

Heaters / Temperature Sensors / Heat Insulating Plates

Cartridge Heaters



Standard Type
P.1532



Internal Wiring Type
P.1533



Flanged Type
P.1534



With Sensor
P.1535

P.1529



L Type
P.1536

Temperature Sensors



High Temperature
K-Thermocouple
P.1539



Screw Mount
K-Thermocouple
P.1540



Screw Mount PT100 Type
P.1541



Round Terminal Bendable
K-Thermocouple
P.1542

P.1537



Screw Mount Bendable
K-Thermocouple
P.1543



Round Terminal
K-Thermocouple
P.1544



Standard Screw Mount
K-Thermocouple
P.1545



Standard Screw Mount
PT100 Type
P.1546



Screw Mount Bendable
PT100 Type
P.1547



PTFE
PTFE Compensating Cable
for K-Thermocouple
P.1548



Glass Fiber
Glass Fiber Compensating
Cable for K-Thermocouple
P.1549



K-Thermocouple
Connectors
P.1550



Mounting Parts
P.1550

**Temperature
Controllers**



Standard Type
P.1553



RS485
Communication Type
P.1554

P.1551

**Heat
Insulation
Plates**



Normal Grade, Temperature
Resistance Within 220 °C
P.1557



High Temperature Insulating Grade,
Heat Resistance Within 300 °C
P.1558



High Strength, Normal Grade,
Heat Resistance Within 220 °C
P.1559



High Strength and High Temperature Insulating
Grade, Heat Resistance Within 300 °C
P.1560

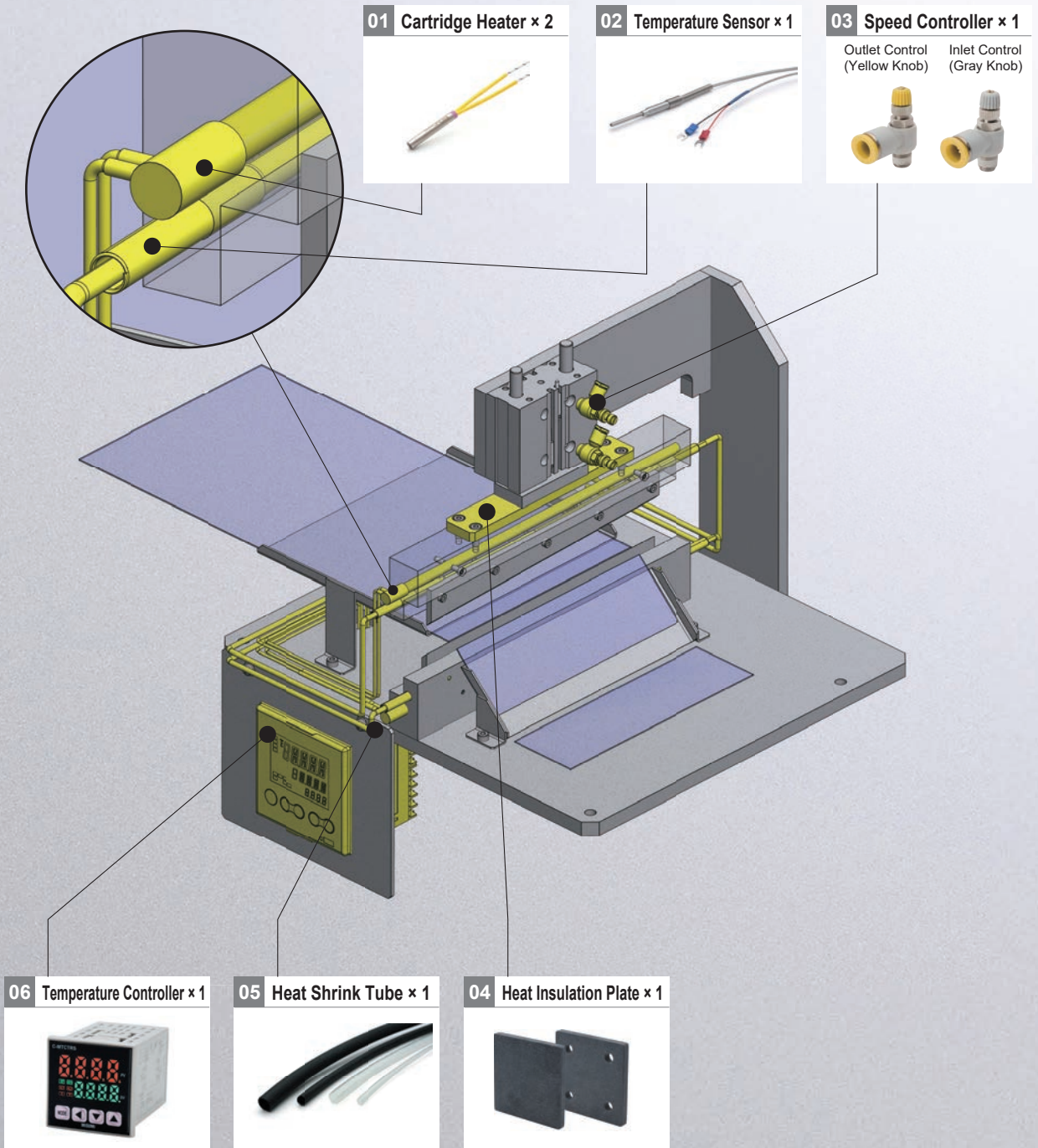
P.1555

Film Thermal Cutting Mechanism

Application **Electronic & Electrical** **Packing**

This figure shows the mechanism for cutting resin film by adjusting the temperature with a cartridge heater.

It is often used to provide local heat in the production and manufacturing process to achieve the best performance and provide heat accurately and effectively.



01 Cartridge Heater × 2 P.1532



Diameter 6mm
Length 40mm
Rated Capacity 80W
E-MCHK6-40-V220-W80

438
THB/pcs

Quantity	Unit price	Total price
1	438	438
4	373	1,492

02 Temperature Sensor × 1 P.1539



Protection Sleeve-Protection
Tube Diameter d(φ) 3mm
Protection Tube Length 30mm
C-MSND3-30

625
THB/pcs

Quantity	Unit price	Total price
1	625	625
4	531	2,124

03 Speed Controllers × 1 P.1150



Outlet Control (Yellow Knob) Inlet Control (Gray Knob)

Control Direction Outlet Control
Tube Nominal Diameter 6mm
Thread Nominal 1(R1/8)
PACK-MESLA6-1

1,269
THB/pack

Quantity	Unit price	Total price
1	1,269	1,269
4	1,079	4,316

04 Heat Insulation Plate × 1 P.1557



Temperature Insulating Normal Insulating Grade
(Temperature Resistance Within 220 °C)
Length 70mm
Width 20mm
Thickness 5mm
E-HIPLA-70-20-5

274
THB/pcs

Quantity	Unit price	Total price
1	274	274
4	219	876

05 Heat Shrink Tube × 1 P.469



Flame retardance Provided
I.D. (Before shrinkage) 1.5mm
I.D. (After shrinkage) ≤0.65mm
Packing specification 100m/roll
MTUBE-B-1

225
THB/roll

Quantity	Unit price	Total price
1	225	225
10	192	1,920

06 Temperature Controller × 1 P.1553



Relay/Voltage Output Free Switching
C-MTCTRS

1,376
THB/pcs

Quantity	Unit price	Total price
1	1,376	1,376
4	1,170	4,680

* All products prices are without tax. For prices reference, please visit MISUMI official website.

* The reference price is estimated based on the quantity or approximate length of the product used in the example, and is not calculated as a starting price.

Economy series Cartridge Heaters

High quality raw materials,
life and quality assurance

Stock items will be shipped
on the same day at the earliest

vs Standard Type

Saving
up to
78%



22

Heaters / Temperature Sensors /
Heat Insulating Plates

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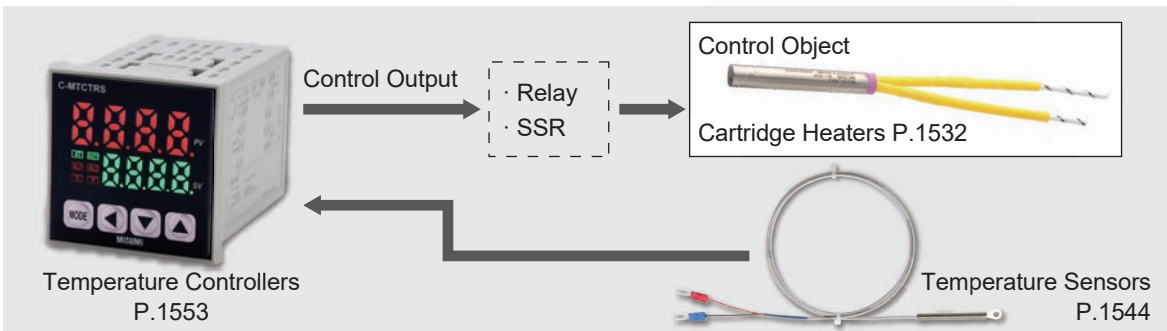
Feature

- It is a long-life and high-power heater, which is most suitable for heating metal plates as the main purpose.
- MISUMI Economy series heaters standardize the specifications that are frequently used in the market, and can meet the needs of users to shorten the delivery time.



Basic Composition (Example)

A complete set of goods are available in MISUMI Economy series, realizing one-stop purchase.

As shown in the figure below, the heater should be used in combination with the temperature sensor and the temperature controller.



Difference between MISUMI Economy series and generic products on the market

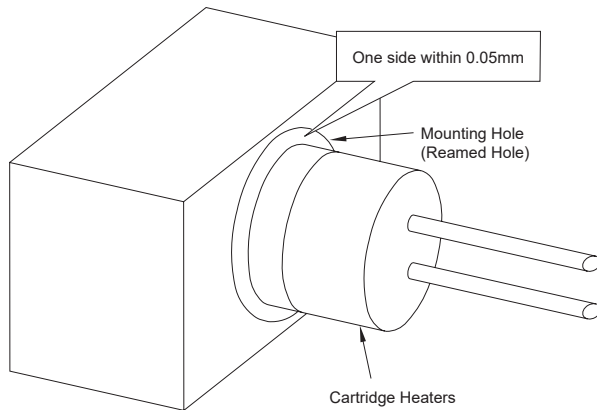
	Generic products on the market*	MISUMI Economy series
Equivalent 4000H Life Test*		
Result	Short circuited, damaged and can not be used	Can still be used normally

* Test method, pursuant to GB/T7287-2008 Standard

* Generic products on the market are similar products randomly purchased by our company from online or offline markets

* The test data are obtained through testing by our company, which are for reference only.

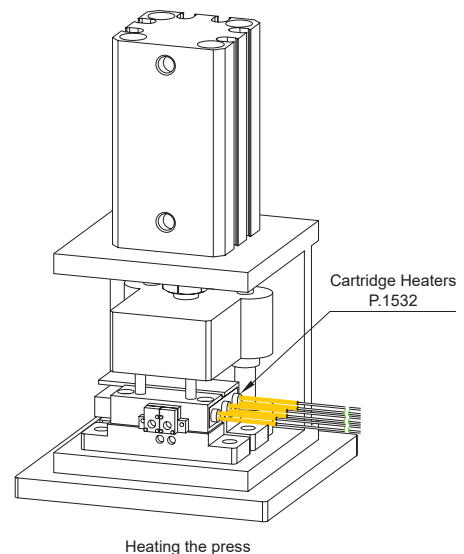
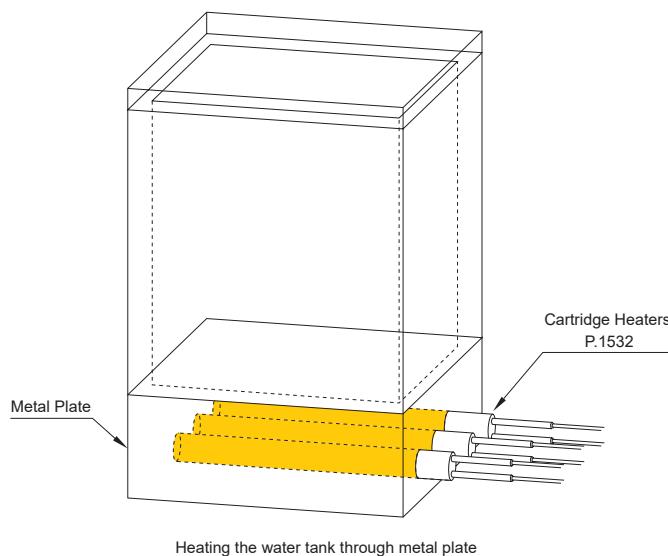
Mounting Method



· Please minimize the installation clearance of the heated metal block
When machining the metal block mounting holes, it is recommended that the one-sided clearance is 0.05mm or less

- * The tightness between the heater and the object to be heated affects the life of the heater. Moreover, the large gap will prolong the heating time and slow down the response speed of temperature control. Drilled holes can also be used, but reamed holes are recommended for all heater mounting holes.
- * The service life of the heater will change greatly due to the usage environment. Improper operating temperature, temperature adjustment methods, etc. may result in disconnection within a short time period, so it is recommended to prepare a spare cartridge heater in advance.

