

PROTECTING YOUR VITALS

Key considerations when selecting enclosures

The IT equipment and infrastructure that protects our vital systems is becoming more intrepid by the day. We want control at the site of our operations whether its keeping water flowing to cities, managing communications outposts on hilltops or keeping plants running smoothly in industrial environments.

But sophisticated equipment venturing out into the field introduces additional risks that need to be managed and the solution most often turned to is an enclosure designed to protect your equipment from the impact of the environment it is deployed in.

Enclosures located outdoors must withstand potential ultra-violet (UV), solar heat, dust and debris, storms, wind and earthquakes. These harsh elements create unique reliability and protection needs.

Selecting the correct enclosure is a pivotal decision in enabling off the shelf IT infrastructure to be deployed in any environment without the need for purpose-built structures or facilities to house it.

Considerations such as the need for a cooling system, corrosion resistance and water or dust tight seals all help determine the best enclosure for providing appropriate levels of protection for your operations.

Choosing the Right Enclosure

1. Robust

New Zealand has a lot to throw at your enclosures so ensuring they're built from correctly rated materials is a great place to start. Many materials are available, all carrying advantages and disadvantages from price to durability. Price cannot be the only driver when security and durability are so crucial. Our coastal environment means outdoor deployments should specify marine grade aluminium and stainless steel to cope with the salt laden air. Quality UV stabilised painted metal enclosures should only be considered for outdoor applications. The colour of the painted enclosure also makes a large difference in the solar gain - white and polished metallic finishes produce the least solar gain and keep the internal equipment at a lower operating temperature.

2. impenetrable

Everything from vermin, dust, debris and moisture is trying to enter your enclosures so ensuring proper Ingress Protection (IP) is critical. IP classifications define and rate the protective characteristics of an enclosure as well as specifying protection against accidental contact

with live parts. IP rating codes consist of two numerals, the first (0-6) defines the protection against ingress of solid foreign objects and against access to hazardous parts and the second (1-8) defines the protection against the ingress of liquid. Determining the potential risks to your enclosure will help determine the required IP rating.

3. Seismically Rated

Our seismically active environment introduces the risk of shock and vibration in the event of an earthquake or tremor. Seismic ratings indicate the proper frame strength, rigidity and thickness of material used in an enclosure as well as its requirement for being anchored to the ground or floor with a suitably rated anchor kit. Consider the location and the criticality of the equipment contained when specifying an enclosure to ensure your equipment does not become over stressed or damaged.

4. Cooling

Heat poses one of the most significant risks to equipment regardless of where its deployed. Consider the heat generated by your equipment and how it will be dissipated. Any electrical enclosure will require an adequately sized cooling system to prevent overheating. With an enclosure properly sized to fit the equipment, and an enclosure cooling system designed to provide appropriate cooling, the equipment can be kept at the proper temperature regardless of our fluctuating ambient conditions.

5. Flexibility & Serviceability

Monitoring and accommodating for environmental changes could mean the difference in years and thousands of dollars to your operation. Choosing the correct provider of pre and post-sales support will further mitigate the risks to your operation. Ensure that the provider you select has engineering services available to customise a solution specific to your needs and that their enclosures are well supported in the New Zealand market.

While the enclosure is considered a low-tech purchase in the high-tech world there are significant considerations when it comes to safety, durability and suitability. By selecting a quality product that is designed for New Zealand conditions and supported locally you can ensure that your safety and the safety of your equipment will be guaranteed and operate as expected despite the environment in which it is deployed.