

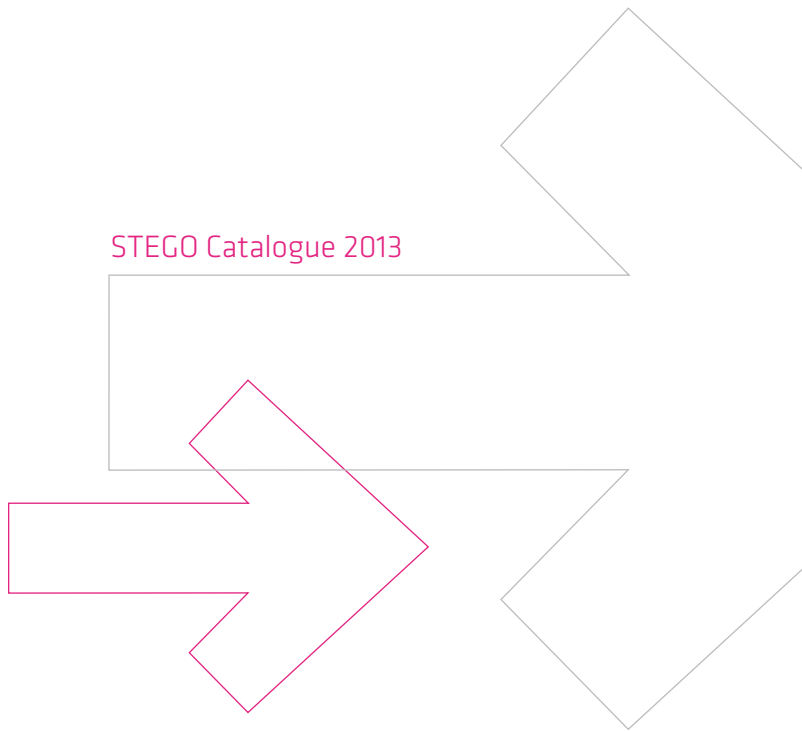
INNOVATION

FOR PERFECT THERMAL
MANAGEMENT WORLDWIDE





STEGO Catalogue 2013





Global presence in Thermal Management



This catalogue contains the full range of STEGO products for protection of electronic components. You will discover why STEGO products are perfectly suitable for the needs of professional users and how easy it is to obtain them worldwide - wherever you are out to succeed.



COMPANY



INNOVATION MADE IN GERMANY

We have been developing and producing innovative products for perfect thermal management for over 30 years in Schwäbisch Hall, Germany.

STEGO: SAFETY IS WHAT DRIVES US

STEGO products are used in all places where sensitive electronic components must be protected from humidity and other climatic influences. Heating elements, regulators, fans and STEGO accessories help you to optimise operating conditions and to reach maximum protection for your installations. So that you can be sure of lasting success!

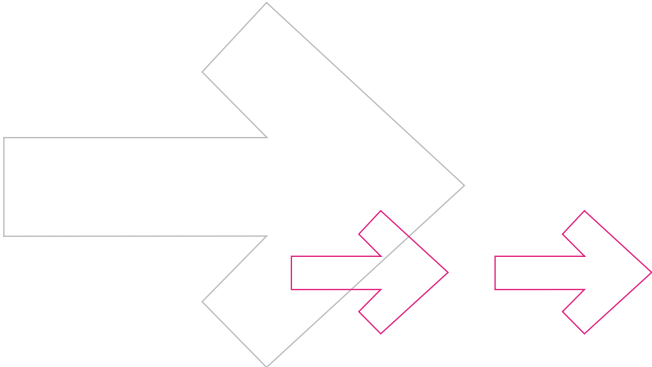
PERFECT THERMAL MANAGEMENT

Since it was founded in 1980, STEGO Elektrotechnik in Schwäbisch Hall, Germany, has been developing, producing and selling an ever-growing range of products for the protection of electric and electronic components. All STEGO products are aimed at reaching optimum climatic conditions in the most varied environments, ensuring that all sensitive components work reliably at all times.

Tried and tested temperature and humidity control systems ensure these optimised climatic conditions. If temperature and/or humidity are too low or too high, the necessary countermeasure is immediately initiated, for example a heater is turned on or a filter fan circulates cool air. A diversity of conditions such as the change from day to night, or particularly warm or cold regions, make climatisation an ever-increasing and challenging task. To meet this challenge, STEGO offers everything that is needed to protect sensitive components from corrosion and malfunction.

WORLDWIDE SERVICE SUPPORTING QUALITY WORLDWIDE

STEGO's thermal management solutions are exported internationally and find use in the most diverse areas of application and climatic conditions. STEGO maintains an on-going exchange with partners and customers from many branches of industry in order to develop innovative products meeting the demands of the market. This close contact enables STEGO to incorporate market requirements from experts directly into our product design. As part of this global cooperation valuable know-how is permanently exchanged, thus strengthening the competence of our designers beyond local market knowledge. The continuous flow of information not only increases the quality of STEGO products, but also the final products our customers bring onto the market. STEGO believes in sustainability, acts in an environmentally-friendly manner and is quality-oriented. The company is DIN EN ISO 9001:2008 and 14001:2004 certified and has recently introduced the Six Sigma method to improve quality management. STEGO is now represented at 12 locations and by more than 200 sales partners worldwide.





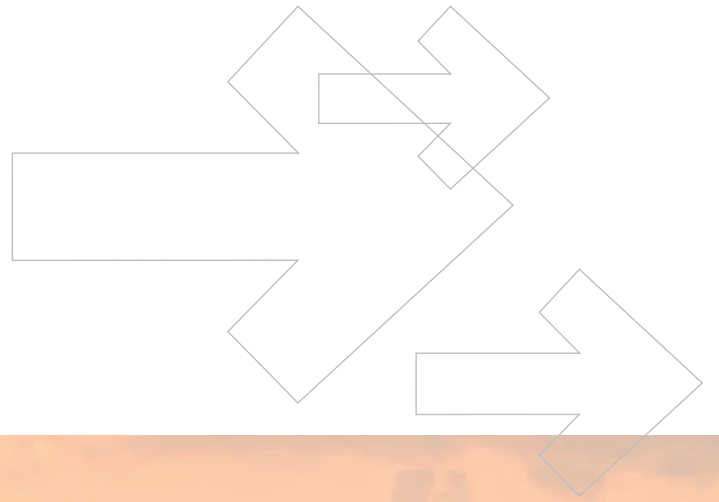
CONTENT

DISCOVER OUR PORTFOLIO OF TRIED AND TESTED PRODUCTS USED FOR THE PROTECTION OF ELECTRICAL AND ELECTRONIC INSTALLATIONS ON ALL CONTINENTS.

COMPANY STEGO	6
HEATING	10
Small Semiconductor Heater RCE 016 5W, 9W	12
Small Semiconductor Heater RC 016 8W, 10W, 13W	13
Small Semiconductor Heater HGK 047 10W to 30W	14
Touch-safe Small Heater (Semiconductor) CSK 060 10W, 20W	15
Semiconductor Heater HG 140 15W to 150W	16
Hazardous Area Heater CREx 020 50W, 100W	17
Touch-safe Heater (Semiconductor) CS 060 50W to 150W	18
Touch-safe Heater (Semiconductor) CSF 060 50W to 150W	19
Compact Semiconductor Fan Heater CS 028 / CSL 028 150W to 400W	20
Compact Fan Heater HGL 046 250W, 400W	21
Space-saving Fan Heater HV 031 / HVL 031 100W to 400W	22
Semiconductor Fan Heater CR 027 up to 650W	23
Space-saving Fan Heater HVI 030 500W to 700W	24
Space-saving Fan Heater with fan HVI 030 500W to 700W	25
Compact High-performance Fan Heater CR 030 950W	26
Compact High-performance Fan Heater CR 130 950W	27
High-performance Fan Heater (Semiconductor) CS 032 / CSF 032 1,000W	28
Compact High-performance Fan Heater (Semiconductor) CS 030 1,200W	30
Compact High-performance Fan Heater (Semiconductor) CS 130 1,200W	31
COOLING	32
Filter Fan FF 018 21m ³ /h to 102m ³ /h	34
Filter Fan FF 018 200m ³ /h	36
Filter Fan FF 018 300m ³ /h	37
Filter Fan FF 018 550m ³ /h	38
Outdoor Filter Fan FF 018	39
Roof Filter Fan RFP 018 300m ³ /h, 500m ³ /h	40
High-performance 19" Fan Tray LE 019	41
STEGOJET SJ 019	42

We offer calculation modules on our website helping you to determine the required heating or cooling performance for an application. You will also find there latest news, as well as further information about STEGO.

REGULATING	44
Small Compact Thermostat KTO 011 / KTS 011	46
Small Compact Thermostat STO 011 / STS 011	47
Tamper-proof Thermostat (Pre-set) FTO 011 / FTS 011	48
Dual Thermostat ZR 011	49
Tamper-proof Dual Thermostat (Pre-set) FTD 011	50
Mechanical Thermostat FZK 011	51
Electronic Thermostat ETR 011	52
Electronic Thermostat ET 011 24VDC	53
Mechanical Hygrostat MFR 012	54
Electronic Hygrostat EFR 012	55
Electronic Hygrotherm ETF 012	56
Electronic Hygrotherm with external sensor ETF 012	57
Switch Module SM 010 24VDC + 48VDC	58
Hazardous Area Thermostat REx 011 15°C, 25°C	59
LIGHTING	60
Lamp LED 025	62
Slimline Lamp with On/Off Switch SL 025	64
Slimline Lamp with Movement Sensor SL 025	65
Compact Lamp KL 025	66
ACCESSORIES	68
Electrical Socket SD 035	70
Pressure Compensation Device DA 084 IP55	71
Pressure Compensation Device DA 284 IP66	72
Pressure Compensation Device (Stainless Steel) DA 284 IP66	73
Drainage Device DD 084 IP66 / IP67 / IP69K	74
Self-adhesive Appliance Holder STEGOFIX SF 095	75
LOCATIONS	76



HEATING



PROTECTION AGAINST FROST AND CONDENSATION

Optimised temperatures are of utmost importance in switch cabinets: STEGO heaters and fan heaters prevent dangerously low temperatures and ensure equal distribution of warm air.

SMALL SEMICONDUCTOR HEATER

RCE 016 | 5W, 9W



- > 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. The heaters are designed for permanent operation.

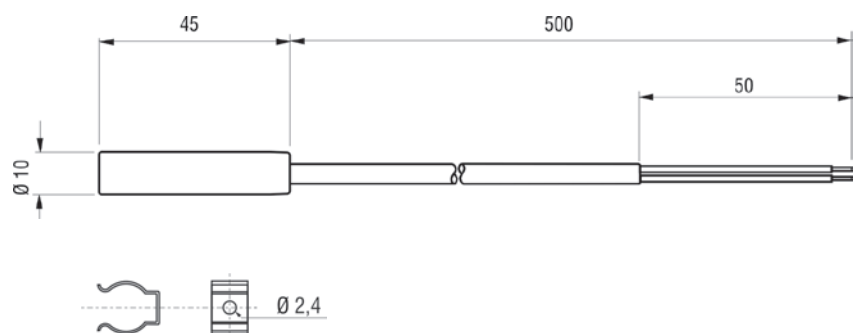
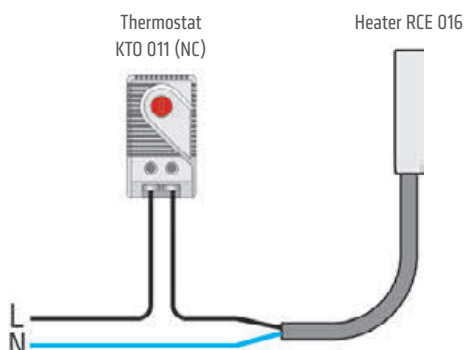


TECHNICAL DATA

Operating voltage	120-240V AC/DC ¹ (min. 110V, max. 265V)
Heating element	PTC resistor, temperature limiting
Heater body	aluminium
Mounting	see Accessories
Fitting position	variable
Dimensions	length 45mm, Ø 10mm
Operating/Storage temperature	-45 to +70°C (-49 to +158°F)
Operating/Storage humidity	max. 90% RH (non-condensing)
Protection type/Protection class	IP54 / II (double insulated)
Approvals	VDE + UL File No. E150057 (according to UL 508A, NITW File on request)
Accessories	mounting clips (see illustration), Art. No. 09008.0-01
Note	other voltages on request

¹ Operating with voltages below 140V AC/DC reduces heating performance by approx. 10%.

Example of connection



Mounting clips, Art. No. 09008.0-01 (1 packing unit = 2 pieces)

Art. No.	Heating capacity ²	Inrush current max.	Pre-fuse T (time-delay)	Surface temperature (approx.)	Connection	Weight (approx.)
01622.0-00	5W	2.0A	1A	+165°C	2 x AWG 22 cable (silicone)	20g
01623.0-00	9W	2.5A	2A	+175°C	2 x AWG 22 cable (silicone)	20g

² at +20°C (+68°F) ambient temperature

SMALL SEMICONDUCTOR HEATER

RC 016 | 8W, 10W, 13W



- > 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. The heaters are designed for permanent operation.

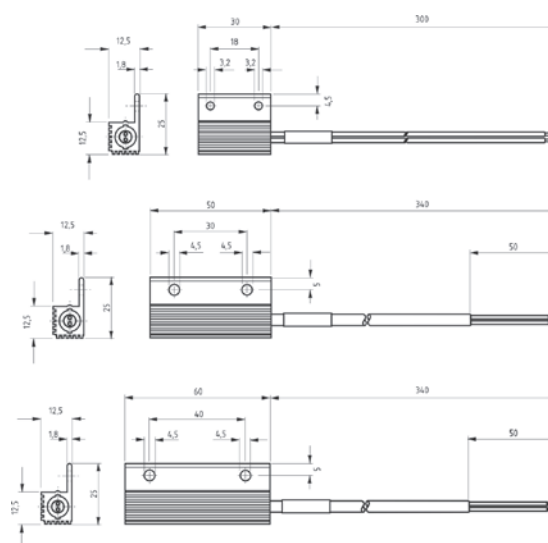
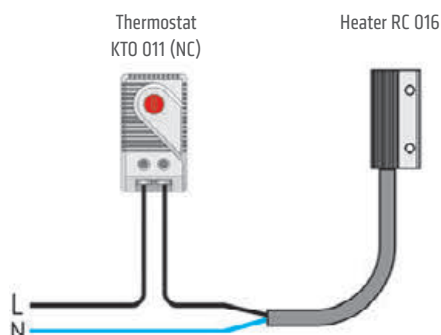


TECHNICAL DATA

Operating voltage	120-240V AC/DC ¹ (min. 110V, max. 265V)
Heating element	PTC resistor - temperature limiting
Heater body	aluminium, anodised
Mounting	screw fixing
Fitting position	variable
Operating/Storage temperature	-45 to +70°C (-49 to +158°F)
Operating/Storage humidity	max. 90% RH (non-condensing)
Protection type/Protection class	IP54 / II (double insulated)
Approvals	VDE + UL File No. E150057 (according to UL 508A, NITW File on request)
Note	other voltages on request

¹ Operating with voltages below 140V AC/DC reduces heating performance by approx. 10%.

Example of connection



Art. No.	Heating capacity ²	Inrush current max.	Pre-fuse T (time-delay)	Surface temperature (apprpx.)	Connection	Weight (approx.)
01602.0-00	8W	2.0A	1A	+150°C	2 x AWG 18 stranded wire	20g
01609.0-00	10W	2.5A	2A	+155°C	2 x AWG 24 cable (silicone)	30g
01610.0-00	13W	3.0A	2A	+170°C	2 x AWG 24 cable (silicone)	40g

² at +20°C (+68°F) ambient temperature

SMALL SEMICONDUCTOR HEATER

HGK 047 | 10W to 30W



- > Dynamic heating up
- > Energy saving
- > Wide voltage range

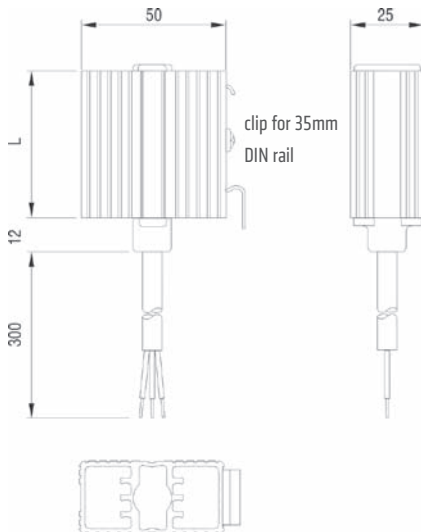
> Clip fixing

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.

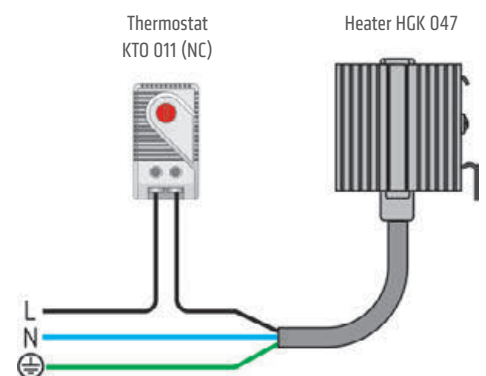


TECHNICAL DATA

Heating element	PTC resistor - temperature limiting
Heater body	extruded aluminium profile, anodised
Mounting	clip for 35mm DIN rail
Fitting position	vertical airflow (air outlet up, connection on bottom)
Operating/Storage temperature	-45 to +70°C (-49 to +158°F)
Operating/Storage humidity	max. 90% RH (non-condensing)
Protection type/Protection class	IP44 / I (earthed)
Accessoires	screw fixing, Art. No. 09024.0-00 (1 packing unit = 2 pieces)
Note	other voltages on request



Example of connection



Art. No.	Operating voltage	Heating capacity ¹	Inrush current max.	Pre-fuse T (time delay)	Length (L)	Weight (approx.)	Connection	Approvals
04700.0-00	120-240V AC/DC ²	10W	1.0A	1A	52mm	0.1kg	3 x 0,5mm ² x 300mm cable (silicone)	VDE
04701.0-00	120-240V AC/DC ²	20W	2.5A	2A	60mm	0.2kg	3 x 0,5mm ² x 300mm cable (silicone)	VDE
04702.0-00	120-240V AC/DC ²	30W	3.0A	2A	70mm	0.2kg	3 x 0,5mm ² x 300mm cable (silicone)	VDE
04700.9-00	110-120V AC/DC	10W	1.0A	1A	52mm	0.1kg	3 x AWG 20 x 300mm cable	UL File No. E150057
04701.9-00	110-120V AC/DC	20W	1.5A	2A	70mm	0.2kg	3 x AWG 20 x 300mm cable	UL File No. E150057
04702.9-00	110-120V AC/DC	30W	1.5A	2A	100mm	0.2kg	3 x AWG 20 x 300mm cable	UL File No. E150057

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

² (min. 110V, max 265V) Operating with voltages below 140V AC/DC reduces heating performance by approx. 10%.

TOUCH-SAFE SMALL HEATER (SEMICONDUCTOR)

CSK 060 | 10W, 20W



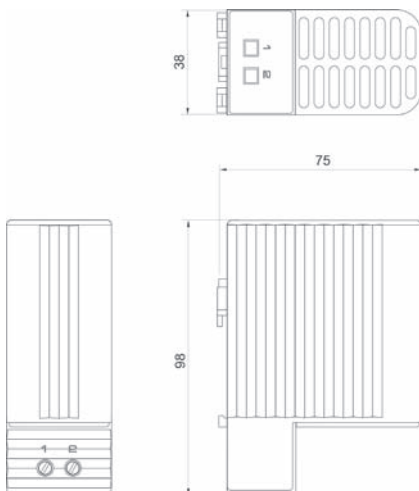
- > Low surface temperature
- > Double insulated (plastic housing)
- > Wide voltage range
- > Dynamic heating up
- > Clip fixing

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.



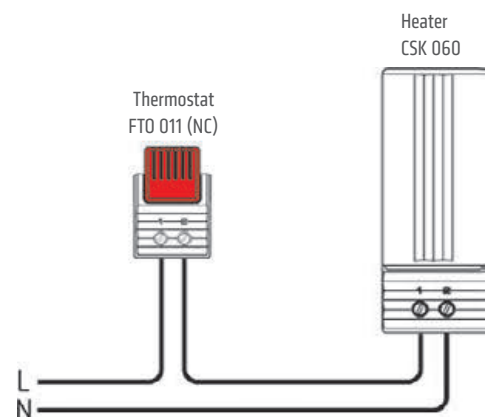
TECHNICAL DATA

Operating voltage	120 - 240V AC/DC ¹ (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 ² , 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 60715
Fitting position	vertical airflow (air outlet up, connection on bottom)
Operating/Storage temperature	-45°C to +70°C (-49°F 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 (according to UL 508A, NITW File on request)
Note	other voltages on request



¹ Operating with voltages below 140V AC/DC reduces heating performance by approx 10%.

Example of connection



Art. No.	Heating capacity ²	Inrush current max.	Pre-fuse T (time-delay)	Weight (approx.)
06040.0-00	10W	1.0A	1A	0.2kg
06030.0-00	20W	2.5A	2A	0.3kg

² at +20°C (+68°F) ambient temperature

SEMICONDUCTOR HEATER

HG 140 | 15W to 150W

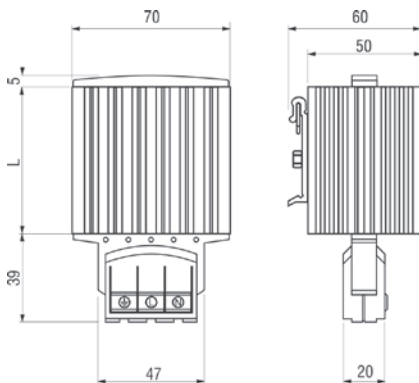


- > Pressure clamp connectors
- > Dynamic heating up
- > Wide voltage range
- > Energy saving
- > Clip fixing
- > Quick installation

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 heaters are designed for permanent operation. Pressure clamp connectors save time and simplify installation.

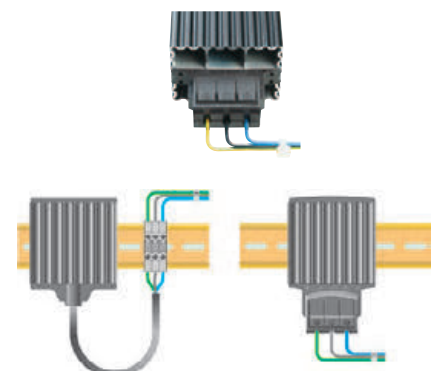


TECHNICAL DATA



Operating voltage	120-240V AC/DC ¹ (min. 110V, max. 265V)
Heating element	PTC resistor - temperature limiting
Heater body	extruded aluminium profile, anodised
Connection	3 pressure clamps for stranded wire 0.5-1.5mm ² (with wire end ferrule) and rigid wire 0.5- 2.5mm ²
Connection casing	plastic according to UL94 V-0, black
Mounting	clip for 35mm DIN rail, EN 60715
Fitting position	vertical airflow (air outlet up, connection on bottom)
Operating/Storage temperature	-45 to +70°C (-49 to +158°F)
Operating/Storage humidity	max. 90% RH (non-condensing)
Protection type/Protection class	IP20 / I (earthed)
Approvals	VDE + UL File No. E150057
Accessoires	screw fixing, Art. No. 09024.0-00 (1 packing unit = 2 pieces)
Note	other voltages on request

¹ Operating with voltages below 140V AC/DC reduces heating performance by approx. 10%.



Art. No.	Heating capacity ²	Inrush current max.	Pre-fuse T (time-delay)	Length (L)	Weight (approx.)
14000.0-00	15W	1.5A	1A	65mm	0.3kg
14001.0-00	30W	3.0A	2.5A	65mm	0.3kg
14003.0-00	45W	3.5A	2.5A	65mm	0.3kg
14005.0-00	60W	2.5A	2.5A	140mm	0.4kg
14006.0-00	75W	4.0A	4A	140mm	0.5kg
14007.0-00	100W	4.5A	4A	140mm	0.5kg
14008.0-00	150W	9.0A	6.3A	220mm	0.7kg

² at +20°C (+68°F) ambient temperature

HAZARDOUS AREA HEATER

CREx 020 | 50W, 100W



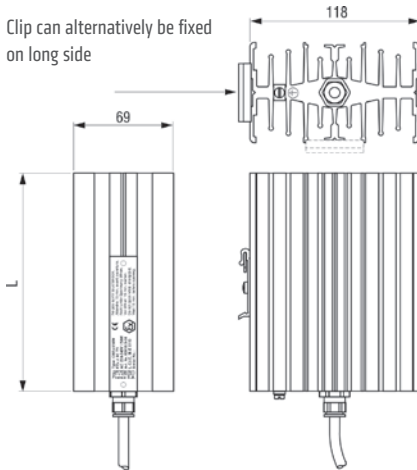
- > Large convection surface
- > Clip fixing
- > Ready for use
- > Maintenance free

Compact convection heater for use in areas with explosion hazard for prevention of formation of condensation, temperature fluctuations and for protection against frost in transmitter housings, switch cabinets and measuring equipment.



