

ANTI CONDENSATION HEATERS

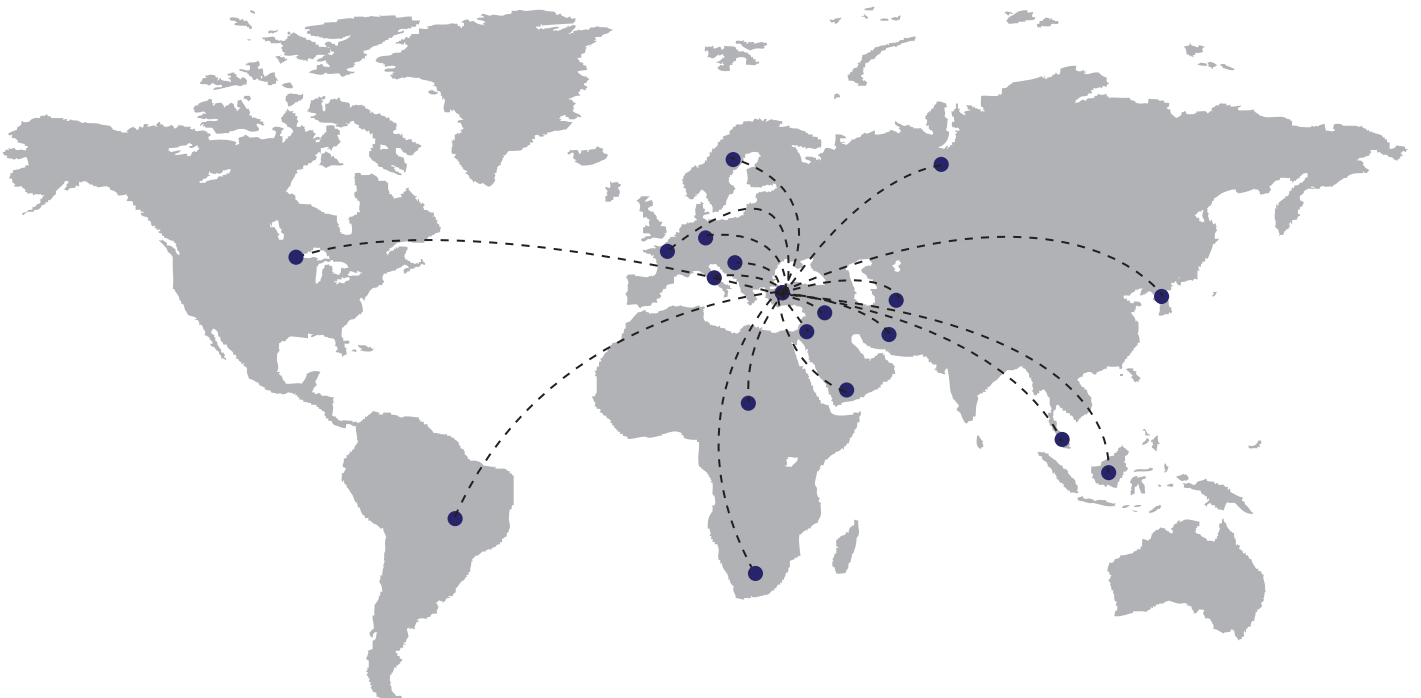


CATALOG
2019

Our Trademarks



Where we are?



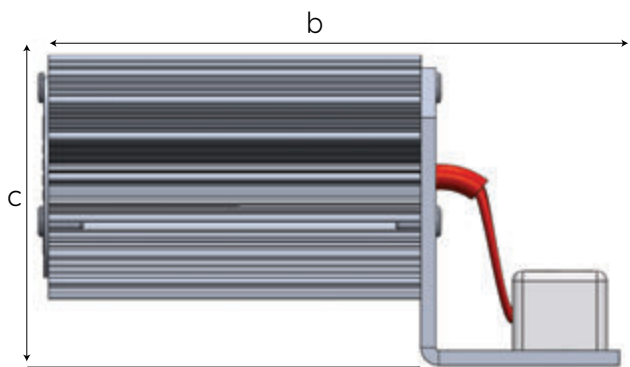
Anti - Condensation Heaters

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Anti - Condensation Heaters



Front view



Side view

Climatic properties such as the air temperature and humidity in the environment where the electrical cubicles are installed are very important for the continuity of the system and the safety of the personnel.

The amount of water in the air is called moisture. As the temperature increases, the amount of water in the unit air increases. Sudden decreases in air temperature cause some of the moisture in it to become water, which is called a dew point.

The water formed with the beginning of the condensation is distributed to the surfaces inside the electrical cubicle in the form of tiny droplets. This situation poses great risks in M.V. switchgears. These water drops are spread over board cubicles, insulators, MV circuit breakers, and other electrical equipment to reduce safe creepage distances to dangerous values. This may result in partial discharges or direct insulation fault (discharges).

The way to eliminate this risk is to use an anti-condensation heater.

Technical Specifications:

Resistance Element	: Wire wound, high efficiency Cartridge Resistance
Frame Profile	: High cooling surface aluminum
Insulation	: 2 kV 50/60 Hz 1 min.
Protection Degree	: IP 20

Advantages:

- The most efficient body surface area that can be used in the environment heating is increased extrusion and anodized aluminum. Aktif heaters' frames have 120% more surface efficiency than stainless pipe heaters.
- MGO powder is used for insulation material. The heaters have an insulation level of 2kV 1 min. In addition, this powder increases the mechanical strength and vibration resistance of the heater.
- As the resistance element is stainless and has very low temperature coefficient been used, the power of the heater does not reduce during operation. PTC heaters cannot prevent condensation as their power significantly reduce while operating.
- Aktif heaters offer the best solution as moisture reduction performance. It is 60% more efficient than pipe heaters and 670% more than PTC heaters.
- The distribution of heat inside the cubicle is important for the Anti-Condensation Heaters in order to perform its task homogeneously. Heat dissipation at different points of the cubicle is max. 20 °C for Aktif heaters.

