

Anticondensation Heaters

Application

Enclosure heaters are often necessary to prevent failures or corrosion caused by low temperatures or high humidity inside the enclosure. Such conditions are likely to occur when ambient temperature is low and the equipment inside the enclosure is not powered or fails to dissipate enough heat to keep enclosure temperature above the minimum threshold. Outdoor enclosures, for instance, are almost always in such conditions.

Safety

According to the type of heater, surface temperature is limited either by a PTC or by an over temperature safety switch. This allows a safe operation and a self-adjusted heating power. All heaters are in Class II, except FSHT and FPH series in Class I.

Wide range of solutions

Alfa Electric offers a wide range of solutions, all for DIN rail mounting:

- HT** – PTC heaters with connection on terminals, 25-150W
- STHT** – PTC heaters with connection on terminals, 25-150W
- FSHT** – Resistor heaters, fan assisted, 250-750W
- TMX** – PTC heaters, fan assisted, 150-600W
- TMC** – PTC heaters, fan assisted, 200-350W
- FPH** – PTC heaters, fan assisted, 1200-1500W
- MHT** – PTC mini heaters, 25-50W

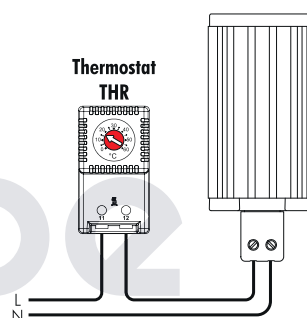
Fast installation

Installation is fast and simple. All units are designed for fast mounting on 35mm DIN EN 50022 rail.

ANTICONDENSATION HEATERS SELECTION WITH WATT-A-CALCULATOR



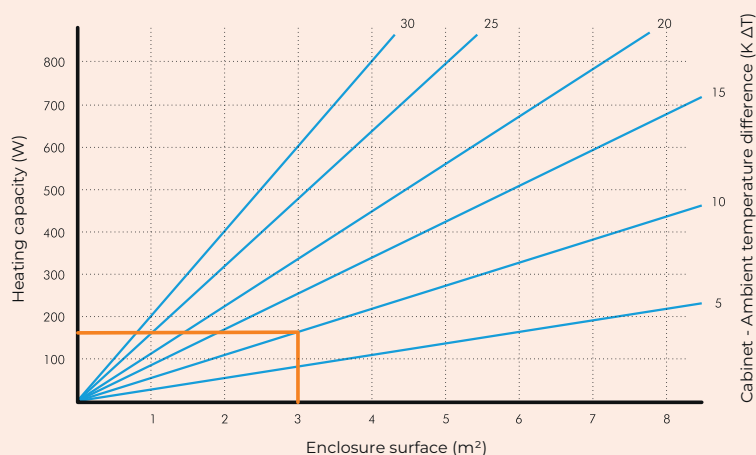
Watt-a-Calculator is a selection software that makes the best model to the specific customer application. Watt-a-Calculator is available on Alfaelectric web site. Please visit it and follow the easy instructions to find the solutions for you.
www.alfaelectric.com/wattcalc



Example:
Enclosure surface
Temperature difference
Heating capacity required
Possible heater solutions

3m²
10K
170W
n°2 HT100
n°1 TMX250
n°1 FSHT250

HEATING PERFORMANCE DIAGRAM



Specifications, values and drawings are subject to change without notice.



HT.000

COMPACT PTC HEATERS

Compact PTC heaters series with minimum DIN rail foot-print. Terminal connection.

