

Section 4

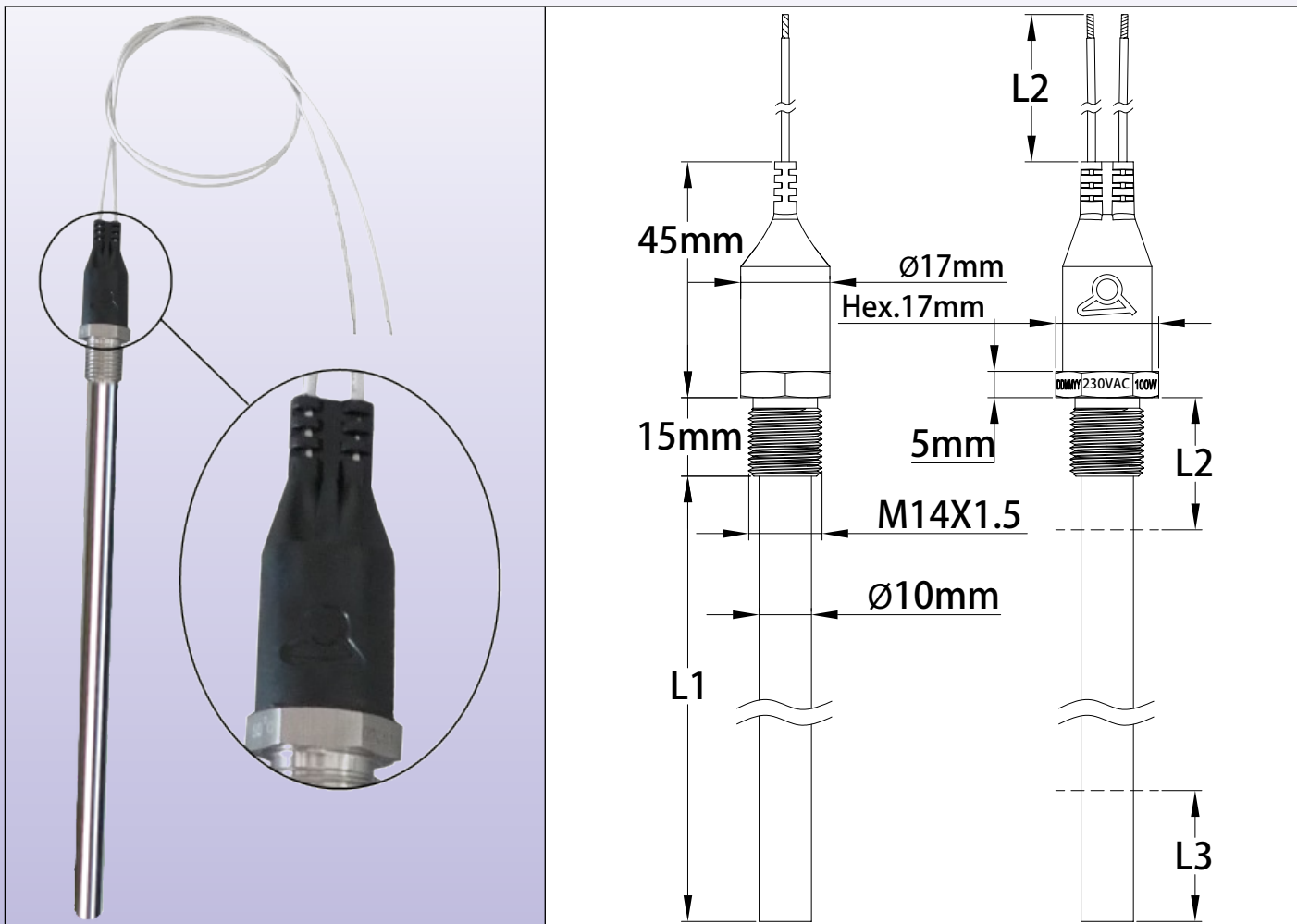
Cartridge heaters





Cartridge heaters

Cartridge heaters dia. 10mm, with built-in thermostat, M14 × 1.5 thread
Type 9T10



Main applications: Liquid heating when the space available for the heating element is reduced. E.g. heating oil supply systems, oil filters, sump engines, gearboxes, hydraulic power units. The heater has a built-in thermostat. It is the smaller heating element with built-in thermostat.

- 3 surface load values: 2,5W/cm², 5W/cm², 10W/cm². See technical introduction to optimize the surface load.

Heating tube material: Element diameter 10mm, AISI 304 (AISI 316, AISI 321; Incolloy 800, 825 on request).

Insulation: Magnesia compressed by lamination guaranteeing good heat transfer and allows loads up to 20W/cm²

Fitting Material: TIG welded 304 stainless steel, with gasket seat. Shipped without gasket.

Thread: M14x1.5

Connection: PVC insulated wires, 300V, 300mm length

Ingress Protection: IP65 wires output, carried out by PA66 over-molding.

