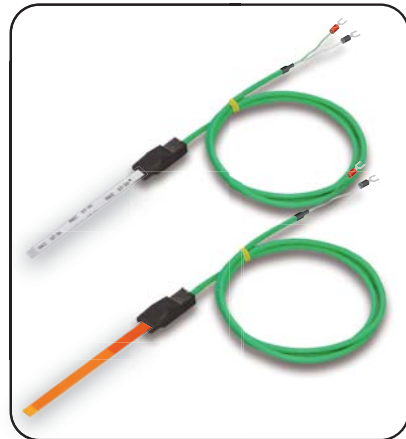
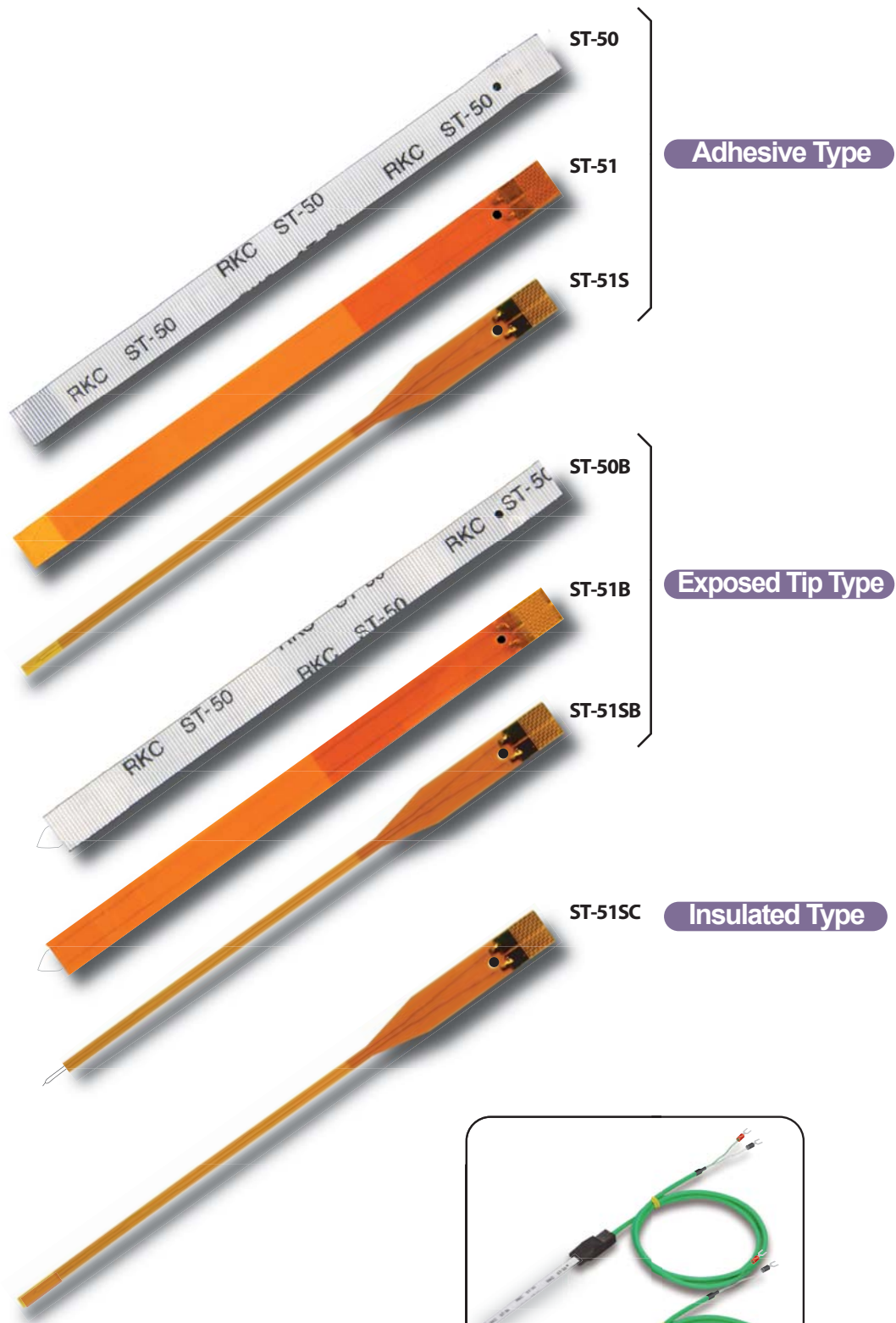


