

RT300/320

Raditemp Temperature Detectors

The RT300 and RT320 measure temperature with high-sensitivity infrared detection and output a 4–20mA linear signal with high-speed response.

The RT300 is a compact unit used for non-contact temperature measurement. The RT320 uses flexible optical fibers.



Specifications

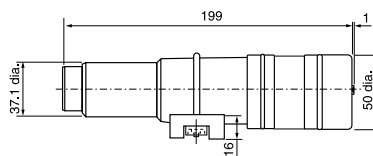
Model No.	RT300								RT320							
Type	Infrared radiation thermometer								Optical fiber type infrared radiation thermometer							
Detection element measuring wavelength	Silicon element: 0.78 to 1.06μm Germanium element: 0.9 to 1.8μm Thermopile: other wavelengths								Silicon element: 0.78 to 1.06μm Germanium element: 0.9 to 1.8μm							
Accuracy	±0.75% FS or ±1.7°C (whichever is larger) ±1.5% FS at a measuring wavelength of 0.9 to 1.8μm at 450°C or lower								±1% FS or ±3.3°C (whichever is larger) ±1.5% FS at a measuring wavelength of 0.9 to 1.8μm at 450°C or lower							
Output	4 to 20mAdc linear															
Maximum load resistance	Power (V)	18	20	24	28	32	36	40								
	Resistance (Ω)	100	200	400	600	800	1000	1200								

Model No.	RT300	RT320
Optical fiber	—	Length: 910, 1820, 3650, 5480, 7310, 9140mm with a stainless steel flexible tube. Bending radius:50mm min.
Extension tip	—	Length:76, 152, 305, 610, 914, 1219, 1524mm Outer diameter: ø3.2 or ø4.8 Material: Stainless steel or ceramics
Material	Main unit: Noryl resin	Main unit: Noryl resin, Sensor: Stainless Steel
Mass	Approx. 240g	Main unit: Approx. 240g
Ambient temperature	0 to 60°C or 0 to 50°C (0 to 315°C when the water cooling jacket is mounted)	
Ambient humidity	Lower than 90% RH at 40 °C	
Power	18 to 38Vdc	
Accessories	Mounting adapter (with a U clamp), 1 set	

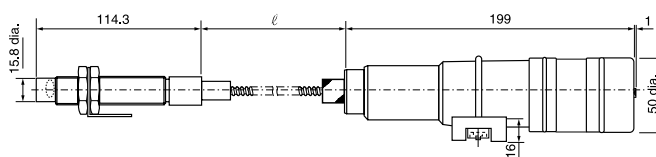
Dimensions

(Unit: mm)

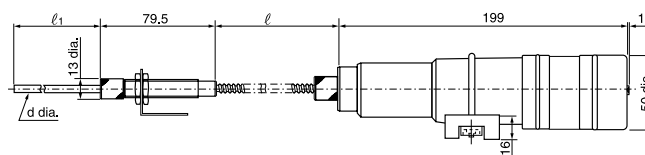
• RT300□□□□



• RT320□□□□□L1 to L3



• RT320□□□□□A1 to D2



Table

ℓ	910	1820	3650	5480	7310	9140	—
ℓ ₁	76	152	305	610	914	1219	1524
d	3.2 or 4.8						

Selection Guide

I II Example: RT300A01, I II III IV Example: RT320Q17F1L1

• RT300

Segment	Model No. selection	Description
I	Basic No.	RT300 Compact assembly type radiation thermometer
II	Wavelength and temperature range	0.78 to 1.06μm 0.9 to 1.8μm 2.0 to 2.6μm 3.86μm 4.50μm
		Q12 * 220 to 400°C
		P13 * 250 to 450°C
		P14 300 to 550°C
		Q16 300 to 600°C
		P18 350 to 700°C
		P20 400 to 800°C
		Q20 400 to 800°C
		H23 * 500 to 800°C
		H25 550 to 900°C
		D26 300 to 1000°C
		H27 600 to 1000°C
		L29 500 to 1100°C
		Q30 500 to 1100°C
		H33 700 to 1200°C
		H37 900 to 1600°C
		P38 750 to 1650°C
		D39 600 to 1750°C
		H40 1100 to 2000°C
		L41 600 to 2200°C
		H42 1500 to 3000°C
		4.8 to 5.2μm 7.9μm 7 to 10μm 8 to 14μm 7 to 20μm
		B01 * 0 to 100°C
		B03 0 to 300°C
		F03 * 0 to 300°C
		K03 0 to 300°C
		F04 100 to 400°C
		B05 100 to 500°C
		K05 100 to 500°C
		B10 200 to 1000°C
		A07 * -40 to +100°C
		E15 100 to 600°C
		F06 150 to 600°C
		F19 300 to 800°C
		E35 300 to 1500°C

* Allowable ambient temperature: 0 to 50°C

• RT320

Segment	Model No. selection	Description
I	Basic No.	RT320 Flexible optical fiber type radiation thermometer
II	Wavelength and temperature range	0.78 to 1.06μm 0.9 to 1.8μm Remarks
		Q17 350 to 600°C
		Q22 450 to 800°C
		H24 500 to 900°C
		H28 650 to 1000°C
		Q31 550 to 1100°C
		H32 700 to 1100°C
		H34 750 to 1200°C
		H36 800 to 1300°C
		H37 900 to 1600°C
		H40 1100 to 2000°C
		H42 1500 to 3000°C
		F1 914mm
		F2 1829mm
		F3 3658mm
III	Optical fiber length	F4 5480mm
		F5 7315mm
		F6 9144mm
IV	Detecting element	L1 Lens
		L2 type
		L3 0 to 1400mm
		A1 Remote
		A2 tip
		A3 type
		A4
		A5
		A6
		B1
		B2
		B3
		B4
		C1
		C2
		C3
		C4
		D1
		D2