

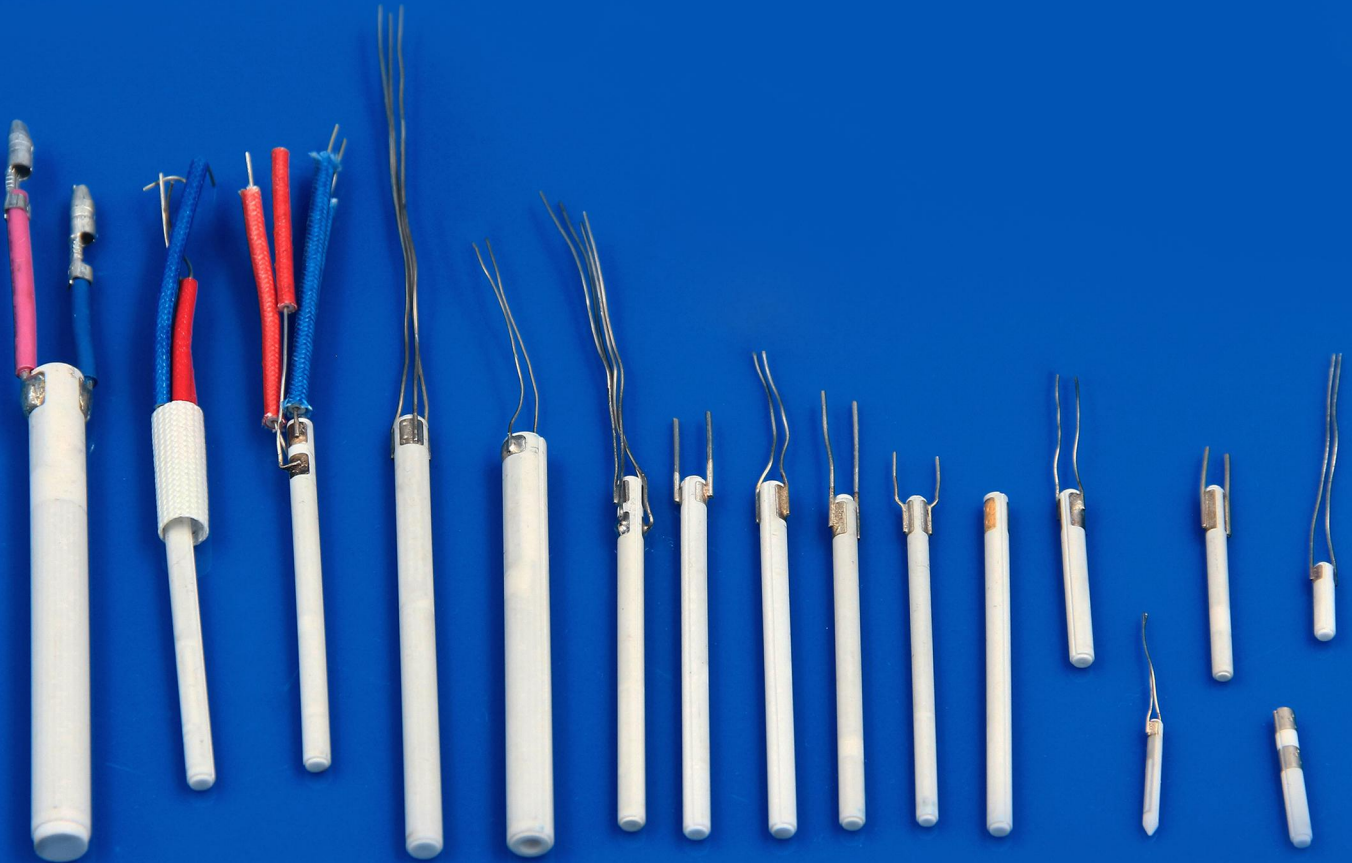


Ceramic Heater For Electronic Tools

■ Ceramic Heater for Electronic Tools

INNOVACERA's ceramic heater is widely used in Electronic tools industry, such as soldering iron, soldering station. It has a structure in which a heating element is built into the base ceramic material and is integrated by simultaneous sintering.