TECHNICAL DATA

Explosion protection according to EN	LCIE (Laboratoire Central des Industries Electriques)
Conformity certificate	01 ATEX 6073/03, LCIE N° 06 ATEX Q8011, IECEx LCI 07. 0020
Heating element	high performance cartridge
Heater body	aluminium profile, silver anodised
Connection	Si HF-JZ 3 x 0.75mm ² cable, length 1m
Connection PE	4mm ²
Mounting	clip for 35mm DIN rail, EN 60715
Fitting position	vertical airflow (connection on bottom)
Operating/Storage temperature	-40 to +40°C (-40 to +104°F) / -45 to +70°C (-49 to +158°F)
Protection type/Protection class	IP65 / I (earthed)



Hazardous area Thermostat REx 011 see page 59

Art. No.	Operating voltage	Heating capacity	Pre-fuse T (time-delay)	Ex protection type	Surface temperature	Length (L)	Weight (approx.)
02010.0-00	230-240VAC	50W	0.5A	⊕ d IIC T5 - Ex tD A21 IP6X T100°C	+100°C	150mm	1.3kg
02011.0-00	230-240VAC	100W	1A	⊕ d IIC T4 - Ex tD A21 IP6X T135°C	+135°C	180mm	1.5kg
02010.0-01	110-120VAC	50W	1A	⊕ d IIC T5 - Ex tD A21 IP6X T100°C	+100°C	150mm	1.3kg
02011.0-01	110-120VAC	100W	2A	⊕ d IIC T4 - Ex tD A21 IP6X T135°C	+135°C	180mm	1.5kg

TOUCH-SAFE HEATER (SEMICONDUCTOR)

CS 060 | 50W to 150W

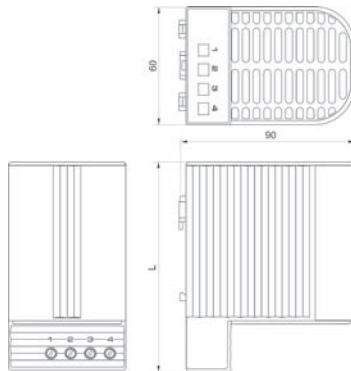


- > Low surface temperature
- > Quick mounting due to clip fixing
- > Double insulated (plastic)
- > Wide voltage range
- > Small size

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 hygrostats 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). The heaters are designed for permanent operation.



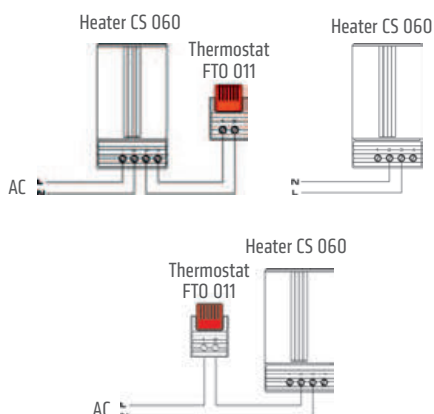
TECHNICAL DATA



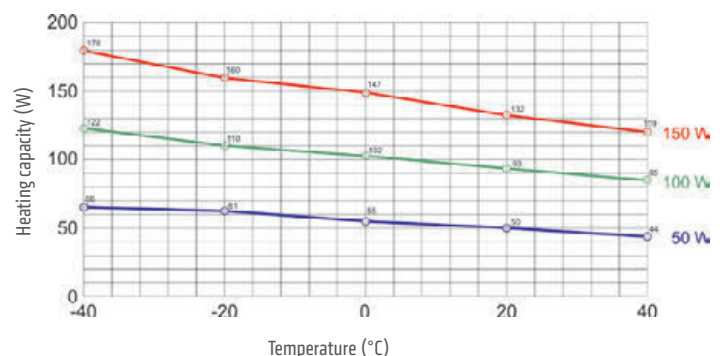
Operating voltage	120 - 240V AC/DC ¹ (min. 110V, max. 265V)
Heating element	PTC resistor - temperature limiting
Surface temperature	< +80°C (+176°F), except upper protective grille
Connection	4-pole terminal 2.5mm ² , torque 0.8Nm max.
Casing	plastic according to UL94 V-0, black
Mounting	clip for 35mm DIN rail, EN 60715
Fitting position	vertical airflow (air outlet up, connection on bottom)
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	VDE + UL File No. E150057 (according to UL 508A, NITW File on request)
Note	other voltages on request

¹ 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 ²	Inrush current (max.)	Pre-fuse T (time-delay)	Air outlet temperature ³	Dimensions	Weight (approx.)
06000.0-00	50W	2.5A	4A	+86°C (+186.8°F)	110 x 60 x 90mm	0.3kg
06010.0-00	100W	4.5A	8A	+120°C (+248°F)	110 x 60 x 90mm	0.3kg
06020.0-00	150W	8A	8A	+145°C (+293°F)	150 x 60 x 90mm	0.5kg

² ambient temperature - see Heating capacity / Ambient temperature diagram

³ measured 50mm above protective grille

TOUCH-SAFE HEATER (SEMICONDUCTOR)

CSF 060 | 50W to 150W



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

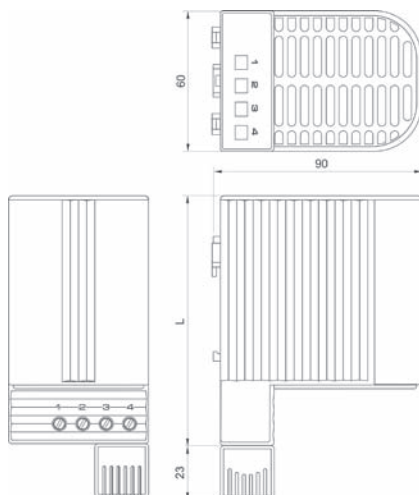
Touch-safe heater for the use in enclosures with electrical/electronic components. The design of the heater supports the natural convection which results in a high air-current of warm air. The surface temperatures on the accessible side surfaces of the housing are kept down as a result of the heater 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).



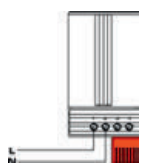
TECHNICAL DATA

Operating voltage	120 - 240VAC ¹ (min. 110V, max. 265V)
Heating element	PTC resistor - temperature limiting
Surface temperature	< +80°C (+176°F), except upper protective grille
Connection	2-pole terminal 2.5mm ² , torque 0.8Nm max.
Casing	plastic according to UL94 V-0, black
Mounting	clip for 35mm DIN rail, EN 60715
Fitting position	vertical airflow (air outlet up, connection on bottom)
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

¹ Operating with voltages below 140VAC reduces heating performance by approx. 10%.

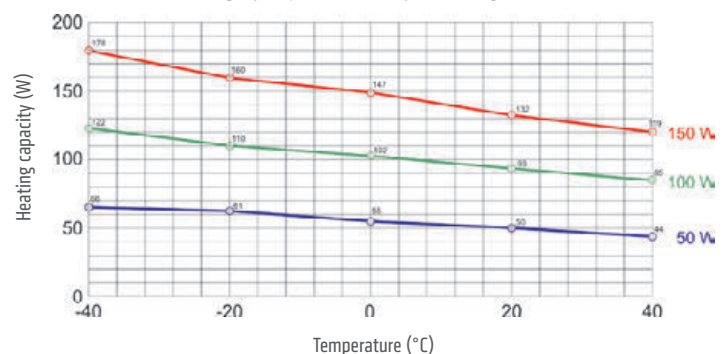


Heater CSF 060



Example of connection

Heating capacity / Ambient temperature diagram CSF 060



Art. No.	Heating capacity ²	Inrush current (max.)	Pre-fuse T (time-delay)	Air outlet temperature ³	Switch-off temperature ⁴	Switch-on temperature ⁴	Dimensions	Weight (approx.)
06001.0-00	50W	2.5A	4A	+86°C (+186.8°F)	+15°C (+59°F)	+5°C (+41°F)	110 x 60 x 90mm	0.3kg
06002.0-00	50W	2.5A	4A	+86°C (+186.8°F)	+25°C (+77°F)	+15°C (+59°F)	110 x 60 x 90mm	0.3kg
06011.0-00	100W	4.5A	8A	+120°C (+248°F)	+15°C (+59°F)	+5°C (+41°F)	110 x 60 x 90mm	0.3kg
06012.0-00	100W	4.5A	8A	+120°C (+248°F)	+25°C (+77°F)	+15°C (+59°F)	110 x 60 x 90mm	0.3kg
06021.0-00	150W	8A	8A	+145°C (+293°F)	+15°C (+59°F)	+5°C (+41°F)	150 x 60 x 90mm	0.5kg
06022.0-00	150W	8A	8A	+145°C (+293°F)	+25°C (+77°F)	+15°C (+59°F)	150 x 60 x 90mm	0.5kg

² ambient temperature - see Heating capacity / Ambient temperature diagram

³ measured 50mm above protective grille

⁴ tolerance of ±5K

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

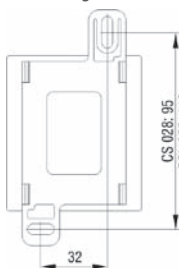
> Clip or screw fixing

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.

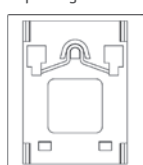


View: back side

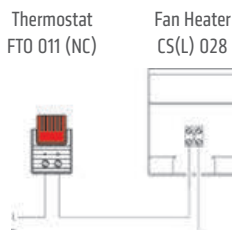
Screw fixing



Clip fixing



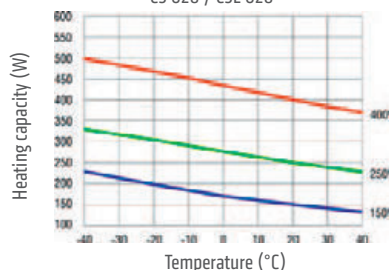
Example of connection



TECHNICAL DATA

Heating element	PTC resistor - temperature limiting
Surface temperature	150W/250W: max. +50°C (+122°F), 400W: max. +65°C (+149°F) each except upper protective grille at +20°C (+68°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-0, 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 508A, NITW File on request) 230V only: VDE
Note	other voltages on request

Heating capacity / Ambient temperature diagram
CS 028 / CSL 028



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

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

COMPACT FAN HEATER

HGL 046 | 250W, 400W

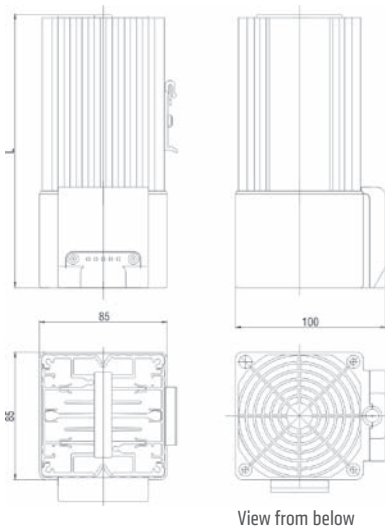


- > Compact Design
- > Clip fixing
- > Long service life
- > Maintenance free
- > Temperature safety cut-out

Compact fan heater prevents formation of condensation and frost. The integrated high-performance axial fan provides an evenly distributed interior air temperature in enclosures with electric/electronic components.



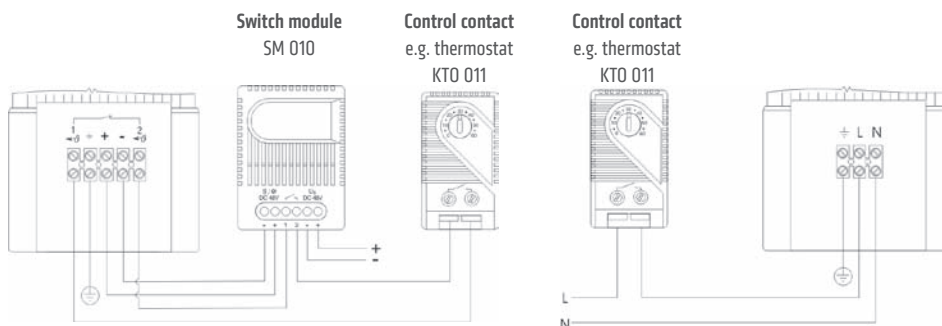
TECHNICAL DATA



Heating element	resistance heater
Temperature safety cut-out	to protect against overheating in case of fan failure, automatic reset
Heater body	anodised extruded aluminium profile
Surface temperature	max. +75°C (400W)
Axial fan, ball bearing	Airflow, free flow AC: 45m³/h (50Hz) or 54m³/h (60Hz) DC: 54m³/h service life 50,000h at +25°C (+77°F)
Connection	internal connection terminal 1.5mm² with strain relief, clamping torque 0.8Nm max.
Connection casing	plastic according to UL94 V-0, black
Mounting	clip for 35mm DIN rail, EN 60715
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 / I (earthed)

Note: In the case of 24VDC and 48VDC the fan heater has to be switched via a relay. For this purpose we recommend our electronic relay SM 010 (Art. No. 01000.0-00 and 01001.0-00).

Heater
Fan heater HGL 046 (DC 48V and 24V) with temperature safety cut-out



Heater
Fan heater HGL 046 (AC 230V and 120V) with temperature safety cut-out

Art. No.	Operating voltage	Heating capacity	Pre-fuse T (time delay)	Length (L)	Weight (approx.)	Approvals
04640.0-00	230VAC, 50/60Hz	250W	2A	182mm	1.1kg	VDE + UL File No. E150057 ¹
04641.0-00	230VAC, 50/60Hz	400W	4A	222mm	1.4kg	VDE + UL File No. E150057 ¹
04640.9-00	120VAC, 50/60Hz	250W	4A	182mm	1.1kg	VDE + UL File No. E150057 ¹
04641.9-00	120VAC, 50/60Hz	400W	5A	222mm	1.4kg	VDE + UL File No. E150057 ¹
04640.1-00	24VDC	250W	16A	182mm	1.1kg	UL File No. E234324
04640.2-00	48VDC	250W	8A	182mm	1.1kg	UL File No. E234324
04641.2-00	48VDC	400W	12.5A	222mm	1.4kg	UL File No. E234324

¹ according to UL 508A, NITW File on request

SPACE-SAVING FAN HEATER

HV 031 / HVL 031 | 100W to 400W



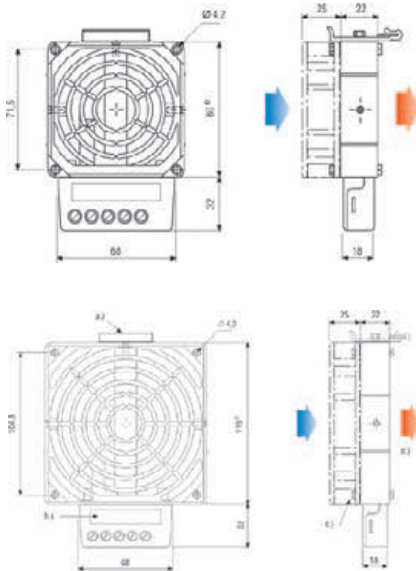
- > Compact
- > Flat design
- > High air through-flow

- > Temperature safety cut-out
- > Clip fixing

Compact high-performance fan heater prevents formation of condensation and frost and provides an evenly distributed interior air temperature in enclosures with electric/electronic components. This fan heater may only be operated together with a fan but is also available without fan for self-assembly (HV 031) and with pre-configured fan (HVL 031).



TECHNICAL DATA



- Clip
- Type plate
- Axial fan
- Air direction



Important note: Heater may only be operated together with fan.
Danger of overheating!

Art. No. HV 031 230VAC, 50/60 Hz	Art. No. HV 031 120VAC, 50/60 Hz	Heating capacity	Pre-fuse T (time-delay)		Dimensions	Weight (approx.)
			230VAC	120VAC		
03100.0-00	03100.9-00	100W	1A	1.4A	80 x 112 x 22mm	0.4kg
03101.0-00	03101.9-00	150W	1.25A	2A	80 x 112 x 22mm	0.4kg
03110.0-00	03110.9-00	200W	1.4A	2.5A	119 x 151 x 22mm	0.5kg
03111.0-00	03111.9-00	300W	2A	4A	119 x 151 x 22mm	0.5kg
03112.0-00	03112.9-00	400W	4A	5A	119 x 151 x 22mm	0.5kg

Art. No. HVL 031 230VAC, 50/60 Hz	Art. No. HVL 031 120VAC, 50/60 Hz	Heating capacity	Pre-fuse T (time-delay)		Airflow min., free flow	Dimensions	Weight (approx.)
			230VAC	120VAC			
03102.0-00	03102.9-00	100W	1A	1.4A	35m ³ /h	80 x 112 x 47mm	0,6 kg
03103.0-00	03103.9-00	150W	1.25A	2A	35m ³ /h	80 x 112 x 47mm	0,6 kg
03113.0-00	03113.9-00	200W	1.4A	2.5A	108m ³ /h	119 x 151 x 47mm	0,9 kg
03114.0-00	03114.9-00	300W	2A	4A	108m ³ /h	119 x 151 x 47mm	0,9 kg
03115.0-00	03115.9-00	400W	4A	5A	108m ³ /h	119 x 151 x 47mm	0,9 kg

SEMICONDUCTOR FAN HEATER

CR 027 | up to 650W



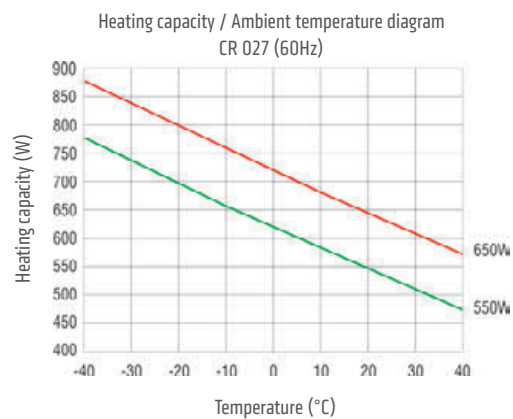
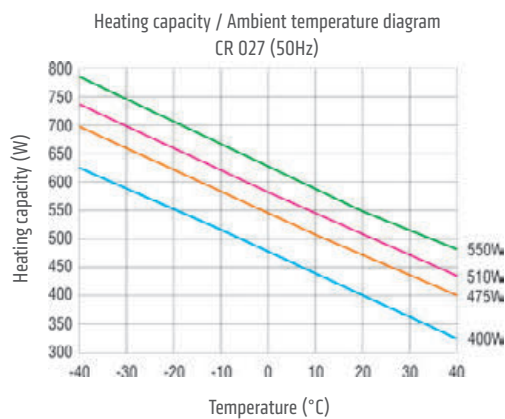
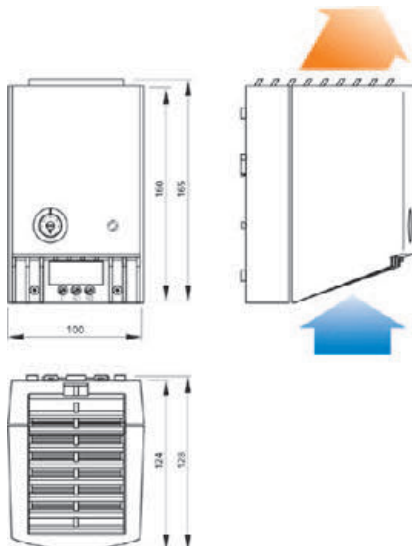
- > Compact heater
- > Integrated thermostat
- > Clip fixing
- > Optical indicator
- > Temperature safety cut-out

Semiconductor fan heater prevents formation of condensation and frost and provides an evenly distributed interior air temperature in enclosures with electric/electronic components. The integrated thermostat is used to set the desired temperature.



TECHNICAL DATA

Heating element	PTC resistor - temperature limiting
Temperature safety cut-out	to protect against overheating in case of fan failure, automatic reset
Axial fan, ball bearing	airflow see table service life 50,000h at +25°C (+77°F)
Connection	2-pole clamp 2.5mm ² , clamping torque 0.8Nm max
Casing	plastic according to UL94 V-0, light grey
Optical indicator	thermostat control lamp
Mounting	clip for 35mm DIN rail, EN 60715
Fitting position	vertical airflow (air outlet up) – other fitting positions possible
Dimensions	100 x 128 x 165mm
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	VDE, UL File No. E204590



Art. No.	Operating voltage	Heating capacity ¹ (50 Hz)	Heating capacity ¹ (60 Hz)	Inrush current max.	Pre-fuse T (time-delay)	Airflow, free flow	Setting range thermostat ²	Weight (approx.)
02700.0-00	220-240VAC, 50/60Hz	475W	550W	11A	6.3A	35m ³ /h	0 to +60°C	0.9kg
02701.0-00	220-240VAC, 50/60Hz	550W	650W	13A	8A	45m ³ /h	0 to +60°C	1.1kg
02700.9-00	100-120VAC, 50/60Hz	400W	550W	14A	8A	35m ³ /h	+32 to +140°F	0.9kg
02701.9-00	100-120VAC, 50/60Hz	510W	650W	15A	8A	45m ³ /h	+32 to +140°F	1.1kg

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

² Switch temperature difference 7K (±4K tolerance)

SPACE-SAVING FAN HEATER

HVI 030 | 500W to 700W



- > Compact
- > Flat design

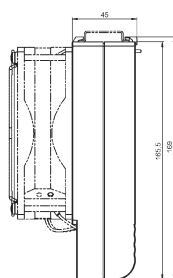
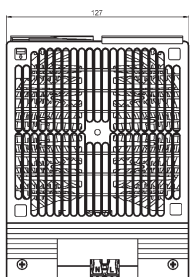
- > Temperature safety cut-out
- > Twist clip or screw fixing

The compact high-performance fan heater prevents formation of condensation and frost and provides an evenly distributed interior air temperature in enclosures with electric/electronic components. The heater may only be operated together with fan, but is also available without axial fan (for self-installation). The fan heaters are available with two different mounting systems – either mounting by screw fixing or with a new and unique twist clip mounting system. These options allow for a quick and easy installation of the fan heater.



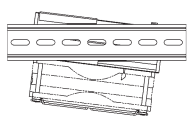
TECHNICAL DATA

Heating element	high performance cartridge
Temperature safety cut-out	with automatic reset and second-tier one shot fuse to protect against overheating in case of fan failure
Connection	2-pole dual pressure clamp for rigid wire 2.5mm ² , stranded wire (with wire end ferrule) 1.5mm ²
Casing	plastic according to UL94 V-0, black
Mounting	twist clip for 35mm DIN rail, EN 60715 or screw fixing (M6), torque 2Nm max., washers have to be used
Fitting position	vertical airflow (air outlet up)
Dimensions	169 x 127 x 45mm
Weight	approx. 0.7kg
Operating/Storage temperature	-40 to +50°C (-40 to +122°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 submitted
Note	other heating capacities and voltages available on request

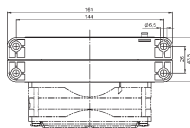


View: back side

Twist clip fixing



Screw fixing

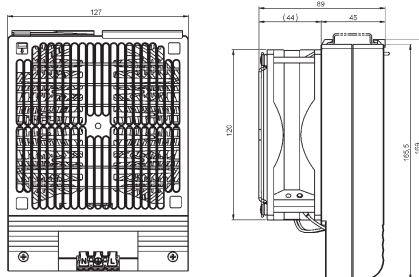


Important note: Heater may only be operated together with fan (min. 150m³/h). Danger of overheating!

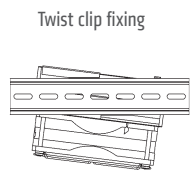
Art. No. twist clip fixing	Art. No. screw fixing	Operating voltage	Heating capacity	Pre-fuse T (time-delay)
03074.0-00	03074.0-01	230VAC, 50/60Hz	500W	3.15A
03073.0-00	03073.0-01	230VAC, 50/60Hz	600W	3.15A
03072.0-00	03072.0-01	230VAC, 50/60Hz	700W	4A
03074.9-00	03074.9-01	120VAC, 50/60Hz	500W	6.3A
03073.9-00	03073.9-01	120VAC, 50/60Hz	600W	6.3A
03072.9-00	03072.9-01	120VAC, 50/60Hz	700W	8A

SPACE-SAVING FAN HEATER WITH FAN

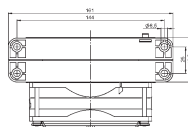
HVI 030 | 500W to 700W



View: back side



Twist clip fixing



Screw fixing



- > Compact
- > Flat design
- > High air through-flow
- > Temperature safety cut-out
- > Twist clip or screw fixing

The compact high-performance fan heater prevents formation of condensation and frost and provides an evenly distributed interior air temperature in enclosures with electric/electronic components. The heater may only be operated together with fan, but is also available without axial fan (for self-installation). The fan heaters are available with two different mounting systems – either mounting by screw fixing or with a new and unique twist clip mounting system. These options allow for a quick and easy installation of the fan heater.



