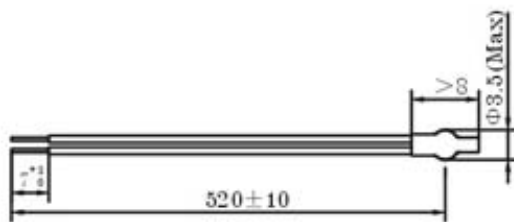
Single core MZ6 thermistor curve

At -20°C to $T_k-20^{\circ}\text{C}$, $R \leq 250 \Omega$;

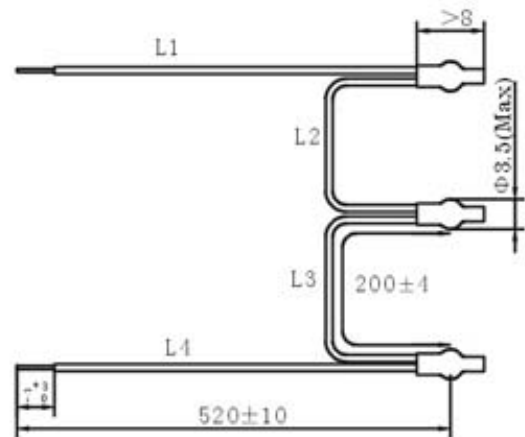
at $T_k-5^{\circ}\text{C}$, $R \leq 550 \Omega$; at $T_k+5^{\circ}\text{C}$, $R \geq 1330 \Omega$;

at $T_k+5^{\circ}\text{C}$, $R \geq 4000 \Omega$;

All of above is measured under the voltage of $U \leq 2.5\text{V DC}$.



Single core MZ6 thermistor (standard size)



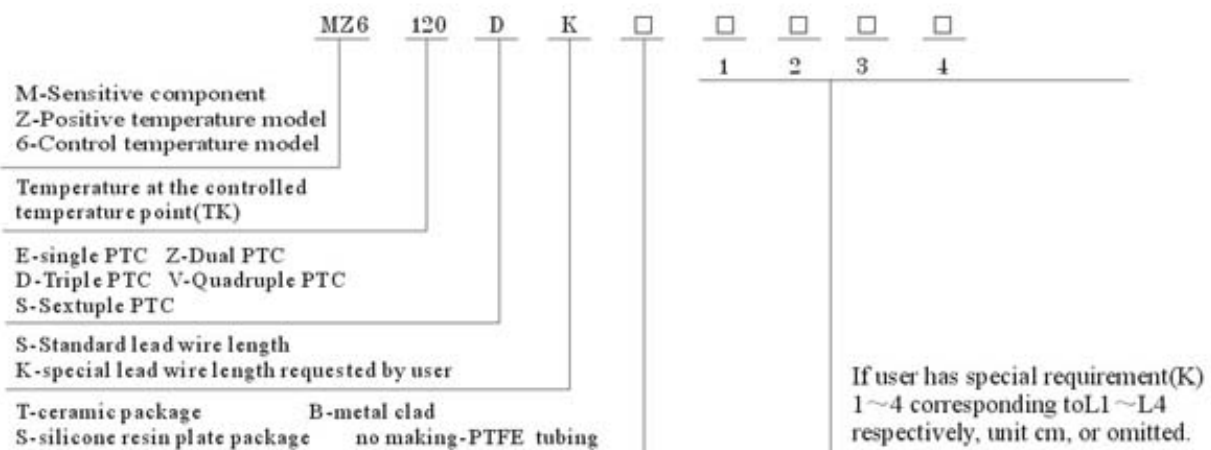
Three cores MZ6 thermistor (standard size)

4.COLOR CODING (For different temperature ratings)

Reaction Temp (Tk)	30	40	50	60	70	80	90	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	180
Ist wire color	Brown	brown	brown	white	white	white	green	red	blue	brown	blue	gray	red	blue	red	white	white	black	blue	blue	blue	white	white
Last wire color	Black	red	gray	gray	brown	white	green	red	gray	brown	green	gray	green	blue	black	blue	black	black	black	red	brown	green	red

Yellow wires are used between adjoining thermistors.

5.SPECIFICATIONS AND MODEL



6. OPERATING INSTRUCTION

The electric motor of different insulation rank selects the different Tk temperature thermistor, its parameter is shown at following table (only reference).

Electric motor insulation rank	Limited Working Temperature	Thermistor (TK)
Y	90	80~85℃
A	105	95~100℃
E	120	110~115℃
B	130	120~125℃
F	155	145~150℃
H	180	170~175℃
C	above 180	above 180

SAFETY ATTENTION

● INSTALLATION

⚠ Attention! Do not strike or squeeze the sensor part of the thermistors when installation, prevented the product's interior precise structure from damaging. Please refer to the installation instructions.

● WIRING

⚠ Danger! When wiring the motor, please make sure the alternating current is cut off.

Attention!

- Before selects PTC thermistor, Please refer to " SPECIFICATION " part and related important information.
- Before install PTC thermistor, Please refer to " INSTALLATION " a part and related important information.

● ATTENTION

※ Do not pull the product s' lead wires hard, prevent the lead wires from being broke off.

1. Installation

Installs the sensor part of PTC thermistor in the electric motor' coil (refer to picture).

2. Wiring

※ Connect the PTC thermistor 's lead wire to the wiring terminal of the motor junction box and fasten it.

※ The wiring work must be handled by the special electrician, in order to avoid getting an electric shock or causing the product to be damaged.

※ Connect the lead wire of the PTC thermistor to the right wiring terminal and fix it firmly.

⚠ Danger! When wiring, please make sure the alternating current being cut off.