

Insulated resistance heaters

Heating safely





- Available in two versions: by convection and with fan.
- Alternating or direct current.
- Powers from 10 W to 550 W.

It has a plastic covering to prevent direct contact with the aluminium radiator.

- The resistors equipped with fan guarantee air recirculation and an even temperature inside the enclosure.
- High-flow, silent fans.



- Small size.
- Fast electrical connection by means of snap-on terminals.
- Fast and simple fixing to the 35 mm DIN rail.
- Maintenance-free.

- Protected from direct contact with the aluminium radiator.
- Electrical connection protected from direct contact by means of a plastic terminal block cover.
- Equipped with a PTC-type heating element.
- Surface temperature below +70°C.
- The configuration of the aluminium section produces a chimney effect. High natural convection.
- Low energy consumption thanks to the auto-adjustment of the PTC resistor.

Certifications



- EC Marking.
- Compliant with UL and VDE across the range.



INSULATED RESISTANCE HEATERS

Reference	Power W	Voltage V	Type of connection	
			Terminal block	Cable
RC10/12-36AI	10	12-36 DC	X	
RC10AI	10	110-250 AC	X	
RC20/12-36AI	21	12-36 DC	X	
RC20AI	21	110-250 AC	X	
RC50/12-36AI	55	12-36 DC	X	
RC50AI	55	110-250 AC	X	
RC50/270-420AI	55	270-420 AC	X	
RC100/12-36AI	102	12-36 DC	X	
RC100AI	102	110-250 AC	X	
RC100/270-420AI	102	270-420 AC	X	
RC150/12-36AI	147	12-36 DC	X	
RC150AI	147	110-250 AC	X	



INSULATED RESISTANCE HEATERS WITH FAN

Reference	Power W	Voltage V	Type of connection	
			Terminal block	Cable
RCV170	170	230 AC	X	



THERMOFANS

Reference	Power W	Voltage V	Type of connection	
			Terminal block	Cable
TMV350-550/120	400/550	120 AC	X	
TMV350/550	400/550	230 AC	X	
TMV350	350	230 AC	X	

Insulated RC10AI - RC20AI 10 W and 20 W insulated resistance heaters



General characteristics:

- Compact resistance heater which prevents the condensation of water and ice inside the enclosures.
- Innovative design for better natural convection and high thermal performance.
- Compact, smaller resistance heater.
- Extruded aluminium body.
- Features an insulated UL94 V0 plastic cover in light grey to avoid direct contact with the heating elements (PTC) and the aluminium radiator.
- Surface temperature limited to less than 70 °C.
- Equipped with a connection cable.
- Double safety insulated (plastic).
- PTC technology range.
- Quick clip-fixing onto the 35 mm DIN rail.
- Compliant with UL and VDE EC Marking.

Usage conditions:

- The resistance heaters should be used together with a temperature regulator (thermostat TS140 or TS170, hygrostat HS300 also can be installed).
- The enclosure must be sealed in order to prevent the penetration of external air.
- The electrical protection devices must be installed between the supply source and the resistance heaters themselves.