TECHNICAL DATA

Heating element	high performance cartridge
Temperature safety cut-out	with automatic reset and second-tier one shot fuse to protect against overheating in case of fan failure
Axial fan, ball bearing	airflow 150m ³ /h, free flow service life 50,000 at +25°C (+77°F)
Connection	3-pole dual pressure clamp for rigid wire 2.5mm ² , stranded wire (with wire end ferrule) 1.5mm ²
Casing	plastic according to UL94 V-0, black
Mounting	twist clip for 35mm DIN rail, EN 60715 or screw fixing (M6), torque 2Nm max., washers have to be used
Fitting position	vertical airflow (air outlet up)
Dimensions	169 x 127 x 89mm
Weight	approx. 1.3kg
Operating/Storage temperature	-10 to +50°C (+14 to +122°F)/-45 to +70°C (-49 to +158°F)
Operating/Storage humidity	max. 90% RH (non-condensing)
Protection type/Protection class	IP20 / heater: II (double insulated); fan: I (earthed)
Approvals	VDE; UL submitted
Note	other heating capacities and voltages available on request

Important note: Heater may only be operated together with fan (min. 150m³/h).
Danger of overheating!

Art. No. twist clip fixing	Art. No. screw fixing	Operating voltage	Heating capacity	Pre-fuse T (time-delay)
03084.0-00	03084.0-01	230VAC, 50/60Hz	500W	3.15A
03083.0-00	03083.0-01	230VAC, 50/60Hz	600W	3.15A
03082.0-00	03082.0-01	230VAC, 50/60Hz	700W	4A
03084.9-00	03084.9-01	120VAC, 50/60Hz	500W	6.3A
03083.9-00	03083.9-01	120VAC, 50/60Hz	600W	6.3A
03082.9-00	03082.9-01	120VAC, 50/60Hz	700W	8A

COMPACT HIGH-PERFORMANCE FAN HEATER

CR 030 | 950W



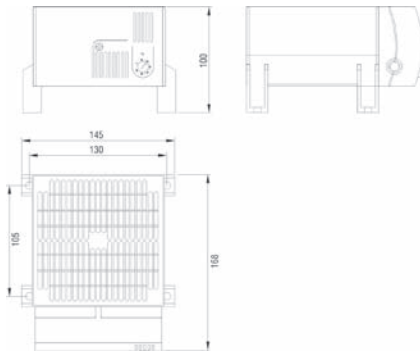
- > Compact design
- > Double insulated

- > Integrated thermostat or hygrostat

The compact high performance fan heater prevents formation of condensation and frost and provides an evenly distributed interior air temperature in enclosures with electric/electronic components. The plastic housing provides double insulation and acts as protection against contact. The fan heater is available with integrated thermostat or pre-set hygrostat for temperature or humidity control. The CR 030 was designed as a stationary unit for the bottom of the enclosure. For wall fixing the fan heater CR 130 is recommended.



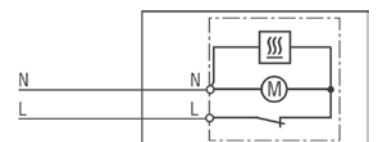
TECHNICAL DATA



Heating element	high performance cartridge
Temperature safety cut-out	to protect against overheating in case of fan failure, automatic reset
Heater body	extruded aluminium profile
Axial fan, ball bearing	airflow 160m ³ /h, free flow service life 50,000h at +25°C (+77°F)
Connection	2-pole max. 2.5mm ² , clamping screw with strain relief, torque 0.8Nm max.
Casing	plastic according to UL94 V-0, black
Mounting	screw fixing (M5)
Fitting position	vertical airflow (air outlet up) – other fitting positions possible
Dimensions	168 x 145 x 100mm
Weight	approx. 1.4kg
Operating ¹ /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)
Note	other heating capacities from 200W up available on request

¹ Operating temperature of heater with integrated hygrostat: 0 to +60°C (+32 to +140°F).

Connection diagram



Art. No.	Model	Operating voltage	Heating capacity	Pre-fuse T (time-delay)	Setting range ²	Approvals
03051.0-00	Fan Heater with thermostat	230VAC, 50/60Hz	950W	5A	0 to +60°C	VDE + UL File No. E234324
03051.0-02	Fan Heater with hygrostat	230VAC, 50/60Hz	950W	5A	65% RH, factory-set	VDE + UL File No. E234324
03059.9-00	Fan Heater with thermostat	120VAC, 50/60Hz	950W	10A	+32 to +140°F	UL File No. E234324

² Switch temperature difference 7K (±4K tolerance)

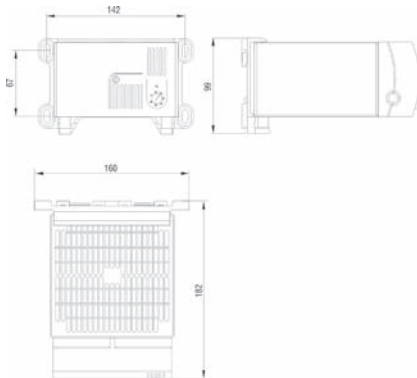
COMPACT HIGH-PERFORMANCE FAN HEATER

CR 130 | 950W



- > Compact design
- > Double insulated
- > Integrated thermostat or hygrostat
- > Optional clip or screw fixing

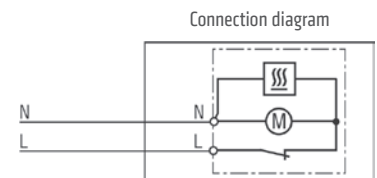
The compact high performance fan heater prevents formation of condensation and frost and provides an evenly distributed interior air temperature in enclosures with electric/electronic components. The plastic housing provides double insulation and acts as protection against contact. The fan heater is available with integrated thermostat or pre-set hygrostat for temperature or humidity control. The CR 130 was designed as a stationary unit for wall fixing. For fixing on the bottom of the enclosure the fan heater CR 030 is recommended.



TECHNICAL DATA

Heating element	high performance cartridge
Temperature safety cut-out	to protect against overheating in case of fan failure, automatic reset
Heater body	extruded aluminium profile
Axial fan, ball bearing	airflow 160m ³ /h, free flow, service life 50,000h at +25°C (+77°F)
Connection	2-pole max. 2.5mm ² , clamping screw with strain relief, torque 0.8Nm max.
Casing	plastic according to UL94 V-0, black
Mounting	clip for 35mm DIN rail, EN 60715 or screw fixing (M6)
Fitting position	vertical airflow (air outlet up) – other fitting positions possible
Dimensions	182 x 160 x 99mm
Weight	approx. 1.5kg
Operating ¹ /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)
Note	other heating capacities from 200W up available on request

¹ Operating temperature of heater with integrated hygrostat: 0 to +60°C (+32 to +140°F)



Art. No.	Model	Operating voltage	Heating capacity	Pre-fuse T (time-delay)	Setting range ²	Approvals
13051.0-00	Fan Heater with thermostat	230VAC, 50/60Hz	950W	5A	0 to +60°C	VDE + UL File No. E234324
13051.0-02	Fan Heater with hygrostat	230VAC, 50/60Hz	950W	5A	65% RH, factory-set	VDE + UL File No. E234324
13059.9-00	Fan Heater with thermostat	120VAC, 50/60Hz	950W	10A	+32 to +140°F	UL File No. E234324

² Switch temperature difference 7K (±4K tolerance)

HIGH-PERFORMANCE FAN HEATER (SEMICONDUCTOR)

CS 032 / CSF 032 | 1,000W



Fan heater CS 032



Fan heater CSF 032

- > Compact and slim design
- > High heating performance
- > Double insulated
- > With or without thermostat
- > Quick connection

The compact high performance fan heater prevents formation of condensation and frost and provides an evenly distributed interior air temperature in enclosures with electric/electronic components. The plastic housing provides double insulation and acts as protection against contact. Two screw connectors at the front of CS 032 allow comfortable wiring of an external thermostat. The CSF 032 is equipped with a pre-set thermostat. Both models were designed for wall fixing. A fan heater for fixing on the bottom of the enclosure is available on request.



TECHNICAL DATA

Heating element	PTC resistor - temperature limiting
Surface temperature	max. +80°C (+176°F), 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 63m ³ /h, free flow service life 70,000h at 25°C (77°F)
Connection	male power insert connector according to IEC320 C18
Fuse	10A time lag (T) integrated in connector - exchangeable
Casing	plastic according to UL94 V-0, black
Mounting	clip for 35mm DIN rail, EN 60715 or screw fixing (M5), tightening torque 2Nm max.
Fitting position	airflow direction up
Dimensions	152.5 x 88 x 66mm
Weight	approx. 0.5kg
Operation/Storage temperature	-40 to +60°C (-40 to +140°F) / -40 to +70°C (-40 to +158°F)
Operation/Storage humidity	max. 90% RH (non-condensing)
Protection type/Protection class	IP20 / II (double insulated)
Approvals	VDE + UL File No. E234324

Important note: Connectors and cables for electrical connection are not included in the delivery. Connection cables can be ordered separately, see Accessories.

FAN HEATER CS 032 (WITHOUT THERMOSTAT)

Art. No. Clip fixing	Art. No. Screw fixing	Operating voltage	Heating capacity ¹	Inrush current max.
03209.0-00	03209.0-01	220-240VAC, 50/60Hz	1,000W	12A
03209.9-00	03209.9-01	100-120VAC, 50/60Hz	1,000W	18A

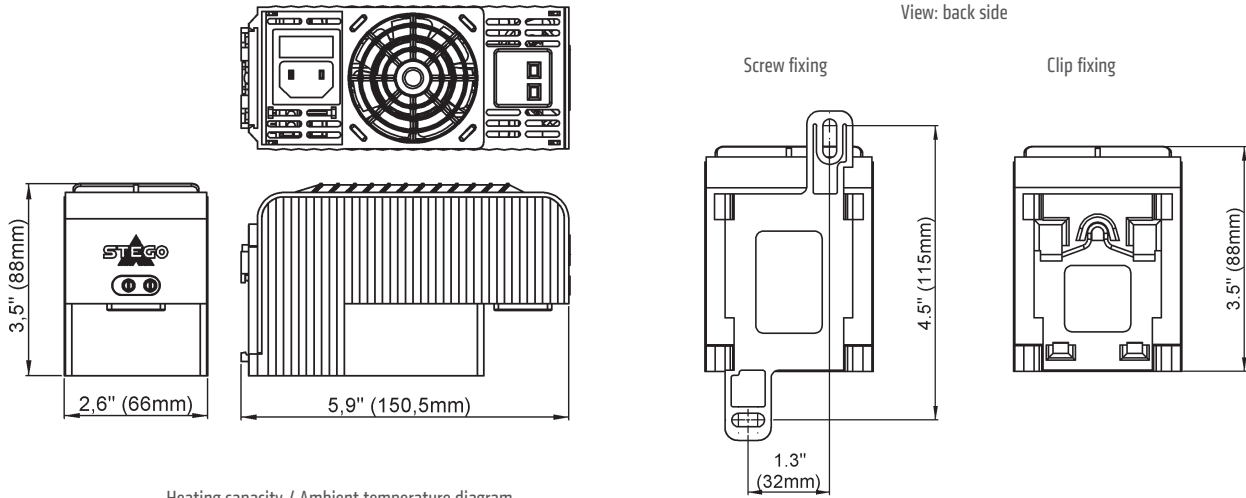
FAN HEATER CSF 032 (WITH THERMOSTAT)

Art. No. Clip fixing	Art. No. Screw fixing	Operating voltage	Heating capacity ¹	Inrush current max.	Switch-off temperature ²	Switch-on temperature ²
03201.0-00	03201.0-01	220-240VAC, 50/60Hz	1,000W	12A	+25°C (+77°F)	+15°C (+59°F)
03202.0-00	03202.0-01	220-240VAC, 50/60Hz	1,000W	12A	+15°C (+59°F)	+5°C (+41°F)
03201.9-00	03201.9-01	100-120VAC, 50/60Hz	1,000W	18A	+25°C (+77°F)	+15°C (+59°F)
03202.9-00	03202.9-01	100-120VAC, 50/60Hz	1,000W	18A	+15°C (+59°F)	+5°C (+41°F)

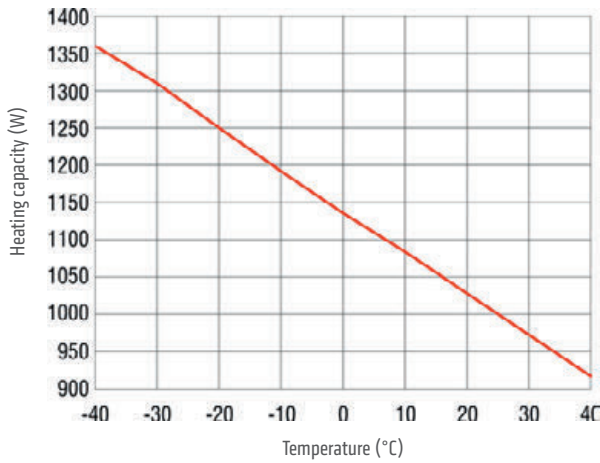
¹ at +25°C (+77°F) ambient temperature

² tolerance ±5K

TECHNICAL DRAWING

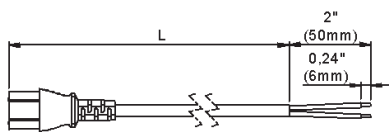


Heating capacity / Ambient temperature diagram



ACCESSORIES

Connection cable with female power insert connector according IEC320 C17



Art. No.	Length (L)
244379	1.0m
244380	2.0m

Retaining Clip



Photo: Retaining Clip art. no. 237009 in built-in state

Art. No.	Note
237009	Suitable for female power insert connector on connection cable 244379 and 244380

COMPACT HIGH-PERFORMANCE FAN HEATER (SEMICONDUCTOR)

CS 030 | 1,200W



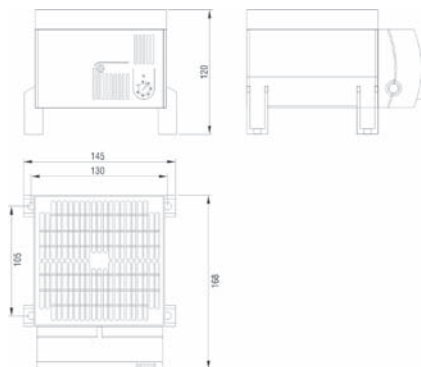
- > Compact design
- > High heating performance

- > Double insulated
- > Integrated thermostat (optional)

The compact high performance fan heater prevents formation of condensation and frost and provides an evenly distributed interior air temperature in enclosures with electric/electronic components. The plastic housing provides double insulation and acts as protection against contact. The fan heater is available with optional integrated thermostat for temperature control. The CS 030 was designed as a stationary unit for the bottom of the enclosure. For wall fixing the fan heater CS 130 is recommended.

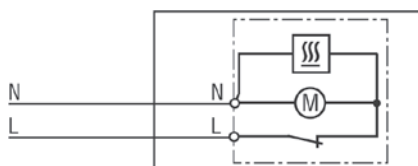


TECHNICAL DATA

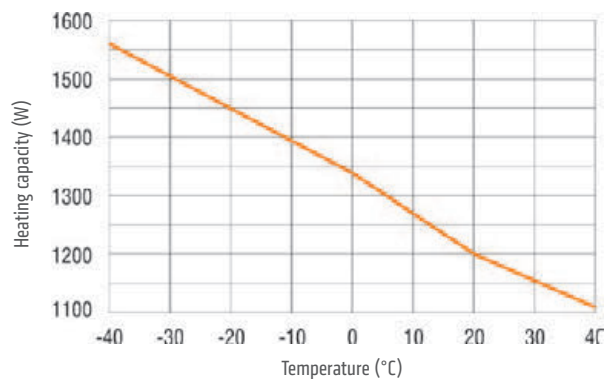


Heating element	PTC resistor - temperature limiting
Temperature safety cut-out	to protect against overheating in case of fan failure, automatic reset
Axial fan, ball bearing	airflow 160m ³ /h, free flow service life 50,000h at +25°C (+77°F)
Connection	2-pole max. 2.5mm ² , clamping screw with strain relief, torque 0.8Nm max.
Casing	plastic according to UL94 V-0, black
Mounting	screw fixing (M5)
Fitting position	vertical airflow (air outlet up) – other fitting positions possible
Dimensions	168 x 145 x 120mm
Weight	approx. 1.2kg
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)

Connection diagram



Heating capacity / Ambient temperature diagram CS 030



Art. No.	Model	Operating voltage	Heating capacity ¹	Inrush current max.	Pre-fuse T (time-delay)	Setting range ²	Approvals
03060.0-00	Fan Heater with thermostat	230VAC, 50/60Hz	1,200W	13A	8A	0 to +60°C	VDE + UL File No. E150057 ³
03060.0-01	Fan Heater without thermostat	230VAC, 50/60Hz	1,200W	13A	8A	-	VDE + UL File No. E150057 ³
03060.9-00	Fan Heater with thermostat	120VAC, 50/60Hz	1,200W	16A	10A	+32 to +140°F	UL File No. E150057 ³
03060.9-01	Fan Heater without thermostat	120VAC, 50/60Hz	1,200W	16A	10A	-	UL File No. E150057 ³

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

² Switch temperature difference 7K (±4K tolerance);

³ according to UL 508A, NITW File on request

COMPACT HIGH-PERFORMANCE FAN HEATER (SEMICONDUCTOR)

CS 130 | 1,200W

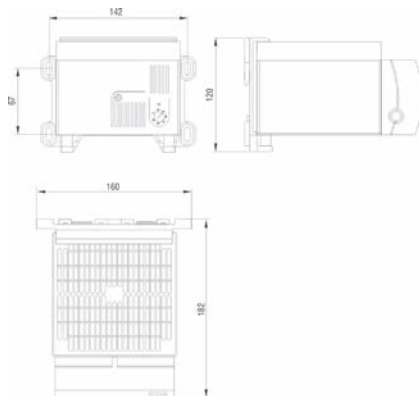


- > Compact design
- > High heating performance
- > Double insulated
- > Integrated thermostat (optional)
- > Optional clip or screw fixing

The compact high performance fan heater prevents formation of condensation and frost and provides an evenly distributed interior air temperature in enclosures with electric/electronic components. The plastic housing provides double insulation and acts as protection against contact. The fan heater is available with optional integrated thermostat for temperature control. The CS 130 was designed as a stationary unit for wall fixing. For fixing on the bottom of the enclosure the fan heater CS 030 is recommended.

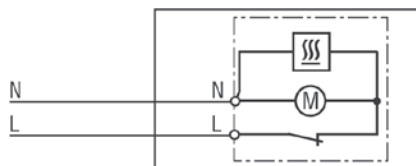


TECHNICAL DATA

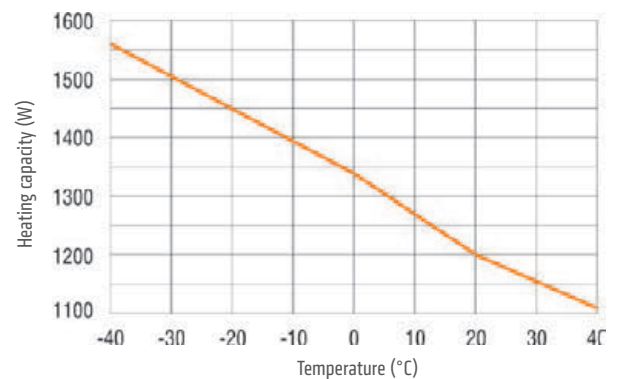


Heating element	PTC resistor - temperature limiting
Temperature safety cut-out	to protect against overheating in case of fan failure, automatic reset
Axial fan, ball bearing	airflow 160m ³ /h, free flow service life 50,000h at +25°C (+77°F)
Connection	2-pole max. 2.5mm ² , clamping screw with strain relief, torque 0.8Nm max.
Casing	plastic according to UL94 V-0, black
Mounting	clip for 35mm DIN rail, EN 60715 or screw fixing (M6)
Fitting position	vertical airflow (air outlet up) – other fitting positions possible
Dimensions	182 x 160 x 120mm
Weight	approx. 1.3kg
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)

Connection diagram



Heating capacity / Ambient temperature diagram CS 130



Art. No.	Model	Operating voltage	Heating capacity ¹	Inrush current max.	Pre-fuse T (time-delay)	Setting range ²	Approvals
13060.0-00	Fan Heater with thermostat	230VAC, 50/60Hz	1,200W	13A	8A	0 to +60°C	VDE + UL File No. E150057 ³
13060.0-01	Fan Heater without thermostat	230VAC, 50/60Hz	1,200W	13A	8A	-	VDE + UL File No. E150057 ³
13060.9-00	Fan Heater with thermostat	120VAC, 50/60Hz	1,200W	16A	10A	+32 to +140°F	UL File No. E150057 ³
13060.9-01	Fan Heater without thermostat	120VAC, 50/60Hz	1,200W	16A	10A	-	UL File No. E150057 ³

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

² Switch temperature difference 7K (±4K tolerance)

³ according to UL 508A, NITW File on request



COOLING



PROTECTION AGAINST OVERHEATING

To protect installations from excessively high temperatures STEGO filter fans ensure efficient cooling by circulating air.

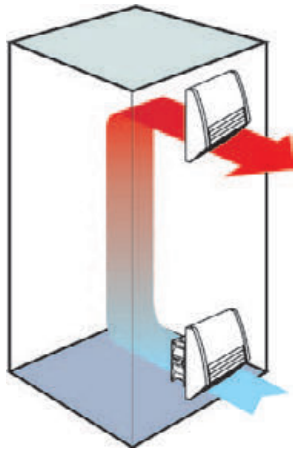
FILTER FAN

FF 018 | 21m³/h to 102m³/h



- > Very low noise
- > Minimal depth in enclosure
- > Functional design
- > Time-saving installation
- > Weather proof and UV resistant

Filter fans are used to provide an optimum climate in enclosures. The interior temperature of an enclosure can be reduced by channelling cooler filtered outside air into the enclosure thus expelling heated internal air. The resulting air flow prevents formation of localised hot pockets and protects the electronic components from overheating. The plastic used for the hood of this filter fan series is highly weather proof and UV light resistant.



Enclosure air-conditioning using a filter fan and exit filter



TECHNICAL DATA

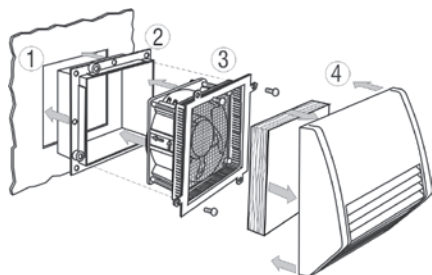
Axial fan, ball bearing	service life 50,000h at +25°C (+77°F), 65% RH fan body aluminium, rotor plastic
Connection	2 wires with pressure clamps 2.5mm ² , length 100mm
Casing (filter fan and exit filter)	plastic according to UL94 V-0, light grey
Hood (filter fan and exit filter)	plastic according to UL94 V-0, light grey; weather proof and UV light resistant according to UL746C (f1)
Mounting frame	with double-sided industrial adhesive band for fixing to the outside of enclosure; certain operating circumstances can make the additional use of screws necessary (see drilling template); a template for the enclosure cut-out is included in the delivery of the filter fans
Filter mat	G4 acc. to DIN EN 779, filtering degree 94%
Filter material	synthetic fibre with progressive construction, temperature resistant to +100°C, self-extinguishing class F1, moisture resistant to 100% RH, reusable - cleaning by washing or vacuuming
Operating/Storage temperature	-10 to +70°C (+14 to +158°F) / -40 to +70°C (-40 to +158°F)
Operating/Storage humidity	max. 90% RH (non-condensing)
Protection type/Protection class	IP55 / I (earthed)

Special features

- > The **self-adhesive seal** of the mounting frame prevents dust and water from entering the cabinet.
- > **Functional design** of the intake and exit fan hoods very effectively prevents direct intrusion of falling water and dust. The advantage is that the filter mat does not get so quickly contaminated with dirt and thus does not need to be exchanged so often.
- > The **air channeling** makes the filter fan particularly quiet in operation.
- > Functional and **modern design** enables time-saving assembly and maintenance.
- > The **direction of air flow can easily be switched** by reversing the axial fan (sizes 1 to 3).
- > EMC versions and other voltages on request.

