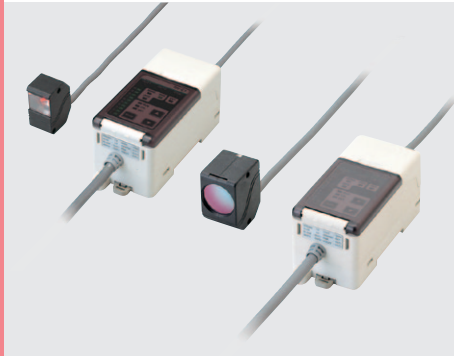


# TH SERIES

Related Information

- General terms and conditions..... F-17
- Sensor selection guide..... P.831~
- General precautions..... P.1405



[panasonic-electric-works.net/sunx](http://panasonic-electric-works.net/sunx)

## Quick, non-contact detection of hot melt glue

### ORDER GUIDE

Type	Appearance		Sensing range	Set model No.	Output
	Sensor head	Controller			
Spot			 40 ±10 mm 1.575 ±0.394 in	<b>TH-11CS</b>	NPN open-collector transistor
Long sensing range			 10 to 300 mm 0.394 to 11.811 in (Note)	<b>TH-12CS</b>	NPN open-collector transistor
				<b>TH-12CPS</b>	PNP open-collector transistor

Note: Teaching is possible for this sensing range.  
However, the sensing range varies with the size of the sensing object and its temperature, ambient temperature, etc.

A sensor head and its respective controller comprise a set. Make sure to use the sensor head and the controller specified in the set model No. together as a set.  
[Please refer to "**SPECIFICATIONS**" for more details.]

- FIBER SENSORS
- LASER SENSORS
- PHOTOELECTRIC SENSORS
- MICRO PHOTOELECTRIC SENSORS
- AREA SENSORS
- LIGHT CURTAINS
- PRESSURE / FLOW SENSORS
- INDUCTIVE PROXIMITY SENSORS
- PARTICULAR USE SENSORS
- SENSOR OPTIONS
- SIMPLE WIRE-SAVING UNITS
- WIRE-SAVING SYSTEMS
- MEASUREMENT SENSORS
- STATIC CONTROL DEVICES
- ENDOSCOPE
- LASER MARKERS
- PLC / TERMINALS
- HUMAN MACHINE INTERFACES
- ENERGY CONSUMPTION VISUALIZATION COMPONENTS
- FA COMPONENTS
- MACHINE VISION SYSTEMS
- UV CURING SYSTEMS
- Selection Guide
- Wafer Detection
- Liquid Leak Detection
- Liquid Level Detection
- Water Detection
- Color Mark Detection
- Hot Melt Glue Detection
- Ultrasonic
- Small / Slim Object Detection
- Obstacle Detection
- Other Products

**SPECIFICATIONS**

The CAD data in the dimensions can be downloaded from our website.

**TH-11CS**

Spot type

**Sensor head**

Item	Model No.	TH-11
Applicable controller		<b>TH-C1</b>
Sensing range		40 ±10 mm <b>1.575 ±0.394 in</b>
Sensing object		ø3 mm <b>ø0.118 in</b> or more hot melt glue (emissivity 0.9) at +85 °C <b>+185 °F</b> or more, under ambient temperature of +25 °C <b>+77 °F</b> (Note 2)
Ambient temperature		0 to +50 °C <b>+32 to +122 °F</b> (No dew condensation), Storage: -10 to +60 °C <b>+14 to +140 °F</b>
Visible targeting		Red LED
Material		Enclosure: Polycarbonate, Front cover: Sapphire glass
Weight		Net weight: 77 g approx.
Accessories		<b>MS-TH-1</b> (Sensor head mounting bracket): 1 set, <b>TH-B1</b> (Heat shield): 1 pc.
Dimensions		W18 × H33 × D23 mm <b>W0.709 × H1.299 × D0.906 in</b>

Notes: 1) Where measurement conditions have not been specified precisely, the conditions used were an ambient temperature of +20 °C **+68 °F**.  
 2) A hot melt drop at +60 °C **+140 °F** or higher can be detected if it is ø5 mm **ø0.197 in** or more.

**Controller**

Item	Model No.	TH-C1
Applicable sensor head		<b>TH-11</b>
Supply voltage		12 to 24 V DC ±10 % Ripple P-P 10 % or less
Current consumption		100 mA or less
Outputs (OUT 1, OUT 2)		NPN open-collector transistor <ul style="list-style-type: none"> <li>• Maximum sink current: 100 mA</li> <li>• Applied voltage: 30 V DC or less (between output and 0 V)</li> <li>• Residual voltage: 1 V or less (at 100 mA sink current) 0.4 V or less (at 16 mA sink current)</li> </ul>
Output operation		OUT 1: ON when hot melt adhesive is detected (Max. 1 sec. approx.), OUT 2: ON when the evaluated result is NG (Max. 1 sec. approx.)
Response time (operation freq.)		1 ms or less (1 to 200 Hz)
Warm-up time		40 sec. approx.
Sensitivity setting		Teaching method (Push-button operation)
Level storage function		Sensitivity levels of eight channels can be stored.
External channel select function		Incorporated
Timer function		Incorporated with approx. 40 ms fixed OFF-delay timer, switchable either effective or ineffective
Ambient temperature		0 to +50 °C <b>+32 to +122 °F</b> (No dew condensation), Storage: -10 to +60 °C <b>+14 to +140 °F</b>
Material		Enclosure: Heat-resistant ABS, Terminal cover: Heat-resistant ABS, Front cover: Polycarbonate
Weight		Net weight: 200 g approx.
Dimensions		W43 × H45 × D90 mm <b>W1.693 × H1.772 × D3.543 in</b>

Note: Where measurement conditions have not been specified precisely, the conditions used were an ambient temperature of +20 °C **+68 °F**.