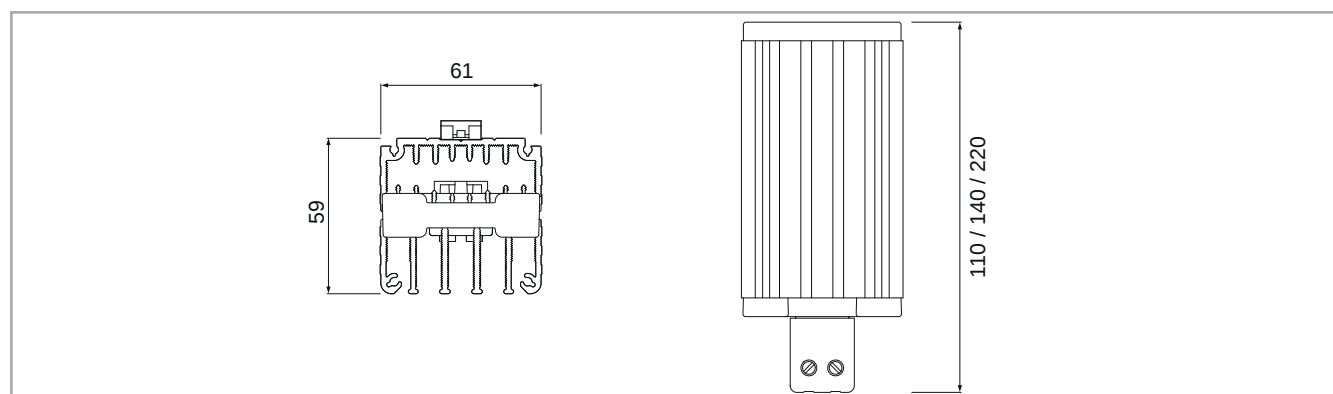


FEATURES	Unit	HT25.000	HT50.000	HT75.000	HT100.000	HT150.000
Heating Capacity*	W	25	50	75	100	150
Power supply	V	120-240V AC/ DC				
Inrush current	A	2.5	3.5	4	5	9.5
Delayed fuse (advised)	A	4	4	6.3	8	10
Heating element type	-	PTC resistor, self-regulation				
Electrical connections	-	screw terminals for stranded or rigid wire 2.5 mm ²				
Protection class	-	Class II				
Protection degree EN60529	-	IP20				
Operating temperature	°C (°F)	-45 / +70 (-49 / +158)				
Storage temperature	°C (°F)	-45 / +80 (-49 / +176)				
Radiator	-	Extruded aluminium profile				
Mounting	-	Clip for mounting on DIN rail 35 mm EN50022				
Installation position	-	Best efficiency in vertical position				
Dimensions HxWxD	mm	110x61x59		140x61x59		220x61x59
Weight (with packaging)	Kg	0.25 (0.28)		0.32 (0.36)		0.57 (0.62)
Conformity/Certification	-	CE – UL  File n. E301228				

*at 10°C (50°F) ambient temperature

Accessories

Thermostat NC 0-60°C	THR2
Double thermostat NC 0-60°C NO 0-60°	THR22
Hygrothermostat 0-60°C 20-90%RH	ETUH22.AA0
Hygrostat 10-90%RH	MUH



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HT VDC

COMPACT PTC HEATERS, 24 or 48VDC

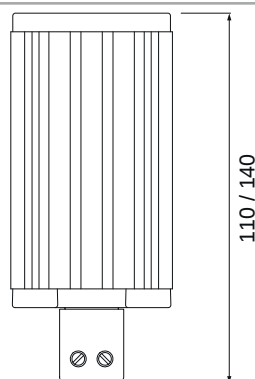
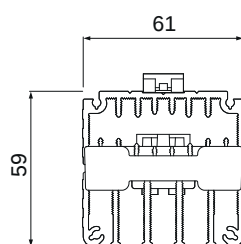
Compact PTC heaters series with minimum DIN rail foot-print. Terminal connection.

Voltage supply 24 or 48V AC/DC.



FEATURES	Unit	HT50.240	HT100.240	HT100.480
Heating Capacity*	W	50	100	100
Power supply	V	24V AC/DC		48V AC/DC
Heating element type	-	PTC resistor, self-regulation		
Electrical connections	-	screw terminals for stranded or rigid wire 2.5 mm ²		
Protection class	-	Class II		
Protection degree EN60529	-	IP20		
Operating temperature	°C (°F)	-45 / +70 (-49 / +158)		
Storage temperature	°C (°F)	-45 / +80 (-49 / +176)		
Radiator	-	Extruded aluminium profile		
Mounting	-	Clip for mounting on DIN rail 35 mm EN50022		
Installation position	-	Best efficiency in vertical position		
Dimensions HxWxD	mm	110x61x59	140x61x59	140x61x59
Weight (with packaging)	Kg	0.25 (0.28)	0.32 (0.36)	0.32 (0.36)
Conformity/Certification	-	CE		

* at 10°C (50°F) ambient temperature



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Heaters 25-150W

HT.001

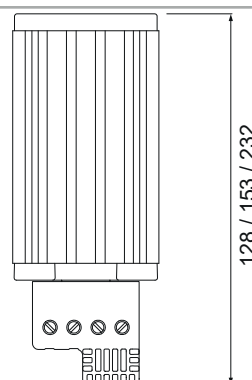
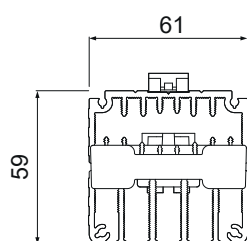
COMPACT PTC HEATERS WITH INTEGRATED THERMOSTAT FIXED SET

Compact PTC heaters series with minimum DIN rail foot-print. Terminal connection. Integrated thermostat fixed set.



