



SIEMENS



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SIRIUS ACT – Highest degree of protection thanks to IP69k and NEMA 4X

White Paper

Constructed with genuine metal, high-grade plastics, and high-quality gasket technology, SIRIUS ACT is approved for the highest insertion protection: IP69k and NEMA 4X.

With these ratings, functionality is preserved when dust, submersion, and water under high pressure is involved. It can even be cleaned with a high-pressure jet at high temperature.

Highest protection for the whole portfolio – no additional costs

IP69k and NEMA 4X rating is the standard throughout all design lines of the SIRIUS ACT portfolio. No additional protection accessories are necessary. Hence, there are no additional costs.



SIRIUS ACT products with standard IP69k and NEMA 4X rating ¹

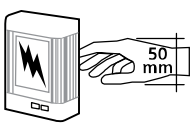

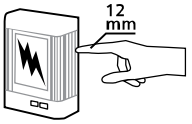

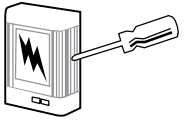

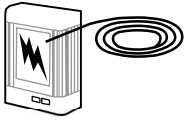

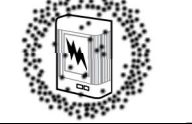

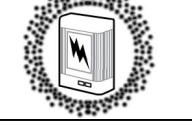

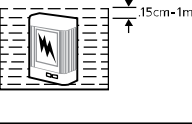
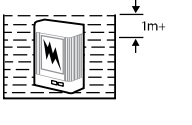
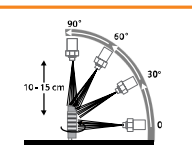


¹ For details see technical data sheets.

What is IP69K and NEMA 4X?

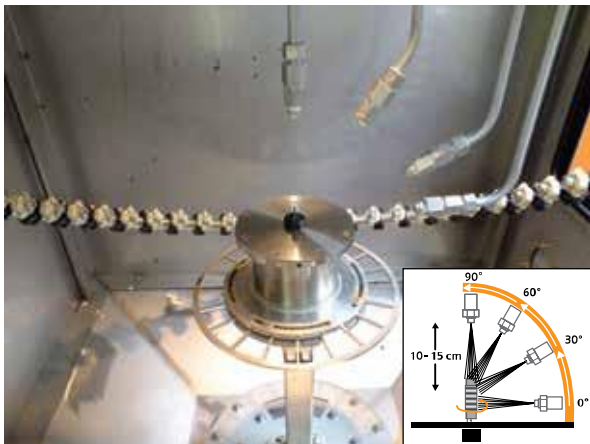
IP69k

IP ratings define protection of enclosures and devices against solid, foreign objects and the ingress of water. IP69k is the highest achievable rating and guarantees totally protection against dust, as well as high pressure, high temperature jets of water from multiple directions.

First digit: Protection against solid foreign objects		Second digit: Protection against ingress of water	
	0 No protection		0 No protection
	1 Protected against solid objects up to 50mm (e.g. hand)		1 Protection against vertically falling drops of water (e.g. condensation)
	2 Protected against solid objects up to 12mm diameter (e.g. finger)		2 Protection against direct sprays of water up to 15 degrees from vertical
	3 Protected against solid objects up to 2.5mm diameter (e.g. screwdriver)		3 Protection against direct sprays of water up to 60 degrees from vertical
	4 Protected against solid objects up to 1mm diameter (e.g. wire)		4 Protection against water sprayed from all directions, limited ingress permitted
	5 Protected against dust: limited ingress permitted, no harmful deposit.		5 Protected against low-pressure jets of water from all directions, limited ingress permitted
	6 Totally protected against dust		6 Protected against strong jets of water from all directions, limited ingress permitted (e.g. water from heavy seas on a ship's deck)
<div style="border: 1px solid black; padding: 10px; display: inline-block;"> IP 6 9k </div>			7 Protected against the effect of temporary immersion (30 min) between 15cm and 1m
			8 Protected against long period of immersion under pressure
			9k Protected against high pressure, high temperature jets of water from multiple directions



The IP69k standard requires water pressure of 1160 psi / 80 bar and a water temperature of 176F° / 80°C, while it is sprayed from four different angles (0°, 30°, 60°, 90°) and a distance of about 4-6 inches / 10-15 cm. The duration at each angle is 30 seconds while the device is constantly rotated at a speed of 5 rpm. During the 2 minute test, a total amount of ca. 8 gallons / 30 liter of water is sprayed on the device, i.e. 4 gallons per minute / 15 liter per minute.



NEMA 4X – The “firehose testing”

Like the IP69k testing, NEMA Type 4 requires the device under testing to withstand high pressure water jets. Whereas the IP69k testing is performed with high pressure from a short distance, the NEMA Type 4 is tested under lower pressure from longer distances (10-12 feet / 3.0 – 3.7 m). However, the water volume of the NEMA Type 4 testing is much higher (65 gallons per minute / 246 liter per minute). Also, in order to achieve NEMA Type 4X rating, the material has to withstand ambitious corrosion tests.

Applications

High degree of protection from dust, submersion and high-pressure water is necessary in many applications and requested in many different markets. With SIRIUS ACT, you certainly get the highest protection for your specific application.

Application examples:

- Food & Beverage
- Water & Waste water
- Pharmaceutical
- Chemical
- Oil & Gas
- and more

Subject to change without prior notice

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