FILTER FAN FF 018

Art. No.	Operating voltage	Air volume, free flow	Air volume with exit filter	Current consumption	Power consumption	Average noise level (DIN EN ISO 4871)	Depth in enclosure	Enclosure cut-out	Weight (approx.)	Approvals
01800.0-00	230VAC, 50Hz	21m ³ /h	16m ³ /h	80mA	13W	31db (A)	45mm	97 x 97mm + 0.4	0.6kg	VDE + UL File No. E234324
01801.0-00	230VAC, 50Hz	55m ³ /h	42m ³ /h	100mA	15W	40db (A)	58mm	125 x 125mm + 0.4	1.0kg	VDE + UL File No. E234324
01802.0-00	230VAC, 50Hz	102m ³ /h	68m ³ /h	100mA	15W	39db (A)	86mm	176 x 176mm + 0.4	1.3kg	VDE + UL File No. E234324
01800.0-01	120VAC, 60Hz	24m ³ /h	18m ³ /h	160mA	13W	31db (A)	45mm	97 x 97mm + 0.4	0.6kg	UL File No. E234324
01801.0-01	120VAC, 60Hz	63m ³ /h	48m ³ /h	180mA	15W	40db (A)	58mm	125 x 125mm + 0.4	1.0kg	UL File No. E234324
01802.0-01	120VAC, 60Hz	117m ³ /h	78m ³ /h	180mA	15W	39db (A)	86mm	176 x 176mm + 0.4	1.3kg	UL File No. E234324



Installation sketch

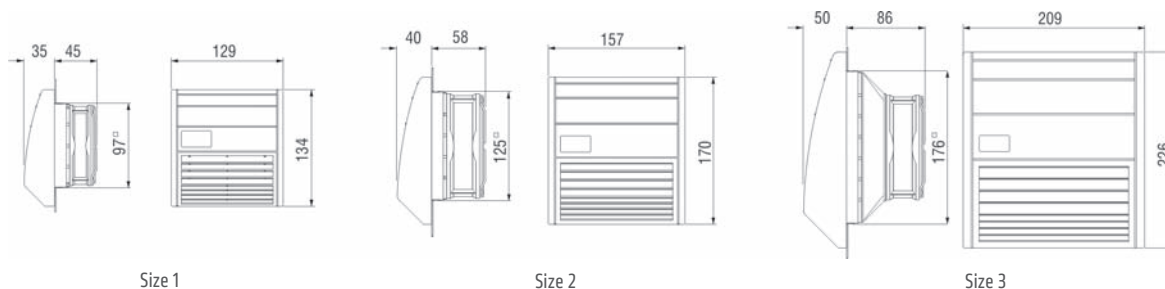
Time-saving assembly and maintenance

STEGO’s filter fans are easily installed by one person **from outside** the cabinet.

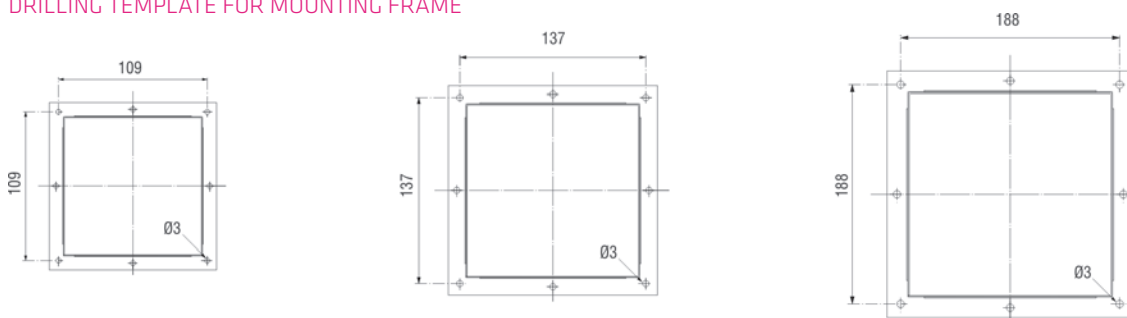
- 1.) Make cut-out in the cabinet wall. The cut edge of the cabinet opening should be free of dirt, filings and grease. A template for the enclosure cut-out is included in the delivery of the filter fan.
- 2.) Remove protective film from the sealing strips on the mounting frame. Press mounting frame into the cabinet opening. The frame stays permanently in the cabinet. (For size 176mm and up we recommend additional screw fixing.)
- 3.) Electrically connect the axial fan using the clip connectors. Push the unit into the mounting frame. Fix using screws.
- 4.) Insert the filter mat in the hood. Clip on. Finished.

Changing the filter mat or fan is quickly done by one person. To change the filter mat simply remove the filter hood, insert the new mat and snap the hood back again. No tools required. Maintenance of the fan can easily be done without removing the mounting frame (2).

TECHNICAL DRAWINGS



DRILLING TEMPLATE FOR MOUNTING FRAME



EXIT FILTER EF 118

Art. No.	Depth in enclosure	Enclosure cut-out	Weight (approx.)	Filter mat	Protection type
11800.0-00	16mm	97 x 97mm + 0.4	0.3kg	G4 acc. to DIN EN 779, filtering degree 94%	IP55
11801.0-00	16mm	125 x 125mm + 0.4	0.4kg	G4 acc. to DIN EN 779, filtering degree 94%	IP55
11802.0-00	16mm	176 x 176mm + 0.4	0.6kg	G4 acc. to DIN EN 779, filtering degree 94%	IP55

FILTER MAT FM 086

Filter mat	89 x 89mm	118 x 118mm	168 x 168mm
G4 (1 packaging unit = 3 pcs.)	Art. No. 08600.0-00	Art. No. 08601.0-00	Art. No. 08602.0-00

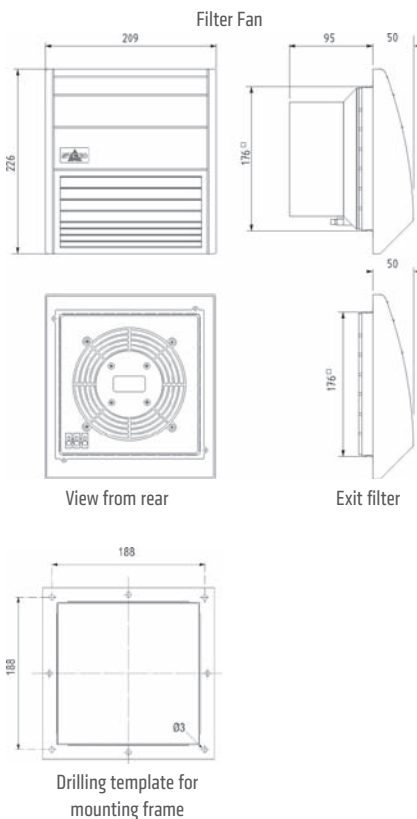
FILTER FAN

FF 018 | 200m³/h



- > Low maintenance
- > High through-flow air volume
- > Functional design
- > Time-saving installation
- > Weather proof and UV resistant

Filter fans are used to provide an optimum climate in enclosures. The interior temperature of an enclosure can be reduced by channelling cooler filtered outside air into the enclosure thus expelling heated internal air. The resulting air flow prevents formation of localised hot pockets and protects the electronic components from overheating. The plastic used for the hood of this filter fan series is highly weather proof and UV light resistant.



TECHNICAL DATA

Axial fan, ball bearing	service life 50,000h at +25°C (+77°F), 65% RH fan body aluminium, rotor metal
Connection	3-pole clamp for 2.5mm ² , clamping torque 0.8Nm max.
Casing (filter fan and exit filter)	plastic according to UL94 V-0, light grey
Hood (filter fan and exit filter)	plastic according to UL94 V-0, light grey; weather proof and UV light resistant according to UL746C (f1)
Mounting frame	with double-sided industrial adhesive band for fixing to the outside of enclosure; certain operating circumstances can make the additional use of screws necessary (see drilling template); a template for the enclosure cut-out is included in the delivery of the filter fans
Filter mat	G4 acc. to DIN EN 779, filtering degree 94%
Filter material	synthetic fibre with progressive construction, temperature resistant to +100°C, self-extinguishing class F1, moisture resistant to 100% RH, reusable - cleaning by washing or vacuuming
Operating/Storage temperature	230VAC: -25 to +50°C (-13 to +122°F) 120VAC: -25 to +60°C (-13 to +140°F)
Operating/Storage humidity	max. 90% RH (non-condensing)
Protection type/Protection class	IP55 / I (earthed)

FILTER FAN FF 018

Art. No.	Operating voltage	Air volume, free flow	Air volume with exit filter	Current consumption	Power consumption	Average noise level (DIN EN ISO 4871)	Depth in enclosure	Enclosure cut-out	Weight (approx.)	Approvals
01804.0-00	230VAC, 50Hz	200m ³ /h	125m ³ /h	320mA	45W	52dB (A)	95mm	176 x 176mm + 0.4	1.7kg	VDE + UL File No. E234324
01804.0-01	120VAC, 60Hz	230m ³ /h	143m ³ /h	470mA	39W	52dB (A)	95mm	176 x 176mm + 0.4	1.7kg	UL File No. E234324

EXIT FILTER EF 118

Art. No.	Depth in enclosure	Enclosure cut-out	Weight (approx.)	Filter mat	Protection type
11802.0-00	16mm	176 x 176mm + 0.4	0.6kg	G4 acc. to DIN EN 779, filtering degree 94%	IP55

FILTER MAT FM 086

Filter mat	168 x 168mm
G4 (1 packing unit = 3 pcs.)	Art. No. 08602.0-00

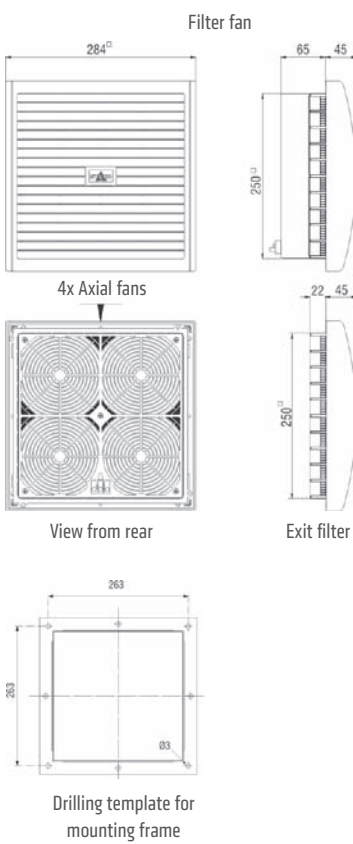
FILTER FAN

FF 018 | 300m³/h



- > Very low noise
- > Minimal depth in enclosure
- > High through-flow air volume
- > Uniform air circulation
- > High reliability
- > Weather proof and UV resistant

Filter fans are used to provide an optimum climate in enclosures. The interior temperature of an enclosure can be reduced by channelling cooler filtered outside air into the enclosure thus expelling heated internal air. The resulting air flow prevents formation of localised hot pockets and protects the electronic components from overheating. Four integrated axial fans provide a particularly high and uniform air circulation thus contributing to higher reliability. The plastic used for the hood of this filter fan series is highly weather proof and UV light resistant.



TECHNICAL DATA

Axial fans, ball bearing	service life 50,000h at +25°C (+77°F), 65% RH fan body aluminium, rotor plastic
Connection	3-pole clamp for 2.5mm ² , clamping torque 0.8Nm max.
Casing (filter fan and exit filter)	plastic according to UL94 V-0, light grey
Hood (filter fan and exit filter)	plastic according to UL94 V-0, light grey; weather proof and UV light resistant according to UL746C (f1)
Mounting frame	with double-sided industrial adhesive band for fixing to the outside of enclosure; certain operating circumstances can make the additional use of screws necessary (see drilling template); a template for the enclosure cut-out is included in the delivery of the filter fans
Filter mat	G4 acc. to DIN EN 779, filtering degree 94%
Filter material	synthetic fibre with progressive construction, temperature resistant to +100°C, self-extinguishing class F1, moisture resistant to 100% RH, reusable - cleaning by washing or vacuuming
Operating/Storage temperature	-10 to +70°C (+14 to +158°F) / -40 to +70°C (-40 to +158°F)
Operating/Storage humidity	max. 90% RH (non-condensing)
Protection type/Protection class	IP55 / I (earthed)

FILTER FAN FF 018

Art. No.	Operating voltage	Air volume, free flow	Air volume with exit filter	Current consumption	Power consumption	Average noise level (DIN EN ISO 4871)	Depth in enclosure	Enclosure cut-out	Weight (approx.)	Approvals
01803.0-00	230VAC, 50Hz	300m ³ /h	230m ³ /h	400mA	60W	53db (A)	65mm	250 x 250mm + 0.4	3.3kg	VDE + UL File No. E234324
01803.0-01	120VAC, 60Hz	345m ³ /h	264m ³ /h	700mA	60W	53db (A)	65mm	250 x 250mm + 0.4	3.3kg	UL File No. E234324

EXIT FILTER EF 118

Art. No.	Depth in enclosure	Enclosure cut-out	Weight (approx.)	Filter mat	Protection type
11803.0-00	22mm	250 x 250mm + 0.4	1.0kg	G4 acc. to DIN EN 779, filtering degree 94%	IP55

FILTER MAT FM 086

Filter mat	247 x 247mm
G4 (1 packing unit = 3 pcs.)	Art. No. 08608.0-00

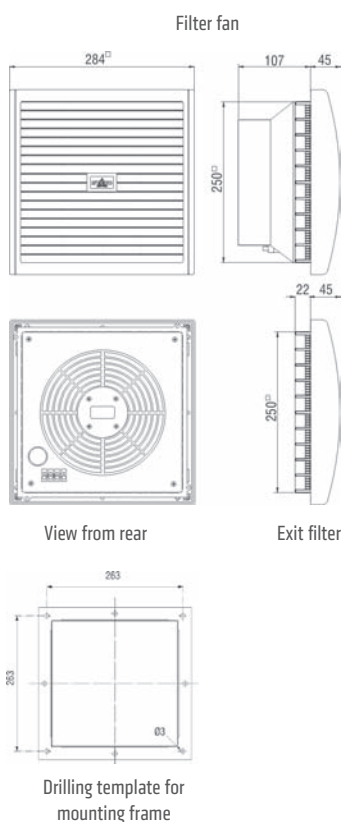
FILTER FAN

FF 018 | 550m³/h



- > High through-flow air volume
- > Functional design
- > Time-saving installation
- > Weather proof and UV resistant

Filter fans are used to provide an optimum climate in enclosures. The interior temperature of an enclosure can be reduced by channelling cooler filtered outside air into the enclosure thus expelling heated internal air. The resulting air flow prevents formation of localised hot pockets and protects the electronic components from overheating. The high-performance axial fan provides high air circulation. The plastic used for the hood of this filter fan series is highly weather proof and UV light resistant.



TECHNICAL DATA

Axial fan, ball bearing	service life 50,000h at +25°C (+77°F), 65% RH fan body aluminium, rotor metal
Connection	3-pole clamp for 2.5mm ² , clamping torque 0.8Nm max.
Casing (filter fan and exit filter)	plastic according to UL94 V-0, light grey
Hood (filter fan and exit filter)	plastic according to UL94 V-0, light grey; weather proof and UV light resistant according to UL746C (f1)
Mounting frame	with double-sided industrial adhesive band for fixing to the outside of enclosure; certain operating circumstances can make the additional use of screws necessary (see drilling template); a template for the enclosure cut-out is included in the delivery of the filter fans
Filter mat	G4 acc. to DIN EN 779, filtering degree 94%
Filter material	synthetic fibre with progressive construction, temperature resistant to +100°C, self-extinguishing class F1, moisture resistant to 100% RH, reusable - cleaning by washing or vacuuming
Operating/Storage temperature	-25 to +70°C (-13 to +158°F)
Operating/Storage humidity	max. 90% RH (non-condensing)
Protection type/Protection class	IP55 / I (earthed)

FILTER FAN FF 018

Art. No.	Operating voltage	Air volume, free flow	Air volume with exit filter	Current consumption	Power consumption	Average noise level (DIN EN ISO 4871)	Depth in enclosure	Enclosure cut-out	Weight (approx.)	Approvals
01805.0-00	230VAC, 50Hz	550m ³ /h	300m ³ /h	300mA	64W	65db (A)	107mm	250 x 250mm + 0.4	2.7kg	VDE + UL File No. E234324
01805.0-01	120VAC, 60Hz	632m ³ /h	345m ³ /h	780mA	85W	65db (A)	107mm	250 x 250mm + 0.4	2.7kg	UL File No. E234324

EXIT FILTER EF 118

Art. No.	Depth in enclosure	Enclosure cut-out	Weight (approx.)	Filter mat	Protection type
11803.0-00	22mm	250 x 250mm + 0.4	1.0kg	G4 acc. to DIN EN 779, filtering degree 94%	IP55

FILTER MAT FM 086

Filter mat	247 x 247mm
G4 (1 packing unit = 3 pcs.)	Art. No. 08608.0-00

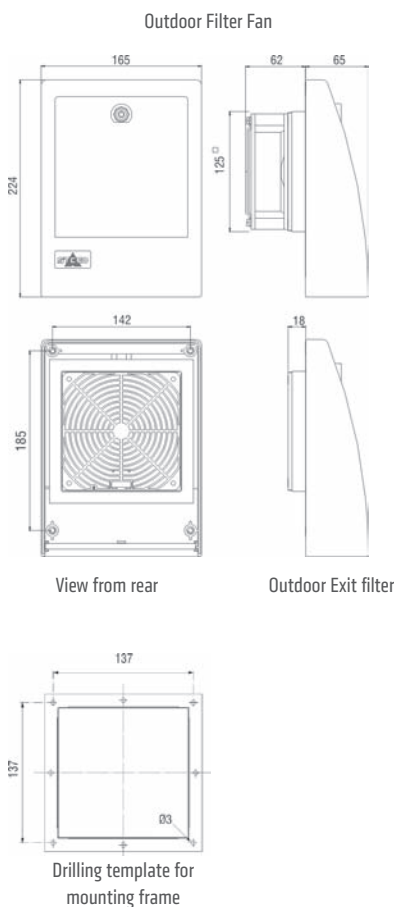
OUTDOOR FILTER FAN

FF 018



- > Filter changeable from outside
- > Impact resistant
- > Safe, lockable
- > Weather proof and UV resistant

The outdoor filter fan can be used in outdoor enclosures where warm air has to be dissipated on account of increased thermic development. The plastic casing is weather proof and resistant to UV light. To clean and exchange the filter mat, it is only necessary to open the lockable door of the outdoor hood.



TECHNICAL DATA

Axial fan, ball bearing	service life 50,000h at +25°C (+77°F), 65% RH fan body aluminium, rotor plastic
Connection	2 wires with pressure clamps 2.5mm ² , length 100mm
Casing (filter fan and exit filter)	plastic according to UL94 V-0, light grey
Hood (filter fan and exit filter)	plastic according to UL94 V-0, light grey; weather proof and UV light resistant according to UL746C (f1)
Mounting frame	with double-sided industrial adhesive band for fixing to the outside of enclosure; certain operating circumstances can make the additional use of screws necessary (see drilling template); a template for the enclosure cut-out is included in the delivery of the filter fans
Filter mat	F5 acc. to DIN EN 779, filtering degree 98%
Filter material	synthetic fibre with progressive construction, temperature resistant to +100°C, self-extinguishing class F1, moisture resistant to 100% RH
Operating/Storage temperature	-10 to +70°C (+14 to +158°F) / -40 to +70°C (-40 to +158°F)
Operating/Storage humidity	max. 90% RH (non-condensing)
Protection type/Protection class	IP55 / I (earthed)
Approvals	VDE + UL File No. E234324

Note: The hood is fixed permanently to the enclosure from the inside using screws. Filter mats can be easily changed from outside the enclosure through the lockable door in the hood.

OUTDOOR FILTER FAN FF 018

Art. No.	Operating voltage	Air volume, free flow	Current consumption	Power consumption	Average noise level (DIN EN ISO 4871)	Depth in enclosure	Enclosure cut-out	Weight (approx.)
01821.0-00	230VAC, 50Hz	20m ³ /h	100mA	15W	40dB (A)	62mm	125 x 125mm + 0.4	1.2kg
01821.0-02	120VAC, 60Hz	23m ³ /h	180mA	15W	40dB (A)	62mm	125 x 125mm + 0.4	1.2kg

EXIT FILTER EF 118

Art. No.	Depth in enclosure	Enclosure cut-out	Weight (approx.)	Filter mat	Protection type
11821.0-00	16mm	125 x 125mm + 0.4	0.6kg	F5 acc. to DIN EN 779, filtering degree 98%	IP55

FILTER MAT FFM 086

Filter mat	122 x 122mm
F5 (1 packing unit =3 pcs.)	Art. No. 08607.0-00

ROOF FILTER FAN

RFP 018 | 300m³/h, 500m³/h



Photo: Art. No. 01860.0-00



Photo: Art. No. 01861.0-00

- > Very low noise
- > Minimal depth in enclosure
- > High through-flow air volume

- > High reliability
- > Time-saving installation and mat exchange

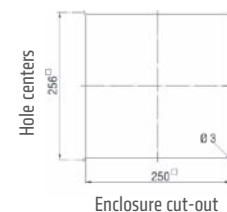
Roof filter fans find use in enclosures and housings, from which warm air has to be diverted to lower the internal temperature. These low-noise roof filter fans are used to expel warm air from within the enclosure which has been generated by the stray power of the components and so protects the internal devices from overheating. To exchange the filter mat the hood can be easily opened without tools. The roof exit filter provides passive ventilation.



TECHNICAL DATA

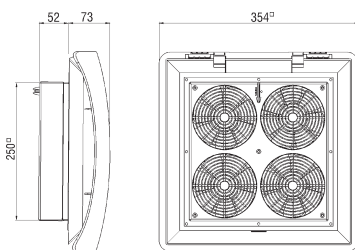
Axial fans, ball bearing	service life 50,000h at +25°C (+77°F), 65% RH fan body aluminium, rotor plastic
Connection	3-pole clamp for 2.5mm ² , clamping torque 0.8Nm max.
Case	plastic according to UL94 V-0, light grey; weather proof and UV light resistant according UL746C (f1)
Filter mat	G3 acc. to DIN EN 779, filtering degree 85%
Filter material	synthetic fibre with progressive construction, temperature resistant to +100°C, self-extinguishing class F1, moisture resistant to 100% RH, reusable - cleaning by washing or vacuuming
Operating/Storage humidity	max. 90% RH (non-condensing)
Protection type/Protection class	IP32 / I (earthed)
Approvals	VDE (230VAC only); UL intended

Important note: For reasons of pressure compensation the roof filter fan must always be operated in combination with a passive intake filter (e.g. Art. No. 11803.0-00) or another filter fan (e.g. Art. No. 01803.0-00).

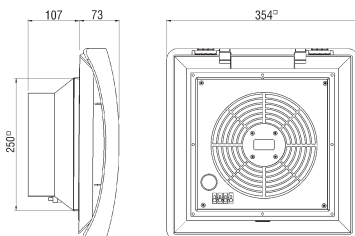


Enclosure cut-out

Roof Filter Fan (01860.0-XX)



Roof Filter Fan (01861.0-XX)



ROOF FILTER FAN RFP 018

Art. No.	Operating voltage	Air volume, free flow	Current consumption	Average noise level (DIN EN ISO 4871)	Depth in enclosure	Enclosure cut-out	Weight (approx.)	Operating / Storage temperature
01860.0-00	230VAC, 50Hz	300m ³ /h	68W	55dB (A)	52mm	250 x 250mm + 0.4	3.3kg	-10 to +70°C (+14 to +158°F) / -40 to +70°C (-40 to +158°F)
01861.0-00	230VAC, 50Hz	500m ³ /h	64W	67dB (A)	107mm	250 x 250mm + 0.4	2.6kg	-25 to +70°C (-13 to +158°F)
01860.0-02	120VAC, 60Hz	345m ³ /h	60W	55dB (A)	52mm	250 x 250mm + 0.4	3.3kg	-10 to +70°C (+14 to +158°F) / -40 to +70°C (-40 to +158°F)
01861.0-02	120VAC, 60Hz	575m ³ /h	85W	67dB (A)	107mm	250 x 250mm + 0.4	2.6kg	-25 to +70°C (-13 to +158°F)

ROOF EXIT FILTER REP 118

Art. No.	Depth in enclosure	Enclosure cut-out	Weight (approx.)	Filter mat	Protection type
11860.0-00	11mm	250 x 250mm + 0.4	1.0kg	G3 acc. to DIN EN 779, filtering degree 85%	IP32

FILTER MAT FM 086

Filter mat	282 x 282mm
G3 (1 packing unit = 3 pcs.)	Art. No. 08613.0-01

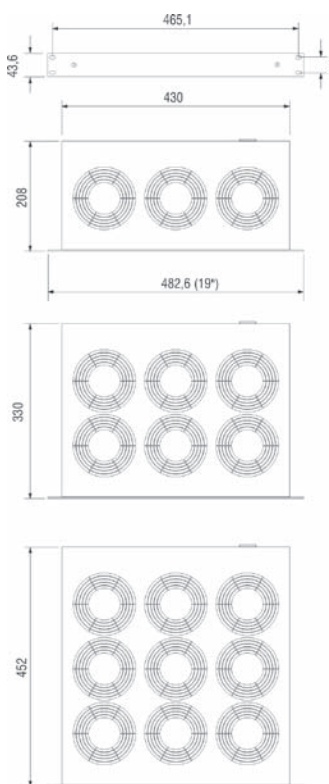
HIGH-PERFORMANCE 19" FAN TRAY

LE 019



- > High air output
- > Long service life
- > Ball bearing fans
- > Ready for connection
- > Optical function indicator

Compact high performance fan tray for enforced circulation of air in switch and server enclosures and for concerted cooling of 19" component groups. Natural convection is improved and the formation of localised hot pockets is avoided. Also available with integrated thermostat (see photo).