This structure can completely shut out the outside air, and by embedding multiple circuits, it can also be equipped with an output switching function and a temperature sensor function.



■ Advantages

1. Rapid heating
2. Small size / High watt density
3. Long service life
4. Excellent insulation and dielectric strength
5. Vacuum environment
6. Output switching
7. Temperature sensing



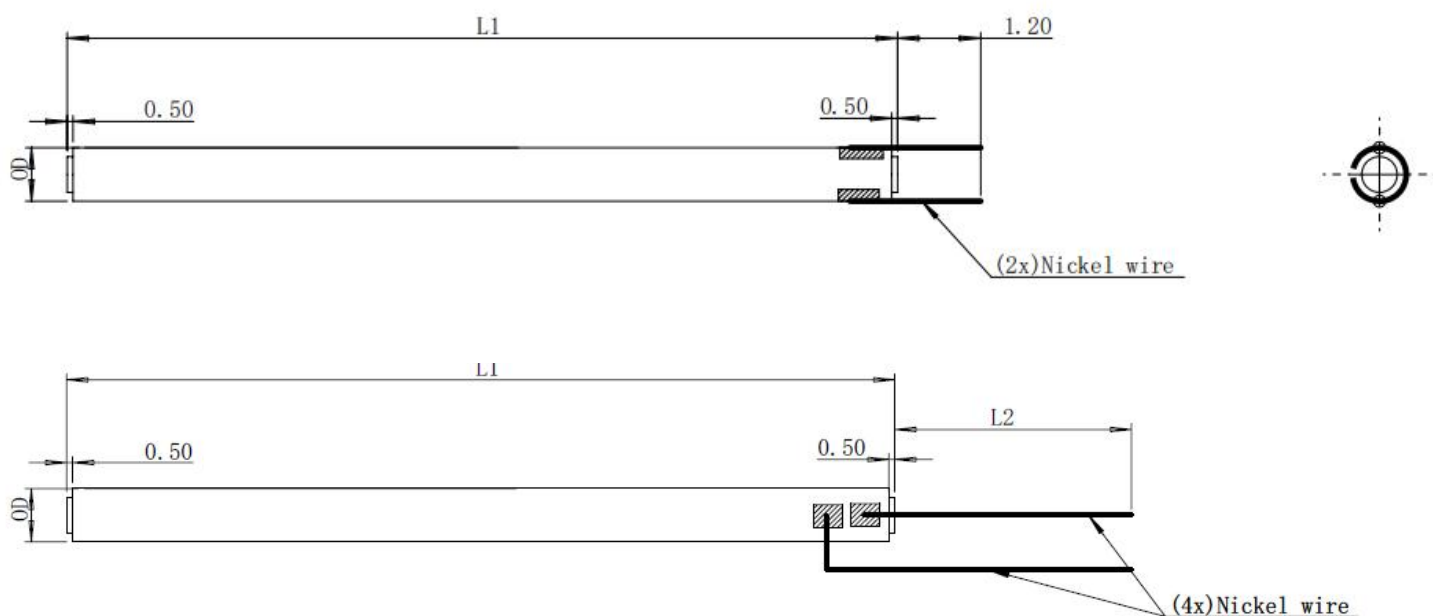
■ Specifications

Thermal Properties

Max Operating Temperature	1,050°C MAX
Normal Operation Temperature	850°C MAX
Thermal Conductivity (20°C)	21W/(m·k)
Specific Heat (20°C)	0.78×10 ³ J/(kg·K)
Linear Expansion Coefficient (40~800°C)	7.8×10 ⁻⁶ /°C
Hardness (load 500g)	13.5 Gpa
Flexural	320Mpa