Standard lengths (L1): 215, 315, 415, 515, 615mm

Not immersed heating zone (L2): 40mm.

Non-heating zone receiving the thermostat (L3): 50mm

Surface load: 2, 5W/cm² (main applications for oils), 5W/cm² (water without flow), 10W/cm² (circulating water).

Other surface loads on request.

Voltage: 220-240V single phase, and 24VDC

Thermostat calibration temperatures: 50 ±5°C (122±9°F), 70 ±5°C (158±9°F), 90 ±5°C (194±9°F), 100 ±5°C (212±9°F), 110 ±5°C (230±9°F)

Options on request (MOQ may apply):

- Other calibration temperature, from 40°C to 150°C (104 to 302°F).
- Types without built-in thermostat
- Lower tolerances on the calibration temperature
- Different wire lengths
- Over-molded cable output
- Tube length up to 1.8m (Maximum power 1700W in 230V and 360W in 24VDC)
- Other thread
- Other voltage



Cartridge heaters

Main references in 230V, thermostat set at 50°C±5°C (122±9°F)*

Length L1	2,5W/cm ²		5W/cm ²		10W/cm ²	
	Power (W)	Reference	Power (W)	Reference	Power (W)	Reference
215	100	9T10215FF010C5V3	200	9T10215FF020C5V3	400	9T10215FF040C5V3
315	180	9T10315FF018C5V3	360	9T10315FF036C5V3	720	9T10315FF072C5V3
415	260	9T10415FF026C5V3	520	9T10415FF052C5V3	1040	9T10415FF104C5V3
515	340	9T10515FF034C5V3	670	9T10515FF067C5V3	1350	9T10515FF135C5V3
615	420	9T10515FF042C5V3	820	9T10515FF082C5V3	1650	9T10515FF165C5V3

Main references in 24VDC, thermostat set at 50°C±5°C (122±9°F)*

Length L1	2,5W/cm ²		5W/cm ²	
	Power (W)	Reference	Power (W)	Reference
215	100	9T10215FB010C5V3	200	9T10215FB020C5V3
315	180	9T10315FB018C5V3	360	9T10315FB036C5V3
415	260	9T10415FB026C5V3	Higher power not available	

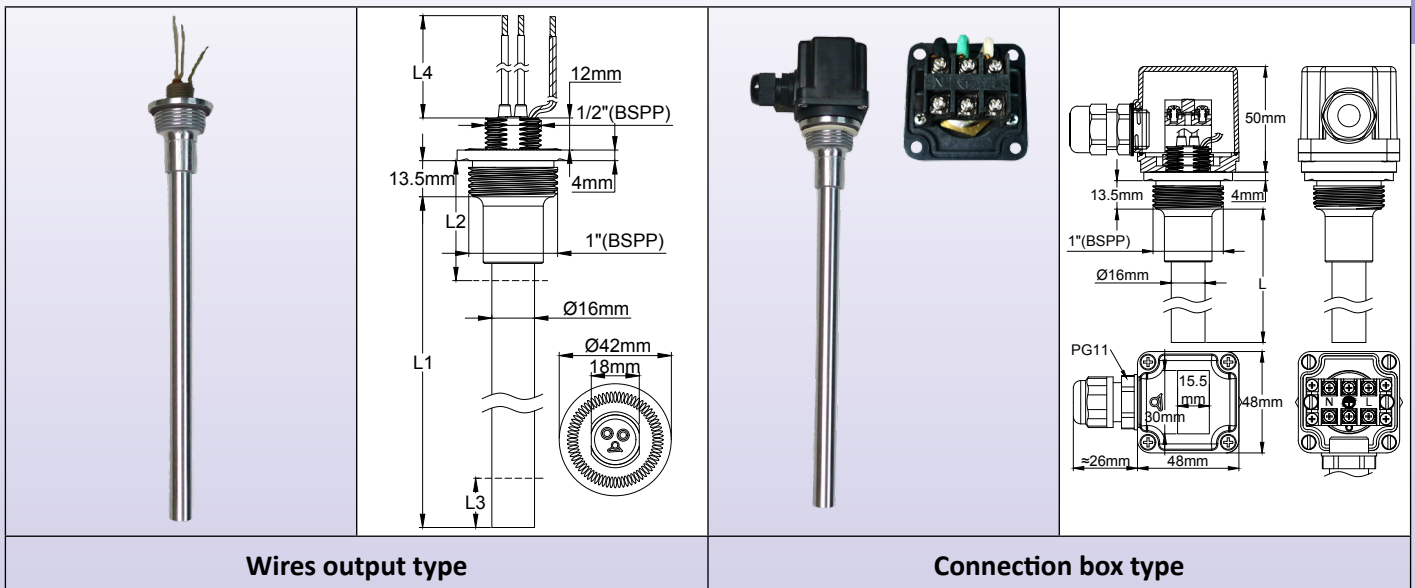
- *Thermostat set at 70 ±5°C (158±9°F), replace C5 by C7 in the reference
- *Thermostat set at 90 ±5°C (194±9°F), replace C5 by C9 in the reference
- *Thermostat set at 100 ±5°C (212±9°F), replace C5 by CA in the reference
- *Thermostat set at 110 ±5°C (230±9°F), replace C5 by CB in the reference

Because of permanent improvement of our products, drawings, descriptions, features used on these data sheets are for guidance only and can be modified without prior advice



Cartridge heaters

Cartridge heaters dia. 16mm, with built-in thermostat, 1" BSPP thread Type 9T16



Main applications: Heat transfer oil heating on oil filled radiators, and general water or liquids heating when the space available is reduced.