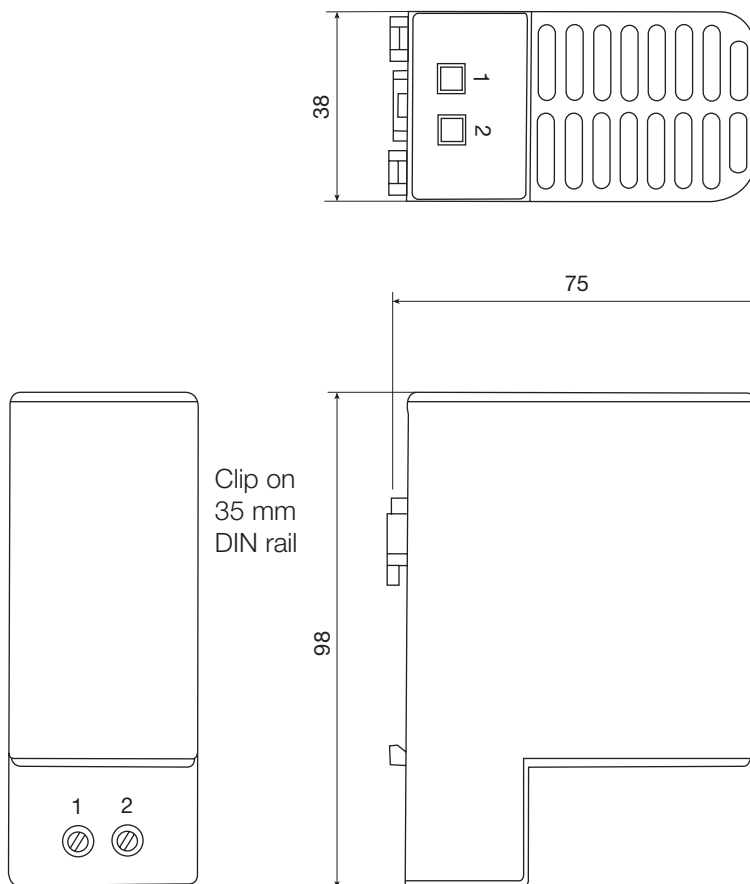
Characteristics	Reference			
	RC10AI	RC10/12-36AI	RC20AI	RC20/12-36AI
Heating power at 0 °C	10 W		21 W	
Power supply voltage	110-250 V AC/DC	12-36 V AC/DC	110-250 V AC/DC	12-36 V AC/DC
Heating element	PTC			
Surface temperature	<70 °C, except for upper protection grill			
Electrical connection	Terminal board			
Fixing	By clip for the 35 mm DIN rail (EN 50022)			
Cover	Plastic UL94 V0			
Operating position	Vertical			
Operating temperature	-40 to +70 °C (-10 to +15 °F)			
IP Protection/Class	IP20II (double insulation)			
Certifications	VDE and UL in process			

Dimensions (mm)

FIG. 1

Connections

Reference	L (mm)
RC10AI	98
RC20AI	98



RC50AI - RC100AI - RC150AI 55 W - 100 W - 147 W insulated resistance heaters



General characteristics:

- Compact resistance heater which prevents the condensation of water and ice inside the enclosures.
- Innovative design for better natural convection and high thermal performance.
- Compact, smaller resistance heater.
- Extruded aluminium body.
- Features an insulated UL94 V0 plastic cover in light grey to avoid direct contact with the heating elements (PTC) and the aluminium radiator.
- Surface temperature limited to less than 70 °C.
- Fitted with 2.5 mm² quick-connection terminals.
- Double safety insulated (plastic).
- PTC technology range.
- Quick clip-fixing onto the 35 mm DIN rail (EN 50022).
- Certifications compliant with UL and VDE and EC Marking.

Usage conditions:

- The resistance heaters should be used together with a temperature regulator (thermostat TS140 or TS170, hygrostat HS300 also can be installed).
- The enclosure must be sealed in order to prevent the penetration of external air.
- The electrical protection devices must be installed between the supply source and the resistance heaters themselves.

Characteristics	Reference							
	RC50AI	RC50/12-36AI	RC50/ 270-420AI	RC100AI	RC100/ 12-36AI	RC100/ 270-420AI	RC 150AI	RC150/ 12-36AI
Heating power at 0 °C	55 W			102 W			147 W	
Power supply voltage	110-250 V AC/DC	12-36 V AC/DC	270-420 V AC/DC	110-250 V AC/DC	12-36 V AC/DC	270-420 V AC/DC	110-250 V AC/DC	12-36 V AC/DC
Heating element	PTC							
Surface temperature	<70 °C, except for upper protection grill							
Electrical connection	4 poles terminal block, 2.5 mm ²							
Fixing	By clip for the 35 mm DIN rail (EN 50022)							
Cover	Plastic UL94 V0							
Operating position	Vertical							
Operating temperature	-40 to +70 °C (-10 to +158 °F)							
IP Protection /Class	IP20/II (double insulation)							
Certifications	VDE and UL in process							

Dimensions (mm)

FIG. 1

Reference	L (mm)
RC50AI	110
RC50/12-36AI	110
RC50/270-420AI	110
RC100AI	110
RC100/12-36AI	110
RC100/270-420AI	150
RC150AI	150
RC150/12-36AI	150

