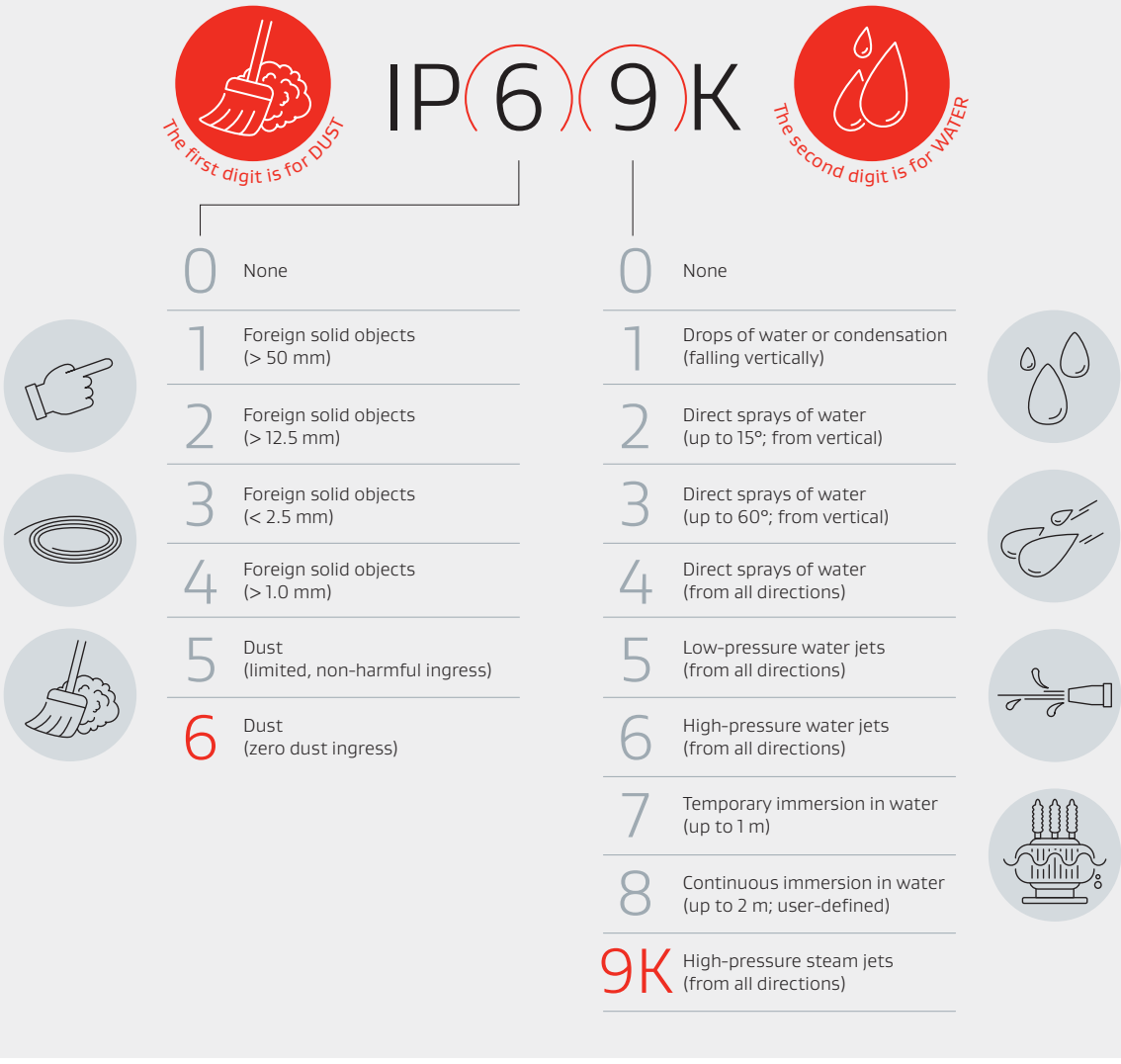
IP RATINGS EXPLAINED.