Example of Use



Precautions for use

- ① Do not leave the heater dry heating in the air.
- ② Please prevent the wire and insulator part of the heater from water and wet or damp area, otherwise it may cause electrical leakage or short circuit.
- ③ The nickel bar at the root of the wire may break after repeated bending.
- ④ When taking out the heater from the heated object, please be sure to disconnect the power supply, and do not touch the heater that has just been disconnected from the power supply.
- ⑤ Abnormal short ON→OFF cycles will adversely affect the life of the heater, and it is recommended to use a PID-controlled controller.
- ⑥ Do not use power supply with a voltage exceeding the rated voltage (V).

Heater Selection

- Determine the required heater heat (W)

It can be calculated with the following formula according to the mass, specific heat, rising temperature, and the heating time required to reach the set temperature of the heated object.

$$\text{Required Heater Heat (kW)} = \frac{\text{Mass of the heated object (kg)} \times \text{Specific heat of the heated object (kcal/kg}^\circ\text{C)} \times \text{rising temperature of the heated object (}^\circ\text{C)}}{860 \times \text{Heating Time (h)} \times \text{Efficiency (}\eta\text{)}}$$

The efficiency varies with heat preservation, thermal insulation, heater settings, etc, so it is difficult to calculate correctly, but generally 0.2 to 0.5 is appropriate.

Specific Gravity-Specific Heat of Main Materials

Material	Specific Gravity (g/cm ³)	Specific Heat (kcal/kg [°] C)
Aluminum (A7075P Category)	2.80	0.230
Steel	7.85	0.113
Stainless Steel	7.82	0.110
Brass	8.70	0.100

Example: if you want to make 200×100×50(mm) stainless steel block heater with a mass of about 8kg heated to 180°C.
The heating time of a block heater from 20°C to the set temperature is set to 30 minutes.

$$\text{Required Heater Heat (kW)} = \frac{8 \times 0.11 \times (180 - 20)}{860 \times 0.5 \times 0.3} = 1.1(\text{kW}) = 1100(\text{W})$$

* For standard specifications, the efficiency is set to 0.3. Please refer to the following chart for the measured data of temperature rise time classified by power.

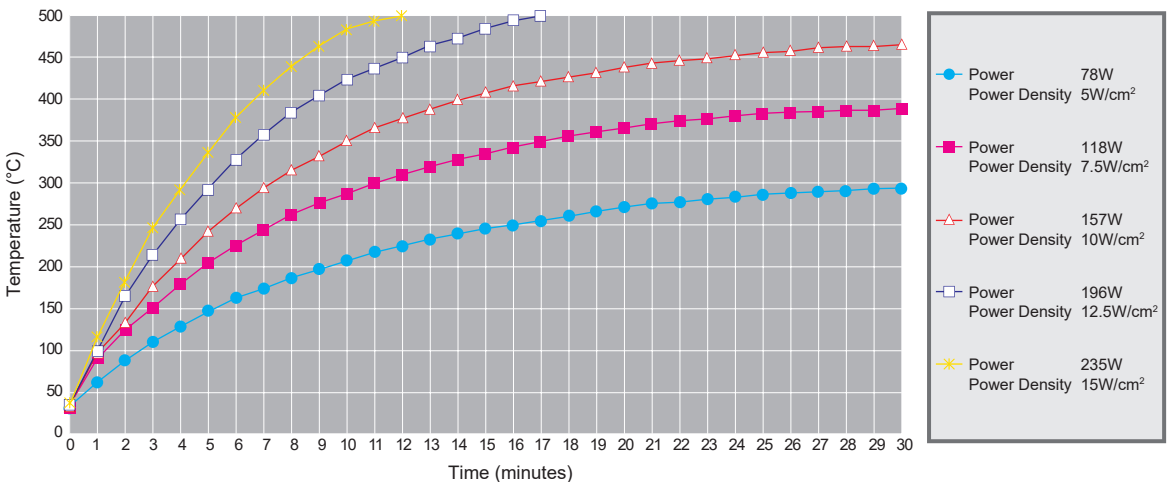
- Determine the number of heaters and the heat of each heater (W).

The number of heaters is determined according to the size of the heated object, and the total heat (W) is the heat required by the heated object.
Example: Use 2 heaters of 550(W) (1100W in total).

Cartridge Heater Selection

- Determine the diameter of the heater
- Determine the length of the heater
- Determine the heat required by the heated object(W)

Measured data of temperature rise time classified by power

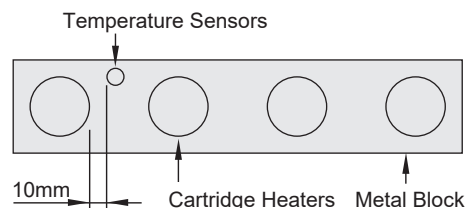


* Heater Used: Diameter φ10, Length 65mm (Heating Part 50mm)
* Heated Object: Aluminum (60×50×20)
* The temperature is the central surface temperature of aluminum.

Temperature Control

- Although the position of the temperature sensor should be determined according to the setting conditions of the heated object (metal block), it is recommended to set it as close to the heater as possible, in order to prevent the heater from overheating.

* Normally, the distance between the heater and the temperature sensor is about 10mm.



Representative model: E-MCHK6-40-V220-W80



Save Up to **56%**
vs Standard Type

Shipping
from
1 day

438 THB

Volume Discount

Quantity	1~3	4~5	6~
Discount	Unit Price	15%	30%



Shipping days may differ by Quantity.
Quantity of volume discount above is for representative Part No. It may differ by the Part.

D Tolerance * The tolerance is the value of the heat generating part.

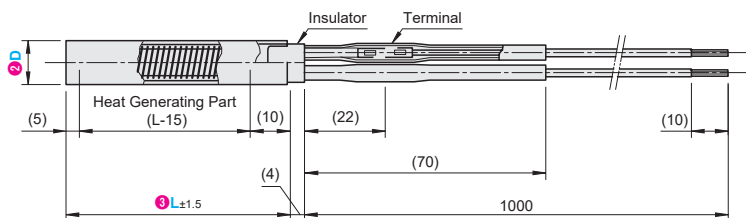
D(mm)	Tolerance (mm)
5~12	-0.03 -0.06

Maximum operating temperature: 600°C

Wire heat resistant temperature: 260°C

When machining the metal block mounting holes, it is recommended that the one-sided clearance is 0.05mm or less.

Material: Main Body: SUS321
Wire: Nickel (Ni)
Wire Coating: PTFE



Part Number		Length (L) mm	Rated Voltage V	Rated Capacity W	Power Density W/cm ²
Type	Dia. (D) mm				
E-MCHK	5	30	220	40	8.5
		40	220	40	6.4
		40	220	60	9.6
		50	220	50	6.4
		60	220	100	10.6
	6	80	220	150	11.9
		30	220	50	8.8
		40	220	80	10.6
		50	220	100	10.6
		60	220	130	11.5
	6.25	80	220	100	6.6
		80	220	200	13.2
		60	220	50	4.2
	8	100	220	120	6.1
		30	220	60	8
		50	220	100	8
		50	220	150	11.9
		100	220	200	8
	10	100	220	350	13.9
		50	220	120	7.6
100		220	400	12.7	
12	100	220	300	8	
	150	220	500	8.8	

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Heaters / Temperature Sensors / Heat Insulating Plates

Cartridge Heaters P.1529

Temperature Sensors P.1537

Temperature Controllers P.1551

Heat Insulation Plates P.1555

Ordering Example

Please order after selecting part number and parameters according to the selection steps 1 to 5.

Part Number (1 Type · 2 Dia. (D)) - (3 Length (L)) - (4 Rated Voltage) - (5 Rated Capacity)
E-MCHK6 - 40 - V220 - W80

How to search on website

By Type: Search on MISUMI official website
E-MCHK

By Keyword: Step 1 Search on MISUMI official website
cartridge heater

Step 2 Select MISUMI economy series brand
 MISUMI MISUMI economy

MISUMI contact

Tel: 038-959200 or 1382
Email: cs@misumi.co.th

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Cartridge Heaters Internal Wiring Type

Representative model: E-MCHG8-100-V220-W200

Save Up to **65%**
vs Standard Type

Shipping
from
1 day



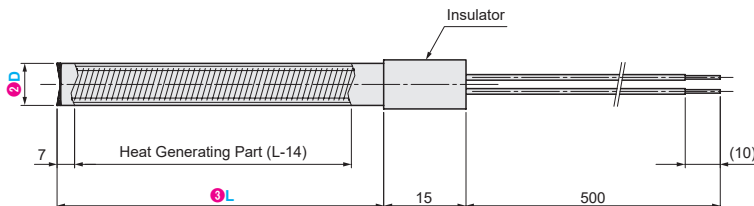
1,050 THB

Volume Discount

Quantity	1~3	4~5	6~
Discount	Unit Price	15%	30%



Shipping days may differ by Quantity.
Quantity of volume discount above is for representative Part No. It may differ by the Part.



D Tolerance * The tolerance is the value of the heat generating part.

D(mm)	Tolerance (mm)
8~12	-0.03 -0.06

Maximum operating temperature: 600°C

Wire heat resistant temperature: 260°C

When machining the metal block mounting holes, it is recommended that the one-sided clearance is 0.05mm or less.

Material: Main Body: SUS321
Wire: Nickel (Ni)
Wire Coating: PTFE

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Heaters / Temperature Sensors /
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Part Number		③ Length (L) mm	④ Rated Voltage V	⑤ Rated Capacity W	Power Density W/cm ²
① Type	② Dia. (D) mm				
E-MCHG	8	60	220	100	6.6
		60	220	120	8
		80	220	150	7.5
		100	220	200	8
		150	220	300	8
		150	220	350	9.3
	10	60	220	120	6.4
		60	220	150	8
		80	220	150	6
		80	220	180	7.2
		100	220	200	6.4
		100	220	250	8
	12	150	220	300	6.4
		150	220	450	9.6
		60	220	100	4.4
60		220	150	6.6	
80		220	250	8.3	
		100	220	300	8
		150	220	300	5.3
		150	220	500	8.8

Ordering Example

Please order after selecting part number and parameters according to the selection steps ① to ⑤.

Part Number (① Type · ② Dia. (D)) - ③ Length (L) - ④ Rated Voltage - ⑤ Rated Capacity
E-MCHG8 - 100 - V220 - W200

How to search on website



By Type

Search on MISUMI official website

E-MCHG



By Keyword

Step 1 Search on MISUMI official website

cartridge heater

Step 2 Select MISUMI economy series brand

MISUMI



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Representative model: E-MCFH6-100-V220-W240

Save Up to **71%** vs Standard Type

Shipping from **1 day**

969

THB

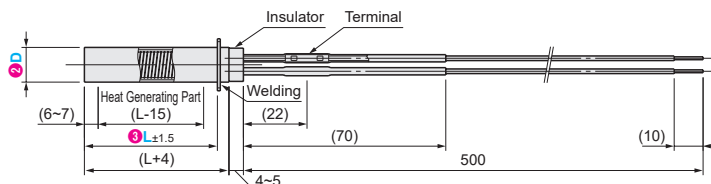


Volume Discount

Quantity	1~3	4~5	6~
Discount	Unit Price	15%	30%



Shipping days may differ by Quantity.
Quantity of volume discount above is for representative Part No. It may differ by the Part.

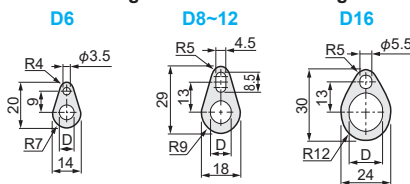


Flange Dimensional Drawing

D Tolerance * The tolerance is the value of the heat generating part.

D(mm)	Tolerance (mm)
6~16	-0.03 -0.06

- Maximum operating temperature: 600°C
- Wire heat resistant temperature: 260°C
- When machining the metal block mounting holes, it is recommended that the one-sided clearance is 0.05mm or less.



