

# COMPACT SEMICONDUCTOR FAN HEATER

CSF 028 | 250 W, 400 W



CSF 028 with clip fixing



CSF 028 with screw flange fixing

- > Small, compact design
- > Integrated pre-set thermostat
- > Dynamic heating up
- > Touch-safe
- > Quick connection
- > Clip or screw flange fixing

The compact fan heater prevents formation of condensation and provides an evenly distributed interior air temperature in enclosures with electric/electronic components. The touch-safe plastic housing and the small dimensions makes it ideal for use in enclosures with high packing density. The CSF 028 is equipped with a preset thermostat. It is connected via external clamps. The fan heater is available with two different mounting systems - either mounting by screw flange or by clip. The robust screw flange fixing is particularly suitable for applications with high vibration.



## TECHNICAL DATA

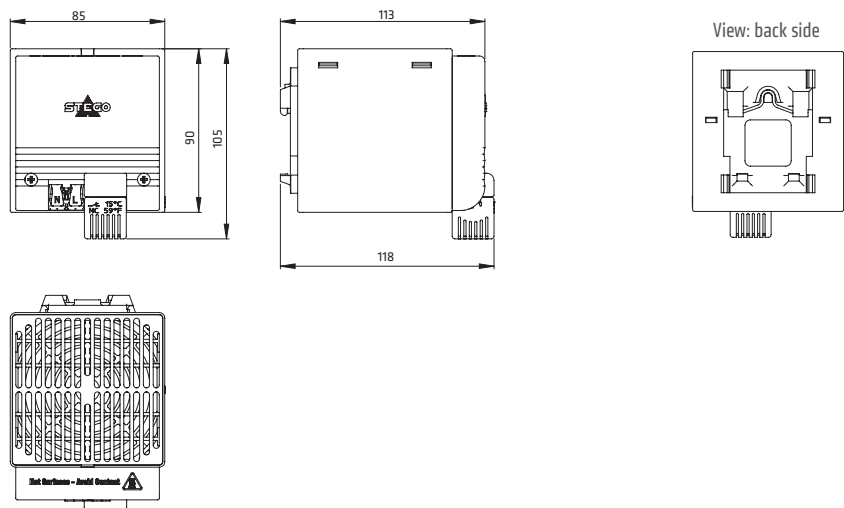
Heating element	PTC resistor - temperature limiting
Surface temperature	250W: max. +50°C (+122°F), 400W: max. +65°C (+149°F) each except upper protective grille at +20°C (+68°F) ambient temperature
Temperature safety cut-out	to protect against overheating in case of fan failure, automatic reset
Axial fan, ball bearing	air flow, free flow CSF 028: 45m <sup>3</sup> /h (230VAC), 54m <sup>3</sup> /h (120VAC) service life 40,000h at +40°C (+104°F)
Connection	2-pole dual pressure clamp for rigid wire 2.5mm <sup>2</sup> , stranded wire (with wire end ferrule) 1.5 mm <sup>2</sup>
Casing	plastic according to UL94 V-0, black
Mounting	clip for 35mm DIN rail, EN 60715 or screw fixing (Ø 5.5mm), lamping torque 2Nm max., washers have to be used
Fitting position	vertical airflow (air outlet up), horizontal airflow
Dimensions	models with clip fixing: 105 x 85 x 118mm, models with screw flange fixing: 105 x 115 x 108mm
Weight	0.5kg
Operating/Storage temperature	-40 to +70°C (-40 to +158°F)/-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	VDE, UL File No. E150057, EAC