FIBER SENSORS

LASER SENSORS

PHOTO-ELECTRIC SENSORS

MICRO PHOTO-ELECTRIC SENSORS

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**TH**

**SPECIFICATIONS**

The CAD data in the dimensions can be downloaded from our website.

**TH-12CS TH-12CPS**

Long sensing range type

**Sensor head**

Item	Model No.	TH-12
Applicable controllers		<b>TH-C2, TH-C2P</b>
Sensing range		10 to 300 mm <b>0.394 to 11.811 in</b> (Note 2)
Sensing object		ø6 mm <b>ø0.236 in</b> (equivalent to 3 × 10 mm <b>0.118 × 0.394 in</b> ) or more hot melt glue (emissivity 0.9) at +100 °C <b>+212 °F</b> or more, under ambient temperature of +25 °C <b>+77 °F</b>
Pollution degree		3 (Industrial environment)
Ambient temperature		0 to +50 °C <b>+32 to +122 °F</b> (No dew condensation), Storage: -10 to +60 °C <b>+14 to +140 °F</b>
Material		Enclosure: Polycarbonate, Indicator: Polycarbonate, Lens: Silicone
Weight		Net weight: 120 g approx.
Accessories		<b>MS-TH-2</b> (Sensor head mounting bracket): 1 set, <b>TH-B2</b> (Heat shield): 1 pc., <b>OS-TH12</b> (Slit mask): 1 pc.
Dimensions		W25 × H40 × D30 mm <b>W0.984 × H1.575 × D1.181 in</b>

Notes: 1) Where measurement conditions have not been specified precisely, the conditions used were an ambient temperature of +20 °C **+68 °F**.

2) Teaching is possible for this detection range. However, the detection range varies with the size of the sensing object and its temperature, ambient temperature, etc.

**Controllers**

Item	Type	NPN output (for <b>TH-12CS</b> )	PNP output (for <b>TH-12CPS</b> )
	Model No.	<b>TH-C2</b>	<b>TH-C2P</b>
Applicable sensor head		<b>TH-12</b>	
Supply voltage		12 to 24 V DC ±10 % Ripple P-P 10 % or less	
Current consumption		100 mA or less	
Outputs (OUT 1, OUT 2)		NPN open-collector transistor <ul style="list-style-type: none"> <li>• Maximum sink current: 100 mA</li> <li>• Applied voltage: 30 V DC or less (between output and 0 V)</li> <li>• Residual voltage: 1 V or less (at 100 mA sink current) 0.4 V or less (at 16 mA sink current)</li> </ul>	PNP open-collector transistor <ul style="list-style-type: none"> <li>• Maximum source current: 100 mA</li> <li>• Applied voltage: 30 V DC or less (between output and +V)</li> <li>• Residual voltage: 2 V or less (at 100 mA source current)</li> </ul>
	Utilization category	—————	DC-12 or DC-13
Output operation		OUT 1: ON when hot melt adhesive is detected (Max. 1 sec. approx.), OUT 2: OFF when the evaluated result is NG (Max. 1 sec. approx.)	
Response time (operation freq.)		Sensing distance 200 mm <b>7.874 in</b> or less: 1 ms or less (1 to 200 Hz), Sensing distance 300 mm <b>11.811 in</b> or less: 1.5 ms or less (1 to 100 Hz)	
Warm-up time		40 sec. approx.	
Sensitivity setting		Teaching method (Push-button operation)	
Level storage function		Sensitivity levels of eight channels can be stored.	
External channel select function		Incorporated	
Timer function		Incorporated with approx. 40 ms fixed OFF-delay timer, switchable either effective or ineffective	
Pollution degree		—————	3 (Industrial environment)
Ambient temperature		0 to +50 °C <b>+32 to +122 °F</b> (No dew condensation), Storage: -10 to +60 °C <b>+14 to +140 °F</b>	
EMC		—————	EN 60947-5-2
Material		Enclosure: Heat-resistant ABS, Terminal cover: Heat-resistant ABS, Front cover: Polycarbonate	
Weight		Net weight: 200 g approx.	Net weight: 140 g approx.
Dimensions		W43 × H45 × D90 mm <b>W1.693 × H1.772 × D3.543 in</b>	

Note: Where measurement conditions have not been specified precisely, the conditions used were an ambient temperature of +20 °C **+68 °F**.**PRECAUTIONS FOR PROPER USE**

Refer to General precautions.



- Never use this product as a sensing device for personnel protection.
- In case of using sensing devices for personnel protection, use products which meet laws and standards, such as OSHA, ANSI or IEC etc., for personnel protection applicable in each region or country.

## MEMO