Material: Main Body: SUS321
Wire: Nickel (Ni)
Wire Coating: PTFE
Flange: SUS304

Part Number	1 Type	2 Dia. (D) mm	3 Length (L) mm	4 Rated Voltage V	5 Rated Capacity W	Power Density W/cm ²
		6	100	220	240	12.7
		6	100	220	320	12.7
		6	150	220	270	7.2
		6	150	220	500	13.2
		6	180	220	330	7.3
		6	180	220	620	13.7
		6	200	220	500	10
		6	200	220	690	13.7
		6	200	220	800	15.9
		6	250	220	700	11.1
		8	150	220	500	10.6
		8	180	220	720	12.7
		8	200	220	450	7.2
		8	200	220	650	10.3
		8	200	220	860	13.7
		8	250	220	880	11.2
		8	250	220	1100	14
		10	180	220	700	10.3
		10	200	220	1050	13.9
		10	250	220	1300	13.8
		12	200	220	1200	11.9
		12	300	220	1500	10

Ordering Example

Please order after selecting part number and parameters according to the selection steps 1 to 5.

Part Number (1 Type · 2 Dia. (D)) - 3 Length (L) - 4 Rated Voltage - 5 Rated Capacity
E-MCFH6 - 100 - V220 - W240



By Type Search on MISUMI official website
E-MCFH

By Keyword Step 1 Search on MISUMI official website
cartridge heater

Step 2 Select MISUMI economy series brand
MISUMI economy

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Representative model: E-MCHSSS8-50-V220-W80

Save Up to **78%**
vs Standard Type

Shipping
from
1 day



969

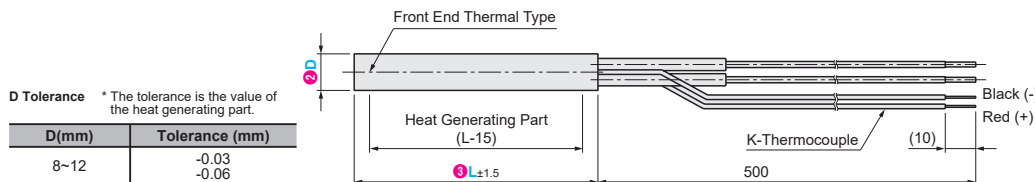
THB

Volume Discount

Quantity	1~3	4~5	6~
Discount	Unit Price	15%	30%



Shipping days may differ by Quantity.
Quantity of volume discount above is for representative Part No. It may differ by the Part.



D Tolerance * The tolerance is the value of the heat generating part.

D(mm)	Tolerance (mm)
8~12	-0.03 -0.06

Maximum operating temperature: 600°C

Wire heat resistant temperature: 260°C

When machining the metal block mounting holes, it is recommended that the one-sided clearance is 0.05mm or less.

Material: Main Body: SUS321
Wire: Nickel (Ni)
Wire Coating: PTFE

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Part Number	1 Type	2 Dia. (D) mm	3 Length (L) mm	4 Rated Voltage V	5 Rated Capacity W	Power Density W/cm ²			
E-MCHSSS	8	8	50	220	80	6.3			
			50	220	100	8			
			80	220	120	6			
			80	220	160	8			
			120	220	200	6.6			
			120	220	280	9.3			
			150	220	260	6.9			
			150	220	350	9.3			
			10	10	10	50	220	90	5.7
						50	220	120	7.6
						80	220	150	6
						80	220	200	8
						120	220	250	6.6
						120	220	350	9.3
	12	12	12	50	220	320	6.8		
				50	220	450	9.6		
				50	220	90	4.8		
				50	220	150	8		
				80	220	140	4.6		
				80	220	180	6		
	12	12	12	80	220	230	7.6		
				120	220	250	5.5		
				120	220	380	8.4		
				150	220	300	5.3		
150				220	500	8.8			

Ordering Example

Please order after selecting part number and parameters according to the selection steps 1 to 5.

Part Number (1 Type · 2 Dia. (D)) - 3 Length (L) - 4 Rated Voltage - 5 Rated Capacity
E-MCHSSS - 50 - V220 - W80

How to search on website



By Type

Search on MISUMI official website

E-MCHSSS

By Keyword

Step 1 Search on MISUMI official website

cartridge heater

Step 2 Select MISUMI economy series brand

MISUMI



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Representative model: E-MCHL6-50-V220-W100

Save Up to **65%**
vs Standard Type

886

THB

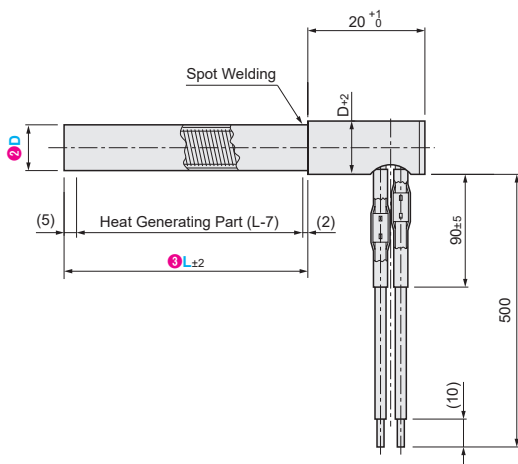


Volume Discount

Quantity	1~3	4~5	6~
Discount	Unit Price	15%	30%



Shipping days may differ by Quantity.
Quantity of volume discount above is for representative Part No. It may differ by the Part.



D Tolerance * The tolerance is the value of the heat generating part.

D(mm)	Tolerance (mm)
6~10	-0.03 -0.06

Maximum operating temperature: 600°C

Wire heat resistant temperature: 260°C

When machining the metal block mounting holes, it is recommended that the one-sided clearance is 0.05mm or less.

Material: Main Body: SUS321
Wire: Nickel (Ni)
Wire Coating: PTFE

Part Number		3 Length (L) mm	4 Rated Voltage V	5 Rated Capacity W	Power Density W/cm ²
1 Type	2 Dia. (D) mm				
E-MCHL	6	50	220	100	10.6
		80	220	100	6.6
		80	380	180	11.9
		100	380	200	10.6
	8	50	220	100	8
		80	380	200	10
		100	220	200	8
		100	380	300	11.9
	10	50	220	120	7.6
		50	380	180	11.5
		100	220	200	6.4
		100	380	300	9.6

Ordering Example

Please order after selecting part number and parameters according to the selection steps 1 to 5.

Part Number (1 Type · 2 Dia. (D)) - 3 Length (L) - 4 Rated Voltage - 5 Rated Capacity
E-MCHL6 - 50 - V220 - W100

How to search on website

By Type

Search on MISUMI official website

E-MCHL

By Keyword

Step 1 ▶ Search on MISUMI official website

cartridge heater

Step 2 ▶ Select MISUMI economy series brand

MISUMI



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Email: cs@misumi.co.th

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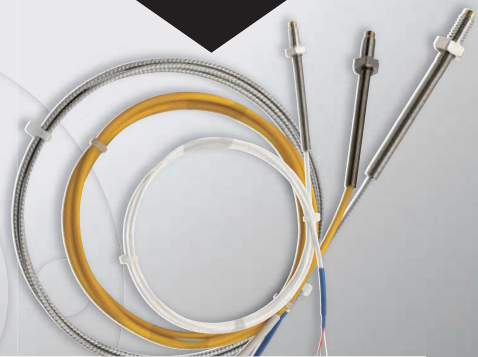
Economy series Temperature Sensors

- Genuine materials, and wire diameter guaranteed
- Faster temperature response

vs Standard Type

Saving
up to

82%



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Heaters / Temperature Sensors /
Heat Insulating Plates

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Controllers

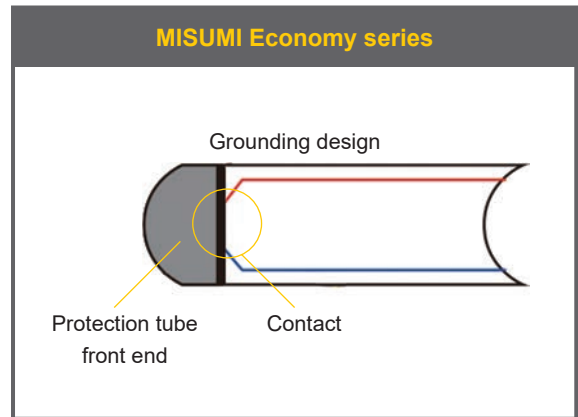
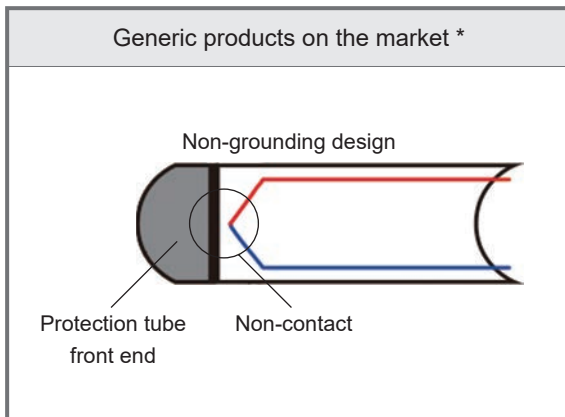
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Heat Insulation
Plates

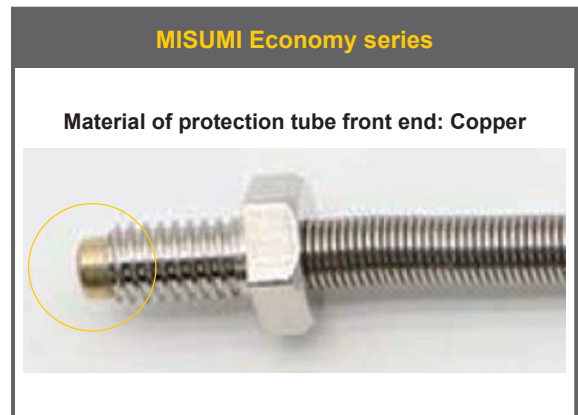
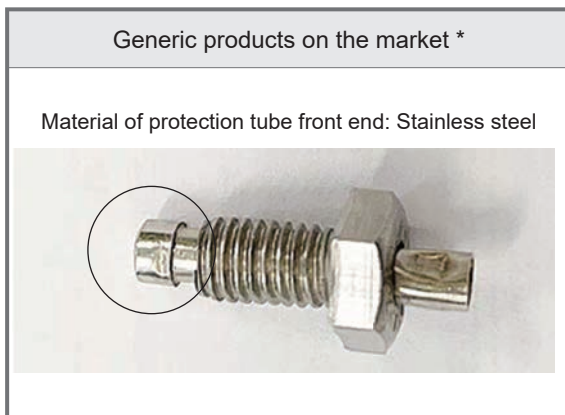
P.1555

■ Faster temperature response

- Advantage 1 : Grounding design



- Advantage 2 : High thermal conductivity head




* Generic products on the market are similar products randomly purchased by our company from online or offline markets

More improvements on details

· Advantage 3 : Improvement on fracture

Generic products on the market *



No spring sheath, with large bending angle


MISUMI Economy series



Additional spring sheath, to improve bending angle

· Advantage 4 : Improvement on wire falling off

Generic products on the market *



2-end face clamping, easy to loosen

MISUMI Economy series



6-end face clamping, more secure

Test Result


Sample name	Pulling force (N)	3.4 times Economy series High Strength
MISUMI Economy series	225.95	
Generic products on the market *	65.71	

Sample name	Temperature rise to 200°C Display the required time (S)	16% Economy series Relatively fast
MISUMI Economy series	258	
Generic products on the market *	310	

* Generic products on the market are similar products randomly purchased by our company from online or offline markets

Genuine materials, and wire diameter guaranteed (K-Thermocouple)

Generic products on the market *



Thin wire diameter
0.31mm

MISUMI Economy series



Thick wire diameter
0.5mm

Various mounting head types



* Generic products on the market are similar products randomly purchased by our company from online or offline markets

Representative model: C-MSND1.5-100



707

THB

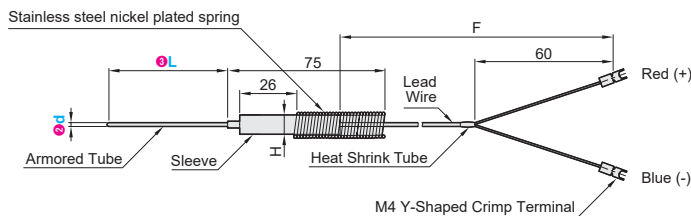


Volume Discount

Quantity	1~3	4~5	6~
Discount	Unit Price	15%	30%



Shipping days may differ by Quantity.
Quantity of volume discount above is for representative Part No. It may differ by the Part.