Film Type TEMPERATURE SENSORS

Film Type Temperature Sensors
(Type K Thermocouple)

ST-50 Series



「Self-Adhesive」「Thin Design」

Film Type Thermocouple Sensors

Adhesive Type



ST-50 **Max. 300°C**
Glass cloth base type



ST-51 **Max. 300°C**
Polyimide sheet type



ST-51S **Max. 300°C**
Polyimide sheet type

Exposed Tip Type



ST-50B **Max. 300°C**
Glass cloth base type

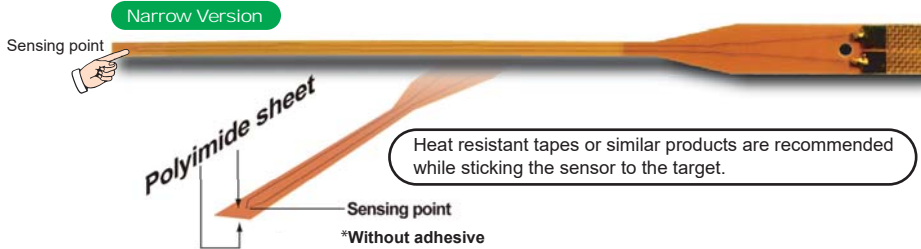


ST-51B **Max. 300°C**
Polyimide sheet type



ST-51SB **Max. 300°C**
Polyimide sheet type

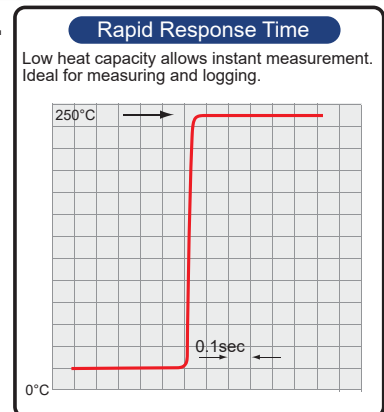
Insulated Type



NEW
ST-51SC **Max. 300°C**
Polyimide sheet type

Features

- Ideal for measuring hard-to-reach target with its thin film design.
- Compatible with all Type K Thermocouple Input instruments.
- Easily stick on target with Self-Adhesive Type or insert between two touching surfaces with Exposed Tip Type. Use Polyimide (PI) Insulated Type for applications where electrical insulation is needed.



< ST-50B / ST-51B / ST-51SB characteristic curve >

Measuring Examples

- Temperature inspection for LED
- Temperature inspection for glass plate heating process
- Temperature inspection for COF pasting process
- Temperature inspection for power modules
- Heating temperature of a shaft bearing and a motor.
- Temperature profiling for packaging & sealing machine.

0.34-mm-thick glass cloth.

Available in lengths of 100/300/500mm.

- Thermocouple wire diameter of 50 μ m and 100 μ m are available with 100mm long sensor.
- Thermocouple wire diameter of 100 μ m is available with 300mm and 500mm long sensors.

0.13-mm-thick Polyimide (PI) film.

Ideal for using in cleanroom facilities.

- Available in lengths of 100/500mm(ST-51/ST-51B).
- Please consult our sales representative for length of 300mm or 500mm

