Stationary-type non-contact thermometer
For installation in limited space

Measurement range
−40 to 500°C (−40 to 932°F)
0 to 1000°C (32 to 1832°F)

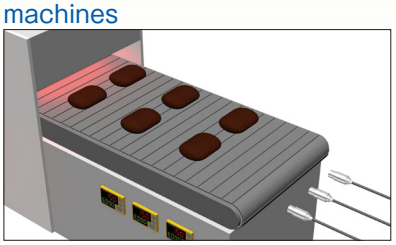
THERMO-HUNTER®

CS series

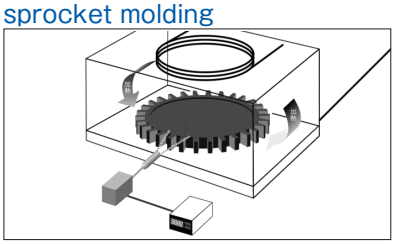
<−40 to 500°C (−40 to 932°F)>
CS-30TAC/CS-40TAC

<0 to 1000°C (32 to 1832°F)>
CS-30TAC-HT/CS-40TAC-HT

Temperature control of iron plates in hamburger cooking machines



Temperature control during sprocket molding



CE

High environmental durability | IP69K | Ultra-compact sensor head | Digital display | Simple temp correction | Analog output | Hi-temp model

Features

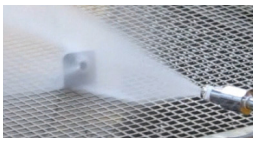
World's smallest-class sensor head ideal for installation in limited space

The ultra-compact head measures only M12 (ø14) × 30 mm.
This allows the thermometer to be mounted to a wide variety of equipment in various manufacturing lines.

Heat-resistant sensor head capable of handling up to 180°C (356°F)

The sensor head and cable are heat resistant to 180°C (356°F).
This eliminates the need for water cooling even in high-temperature environments. (Low- and medium-temperature models are heat resistant to 100°C (212°F).)

Industry's highest level of waterproof performance



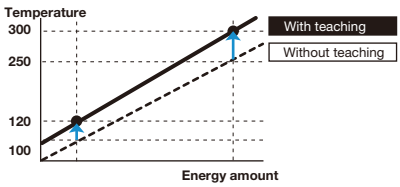
In harsh manufacturing lines, water and dust can cause sensors to fail, so environmental resistance is a must.
The CS series offers IP69K protection as stipulated by German standard DIN 40050-9.
This allows for problem-free use even in high-pressure sterilization washing.

Compact body offering both visibility and operability

The 7-segment, large digital display is incredibly easy to read.
In addition, the large, easy-to-understand buttons make operation easier even when mounted to equipment.

2-point teaching function for simple temperature adjustment

The CS series is now equipped with a 2-point teaching function. Setting the upper and lower limits for a measurement target makes adjusting in order to display the desired value easy.



Various measurement modes

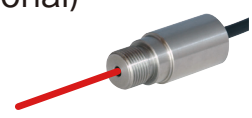
Bank function
Settings can be saved independently for banks 1 through 4.

Output scaling function
The temperature range of the analog output (4 to 20 mA) can be set as desired.

Trigger function
Output control can be set according to trigger (synchronization) input.
[External trigger / Wave trigger / MAX, MIN, P-P, SAMPLE hold]

Laser pointer for easy alignment (optional)

A laser pointer makes precise positioning easy even with a small head, which is difficult with a conventional setup.
Designed to be the same shape as the sensor head, laser pointers can be easily used during alignment.



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Type key

CS-□□TAC-□□

- [Measurement range]: None: Low-medium-temperature model, –40 to 500°C (–40 to 932°F); HT: High-temperature model, 0 to 1000°C (32 to 1832°F); Heat-resistant (up to 180°C (356°F)) sensor head
- [Field of view]: 30: ø30 mm/500 mm; 40: ø40 mm/500 mm
- [Type]: CS: Cylindrical sensor head and amplifier