FEATURES	Unit	HT25.001	HT50.001	HT75.001	HT100.001	HT150.001
Heating Capacity*	W	25	50	75	100	150
Power supply	V	120-240V AC/DC				
Switch on / switch off temp.	°C (°F)	+5 / +15 (+41 / +59)				
Inrush current	A	2.5	3.5	4	5	9.5
Delayed fuse (advised)	A	4	4	6.3	8	10
Heating element type	-	PTC resistor, self-regulation				
Electrical connections	-	screw terminals for stranded or rigid wire 2.5 mm²				
Protection class	-	Class II				
Protection degree EN60529	-	IP20				
Operating temperature	°C (°F)	-45 / +70 (-49 / +158)				
Storage temperature	°C (°F)	-45 / +80 (-49 / +176)				
Radiator	-	Extruded aluminium profile				
Mounting	-	Clip for mounting on DIN rail 35 mm EN50022				
Installation position	-	Best efficiency in vertical position				
Dimensions HxWxD	mm	128x61x59		153x61x59		232x61x59
Weight (with packaging)	Kg	0.26 (0.29)		0.33 (0.37)		0.58 (0.63)
Conformity/Certification	-	CE				

*at 10°C (50°F) ambient temperature



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STHT.000

TOUCH SAFE PTC HEATERS

Optimized design to achieve lower surface temperature and increased heat transfer efficiency. A thermo-resistant plastic shield surrounds the unit to prevents direct contacts with high temperature internal parts.
Terminal connection.

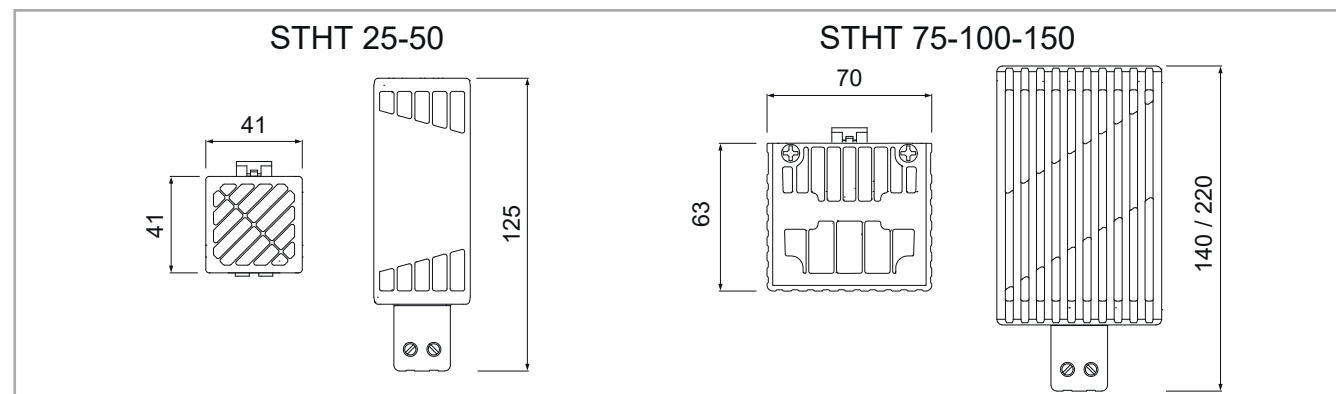


FEATURES	Unit	STHT25.000	STHT50.000	STHT75.000	STHT100.000	STHT150.000
Heating Capacity*	W	25	50	75	100	150
Power supply	V	120-240V AC/DC				
Inrush current	A	2.5	3.5	4	5	9.5
Delayed fuse (advised)	A	4	4	6.3	8	10
Heating element type	-	PTC resistor, self-regulation				
Electrical connections	-	screw terminals for stranded or rigid wire 2.5 mm ²				
Protection class	-	Class II				
Protection degree EN60529	-	IP20				
Operating temperature	°C (°F)	-45 / +70 (-49 / +158)				
Storage temperature	°C (°F)	-45 / +80 (-49 / +176)				
Radiator	-	Extruded aluminium profile, with plastic cover				
Mounting	-	Clip for mounting on DIN rail 35 mm EN50022				
Installation position	-	Best efficiency in vertical position				
Dimensions HxWxD	mm	125x41x41		140x70x63		220x70x63
Weight (with packaging)	Kg	0.17 (0.19)		0.41 (0.45)		0.69 (0.74)
Conformity/Certification	-	CE – UL  File n. E301228				

