

COMPACT SEMICONDUCTOR FAN HEATER

CS 028 / CSL 028 | 150W to 400W



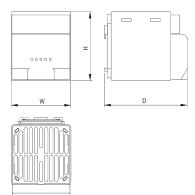
Photo: Fan Heater CSL 028

- > Small, compact design
- > Quiet in operation
- > Dynamic heating up

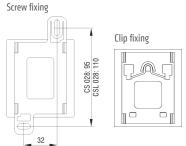
> Clip or screw fixing

CE C C ROHS

Fan heater prevents formation of condensation and provides an evenly distributed interior air temperature in enclosures with electric/electronic components. The heater is connected using the internal terminal connectors. The small size of the CS / CSL 028 makes it ideal for use in enclosures where space is at a premium.



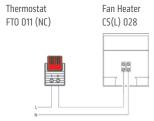
View: back side



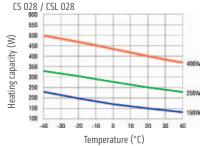
TECHNICAL DATA

Heating element	PTC resistor - temperature limiting
Surface temperature	150W/250W: max. $+50^{\circ}$ C ($+122^{\circ}$ F), 400W: max. $+65^{\circ}$ C ($+149^{\circ}$ F) each except upper protective grille at $+20^{\circ}$ C ($+68^{\circ}$ F) ambient temperature
Axial fan, ball bearing	air flow, free flow CS 028: 13.8m³/h CSL 028: 45m³/h (230VAC), 54m³/h (120VAC) service life 40,000h at +40°C (+104°F)
Connection	2-pole clamp max. 2.5mm² (CSL 028 with strain relief), clamping screw torque 0.8Nm max.
Casing	plastic according to UL94 V-O, black
Mounting	clip for 35 mm DIN rail, EN 60715 or screw fixing (Ø 5.3mm)
Fitting position	vertical airflow (air outlet up)
Operating/Storage temperature	-45 to +70°C (-49 to +158°F)
Operating/Storage humidity	max. 90% RH (non-condensing)
Protection type/Protection class	IP20 / II (double insulated)
Approvals	UL File No. E150057 (according to UL 5084, NITW File on request), GOST-TR, VDE only: 230 V
Note	other voltages on request

Example of connection



Heating capacity / Ambient temperature diagram



			iemperature (c)						
Art. No. clip fixing	Art. No. screw fixing	Series	Operating voltage	Heating capacity ¹	Inrush current max.	Pre-fuse T (time-delay)	Dimensions (H x W x D)	Weight (approx.)	
02800.0-00	02800.0-01	CS 028	230VAC, 50/60Hz	150W	12A	6.3A	75 x 65 x 90mm	0.3kg	
02811.0-00	02811.0-01	CSL 028	230VAC, 50/60Hz	250W	9A	6.3A	90 x 85 x 111mm	0.5kg	
02810.0-00	02810.0-01	CSL 028	230VAC, 50/60Hz	400W	15A	10A	90 x 85 x 111mm	0.5kg	
02800.9-00	02800.9-01	CS 028	120VAC, 50/60Hz	150W	6A	6.3A	75 x 65 x 90mm	0.3kg	
02811.9-00	02811.9-01	CSL 028	120VAC, 50/60Hz	250W	6A	6.3A	90 x 85 x 111mm	0.5kg	
02810.9-00	02810.9-01	CSL 028	120VAC, 50/60Hz	400W	9A	6.3A	90 x 85 x 111mm	0.5kg	
	clip fixing 02800.0-00 02811.0-00 02810.0-00 02800.9-00 02811.9-00	clip fixing screw fixing 02800.0-00 02800.0-01 02811.0-00 02811.0-01 02810.0-00 02810.0-01 02800.9-00 02800.9-01 02811.9-00 02811.9-01	clip fixing screw fixing 02800.0-00 02800.0-01 CS 028 02811.0-00 02811.0-01 CSL 028 02810.0-00 02810.0-01 CSL 028 02800.9-00 02800.9-01 CS 028 02811.9-00 02811.9-01 CSL 028	clip fixing screw fixing 02800.0-00 02800.0-01 CS 028 230VAC, 50/60Hz 02811.0-00 02811.0-01 CSL 028 230VAC, 50/60Hz 02810.0-00 02810.0-01 CSL 028 230VAC, 50/60Hz 02800.9-00 02800.9-01 CS 028 120VAC, 50/60Hz 02811.9-00 02811.9-01 CSL 028 120VAC, 50/60Hz	clip fixing screw fixing 02800.0-00 02800.0-01 CS 028 230VAC, 50/60Hz 150W 02811.0-00 02811.0-01 CSL 028 230VAC, 50/60Hz 250W 02810.0-00 02810.0-01 CSL 028 230VAC, 50/60Hz 400W 02800.9-00 02800.9-01 CS 028 120VAC, 50/60Hz 150W 02811.9-00 02811.9-01 CSL 028 120VAC, 50/60Hz 250W	Art. No. clip fixing Art. No. screw fixing Series Operating voltage Heating capacity¹ Inrush current max. 02800.0-00 02800.0-01 CS 028 230VAC, 50/60Hz 150W 12A 02811.0-00 02811.0-01 CSL 028 230VAC, 50/60Hz 250W 9A 02810.0-00 02810.0-01 CSL 028 230VAC, 50/60Hz 400W 15A 02800.9-00 02800.9-01 CS 028 120VAC, 50/60Hz 150W 6A 02811.9-00 02811.9-01 CSL 028 120VAC, 50/60Hz 250W 6A	Art. No. Art. No. Series Operating voltage Heating capacity¹ Inrush current max. Pre-fuse T (time-delay) 02800.0-00 02800.0-01 CS 028 230VAC, 50/60Hz 150W 12A 6.3A 02811.0-00 02811.0-01 CSL 028 230VAC, 50/60Hz 250W 9A 6.3A 02810.0-00 02810.0-01 CSL 028 230VAC, 50/60Hz 400W 15A 10A 02800.9-00 02800.9-01 CS 028 120VAC, 50/60Hz 150W 6A 6.3A 02811.9-00 02811.9-01 CSL 028 120VAC, 50/60Hz 250W 6A 6.3A	Art. No. clip fixing Art. No. screw fixing Series Operating voltage Heating capacity¹ Inrush current max. (time-delay) Pre-fuse T (time-delay) Dimensions (H x W x D) 02800.0-00 02800.0-01 CS 028 230VAC, 50/60Hz 150W 12A 6.3A 75 x 65 x 90mm 02811.0-00 02811.0-01 CSL 028 230VAC, 50/60Hz 250W 9A 6.3A 90 x 85 x 111mm 02810.0-00 02810.0-01 CSL 028 230VAC, 50/60Hz 400W 15A 10A 90 x 85 x 111mm 02800.9-00 02800.9-01 CS 028 120VAC, 50/60Hz 150W 6A 6.3A 75 x 65 x 90mm 02811.9-00 02811.9-01 CSL 028 120VAC, 50/60Hz 250W 6A 6.3A 90 x 85 x 111mm	

¹ at +20°C (+68°F) ambient temperature