TECHNICAL DATA

Axial fans, ball bearing	service life 50,000h at +25°C (+77°F), 65% RH
Material	front panel aluminium, bright anodised casing steel sheet, electrogalvanized
Optical indicator	integrated in front panel
Connection	appliance power inlet on rear of casing, plug included
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 / I (earthed)
Approvals	UL File No. E234324

Use in 19" enclosures: We recommend using the fan tray without integrated thermostat in combination with our dual thermostat (ZR 011 Art. No. 01176.0-00) for regulating temperature in electronic enclosures and for protection against over-heating due to possible fan failure.

The dual thermostat regulates the operation of the fan tray and - when connected to a signal device - also triggers an early warning if the enclosure interior temperature rises above a set limit. When using a fan tray with integrated thermostat, the use of an additional thermostat (KTS 011 Art. No. 01141.0-00) provides the extra safety of activating a signal device.

Art. No.	Model	No. of fans	Operating voltage	Air volume, free flow	Power consumption	Average noise level (DIN EN ISO 4871)	Speed (rpm)	Impact pressure	Weight (approx.)
01930.0-00	without thermostat	3	230VAC, 50Hz	486m ³ /h	45W	55db (A)	2600 rpm (50Hz)	74Pa	3.0kg
01930.1-00	with thermostat 0 to +60°C	3	230VAC, 50Hz	486m ³ /h	45W	55db (A)	2600 rpm (50Hz)	74Pa	3.4kg
01940.0-00	without thermostat	6	230VAC, 50Hz	972m ³ /h	90W	57db (A)	2600 rpm (50Hz)	74Pa	5.3kg
01940.1-00	with thermostat 0 to +60°C	6	230VAC, 50Hz	972m ³ /h	90W	57db (A)	2600 rpm (50Hz)	74Pa	5.7kg
01950.0-00	without thermostat	9	230VAC, 50Hz	1458m ³ /h	135W	58db (A)	2600 rpm (50Hz)	74Pa	7.8kg
01950.1-00	with thermostat 0 to +60°C	9	230VAC, 50Hz	1458m ³ /h	135W	58db (A)	2600 rpm (50Hz)	74Pa	7.9kg
01931.0-00	without thermostat	3	120VAC, 60Hz	576m ³ /h	45W	55db (A)	2900 rpm (60Hz)	88Pa	3.0kg
01931.1-00	with thermostat 0 to +60°C	3	120VAC, 60Hz	576m ³ /h	45W	55db (A)	2900 rpm (60Hz)	88Pa	3.4kg
01941.0-00	without thermostat	6	120VAC, 60Hz	1152m ³ /h	90W	57db (A)	2900 rpm (60Hz)	88Pa	5.3kg
01941.1-00	with thermostat 0 to +60°C	6	120VAC, 60Hz	1152m ³ /h	90W	57db (A)	2900 rpm (60Hz)	88Pa	5.7kg
01951.0-00	without thermostat	9	120VAC, 60Hz	1728m ³ /h	135W	58db (A)	2900 rpm (60Hz)	88Pa	7.8kg
01951.1-00	with thermostat 0 to +60°C	9	120VAC, 60Hz	1728m ³ /h	135W	58db (A)	2900 rpm (60Hz)	88Pa	7.9kg

STEGOJET

SJ 019



- > Prevents heat pockets
- > Wide voltage range
- > Compact design

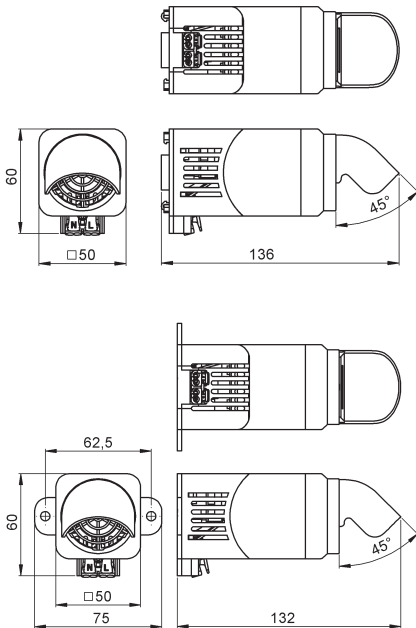
- > Quick connection
- > Clip or screw fixing

The STEGOJET is a compact, powerful built-in fan. It allows precise cooling of heat sources. The air flow prevents formation of heat pockets. Its design allows a rotation range of almost 180°.

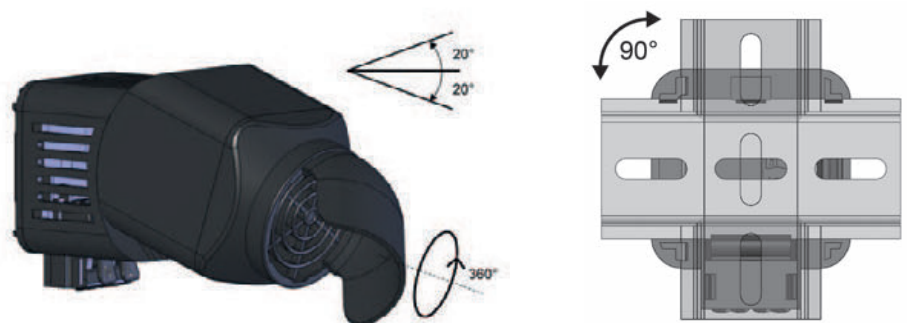


TECHNICAL DATA

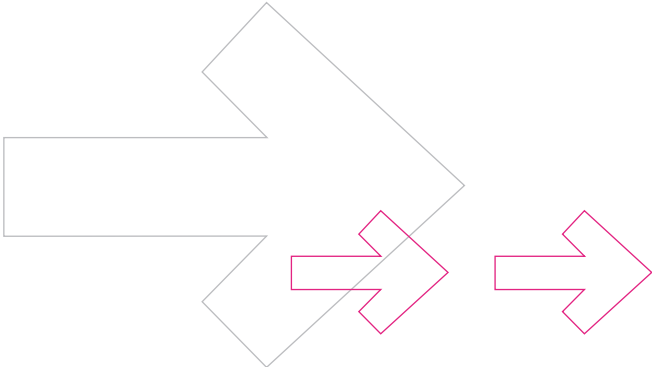
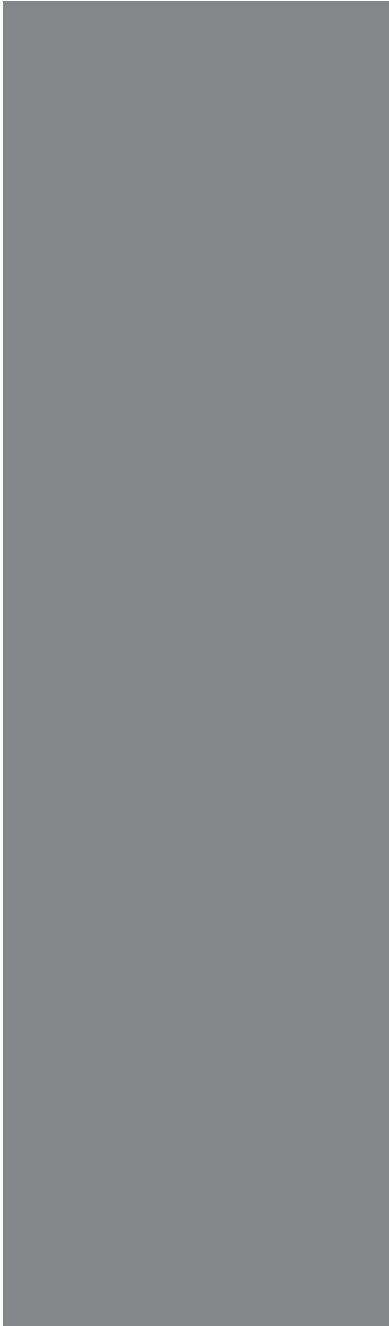
Axial fan, ball bearing	air flow 27.6m ³ /h, free flow service life 40,000h at +60°C (+140°F), 90% RH
Power consumption	4W
Connection	2-pole dual pressure clamp for rigid wire 2.5mm ² , stranded wire (with wire end ferrule) 1.5mm ²
Casing	plastic according UL94 V-0, black
Mounting	clip for 35mm DIN rail, EN 60715 or screw fixing (M5), torque 2Nm max., washers have to be used
Fitting position	variable
Dimensions	132 x 75 x 60mm
Weight	approx. 0.2kg
Operating/Storage temperature	-10 to +60°C (+14 to +140°F)/-30 to +70°C (-22 to +158°F)
Operating/Storage humidity	max. 90% RH (non-condensing)
Protection type/Protection class	IP20 / II (double insulated)
Approvals	VDE + UL intended

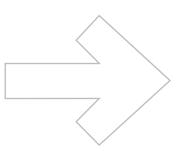


Range of rotation:



Art. No.	Model	Operating voltage
01925.0-00	Clip fixing	100-240VAC, 50/60Hz (min. 90VAC, max. 265VAC)
01925.0-01	Screw fixing	100-240VAC, 50/60Hz (min. 90VAC, max. 265VAC)





REGULATING



OPTIMISING CLIMATISATION

STEGO's temperature and humidity control systems perfect operating conditions for electric and electronic installations and therefore safeguard their performance.

SMALL COMPACT THERMOSTAT

KTO 011 / KTS 011

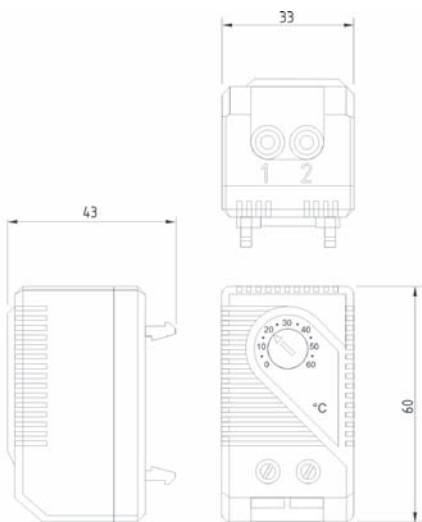


- > Large setting range
- > Small size

- > Simple to mount
- > High switching performance

KTO 011: Thermostat (normally closed); contact breaker for regulating heaters. The contact opens when temperature is rising.

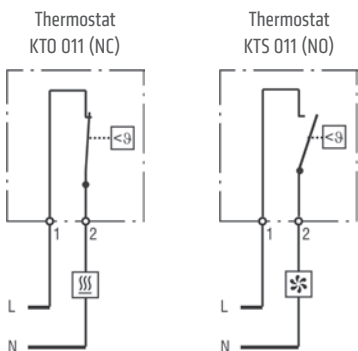
KTS 011: Thermostat (normally open); contact maker for regulating of filter fans and heat exchangers or for switching signal devices when temperature limit has been exceeded. The contact closes when temperature is rising.



TECHNICAL DATA

Switch temperature difference	7K (±4K tolerance)
Sensor element	thermostatic bimetal
Contact type	snap-action contact
Service life	> 100,000 cycles
Max. switching capacity	250VAC, 10 (2) A 120VAC, 15 (2) A DC 30W at 24VDC to 72VDC
Max. inrush current	AC 16A for 10 sec.
Connection ¹	2-pole terminal, clamping torque 0.5Nm max.: rigid wire 2.5mm ² , stranded wire (with wire end ferrule) 1.5mm ²
Mounting	clip for 35mm DIN rail, EN 60715
Casing	plastic according to UL94 V-0, light grey
Dimensions	60 x 33 x 43mm
Weight	approx. 40g
Fitting position	variable
Operating/Storage temperature	-45 to +80°C (-49 to +176°F)
Operating/Storage humidity	max. 95% RH (non-condensing)
Protection type	IP20

Connection diagrams

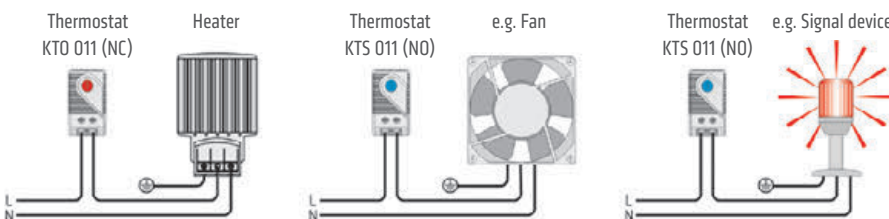


¹ When connecting with wires, wire end ferrules must be used.

Important note: The contact system of the regulator is subjected to environmental influences, thus the contact resistance may change. This can lead to a voltage drop and/or self-heating of the contacts.

- Heater
- Filter fan, Cooling equipment, Signal device

Examples of connection



Setting range	Art. No. Contact breaker (NC)	Art. No. Contact maker (NO)	Approvals
0 to +60°C	01140.0-00	01141.0-00	VDE
-10 to +50°C	01142.0-00	01143.0-00	VDE + UL File No. E164102
+20 to +80°C	01159.0-00	01158.0-00	VDE + UL File No. E164102
+32 to +140°F	01140.9-00	01141.9-00	VDE + UL File No. E164102
+14 to +122°F	01142.9-00	01143.9-00	VDE + UL File No. E164102
0 to +60°C	01146.9-00	01147.9-00	VDE + UL File No. E164102

SMALL COMPACT THERMOSTAT

STO 011 / STS 011



- > Thumbwheel setting dial
- > Small hysteresis
- > High switching capacity
- > Anti frost assurance
- > Optimized housing for better air flow

The mechanical thermostat is a two state regulator with small hysteresis. The setting wheel has an anti frost assurance. The housing ensures an optimized air circulation around the bimetal.

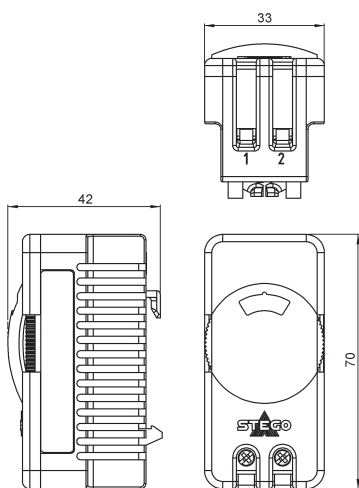
STO 011: Thermostat (NC); contact breaker for regulating heaters. The contact opens when temperature is rising.

STS 011: Thermostat (NO); contact maker for regulating of filter fans and heat exchangers or for switching signal devices when temperature limit has been exceeded. The contact closes when temperature is rising.



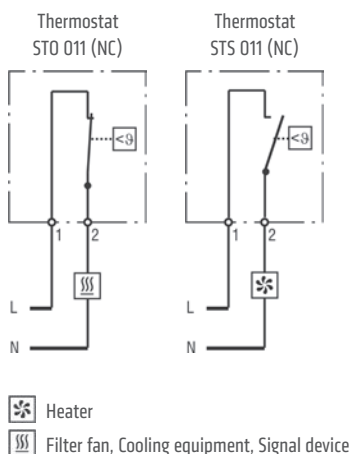
TECHNICAL DATA

Switch temperature difference	4K (±3K tolerance)
Sensor element	thermostatic bimetal
Contact type	snap-action contact
Service life	> 100,000 cycles
Max. switching capacity	250VAC, 10 (2) A 120VAC, 15 (2) A DC 30W at 24VDC to 72VDC
Max. inrush current	AC 16A for 10 sec.
Connection ¹	2-pole terminal for 2.5mm ² (AWG 13), torque 1Nm max.
Mounting	clip for 35mm DIN rail, EN 60715
Casing	plastic according to UL94V-0, light grey
Dimensions	70 x 33 x 42mm
Weight	approx. 50g
Fitting position	variable
Operating/Storage temperature	-45 to +80°C (-49 to +176°F)
Operating/Storage humidity	max. 95% RH (non-condensing)
Protection type	IP20
Approvals	VDE + UL File No. E164102



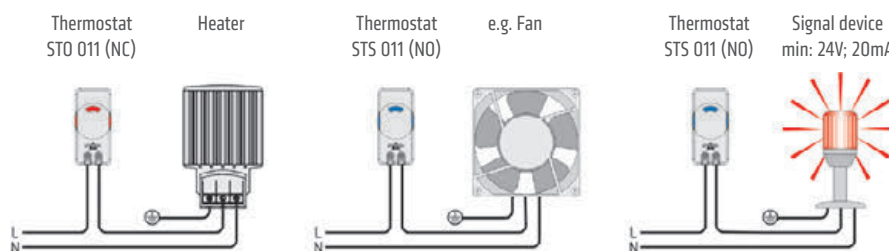
The anti frost assurance is a symbol on the setting scale of the NC thermostat (STO 011) at +11°C. This setting assures closing of the switching contact before 0°C.

Connection diagrams



¹ When connecting with wires, wire end ferrules must be used.

Important note: The contact system of the regulator is subjected to environmental influences, thus the contact resistance may change. This can lead to a voltage drop and/or self-heating of the contacts.



Setting range	Art. No. Contact breaker (NC)	Art. No. Contact maker (NO)
0 to +60°C	01115.0-00	01116.0-00
+32 to +140°F	01115.9-00	01116.9-00

TAMPER-PROOF THERMOSTAT (PRE-SET)

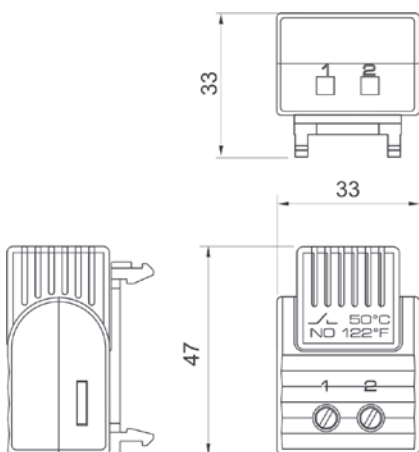
FTO 011 / FTS 011



- > Small size
- > Easy to install
- > Default temperature settings
- > High switching accuracy

Tamper-proof (Pre-set) Thermostat FTO 011: Contact breaker/NC (red casing) for regulating heaters or for switching signal devices when temperature has fallen below the minimum value. The contact opens when temperature is rising.

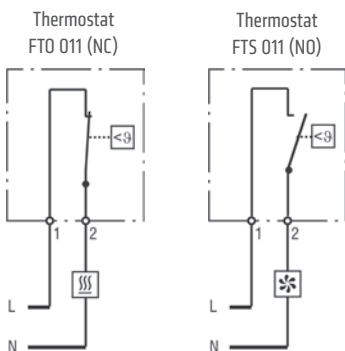
Tamper-proof (Pre-set) Thermostat FTS 011: Contact maker/NO (blue casing) for regulating filter fans, heat exchangers, cooling devices or for switching signal devices when temperature limit has been exceeded. The contact closes when temperature is rising.



TECHNICAL DATA

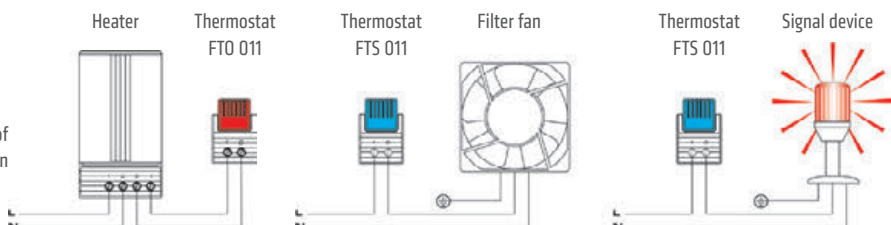
Sensor element	thermostatic bimetal
Contact type	snap-action contact
Service life	> 100,000 cycles
Max. switching capacity	250VAC, 5 (1.6) A 120VAC, 10 (2) A DC 30W
Max. inrush current	AC 16A for 10 sec.
Connection	2-pole terminal for 2.5mm ² , torque 0.8Nm max.
Mounting	clip for 35mm DIN rail, EN 60715
Casing	plastic according to UL94 V-0, light grey
Dimensions	47 x 33 x 33mm
Weight	approx. 30g
Fitting position	variable
Operating/Storage temperature	-40 to +80°C (-40 to +176°F) / -45 to +80°C (-49 to +176°F)
Operating/Storage humidity	max. 95% RH (non-condensing)
Protection type	IP20
Approvals	VDE + UL File No. E164102

Connection diagrams



- Heater
- Filter fan, Cooling equipment, Signal device

Examples of connection



Art. No.	Contact	Switch-off temperature	Switch-on temperature
01160.0-00	Contact breaker (NC)	+15°C / +59°F (±5K tolerance)	+5°C / +41°F (±5K tolerance)
01160.0-01	Contact breaker (NC)	+25°C / +77°F (±5K tolerance)	+15°C / +59°F (±5K tolerance)
Art. No.	Contact	Switch-on temperature	Switch-off temperature
01161.0-00	Contact maker (NO)	+50°C / +122°F (±6K tolerance)	+40°C / +104°F (±7K tolerance)
01161.0-01	Contact maker (NO)	+60°C / +140°F (±6K tolerance)	+50°C / +122°F (±7K tolerance)
01161.0-02	Contact maker (NO)	+35°C / +95°F (±6K tolerance)	+25°C / +77°F (±7K tolerance)

Note: Other switch-off and switch-on temperatures on request.

DUAL THERMOSTAT

ZR 011



- > NO and NC in one casing
- > Separate adjustable temperatures
- > High switching capacity
- > Terminals easily accessible
- > Clip fixing

Two thermostats in one casing:

Thermostat (contact breaker, normally closed) for regulating heaters. The contact opens when temperature is rising.
Thermostat (contact maker, normally open) for regulating filter fans and heat exchangers or switching signal devices when temperature limit has been exceeded. The contact closes when temperature is rising.

Heaters and cooling equipment can be switched independently from each other with a temperature offset as opposed to the usual change-over contacts.

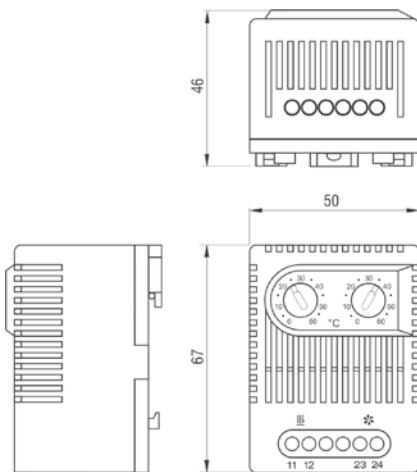


TECHNICAL DATA

Switch temperature difference	7K (±4K tolerance)
Sensor element	thermostatic bimetal
Contact type	snap-action contact
Service life	> 100,000 cycles
Max. switching capacity	250VAC, 10 (2) A 120VAC, 15 (2) A DC 30W at 24VDC to 72VDC
Max. inrush current	AC 16A for 10 sec.
Connection ¹	4-pole terminal, clamping torque 0.5Nm max.: rigid wire 2.5mm ² , stranded wire (with wire end ferrule) 1.5mm ²
Mounting	clip for 35mm DIN rail, EN 60715
Casing	plastic according to UL94 V-0. light grey
Dimensions	67 x 50 x 46mm
Weight	approx. 90g
Fitting position	variable
Operating/Storage temperature	-45 to +80°C (-49 to +176°F)
Operating/Storage humidity	max. 95% RH (non-condensing)
Protection type	IP20
Approvals	VDE + UL File No. E164102

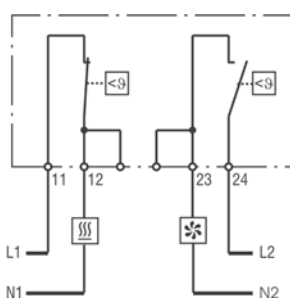
¹ When connecting with wires, wire end ferrules must be used.

Important note: The contact system of the regulator is subjected to environmental influences, thus the contact resistance may change. This can lead to a voltage drop and/or self-heating of the contacts.