* at 10°C (50°F) ambient temperature

Accessories

Thermostat NC 0-60°C	THR2
Double thermostat NC 0-60°C NO 0-60°	THR22
Hygrothermostat 0-60°C 20-90%RH	ETUH22.AA0
Hygrostat 10-90%RH	MUH



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STHT.001

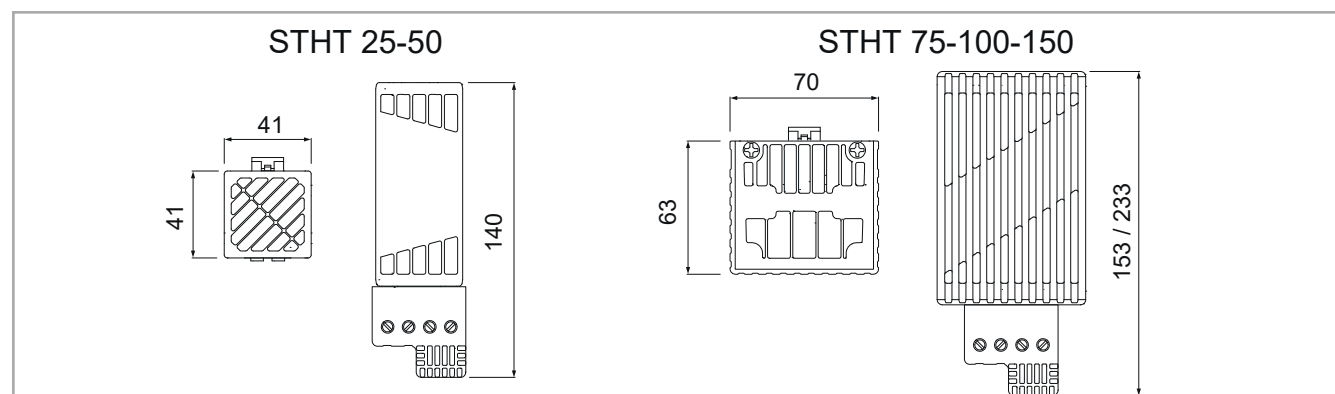
TOUCH SAFE PTC HEATERS WITH INTEGRATED THERMOSTAT FIXED SET

Optimized design to achieve lower surface temperature and increased heat transfer efficiency. A thermo-resistant plastic shield surrounds the unit to prevent direct contacts with high temperature internal parts. Terminal connection. Integrated thermostat fixed set



FEATURES	Unit	STHT25.001	STHT50.001	STHT75.001	STHT100.001	STHT150.001
Heating Capacity*	W	25	50	75	100	150
Power supply	V	120-240V AC/DC				
Switch on / switch off temp.	°C (°F)	+5 / +15 (+41 / +59)				
Inrush current	A	2.5	3.5	4	5	9.5
Delayed fuse (advised)	A	4	4	6.3	8	10
Heating element type	-	PTC resistor, self-regulation				
Electrical connections	-	screw terminals for stranded or rigid wire 2.5 mm²				
Protection class	-	Class II				
Protection degree EN60529	-	IP20				
Operating temperature	°C (°F)	-45 / +70 (-49 / +158)				
Storage temperature	°C (°F)	-45 / +80 (-49 / +176)				
Radiator	-	Extruded aluminium profile, with plastic cover				
Mounting	-	Clip for mounting on DIN rail 35 mm EN50022				
Installation position	-	Best efficiency in vertical position				
Dimensions HxWxD	mm	140x44x41		153x70x63		233x70x63
Weight (with packaging)	Kg	0.18 (0.20)		0.42 (0.46)		0.70 (0.75)
Conformity/Certification	-	CE				

* at 10°C (50°F) ambient temperature



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Heaters 25-50W

MHT

COMPACT PTC HEATERS

Compact PTC heaters series with minimum DIN rail foot-print. Cable connection.

