

FAQs

Polycarbonate Enclosures for Harsh and Unprotected Environments

What makes using a polycarbonate enclosure safe for harsh environments?

Polycarbonate is a very durable material which offers high impact resistance, low scratch resistance, and shatterproof safety to users. The material also provides temperature, corrosion, UV, and weather resistance for a wide variety of unprotected environments.

What do I need to look for, besides ruggedness, when it comes to the design of an enclosure for outside use?

Overall design has a lot to do with the right enclosure for your application. For example, if located outside you'll want to be sure that it's rainproof and dustproof, even when it has air ventilation features as part of the unit. You will want it to have protection ratings such as IP 66/IP 67. You may also wish for the unit to be lightweight, which polycarbonate generally is.

What type of sealing technology might I look for?

There are a lot of ways to seal an enclosure. For example, the Altech GEOS uses a unique enclosure design that actually diverts moisture to the back side of the enclosure using an overlapping cover and drain system. This new sealing principle is called "Drain Protect" and discharges moisture by providing a widely overlapping cover with a built-in drainage channel along the top edge of the enclosure base to divert moisture to the back side.

Additionally, an elastomer seal provides for optimum protection from the environment. An elastomer seal provides additional protection against concerns such as dust and dirt.

What about impact protection?

Good question. Knowing your application is key, but most outdoor applications do need a greater amount of impact protection. The right enclosure will most likely offer a high degree of impact protection up to IK09 impact rating in order to assure your equipment doesn't get damaged.

What difficulties might I have when configuring an enclosure for my components?

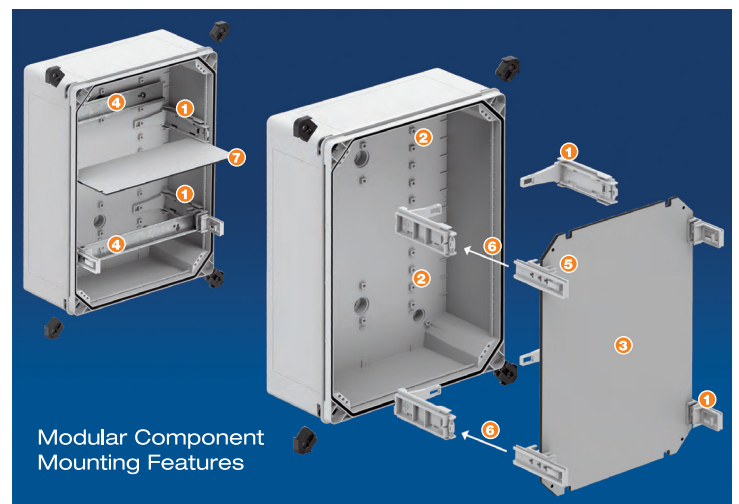
That depends on the enclosure you purchase, of course. What you'll want to look for is an enclosure that offers some sort of extendable, functional installation system with mounting brackets. Make sure the unit you select is usable for mounting plates and standard rails, ideally at different installation heights. You might also look for tool-less installation of your mounting bracket for easy and time-saving mounting.

What else might I consider for outside use?

It is always important to make sure the enclosure not only has the technical ratings you need, but also the required certifications for your application. Watch for proper certifications you might need, including VDE, UL 50, IEC 62208, IEC 61439, and CSA 22.2.

Do I need to consider how to brand my company on a purchased enclosure?

Many companies use enclosures as part of their branding. When making a purchase, be certain that the enclosure company offers options for applying branding elements, such as hot embossing, screen, pad, digital printing, or laser marking.



- 1 Functional installation system with mounting bracket.
- 2 Tool-less installation of the mounting bracket in 25 mm location points.
- 3 Universally usable for mounting plates and standard rails.
- 4 Different installation heights possible in the assembly bracket.
- 5 Subsequent insertion of pre-assembled modules.
- 6 Partition walls.

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Are there adequate ventilation systems available?

Yes, there are a number of ventilation methods used. For example, Altech GEOS uses a patented air ventilation element that prevents condensation while maintaining an IP65 protection rating. Through the use of a continuous and high rate of air exchange, condensation is kept out of the enclosure. This air exchange takes place even in environments with almost constant air humidity and temperature changes.

The interior of the enclosure heats up from component use and, due to the permanent pressure equalization, all enclosure parts including the seal are permanently relieved of pressure. The system also provides 100% protection against foreign bodies entering the enclosure for maintenance-free operation.

Can I find enclosures that I can customize to my needs?

Yes. Every application can have its nuances, which means that you'll want to be able to customize your enclosures much of the time. If you choose to work with a company that offers customization opportunities, you'll save a lot of time and effort. Look for a company that can customize the enclosures they sell by offering milling and printing services.

But it's not just the outside of the enclosure that typically needs to be specialized: Some applications lend themselves to external mounting, while others will need to be mounted from the inside. You may also want free choice between screw closure and quick-release closure. Finally, look for a company that provides a wide variety of enclosure sizes, with different heights, base sizes, and opaque or transparent cover options.

What might some primary applications be?

Enclosures made for harsh environments and outdoor use can provide protection for a wide variety of applications. Some notable ones might be for any type of electrical installation, such as those found in the solar and wind power industry; for large plant or building heating and air conditioning controls; and industrial applications such as the food and beverage industry, where washdown might be expected.

Industrial & Outdoor Enclosures Tough • Flexible • Safe



GEOS 
Tough. Flexible. Safe.

The Perfect Solution
for Harsh Conditions

GEOS – TOUGH

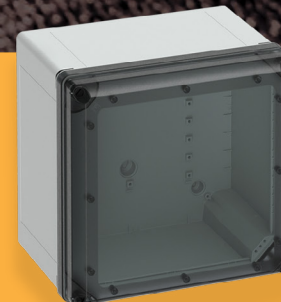
- UV and weather resistant
- Corrosion resistant
- Temperature resistant
- Rugged
- High impact resistance - IK 09

GEOS – FLEXIBLE

- Modular component mounting system
- Lightweight
- Easily machined
- Multiple mounting and closure options

GEOS – SAFE

- Drain Protect seal system
- Dust, rain, snow, sprayed water
- Air ventilation elements
- High protection rating IP 66 / IP 67
- Insulated protection
- Safety agency approvals (UL, CSA, VDE)



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