Protect Your Energy

Eastland



DEHUMIDIFIER

for Medium Voltage Air Insulated Switchgear

CABLE CHAMBER | BUSBAR INDOOR APPLICATION

Our Company

Eastland Switchgears Private Limited is an ISO 9001:2015 cer fied; one of the modernist and leading quality manufacturers of various Electrical equipment's up to 33kV under the brand name of 'Eastland Switchgears Private Limited and it's set up at Dhulagarh Industrial Park, NH-6, PS Sankrail, Howrah, West Bengal, India.

Driven by Technology and Innova on, Eastland Switchgears Private Limited is a well-established Manufacturer, Exporter and Supplier of World Class range of Electrical Products. Since its incep on in 1984, the Company has grown manifold and secured a strong foothold in the Industry. Under the direc on of able Management, we have successfully acquired a widespread customer base and it con nues to expand further. Our Customers prefer us due to our Ethical Business Prac ces, Customer-Centric Business Approach, Unmatched Product Quality and an Efficient Delivery System.

We believe in offering Quality-Assured range of Products which completely fulfills the essen al needs of our valued Clients. We are involved in Manufacturing, and Supplying of different types of products. We strictly adhere to all the quality guidelines that assist us in providing assurance to the customers that all the dispatched products meet with the Interna onal Quality Standards. Some points in reference to this are:

- **Ability to suffice in large number**
- **Quality Processed Product Range**
- **Modest Transactional Gateway**
- **Prompt Shipment Facility**
- **Customization**
- **Strict Quality Control**

Vision

Deligh ng the Customers by exceeding their logical expecta ons by providing Quality Products with highest level of system control and best standards of manufacturing with on- me delivery at the most compe ve price. During the process, we will be the Doyen in Quality and Services for our Customers and create value for all Stake-Holders.

Mission

Having excelled in Interna onal and Domes c markets in a small way with our Product Por olio and winning customers' confidence in all cases proven by repeat orders from them; Eastland Switchgears now proposes to take big leap forward by exploring African, Asean and other developed Countries and achieving a turn-over of INR 1000 Millions in 3 years.

Introduction - Dehumidifier

Humidity level around Control panel or MV switchgear panel is known to change with the season so usually space heater is used to keep set temperature within the panel. it is observed that the values of temperature and humidity within panel are not visible/known to operator. It is possible that if the temperature and humidity is not maintained to desire value, some problems could occur in the panel as

- Condensation build-up
- Corrosion
- Leakage current

Which leads to flash over and breakdown of panel.

By using MCTC-120 (Moisture collector & Temperature Controller) operator can set, control and observe the desire value of humidity and temperature inside the panel.









ESPL has developed a portable economical solution as per Customer's need to tackle moisture accumulation issue in electrical panels. It goes with by name MCTC-120

Effect of High humidity on AIS MVelectrical Installation

- Facing high humidity inside electrical installation (11 KV and 33 KV AIS switchgear) of coastal area Distribution sector or Primary Consumers. Humidity is highest during rainy sessions.
- In electrical installation, CT, PT VCB are Epoxy insulated in AIS switchgear. Some cases found that epoxy characteristics become hygroscopic.
- After 1no flash over inside switchgear for any reason, epoxy insulation becomes more hygroscopic.
- High relative humidity and sudden changes in temperature cause condensation of moisture. Condensation may cause the insulator to absorb moisture.
- Dust particles become sticky and form a semi-conductive path on the insulator and for this for mspartial discharge.
- Due to partial discharge, creep path formed and sorting out the impedance. Resulting in rusting & corrosion, electrical breakdown due to flashover and premature deterioration.





