



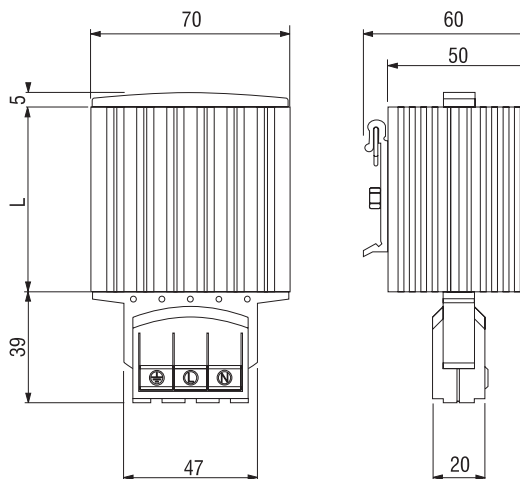
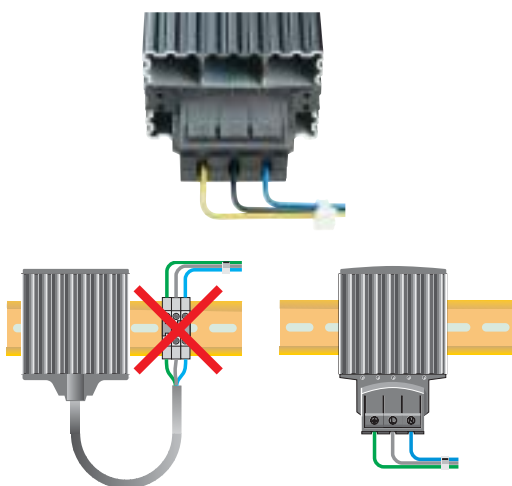
- Pressure clamp connectors
- Dynamic heating up
- Wide voltage range
- Temperature limiting
- Energy saving
- Clip fixing
- Quick installation

These heaters are used in enclosures where damage from condensation must be prevented, or where the temperature may not fall below a minimum value. The aluminium profile heater body design has a chimney effect and distributes the heat evenly. The pressure clamp connectors save time and simplify installation.


**Technical Data**

Operating voltage	120-250V AC/DC*
Heating element	PTC resistor, self regulating and temperature limiting
Heater body	extruded aluminium profile, anodised
Connection	3 pressure clamps for stranded wire 0.5-1.5mm <sup>2</sup> (with wire end ferrule) and rigid wire 0.5-2.5mm <sup>2</sup>
Connection casing	plastic according to UL94 V-0, black
Mounting	clip for 35mm DIN rail, EN 50022
Fitting position	vertical
Operating/Storage temperature	-45 to +70°C (-49 to +158°F)
Protection type / Protection class	IP20 / I (earthed)
Approvals	VDE, UL File No. E150057
Accessories	screw fixing, Art. No. 09024.0-00 (1 packing unit = 2 pieces)

\*Operating with voltages below 140V AC/DC reduces heating performance by approx. 10%.



Art. No.	Heating capacity*	Inrush current max.	Length (L)	Weight (approx.)
14000.0-00	15W	1.5A	65mm	0.30kg
14001.0-00	30W	3.0A	65mm	0.30kg
14003.0-00	45W	3.5A	65mm	0.30kg
14005.0-00	60W	2.5A	140mm	0.40kg
14006.0-00	75W	4.0A	140mm	0.50kg
14007.0-00	100W	4.5A	140mm	0.50kg
14008.0-00	150W	9.0A	220mm	0.70kg