Model/Dimensions Unit : mm	Specification							
	Type	Film Thickness (mm)	Film Material	Measuring Range(*1)	95% of Response Time(*2)	Resistance with 1m of extension wire	Accuracy (*3)	Packaging
Model : ST-50 Thermocouple: K (Diameter 50 μ m) (Adhesive part (Silicone Adhesive))	Adhesive Type	0.34	Glass cloth base	0~300°C	0.08sec.	51 Ω	$\pm 1.3^\circ\text{C}$	5 pieces/pack
Model : ST-50-100-D Thermocouple: K (Diameter 100 μ m) (Adhesive part (Silicone Adhesive))						17 Ω	$\pm 1.5^\circ\text{C}$	5 pieces/pack
Model : ST-50-300 Thermocouple: K (Diameter 100 μ m) (Adhesive part (Silicone Adhesive))						41 Ω	$\pm 1.5^\circ\text{C}$	1 piece/pack
Model : ST-50-500 Thermocouple: K (Diameter 100 μ m) (Adhesive part (Silicone Adhesive))						66 Ω	$\pm 1.5^\circ\text{C}$	1 piece/pack
Model : ST-51-100-C Thermocouple: K (Diameter 50 μ m) (Adhesive part (Silicone Adhesive)) Enhanced Protection 40mm (Thickness : 0.18mm)						51 Ω	$\pm 1.3^\circ\text{C}$	5 pieces/pack
Model : ST-51-500-D Thermocouple: K (Diameter 100 μ m) (Adhesive part (Silicone Adhesive)) Enhanced Protection 40mm (Thickness : 0.18mm)						66 Ω	$\pm 1.5^\circ\text{C}$	1 piece/pack
Model : ST-51S-100-C Thermocouple: K (Diameter 50 μ m) (Adhesive part (Silicone Adhesive)) Enhanced Protection 40mm (Thickness : 0.18mm)	Exposed Tip Type	0.13	Polyimide sheet	-40~+300°C	0.03sec.	51 Ω	$\pm 1.2^\circ\text{C}$	5 pieces/pack
Model : ST-50B-100-04 Thermocouple: K (Diameter 50 μ m) (Exposed tip part)						51 Ω	$\pm 1.3^\circ\text{C}$	5 pieces/pack
Model : ST-50B-100-04-D Thermocouple: K (Diameter 100 μ m) (Exposed tip part)						17 Ω	$\pm 1.5^\circ\text{C}$	5 pieces/pack
Model : ST-50B-300-04 Thermocouple: K (Diameter 100 μ m) (Exposed tip part)						41 Ω	$\pm 1.5^\circ\text{C}$	1 piece/pack
Model : ST-50B-500-04 Thermocouple: K (Diameter 100 μ m) (Exposed tip part)						66 Ω	$\pm 1.5^\circ\text{C}$	1 piece/pack
Model : ST-51B-100-04-C Thermocouple: K (Diameter 50 μ m) (Exposed tip part) Enhanced Protection 40mm (Thickness : 0.18mm)						51 Ω	$\pm 1.3^\circ\text{C}$	5 pieces/pack
Model : ST-51B-500-04-D Thermocouple: K (Diameter 100 μ m) (Exposed tip part) Enhanced Protection 40mm (Thickness : 0.18mm)	66 Ω	$\pm 1.5^\circ\text{C}$	1 piece/pack					
Model : ST-51SB-100-04-C Thermocouple: K (Diameter 50 μ m) (Exposed tip part) Enhanced Protection 40mm (Thickness : 0.18mm)	Insulated Type	0.13	Polyimide sheet	-40~+300°C	0.32sec.	51 Ω	$\pm 1.2^\circ\text{C}$	5 pieces/pack
Model : ST-51SC-100-C Thermocouple: K (Diameter 50 μ m) (Exposed tip part) Enhanced Protection 40mm (Thickness : 0.18mm)						51 Ω	$\pm 1.2^\circ\text{C}$	5 pieces/pack

Type of sensor: Type K thermocouple element class 2

(*1) Self-Adhesive section is good for multiple uses under following conditions: 1. Object temperature $\leq 150^\circ\text{C}$. 2. Object temperature is maintained between 150°C and 200°C . 3. Object temperature is maintained between 250°C and 300°C .

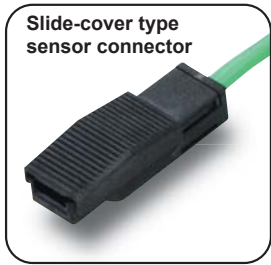
*Result may be affected by environment and object surface condition.

*Silicone adhesive is used and no siloxane is generated.

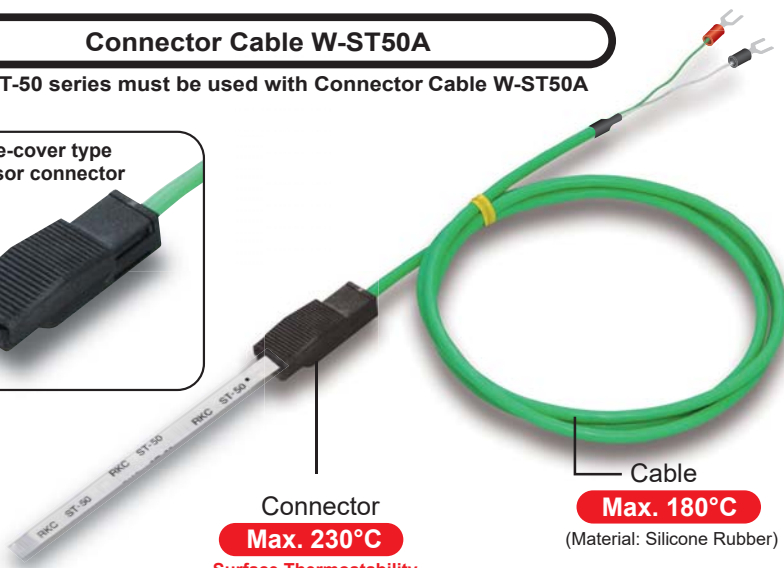
(*2) While measuring paraffin wax temperature of 250°C .(*3) While measuring copper surface temperature of 100°C . *Exposed-Tip type is tested with using of polyimide adhesive.○Response time of measuring metal surface (Adhesive Type only): 50 μ m element wire type: 0.4sec. 100 μ m element wire type: 0.9sec.