Ingress Protection, IP, is an internationally accepted standard for indicating how well an electrical enclosure protects electronic equipment, devices, or components against solid objects and liquids. The digits in the IP code cover different aspects of protection: the first digit stands for protection against solid particles and the second digit indicates the level of protection against liquid ingress.

High IP ratings are commonly considered critical for outdoor electronic enclosures such as control and monitoring devices which are installed on electrical grid equipment like transformers, switchgears or reclosers. For such devices, an extensive lifetime of 20–30 years is expected. To meet this expectation of both great reliability and durability, a high IP rating is strongly recommended.



GORE® Protective Vents
for Energy Grid

IP69K: THE HIGHEST LEVEL OF INGRESS PROTECTION FOR LONG LIFETIME IN HARSH ENVIRONMENTS.

With their unique ePTFE membrane, GORE® Protective Vents for Energy Grid achieve an impressive IP69K rating. This means they can help to perfectly protect your grid control and monitoring components from air pollution, dust and diesel particles, salt, rain, ocean spray and other field-related ingress. The result: your control and monitoring devices will not fail unexpectedly early due to corrosion or soiling. Instead, these outdoor electronic components will deliver the reliability and durability your customers expect from your products.

Together, improving life

IK RATINGS EXPLAINED.

In addition to the IP rating for protection against dust, contact, and water, enclosures also need adequate protection against external mechanical impacts. IK ratings indicate the level of such protection provided by enclosures for electrical equipment.

Scaling from IK00 (no protection) to IK10 (protection against 20 joules of impact), IK specifies an enclosure's resistance to both impacts and shocks. The IK code classification is established by means of a standardized testing method in line with IEC 62262.

IK Rating

IK 00	Not protected
IK 01	Protected against 0.14 joules impact. Equivalent to impact of 0.25 kg mass dropped from 56 mm above impacted surface.
IK 02	Protected against 0.2 joules impact. Equivalent to impact of 0.25 kg mass dropped from 80 mm above impacted surface.
IK 03	Protected against 0.35 joules impact. Equivalent to impact of 0.25 kg mass dropped from 140 mm above impacted surface.
IK 04	Protected against 0.5 joules impact. Equivalent to impact of 0.25 kg mass dropped from 200 mm above impacted surface.
IK 05	Protected against 0.7 joules impact. Equivalent to impact of 0.25 kg mass dropped from 280 mm above impacted surface.
IK 06	Protected against 1 joule impact. Equivalent to impact of 0.25 kg mass dropped from 400 mm above impacted surface.
IK 07	Protected against 2 joules impact. Equivalent to impact of 0.5 kg mass dropped from 400 mm above impacted surface.
IK 08	Protected against 5 joules impact. Equivalent to impact of 1.7 kg mass dropped from 300 mm above impacted surface.
IK 09	Protected against 10 joules impact. Equivalent to impact of 5 kg mass dropped from 200 mm above impacted surface.
IK 10	Protected against 20 joules impact. Equivalent to impact of 5 kg mass dropped from 400 mm above impacted surface.

IK10: THE APPROPRIATE LEVEL OF IMPACT PROTECTION FOR YOUR CONTROL AND MONITORING DEVICES.

There are many kinds of potential mechanical stress that can have an impact on your enclosures, from on-site maintenance (engineering work) to transportation, to lifting, for example by forklift, or impact from foreign objects. An IK10 vent can help you keep the IK10 electronic enclosure for your grid control and monitoring devices at the highest protection level, ensuring a long lifetime for the devices inside.

GORE® Polyvent Stainless Steel for Energy Grid.

GORE® Polyvent Stainless Steel offers both IP69K and IK10. The IP69K rating protects against the ingress of dust and high-temperature high-pressure water – making products being able to withstand harsh outdoor conditions. The IK10 rating provides the optimal protection against many kinds of mechanical stress. In conclusion: GORE® Polyvent Stainless Steel vents provide the best possible protection to increase the reliability of your grid control and monitoring devices and, in consequence, reduce grid failures.

More information: **www.gore.com/energy-grid**