Part Number		③ Protection Tube Length L (mm)	H (mm)	F(m)	Sensor Type	Temperature Range
① Type	② Protection Sleeve / Protection Tube Dia. d(φ)(mm)					
C-MSND	1.5	100	7.1	2	K-Thermocouple	0~550°C
	2	50				0~650°C
	3	30				0~750°C
		50				
	5	100	9.6	0~800°C		

Ordering Example

Please order after selecting part number and parameters according to the selection steps ① to ③.

Part Number (①Type · ②d) - ③L
 C-MSND1.5 - 100

Precautions

- ⚠ The armored tube type can be bent (minimum bending radius: armored tube diameter × 5), but the part of the temperature detection range (20mm at the front end) cannot be bent; the protection tube type cannot be bent for use, otherwise it will not measure the temperature correctly.
- ⚠ To connect long thermocouple wires, be sure to use the compensating wire.
- ⚠ Please strictly observe the heat resistant temperature of each part in product page. Please note that even the upper limit of the temperature measurement is very high, if the heat-resistant temperature is exceeded, it may occur wire breakage or disconnection problems.
- ⚠ Do not apply large external force or vibration.
- ⚠ Please pay attention to the heat resistance temperature of the sleeve part.
- ⚠ The upper limit temperature is only the value at the temperature measuring point (the front end of the armored tube). During actual temperature measurement, please note that the temperature of the sleeve should not exceed the heat resistant temperature (80°C). Otherwise, the wire may be broken due to thermal expansion inside the sleeve. Especially when the temperature of the heated object exceeds 100°C, please try to use the specification with a longer length L of the armored tube, and try to keep the sleeve away from the heated object.
- ⚠ Please keep the upper limit of the temperature below the temperature measurement range of the product. If the casing temperature exceeds the heat-resistant temperature, there is high possibility to cause wire breakage problem.
- ⚠ If the temperature of heat generating parts exceeds 100°C, please choose the specification with a front end as long as possible.

Usage Method

Thermocouples should not be installed too close to the heater, the installation depth should be at least 8 to 10 times the diameter of the armored tube. The gap between the armored tube and the thermocouple wall if not filled with insulation may cause overheating or cold air to enter the heating chamber. Therefore, this gap must be filled with insulating material such as insulating earth or asbestos to stabilize the heat in the chamber. Air convection affects the accuracy of the heating process. The sleeve should not be installed too close to the heating chamber to avoid exceeding 100°C. The installation of the thermocouple should be avoided as much as possible from strong magnetic and electric fields. Therefore, the thermocouple and power cable should not be installed close to each other to avoid errors caused by signal interference. Do not install the thermocouple with the media. When measuring the gas temperature inside the tube, the thermocouple needs to be installed in the opposite direction of circulation and in full contact with the gas.

How to search on website



By Type

Search on MISUMI official website

C-MSND

By Keyword

Step 1 ▶ Search on MISUMI official website

temp sensor

Step 2 ▶ Select MISUMI economy series brand

MISUMI



MISUMI economy

Representative model: C-MSNDM6-2

Save Up to **82%** vs Standard Type

Shipping from **1 day**



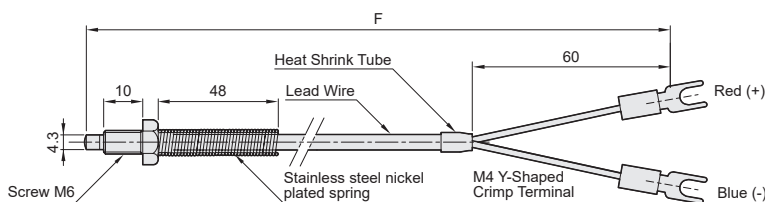
244 THB

Volume Discount

Quantity	1~9	10~14	15~
Discount	Unit Price	15%	30%



Shipping days may differ by Quantity.
Quantity of volume discount above is for representative Part No. It may differ by the Part.



Part Number	Wire Length F(m)	Screw Size	Sensor Type	Temperature Range
C-MSNDM6	1	M6×1.0	K-Thermocouple	0~300°C
	2			
	5			

Ordering Example
Part Number: C-MSNDM6 - Wire Length F: 2

Precautions

- To connect long thermocouple wires, be sure to use the compensating wire.
- Please strictly observe the heat resistant temperature of each part in product page. Please note that even the upper limit of the temperature measurement is very high, if the heat-resistant temperature is exceeded, it may occur wire breakage or disconnection problems.
- Do not apply large external force or vibration.
- Please pay attention to the heat resistance temperature of the sleeve part.
- Please keep the upper limit of the temperature below the temperature measurement range of the product. If the casing temperature exceeds the heat-resistant temperature, there is high possibility to cause wire breakage problem.
- If the temperature of heat generating parts exceeds 100°C, please choose the specification with a front end as long as possible.

Usage Method

Thermocouples should not be installed too close to the heater, the installation depth should be at least 8 to 10 times the diameter of the armored tube. The gap between the armored tube and the thermocouple wall if not filled with insulation may cause overheating or cold air to enter the heating chamber. Therefore, this gap must be filled with insulating material such as insulating earth or asbestos to stabilize the heat in the chamber. Air convection affects the accuracy of the heating process. The sleeve should not be installed too close to the heating chamber to avoid exceeding 100°C. The installation of the thermocouple should be avoided as much as possible from strong magnetic and electric fields. Therefore, the thermocouple and power cable should not be installed close to each other to avoid errors caused by signal interference. Do not install the thermocouple with the media. When measuring the gas temperature inside the tube, the thermocouple needs to be installed in the opposite direction of circulation and in full contact with the gas.

How to search on website

By Type: Search on MISUMI official website: **C-MSNDM6**

By Keyword: Step 1 Search on MISUMI official website: **temp sensor** Step 2 Select MISUMI economy series brand: MISUMI MISUMI economy

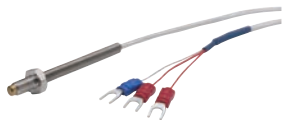
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22
Heaters / Temperature Sensors / Heat Insulating Plates
Cartridge Heaters
P.1529
Temperature Sensors
P.1537
Temperature Controllers
P.1551
Heat Insulation Plates
P.1555

Representative model: C-MSNDPM6-2



493

THB

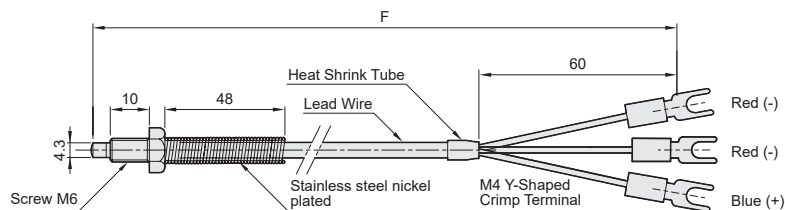


Volume Discount

Quantity	1~3	4~5	6~
Discount	Unit Price	15%	30%



Shipping days may differ by Quantity.
Quantity of volume discount above is for representative Part No. It may differ by the Part.



22

Heaters / Temperature Sensors / Heat Insulating Plates

Cartridge Heaters

P.1529

Temperature Sensors

P.1537

Temperature Controllers

P.1551

Heat Insulation Plates

P.1555

Part Number	Wire Length F(m)	Screw Size	Sensor Type	Temperature Range
C-MSNDPM6	1	M6×1.0	PT100 Type	0~150°C
	2			
	5			

Ordering Example

Part Number - Wire Length F
C-MSNDPM6 - 2

Precautions

- Please strictly observe the heat resistant temperature of each part in product page. Please note that even the upper limit of the temperature measurement is very high, if the heat-resistant temperature is exceeded, it may occur wire breakage or disconnection problems.
- Do not apply large external force or vibration.
- Please pay attention to the heat resistance temperature of the sleeve part.
- Please keep the upper limit of the temperature below the temperature measurement range of the product. If the casing temperature exceeds the heat-resistant temperature, there is high possibility to cause wire breakage problem.
- If the temperature of heat generating parts exceeds 100°C, please choose the specification with a front end as long as possible.

Usage Method

Thermocouples should not be installed too close to the heater, the installation depth should be at least 8 to 10 times the diameter of the armored tube. The gap between the armored tube and the thermocouple wall if not filled with insulation may cause overheating or cold air to enter the heating chamber. Therefore, this gap must be filled with insulating material such as insulating earth or asbestos to stabilize the heat in the chamber. Air convection affects the accuracy of the heating process. The sleeve should not be installed too close to the heating chamber to avoid exceeding 100°C. The installation of the thermocouple should be avoided as much as possible from strong magnetic and electric fields. Therefore, the thermocouple and power cable should not be installed close to each other to avoid errors caused by signal interference. Do not install the thermocouple with the media. When measuring the gas temperature inside the tube, the thermocouple needs to be installed in the opposite direction of circulation and in full contact with the gas.

How to search on website



By Type

Search on MISUMI official website

C-MSNDPM6



By Keyword

Step 1 Search on MISUMI official website

temp sensor



Step 2 Select MISUMI economy series brand

MISUMI



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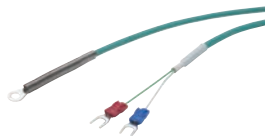
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Representative model: C-MFMT4

Save Up to **63%** vs Standard Type

Shipping from **1 day**



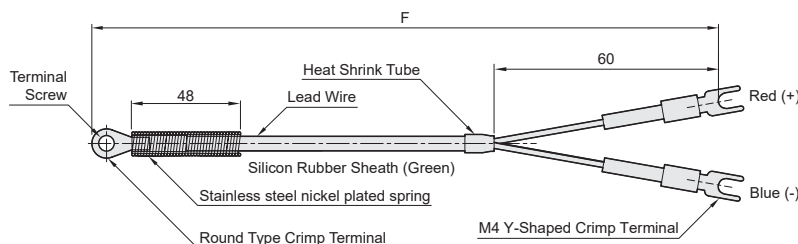
277 THB

Volume Discount

Quantity	1~3	4~5	6~
Discount	Unit Price	15%	30%



Shipping days may differ by Quantity.
Quantity of volume discount above is for representative Part No. It may differ by the Part.



Part Number		Terminal Screw Size	Wire Length F (m)	Sensor Type	Temperature Range
Type	No.				
C-MFMT	4	M4	1	K-Thermocouple	0~150°C
	4-5	M5	5		

Ordering Example

Part Number (Type · No.)
C-MFMT4

Precautions

- To connect long thermocouple wires, be sure to use the compensating wire.
- Please strictly observe the heat resistant temperature of each part in product page. Please note that even the upper limit of the temperature measurement is very high, if the heat-resistant temperature is exceeded, it may occur wire breakage or disconnection problems.
- Do not apply large external force or vibration.
- Please pay attention to the heat resistance temperature of the sleeve part.
- Please keep the upper limit of the temperature below the temperature measurement range of the product. If the casing temperature exceeds the heat-resistant temperature, there is high possibility to cause wire breakage problem.
- If the temperature of heat generating parts exceeds 100°C, please choose the specification with a front end as long as possible.

Usage Method

Thermocouples should not be installed too close to the heater, the installation depth should be at least 8 to 10 times the diameter of the armored tube. The gap between the armored tube and the thermocouple wall if not filled with insulation may cause overheating or cold air to enter the heating chamber. Therefore, this gap must be filled with insulating material such as insulating earth or asbestos to stabilize the heat in the chamber. Air convection affects the accuracy of the heating process. The sleeve should not be installed too close to the heating chamber to avoid exceeding 100°C. The installation of the thermocouple should be avoided as much as possible from strong magnetic and electric fields. Therefore, the thermocouple and power cable should not be installed close to each other to avoid errors caused by signal interference. Do not install the thermocouple with the media. When measuring the gas temperature inside the tube, the thermocouple needs to be installed in the opposite direction of circulation and in full contact with the gas.

How to search on website



By Type Search on MISUMI official website
C-MFMT

By Keyword Step 1 Search on MISUMI official website
temp sensor

Step 2 Select MISUMI economy series brand

MISUMI MISUMI economy

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Representative model: C-MFNC6-1

Save Up to **82%** vs Standard Type

Shipping from **1 day**



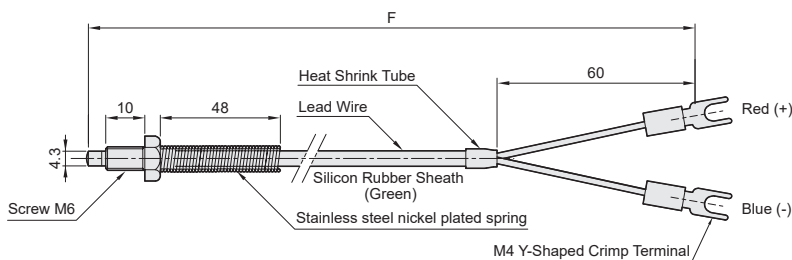
310 THB

Volume Discount

Quantity	1~3	4~5	6~
Discount	Unit Price	15%	30%



Shipping days may differ by Quantity.
Quantity of volume discount above is for representative Part No. It may differ by the Part.