Standard Dimensions

Dimension		Tolerance
Length	8~121mm	≤30±0.5mm 30~100 ±1mm ≥100±1.5mm
Diameter	2.5~8mm	≤5±0.1mm 5~9±0.2mm ≥9±0.3mm



■ Stock Dimensions

Specification (mm)	Recommended Voltage	Using Resistance (Ω)	Heating Length (mm)	Lead Wire (Nickel Wire)
L30* ϕ 3.5	110VAC	32.5 $\pm$ 10%	8	ϕ 0.5*114
L32* ϕ 3.0	12VDC	4.5	7.5	Bending nickel plate: L14xW1.2xT0.4
L34* ϕ 2.9	13VDC	5.0	6.5	ϕ 0.8x15
L42* ϕ 2.5	13VDC	6.0	6.5	ϕ 0.8x17.5
	13VDC	13	6.5	ϕ 0.8x17.5
L44* ϕ 2.9	12VDC	5.0	3	ϕ 0.6x23
L44* ϕ 3.0	12VDC	7.5	4.5	ϕ 0.6x23
L49* ϕ 2.5	12VDC	4.5	6.5	ϕ 0.6x16
L50* ϕ 3.0	12VDC	4.0	10	ϕ 0.6x20
	12VDC	5.8	10	ϕ 0.6x20
	12VDC	4.5	6	ϕ 0.6x20
L53* ϕ 3.0	13VDC	13	4	ϕ 0.7x15.8
	13VDC	9	4	ϕ 0.7x15.0
	13VDC	6	4	ϕ 0.7x15.8
L55* ϕ 3.6	12VDC	4.5	13	ϕ 0.8*16
L56* ϕ 3.0	12VDC	4.0	7.5	Nickle plate: L6xW1.2xT0.4
	12VDC	7	7.5	Nickle plate: L6xW1.2xT0.4
	12VDC	9	7.5	Nickle plate: L6xW1.2xT0.4
	12VDC	3.4	10	Nickel electrode 3-jaw: L17
	12VDC	5.4	10	Nickel electrode 3-jaw: L17
	13VDC	4.0	7.5	ϕ 0.8x15
	13VDC	6.5	7.5	ϕ 0.8x15
	12VDC	5	3	0.7*24.5
	12VDC	7.5	5	ϕ 0.8x15
L57* ϕ 2.9	13VDC	13	5	ϕ 0.7x20
	13VDC	5.80	12.5	ϕ 0.7x20
	13VDC	4.30	12.5	ϕ 0.7x20
	13VDC	3.40	6.7	ϕ 0.7x20
	13VDC	7.50	6.5	ϕ 0.7x20
	13VDC	13	6.7	ϕ 0.7x20
	13VDC	2.1	12.5	ϕ 0.7x31.5
	13VDC	3.6	6.7	ϕ 0.7x31.5

Specification (mm)	Recommended Voltage	Using Resistance (Ω)	Heating Length (mm)	Lead Wire (Nickel Wire)
L57* ϕ 3.6	12VDC	3.5	13	ϕ 0.8x25
	12VDC	4.0	7.5	ϕ 1.0x24
	12VDC	2.1	13	ϕ 0.8x55
	12VDC	5	13	ϕ 0.8x25
	12VDC	3.3	9	ϕ 0.6x25
	12VDC	2.3	9	ϕ 0.8x25
	12VDC	4.5	12	ϕ 0.8x25
	12VDC	3.4	13	Gold-plated electrode
L57* ϕ 3.7	12VDC	3.6	12.5	ϕ 1.0x42
L58* ϕ 3.0	13VDC	9	4.5	Gold-plated electrode
	13VDC	13	4.75	Gold-plated electrode
L58* ϕ 3.5	13VDC	2.1	12.5	Gold-plated electrode
	13VDC	3.5	12.5	Gold-plated electrode
	13VDC	6.0	12.5	Gold-plated electrode
	13VDC	4.5	5	Gold-plated electrode
	13VDC	6	5	Gold-plated electrode
L59* ϕ 2.9	13VDC	4.0	8.5	ϕ 0.8x17
L59* ϕ 3.0	13VDC	5.75	6	ϕ 0.6x25
L59* ϕ 3.5	12VDC	2.4	9	ϕ 0.8x25
	12VDC	3.6	5	ϕ 0.8x25
L59* ϕ 3.6	12VDC	12.0	7	ϕ 0.8x29
	12VDC	2.4	9	ϕ 0.8x25
	12VDC	3.6	5.5	ϕ 0.8x25
L59* ϕ 3.7	13VDC	3.35	12.5	Gold-plated electrode
	13VDC	2.1	12.5	Gold-plated electrode
	13VDC	3.4	12.5	Gold-plated electrode
	13VDC	2.1	12.5	Gold-plated electrode
	13VDC	3	12.5	ϕ 0.8x25
	13VDC	3.4	12.5	Gold-plated electrode
	13VDC	10.7	12.5	Gold-plated electrode
	13VDC	6.5	12.5	Gold-plated electrode
	13VDC	3.6	12.5	Gold-plated electrode
	13VDC	2.1	12.5	Gold-plated electrode

