

# Polatrak DR-2 dual reference cell

### General

Polatrak DR-2 is a rugged, dual-element reference electrode designed for permanent subsea attachment to provide cathodic protection potential data. A standard DR-2 is designed to operate for 25 years. The DR-2 has a machined black delrin body that houses the electrodes and enhances the impact resistance of the assembled instrument.

### Silver/silver chloride element (Item 1)

Material	Sintered Ag/AgCl on silver wire core
Dimensions	Ø 0.5" x 0.2" [ Ø 12 mm x 5 mm ]
Weight	0.09 oz [ 2.5 g ]
Accuracy	± 5 mV

### Zinc block element (Item 2)

Material	Zinc (high purity 99.95%)
Dimensions	6" x 5" x 1.5" [ 152 x 127 x 38 mm ]
Weight	8.7 lb [ 4 kg ]
Anti-passivation	Embedded carbon steel rods
Accuracy	± 20 mV

### Electrode housing (Item 3)

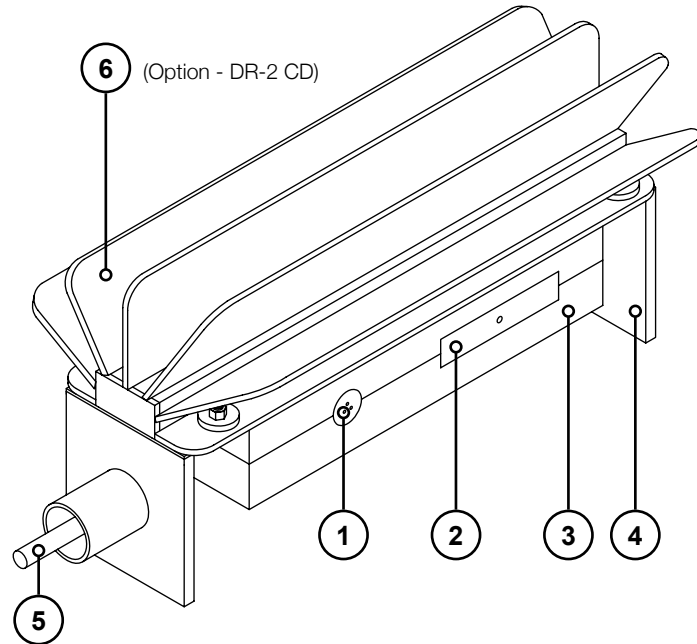
Material	Black Delrin
Dimensions	18" x 5" x 4" [ 457 x 127 x 102 mm ]

### Frame (Item 4)

Material	ASTM A36 carbon steel
Coating	15 mil [ 380 microns ] marine epoxy
Conduit interface	Pipe coupling - 2" NPT

### Overall weights & dimensions\*

<b>DR-2</b>	
Dimensions (W x H x L)	6" x 6.5" x 27" [ 152 x 165 x 685 mm ]
Weight (air)	49 lb [ 22.5 kg ]
Weight (water)	33 lb [ 15.1 kg ]
<b>DR-2 CD</b>	
Dimensions (W x H x L)	12" x 13" x 27" [ 304 x 330 x 685 mm ]
Weight (Air)	99 lb [ 45 kg ]
Weight (Water)	75 lb [ 33.8 kg ]



### Cable (Item 5)

	DR-2	DR-2 CD
Type	2 core armored Polatrak cable	4 core armored Polatrak cable
Core	2 x 12 AWG [ 3.3 mm <sup>2</sup> ] copper	4 x 12 AWG [ 3.3 mm <sup>2</sup> ] copper
Insulation	EPC	EPC
Bedding	EPC, drain wire, matrix filler and copper/mylar tape	EPC, drain wire, matrix filler and copper/mylar tape
Bedding jacket	Thermoplastic polyurethane	Thermoplastic polyurethane
Armor	2 layer SWA	2 layer SWA
Outer jacket	Black HDPE	Black HDPE
OD	0.560" [ 14 mm ]	0.875" [ 22 mm ]
Min. bend radius	11" [ 280 mm ]	15" [ 380 mm ]

### Current density fins for DR-2 CD (Item 6) - option

Description	Polatrak DR-2 CD combines the standard DR-2 dual-element reference electrode with a 10.7 ft <sup>2</sup> [ 1 m <sup>2</sup> ] current density monitor, providing a compact package giving accurate polarization data from a single instrument. The instrument may be either hard wired to a surface location or read subsea with a SunStation readout (See SunStation technical datasheet).
Material	ASTM A36 carbon steel 1/8" [ 3 mm ] sheet
Finish	Sandblast
Shunt calculation	1 mV = 10 mA/m <sup>2</sup>

### Mounting

DR-2 and DR-2 CD can be welded to or bolted to a new structure. DR-2 and DR-2 CD can also be bolted to an existing structure (See RetroClamp technical datasheet).