

Technical datasheet

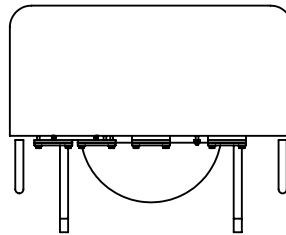
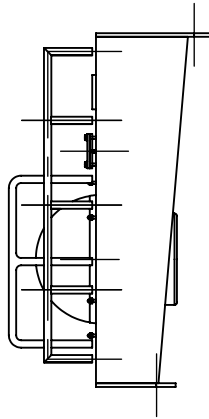
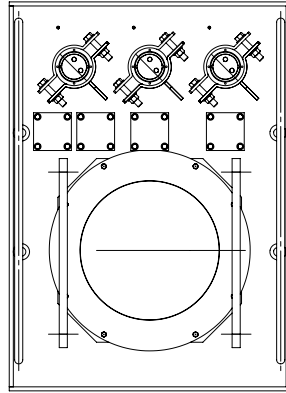
SunStation™ panel with sphere

General

The patented Polatrak SunStation is a light-powered LCD readout system designed to last more than 30 years. The new design allows for operation in up to 6700 m depths to display numerical data when activated by a powerful light source such as an ROV's porch lights.

The Polatrak Sunstation used in conjunction with Deepwater's CP monitoring instruments creates a unique subsea monitoring solution that can be fitted either directly to structures, pipelines and subsea equipment or using the SmartMat CP and RetroClamp system. When installed in critical areas, the SunStation system can greatly reduce inspection cost by redefining the requirements of the ROV class and equipment scope required to conduct a full cathodic protection survey.

The SunStation system has up to 6 channels each with an independent ground, so any Polatrak instrument can output to this device. Anode currents, for example, can now be read directly in real numbers, as can current densities and potentials.



Steel frame

Steel grade	ASTM A36 (or per project requirements)
Welding	In accordance with AWS D1.1 Flux core arc welding (FCAW)
Coating	Shot blast SA2.5 [white metal] 2 part epoxy paint system compliant with at least NORSOK M-501 system no. 7 MIN DFT 14 mils [350 microns]
Attachment methods	Direct welding Custom bolting pattern RetroClamp system

Frame (Item XX)

Dimensions	36" x 26" x 0.5" [914 x 660 x 12.5mm]
Color	Offshore safety yellow [Yellow 1004]
Stenciling (per project specifications)	Color - Black 9017 Cut out as per ISO 13628-1 Character height 2.38" [60mm]

Cabling (Item XX)

Continuity straps (Item xx)	Ø 0.19" [5mm] with 0.25" stake eye 316 stainless steel
Power cabling (Item xx)	Polyurethane 18 AWG 4 core
Data cabling (Item xx)	Polyurethane 18 AWG - Spliced to project specific cabling with subsea rated encapsulation

Glass housing (Item XX)

Dimension	Ø 13" Precision moulded sphere
Anti-fouling	Project specific
Material	Low-expansion borosilicate
Weight (Air)	32 lbs (14.5 kg)
Weight (Water)	17 lbs (7.7 kg) positive
Young's Modulus	62 Gpa (9x10 ⁶ p.s.i)
Protection casing	17" x 17" x 8" Neutrally buoyant polyethylene ribbed hardhat
Fasteners	0.38"-18 x 2.5 full thread 40% long glass filled polyurethane (Isoplast)
Power source (Item xx)	Ø 11" [280mm] Mono-crystalline Silicon Solar panel, 5W at 1000W/m ² irradiance

LCD Readouts (Item XX)

Pressure housing material	22,000 FSW (6700m) w/ titanium housing 10,000 FSW (3000m) w/ 316SS housing
Dimensions	Ø 3.5" x 7"
Weight (air)	9lb [4.1kg]
Lens	Clear acrylic
Voltage ranges	+1999 mV to -1999mV (1mV resolution) -199.9 mV to -199.9mV (0.1mV resolution)

Operating temp.	1°C to 55°C
Display	2 No. 3.5 digit 0.4" [10 mm] Ultra low power LCD display ± 1 mV
Accuracy	± 1 mV
Connector (Item xx)	4 pin wet-pluggable
Design life	30 years
Interrogation maximum distance	8 ft [2.5m] (with 500W light source in very good visibility)

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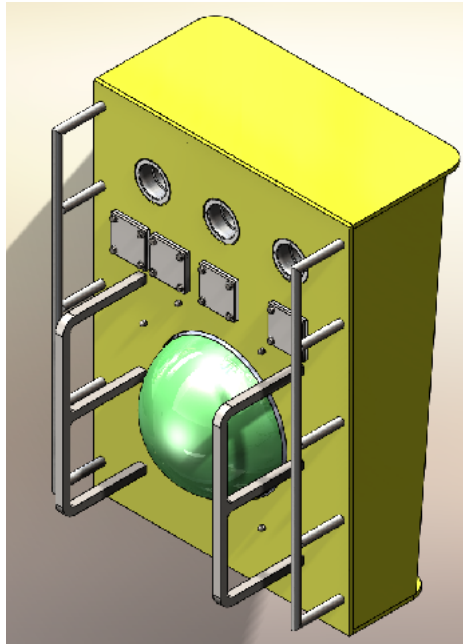
Overall nominal weights & dimensions (Item 1)

(Exact dimensions and weights may vary per project requirements)

Dimensions 36" x 26" x 18.5"
[914 x 660 x 470 mm]

Nominal Weight (Air) 300 lb (136 kg) +/- 10%

Nominal Weight (Water) 260 lb (118 kg) +/- 10%



Compatible instruments (Item 1)

Dual Reference Cell	(DR-2)
Monitored Al Anode	(MA-1)
Zinc Reference Electrode	(V-String)
Current Density Monitor	(DR-2 CD)
RetroClamp Mounted Dual Reference Cell	(DR2-Mini)

ROV grab handles (Item XX)

Dimensions Per ISO 13628-8
4.97" [125mm] off face plate
Ø 0.75" [20mm] round rod

Color Offshore safety orange [Orange 2004]

Capacity At least 500lb tensile [227kg]

Isolated stab plates (Item 1)

Dimensions 3.5" x 3.5" x 0.25" [89 x 89 x 6mm]

Isolation plate PVC 0.25" [6mm] thick

Isolation fasteners 0.25"-20 x 1.5
40% long glass filled polyurethane (Isoplast)

Bumper frame (Item 1)

Dimensions 17.5" x 8.5" x 0.75"
[445 x 216 x 19mm]

Color Offshore safety yellow [Yellow 1004]

Capacity At least 500lb tensile [227kg]