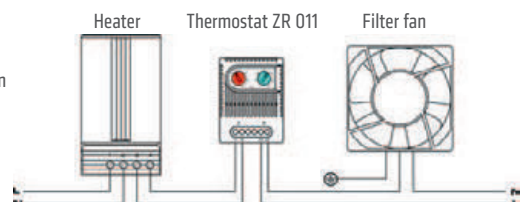
Connection diagram

Thermostat ZR 011 (NC/NO)



- Heater
- Filter fan, Cooling equipment, Signal device

Example of connection



Art. No.	Setting range		Setting range	
01172.0-00	Contact breaker (NC)	0 to +60°C	Contact maker (NO)	0 to +60°C
01172.0-01	Contact breaker (NC)	+32 to +140°F	Contact maker (NO)	+32 to +140°F
01175.0-00	Contact breaker (NC)	-10 to +50°C	Contact maker (NO)	+20 to +80°C
01175.0-01	Contact breaker (NC)	+14 to +122°F	Contact maker (NO)	+68 to +176°F
01176.0-00 ²	Contact maker (NO)	0 to +60°C	Contact maker (NO)	0 to +60°C
01176.0-01 ²	Contact maker (NO)	+32 to +140°F	Contact maker (NO)	+32 to +140°F

² For regulating heat exchangers and fans (e. g. LE 019) and as an alarm contact for monitoring the interior temperature of electronic enclosures.

TAMPER-PROOF DUAL THERMOSTAT (PRE-SET)

FTD 011



- > NO and NC in one casing
- > Default temperature settings

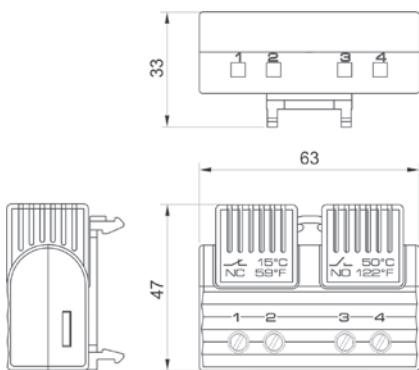
- > High switching accuracy
- > Clip fixing

Two thermostats in one casing:

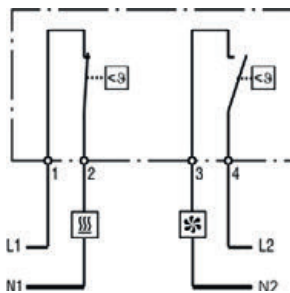
Tamper-proof (Pre-set) Thermostat/Contact breaker (NC) for regulating heaters or for switching signal devices when temperature has fallen below the minimum value. The contact opens when temperature is rising.

Tamper-proof (Pre-set) Thermostat/Contact maker (NO) for regulating filter fans, heat exchangers or for switching signal devices when temperature limit has been exceeded. The contact closes when temperature is rising.

Heaters and cooling equipment can be switched independently from each other with a temperature offset as opposed to the usual change-over contacts.



Thermostat FTD 011 (NC/NO)

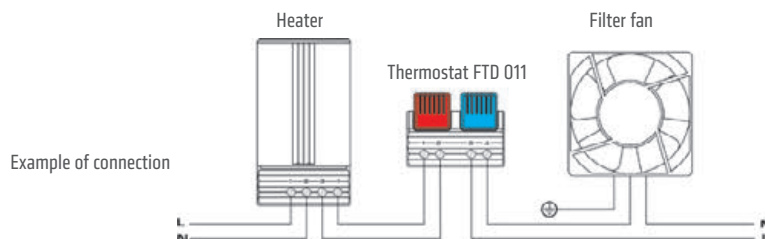


Connection diagram

- Heater
- Filter fan, Cooling equipment, Signal device

TECHNICAL DATA

Sensor element	thermostatic bimetal
Contact type	snap-action contact
Service life	> 100,000 cycles
Max. switching capacity	250VAC, 5 (1.6) A 120VAC, 10 (2) A DC 30W
Max. inrush current	AC 16A for 10 sec.
Connection	4-pole terminal for 2.5mm ² , torque 0.8Nm max.
Mounting	clip for 35mm DIN rail, EN 60715
Casing	plastic according to UL94 V-0, light grey
Dimensions	47 x 63 x 33mm
Weight	approx. 40g
Fitting position	variable
Operating/Storage temperature	-40 to + 80°C (-40 to +176°F) / -45 to + 80°C (-49 to +176°F)
Operating/Storage humidity	max. 95% RH (non-condensing)
Protection type	IP20
Approvals	VDE + UL File No. E164102



Example of connection

Art. No.	Contact breaker (NC)		Contact maker (NO)	
	Switch-off temperature	Switch-on temperature	Switch-on temperature	Switch-off temperature
01163.0-00	+15°C / +59°F (±5K tolerance)	+5°C / +41°F (±5K tolerance)	+50°C / +122°F (±6K tolerance)	+40°C / +104°F (±7K tolerance)
01163.0-01	+25°C / +77°F (±5K tolerance)	+15°C / +59°F (±5K tolerance)	+60°C / +140°F (±6K tolerance)	+50°C / +122°F (±7K tolerance)
01163.0-02	+15°C / +59°F (±5K tolerance)	+5°C / +41°F (±5K tolerance)	+35°C / +95°F (±6K tolerance)	+25°C / +77°F (±7K tolerance)
01163.0-03	+25°C / +77°F (±5K tolerance)	+15°C / +59°F (±5K tolerance)	+50°C / +122°F (±6K tolerance)	+40°C / +104°F (±7K tolerance)

Art. No.	Contact maker (NO)		Contact maker (NO)	
	Switch-on temperature	Switch-off temperature	Switch-on temperature	Switch-off temperature
01164.0-00	+50°C / +122°F (±6K tolerance)	+40°C / +104°F (±7K tolerance)	+60°C / +140°F (±6K tolerance)	+50°C / +122°F (±7K tolerance)

Note: Other switch-off and switch-on temperatures on request.

MECHANICAL THERMOSTAT

FZK 011



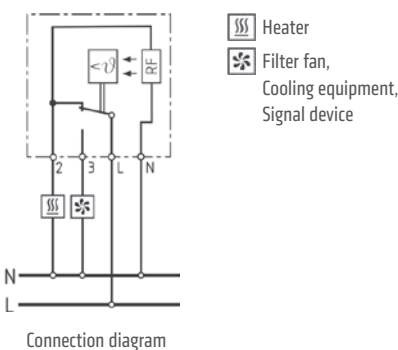
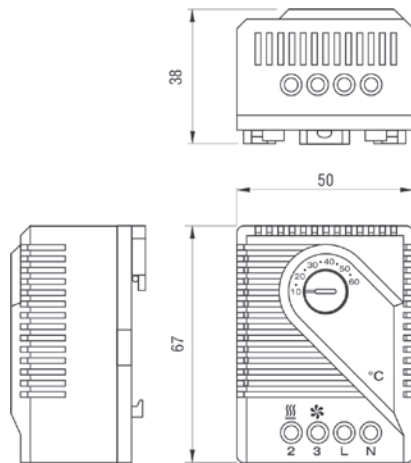
- > Adjustable temperature
- > High switching capacity
- > Small hysteresis
- > Change-over contact
- > Clip fixing

The mechanical thermostat is used for controlling heating and cooling equipment, filter fans or signal devices. The thermostat registers the surrounding air and can switch both inductive and resistive loads via snap-action contact. Functionality: The temperature setting on the scale equals to the upper switch point, which means that the NC contact opens. The temperature setting minus switch temperature difference (and tolerances) equals to the lower switch point, which means that the NC contact closes.



TECHNICAL DATA

Switch temperature difference	5K (-3/+2K tolerance) ¹
Sensor element	thermostatic bimetal
Contact type	change-over snap-action contact
Service life	> 100,000 cycles
Min. switching capacity	10mA
Max. switching capacity, NC	250VAC / 120VAC, 10 (4) A DC 30W
Max. switching capacity, NO	250VAC / 120VAC, 5 (2) A DC 30W
Max. inrush current	AC 16A for 10 sec.
Connection ²	4-pole terminal, clamping torque 0.5Nm max.: rigid wire 2.5mm ² , stranded wire (with wire end ferrule) 1.5mm ²
Mounting	clip for 35mm DIN rail, EN 60715
Casing	plastic according to UL94 V-0, light grey
Dimensions	67 x 50 x 38mm
Weight	approx. 0.1kg
Fitting position	variable
Operating/Storage temperature	-45 to +65°C (-49 to +149°F)
Operating/Storage humidity	max. 95% RH (non-condensing)
Protection type	IP20
Approvals	UL File No. E164102

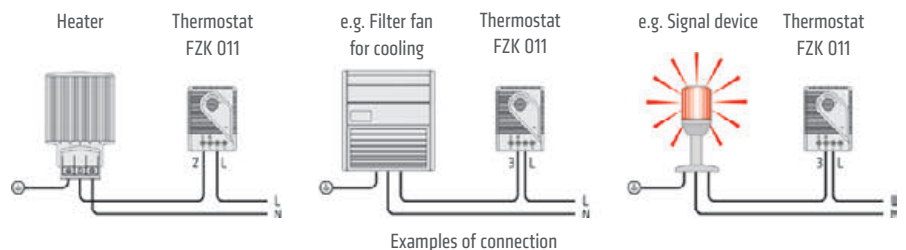


¹ If the Normally Closed contact is used, the switch temperature difference could be reduced by connecting terminal "N" (RF heating resistor). It causes the thermal feedback which is subject to surrounding conditions and thus has to be determined for each individual application.

² When connecting with wires, wire end ferrules must be used.

Important note: The contact system of the regulator is subjected to environmental influences, thus the contact resistance may change. This can lead to a voltage drop and/or self-heating of the contacts.

Art. No.	Operating voltage	Setting range
01170.0-00	230VAC	+5 to +60°C
01170.0-01	230VAC	+40 to +140°F
01170.0-02	230VAC	-20 to +35°C
01170.9-00	120VAC	+40 to +140°F
01170.9-01	120VAC	+5 to +60°C



ELECTRONIC THERMOSTAT

ETR 011



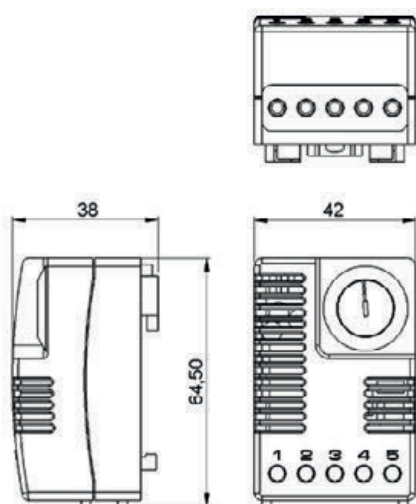
- > Large setting range
- > Small hysteresis
- > Status indicator (LED)
- > Change-over contact
- > Clip fixing

The electronic thermostat is used for controlling heating and cooling equipment, filter fans or signal devices. The thermostat registers the surrounding air and can switch both inductive and resistive loads via relay with change-over contact. The LED integrated in the adjustment knob is lit when the NC is closed. (e.g. when a connected heater is operating).

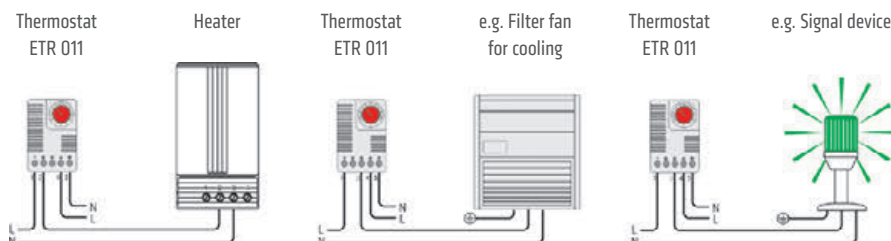
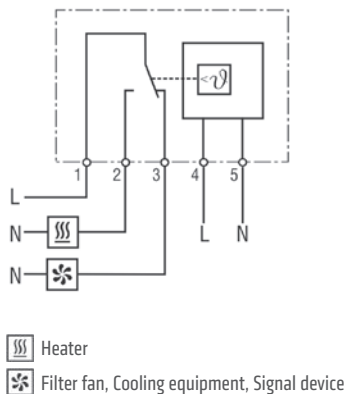


TECHNICAL DATA

Switch difference	4K ($\pm 1K$ tolerance) at +20°C (+68°F)
Sensor element	NTC
Reaction time	approx. 5 sec.
Contact type	change-over contact (relay)
Service life	> 50,000 cycles
Max. switching capacity (relay output)	240VAC / 120VAC, 8 (1.6) A DC 100W at 24VDC
Max. inrush current	AC 16A for 10 sec.
Optical indicator	LED
Connection	5-pole terminal, clamping torque 0.5Nm max.: rigid wire 2.5mm ² stranded wire (with wire end ferrule) 1.5mm ²
Mounting	clip for 35mm DIN rail, EN 60715
Casing	plastic according to UL 94V-0, light grey
Dimensions	64.5 x 42 x 38mm
Weight	approx. 70g
Fitting position	vertical
Operating/Storage temperature	-40 to +185°F (-40 to +85°C)
Operating/Storage humidity	max. 95% RH (non-condensing)
Protection type	IP20



Connection diagram



Examples of connection

Art. No.	Operating voltage	Setting range	Approvals
01131.0-00	230VAC, 50/60Hz	-20 to +60°C	VDE + CSA-US
01131.9-00	120VAC, 50/60Hz	-4 to +140°F	CSA-US

ELECTRONIC THERMOSTAT

ET 011 | 24VDC



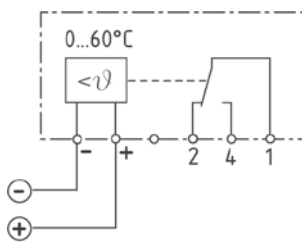
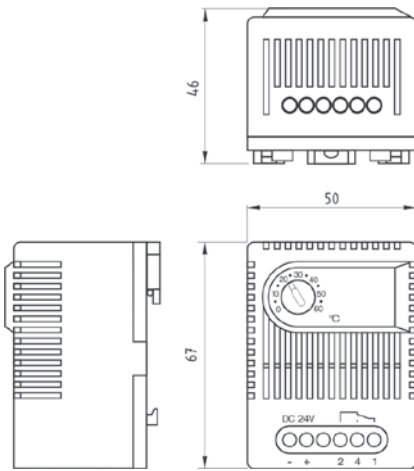
- > High DC breaking capacity
- > Low hysteresis
- > Adjustable temperature
- > Change-over contact
- > Clip fixing

Electronic thermostat for regulating high performance 24VDC equipment. Heating or cooling appliances as well as signal devices can be switched via the potential free change-over contact. In comparison to mechanical thermostats, the ET 011 has a low hysteresis making the switching point and setting accuracy more precise.

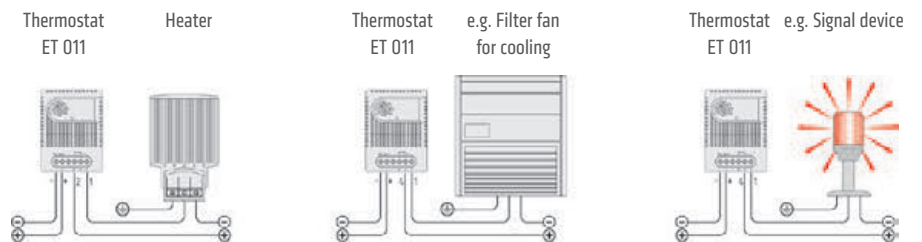


TECHNICAL DATA

Switch temperature difference	approx. 3K
Sensor element	PTC
Contact type	change-over
Service life	> 100,000 cycles
Max. switching capacity	28VDC, 16A
Max. inrush current	DC 16A
Connection	5-pole terminal, clamping torque 0.5Nm max.: rigid wire 2.5mm ² stranded wire (with wire end ferrule) 1.5mm ²
Mounting	clip for 35mm DIN rail, EN 60715
Casing	plastic according to UL94 V-0, light grey
Dimensions	67 x 50 x 46mm
Weight	approx. 80g
Fitting position	vertical
Operating/Storage temperature	-10 to +60°C (+14 to +140°F) / -45 to +80°C (-49 to +176°F)
Operating/Storage humidity	max. 95% RH (non-condensing)
Protection type	IP20
Approvals	-



Connection diagram



Examples of connection

Art. No.	Operating voltage	Setting range
01190.0-00	24VDC (20-28VDC)	0 to +60°C

MECHANICAL HYGROSTAT

MFR 012



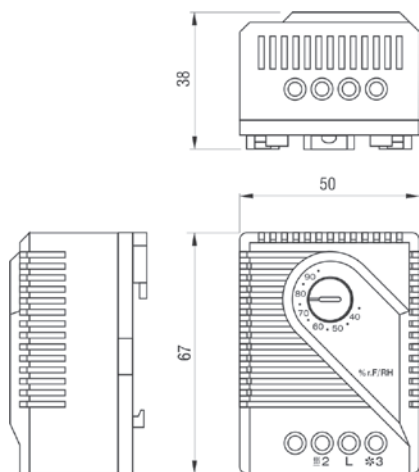
- > Adjustable relative humidity
- > Change-over contact
- > High switching capacity
- > Easily accessible terminals
- > Clip fixing

The electromechanical hygrostat is designed to control enclosure heaters so that the dew point is raised when a critical relative humidity of 65% is exceeded. In this way condensation and corrosion in enclosures with electric/ electronic components is effectively prevented.

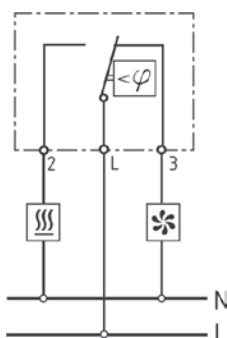


TECHNICAL DATA

Switch difference ¹	4% RH (±3% tolerance)
Permissible air velocity	15m/sec.
Contact type	change-over contact
Service life	> 50,000 cycles
Min. switching capacity	20V AC/DC 100mA
Max. switching capacity	250VAC, 5A DC 20W
Connection	3-pole terminal for 2.5mm ² , clamping torque 0.5Nm max.: rigid wire 2.5mm ² stranded wire (with wire end ferrule) 1.5mm ²
Mounting	clip for 35mm DIN rail, EN 60715
Casing	plastic according to UL94 V-0, light grey
Dimensions	67 x 50 x 38mm
Weight	approx. 60g
Fitting position	variable
Operating/Storage temperature	0 to +60°C (+32 to +140°F) / -40 to +60°C (-40 to +140°F)
Operating/Storage humidity	max. 95% RH (non-condensing)
Protection type	IP20
Approvals	UL File No. E164102

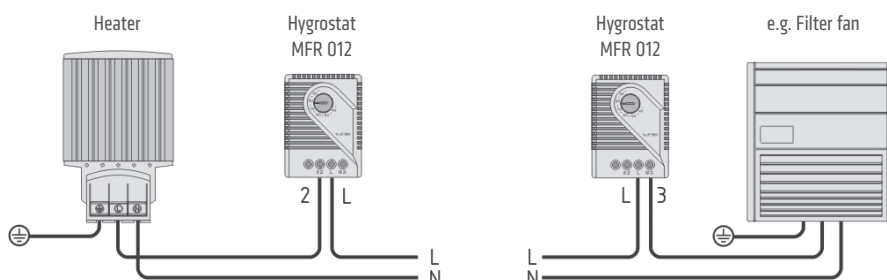


Connection diagram



- Heater
- Filter fan, Cooling equipment, Signal device

¹ at 50% RH



Examples of connection

Art. No.	Setting range
01220.0-00	35 to 95% RH

ELECTRONIC HYGROSTAT

EFR 012



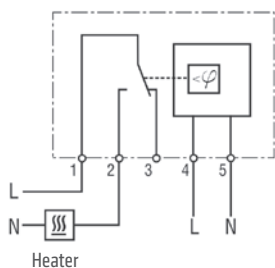
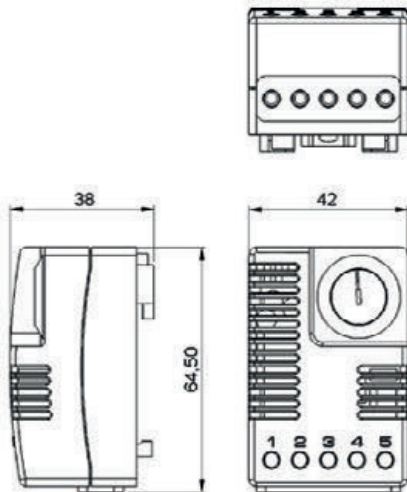
- > Adjustable and pre-set relative humidity
- > Status indicator (LED)
- > High switching capacity
- > Clip fixing
- > Temperature-compensated

The electronic hygrostat senses the relative humidity in an enclosure with electric/electronic components and turns on a heater at the set point, helping prevent the formation of condensation in the enclosure. The LED integrated in the adjustment knob is lit when the connected heater is in operation.

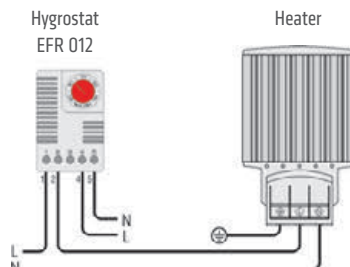


TECHNICAL DATA

Switch difference	5% RH (±3% RH tolerance) at +25°C (+77°F), 50% RH
Reaction time	5 sec.
Contact type	change-over contact (relay)
Service life	> 50,000 cycles
Max. switching capacity (relay output)	240VAC / 120VAC 8 (1.6) A DC 100W at 24VDC
Max. inrush current	AC 16A for 10 sec.
Optical indicator	LED
Connection	5-pole terminal, clamping torque 0.5Nm max.: rigid wire 2.5mm ² stranded wire (with wire end ferrule) 1.5mm ²
Mounting	clip for 35mm DIN rail, EN 60715
Casing	plastic according to UL94 V-0, light grey
Dimensions	64.5 x 42 x 38mm
Weight	approx. 70g
Fitting position	vertical
Operating/Storage temperature	0 to +60°C (+32 to +140°F) / -20 to +70°C (-4 to +158°F)
Operating/Storage humidity	max. 95% RH (non-condensing)
Protection type	IP20



Connection diagram



Example of connection

Art. No.	Operating voltage	Setting range	Approvals
01245.0-00	230VAC, 50/60Hz	40 to 90% RH	VDE + CSA-US
01246.0-00	230VAC, 50/60Hz	65% RH pre-set	VDE + CSA-US
01245.9-00	120VAC, 50/60Hz	40 to 90% RH	CSA-US
01246.9-00	120VAC, 50/60Hz	65% RH pre-set	CSA-US

ELECTRONIC HYGROTHERM

ETF 012



- > Temperature and humidity adjustable
- > Wide voltage range
- > Operating temperature down to -40°C
- > High switching capacity
- > Status indicator (LED)

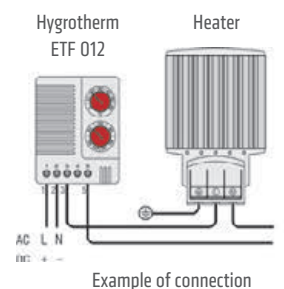
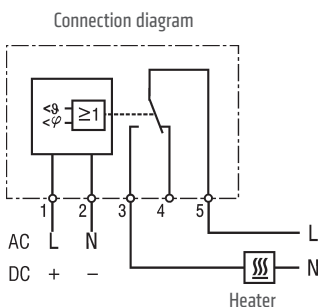
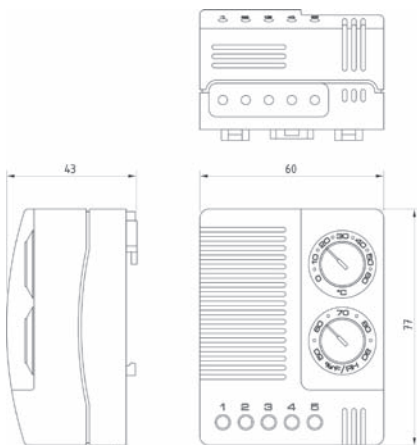
The electronic hygrotherm senses the ambient temperature and relative humidity in an enclosure with electric/electronic components and turns on a heater (or alternatively a fan) at either set point, helping prevent the formation of condensation in the enclosure. Due to its wide voltage range the hygrotherm can be utilised anywhere in the world. The LED integrated in the adjustment knob on the active controller is lit when the connected device is in operation.



