

Datasheet

Wideband BOP Portable Surface Controller System



Description

Sonardyne's Blow Out Prevention (BOP) Portable Surface Controller System is a self-contained unit that can be used as an alternative to the permanently installed rack mountable acoustic valve controller. The system comprises a Portable Acoustic Valve Controller, Surface Dunking Transceiver and Dunking Transceiver Cable

In the event of a loss of normal communications with a BOP stack, or inaccessibility to the rack mounted control system, the system can be used to execute emergency shutdown and riser disconnect procedures from a small vessel, a life raft or a helicopter.

The Type 8140-000-51 dunking transceiver is depth rated to 4000 metres so that it can be fitted to an ROV and during a subsea blow-out

can be moved close to the wellhead, to communicate over a shorter range and away from any oil and gas plume. This gives a much higher signal to noise ratio and much greater likelihood of successful communication.

Once decoded and validated, the acoustic commands from the surface are forwarded to the Subsea Electronics Module (SEM), which in turn activates solenoid valves which operate the hydraulic rams and close the stack down. Up to 12 function outputs operate the solenoid valves which control the hydraulic operation of BOP rams.

A single command cycle can be selected which initiates a pre-defined sequence of valve operations, considerably speeding up BOP shut-in and disconnect operations in an emergency.

Key Features

- Self-contained portable unit
- Allows operation from remote locations
- Transceiver depth rated to 4,000 metres.
- Deep rated dunking transducer allows ROV to operate the system close to wellhead
- Fully integrated with the rig's existing Sonardyne acoustic positioning systems
- Incorporates Sonardyne's highly reliable Wideband signal technology
- 8 hours operation from fully charged
- Single command cycle initiates pre-defined sequence of operation
- Backlit sunlight readable LCD

Specifications

Wideband BOP Portable Surface Controller System

Feature	Portable Acoustic Valve Controller (Type: 8157-000-01)
Universal Power Pack	100-240 V AC, 50-60 Hz (input) 24V DC (Output)
Battery Type	2 x Rechargeable 16 Volt 2.2 Ah Lithium ion
Battery Life	Approximately 8 hours operation from fully charged (compliant with API-16D Regulations > 50 Transmission in 4 hours)
Battery Charge Time	Approximately 10 hours from discharge
Panel connectors	1 x TCVR Port 1 x de Power (3-pin Souriau) 1 x USB (Type B) 1 x AUX RS232 Serial Port (8-pin Souriau)
Dimensions	441 mm (L) x 182 mm (H) x 203 mm (W)
Weight	6 kg
Enclosure	Splash-proof IP65 Rated
Operating Temperature	-20 to +60°C
Storage Temperature	-25 to +70°C -10 to +50°C (When on charge)
Design Qualification	API-16D
	Surface Dunking Transceiver (Type: 8140-000-51)
Operating Frequency	Sonardyne MF (19–36kHz)
Optimal Cone of Operation	±45°
Transmit Source Level	>193 dB re 1µPa @ 1m
Receiver Threshold	<100 dB re 1µPa @ 1m
Acoustic Communication Link	Robust Spread Spectrum – Sonardyne Messaging System (SMS)
External Supply	Supplied by portable AVC
Internal Emergency Battery Pack	Lithium-Ion 2.6Ah @ 15V DC
Communication	RS485 @ 9600 baud rate
Dimensions	563 mm (L) x 183 mm (Max. Dia.)
Weight in Air / Water	2.2 kg / 1.3 kg (with bumpers 13.7 kg / 12.8 kg)
External connectors	1 x MacArtney MCBH8M (Mating Tail MacArtney MCIL8F)
Depth Rating	3,000 Metres
Operating / Storage Temperature	-20 to +60°C / -25 to +70°C (-10° to +50°C when on charge)
Design Qualification	API-16D
	Transceiver Dunker Cable (Type: 8065-100-70)
Cable	70 m (L) x 10 mm (Dia.)
Minimum Recommended Bend Radius	Static 56 mm, Dynamic 125 mm
Drum Dimensions	Height 450 mm (H) x 261 mm (W) x 382 mm (D)
Weight in Air (Inc. Drum)	13 kg
Maximum Load	50 kg
Connector Specification	To Type 8140-000-51 Dunking Transceiver – MacArtney MCIL8F From Type 8136-060 Portable Deck Cable – Souriau UTO0128PH6