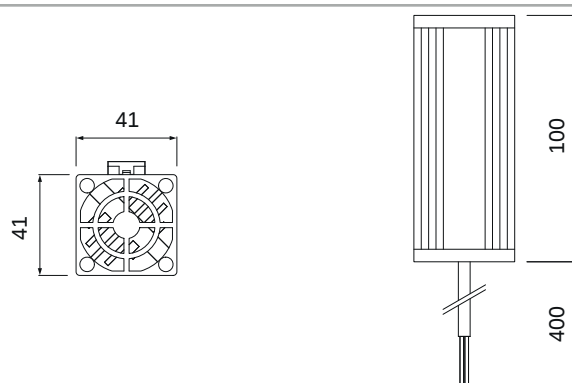


FEATURES	Unit	MHT25	MHT50
Heating Capacity*	W	25	50
Power supply	V	120-240V AC/DC	
Inrush current	A	2.5	3.5
Delayed fuse (advised)	A	4	4
Heating element type	-	PTC resistor, self-regulation	
Electrical connections	-	cable, 2x0,5mm ² , L=400mm	
Protection class	-	Class II	
Protection degree EN60529	-	IP20	
Operating temperature	°C (°F)	-45 / +70 (-49 / +158)	
Storage temperature	°C (°F)	-45 / +80 (-49 / +176)	
Radiator	-	Extruded aluminium profile	
Mounting	-	Clip for mounting on DIN rail 35 mm EN50022	
Installation position	-	Best efficiency in vertical position	
Dimensions HxWxD	mm	100x41x41	
Weight (with packaging)	Kg	0.29 (0.24)	
Conformity/Certification	-	CE – UL  File n. E301228	

*at 10°C (50°F) ambient temperature

Accessories

Thermostat NC 0-60°C	THR2
Double thermostat NC 0-60°C NO 0-60°	THR22
Hygrothermostat 0-60°C 20-90%RH	ETUH22.AA0
Hygrostat 10-90%RH	MUH



Specifications, values and drawings are subject to change without notice.

AEL-CAT-EN-2400



Fan heaters 150-600W

TMX

FAN ASSISTED PTC HEATERS

Super compact and light weight fan assisted heaters. Self-regulating PTC element. Touch safe. Spring terminal.

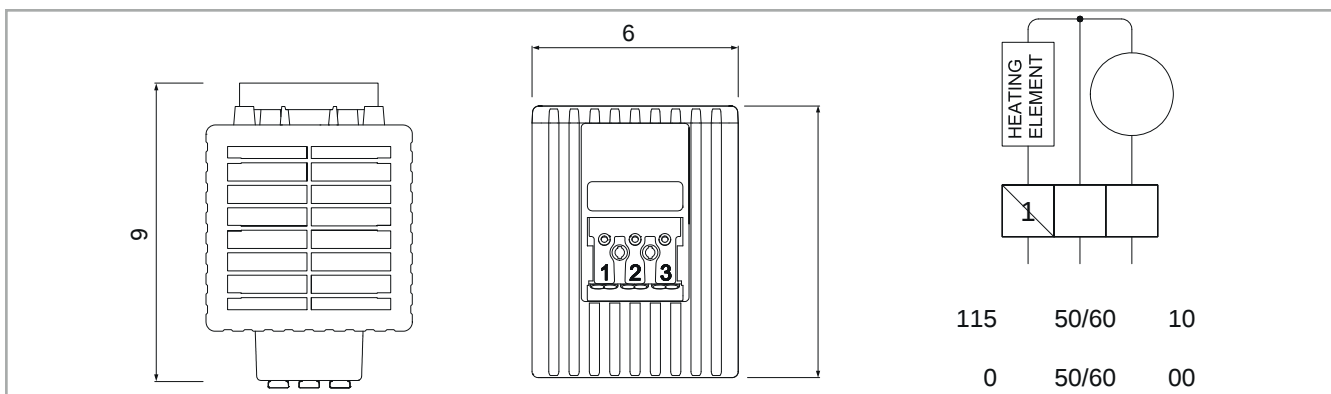


FEATURES	Unit	TMX150.00	TMX250.00	TMX300.00	TMX400.00	TMX500.00	TMX600.00
Heating elements type	-	PTC Radiator					
Power supply	V Hz	230 50/60	230 50/60	230 50/60	230 50/60	230 50/60	230 50/60
Delayed fuse (advised)	A	6.3	6.3	6.3	6.3	10	10
		TMX150.10	TMX250.10	TMX300.10	TMX400.10	TMX500.10	TMX600.10
Power supply	V Hz	115 50/60	115 50/60	115 50/60	115 50/60	115 50/60	115 50/60
Delayed fuse (advised)	A	10	10	10	10	16	16
Heating capacity*	W	150	250	300	400	500	600
Heating elements type	-	PTC Radiator					
Electrical connection	-	Spring terminals					
Protection class	-	Class II					
Protection degree EN60529	-	IP20					
Operating temperature	°C (°F)	-40 / +70 (-40 / +158)					
Storage temperature	°C (°F)	-40 / +70 (-40 / +158)					
Axial fan	-	Ball bearing, service life 50.000 hrs at 25°C (77°F), Air flow rate 45m³/h, free blow					
Mounting	-	Clip for mounting on DIN rail 35 mm EN50022					
Installation position	-	Best efficiency in vertical position					
Dimensions HxWxD	mm	88x67x97					
Weight (with packaging)	Kg	0.36 (0.4)					
Conformity/Certifications	-	CE -UL cULus File n. E301228					

