

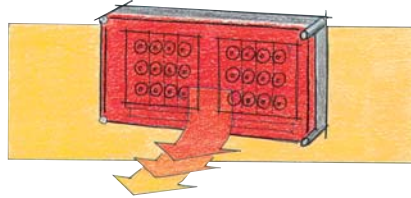
Technical data

Formation of condensed water and retaliatory actions

How does condensed water occur in enclosures with a high degree of protection?

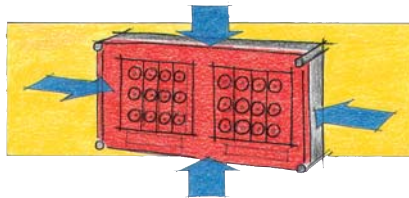
Condensed water only forms in enclosures with a higher degree of protection than IP 54 due to temperature difference from inside to outside. Humidity can not evaporate because of the high degree of protection of the enclosure.

System switched on.



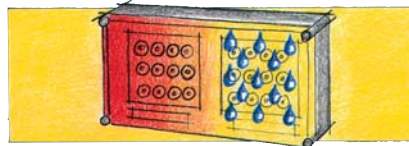
The internal temperature is higher than the external temperature due to the power dissipation of the built-in devices.

System switched on.



The warm air inside the enclosure attempts to accumulate moisture. This comes from outside through the seal as the enclosures are not gas-tight.

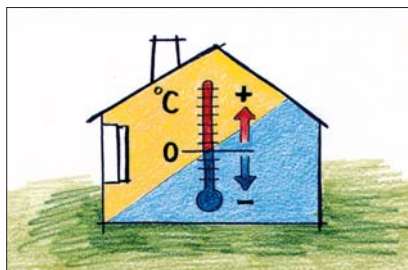
System switched off.



The internal temperature is reduced by cooling down the system e.g. by switching off the loads. The cooler air emits moisture which is collected as condensed water on the cooling inner surfaces.

How does condensed water occur in enclosures with a high degree of protection?

Formation of condensed water for **indoor installations:**



In areas where high levels of air humidity and large temperature fluctuations are expected e.g. in laundry rooms, kitchens, car washes etc.

Formation of condensed water in **protected outdoor installations** (protected against weather influences) **or unprotected outdoor installations:**



Here condensed water can be formed dependent on the weather, high air humidity, direct sunlight and temperature differences compared to the wall.

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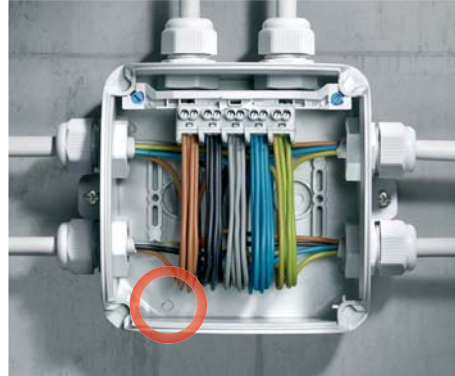
Measure against formation of condensation water

e. g. Cable junction boxes

1. Select the installation site (avoid temperature differences).
2. Open condensed water membrane at the lowest point of the cable junction box (maybe drill hole \varnothing 5 mm).
3. Enable exchange of air via ventilation.

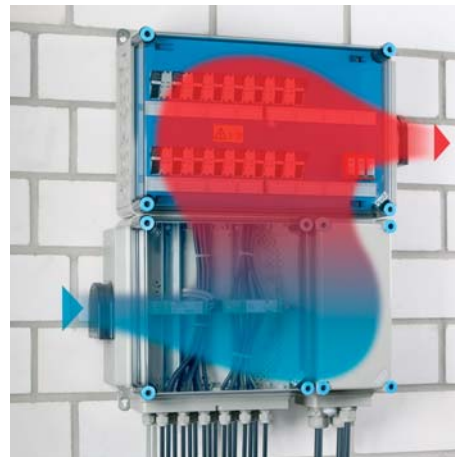


Open condensation water membrane



e.g. Mi Distribution boards

Ventilation flange for vertical mounting on lateral box walls in case of extremely high inside temperature or the risk of water condensation, degree of protection IP 44.



Cable entry and ventilation

Combi climate glands

Combi climate glands ensure pressure compensation between enclosure interior and ambient air via an inserted, breathable membrane and ingress of water from outside is prevented.