Part Number	Wire Length F(m)	Screw Size	Sensor Type	Temperature Range
C-MFNC6	1	M6×1.0	K-Thermocouple	0~150°C
	5			

Ordering Example

Part Number: **C-MFNC6** - Wire Length F: **1**

Precautions

- To connect long thermocouple wires, be sure to use the compensating wire.
- Please strictly observe the heat resistant temperature of each part in product page. Please note that even the upper limit of the temperature measurement is very high, if the heat-resistant temperature is exceeded, it may occur wire breakage or disconnection problems.
- Do not apply large external force or vibration.
- Please pay attention to the heat resistance temperature of the sleeve part and the silicon tube part.
- Please keep the upper limit of the temperature below the temperature measurement range of the product. If the casing temperature exceeds the heat-resistant temperature, there is high possibility to cause wire breakage problem.
- If the temperature of heat generating parts exceeds 100°C, please choose the specification with a front end as long as possible.

Usage Method

Thermocouples should not be installed too close to the heater, the installation depth should be at least 8 to 10 times the diameter of the armored tube. The gap between the armored tube and the thermocouple wall if not filled with insulation may cause overheating or cold air to enter the heating chamber. Therefore, this gap must be filled with insulating material such as insulating earth or asbestos to stabilize the heat in the chamber. Air convection affects the accuracy of the heating process. The sleeve should not be installed too close to the heating chamber to avoid exceeding 100°C. The installation of the thermocouple should be avoided as much as possible from strong magnetic and electric fields. Therefore, the thermocouple and power cable should not be installed close to each other to avoid errors caused by signal interference. Do not install the thermocouple with the media. When measuring the gas temperature inside the tube, the thermocouple needs to be installed in the opposite direction of circulation and in full contact with the gas.

How to search on website



By Type

Search on MISUMI official website

C-MFNC6



By Keyword

Step 1 Search on MISUMI official website

temp sensor

Step 2 Select MISUMI economy series brand

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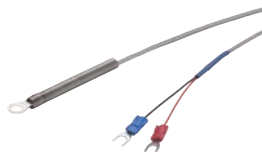
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Representative model: C-MSNDS4

Save Up to **61%** vs Standard Type

Shipping from **1 day**



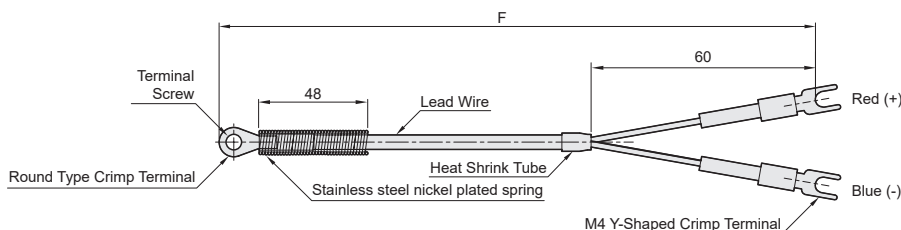
343 THB

Volume Discount

Quantity	1~3	4~5	6~
Discount	Unit Price	15%	30%



Shipping days may differ by Quantity.
Quantity of volume discount above is for representative Part No. It may differ by the Part.



Part Number		Terminal Screw Size	F(m)	Sensor Type	Temperature Range
Type	No.				
C-MSNDS	4	M4	2	K-Thermocouple	0~150°C
	5	M5			

Ordering Example

Part Number (Type · No.)
C-MSNDS4

Precautions

- To connect long thermocouple wires, be sure to use the compensating wire.
- Please strictly observe the heat resistant temperature of each part in product page. Please note that even the upper limit of the temperature measurement is very high, if the heat-resistant temperature is exceeded, it may occur wire breakage or disconnection problems.
- Do not apply large external force or vibration.
- Please keep the upper limit of the temperature below the temperature measurement range of the product. If the casing temperature exceeds the heat-resistant temperature, there is high possibility to cause wire breakage problem.
- If the temperature of heat generating parts exceeds 100°C, please choose the specification with a front end as long as possible.

Usage Method

Thermocouples should not be installed too close to the heater, the installation depth should be at least 8 to 10 times the diameter of the armored tube. The gap between the armored tube and the thermocouple wall if not filled with insulation may cause overheating or cold air to enter the heating chamber. Therefore, this gap must be filled with insulating material such as insulating earth or asbestos to stabilize the heat in the chamber. Air convection affects the accuracy of the heating process. The sleeve should not be installed too close to the heating chamber to avoid exceeding 100°C. The installation of the thermocouple should be avoided as much as possible from strong magnetic and electric fields. Therefore, the thermocouple and power cable should not be installed close to each other to avoid errors caused by signal interference. Do not install the thermocouple with the media. When measuring the gas temperature inside the tube, the thermocouple needs to be installed in the opposite direction of circulation and in full contact with the gas.

How to search on website

By Type: Search on MISUMI official website

By Keyword: Step 1 Search on MISUMI official website Step 2 Select MISUMI economy series brand MISUMI MISUMI economy

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22

Heaters / Temperature Sensors / Heat Insulating Plates

Cartridge Heaters

P.1529

Temperature Sensors

P.1537

Temperature Controllers

P.1551

Heat Insulation Plates

P.1555

Representative model: C-MSNDML6-2



410

THB

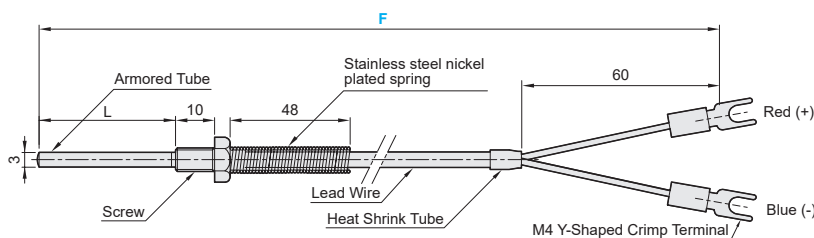


Volume Discount

Quantity	1~3	4~5	6~
Discount	Unit Price	15%	30%



Shipping days may differ by Quantity.
Quantity of volume discount above is for representative Part No. It may differ by the Part.



Part Number Type	Wire Length F(m)	Screw Size	L(mm)	Sensor Type	Temperature Range
C-MSNDML6	1	M6×1.0	65	K-Thermocouple	0~300°C
	2				
	5				

Ordering Example

Part Number (Type) - Wire Length F(m)
C-MSNDML6 - 2

Precautions

- The armored tube type can be bent (minimum bending radius: armored tube diameter × 5), but the part of the temperature detection range (20mm at the front end) cannot be bent; the protection tube type cannot be bent for use, otherwise it will not measure the temperature correctly.
- To connect long thermocouple wires, be sure to use the compensating wire.
- Please strictly observe the heat resistant temperature of each part in product page. Please note that even the upper limit of the temperature measurement is very high, if the heat-resistant temperature is exceeded, it may occur wire breakage or disconnection problems.
- Do not apply large external force or vibration.
- Please pay attention to the heat resistance temperature of the sleeve part.
- Please keep the upper limit of the temperature below the temperature measurement range of the product. If the casing temperature exceeds the heat-resistant temperature, there is high possibility to cause wire breakage problem.
- If the temperature of heat generating parts exceeds 100°C, please choose the specification with a front end as long as possible.

Usage Method

Thermocouples should not be installed too close to the heater, the installation depth should be at least 8 to 10 times the diameter of the armored tube. The gap between the armored tube and the thermocouple wall if not filled with insulation may cause overheating or cold air to enter the heating chamber. Therefore, this gap must be filled with insulating material such as insulating earth or asbestos to stabilize the heat in the chamber. Air convection affects the accuracy of the heating process. The sleeve should not be installed too close to the heating chamber to avoid exceeding 100°C. The installation of the thermocouple should be avoided as much as possible from strong magnetic and electric fields. Therefore, the thermocouple and power cable should not be installed close to each other to avoid errors caused by signal interference. Do not install the thermocouple with the media. When measuring the gas temperature inside the tube, the thermocouple needs to be installed in the opposite direction of circulation and in full contact with the gas.

How to search on website



By Type

Search on MISUMI official website

C-MSNDML6



By Keyword

Step 1 Search on MISUMI official website

temp sensor



Step 2 Select MISUMI economy series brand



Representative model: C-MSNDPML6-2



608

THB

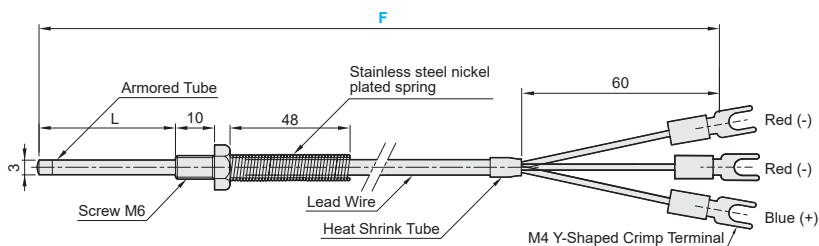


Volume Discount

Quantity	1~3	4~5	6~
Discount	Unit Price	15%	30%



Shipping days may differ by Quantity.
Quantity of volume discount above is for representative Part No. It may differ by the Part.



Part Number Type	Wire Length F(m)	Screw Size	L(mm)	Sensor Type	Temperature Range
C-MSNDPML6	1	M6×1.0	65	PT100	0~200°C
	2				
	5				

Ordering Example

Part Number (Type) - Wire Length F(m)
C-MSNDPML6 - 2

Precautions

- Please keep the upper limit of the temperature below the temperature measurement range of the product. If the casing temperature exceeds the heat-resistant temperature, there is high possibility to cause wire breakage problem.
- If the temperature of heat generating parts exceeds 100°C, please choose the specification with a front end as long as possible.

Usage Method

Thermocouples should not be installed too close to the heater, the installation depth should be at least 8 to 10 times the diameter of the armored tube. The gap between the armored tube and the thermocouple wall if not filled with insulation may cause overheating or cold air to enter the heating chamber. Therefore, this gap must be filled with insulating material such as insulating earth or asbestos to stabilize the heat in the chamber. Air convection affects the accuracy of the heating process. The sleeve should not be installed too close to the heating chamber to avoid exceeding 100°C. The installation of the thermocouple should be avoided as much as possible from strong magnetic and electric fields. Therefore, the thermocouple and power cable should not be installed close to each other to avoid errors caused by signal interference. Do not install the thermocouple with the media. When measuring the gas temperature inside the tube, the thermocouple needs to be installed in the opposite direction of circulation and in full contact with the gas.

How to search on website



By Type

Search on MISUMI official website

C-MSNDPML6

By Keyword

Step 1 Search on MISUMI official website

temp sensor

Step 2 Select MISUMI economy series brand



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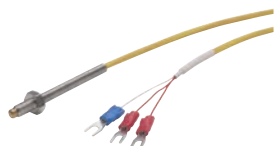
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Representative model: C-MFNPM6-1



Save Up to **30%** vs Standard Type

398

THB

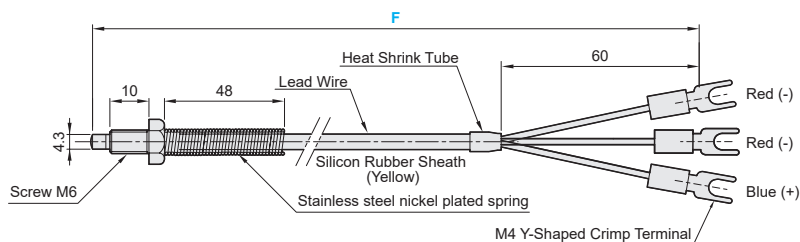
Shipping from **1 day**

Volume Discount

Quantity	1~3	4~5	6~
Discount	Unit Price	15%	30%



Shipping days may differ by Quantity.
Quantity of volume discount above is for representative Part No. It may differ by the Part.



22

Heaters / Temperature Sensors / Heat Insulating Plates

Cartridge Heaters

P.1529

Temperature Sensors

P.1537

Temperature Controllers

P.1551

Heat Insulation Plates

P.1555

Part Number Type	Wire Length F(m)	Screw Size	Sensor Type	Temperature Range
C-MFNPM6	1	M6	PT100 Type	0~150°C
	5			

Ordering Example

Part Number (Type) - Wire Length F(m)
C-MFNPM6 - 1

Precautions

- Please keep the upper limit of the temperature below the temperature measurement range of the product. If the casing temperature exceeds the heat-resistant temperature, there is high possibility to cause wire breakage problem.
- If the temperature of heat generating parts exceeds 100°C, please choose the specification with a front end as long as possible.

