

Protecting Your Equipment in Harsh Environments

Encoders operate in a wide range of industrial settings, many of which expose them to dust, moisture, chemicals, and extreme temperatures. Ensuring the right sealing option for your encoder is crucial to maintaining performance, longevity, and reliability in demanding applications.

At EPC (Encoder Products Company), we offer a variety of sealing options designed to protect your encoders from environmental hazards. Whether you need IP66 or IP69K-rated protection, we have solutions to keep your equipment running smoothly.

Why Sealing Matters for Encoders

Encoders are essential for motion control, positioning, and feedback in industrial automation. However, exposure to contaminants can cause premature failure, leading to downtime and costly repairs. Proper sealing ensures that your encoder withstands harsh conditions, preventing issues like:

- Dust and debris infiltration
- Water and moisture damage
- Oil and chemical exposure
- Temperature fluctuations

IP Ratings: Understanding Your Protection Level

IP (Ingress Protection) ratings define how well an encoder resists solid particles and liquids. Here's what they mean:

<i>IP Rating</i>	<i>Solid Protection</i>	<i>Liquid Protection</i>	<i>Best For</i>
IP50	Dust protected	None	Clean environments
IP64	Dust-resistant	Protection from splashing water	Light industrial use
IP66	Dust-tight	Protection from powerful water jets	Washdown environments
IP67	Dust-tight	Protection from temporary immersion	Harsh outdoor conditions
IP69K	Dust-tight	Protection from high-pressure, high-temperature water jets	Extreme washdown and hygienic environments

Choosing the right IP-rated sealing ensures your encoder performs reliably in its intended environment.

EPC Encoder Sealing Options

EPC encoders come with multiple sealing configurations to match the demands of your application:

1. IP50 Standard Sealing

- Provides basic dust and moisture resistance.
- Suitable for indoor environments with minimal exposure to contaminants.

2. IP64 Sealing

- Adds protection against light dust and splashing water.
- Ideal for controlled industrial environments.

3. IP66 Sealing (Recommended for Washdown Areas)









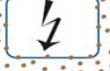






- Fully dust-tight and protected against high-pressure water jets.
- Perfect for food processing, packaging, and washdown applications.

4. IP67 Sealing (Recommended for Harsh Environments)

- Fully dustproof and capable of temporary immersion in water.
- Best for outdoor automation, marine, and heavy industrial applications.

5. IP69K Sealing (Recommended for Extreme Washdown Conditions)

- Provides the highest level of protection against dust and high-pressure, high-temperature water.
- Ideal for hygienic applications like food and beverage production, chemical processing, and pharmaceutical environments.

1st Digit	Protection Against Solids	2nd Digit	Protection Against Liquids
0	No Protection	0	No Protection
1	 Protected against solid objects greater than 50 mm	1	 Protected against vertically falling drops of water
2	 Protected against solid objects greater than 12 mm	2	 Protected against direct sprays of water up to 15° from the vertical
3	 Protected against solid objects greater than 2.5 mm	3	 Protected against direct sprays of water up to 60° from the vertical
4	 Protected against solid objects greater than 1 mm	4	 Protected against water sprays from all directions - limited ingress permitted
5	 Dust protected	5	 Protected against low pressure jets of water from all directions - limited ingress permitted
6	 Dust tight	6	 Protected against strong pressure jets of water from all directions - limited ingress permitted
		7	 Protected against water immersion between 15 cm and 1 m for a duration of 30 minutes
		8	 Protected against continuous immersion in water
		9K	 Protected against close-range, high pressure, high temperature spray downs

Note: EPC offers some encoders with a dual rating where the ingress protection differs between the shaft and the housing. The product datasheet specifies the sealing options for each encoder.

TECHNICAL BULLETIN

TB-106: Sealing for EPC Encoders



Choosing the Right Sealing for Your Application

To determine the right encoder sealing, consider:

- **Exposure Level:** Will the encoder be exposed to dust, water, or chemicals?
- **Operating Environment:** Indoor vs. outdoor, cleanroom vs. heavy industrial use.
- **Maintenance Needs:** Higher protection means less frequent cleaning and servicing.

If you're unsure which sealing option fits your needs, our experts can help!

Get Reliable Encoders with the Right Protection

At EPC, we provide high-quality encoders engineered to withstand tough environments. Whether you need IP66, IP67 or IP69K sealing, we ensure durability, accuracy, and long-term performance.

Contact us today to discuss your application or explore our encoder sealing options.