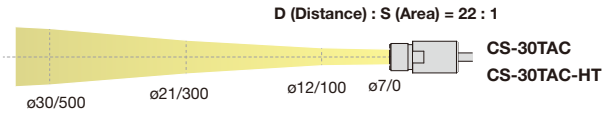
Specifications

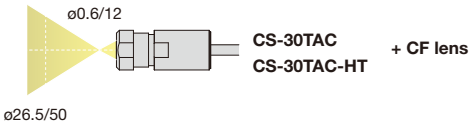
Model		Low-medium-temperature models (standard)		High-temperature models (heat-resistant head)	
		CS-30TAC	**CS-40TAC**	**CS-30TAC-HT**	**CS-40TAC-HT**
Measurement range		–40 to 500°C (–40 to 932°F)		0 to 1000°C (32 to 1832°F)	
Field of view		ø30/500 mm (22:1)	ø40/500 mm (15:1)	ø30/500 mm (22:1)	ø40/500 mm (15:1)
Optics		Silicone lens			
Sensing element/ spectral response		Thermopile/8 to 14 µm			
Response time		150 ms/90% response		150 ms/90% response	
Accuracy[*1]		–40 to 0°C (–40 to 32°F): ±3°C (5.4°F), 1 to 200°C (33.8 to 392°F): ±2°C (3.6°F), 201 to 500°C (393.8 to 932°F): ±1% of reading value		0 to 200°C (32 to 392°F): ±2°C (3.6°F), 201 to 1000°C (393.8 to 1832°F): ±1% of reading value	
Repeatability		Up to 200°C (392°F): ±1.0°C (1.8°F), 201°C (393.8°F) or more: ±0.5% of reading value			
Emissivity adjustment		0.1 to 1.2			
Display resolution		1°C increments			
Analog output	**Output**	4 to 20 mA			
	Resolution	0.5°C increments			
	Accuracy	±0.5% or ±1.0°C (1.8°F)			
	Update time	10 ms			
	Allowable load	250 Ω			
	Impedance	47 Ω			
Control output		Photo MOS FET × 2 (Transfer contact × 2)			
Capacitive load		300 mA/30 VDC or less			
Interface		Digital output			
Functions		Teaching function: 2 points, Response time selection (DELAY) function: 1 (0.15 sec.) to 200 (approx. 10 sec.), Output scaling function			
External input		Bank function: 4 banks, Synchronous input trigger function, External trigger function, Wave trigger function			
Degree of protection		Sensor head: IP 69K (DIN 40050 Part 9), Amplifier: IP 40 (IEC 60529)			
Vibration resistance		10 to 55 Hz; amplitude 1.5 mm; 2 hours in each of the X, Y, and Z directions			
Supply voltage		12 to 24 VDC ±10%			
Current consumption		120 mA (at max. load) / 80 mA (in Eco mode)			
Ambient temperature		Sensor head: 0 to 100°C (32 to 212°F), Amplifier: 0 to 65°C (32 to 149°F)		Sensor head: 0 to 180°C (32 to 356°F), Amplifier: 0 to 65°C (32 to 149°F)	
Ambient humidity		35 to 85% RH (no condensation)			
Storage temperature		0 to 70°C (32 to 158°F)			
Dimensions		Sensor head: M12 (ø14) × 34 mm, Amplifier: 35 × 52 × 38.5 mm			
Weight		Sensor head: Approx. 100 g (including 3 m cable), Amplifier: Approx. 200 g (including 2 m cable)			
Material		Sensor head: SUS, Amplifier: ABS, Sensor cable: PVC (low-medium-temperature models) / Silicone rubber (high-temperature models)			

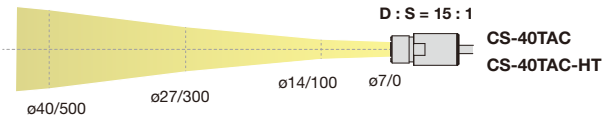
*1 The measurement accuracy in the specification is limited to the calibration conditions of our factory.
• Note that specifications are subject to change without prior notice for product improvement purposes.

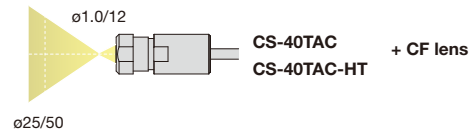
Field of view

(Area size/distance: mm)









- The fields of view stated above are for an optical response (energy) of 90%.
- The size of the measurement target must be sufficiently larger than the figures shown in the above diagram.

- When a CF lens is equipped, the amount of light received from the measurement target is attenuated by 20 to 30%. Emissivity adjustment is necessary.
- For micro-point measurement, the size of the measurement target must be approx. 1.5 times larger than the measurement field of view shown in the above diagram.