Art. No. clip fixing	Art. No. screw flange fixing	Operating voltage	Heating capacity <sup>1</sup>	Inrush current max.	Recommended pre-fuse T (time-delay)	Switch-off temperature <sup>2</sup>	Switch-on temperature <sup>2</sup>
02821.0-06	02821.0-08	230VAC, 50/60Hz	250W	9.0A	10.0A	+15°C (+59°F)	+5°C (+41°F)
02821.0-09	02821.0-11	230VAC, 50/60Hz	250W	9.0A	10.0A	+25°C (+77°F)	+15°C (+59°F)
02820.0-06	02820.0-08	230VAC, 50/60Hz	400W	15.0A	16.0A	+15°C (+59°F)	+5°C (+41°F)
02820.0-09	02820.0-11	230VAC, 50/60Hz	400W	15.0A	16.0A	+25°C (+77°F)	+15°C (+59°F)
02821.9-06	02821.9-08	120VAC, 50/60Hz	250W	6.0A	10.0A	+15°C (+59°F)	+5°C (+41°F)
02821.9-09	02821.9-11	120VAC, 50/60Hz	250W	6.0A	10.0A	+25°C (+77°F)	+15°C (+59°F)
02820.9-06	02820.9-08	120VAC, 50/60Hz	400W	9.0A	10.0A	+15°C (+59°F)	+5°C (+41°F)
02820.9-09	02820.9-11	120VAC, 50/60Hz	400W	9.0A	10.0A	+25°C (+77°F)	+15°C (+59°F)

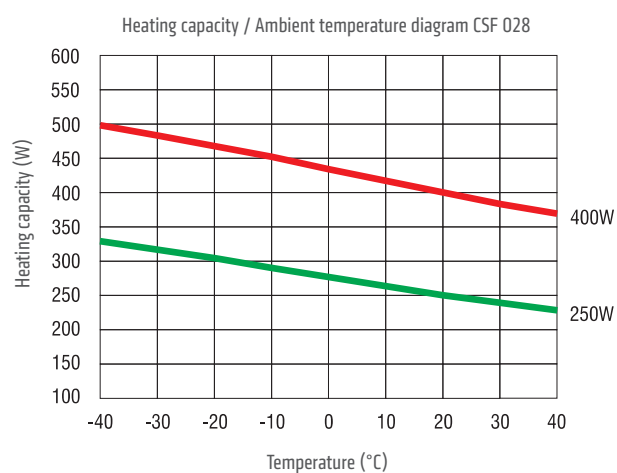
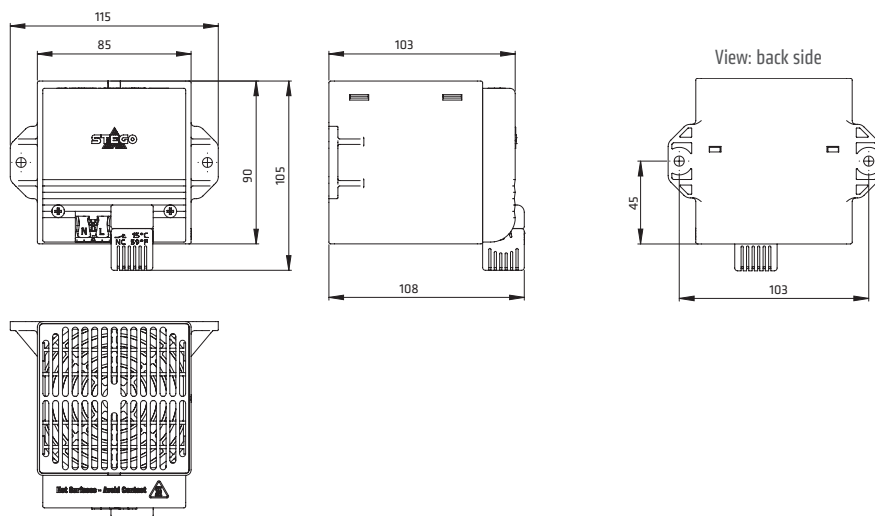
<sup>1</sup> at +20°C (+68°F) ambient temperature; <sup>2</sup> tolerance of ±5K  
Note: Other switch-off and switch-on temperatures on request.

TECHNICAL DRAWINGS

CLIP FIXING



SCREW FLANGE FIXING



Example of connection  
Fan heater CSF 028