\*at 20°C (68°F) ambient temperature



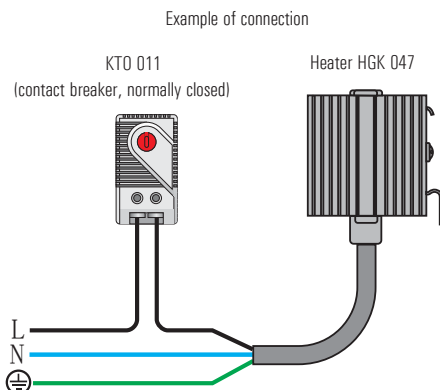
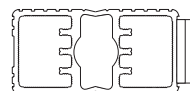
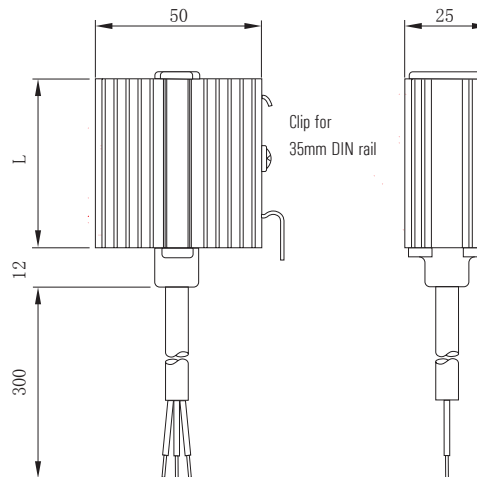
- Dynamic heating up
- Energy saving
- Wide voltage range
- Temperature limiting
- Clip fixing

The heaters are used in enclosures where condensation is to be prevented or the temperature may not fall below a minimum value. In this way corrosion is avoided and an even temperature is ensured.



### Technical Data

Heating element	PTC resistor, self regulating and temperature limiting
Heater body	extruded aluminium profile, anodised
Mounting	clip for 35mm DIN rail, EN 50022
Fitting position	vertical
Operating/Storage temperature	-45 to +70°C (-49 to +158°F)
Protection type / Protection class	IP54 / I (earthed)
Accessories	screw fixing, Art. No. 09024.0-00 (1 packing unit = 2 pieces)



Art. No.	Operating voltage	Heating capacity <sup>1)</sup>	Inrush current max.	Length (L)	Weight (approx.)	Connection	Approvals
04700.0-00	120-250V AC/DC <sup>2)</sup>	10W	1.0A	50mm	0.10kg	3 x 0.5mm <sup>2</sup> x 300mm sheathed cable (silicone)	VDE
04701.0-00	120-250V AC/DC <sup>2)</sup>	20W	2.5A	60mm	0.20kg	3 x 0.5mm <sup>2</sup> x 300mm sheathed cable (silicone)	VDE
04702.0-00	120-250V AC/DC <sup>2)</sup>	30W	3.0A	70mm	0.20kg	3 x 0.5mm <sup>2</sup> x 300mm sheathed cable (silicone)	VDE
04700.9-00	110-120V AC/DC	10W	1.0A	50mm	0.10kg	3 x AWG 20 x 300mm sheathed cable	UL File No. E150057
04701.9-00	110-120V AC/DC	20W	1.5A	60mm	0.20kg	3 x AWG 20 x 300mm sheathed cable	UL File No. E150057
04702.9-00	110-120V AC/DC	30W	1.5A	70mm	0.20kg	3 x AWG 20 x 300mm sheathed cable	UL File No. E150057

<sup>1)</sup> at 20°C (68°F) ambient temperature    <sup>2)</sup> Operating with voltages below 140V AC/DC reduces heating performance by approx. 10%.



- Temperature limiting
- Wide voltage range
- Dynamic heating up
- Energy saving
- Compact

Small heaters designed to prevent condensation and to ensure a minimum operating temperature in small enclosures.