- 3 surface load values: 2.5W/cm², 5W/cm², 10W/cm². See technical introduction to optimize the surface load.

Heating tube material: Element diameter 10mm, AISI 304 (AISI 316, AISI 321; Incolloy 800, 825 on request).

Insulation: Magnesia compressed by lamination guaranteeing good heat transfer and allows loads up to 20W/cm²

Fitting Material: Crimped 304 stainless steel, with gasket seat.

Thread: 1" BSPP. This thread allows mounting on standardized central heating radiators. Other side of this fitting is a 1/2" BSPP for enclosure mounting.

Connection (2 options):

- 1mm², Silicone insulated wires, 300V, 300mm length, waterproof by silicone potting

- 48 × 48 × 50mm plastic enclosure, PA66 black, PG11 cable gland output. Built in 3 × 2.5mm² screws connection block.

Standard lengths (L1): 250, 380, 580, 780, 980mm

Not immersed heating zone (L2): 50mm.

Thermostat non-heating zone (L3): 50mm

Surface load: 2, 5W/cm² (oils), 5W/cm² (heat transfer oils, water without flow), 10W/cm² (circulating water). Other surface loads on request.

Voltage: 220-240V single phase.

Thermostat calibration temperatures: 50 ±5°C (122±9°F), 70 ±5°C (158±9°F), 90 ±5°C (194±9°F), 100 ±5°C (212±9°F), 110 ±5°C (230±9°F)

Options on request (MOQ may apply):

- Other calibration temperature, from 40°C to 150°C (104 to 302°F).

- Types without built-in thermostat

- Lower tolerances on the calibration temperature

- Different wire lengths

- Tube length up to 1.8m (Maximum power 1700W in 230V for models with built in thermostat)

- Other thread

- Other voltage

- Built-in thermal cut-out, inside the threaded section (usual set point temperature 144°C)

Main references in 230V, thermostat set at 50°C±5°C (122±9°F)*, wires output

Length L1	2,5W/cm ²		5W/cm ²		10W/cm ²	
	Power (W)	Reference	Power (W)	Reference	Power (W)	Reference
250	190	9T16250FF019B5V3	380	9T16250FF038B5V3	750	9T10250FF075B5V3
380	350	9T16380FF035B5V3	700	9T16380FF070B5V3	1400	9T10380FF140B5V3
580	600	9T16580FF060B5V3	1000	9T16600FF100B5V3	Higher power are only available without built-in thermostat	
780	850	9T16780FF085B5V3	1400	9T16850FF140B5V3		
980	1100	9T16980FF110B5V3	1700	9T16980FF170B5V3		



Contact us

Web: www.ultimheat.co.th

Cat22-3-4-5

Cartridge heaters

Main references in 230V, thermostat set at 50°C±5°C (122±9°F)*, plastic housing

Length L1	2,5W/cm ²		5W/cm ²		10W/cm ²	
	Power (W)	Reference	Power (W)	Reference	Power (W)	Reference
250	190	9T16250FF019B510	380	9T16250FF038B510	750	9T10250FF075B510
380	350	9T16380FF035B510	700	9T16380FF070B510	1400	9T10380FF140B510
580	600	9T16580FF060B510	1000	9T16580FF100B510	Higher power are only available without built-in thermostat	

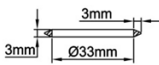
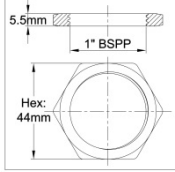
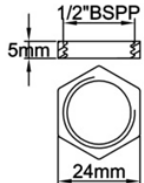
*Thermostat set at 70 ±5°C (158±9°F), replace C5 by C7 in the reference

*Thermostat set at 90 ±5°C (194±9°F), replace C5 by C9 in the reference

*Thermostat set at 100 ±5°C (212±9°F), replace C5 by CA in the reference

*Thermostat set at 110 ±5°C (230±9°F), replace C5 by CB in the reference

Accessoires

	<p>1" High temperature Viton Gasket Ref</p> <p>9BBJ03000000005A</p>		<p>1" Brass nut Ref</p> <p>9BBRA3000ELH047A</p>		<p>1/2" Brass nut Ref</p> <p>9BBVE2000004003A</p>
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