



Impressed Current Cathodic Protection

Benefits

- Advanced Mil-Spec systems with low noise and high accuracy
- Mil-SPEC shock, vibration, EMI/EMC and environmental
- Integrated computer control with multi-zones together with semi-distributed or fully distributed architectures
- Lower total power demand for corrosion, while minimizing UWEM electromagnetic signatures
- Full Design, Layout and Support for both Corrosion and Signature Control
- Technical support for calibration, light-off, and ranging
- Documentation and specification, ILS

Ultra Electronics, EMS Impressed Current Cathodic Protection (ICCP) System is a part of EMS' family of underwater electromagnetic signature products. The ICCP System provides superior cathodic protection while maintaining vessels' electromagnetic signature integrity. The system meets US Mil-SPEC and Defense Standards for naval applications.

Ultra Electronics, EMS designs and manufacturing processes warrant reliability, affordability and unprecedented system performance under most challenging shipboard environments.

An ICCP system designed by EMS consists of anodes surrendering current to the propeller in place of the steel-sacrificing current, thus inhibiting and stopping corrosion of the steel. The electric circuit is completed through the propeller shaft, the shaft bearings, the hull and the anode grounding circuit. The system uses closed-loop feedback control utilizing multiple control zones of reference sensors.

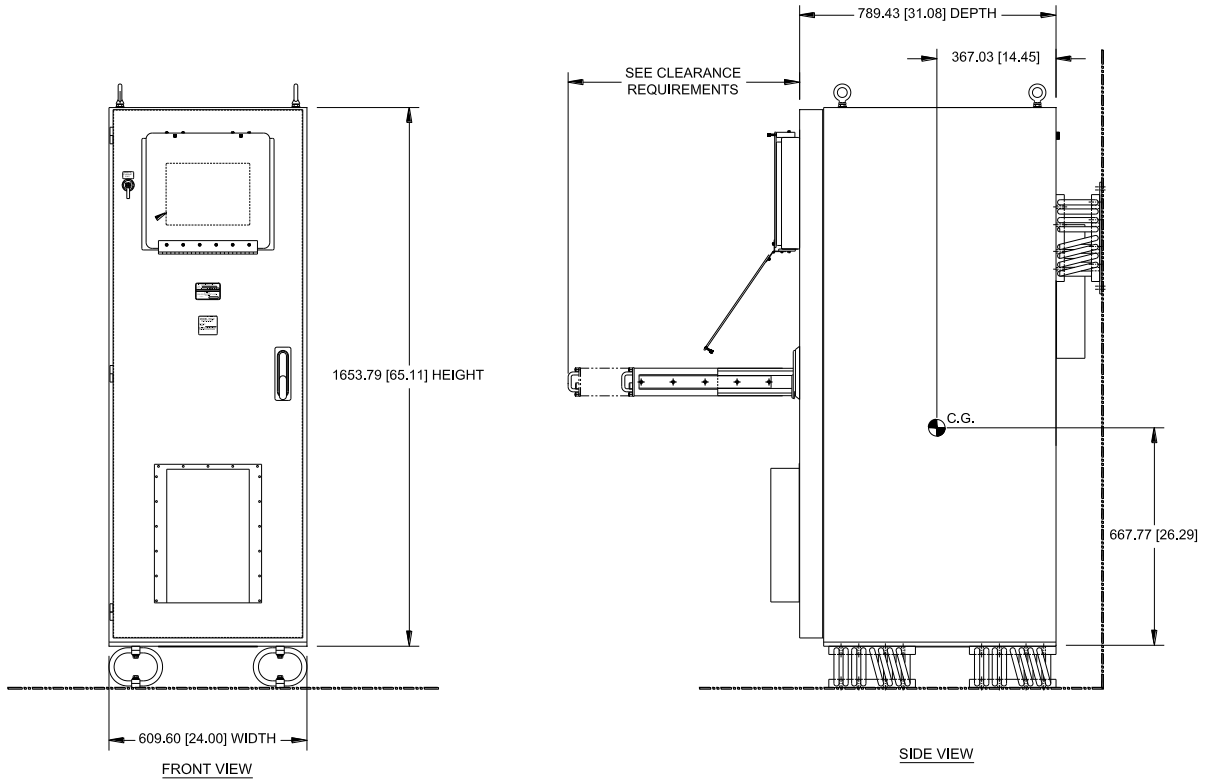
Ultra Electronics EMS is the premier supplier of underwater electromagnetic (UWEM) signature

products meeting and exceeding standards, requirements and specifications for the US Navy, UK Royal Navy, NATO, Republic of Korea Navy and other international bodies. This experience, combined with FEMAP design and analysis capabilities, enables EMS to offer UWEM signature management services that are tailored, both in cost and time, to the various phases of design, development and construction of ships and submarines.

Advantages:

- Reduces UEP and CRM signatures typically beyond 50-80% reduction
- Increased survivability and availability
- Enhanced operation and control stability
- Lower current and power drawn
- Modular system with optimized spares list
- Advanced communication architecture with ship's control systems
- Integration and communication with ASG/PSG

Mechanical Dimensions:



General Specification:

Note: Typical Low-Signature AICCP Systems employ 1 to 10 Cabinets as shown, for a total of 2 to 50 control zones, and 100 to 2000 Amps total.

Input Power:	440V,3PH, 60Hz (ungrounded) MIL-STD-1399 Section 300B STANAG 1008 Edition 8
Reference Cells	Quantity 1 to 12 (per cabinet)
Anode Power Supply	Quantity 2 to 10 (per cabinet)
APS Output	24VDC, 25ADC (per APS)
Zones	Quantity 1 to 5 (per cabinet)
Total Output Current	250A Max (per cabinet)
Isolation:	2.5kVrms Input to Output 2.5kVrms Input to Ground 2.5kVrms Output to Ground
Efficiency:	> 90% at rated power
Environment:	Temp: 0°C to 50°C Humidity: 0 to 95%, non cond. Vibration: MIL-STD-167-1 Shock: MIL-S-901 D EMI: MIL-STD-461F
Physical:	Depth: 31.1" (789.43mm) Width: 24.0" (609.60mm) Height: 65.11" (1653.79mm) Weight: 392lb (172kg) <i>with isolation mounts</i> Enclosure: IP44 (Forced Air) or Water Tight (Chilled Water) Cooling: Forced-air or Chilled Water



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