

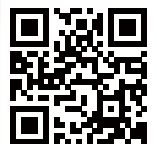
Electric Vehicle Traction Motor Application

THINKING SENSOR

Electric Vehicle Application



Traction Motor



EV Traction Motor Application

Stator Winding Temperature Sensor

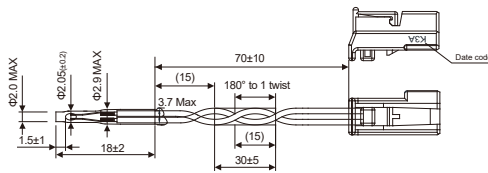
Applications

- Temperature monitoring of stator winding in electric vehicle

Features

- Wide operating temperature range: $-40^{\circ}\text{C} \sim +200^{\circ}\text{C}$
- Utilizing THINKING high-temperature NTC thermistor, which offers excellent accuracy, stability, and reliability
- Sensing top covered by dual-layered heat shrink provides excellent resistance to mechanical shock, moisture, and corrosion
- Alternative length of lead wires, terminals, connectors, and electrical characteristics are available

Temperature monitoring of stator winding



1

Feature | Cylinder probe head shape

Operation Temperature | $-40^{\circ}\text{C} \sim +200^{\circ}\text{C}$

Thermal Time Constant | <4 seconds (in water)

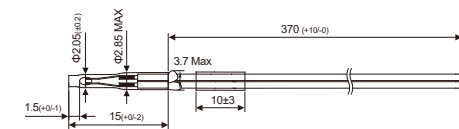
R Value & B Value | $R180=0.4637\text{K}\Omega \pm 2\%$, $B0/100=3970\text{K} \pm 1\%$

Insulation Test | DC 500V 100M Ω (Min)

Hi-Pot Test | AC 2000V 1.5mA (Max)

Moisture Resistance | Pass 40°C 95% RH x 1000 hours test

Temperature monitoring of stator winding



2

Feature | Cylinder probe head shape

Operation Temperature | $-40^{\circ}\text{C} \sim +200^{\circ}\text{C}$

Thermal Time Constant | <4 seconds (in water)

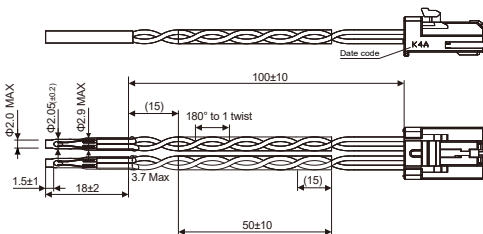
R Value & B Value | $R180=0.176\text{K}\Omega \pm 2\%$, $B25/85=3435\text{K} \pm 1\%$

Insulation Test | DC 500V 300M Ω (Min)

Hi-Pot Test | AC 2000V 1mA (Max)

Moisture Resistance | Pass 40°C 95% RH x 1000 hours test

Temperature monitoring of stator winding



3

Feature | Dual cylinder probe head shape structure

Operation Temperature | $-40^{\circ}\text{C} \sim +200^{\circ}\text{C}$

Thermal Time Constant | <4 seconds (in water)

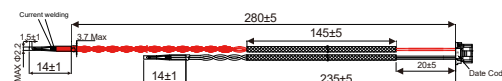
R Value & B Value | $R180=0.4637\text{K}\Omega \pm 2\%$, $B0/100=3970\text{K} \pm 1\%$

Insulation Test | DC 500V 100M Ω (Min)

Hi-Pot Test | AC 2000V 1.5mA (Max)

Moisture Resistance | Pass 40°C 95% RH x 1000 hours test

Temperature monitoring of stator winding



4

Feature | Dual cylinder probe head shape structure

Operation Temperature | $-40^{\circ}\text{C} \sim +200^{\circ}\text{C}$

Thermal Time Constant | <4 seconds (in water)

R Value & B Value | $R180=0.4637\text{K}\Omega \pm 2\%$, $B0/100=3970\text{K} \pm 1\%$

Insulation Test | DC 500V 100M Ω (Min)

Hi-Pot Test | AC 1800V 1.5mA (Max)

Moisture Resistance | Pass 40°C 95% RH x 1000 hours test