*at 10°C (50°F) ambient temperature

Accessories

Thermostat NC 0-60°C	THR2
Double thermostat NC 0-60°C NO 0-60°	THRV22
Hygrothermostat 0-60°C 20-90%RH	ETUH22.AA0
Hygrostat 10-90 %RH	MUH



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TMX 24VDC

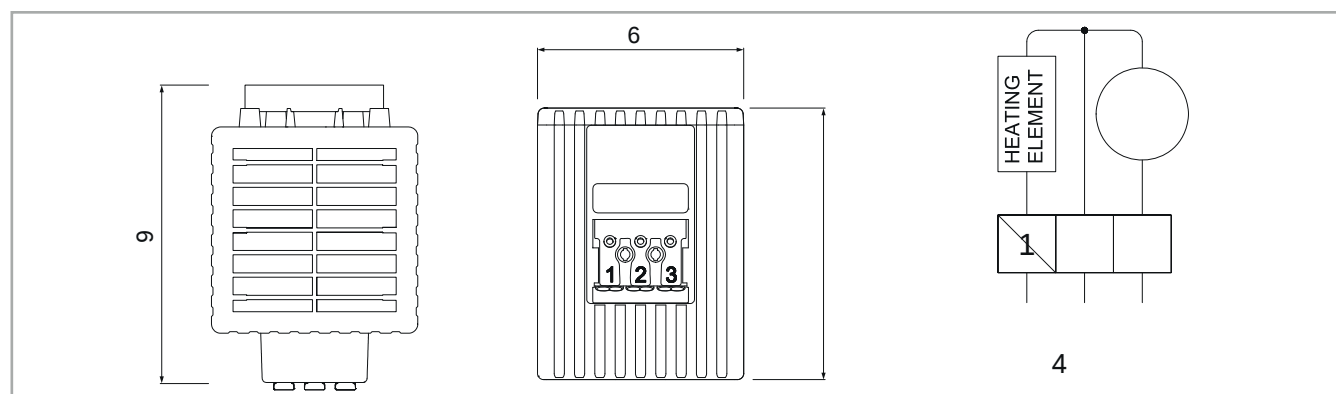
FAN ASSISTED PTC HEATERS

Super compact and light weight fan assisted heater, 24VDC for use in auxiliary and control circuits, where only low voltage power supply is available. Self-regulating PTC element. Touch safe. Spring terminal.



FEATURES	Unit	TMX200.240
Heating Capacity*	W	200
Power supply	V	24VDC
Heating elements type	-	PTC Radiator
Electrical connections	-	Spring terminals for stranded or rigid wire 2.5 mm ²
Protection class	-	Class II
Protection degree EN60529	-	IP20
Operating temperature	°C (°F)	-40 / +70 (-40 / +158)
Storage temperature	°C (°F)	-40 / +70 (-40 / +158)
Axial fan	-	Ball bearing, service life 50.000 hrs at 25°C (77°F), Air flow rate 33m ³ /h, free blow
Mounting	-	Clip for mounting on DIN rail 35 mm EN 50022
Installation position	-	Best efficiency in vertical position
Dimensions HxWxD	mm	88x67x97
Weight (with packaging)	Kg	0.36 (0.40)
Conformity/Certification	-	CE