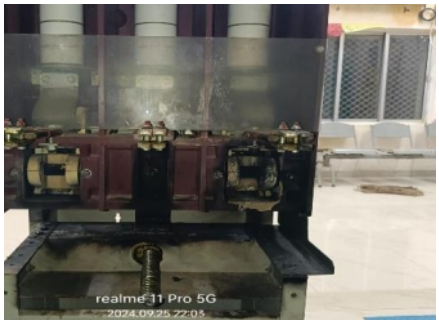










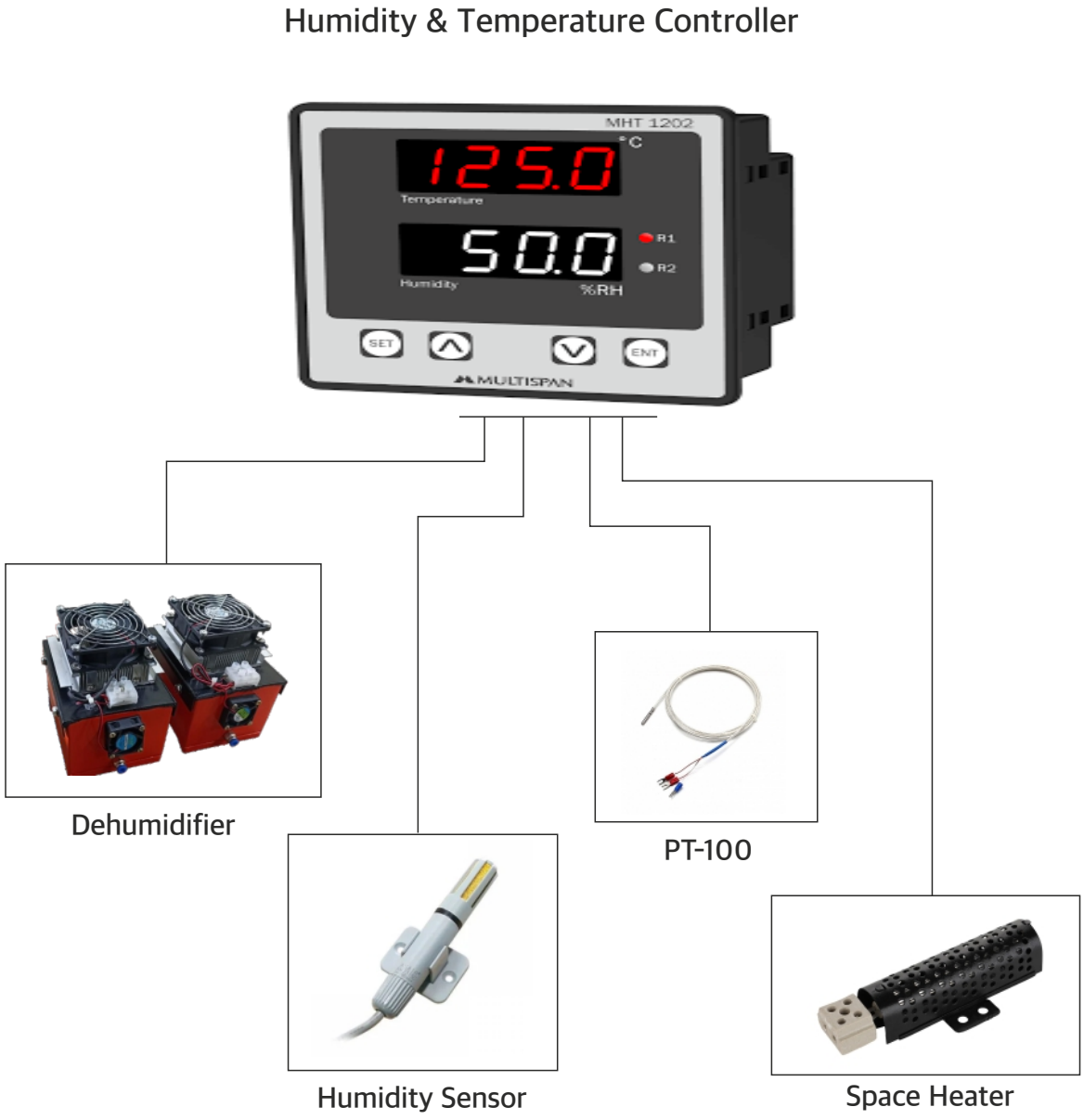




EFFECT OF HUMIDITY INSIDE CABLE & SWITCHGEAR CHAMBER

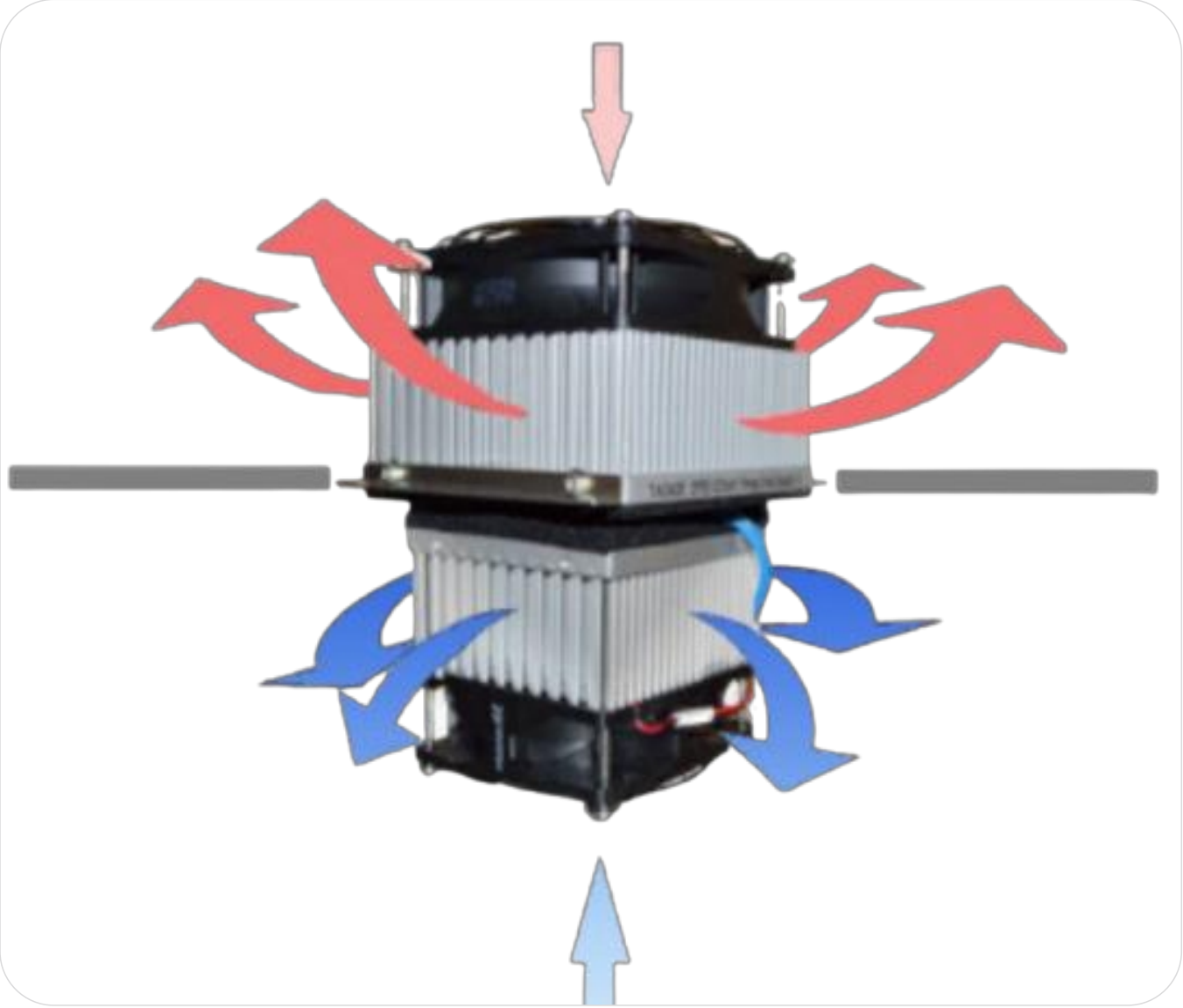
Working Principle

- MCTC-120 works on the principle of thermoelectric cooling. The thermoelectric elements are heat pumps which transfer heat from one side to the other, depending on the direction of the electrical current. They can directly convert electrical energy into thermal without using any moving parts.
- Condensed water collected in the box is taken outside via a small pipe arrangement. Thus, moisture inside the electrical panel cubicle is removed, and only dry air is circulated within the cubicle.



Features

- Maintain the Humidity and Temperature of panel to set point by removing moisture from air within panel.
- Automatic On/OFF when humidity and temperature reach a pre set level, hence energy efficient.
- Portable, lightweight, silent, and vibration free.
- Protection of Control circuit over current and low maintenance.
- Display: set actual value of humidity and temperature is displayed on controller screen.
- Humidity range 0- 100% and temperature 0 -100 degrees.
- Water outlet for taking out extracted water outside panel.