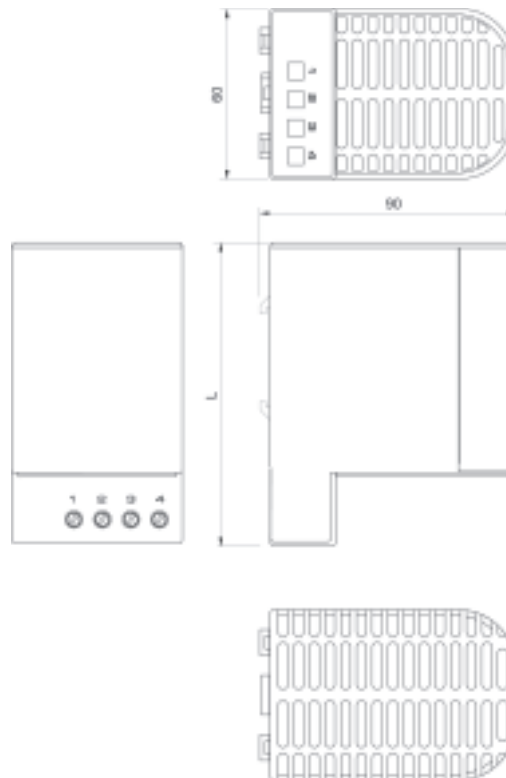
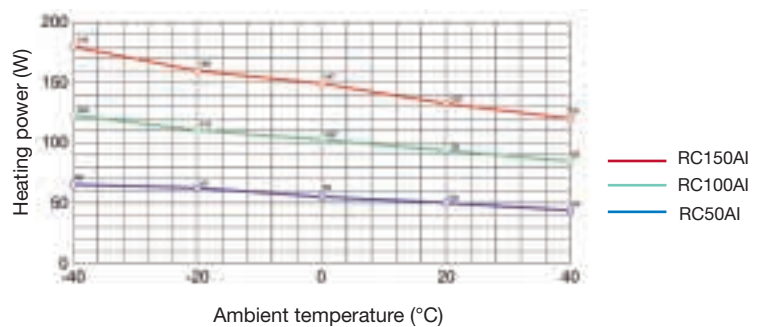


FIG. 2

Diagram

Heating power diagram - Ambient temperature



RCV170



General characteristics:

- Compact resistance heater which prevents the condensation of water and ice inside the enclosures.
- Includes an axial fan to ensure uniform heating inside the enclosure.
- Compact, smaller resistance heater.
- Extruded aluminium body.
- Features an insulated UL94 V0 plastic cover in black to avoid direct contact with the heating elements (PTC) and the aluminium radiator.
- Surface temperature limited to less than 50 °C.
- Fitted with 2.5 mm² quick-connection terminals.
- Double safety insulated (plastic).
- PTC technology range.
- Quick clip-fixing onto the 35 mm DIN rail (EN 50022).
- Certifications compliant with UL and VDE and EC Marking.