*at 10°C (50°F) ambient temperature



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Fan heaters 200-350W

TMC

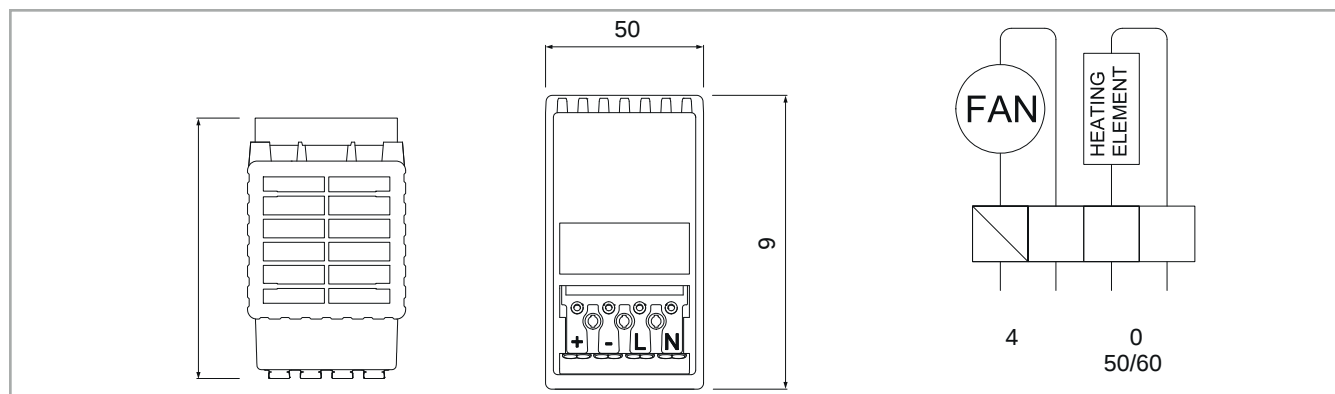
FAN ASSISTED PTC HEATERS

Super compact and light weight fan assisted heaters. Self-regulating PTC element. Touch safe. Spring terminal.



FEATURES	Unit	TMC200.700	TMC350.700
Heating Capacity*	W	200	350
Power supply	V	Heater 230VAC – Fan 24VDC	
Delayed fuse (advised)	A	6.3	6.3
Heating element	-	PTC radiator	
Electrical connection	-	Spring terminals	
Protection class	-	Class II	
Protection degree EN60529	-	IP20	
Operating temperature	°C (°F)	-40 / +70 (-40 / +158)	
Storage temperature	°C (°F)	-40 / +70 (-40 / +158)	
Axial fan	m ³ /h	Air flow rate 40m ³ /h, free blow	
Mounting	-	Clip for mounting on DIN rail 35 mm EN50022	
Installation position	-	Best efficiency in vertical position	
Dimensions HxWxD	mm	93x50x82	
Weight (with packaging)	Kg	0.26 (0.30)	
Conformity/Certifications	-	CE	

* at 10°C (50°F) ambient temperature



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Fan heaters 250-750W

FSHT

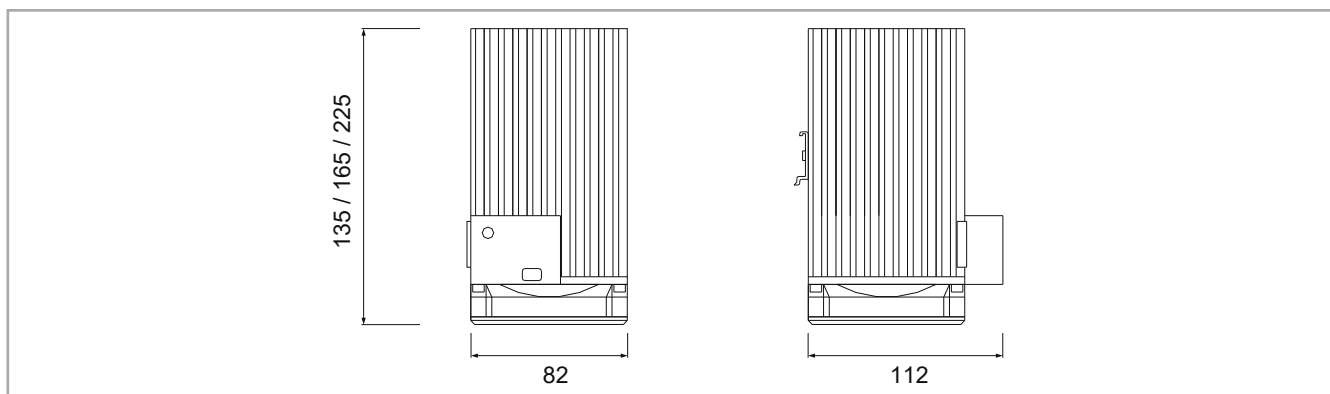
FAN ASSISTED, RESISTOR HEATERS



FEATURES	Unit	FSHT250	FSHT251	FSHT400	FSHT401	FSHT500	FSHT501	FSHT750	FSHT751
Heating Capacity	W	250	250	400	400	500	500	750	750
Power supply	V Hz	230 50/60	115 50/60	230 50/60	115 50/60	230 50/60	115 50/60	230 50/60	115 50/60
Max. current	A	1.2	2.4	1.9	3.8	2.4	4.8	3.6	7.2
Heating element type	-	Resistor							
Thermal protection	-	Thermal cut out fuse in case of fan failure							
Radiator	-	Extruded aluminium profile, anodized							
Axial fan	-	Ball bearing, service life 50.000 hrs at 25°C (77°F)							
Signalling	-	Green LED power ON							
Electrical connections	-	3 screw terminals for stranded or rigid wire 2.5 mm ²							
Protection class	-	Class I, earthed							
Protection degree EN60529	-	IP20							
Operating temperature	°C (°F)	-25 / +70 (-13 / +158)							
Storage temperature	°C (°F)	-45 / +80 (-49 / +176)							
Mounting	-	Clip for mounting on DIN rail 35 mm EN50022							
Installation position	-	Best efficiency in vertical position							
Dimensions HxWxD	mm	135x82x112	135x82x112	165x82x112	165x82x112	165x82x112	165x82x112	225x82x112	225x82x112
Weight (with packaging)	kg	0.88 (0.94)	0.88 (0.94)	0.97 (1.04)	0.97 (1.04)	0.97 (1.04)	0.97 (1.04)	1.35 (1.42)	1.35 (1.42)
Conformity/Certifications	-	CE - UL  File n. E301228							