TECHNICAL DATA

Switch difference (temperature)	2K (± 1 K tolerance) at +25°C (+77°F), 50% RH
Switch difference (humidity)	4% RH (± 1 % tolerance) at +25°C (+77°F), 50% RH
Reaction time (humidity)	approx. 5 sec.
Contact type	change-over contact (relay)
Service life	VDE: NO/NC > 15,000 cycles UL: NO/NC > 30,000 cycles
Max. switching capacity (relay output)	240VAC, 10 (1.6) A 60VDC, 0.6A ¹
Max. inrush current	30AAC for 10 sec.
Optical indicator	LED
Connection	5-pole terminal, clamping torque 0.5Nm max.: rigid wire 2.5mm ² stranded wire (with wire end ferrule) 1.5mm ²
Mounting	clip for 35mm DIN rail, EN 60715
Casing	plastic according to UL94 V-0, light grey
Dimensions	77 x 60 x 43mm
Weight	approx. 0.2kg
Fitting position	vertical
Operating/Storage temperature	-40 to +60°C (-40 to +140°F)
Operating/Storage humidity	max. 95% RH (non-condensing)
Protection type	IP20
Approvals	VDE + UL File No. E164102

¹ not UL confirmed



Art. No.	Operating voltage	Setting range temperature	Setting range humidity
01230.0-00	100-240VAC, 50/60Hz (min. 90VAC, max. 265VAC)	0 to +60°C	50 to 90% RH
01230.9-00	100-240VAC, 50/60Hz (min. 90VAC, max. 265VAC)	+32 to +140°F	50 to 90% RH
01230.1-00	24-48VDC (min. 20VDC, max. 60VDC)	0 to +60°C	50 to 90% RH

ELECTRONIC HYGROTHERM WITH EXTERNAL SENSOR

ETF 012



- > Temperature and humidity adjustable
- > Wide voltage range
- > Operating temperature down to -40°C
- > High switching capacity
- > With external sensor

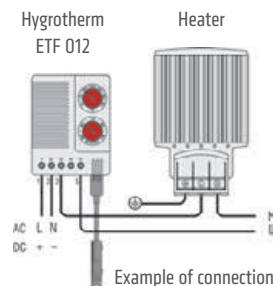
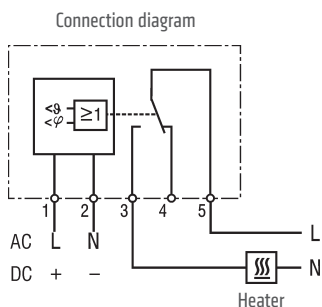
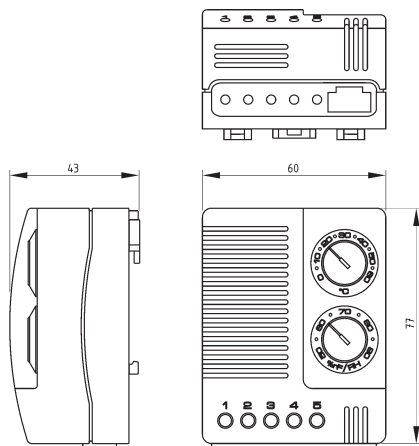
The electronic hygrotherm senses the ambient temperature and relative humidity in an enclosure with electric/electronic components and turns on a heater (or alternatively a fan) at either set point, helping prevent the formation of condensation in the enclosure. Due to its wide voltage range the hygrotherm can be utilised anywhere in the world. The external sensor can be positioned freely anywhere in the enclosure for precise measurements.



TECHNICAL DATA

Switch difference (temperature)	2K (±1K tolerance) at +25°C (+77°F), 50% RH
Switch difference (humidity)	4% RH (±1% tolerance) at +25°C (+77°F), 50% RH
Reaction time (humidity)	approx. 5 sec.
Contact type	change-over contact (relay)
Service life	VDE: NO/NC > 15,000 cycles UL: NO/NC > 30,000 cycles
Max. switching capacity (relay output)	240VAC, 10 (1.6) A 60VDC, 0.6A ¹
Max. inrush current	30AAC for 10 sec.
Optical indicator	LED
Connection	5-pole terminal, clamping torque 0.5Nm max.: rigid wire 2.5mm ² stranded wire (with wire end ferrule) 1.5mm ²
Mounting	clip for 35mm DIN rail, EN 60715
Casing	plastic according to UL94 V-0, light grey
Dimensions	77 x 60 x 43mm
Weight	approx. 0.2kg
Fitting position	vertical
Operating/Storage temperature	-40 to +60°C (-40 to +140°F)
Operating/Storage humidity	max. 95% RH (non-condensing)
Protection type	IP20
Approvals	VDE + UL File No. E164102

¹ not UL confirmed



Art. No. Cable 1m	Art. no. Cable 2m	Operating voltage	Setting range temperature	Setting range humidity
01231.0-00	01231.0-01	100-240VAC, 50/60Hz (min. 90VAC, max. 265VAC)	0 to +60°C	50 to 90% RH
01231.9-00	01231.9-01	100-240VAC, 50/60Hz (min. 90VAC, max. 265VAC)	+32 to +140°F	50 to 90% RH
01231.1-00	01231.1-01	24-48VDC (min. 20VDC, max. 60VDC)	0 to +60°C	50 to 90% RH

SWITCH MODULE

SM 010 | 24VDC and 48VDC



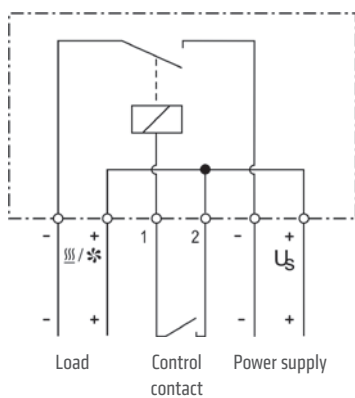
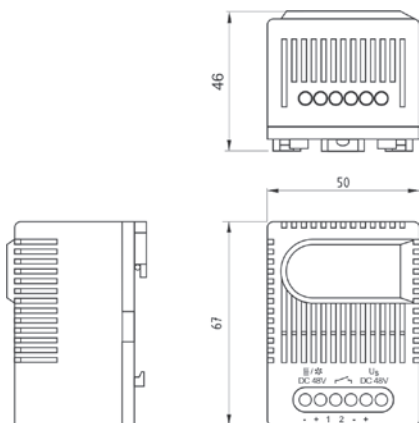
- > High DC switching capacity
- > Variety of applications
- > Compact design
- > Simple connection
- > Clip fixing

The Switch Module is designed for switching DC equipment with high currents. It is controlled via an external, potential-free contact (thermostat or hygrostat) connected between terminals 1 and 2. For switching the Module, the internally generated signal current has to be used. It must be ensured that the external contact can safely switch this signal current. The SM 010 is available in 24VDC and 48VDC versions.

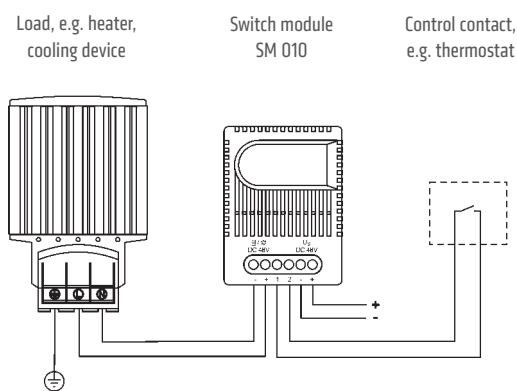


TECHNICAL DATA

Contact type	contact maker normally open (Relay/MOSFET)
Service life	> 100,000 cycles
Max. inrush current	DC 16A
Connection	6-pole terminal, clamping torque 0.5Nm max.: rigid wire 2.5mm ² stranded wire (with wire end ferrule) 1.5mm ²
Mounting	clip for 35mm DIN rail, EN 60715
Casing	plastic according to UL94 V-0, light grey
Dimensions	67 x 50 x 46mm
Weight	approx. 90g
Fitting position	variable
Operating/Storage temperature	-45 to +70°C (-49 to +158°F)
Operating/Storage humidity	max. 95% RH (non-condensing)
Protection type	IP20
Approvals	VDE



Connection diagram



Example of connection

Art. No.	Operating voltage	Max. switching capacity	Signal current
01001.0-00	24VDC (20-28VDC)	28VDC, 16A	13mA at 20VDC / 22mA at 28VDC
01000.0-00	48VDC (38-56VDC)	56VDC, 16A	10mA at 38VDC / 18mA at 56VDC

HAZARDOUS AREA THERMOSTAT

REX 011 | 15°C, 25°C



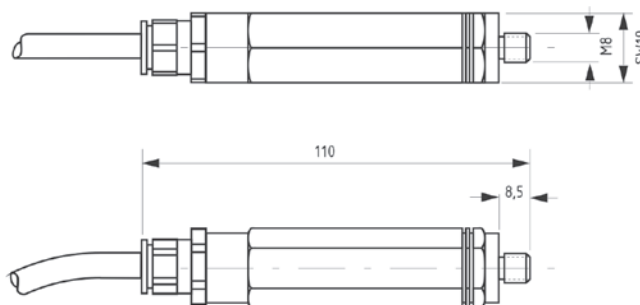
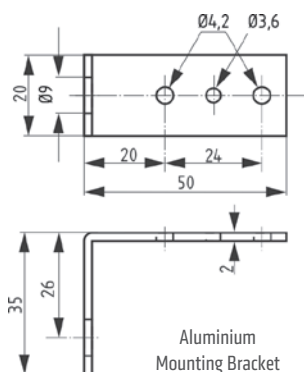
- > Compact design
- > Set temperature
- > High switching capacity

Compact small mechanical thermostat for temperature regulation and monitoring of heaters, for example in transmitter cabinets, control panels and measuring equipment which are deployed in areas with explosion hazard. The special switch construction enables high response accuracy, small switch temperature difference and a very long service life. High switching performance allows direct control of the heaters.



TECHNICAL DATA

Explosion proof according to EN	LCIE (Laboratoire Central des Industries Electriques)
Conformity certificate	01 ATEX 6074/02, LCIE N°06 ATEX Q8011, IECEx LCI 07.0021
Sensor element	thermostatic bimetal
Contact type (1-pole)	opens with rising temperature
Service life	> 100 000 cycles
Max. switching capacity	250VAC, 4 (1) A
Connection	Si HF - JZ 3 x 0.75mm ² , length 1m
Mounting	mounting bracket with nut M8 (see illustration)
Casing	aluminium, black anodised
Dimensions	length 110mm
Weight	approx. 0.2kg
Fitting position	variable
Operating/Storage temperature	-40 to +40°C (-40 to +104°F) / -45 to +70°C (-49 to +158°F)
Protection type/Protection class	IP65 / I (earthed)



Art. No.	Ex protection type	Switch-off temperature	Switch temperature difference
01180.0-00	d IIC T6 - Ex tD A21 IP6X T85°C	+15°C (±4K tolerance)	4K (±1K tolerance)
01181.0-00	d IIC T6 - Ex tD A21 IP6X T85°C	+25°C (±4K tolerance)	4K (±1K tolerance)



LIGHTING



ELECTRONICS DO NOT SLEEP

Our lighting solutions ensure that maintenance on electronic installations can be carried out night and day.

LAMP

LED 025

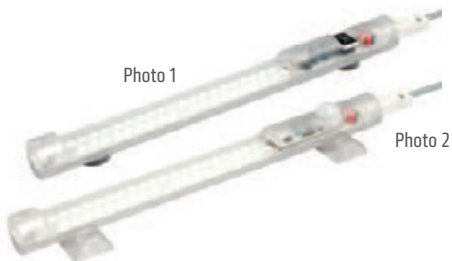


Photo 1: LED 025 with on/off switch and magnet fixing
 Photo 2: LED 025 with movement sensor and screw fixing

- > Wide voltage range
- > Integrated power unit
- > Daisy chain
- > Long-lived and maintenance-free by LED technology
- > Magnet or screw fixing
- > On/off switch or movement sensor

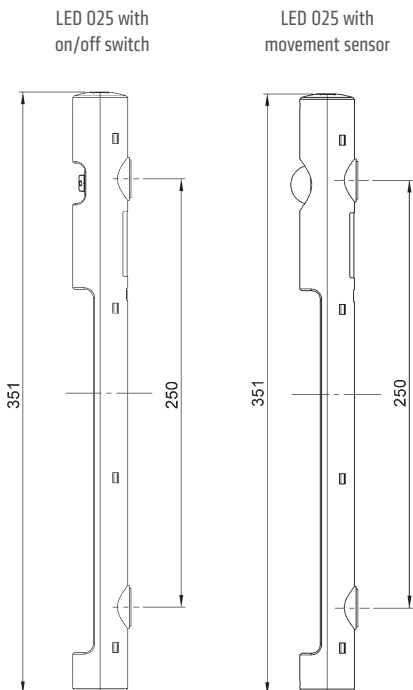
The lamp series LED 025 is suitable for all types of panels and enclosures, especially where space is at a premium. The lamps have a very long service life thanks to the use of LED technology. They are available with powerful non-slip rubberized magnets allowing them to be quickly positioned in any steel enclosure. Alternatively they can be fixed mechanically. The power output allows up to 10 lamps to be connected to each other (daisy chain). Both the power input and output connectors snap lock into their sockets. With the integrated power unit and the plugs the lamp can quickly be connected.



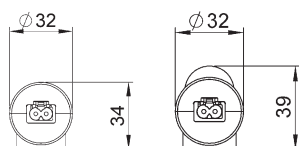
TECHNICAL DATA

Power consumption	max. 5W
Luminosity	290Lm at 120° (870Lm at 360° or equivalent 75W light bulb)
Lamp type	LED, angle of radiation 120° light color: daylight, color temperature: 6,500K
Service life	60,000h at +20°C (+68°F)
Connection	2-pole connector with snap lock AC: max. 2.5A / 240VAC, color: white DC: max. 2.5A / 60VDC, color: blue
Mounting	magnet fixing or screw fixing (M5), torque 2Nm max., 250mm centers
Casing	plastic, transparent
Dimensions	see drawings
Operating/Storage temperature	-30 to +60°C (-22 to +140°F) / -40 to +85°C (-40 to +185°F)
Operating/Storage humidity	max. 90% RH (non-condensing)
Protection type/Protection class	IP20 / II (double insulated)
Approvals	UL File No. E234324, VDE

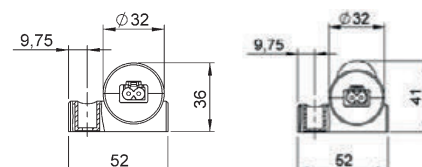
Important note: Connectors and cables for electrical connection are not included in the delivery. These parts can be ordered separately (see Accessories, next page). Sets, consisting of lamp and accessories, are available on request.



Side view magnet fixing



Side view screw fixing



Art. No. Magnet fixing	Art. No. Screw fixing	Operating voltage	Switch	Weight (approx.)
02540.0-00	02540.0-01	100-240VAC, 50/60Hz (min. 90VAC, max. 265VAC)	on/off light switch	0.2kg
02540.1-00	02540.1-01	24-48VDC (min. 20VDC, max. 60VDC)	on/off light switch	0.2kg
02541.0-00	02541.0-01	100-240VAC, 50/60Hz (min. 90VAC, max. 265VAC)	PIR movement sensor ¹	0.2kg
02541.1-00	02541.1-01	24-48VDC (min. 20VDC, max. 60VDC)	PIR movement sensor ¹	0.2kg

¹ approx. 5 min. fixed switch-on duration

CONNECTION CABLE WITH FEMALE CONNECTOR AND OPEN END



Photo: Connection cable, Art. No. 244356

Art. No.	Model	Length	Voltage type	Color	Use for	Approvals ²
244356	connection cable 2 x 1.5mm ² with female connector	2.0m	AC	connector: white; cable: white	power input	VDE
244357	connection cable 2 x AWG 16 with female connector	2.0m	AC	connector: white; cable: white	power input	VDE + UL
244360	connection cable 2 x 1.5mm ² with female connector	2.0m	DC	connector: blue; cable: white	power input	VDE
244361	connection cable 2 x AWG 16 with female connector	2.0m	DC	connector: blue; cable: white	power input	VDE + UL

² applies only to the individual components (cable and connectors)

EXTENSION CABLE WITH 2 CONNECTORS FOR DAISY CHAIN CONNECTION



Photo: Extension cable, Art. No. 244358

Art. No.	Model	Length	Voltage type	Color	Use for	Approvals ²
244358	extension cable 2 x 1.5mm ² with 2 connectors	1.0m	AC	connectors: white; cable: white	daisy chain	VDE
244359	extension cable 2 x AWG 16 with 2 connectors	1.0m	AC	connectors: white; cable: white	daisy chain	VDE + UL
244362	extension cable 2 x 1.5mm ² with 2 connectors	1.0m	DC	connectors: blue; cable: white	daisy chain	VDE
244363	extension cable 2 x AWG 16 with 2 connectors	1.0m	DC	connectors: blue; cable: white	daisy chain	VDE + UL

² applies only to the individual components (cable and connectors)

FEMALE / MALE CONNECTORS



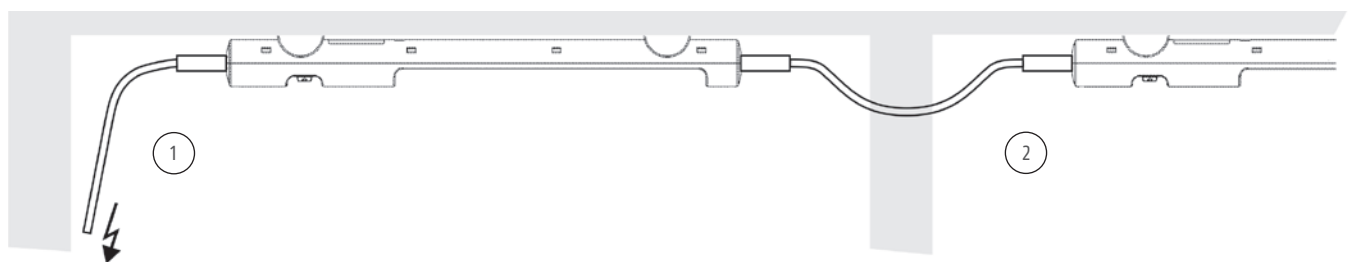
Photo: Female connector, Art. No. 264057



Photo: Male connector, Art. No. 264058

Art. No.	Model	Voltage type	Color	Use for	Approvals
264057	female connector	AC	white	power input	VDE + UL
264058	male connector	AC	white	power output	VDE + UL
264059	female connector	DC	blue	power input	VDE + UL
264060	male connector	DC	blue	power output	VDE + UL

CONNECTION EXAMPLE



This illustration shows the LED 025 lamp in a daisy chain application. The lamps are conveniently connected via quick connection plugs – up to 10 lamps max. can be daisy-chained this way. The snap lock connectors ensure a stable electrical connection even if subjected to heavy vibration. The connection example shows a 230VAC application, using the following cables: connection cable with female connector, Art. No. 244356 (1); daisy chain extension cable with 2 connectors, Art. No. 244358 (2).

Female/male connectors are also available to assemble cables in non-standard lengths.

SLIMLINE LAMP WITH ON/OFF SWITCH

SL 025



- > Slim casing
- > Electronic ballast
- > Lamp without/with electrical socket (choice of sockets)
- > Magnet fixing (option)
- > Energy saving lamp
- > On/Off switch

The flat slimline lamp SL 025 is suitable for all types of panels and enclosures, especially where space is at a premium. The lamp can be mounted on its narrow or broad surface using screws. It is also available with a magnet which allows it to be fitted quickly in any position in a steel enclosure. Both versions are available with an integrated electrical socket enabling the use of additional appliances.

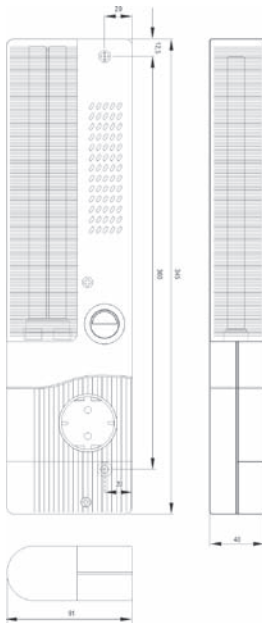
Photo: Slimline lamp with on/off switch, with integrated electric socket (Germany), Art. No. 02520.0-00



TECHNICAL DATA

Power consumption	11W
Luminosity	900Lm (equals 75W light bulb)
Lamp type	energy saving lamp, 2G7 socket
Service life	10,000h
Switch	on/off light switch
Connection	terminal 2.5mm ² with cable clamp, torque 0.8Nm max.
Mounting	screw fixing, M5, 300mm centers magnet fixing (optional)
Casing	plastic according to UL94 V-0, light grey
Dimensions	345 x 91 x 40mm
Fitting position	narrow surface/broad surface
Operating/Storage temperature	-20 to +50°C (-4 to +122°F) / -45 to +70°C (-49 to +158°F)
Operating/Storage humidity	max. 90% RH (non-condensing)
Protection type	IP20

Note: The slimline lamp SL 025 is also available with a 19" front panel, 24VDC to 48VDC on request



Art. No.	Model	Operating voltage	Socket	Nominal current	Weight (approx.)	Protection class	Approvals
02520.0-00	without magnet	230VAC, 50/60Hz	Germany/Russia (1)	16.0A	0.4kg	I (earthed)	VDE
02520.1-01	with magnet	230VAC, 50/60Hz	Germany/Russia (1)	16.0A	0.5kg	I (earthed)	VDE
02521.0-00	without magnet	230VAC, 50/60Hz	F/PL/CZ/SK (2)	16.0A	0.4kg	I (earthed)	VDE
02521.1-04	with magnet	230VAC, 50/60Hz	F/PL/CZ/SK (2)	16.0A	0.5kg	I (earthed)	VDE
02522.0-00	without magnet	230VAC, 50/60Hz	Switzerland (3)	10.0A	0.4kg	I (earthed)	VDE
02522.1-01	with magnet	230VAC, 50/60Hz	Switzerland (3)	10.0A	0.5kg	I (earthed)	VDE
02523.0-00	without magnet	230VAC, 50/60Hz	UK/Ireland (4)	13.0A	0.4kg	I (earthed)	VDE
02523.1-05	with magnet	230VAC, 50/60Hz	UK/Ireland (4)	13.0A	0.5kg	I (earthed)	VDE
02524.0-01	without magnet	120VAC, 50/60Hz	USA/Canada (5)	15.0A	0.4kg	I (earthed)	UL File No. E234324
02524.1-05	with magnet	120VAC, 50/60Hz	USA/Canada (5)	15.0A	0.5kg	I (earthed)	UL File No. E234324
02527.0-00	without magnet	230VAC, 50/60Hz	none	-	0.4kg	II (double insulated)	VDE + UL File No. E234324
02527.1-14	with magnet	230VAC, 50/60Hz	none	-	0.5kg	II (double insulated)	VDE
02527.0-10	without magnet	120VAC, 50/60Hz	none	-	0.4kg	II (double insulated)	UL File No. E234324
02527.1-11	with magnet	120VAC, 50/60Hz	none	-	0.5kg	II (double insulated)	UL File No. E234324

SLIMLINE LAMP WITH MOVEMENT SENSOR

SL 025



Photo: Slimline lamp with movement sensor and with integrated electric socket (Germany), Art. No. 02520.0-03

- > Slim casing
- > Electronic ballast
- > Lamp without/with electrical socket (choice of sockets)
- > Magnet fixing (option)
- > Energy saving lamp
- > Automatic switching

The flat slimline lamp SL 025 with movement sensor is suitable for all types of panels and enclosures, especially where space is at a premium. The lamp can be mounted on its narrow or broad surface using screws. It is also available with a magnet which allows it to be fitted quickly in any position in a steel enclosure. Both versions are available with an integrated electrical socket enabling the use of additional appliances. The movement sensor substitutes a door contact switch.

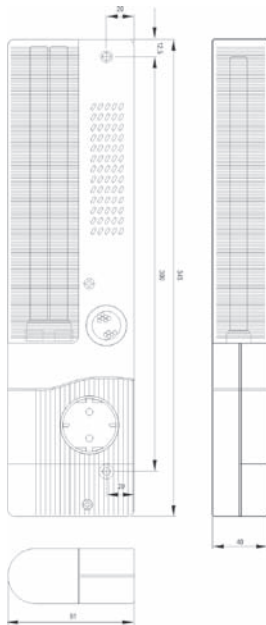


TECHNICAL DATA

Power consumption	11W
Luminosity	900Lm (equals 75W light bulb)
Lamp type	energy saving lamp, 2G7 socket
Service life	10,000h
Switch	PIR movement sensor, approx. 6 min. fixed switch-on duration
Connection	terminal 2.5mm ² with cable clamp, torque 0.8Nm max.
Mounting	screw fixing, M5, 300mm centers, magnet fixing (optional)
Casing	plastic according to UL94 V-0, light grey
Dimensions	345 x 91 x 40mm
Fitting position	narrow surface/broad surface
Operating/Storage temperature	-20 to +50°C (-4 to +122°F) / -45 to +70°C (-49 to +158°F)
Operating/Storage humidity	max. 90% RH (non-condensing)
Protection type	IP20

Note: The slimline lamp SL 025 is also available with a 19" front panel, 24VDC to 48VDC on request

The PIR movement sensor switches the lighting on when the enclosure door is opened. The switch-on time is reset with every further registered movement. The movement sensor does not react to movement on the other side of glass and so can be used in enclosures with glass doors.