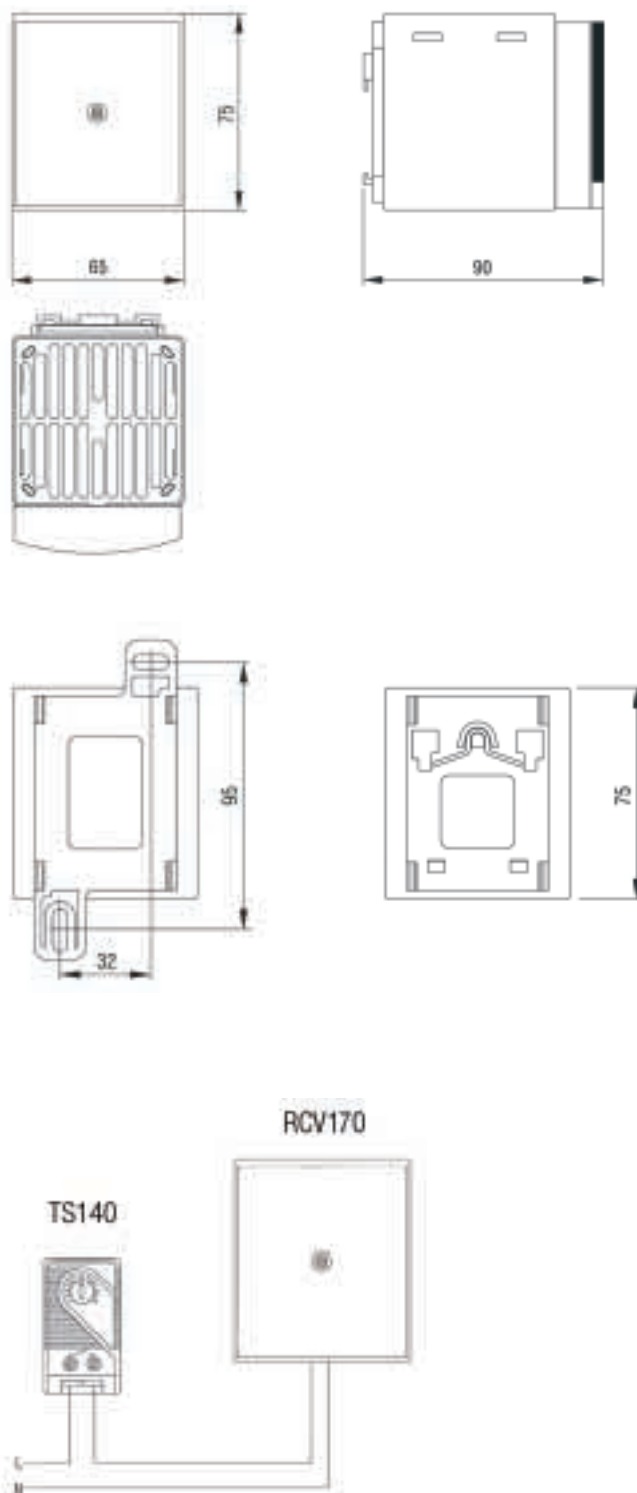
Usage conditions:

- The resistance heaters should be used together with a temperature regulator (thermostat TS140 or TS170, hygrostat HS300 also can be installed).
- The enclosure should be sealed in order to prevent the penetration of external air.
- An electrical protection device should be installed on the supply side of the unit.

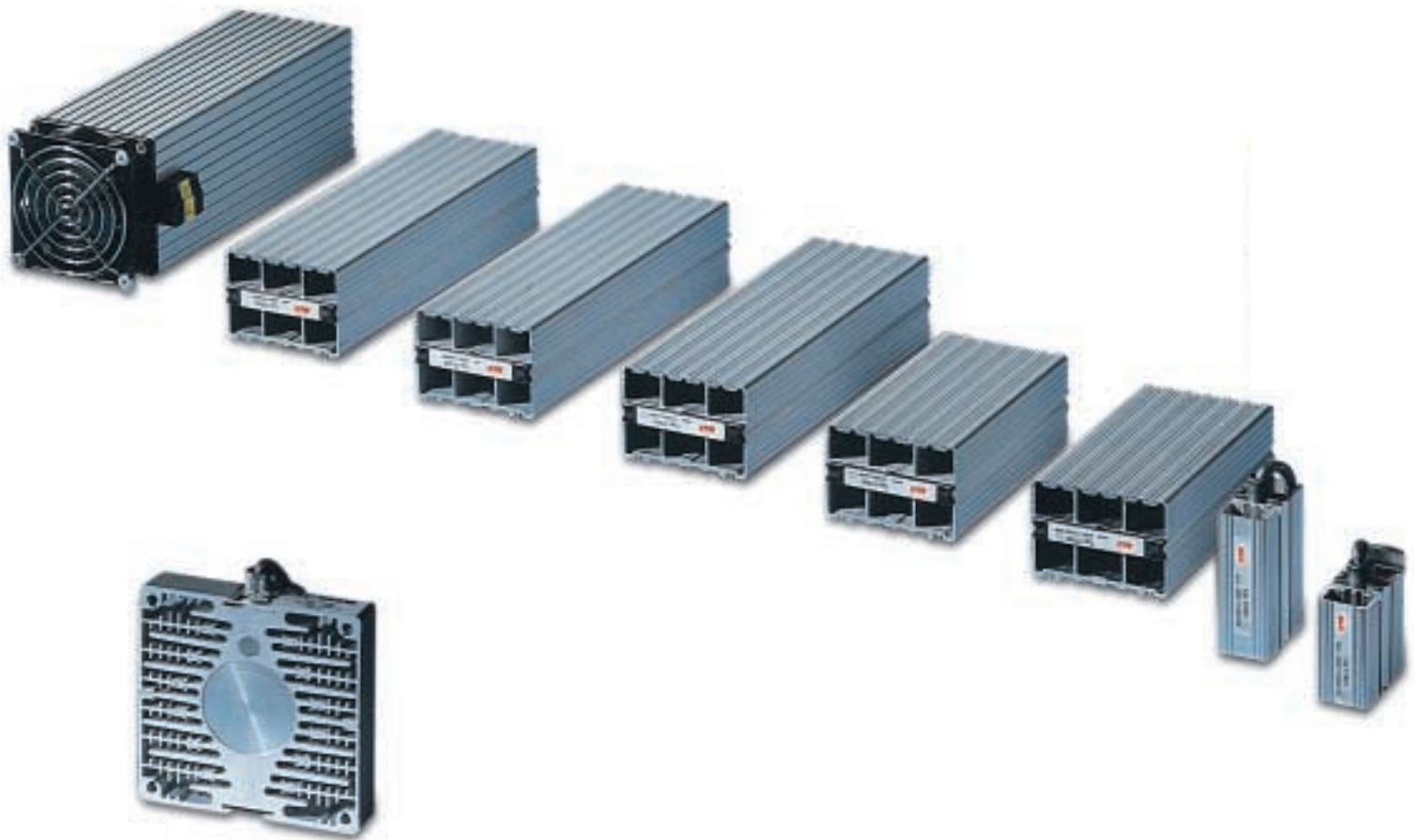
Characteristics	Reference
	RCV170
Heating power at 0 °C	177 W
Power supply voltage	230 V AC 50-60 Hz
Heating element	PTC
Surface temperature	Max. of 50 °C in the enclosure, 100 °C in the upper protection grill (for an external temperature of 20 °C/68 °F)
Service life	40000 h to 40 °C
Airflow	13.8 m ³ /h
Electrical connection	2 poles of 2.5 mm ²
Fixing	Clip for the 35 mm DIN rail (EN 50022)
Cover	Plastic UL94 V0
Operating position	Vertical
Operating temperature	-40 to +70 °C (-10 to +158 °F)
IP Protection/Class	IP20II (double insulation)
Certifications	VDE and UL in process