Options/Accessories

Laser pointer

CS-LDP

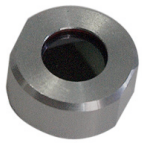
A laser pointer makes precise positioning easy even with a small head, which is difficult with a conventional setup.
Designed to be the same shape as the sensor head, laser pointers can be easily used during alignment.

■ **Laser beam**
- This product uses a Class 2 laser that conforms to IEC 60825-1. Use the product according to the affixed labels.

Warning label

CF lens

CS-CF01



Air purge pipe

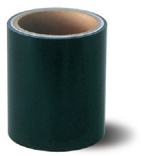
CS-AP1

Mounting bracket (for sensor head)

CS-FB12

Black tape for glossy objects

HB-250



● Speifications

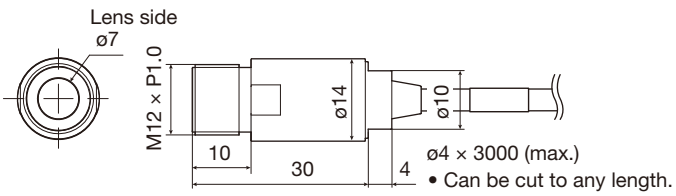
Supply voltage	3.0 VDC ± 10 %*1
Wavelength	630-670 nm
Maximum Power	≤1mW (CLASS 2)
Beam Divergence	≤1mrad
Optical Axis Accuracy	± 2°
Ambient Temperature	0 to 40°C
Environmental Humidity	35 to 85%RH (without dew condensation)
Storage Temperature	-10 to 60°C
Vibration Resistance	10 to 55Hz,1.5 mm amplitude, 2 hours each for XYZ directions with packaging
Degree of Protection	IP40 (IEC 60529)
Materials	Stainless Steel
Weight	Approx. 60 g
Applicable Regulations	RoHS Directive(2011/65/EU), China RoHS(MIIT Order No.32) FDA Regulation (21CFR 1040.10 and 1040.11) (expect for deviations pursuant to Laser Notice No.56) *2
Applicable Standards	IEC 60825-1

*1 Do not connect CS-LDP to the same power supply as the CS series amplifier.

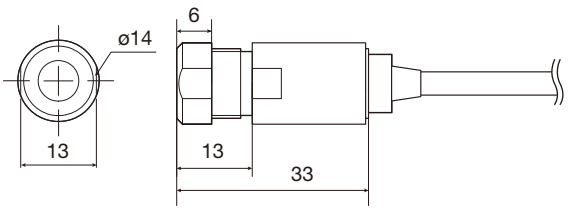
*2 Design and specifications are subject to change for product improvement without prior notice.

Dimensions

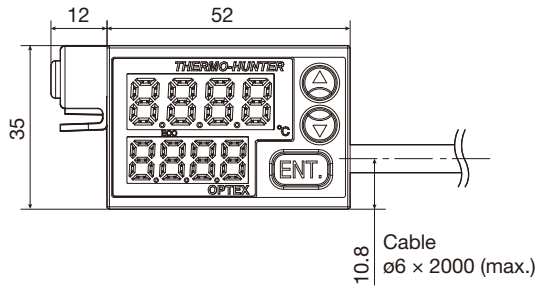
● Sensor head

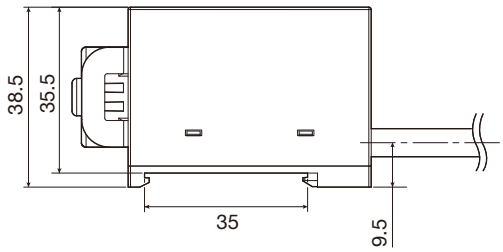


With CF lens

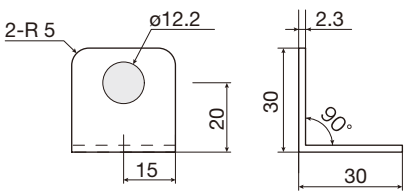


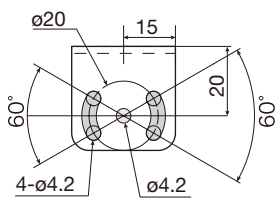
● Amplifier





● Mounting bracket CS-FB12





(Unit: mm)