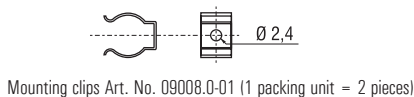
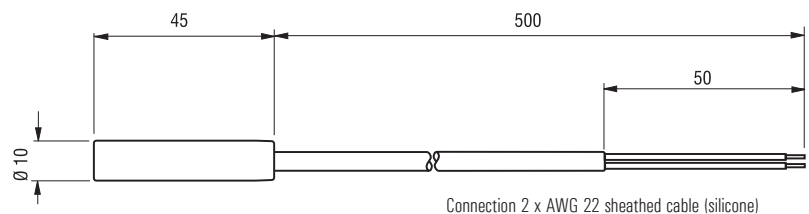
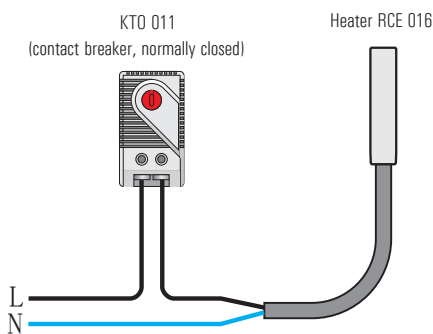


### Technical Data

Operating voltage	120-250V AC/DC*
Heating element	PTC resistor, self regulating and temperature limiting
Heater body	aluminium
Mounting	see Accessories
Fitting position	variable
Operating/Storage temperature	-45 to +70°C (-49 to +158°F)
Dimensions	length 45mm, Ø 10mm
Protection type / Protection class	IP32 / II (double insulated)
Approvals	VDE, UL File No. E150057
Accessories	mounting clips (see illustration)
Note	other voltages on request

\*Operating with voltages below 140V AC/DC reduces heating performance by approx. 10%.

Example of connection



Art. No.	Heating capacity*	Inrush current max.	Surface temperature (approx.)	Connection	Weight (approx.)
01622.0-00	5W	2.0A	165°C	2 x AWG 22 sheathed cable (silicone)	20g
01623.0-00	9W	2.5A	175°C	2 x AWG 22 sheathed cable (silicone)	20g

\*at 20°C (68°F) ambient temperature



- Temperature limiting
- Wide voltage range
- Dynamic heating up
- Energy saving
- Compact

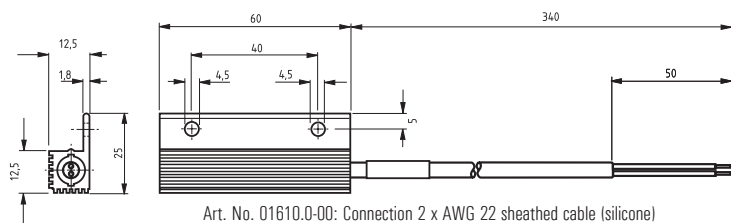
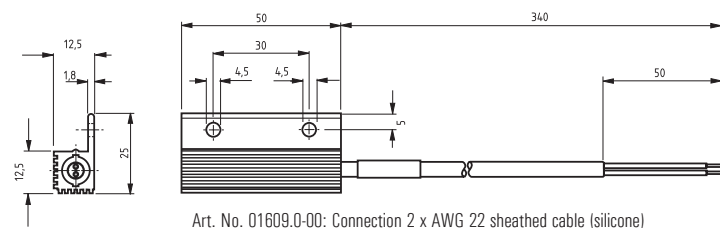
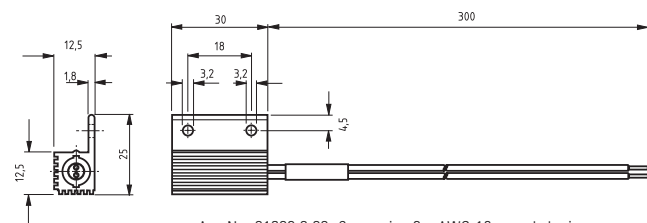
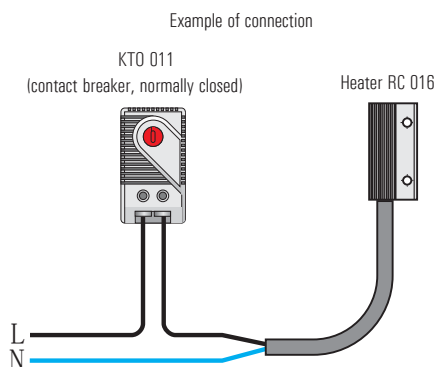
These small heaters are designed to prevent condensation and to ensure a minimum operating temperature in small enclosures.