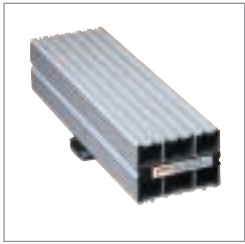
Dimensions (mm)

FIG. 1
RCV170



Standard heating resistors Traditional convection





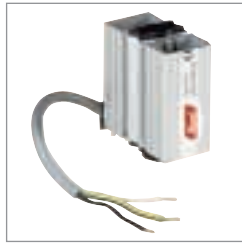
The Himel heating resistors for electrical or electronic enclosures are equipped with PTC-type heating elements (Positive Temperature Coefficient). The use of these semi-conductors as heating elements means that:

- The aluminium surface temperature of the diffuser stabilises at +75 °C (for an ambient temperature of -5 °C).
- Electrical energy consumption is reduced.



The design of the profile of the Himel heating resistors produces a "chimney" effect. Thus, a uniform temperature is achieved inside the enclosure.

The resistors are secured by means of fast-fixing clips on the 35 mm DIN rails.



The 10 and 20 W resistors are equipped with a $2 \times 0.75 \times 300$ mm electrical connection cable.



Higher power resistors are equipped with fast-connection terminals.



Their broad range of powers, from 10 to 400 W, means that any solution is possible. Models from 250 and 400 W with a built-in fan.



RESISTANCE HEATERS

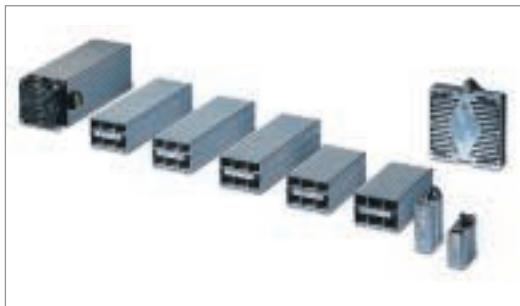
Reference	Power (W)	Voltage (V)	Connection type	
			Terminal block	Cable
RC10/12-36	10	12-36 DC		X
RC10	10	110-250 AC		X
RC20/12-36	20	12-36 DC		X
RC20	20	110-250 AC		X
RC20/270-420	20	270-420 AC	X	
RC55/12-36	55	12-36 DC	X	
RC55	55	110-250 AC	X	
RC55/270-420	55	270-420 AC	X	
RC100/12-36	90	12-36 DC	X	
RC100	90	110-250 AC	X	
RC100/270-420	90	270-420 AC	X	
RC150/12-36	150	12-36 DC	X	
RC150	150	110-250 AC	X	
RC150/270-420	150	270-420 AC	X	