Connector Cable W-ST50A

* All ST-50 series must be used with Connector Cable W-ST50A



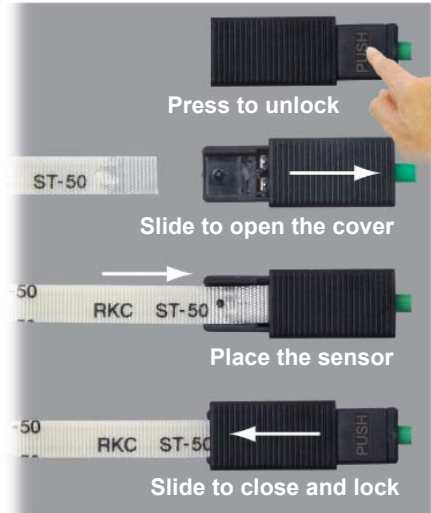
Slide-cover type sensor connector



Connector
Max. 230°C
Surface Thermostability
(Material: Polyphenylene sulfide (PPS))

Cable
Max. 180°C
(Material: Silicone Rubber)

Easy for sensor installation and exchange
Slide-cover type sensor connector

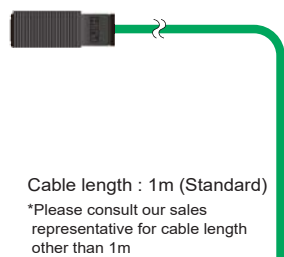


Connector Cable Models

ST-50 Series



Connector Cable



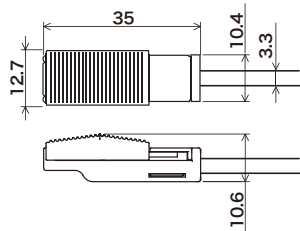
Cable length : 1m (Standard)
*Please consult our sales representative for cable length other than 1m

Connector Cable Specification

- Connector material:** Polyphenylene sulfide (PPS)
- Connector Surface thermostability:** 230°C
- Cable material:** Silicone Rubber(Green)
- Cable thermostability:** 180°C
- Thermocouple Extension Wire:** KX Class 1, Φ3.3mm Standard 1m
- Resistance with 1m cable:** 8.5Ω or less
- Weight:** Approx. 20g (1m cable, Y-shaped terminal lug)

Connector Cable Dimensions

Unit : mm



<p>Y-shaped terminal lug</p> <p>W-ST50A-1000-Y3</p> <p>Solder</p> <p>W-ST50A-1000-N</p> <p>Non-treatment</p> <p>W-ST50A-1000-C</p> <p>Miniature-Thermocouple connector plug (CMP-01)</p> <p>W-ST50A-1000-TM1</p> <p>Connector for DP-700</p> <p>W-ST50A-1000-6C</p> <p>Connector for DP-350</p> <p>W-ST50A-1000-3C</p>	<p>Indicator, Controller, Recorder</p> <p>AG500, etc</p> <p>FZ Series, etc</p> <p>VGR-B100, etc</p> <p>Temperature measuring instrument (Thermocouple K Input type)</p> <p>Handheld Thermometer</p> <p>DP-700 DP-350</p>
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Safety Warning

- This product is intended for use with industrial machines, test and measuring equipment. It is not designed for use with medical equipment.
- If it is possible that an accident may occur as a result of the failure of the product or some other abnormality, an appropriate independent protection device must be installed.
- Do not touch the sensor with high-voltage connections or high-current line such as power supply terminals, or do not stick the sensor to avoid electric shock or failure.

Caution for the export trade

All transactions must comply with laws, regulations, and treaties.

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