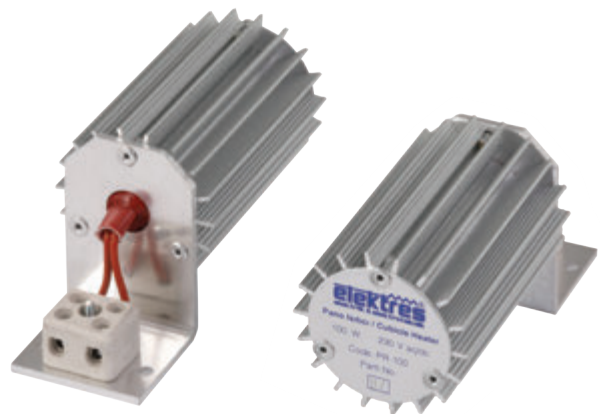
Type	Power	Voltage	Dimensions			Weight (gr)
	w	v	a [mm]	b [mm]	c [mm]	
PR.100.230	100	230	50	115	60	215
PR.100.110	100	110	50	115	60	215
PR.100.048	100	48	50	115	60	216
PR.100.024	100	24	50	115	60	218
PR.150.230	150	230	50	165	60	280
PR.150.110	150	110	50	165	60	280
PR.150.048	150	48	50	165	60	283
PR.150.024	150	24	50	165	60	286
PR.200.230	200	230	50	215	60	422
PR.200.110	200	110	50	215	60	424
PR.200.048	200	48	50	215	60	428
PR.200.024	200	24	50	215	60	437
PR.300.230	300	230	50	315	60	630
PR.300.110	300	110	50	315	60	635
PR.300.048	300	48	50	315	60	645
PR.300.024	300	24	50	315	60	665

Anti - Condensation Heaters

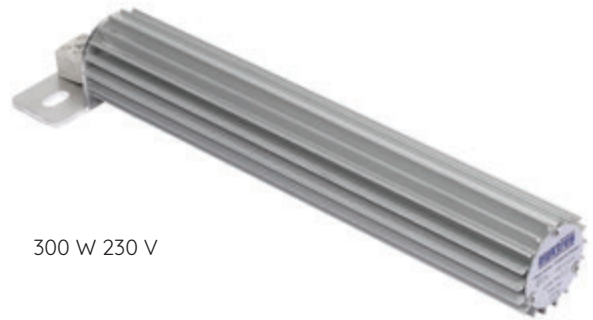
- The moisture reduction rate of the Anti-Condensation Heaters shall be equivalent to the rate of fall of temperature. Otherwise, condensation cannot be prevented. Often the 6% drop in humidity eliminates the risk of condensation. Tests with Aktif heaters can reduce the humidity by 6% in 16 minutes with a 100 W heater in a 2 m³ cubicle. This speed is more than 100% compared to pipe heaters.

Usage Guidelines for Anti-Condensation Heaters:

- One or more Anti-Condensation Heaters and a separate thermostat (if used) shall be used for each medium voltage cubicle.
- The thermostat shall not be used or shall set for a very large limit.
- Anti-Condensation Heaters shall be manufactured by wire winding resistance inside high cooling surface aluminum frame.
- Under normal conditions, 100 W per m³ Aktif heater (winding resistance inside high cooling surface aluminum frame) is enough. In a 2 m³ cubicle, a 100 W Aktif heater can achieve a 12% reduction in 1 hour. If this cubicle is used in a place where the humidity reaches 95% values, it is correct to increase the heater power to 150 W. In this case, the power of the heater for each cubicle shall be determined by considering the site conditions and cubicle volume.
- Anti-Condensation Heaters shall be mounted on the bottom of the cubicle at a maximum height of 20 cm from the floor due to the rise of the heated air and generally the humidity ingress from the bottom.
- The active heating surfaces of the Anti-Condensation Heaters shall be mounted so that they do not touch the cubicle construction. Because the high surface area construction reduces the temperature of the heater surface by contact, it significantly reduces the efficiency.
- In order to prevent to be switched off for any reason, a control can be established to monitor the heater circuit.
- Since the Anti-Condensation Heater surface temperature is high, it must be installed at a minimum distance of 10 cm from the materials to be affected by the temperature.
- A common misconception is that the heater is installed in the cubicle and the thermostat is installed in the LV cabinet. Since the thermodynamic values between these two environments is different, the thermostat and the heater shall be in the same environment.



100 W 230 V



300 W 230 V

Anti - Condensation Heaters Coding

P R . 1 1 1 . 2 2 2				
P	R			Anti-Condensation Heater
		1 1 1		Power in W 100 - 100 W 150 - 150 W
			2 2 2	Voltage in V 100 - 100 W 150 - 150 W

Samples :

1- PR.100.230

Description : 100 W 230 V Anti-Condensation Heater

2- PR.200.024

Description : 200 W 24 V Anti-Condensation Heater

Watt White!

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Color of the beginning...

White, color of the purity, honesty and clarity...

Color of the stability and continuity, trust and quality...

Since 2010, we decided to apply white color which symbolizes all of these values to all of our products.

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