RESISTANCE HEATERS WITH FAN

References	Power (W)	Voltage (V)	Connection type	
			Terminal block	Cable
RCV250	250	230 AC	X	
RCV400	400	230 AC	X	
RCV200P/115	200	115 AC	X	
RCV200P	200	230 AC	X	

Resistance heaters



- Range of resistance heaters from 10 to 400 W ensuring the proper heating of the enclosure to prevent condensation.

General characteristics:

- Extruded aluminium body.
- Surface temperature limited to less than 75 °C with an ambient temperature of -5 °C.
- 500 mm-long power supply cable with silicone insulation (except for the **RCV400**, **R55**, **90** and **150** models, which are equipped with a connection terminal block).

Usage conditions:

- The resistance heaters should be used together with a temperature regulator (thermostat **TS140** or **TS170**, hygostat **HS300** also can be installed).
- The enclosure should be sealed in order to prevent the penetration of external air.
- The electrical protection devices must be installed between the supply source and the resistance heaters themselves.

Reference	Power (W)	Voltage (V)	Start-up current (A)	Nominal current (A)	Class	Dimensions (mm)
RC10/12-36	10	12-36 DC			II	25 × 50 × 50
RC10	10	110-250 AC	0.80	0.60	II	25 × 50 × 50
RC20/12-36	20	12-36 DC			II	25 × 50 × 75
RC20	20	110-250 AC	1	1.05	II	25 × 50 × 75
RC20/270-420	20	270-420 AC			II	25 × 50 × 75
RC55/12-36	55	12-36 DC			II	70 × 50 × 140
RC55	55	110-250 AC	1.50	0.24	II	70 × 50 × 140
RC55/270-420	55	270-420 AC			II	70 × 50 × 140
RC90/12-36	90	12-36 DC			II	70 × 50 × 140
RC90	90	110-250 AC	2.40	0.40	II	70 × 50 × 140
RC90/270-420	90	270-420 AC			II	70 × 50 × 140
RC150/12-36	150	12-36 DC			II	70 × 50 × 220
RC150	150	110-250 AC	4.50	0.65	II	70 × 50 × 220
RC150/270-420	150	270-420 AC			II	70 × 50 × 220
RC250	250	220-230	1.10	1.10	II	70 × 50 × 220
RC400	400	220-230	1.70	1.70	II	70 × 50 × 220

Resistance heaters with fan



- The fan maintains an even temperature inside the electric switchboard.

Reference	Power (W)	Voltage (V)	Start-up current (A)	Nominal current (A)	Class	Dimensions (mm)
RCV250	250	230 CA	1.20	1.20	I	180 × 85 × 95
RCV400	400	230 CA	1.80	1.80	I	80 × 80 × 248

Plain resistance heater with fan



Reference	Power (W)	Voltage (V)	Start-up current (A)	Nominal current (A)	Class	Dimensions (mm)
RCV200P	200	230 CA	-	0.90	I	120 × 120 × 47
RCV200P/115	200	115 CA	-	1.80	I	120 × 120 × 47

Thermofans



TMV350

- This device combines the heating power of a resistor with the operation of an axial fan, offering optimal heat distribution inside the enclosure.
- Fixing onto a DIN rail.
- Adjustable temperature from 10 to 50 °C for **TMV350**, and from 0 to 60 °C for **TMV350/550**.
- Power-on indicator lamp.



TMV350/550

Reference	Power (W)	Voltage (V)	Dimensions (mm)
TMV350	350	230 CA	200 × 45 × 180
TMV350/550	400/550	230 CA	180 × 85 × 95
TMV350-550/120	400/550	120 CA	180 × 85 × 95