Art. No.	Model	Operating voltage	Socket	Nominal current	Weight (approx.)	Protection class	Approvals
02520.0-03	without magnet	230VAC, 50/60Hz	Germany/Russia (1)	16A	0.4kg	I (earthed)	VDE
02520.1-04	with magnet	230VAC, 50/60Hz	Germany/Russia (1)	16A	0.5kg	I (earthed)	VDE
02521.0-03	without magnet	230VAC, 50/60Hz	F/PL/CZ/SK (2)	16A	0.4kg	I (earthed)	VDE
02521.1-05	with magnet	230VAC, 50/60Hz	F/PL/CZ/SK (2)	16A	0.5kg	I (earthed)	VDE
02522.0-03	without magnet	230VAC, 50/60Hz	Switzerland (3)	10A	0.4kg	I (earthed)	VDE
02522.1-04	with magnet	230VAC, 50/60Hz	Switzerland (3)	10A	0.5kg	I (earthed)	VDE
02523.0-03	without magnet	230VAC, 50/60Hz	UK/Ireland (4)	13A	0.4kg	I (earthed)	VDE
02523.1-04	with magnet	230VAC, 50/60Hz	UK/Ireland (4)	13A	0.5kg	I (earthed)	VDE
02524.0-04	without magnet	120VAC, 50/60Hz	USA/Canada (5)	15A	0.4kg	I (earthed)	UL File No. E234324
02524.1-06	with magnet	120VAC, 50/60Hz	USA/Canada (5)	15A	0.5kg	I (earthed)	UL File No. E234324
02527.0-04	without magnet	230VAC, 50/60Hz	none	-	0.4kg	II (double insulated)	VDE + UL File No. E234324
02527.1-15	with magnet	230VAC, 50/60Hz	none	-	0.5kg	II (double insulated)	VDE
02527.0-12	without magnet	120VAC, 50/60Hz	none	-	0.4kg	II (double insulated)	UL File No. E234324
02527.1-17	with magnet	120VAC, 50/60Hz	none	-	0.5kg	II (double insulated)	UL File No. E234324

COMPACT LAMP

KL 025



Lamp shown with protective plastic cover (see Accessories)

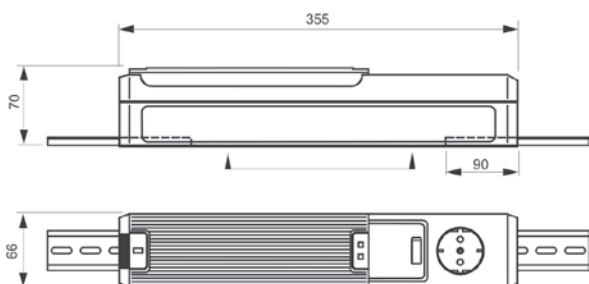
- > Magnetic or optional DIN rail mounting
- > Energy-saving lamp
- > Lamp without/with electrical socket (choice of sockets)
- > On/Off switch

The compact lamp KL 025 was especially designed for use in enclosures with electric/electronic components. A powerful magnet enables the lamp to be mounted freely in any desired position in metal enclosures saving time and installation problems. The integrated electrical socket allows the use of additional appliances.



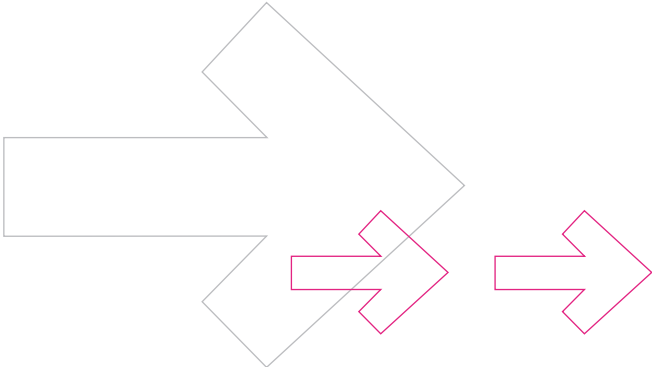
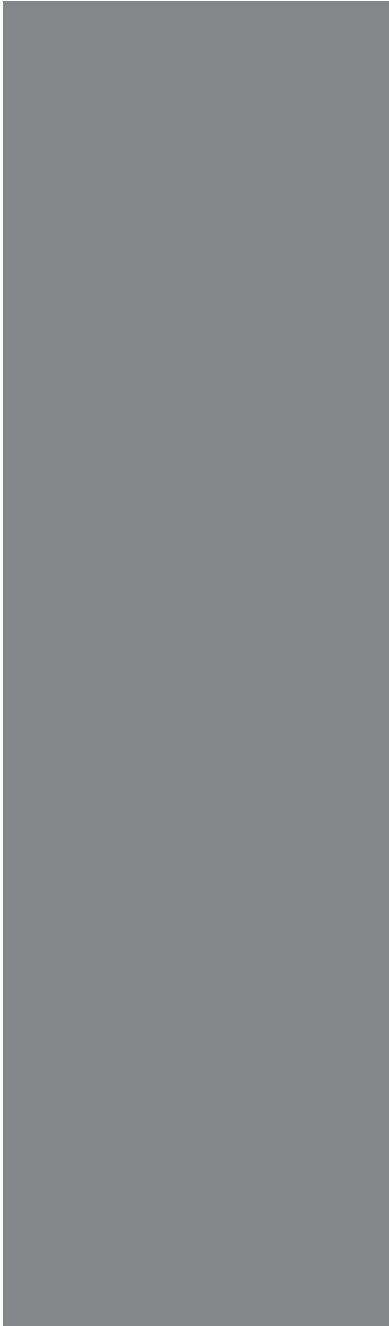
TECHNICAL DATA

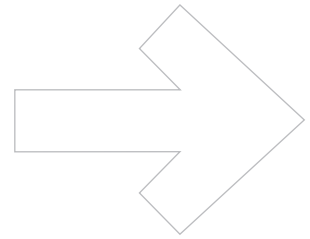
Luminosity	900Lm (equals light bulb 75W/230VAC, 60W/120VAC)
Lamp type	compact fluorescent lamp with integral starter
Service life	5,000h
Switch	on/off light switch
Connection	3-pole terminal 2.5mm ² with cable clamp, torque 0.8Nm max.
Mounting	magnet fixing
Casing	plastic, light grey
Dimensions	355 x 65 x 70mm
Weight	approx. 1kg
Fitting position	variable
Operating/Storage temperature	-20 to +50°C (-4 to +122°F) / -45 to +70°C (-49 to +158°F)
Operating/Storage humidity	max. 90% RH (non-condensing)
Protection type	IP20
Accessories	lamp cover, Art. No. 09520.0-00 (see photo)



In plastic, aluminium or stainless steel cabinets the lamp can be fixed using screws together with inserted 35mm DIN rail sections.

Art. No.	Operating voltage	Socket	Power consumption	Nominal current	Protection type	Approvals
02500.0-00	230VAC, 50Hz	Germany/Russia (1)	11W	16A	I (earthed)	VDE
02500.0-07	230VAC, 50Hz	none	11W	-	II (double insulated)	-
02501.0-00	230VAC, 50Hz	F/PL/CZ/SK (2)	11W	16A	I (earthed)	-
02502.0-00	230VAC, 50Hz	Switzerland (3)	11W	10A	I (earthed)	-
02510.0-00	230VAC, 50Hz	UK/Ireland (4)	11W	13A	I (earthed)	-
02512.0-00	230VAC, 50Hz	Italy (6)	11W	16A	I (earthed)	-
02505.9-00	120VAC, 60Hz	USA/Canada (5)	9W	15A	I (earthed)	-
02505.9-01	120VAC, 60Hz	none	9W	-	II (double insulated)	-





ACCESSORIES



HARMONY AND DIVERSITY

Accessory products from STEGO complement the climatization portfolio appropriately and offer more specific solutions for individual needs.

ELECTRICAL SOCKET

SD 035



- > Quickly connected
- > Available with or without fuse

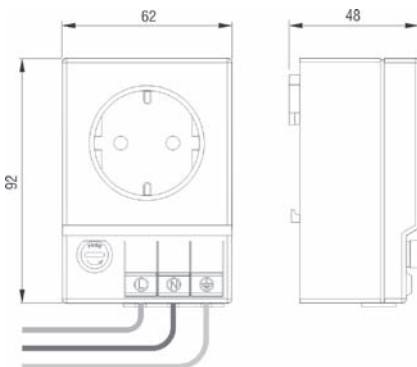
- > Clip fixing

The DIN rail mounted electrical socket can be quickly fitted and connected in enclosures allowing the use of auxiliary products such as hand lamps, measuring devices, soldering irons etc. The unit is available with and without fuse and in many world socket standards.

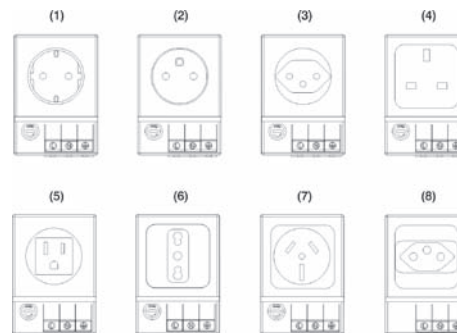


TECHNICAL DATA

Connection	3 x pressure clamps for stranded and rigid wire 0.5 - 2.5mm ²
Mounting	clip for 35mm DIN rail, EN 60715
Casing	plastic according to UL94 V-0, light grey
Dimensions	92 x 62 x 48mm
Weight	approx. 0.2kg
Fitting position	variable
Operating/Storage temperature	-45 to +70°C (-49 to +158°F)
Operating/Storage humidity	max. 90% RH (non-condensing)
Protection type/Protection class	IP20 / I (earthed)



Connections from mains



Art. No.	Operating voltage max.	Socket	Model	Nominal current	Approvals
03500.0-00	250VAC	Germany/Russia (1)	with fuse ¹	6.3A	-
03500.0-01	250VAC	Germany/Russia (1)	without fuse	16.0A	-
03501.0-00	250VAC	F/PL/CZ/SK (2)	with fuse ¹	6.3A	-
03501.0-01	250VAC	F/PL/CZ/SK (2)	without fuse	16.0A	-
03502.0-00	250VAC	Switzerland (3)	with fuse ¹	6.3A	-
03502.0-01	250VAC	Switzerland (3)	without fuse	10.0A	-
03503.0-00	250VAC	UK/Ireland (4)	with fuse ¹	6.3A	-
03503.0-01	250VAC	UK/Ireland (4)	without fuse	13.0A	-
03504.0-00	125VAC	USA/Canada (5)	with fuse ¹	6.3A	UL File No. E222026
03504.0-01	125VAC	USA/Canada (5)	without fuse	15.0A	UL File No. E222026
03505.0-00	250VAC	Italy (6)	with fuse ¹	6.3A	-
03505.0-01	250VAC	Italy (6)	without fuse	16.0A	-
03507.0-01	240VAC	Australia (7)	without fuse	10.0A	-
03508.0-01	250VAC	Brazil (8)	without fuse	10.0A	-

¹ fuse Ø 5 x 20mm

PRESSURE COMPENSATION DEVICE

DA 084 | IP55



Photo: Inside view

> High degree of protection

> Easy to install

It has become more and more important to provide a protected enclosure environment for valuable and crucial electrical and electronic components. In a tightly closed enclosure, pressure differentials can occur during extreme temperature variations. The specially designed pressure compensation device DA 084 permits a controlled change in pressure and avoids the entering of dust and water. The pressure compensation device is suitable for the use in enclosures and housings in accordance with DIN EN 62208.

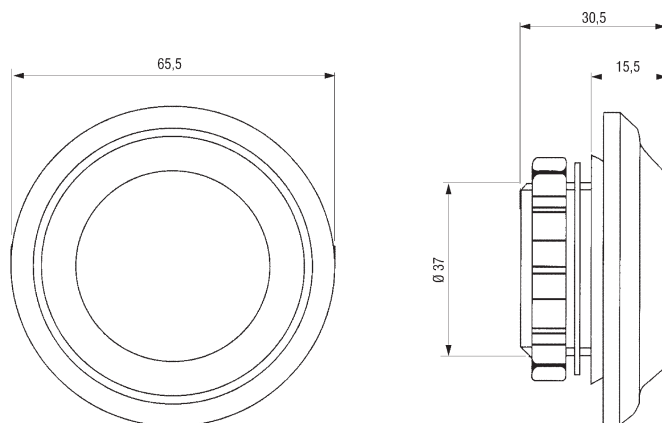


TECHNICAL DATA

Mounting	PG 29 thread with union nut
Torque	5Nm (max. 10Nm)
Material	plastic according to UL94 V-0, light grey weather proof and UV light resistant according to UL746C (f1)
Sealing	sealing gasket NBR
Air interface	approx. 1.5cm ²
Dimensions	Ø 65,5 x 30,5mm
Fitting position	vertical ¹
Operating/Storage temperature	-45 to +70°C (-49 to +158°F)

¹ Protection type is restricted to IP54 if fitting position of DA 084 is not vertical.

Installation: Make cut-out Ø 37*1mm in enclosure wall and mount pressure compensation device with nut. Please make sure that the sealing gasket is put in place on the outer side panel of the enclosure. For optimal pressure compensation we recommend to use two devices on opposite sides towards the top of the enclosure.



Art. No.	Protection type	1 packing unit	Weight (approx.)
08400.0-03	IP55	2 pieces	62g (31g/piece)

PRESSURE COMPENSATION DEVICE

DA 284 | IP66



Photo: Inside view

- > High degree of protection
- > Waterproof membrane

- > Easy to install

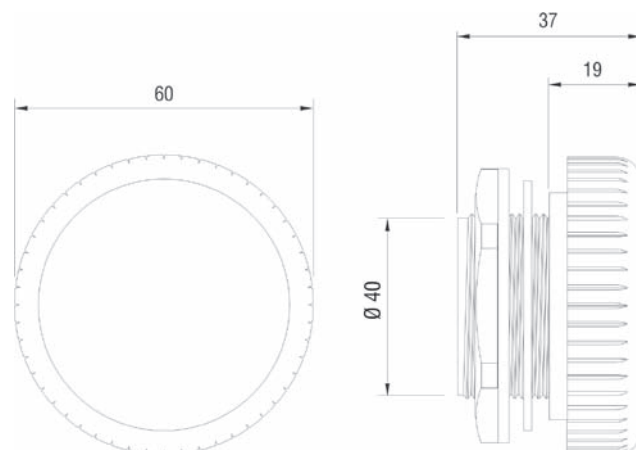
Pressure differentials in enclosures with a high degree of protection are a result of internal and external temperature changes. In the case of negative pressure or partial vacuum, dust and humidity can enter the enclosure through the door seal. When the air inside the enclosure cools down, condensation may occur because the humidity cannot escape the enclosure. The easy-to-install pressure compensation device DA 284 provides compensation of pressure at a protection degree of IP66. Even with a slight overpressure, a waterproof membrane inside the plug allows the humidity to escape whilst blocking water and dirt from entering the enclosure.



TECHNICAL DATA

Mounting	thread M40 x 1.5 with nut
Torque	5Nm (max. 10Nm)
Depth in enclosure	approx. 16mm
Sealing	sealing gasket NBR
Filter	waterproof membrane
Air permeability	1200l/h at a pressure difference of min. 70mbar
Dimensions	Ø 60 x 37mm
Fitting position	variable
Operating/Storage temperature	-35 to +70°C (-31 to +158°F)

Installation: Make cut-out Ø 40.5^{+0.5}mm in enclosure wall and mount pressure compensation device with nut. Please make sure that the sealing gasket is put in place on the outer side panel of the enclosure. For optimal pressure compensation we recommend to use two devices on opposite sides towards the top of the enclosure.



Art. No.	Material	Protection type	1 packing unit	Weight (approx.)	Approvals
28400.0-00	plastic, light grey	IP66 (EN 60529) / IPX9K (EN 40050-9)	2 pieces	90g (45g/piece)	-
28400.0-01	plastic, light grey	IP66 (EN 60529) / IPX9K (EN 40050-9)	1 piece	45g	-
28405.0-00	plastic according to UL94 V-0, light grey; weather proof and UV light resistant according to UL746C (f1)	IP66 (EN 60529) / IPX9K (EN 40050-9)	2 pieces	120g (60g/piece)	UL File No. E234324

PRESSURE COMPENSATION DEVICE (STAINLESS STEEL)

DA 284 | IP66



Photo: Inside view

- > High degree of protection
- > Waterproof membrane

- > Corrosion resistant
- > Food safe

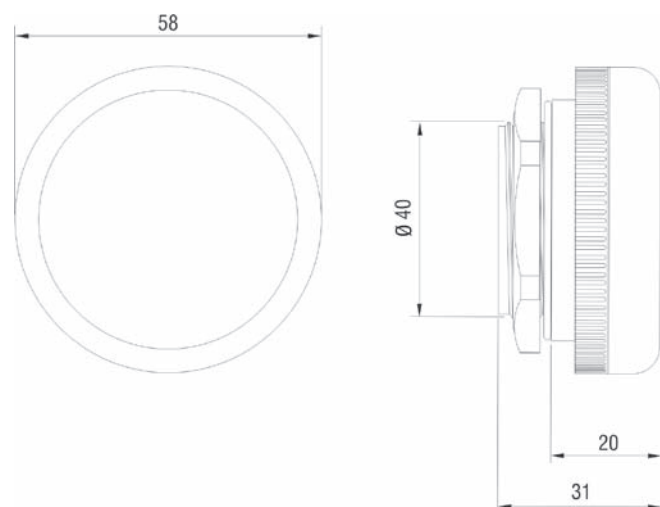
Pressure differentials in enclosures with a high degree of protection are a result of internal and external temperature changes. In the case of negative pressure or partial vacuum, dust and humidity can enter the enclosure through the door seal. When the air inside the enclosure cools down, condensation may occur because the humidity cannot escape the enclosure. The easy-to-install pressure compensation device DA 284 provides compensation of pressure at a protection degree of IP66. Even with a slight overpressure, a waterproof membrane inside the plug allows the humidity to escape whilst blocking water and dirt from entering the enclosure.



TECHNICAL DATA

Mounting	thread M40 x 1.5 with nut
Torque	5Nm (max. 10Nm)
Depth in enclosure	approx. 9mm
Material	stainless steel V2A (DIN 1.4305 / AISI 303)
Sealing	sealing gasket NBR
Filter	waterproof membrane
Air permeability	1200l/h at a pressure difference of min. 70mbar
Dimensions	Ø 58 x 31mm
Fitting position	variable
Operating/Storage temperature	-45 to +80°C (-49 to +176°F)

Installation: Make cut-out Ø 40.5^{+0.5}mm in enclosure wall and mount pressure compensation device with nut. Please make sure that the sealing gasket is put in place on the outer side panel of the enclosure. For optimal pressure compensation we recommend to use two devices on opposite sides towards the top of the enclosure.



Art. No.	Protection type	1 packaging unit	Weight (approx.)
28401.0-00	IP66 (EN 60529) / IPX9K (EN 40050-9)	1 piece	160g

DRAINAGE DEVICE

DD 084 | IP66 / IP67 / IP69K



Photo: Inside view

- > High degree of protection
- > Good drainage performance
- > Easy to install

- > Robust, weather and UV-light protected housing

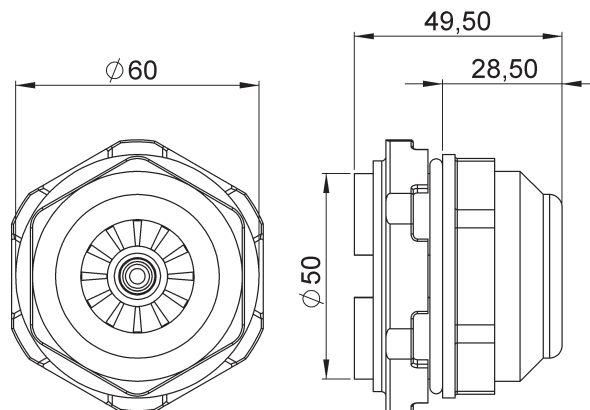
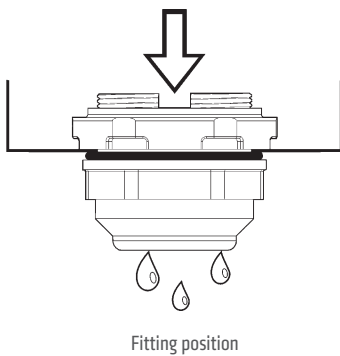
Condensate occurs in enclosures and housings with high protection type by variations in temperature. The use of a drainage device allows the conveying of the condensate without losing the maximum protection type of IP66. The water permeable membrane makes sure the drainage of the enclosure by the capillary attraction. The construction prevents the infiltration of splash water into the enclosure.



TECHNICAL DATA

Mounting	thread M50 x 1.5 with nut (wrench size 60mm, housing 50mm)
Torque	6Nm max.
Depth in enclosure	max. 17.5mm
Material	plastic according to UL94 V-0, umbra grey, weather proof and UV light resistant according UL746C (f1)
Water entry height	0mm (at 0.5mm wall thickness)
Sealing	sealing gasket NBR
Water flow-through	approx. 200 ml/h at a water column of 5mm
Dimensions	Ø 60 x 49.5 mm
Fitting position	vertical, lowest point
Operating/Storage temperature	-45 to +70°C (-49 to +158°F)

Installation: Make cut-out Ø 50.5^{+0.5}mm in enclosure bottom and mount drainage device with nut. Please make sure that the sealing gasket is put in place on the outer side panel of the enclosure and the hole is free of burrs.



Art. No.	Protection type	Enclosure wall thickness	1 package unit	Weight (approx.)
08410.0-00	IP66 / IP67 (EN 60529) / IP69K (EN 40050-9)	0.5 - 5.5mm	1 piece	60g

SELF-ADHESIVE APPLIANCE HOLDER STEGOFIX

SF 095



- > Direct fixing of small appliances and 35mm DIN rails
- > Simple to mount
- > Self-adhesive

With STEGOFIX small appliances can be mounted in enclosures significantly quicker, easier and more economically than before, without drilling holes. Mounting DIN rails is a simple matter with STEGOFIX. Longer rails are mounted on several STEGOFIX units and joining two rails is also not a problem. Subsequent changes and the mounting of additional appliances can be carried out with ease – even in confined spaces. STEGOFIX is a self-adhesive plastic unit with an adhesion power which will bear a continuous load of 500g. The high-performance industrial adhesive band is also non-ageing and designed with safety tolerances.



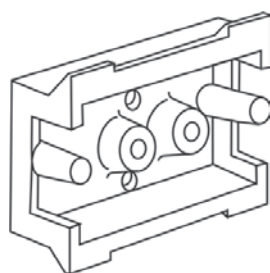
TECHNICAL DATA

Load	500g after a 24h waiting period ¹
Mounting	self-adhesive (non-ageing, high-performance adhesive band)
Material	plastic according to UL94 V-0
Dimensions	43 x 38 x 14mm
Screw pitch	12.8mm, Ø 3.6mm; for perforated 35mm DIN rails
Operating/Storage temperature	-45 to +70°C (-49 to +158°F)

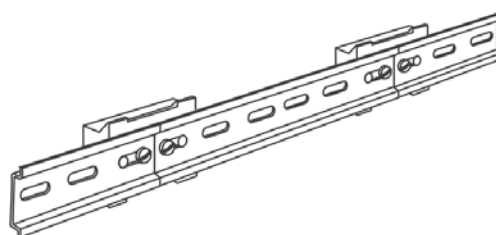
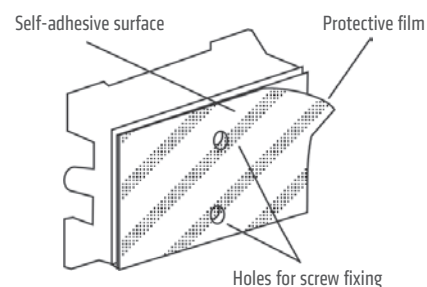
¹ depending on the conditions of use (e.g. surface condition, size of the device to be mounted, etc.) higher loads were achieved.

Installation: STEGOFIX can only be mounted on smooth surfaces, e.g. metals, lacquered surfaces and plastics (except polyethylene, polypropylene and rubber). The surfaces must be dry, free from dust, oil, separating agents and other contamination.

Application examples



STEGOFIX SF 095



Art. No.	1 packing unit	Weight (approx.)
09510.0-01	5 pieces	60g (12g/pc.)

LOCATIONS

THE FAST TRACK TO STEGO



STEGO is represented globally and proud to offer its customers maximum availability, personal visits and consultations. With 12 locations and more than 200 sales partners worldwide, customer service is our top priority. Whenever you need support in matters of enclosure climatisation and thermal management – your STEGO contact is not far away.

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