BE1-FLEX

Certified for Marine Applications

Technology faces several challenges when used in marine environments due to the harsh and corrosive nature of the marine environment. Additionally, as these environments are often far from mainland service and parts, reliability and safety are critically important. Some of these challenges include:

1. Corrosion: Saltwater is highly corrosive and can damage electronic components, connectors, and circuitry over time. Corrosion can lead to malfunctions, degraded performances, and ultimately, the failure of electronic devices.
2. Moisture and Humidity: High levels of moisture and humidity can penetrate electronic enclosures and cause condensation, leading to short circuits, electrical leakage and component failure.
3. Salt Spray and Dust: Salt spray and airborne contaminants can infiltrate electronic equipment causing corrosion, insulation breakdown, and electrical arcing.
4. Electromagnetic Interference (EMI): Marine environments can be rife with electromagnetic interference from onboard equipment, nearby vessels, and natural sources. EMI can disrupt the operation of sensitive electronic devices and communication systems.
5. Vibration and Shock: Marine vessels are subject to constant vibration and shock from engine operation, waves and impacts with debris or other vessels.
6. Temperature Extremes: Marine environment can experience wide temperature variations from extreme cold in polar regions to high heat in tropical climates.

Addressing these challenges requires the use of specialized marine-grade materials and robust environmental protection measure. Comprehensive testing and validation in simulated marine conditions are essential to ensure the reliability and durability of technology deployed in maritime environments.

BE1-FLEX

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The certification was performed by ABS (American Bureau of Shipping) and followed the EU RO Mutual Recognition for Electrical/Electronic Relays process. This is recognized by other certification groups such as BV, DNV, ClassNK and other's detailed below.

ABS is a classification society that provide services related to maritime safety, quality, and environmental performance. ABS plays a critical role in ensuring the safety, reliability, and environmental sustainability of ships, offshore structures, and marine equipment. They work closely with shipowners, shipbuilders, equipment manufacturers, regulatory authorities, and other stakeholder to promote best practices and uphold industry standards. Their classification and certification services help instill confidence in the safety and performance of maritime assets worldwide.

The BE1-FLEX includes robust designs for marine environments. It is designed to withstand the harsh conditions encountered in marine environments by including corrosion resistant materials. It is engineered to endure moisture, temperature extremes, and vibrations to ensure reliable operation in maritime conditions.

The BE1-FLEX complies with international standard and regulations governing electrical equipment in the maritime industry including IEC (International Electrotechnical Commission) standards and ABS rules and requirements. Its design and performance have been validated through extensive third-party testing and evaluation to ensure adherence to these standards.

Maritime Recognition

Certified per standard IACS UR E10 by American Bureau of Shipping (ABS).

EU RO Mutual Recognition for Electrical/Electronic Relays, recognized by the following:

- American Bureau of Shipping (ABS)
- Bureau Veritas (BV)
- China Classification Society (CCS)
- Croatian Register of Shipping (CRS)
- DNV
- Indian Register of Shipping (IRS)
- Korean Register (KR)
- Lloyd's Register Group Ltd. (LR)
- Nippon Kaiji Kyokai General Incorporated Foundation (ClassNK)
- Polish Register of Shipping (PRS)
- RINA Services S.p.A. (RINA)

BE1-FLEX
Protection, Automation and Control System