Accessories

Thermostat NC 0-60°C	THR2
Double thermostat NC 0-60°C NO 0-60°	THR22
Hygrothermostat 0-60°C 20-90%RH	ETUH22.AA0
Hygrostat 10-90%RH	MUH



Specifications, values and drawings are subject to change without notice.



Fan heaters 1200-1500W

FPH

FAN ASSISTED PTC HEATERS



FEATURES	Unit	FPH1200	FPH1201	FPH1500	FPH1501
Heating Capacity*	W	1200		1500	
Power supply	V Hz	230 50/60	115 50/60	230 50/60	115 50/60
Heating element type	-	PTC Radiator			
Thermal protection	-	Thermal cut out in case of fan failure (auto-reset for 100,000 cycles)			
Casing	-	Plastic according to UL94 V-0, black			
Axial fan	-	Ball bearing, service life 50 000 hrs at 25°C (77°F), air flow rate 160 m³/h, free flow			
Control operation	-	optional	-	optional	-
Electrical connections	-	3 screw terminals for stranded or rigid wire 2.5 mm²			
Alarm output	-	optional	-	optional	-
Protection class	-	Class I, earthed			
Protection degree EN60529	-	IP20			
Operating temperature	°C (°F)	-40 / +70 (-40 / +158)			
Storage temperature	°C (°F)	-45 / +80 (-49 / +176)			
Mounting	-	Screw fixing (M4)			
Installation position	-	Best efficiency in vertical position			
Dimensions HxDxW	mm	95x160x120			
Weight (with packaging)	Kg	1.20 (1.27)			
Conformity/Certification	-	CE			

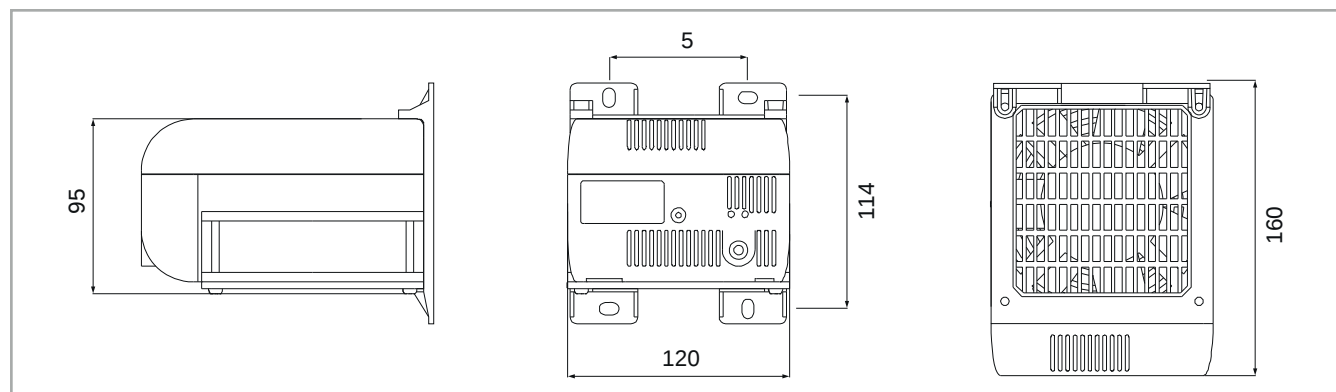
*at 10°C (50°F) ambient temperature

Versions

without integrated bimetallic thermostat	FPH1200.00	FPH1201.00	FPH1500.00	FPH1501.00
with integrated bimetallic thermostat	FPH1200.01	-	FPH1500.01	-
with integrated electronic controller	FPH1200.02	-	FPH1500.02	-

Function of electronic controller (only for version.02)

1. electronic temperature control
2. green LED ON for proper operation, red LED ON for malfunction
3. 2 screw terminals for alarm signal 5-30V DC / 0,5A



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