### Technical Data

Operating voltage	120-250V AC/DC*
Heating element	PTC resistor, self regulating and temperature limiting
Heater body	aluminium, anodised
Mounting	screw fixing
Fitting position	variable
Operating/Storage temperature	-45 to +70°C (-49 to +158°F)
Protection type / Protection class	IP32 / II (double insulated)
Approvals	VDE, UL File No. E150057
Note	other voltages on request

\*Operating with voltages below 140V AC/DC reduces heating performance by approx. 10%.



Art. No.	Heating capacity*	Inrush current max.	Surface temperature (approx.)	Connection	Weight (approx.)
01602.0-00	8W	2.0A	150°C	2 x AWG 18 stranded wire	20g
01609.0-00	10W	2.5A	155°C	2 x AWG 22 sheathed cable (silicone)	30g
01610.0-00	13W	3.0A	170°C	2 x AWG 22 sheathed cable (silicone)	40g

\*at 20°C (68°F) ambient temperature



- Low surface temperature
- Double insulated (plastic housing)
- Wide voltage range
- Temperature limiting
- Dynamic heating up
- Clip fixing

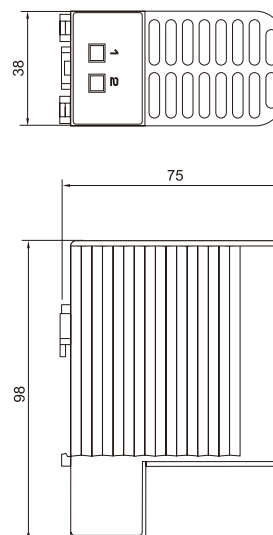
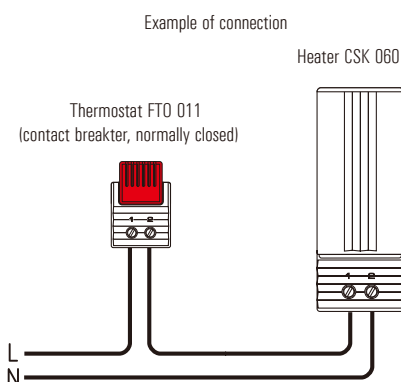
The heaters are used in enclosures where condensation is to be prevented or the temperature may not fall below a minimum value. In this way corrosion is avoided and an even temperature is ensured. The heaters are designed for permanent operation.



### Technical Data

Operating voltage	120 - 240V AC/DC* (min. 110V, max. 265V)
Heating element	PTC resistor - temperature limiting
Surface temperature	< 85°C (185°F) (according to VDE 0100), except upper protective grille
Connection	2-pole terminal 2.5mm <sup>2</sup> , torque 0.8Nm max.
Casing	plastic according to UL94 V-0, black
Dimensions	98 x 38 x 75mm
Mounting	clip for 35mm DIN rail, EN 50022
Fitting position	vertical
Operating/ Storage temperature	-45°C to +70°C (-49°F to +158°F)
Protection type / Protection class	IP20 / II (double insulated)
Approvals	VDE + UL File No. E150057 (according to UL499 in combination with UL508A)
Note	other voltages on request

\*Operating with voltages below 140V AC/DC reduces heating performance by approx. 10%.