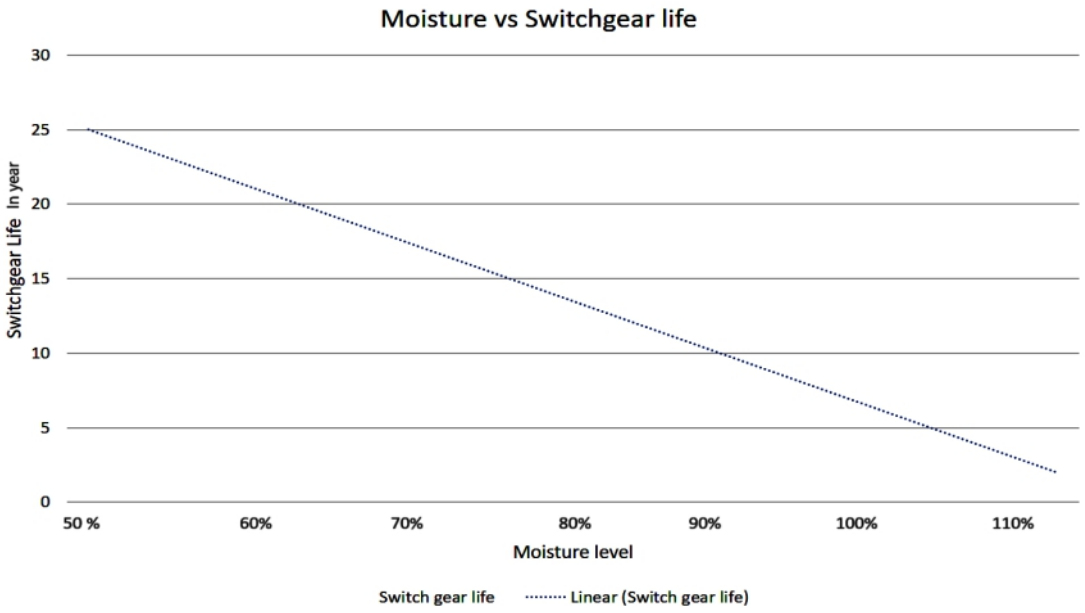
Electrical Specifications

Input Voltage	230 AC/12 DC/24DC
Power	120 watt for single Unit
Cooling capacity	-10 degree C



Mechanical Specifications

Length	150 mm
Width	120 mm
Height	130 mm



Electrical Specifications

- Prevent Flash over of AIS switchgear
- Increase IR value and increase Switchgear life.
- Reliable power supply.
- No downtime due to flashover and increase SAIDI and SAIFI.
- Saving manpower & maintenance cost.
- Saving Switchgear depreciation cost.

Technical Specification

Specification	MCTC-120	MCTC-240
Environment	Indoor	
Rated power consumption	120 Watt	240 Watt
Noise Level (peak)	30dB	30dB
Auxiliary supply	12V DC	
Maximum operating current in Amps	10	20
Life Expectancy of cooling module	200000 hrs	200000 hrs
Weight (Kg)	1.5	3
Length (mm)	150	250
Width (mm)	120	120
Depth (mm)	130	130
Cutout size (mm)	96 x 96	96 x 96
Operating temperature	-10°c to +65°c	-10°c to +65°c
Altitude	2200 meter	2200 meter
Housing	Powder-coated MS	
Finish Colour	RAL 2009, Black	
Mounting	In side cable, breaker chamber/ Busbar	
Ingress	IP55	
Controller Humidity Range	0.0 to 100% RH	
Controller Temperature Range	0.0 to 400 degree C	

Advance Control

By utilising advanced PID control MCTC can be used as a single unit for cooling and heating application.

It is also transmit data over RS485 MODBUS for PLC/SCADA applications.



Applications of Dehumidifier



MV AIS Panel 11 KV and 33 KV



C&R panels



PLCC Panel & PLC panels



SCADA PANELS



Transformer LT/HT Cable Box



Metering Cubicle & Outdoor kiosk VCB.

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