Specification (mm)	Recommended Voltage	Using Resistance (Ω)	Heating Length (mm)	Lead Wire (Nickel Wire)
L60* ϕ 3.8	24VAC	Heating resistance: 3.0 $\pm$ 0.3 Feedback resistance: 46~55	13	ϕ 0.6 $\times$ 60
	110VAC	Heating resistance: 50 $\pm$ 10% Feedback resistance: 46~55	13	ϕ 0.6 $\times$ 60
	110VAC	Heating resistance: 50 $\pm$ 10% Feedback resistance: 46~55	13	ϕ 0.6 $\times$ 60
	220VAC	Heating resistance: 210 $\pm$ 10% Feedback resistance: 46~55	13	ϕ 0.6 $\times$ 60
L60* ϕ 4.3	24VAC	Heating resistance: 1.75 $\pm$ 0.25 Feedback resistance: 46~55	16.5	ϕ 0.6 $\times$ 60
L60* ϕ 3.8	110VAC	130 $\pm$ 10%	25	ϕ 0.6 $\times$ 86
	110VAC	220 $\pm$ 10%	25	ϕ 0.6 $\times$ 86
	110VAC	310 $\pm$ 10%	25	ϕ 0.6 $\times$ 86
	24VAC	2.8 $\pm$ 8%	16	ϕ 0.5 $\times$ 66
	220VAC	420 $\pm$ 10%	25	ϕ 0.6 $\times$ 60
	220VAC	650 $\pm$ 50	25	ϕ 0.6 $\times$ 86
	220VAC	875 $\pm$ 75	25	ϕ 0.6 $\times$ 86
L64* ϕ 4.5	220VAC	290 $\pm$ 10%	18	ϕ 0.5 $\times$ 74
	220VAC	260 $\pm$ 10%	25	ϕ 0.5 $\times$ 54
L70* ϕ 6.5	220VAC	130 $\pm$ 10%	41	ϕ 0.5 $\times$ 84
L80* ϕ 5.0	100VAC	37 $\pm$ 15%	45	ϕ 0.7 $\times$ 90
	200VAC	135 $\pm$ 15%	45	ϕ 0.7 $\times$ 90
	220VAC	95.5 $\pm$ 8.5	45	ϕ 0.7 $\times$ 90
L80* ϕ 8.0	220VAC	26~34	53	Multiple copper cores 1.0 ² mm
L81* ϕ 5.0	220VAC	125 $\pm$ 8	52	ϕ 0.8 $\times$ 65
	110VAC	30 $\pm$ 2	52	ϕ 0.8 $\times$ 65
	220VAC	a-b 605 $\pm$ 10%; a-c 242 $\pm$ 10%.	40	ϕ 0.5 $\times$ 69, ϕ 0.5 $\times$ 76



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