Art. No.	Heating capacity*	Inrush current max.	Weight (approx.)
06040.0-00	10W	1.0A	0.20kg
06030.0-00	20W	2.5A	0.30kg

\* at 20°C (68°F) ambient temperature

# Touch-Safe Heater CS 060 Series (semiconductor)

## 50W to 150W



- **Low surface temperature**
- **Quick mounting due to clip fixing**
- **Double insulated (plastic)**
- **Wide voltage range**
- **Small size**

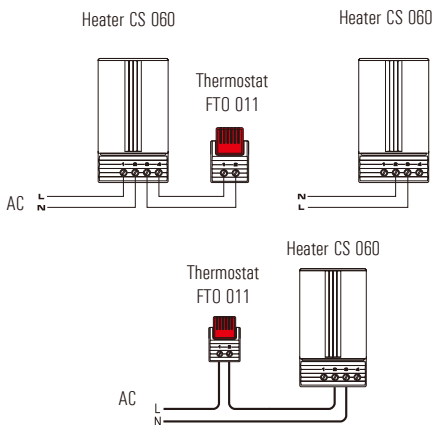
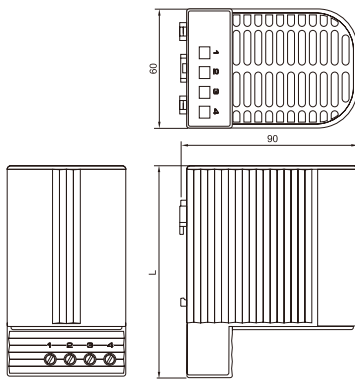
Touch-safe heater for the use in enclosures with electrical/electronic components. The design of the heater supports the natural convection which results in a high air-current of warm air. The surface temperatures on the accessible side surfaces of the housing are kept down as a result of the heater design. Our complete range of thermostats and hygrometers can directly be connected to the heater CS 060. This heater is also available in a version with plug-in thermostat requiring no additional wiring (CSF 060). Both versions are designed for permanent operation.



### Technical Data

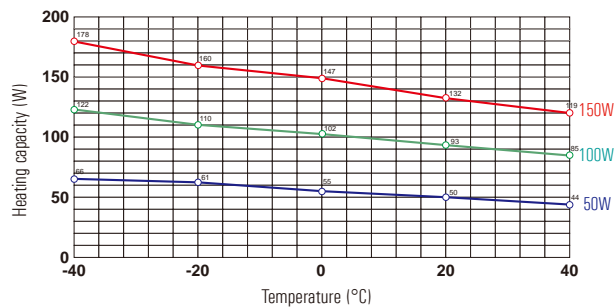
<b>Operating voltage</b>	120-240V AC/DC* (min. 110V, max. 265V)
<b>Heating capacity</b>	see table
<b>Heating element</b>	PTC resistor - temperature limiting
<b>Surface temperature</b>	< 80°C (176°F), except upper protective grille
<b>Connection</b>	4-pole terminal 2,5mm <sup>2</sup> , torque 0.8Nm max.
<b>Casing</b>	plastic according to UL94 V-0, black
<b>Mounting</b>	clip for 35mm DIN rail, EN 50022
<b>Fitting position</b>	vertical
<b>Operating / Storage temperature</b>	-45 to +70°C (-49 to +158°F)
<b>Protection type / Protection class</b>	IP20 / II (double insulated)
<b>Approvals</b>	VDE + UL File No. E150057 (according to UL499 in combination with UL508A)
<b>Note</b>	other voltages on request

\*Operating with voltages below 140V AC/DC reduces heating performance by approx. 10%.



Examples of connection

Heating capacity / Ambient temperature diagram CS 060



Art. No.	Heating capacity <sup>1)</sup>	Inrush current max.	Air outlet temperature <sup>2)</sup>	Dimensions	Weight (approx.)
06000.0-00	50W	2.5A	+ 86°C (186.8°F)	110 x 60 x 90mm	0.30kg
06010.0-00	100W	4.5A	+ 120°C (248°F)	110 x 60 x 90mm	0.30kg
06020.0-00	150W	8A	+ 145°C (293°F)	150 x 60 x 90mm	0.50kg

<sup>1)</sup> ambient temperature - see Heating capacity / Ambient temperature diagram;

<sup>2)</sup> measured 50mm above protective grille;



- Low surface temperature
- Integrated thermostat
- Quick mounting due to clip fixing
- Double insulated (plastic)
- Wide voltage range
- Small size