Usage Method

Thermocouples should not be installed too close to the heater, the installation depth should be at least 8 to 10 times the diameter of the armored tube. The gap between the armored tube and the thermocouple wall if not filled with insulation may cause overheating or cold air to enter the heating chamber. Therefore, this gap must be filled with insulating material such as insulating earth or asbestos to stabilize the heat in the chamber. Air convection affects the accuracy of the heating process. The sleeve should not be installed too close to the heating chamber to avoid exceeding 100°C. The installation of the thermocouple should be avoided as much as possible from strong magnetic and electric fields. Therefore, the thermocouple and power cable should not be installed close to each other to avoid errors caused by signal interference. Do not install the thermocouple with the media. When measuring the gas temperature inside the tube, the thermocouple needs to be installed in the opposite direction of circulation and in full contact with the gas.

How to search on website



By Type

Search on MISUMI official website

C-MFNPM6



By Keyword

Step 1 Search on MISUMI official website

temp sensor

Step 2 Select MISUMI economy series brand

MISUMI



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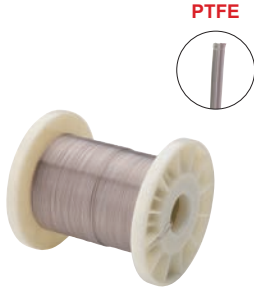
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Representative model: C-KAFF-100M-0.25MM



4,530 THB

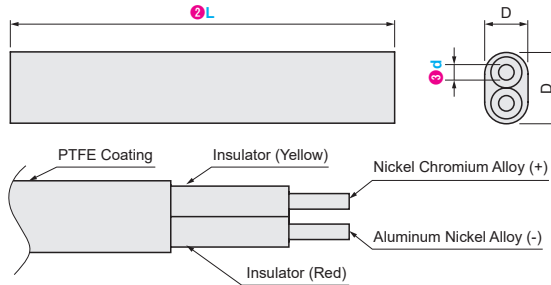
Volume Discount

Quantity	1~3	4~5	6~
Discount	Unit Price	15%	30%



Shipping days may differ by Quantity.

Quantity of volume discount above is for representative Part No. It may differ by the Part.



Part Number	②L(m)	③Wire Dia. d (mm)	External Dimensions D (mm)	Material	Temperature Range
①Type					
C-KAFF	100M	0.12MM	0.5×0.8	PTFE	220°C
		0.25MM	0.6×1.0		

Ordering Example

Please order after selecting part number and parameters according to the selection steps ① to ③.

Part Number (①Type) - ②L - ③Wire Dia. d
C-KAFF - 100M - 0.25MM

How to search on website



By Type

Search on MISUMI official website

C-KAFF

By Keyword

Step 1 Search on MISUMI official website

compensating cable

Step 2 Select MISUMI economy series brand



MISUMI contact

Tel: 038-959200 or 1382
Email: cs@misumi.co.th

MISUMI WEB "Chat"



Install MISUMI APP



Representative model: C-KABB-100M-0.25MM

Glass Fiber



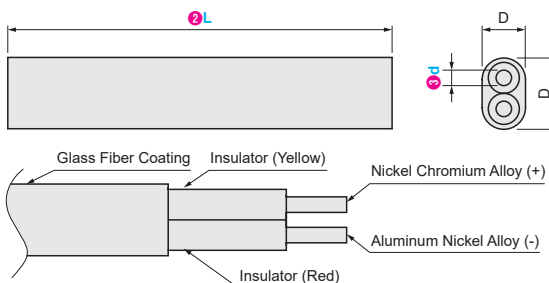
6,184 THB

Volume Discount

Quantity	1~3	4~5	6~
Discount	Unit Price	15%	30%



Shipping days may differ by Quantity.
Quantity of volume discount above is for representative Part No. It may differ by the Part.



Part Number	②L(m)	③Wire Dia. d (mm)	External Dimensions D (mm)	Material	Temperature Range
①Type					
C-KABB	100M	0.12MM	0.9×1.2	Glass Fiber	400°C
		0.25MM	1.0×1.4		

Please order after selecting part number and parameters according to the selection steps ① to ③.

Ordering Example
 Part Number (①Type) - ②L - ③Wire Dia. d
 C-KABB - 100M - 0.25MM

How to search on website

By Type: Search on MISUMI official website

By Keyword: Step 1 ▶ Search on MISUMI official website Step 2 ▶ Select MISUMI economy series brand MISUMI MISUMI economy

MISUMI contact

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 Email: cs@misumi.co.th

MISUMI WEB "Chat"



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Representative model: C-MSNDC8



738

THB



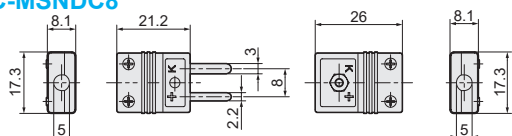
Volume Discount

Quantity	1~3	4~5	6~
Discount	Unit Price	15%	30%

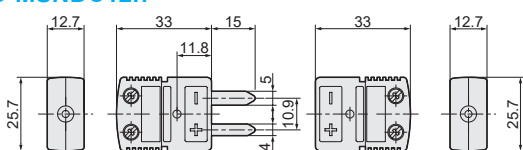


Shipping days may differ by Quantity.
Quantity of volume discount above is for representative Part No. It may differ by the Part.

C-MSNDC8

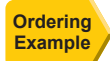


C-MSNDC12.7



Material: Polypropylene

Part Number	
Type	No.
C-MSNDC	8
	12.7



Part Number (Type · No.)
C-MSNDC8

Representative model: C-MSPL2



705

THB

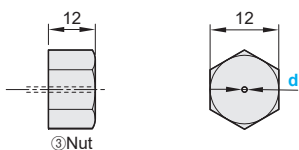
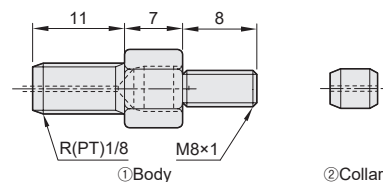


Volume Discount

Quantity	1~3	4~5	6~
Discount	Unit Price	15%	30%



Shipping days may differ by Quantity.
Quantity of volume discount above is for representative Part No. It may differ by the Part.



Material: SUS304

Part Number	
Type	d
C-MSPL	2
	3
	5



Part Number (Type · d)
C-MSPL2

How to search on website



By Type Search on MISUMI official website
C-MSNDC

By Keyword Step 1 Search on MISUMI official website
temp sensor

Step 2 Select MISUMI economy series brand
MISUMI economy

Economy series Temperature Controllers

vs Standard Type

Saving
up to
52%

Relay output / SSR drive output free switching

Easy connection to PLC
with RS485 communication function

Can be installed in the control cabinet for use

Adopting terminal block wiring structure



22

Heaters / Temperature Sensors /
Heat Insulating Plates

Cartridge
Heaters

P.1529

Temperature
Sensors

P.1537

Temperature
Controllers

P.1551

Heat Insulation
Plates

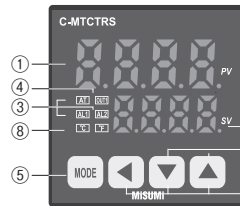
P.1555

External Dimension and Opening Dimension

	C-MTCTRS	C-MTCTRST (with RS485 communication)
Display		
External Size	48mm×48mm	48mm×96mm
Housing Size L × W × H	45mm×45mm×75mm	45mm×92mm×75mm
Mounting Size	45mm×45mm	45mm×92mm

Function Description of Control Panel

Name of Each Part



- ① Current Value (PV) Display (Red)
The current measured value (PV) is displayed in the operation mode, and the internal parameter name is displayed in the setup mode.
- ② Setting Value (SV) Display (Green)
The setting value of the control target (SV) is displayed in the operation mode, and the current setting value of that parameter is displayed in the setup mode.
- ③ Control/Alarm Output Indicator
- When performing self-tuning, the AT light flashes in a cycle of 1 second.
* When SSR controls the cycle/phase control of the drive output mode, the light is on when the operation amount exceeds 3.0%.
- AL1/AL2: The light is on when Alarm1 and Alarm2 alarm output is ON.
④ OUT: The light is on when the control output (Main Control Output) is ON.
- ⑤ **MODE** Key: Used to enter the parameter group setting, return to the operation mode, switch the parameter group, and save the setting value.
- ⑥ Direction Key: Used to enter the setting value change mode or move the digit to change the value up/down.
- ⑦ Function Key: Pressing ∇ key and \blacktriangle key simultaneously for 3 seconds will activate the [DI-K] digital input key function (run/stop, alarm clear, self-tuning) setting.
- ⑧ Temperature Unit Indicator (°C/°F) : Displays the current temperature unit.

Comparison with generic products in the market

Comparison of anti-disturbance performance

*Generic products on the market	MISUMI Economy series products
Large hunting and long time to reach and stabilize the set temperature	Small hunting and short time to reach and stabilize the set temperature

First overshoot comparison

*Generic products on the market	MISUMI Economy series products
Traditional PID control	MISUMI Economy series intelligent PID control
Generic products on the market	MISUMI Economy series temperature control instrument

Setting Parameter Description

Press and hold the **MODE** key and the left shift key at the same time until Cod (\overline{COD}) is displayed, and in this state, enter and modify the state of Cod (\overline{COD}) = 0020 through and keys.

Display Symbol	Code	Meaning	Other Description	Range	Default Value
<i>Sn</i>	SN	Select sensor input signal	Different input models need to match different input resistors.	K, J, R, S, B, E, N, T, PT, Cu, O.K, 0-50, 0-5V, 1-50	K
<i>unit</i>	Unit	Unit selection	°C: Celsius degree; °F: Fahrenheit degree	°C, °F	°C
<i>out</i>	OUT	Output Method	RLY: Switch relay output SSR: DC12V output	RLY	RLY
<i>dir</i>	Dir	Control Direction	HOT: Heating control, i.e. reverse control; COL: Cooling control, i.e. forward control; H-C: Simultaneous control of heating and cooling The output control of both HOT and COL modes is OUT1 H-C mode OUT1 is heating control output OUT2 is cooling control output	HOT, COL, H-C Note: For COL and H-C control modes, only RLY mode is applicable.	HOT
<i>tT</i>	Tt	Number of temperatures tracked	Make the display temperature close to the set value within the range of the set value $\pm Tt$	0-10	6
<i>Hnd</i>	Hnd	Whether manual control is allowed	0: Manual control prohibited; 1: Manual control allowed When the manual control is allowed, the shift key can be used to enter and exit the manual control state, and or key can be used to control the output power percentage of the instrument in the manual control state.	0, 1	0
<i>FAC</i>	FAC	Over temperature display limit	0-Turn off the function Other value, when exceeding the setting value. The excess part is displayed in proportion, with the displayed value = $SV+(PV-SV)/FAC$	0-100	0

COD = 0040 Access to factory parameters 4
 1 CTON = 1000 Allowed to directly modify the SU value through the plus or minus key, and SU is not displayed in the upper row
 = 0001 With CT function
 2 TON = 0000 Alarm 1 is an excitation alarm
 0001 Alarm 1 is a non-excitation alarm
 = 0000 Alarm 2 is an excitation alarm
 0010 Alarm 2 is a non-excitation alarm
 = 1000 With ET timing function
 3 CON = 0001 Allowed to manually turn on and turn off the output, and enter the closed output state when powered on
 Tap the shift key to turn on the output
 0100 With the communication function
 1000 Allowed to turn on the adaptive function

COD = 0060 Access to factory parameters 5
 1 LBAT Output fault monitoring time
 2 LBAB Output fault monitoring width
 LBAT Heating output monitoring time, in seconds.
 LBAB Heating output monitoring width, in the same unit as PV value.
 A heating fault is indicated when the PV measured temperature change is less than LBAB after a full-cycle heating output or a full-cycle shutdown output with a duration of LBAT time, and no heating fault is indicated if the change is greater than LBAB.
 SV=EER1 Indicate heating failure.
 3 RLRS Solid state and relay selection output
 SrrL Select whether the heating type is relay or solid-state signal output
 =0 Relay heating =1 Solid-state heating

COD=1168 Restore factory settings

Representative model: C-MTCTRS



Save Up to **52%**
vs Standard Type

1,376 THB

Shipping
from
1 day

Volume Discount

Quantity	1~3	4~5	6~
Discount	Unit Price	15%	30%



Shipping days may differ by Quantity.
Quantity of volume discount above is for representative Part No. It may differ by the Part.

