

Technical datasheet

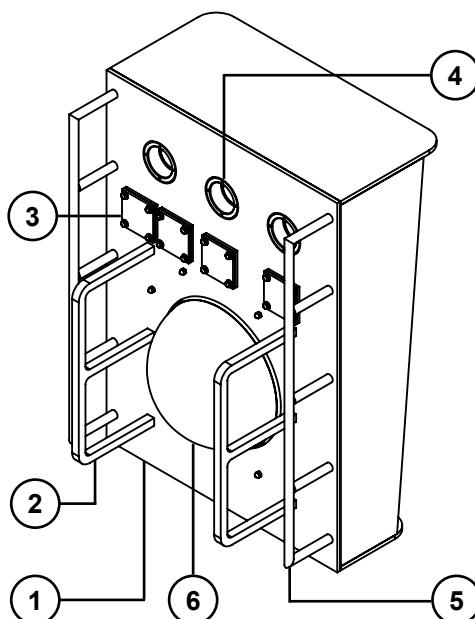
SunStation™ panel with sphere

General

Polatrak SunStation is a light-powered LCD readout system rated for operation in up to 3,000 m depths. The digital meters display numerical data when activated by a powerful light source such as an ROV's porch lights.

Polatrak SunStation, used in conjunction with Deepwater's CP monitoring instruments, creates a unique subsea monitoring solution that can be fitted directly to structures, pipelines and subsea equipment or by 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 is available with up to 6 channels each with an independent ground and is compatible with all Polatrak instrumentation. Anode currents, current densities and potentials can be read directly.



LCD readouts (Item 4)

Pressure housing	10,000 FSW (3000m) w/ 316SS housing
Dimensions	Ø 3.5" x 7" [Ø 89 X 178 mm]
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. 3½ digit 0.4" [10 mm] Ultra low power LCD display
Accuracy	± 1 mV
Design life	30 years
Interrogation distance maximum	8 ft [2.5m] (with 500W light source in very good visibility)

Compatible instruments

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

Bumper frame (Item 2)

Dimensions	17.5" x 8.5" x 0.75" [445 x 216x19mm]
Color	Offshore safety yellow [Golden Yellow RAL 1004]

ROV grab handles (Item 5)

Dimensions	Per ISO 13628-8 4.97" [125mm] off face plate Ø 0.75" [20mm] round rod
Color	Offshore safety orange [Pure Orange RAL 2004]
Capacity	At least 500lb tensile [227kg]

Steel frame (Item 1)

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 Min DFT 14 mils [350 microns]
Attachment methods	Direct welding Custom bolting pattern RetroClamp system
Dimensions	36" x 26" x 0.5" [914 x 660 x 12.5mm]
Color	Offshore safety yellow [Golden Yellow RAL 1004]
Stenciling (per project specifications)	Traffic Black RAL 9017 Cut out as per ISO 13628-1 Character height 2.38" [60mm]

Isolated stab plates (Item 3)

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)
Number	One per reference electrode

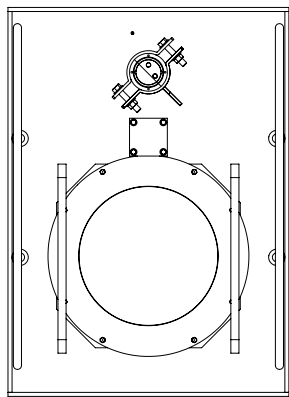
Cabling

Continuity straps	Ø 3/16" [5mm] with 1/4" [6 mm] stake eye 316 stainless steel
Power cabling	Polyurethane 18 AWG [0.75 mm²] 4 core
Data cabling	Polyurethane 18 AWG [0.75 mm²]- Spliced to project specific cabling with subsea rated encapsulation

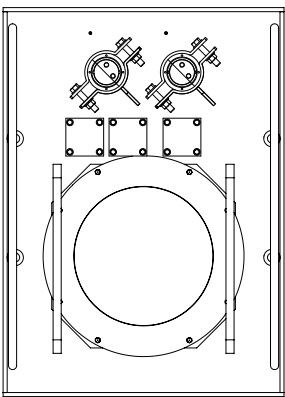
Glass housing (Item 6)

Dimension	Ø 13" [330 mm] Precision moulded sphere
Anti-fouling	Project specific
Material	Low-expansion borosilicate
Weight (Air)	32 lb [14.5 kg]
Weight (Water)	17 lb [7.7 kg] positive
Young's Modulus	9,000 Ksi [62 GPa]
Protection casing	17" x 17" x 8" [432 x 432 x 203 mm] Neutrally buoyant polyethylene ribbed hardhat
Fasteners	3/8"-18 x 2.5 full thread 40% long glass filled polyurethane (Isoplast)
Power source	Ø 11" [280mm] Mono-crystalline Silicon Solar panel, 5W at 1000W/m² irradiance

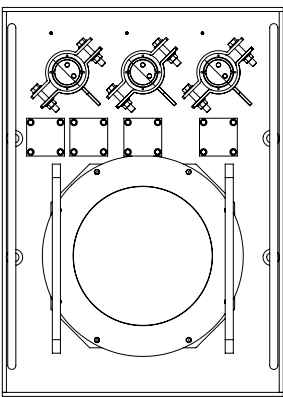
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2 Channel



4 Channel



6 Channel

Overall weights & dimensions (Item 1)

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%

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