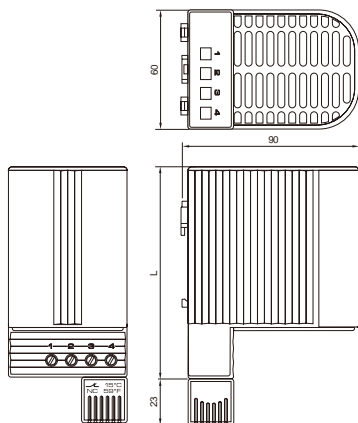
Touch-safe heater for the use in enclosures with electrical/electronic components. The design of the heater supports the natural convection which results in a high air-current of warm air. The surface temperatures on the accessible side surfaces of the housing are kept down as a result of the heater design. This model with plug-in thermostat does not require additional wiring. The heaters are designed for permanent operation. This heater is also available in a version without thermostat (CS 060).



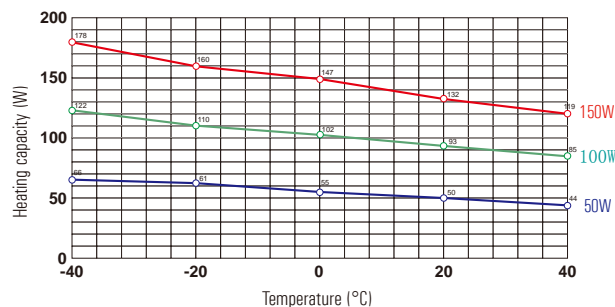
### Technical Data

Operating voltage	120-240VAC* (min. 110V, max. 265V)
Heating capacity	see table
Heating element	PTC resistor - temperature limiting
Surface temperature	< 80°C (176°F), except upper protective grille
Connection	4-pole terminal 2,5mm <sup>2</sup> , torque 0.8Nm max.
Casing	plastic according to UL94 V-0, black
Mounting	clip for 35mm DIN rail, EN 50022
Fitting position	vertical
Operating / Storage temperature	-20 to +70°C (-4 to +158°F) / -45 to +70°C (-49 to +158°F)
Protection type / Protection class	IP20 / II (double insulated)
Approvals	VDE + UL File No. E150057 (according to UL499 in combination with UL508A)
Note	other voltages on request

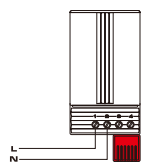
\*Operating with voltages below 140VAC reduces heating performance by approx. 10%.



Heating capacity / Ambient temperature diagram CSF 060



Heater CSF 060



Example of connection

Art. No.	Heating capacity <sup>1)</sup>	Inrush current max.	Air outlet temperature <sup>2)</sup>	Switch-off temperature <sup>3)</sup>	Starting temperature <sup>3)</sup>	Dimensions	Weight (approx.)
06001.0-00	50W	2.5A	+86°C (186.8°F)	+15°C (59°F)	+5°C (41°F)	110 x 60 x 90mm	0.30kg
06002.0-00	50W	2.5A	+86°C (186.8°F)	+25°C (77°F)	+15°C (59°F)	110 x 60 x 90mm	0.30kg
06011.0-00	100W	4.5A	+120°C (248°F)	+15°C (59°F)	+5°C (41°F)	110 x 60 x 90mm	0.30kg
06012.0-00	100W	4.5A	+120°C (248°F)	+25°C (77°F)	+15°C (59°F)	110 x 60 x 90mm	0.30kg
06021.0-00	150W	8A	+145°C (293°F)	+15°C (59°F)	+5°C (41°F)	150 x 60 x 90mm	0.50kg
06022.0-00	150W	8A	+145°C (293°F)	+25°C (77°F)	+15°C (59°F)	150 x 60 x 90mm	0.50kg

<sup>1)</sup>ambient temperature - see Heating capacity / Ambient temperature diagram;

<sup>2)</sup>measured 50mm above protective grille;

<sup>3)</sup>tolerance of ± 5K;