Part Number	External Size (mm)	Housing Size L x W x H (mm)	Mounting Size (mm)
C-MTCTRS	48x48	45x45x75	45x45

Control Output	Relay contact output (contact capacity AC250V 3A resistance load) or SSR drive output (DC12V 20mA Max.) free switching
Input	Thermocouple (K · J · R · T · N · S · B) Temperature Measuring Resistor (Pt100 JPt100)
Control Method	ON / OFF, P, PI, PD, PID Control
Alarm Output	Upper Limit Alarm, Lower Limit Alarm and Positive and Negative Deviation Range Alarm
Sampling period	100mS
Indication Accuracy (Thermocouple)	Normal Temperature: PV±0.3% or ±3°C (the greater) ±1-digit; Operating Over 200°C: PV±0.5% or ±2°C (the greater) ±1-digit
Indication Accuracy (Temperature Measuring Resistor)	Normal Temperature: PV±0.3% or ±3°C (the greater) ±1-digit; Operating Over 200°C: PV±0.5% or ±2°C (the greater) ±1-digit
Indication Accuracy Maintenance Temperature Range	Standard Storage 23±10°C
Power Voltage	AC100~240VAC~50/60Hz±10%

Ordering Example

Part Number
C-MTCTRS

How to search on website



By Type Search on MISUMI official website

C-MTCTRS

By Keyword Step 1 Search on MISUMI official website

temp controller

Step 2 Select MISUMI economy series brand

MISUMI MISUMI economy

MISUMI contact

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Email: cs@misumi.co.th

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Representative model: C-MTCTRST



1,889 THB

Volume Discount

Quantity	1~3	4~5	6~
Discount	Unit Price	15%	30%



Shipping days may differ by Quantity.

Quantity of volume discount above is for representative Part No. It may differ by the Part.

Part Number	External Size (mm)	Housing Size L × W × H (mm)	Mounting Size (mm)
C-MTCTRST	48×96	45×92×75	45×92

Control Output	Relay contact output (contact capacity AC250V 3A resistance load) or SSR drive output (DC12V 20mA Max.) free switching
Input	Thermocouple (K · J · R · T · N · S · B) Temperature Measuring Resistor (Pt100 JPt100)
Control Method	ON / OFF, P, PI, PD, PID Control
Alarm Output	Upper Limit Alarm, Lower Limit Alarm and Positive and Negative Deviation Range Alarm
Sampling period	100mS
Indication Accuracy (Thermocouple)	Normal Temperature: PV±0.3% or ±3°C (the greater) ±1-digit; Over 200°C: PV±0.5% or ±2°C (the greater) ±1-digit
Indication Accuracy (Temperature Measuring Resistor)	Normal Temperature: PV±0.3% or ±3°C (the greater) ±1-digit; Over 200°C: PV±0.5% or ±2°C (the greater) ±1-digit
Indication Accuracy Maintenance Temperature Range	During Standard Storage: 23±10°C
Power Voltage	AC100~240VAC~50/60Hz±10%

Ordering Example

Part Number
C-MTCTRST

How to search on website



By Type
Search on MISUMI official website
C-MTCTRST

By Keyword
Step 1 Search on MISUMI official website
temp controller

Step 2 Select MISUMI economy series brand
 MISUMI **MISUMI economy**

MISUMI contact

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Email: cs@misumi.co.th

MISUMI WEB "Chat"



Install MISUMI APP



22

Heaters / Temperature Sensors / Heat Insulating Plates

Cartridge Heaters

P.1529

Temperature Sensors

P.1537

Temperature Controllers

P.1551

Heat Insulation Plates

P.1555

Economy series Heat Insulation Plates

vs Standard Type
Saving
up to
69%

Excellent thermal insulation effect

Strong pressure-bearing capacity

Accept customization by drawings



22

Heaters / Temperature Sensors /
Heat Insulating Plates

Cartridge
Heaters

P.1529

Temperature
Sensors

P.1537

Temperature
Controllers

P.1551

Heat Insulation
Plates

P.1555

Product Features

*Generic products on the market

Poor temperature resistance and thermal insulation effect



Burnt and carbonized



Burnt



Blistering by heating

Insufficient compressive strength



Damaged by force



Delaminated by force



Delaminated by heating,
weak pressure-bearing
capacity

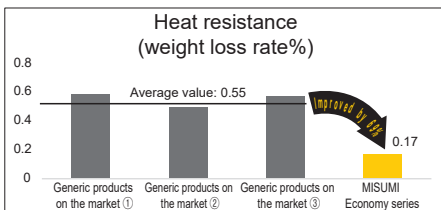
Economy series

- The heat resistance is improved by improving the base material and main material and using high temperature resistant resin to reduce high temperature volatilization and carbonization.
- Good bonding force and more stable performance are achieved by using heating lamination process for reinforcement.

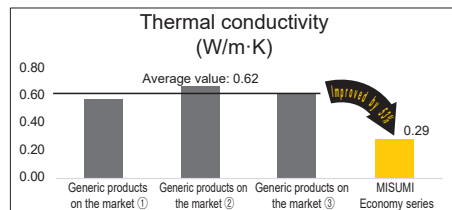
- More stable compressive performance of insulation plates is achieved by using thinner base material, uniform coating of high temperature resistant resin, and applying uniform force during heating lamination.
- Continuous heat resistance is improved to reduce the risk of carbonization and ensure the compressive strength throughout the service life.

* Generic products on the market are similar products randomly purchased by our company from online or offline markets

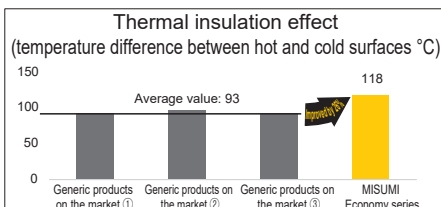
Comparison of Performance



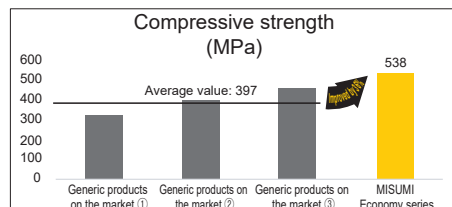
The lower the weight loss rate, the lower the heat loss, reflecting better continuous temperature resistance



The lower the thermal conductivity, the less the thermal conductivity, the better the insulation effect



The greater the temperature difference between hot and cold surfaces, the better the heat insulation effect



Higher compressive strength under the same temperature

* The above results are obtained through experimental cases of 220°C series products, and all the data are reference values.

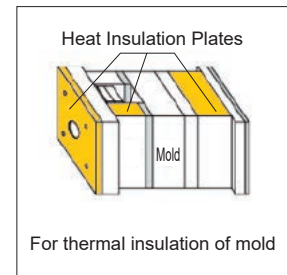
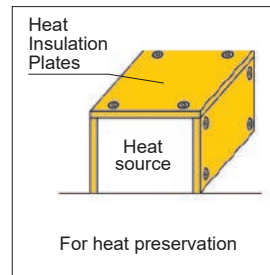
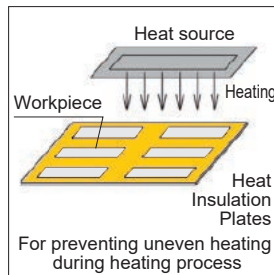
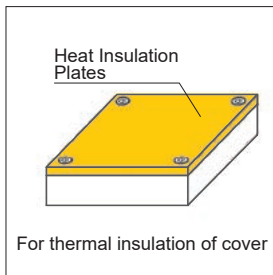
* Generic products on the market are similar products randomly purchased by our company from online or offline markets.

Characteristics (for reference)

Item	Unit	E-HIPLA	E-HIPLB	E-HIPHA	E-HIPHB
Sensor Type		Temperature Insulating Normal Insulating Grade	High Strength and High Temperature Insulating Grade	High Temperature Insulating Normal Insulating Grade	High Strength and High Temperature Insulating Grade
Color	--	Black	Pea Green	Brown	Black
Material	--	Glass Fiber	Fiberglass Cloth	Glass Fiber	Fiberglass Cloth
Heat-resistance temperature	°C	220	220	300	300
Density	g/cm ³	1.9	1.9	1.9	2.0
Thermal Conductivity	W/m.k	0.18	0.23	0.19	0.25
Compressive Strength	MPa	630	550	550	600

⚠ The above values are reference values and are not guaranteed values. The actual effect may vary.

Example of Use



Precautions for use

① Tightening Method

Be sure to use a washer with a bolt. Otherwise, the insulation plate may break when the bolt is overtightened.

③ Direction of Force Application

They are laminated products, so do not apply force in the direction of the layer (section direction) during use.

② Humidity Environment

Do not use insulation plates in working conditions where they may be affected by water or chemicals. Insulation plates with excessive moisture content may crack or suffer significant performance degradation due to temperature rise.

④ Others

Light streaks and dark lines may appear on the surface of the products, but they do not affect the physical properties or the thermal insulation effect, so please feel free to use them.

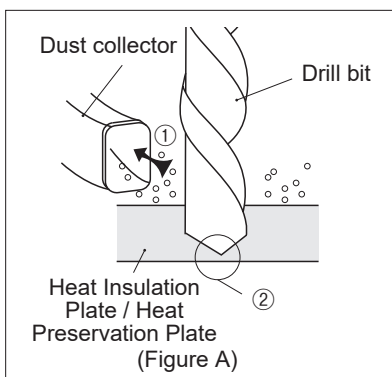
Precautions for Alterations

① Measures against dust

When machining, use a dust collector or other dust collection equipment to prevent the spread of dust. Although the product does not contain specific chemical substances such as asbestos, conventional safety measures for working in dusty environments, such as wearing masks and goggles, are required. In addition, since the product contains glass fibers that may cause itchy skin, it is recommended that gloves be worn when handling the plates. Mechanical accuracy may be degraded by abrasion when dust adheres to the sliding parts of other machine tools.

② Drilling conditions

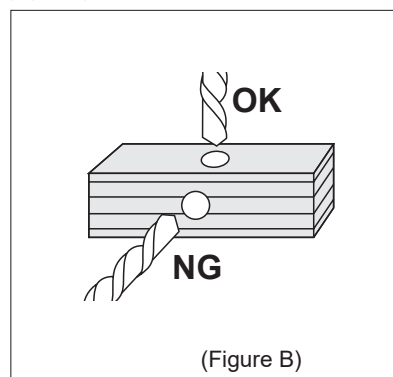
Drilling of an insulation plate may cause cracks, so be careful with hole pitches, hole diameters, machining conditions, etc. (Figure A)



⚠ When machining multiple holes, be sure to maintain a hole-to-hole clearance of $\geq 5\text{mm}$.

③ Unsuitable processing types

Laminated products are not suitable for tapping, three-dimensional machining, etc. Machining such as drilling or cutting in the direction of lamination is the main cause of cracking and should be avoided as far as possible. (Figure B)



⚠ Try to avoid machining in the direction shown above.

Representative model: E-HIPLA-100-100-10



Save Up to **30%** vs Standard Type

336

THB



Volume Discount

Quantity	1~3	4~
Discount	Unit Price 20%	



Shipping days may differ by Quantity.
Quantity of volume discount above is for representative Part No. It may differ by the Part.

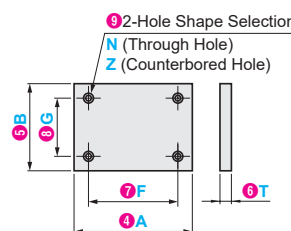
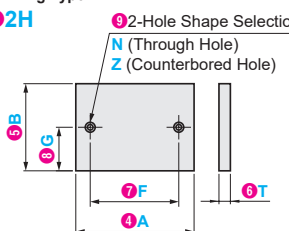
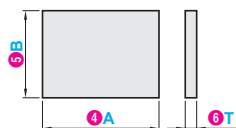
Main Base Material	Main Material	Level	Color	Recommended Operating Environment Temperature
Glass Fiber	Epoxy-modified resin	General-Purpose Model	Black	Normal temperature~220°C

Standard Type

Hole Machining Type

-2-hole- **2H**

-4-hole- **4H**



Specified Tolerance P-A, B: ±0.3
T: ±0.05

Standard Type

Type	Tolerance selection	Dimension tolerance	1mm increments		Thickness selection T
			Length A	Width B	
E-HIPLA	Not Specified	A, B : (+1.0,0) T : ±0.1	20~800	20~800	3 5 10 15 20 25 30
	P	A, B : ±0.3 T : ±0.05	20~200	20~200	

Hole Machining Detail	
N (Through Hole)	Z (Counterbored Hole)
Bolt Nominal Diameter	3 4 5 6 8 10
d	3.5 4.5 5.5 6.5 9 11
d1	- 8 9.5 11 14 -
h	- 5 6 7 9 -

Hole Machining Type

Type	Tolerance selection	Dimension tolerance	Number of Holes	1mm increments		Thickness selection T	0.5mm increments		Hole Shape Selection	
				Length A	Width B		F	G	N	Z
E-HIPLA	Not Specified	A, B : (+1.0,0) T : ±0.1	2H 4H	20~800	20~800	3 5 10 15 20 25 30	9~791	5~795 (2H) 9~791 (4H)	3 4 5 6 8 10	-
										4 5 6 4 5 6 8 4 5 6 8 4 5 6 8
E-HIPLA	P	A, B : ±0.3 T : ±0.05	2H 4H	20~200	20~200	3 5 10 15 20 25 30	9~191	5~195 (2H) 9~191 (4H)	3 4 5 6 8 10	-
										4 5 6 4 5 6 8 4 5 6 8 4 5 6 8

- The specified range of F dimension must meet the condition: $d(d_1)+5\leq F\leq A-d(d_1)-5$.
- When selecting 2H type, the specified range of G dimension must meet the condition: $d(d_1)/2+2.5\leq G\leq B-d(d_1)/2-2.5$, and when selecting 4H type, it must meet the condition: $d(d_1)+5\leq G\leq B-d(d_1)-5$. (When selecting Through Hole for d and Counterbored Hole for d1)
- When selecting hole machining type, please select N (Through Hole) and Z (Counterbored Hole).

Ordering Example

Please order after selecting part number and parameters according to the selection steps 1 to 9.

Part Number (Type · Tolerance Selection) - 4A - 5B - 6T - 7F - 8G - 9N/Z
 Standard Type E-HIPLA - 100 - 100 - 10
 Hole Machining Type E-HIPLAP2H - 100 - 100 - 10 - F60 - G60 - N6

How to search on website



By Type Search on MISUMI official website
E-HIPLA

By Keyword Step 1 Search on MISUMI official website
heat insulating

Step 2 Select MISUMI economy series brand



Representative model: E-HIPHA-100-100-10

Save Up to **69%** vs Standard Type

607

THB

Shipping from **12 days**



Volume Discount

Quantity	1~3	4~
Discount	Unit Price 20%	



Shipping days may differ by Quantity.
Quantity of volume discount above is for representative Part No. It may differ by the Part.

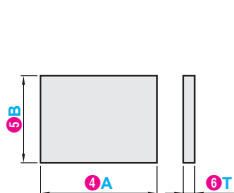
Main Base Material	Main Material	Level	Color	Recommended Operating Environment Temperature
Glass Fiber	Modified Phenolic Resin	General-Purpose Model	Brown	Normal temperature~300°C

Standard Type

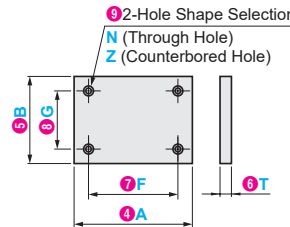
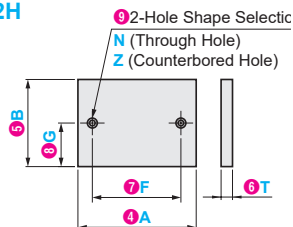
Hole Machining Type

-2-hole- **2H**

-4-hole- **4H**



Specified Tolerance P-A, B: ±0.3
T: ±0.05



Standard Type

Type	Part Number	Dimension tolerance	1mm increments		Thickness selection T
			Length A	Width B	
E-HIPHA	Not Specified	A, B : (+1.0,0) T : ±0.1	20~800	20~800	3 5 10 15 20 25 30
	P	A, B : ±0.3 T : ±0.05	20~200	20~200	

Hole Machining Detail	
N (Through Hole)	Z (Counterbored Hole)
Bolt Nominal Diameter	3 4 5 6 8 10
d	3.5 4.5 5.5 6.5 9 11
d1	- 8 9.5 11 14 -
h	- 5 6 7 9 -

Hole Machining Type

Type	Part Number	Dimension tolerance	Number of Holes	1mm increments		Thickness selection T	0.5mm increments		Hole Shape Selection	
				Length A	Width B		F	G	N	Z
E-HIPHA	Not Specified	A, B : (+1.0,0) T : ±0.1	2H 4H	20~800	20~800	3 5 10 15 20 25 30	9~791	5~795 (2H) 9~791 (4H)	3 4 5 6 8 10	-
	P	A, B : ±0.3 T : ±0.05								20~200

- The specified range of F dimension must meet the condition: $d(d1)+5 \leq F \leq A-d(d1)-5$.
- When selecting 2H type, the specified range of G dimension must meet the condition: $d(d1)/2+2.5 \leq G \leq B-d(d1)/2-2.5$, and when selecting 4H type, it must meet the condition: $d(d1)+5 \leq G \leq B-d(d1)-5$. (When selecting Through Hole for d and Counterbored Hole for d1)
- When selecting hole machining type, please select N (Through Hole) and Z (Counterbored Hole).

Ordering Example

Please order after selecting part number and parameters according to the selection steps 1 to 9.

Part Number (Type · Tolerance Selection) - **4A** - **5B** - **6T** - **7F** - **8G** - **9N/Z**
 Standard Type E-HIPHA - 100 - 100 - 10
 Hole Machining Type E-HIPHAP2H - 100 - 100 - 10 - F60 - G60 - N6

How to search on website



By Type Search on MISUMI official website
E-HIPHA

By Keyword Step 1 Search on MISUMI official website
heat insulating

Step 2 Select MISUMI economy series brand
 MISUMI MISUMI economy

Representative model: E-HIPLB-100-100-10



Save Up to **45%** vs Standard Type

240

THB

Shipping from **12 days**

Volume Discount

Quantity	1~3	4~
Discount	Unit Price	
	20%	



Shipping days may differ by Quantity.
Quantity of volume discount above is for representative Part No. It may differ by the Part.

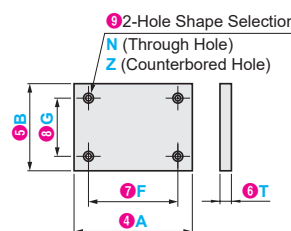
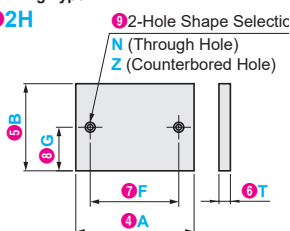
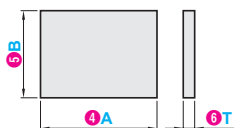
Main Base Material	Main Material	Level	Color	Recommended Operating Environment Temperature
Glass Fiber	Epoxy-modified resin	High strength	Green	Normal temperature~220°C

Standard Type

Hole Machining Type

-2-hole- 2H

-4-hole- 4H



Specified Tolerance P-A, B: ±0.3
T: ±0.05

Standard Type

Type	Part Number	Dimension tolerance	1mm increments		Thickness selection T
			Length A	Width B	
E-HIPLB	Not Specified	A, B: (+1.0,0) T: ±0.1	20~800	20~800	3 5 10 15 20 25 30
	P	A, B: ±0.3 T: ±0.05	20~200	20~200	

Hole Machining Detail	
N (Through Hole)	Z (Counterbored Hole)
Bolt Nominal Diameter	3 4 5 6 8 10
d	3.5 4.5 5.5 6.5 9 11
d1	- 8 9.5 11 14 -
h	- 5 6 7 9 -

Hole Machining Type

Type	Part Number	Dimension tolerance	Number of Holes	1mm increments		Thickness selection T	0.5mm increments		Hole Shape Selection	
				Length A	Width B		F	G	N	Z
E-HIPLB	Not Specified	A, B: (+1.0,0) T: ±0.1	2H 4H	20~800	20~800	3 5 10 15 20 25 30	9~791	5~795 (2H) 9~791 (4H)	3 4 5 6 8 10	-
	P	A, B: ±0.3 T: ±0.05								20~200

- The specified range of F dimension must meet the condition: $d(d_1)+5 \leq F \leq A-d(d_1)-5$.
- When selecting 2H type, the specified range of G dimension must meet the condition: $d(d_1)/2+2.5 \leq G \leq B-d(d_1)/2-2.5$, and when selecting 4H type, it must meet the condition: $d(d_1)+5 \leq G \leq B-d(d_1)-5$. (When selecting Through Hole for d and Counterbored Hole for d1)
- When selecting hole machining type, please select N (Through Hole) and Z (Counterbored Hole).

Ordering Example

Please order after selecting part number and parameters according to the selection steps 1 to 9.

Part Number (Type · Tolerance Selection) - 4A - 6B - 6T - 7F - 8G - 9N/Z
 Standard Type E-HIPLB - 100 - 100 - 10
 Hole Machining Type E-HIPLBP2H - 100 - 100 - 10 - F60 - G60 - N6



By Type Search on MISUMI official website
E-HIPLB

By Keyword Step 1 Search on MISUMI official website
heat insulating

Step 2 Select MISUMI economy series brand
MISUMI economy

Representative model: E-HIPHB-100-100-10

Save Up to **66%** vs Standard Type

657

THB

Shipping from **12 days**



Volume Discount

Quantity	1~3	4~
Discount	Unit Price	20%



Shipping days may differ by Quantity.
Quantity of volume discount above is for representative Part No. It may differ by the Part.

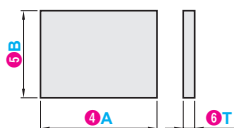
Main Base Material	Main Material	Level	Color	Recommended Operating Environment Temperature
Glass Fiber	Modified PI resin	High strength	Black	Normal temperature~300°C

Standard Type

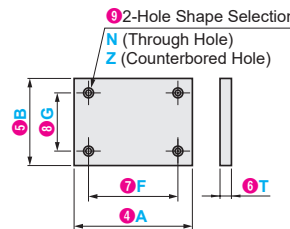
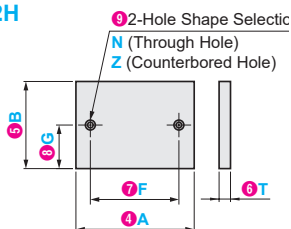
Hole Machining Type

-2-hole- **2H**

-4-hole- **4H**



Specified Tolerance P-A, B: ±0.3
T: ±0.05



Standard Type

Type	Part Number Tolerance selection	Dimension tolerance	1mm increments		Thickness selection T
			Length A	Width B	
E-HIPHB	Not Specified	A, B : (+1.0,0) T : ±0.1	20~800	20~800	3 5 10 15 20 25 30
	P	A, B : ±0.3 T : ±0.05	20~200	20~200	

Hole Machining Detail	
N (Through Hole)	Z (Counterbored Hole)
Bolt Nominal Diameter	3 4 5 6 8 10
d	3.5 4.5 5.5 6.5 9 11
d1	- 8 9.5 11 14 -
h	- 5 6 7 9 -

Hole Machining Type

Type	Part Number Tolerance selection	Dimension tolerance	Number of Holes	1mm increments		Thickness selection T	0.5mm increments		Hole Shape Selection	
				Length A	Width B		F	G	N	Z
E-HIPHB	Not Specified	A, B : (+1.0,0) T : ±0.1	2H 4H	20~800	20~800	3 5 10 15 20 25 30	9~795 (2H) 9~791 (4H)	3 4 5 6 8 10	-	-
									4 5 6	4 5 6 8
E-HIPHB	P	A, B : ±0.3 T : ±0.05	2H 4H	20~200	20~200	3 5 10 15 20 25 30	5~195 (2H) 9~191 (4H)	3 4 5 6 8 10	-	-
									4 5 6	4 5 6 8

- The specified range of F dimension must meet the condition: $d(d1)+5 \leq F \leq A-d(d1)-5$.
- When selecting 2H type, the specified range of G dimension must meet the condition: $d(d1)/2+2.5 \leq G \leq B-d(d1)/2-2.5$, and when selecting 4H type, it must meet the condition: $d(d1)+5 \leq G \leq B-d(d1)-5$. (When selecting Through Hole for d and Counterbored Hole for d1)
- When selecting hole machining type, please select N (Through Hole) and Z (Counterbored Hole).

Ordering Example

Please order after selecting part number and parameters according to the selection steps 1 to 9.
Part Number (Type · Tolerance Selection) - 4A - 5B - 6T - 7F - 8G - 9N/Z
 Standard Type E-HIPHB - 100 - 100 - 10
 Hole Machining Type E-HIPHP2H - 100 - 100 - 10 - F60 - G60 - N6



By Type Search on MISUMI official website
E-HIPHB

By Keyword Step 1 Search on MISUMI official website
heat insulating

Step 2 Select MISUMI economy series brand
MISUMI economy