

**PRODUCT DATASHEET**

## **HYDRALIGHT**

### **48-CHANNEL, WET-MATE, ROV OPERABLE, OPTICAL CONNECTOR**



#### **KEY FEATURES**

- 3rd Generation optical wet mate connector
- APC contacts configurable up to a maximum of 48 channels per connector
- Synthetic mineral oil compensation fluid
- Highly compatible elastomers
- Field proven sealing mechanisms
- Oil filled and pressure balanced design
- Optical coupling within "joined chamber"
- Seawater compatible internal components
- ROV operable interface
- Linear latch and de-latch mechanism
- **SEA CON**® Precision MKII PBOF 13mm Hose interface

#### **DESIGN RATINGS**

- Depth Rating: 7,000m (23,000 feet)
- Design Life: 25 years
- Operating Temperature: -5°C to +45°C (23°F to +113°F)
- Storage Temperature: -25°C to +60°C (-13°F to +140°F)
- Maximum optical insertion loss of 0.5dB per channel
- Average optical insertion loss of 0.2dB per channel, with a standard deviation of 0.1dB
- Maximum optical back reflection of -45dB per channel
- Average optical back reflection of -50dB per channel, with a standard deviation of 4dB

#### **QUALITY**

- **SEACON** Advanced Products, LLC operate a Quality Management System accredited to ISO 9001:2008.



**SEACON Advanced Products, LLC.**

1321 Nelius Road, PO Box 767, Bellville, Texas 77418, USA

TEL: +1 (979) 865 8846 FAX: +1 (979) 865 8859

E-Mail: sales@seacon-ap.com Website: www.seacon-ap.com

SAPL-DS-0016

48 CHANNEL HYDRALIGHT

Rev 2

Page 1 of 3

## PRODUCT DATASHEET

### OPERATION

- Typical mate stroke length: 122 mm (4.8")
- Max rotational misalignment: 10°
- Max angular misalignment: 5°
- Max radial misalignment: 6.4 mm (0.25")
- Max handling load: 2500 N (560 lbs)
- Max ROV load: 5000 N (1120 lbs)
- Mating force: 64 kg force (140 lbs)
- De-mating force: 18 kg force (40 lbs)
- Compliant ROV handle
- Linear latch & de-latch mechanism
- Stab indication confirmed when visible orange color on bulkhead half is fully covered by the flying lead half
- Maximum mate/de-mate speed: 0.3m/sec (12"/sec)

### MATERIALS

- Main seawater wetted parts: Titanium
- Wave spring, retaining ring: Hastelloy
- Front Elastomeric seals: Fluorosilicone compound
- O-Rings: Fluorosilicone or Nitrile
- Scraper ring: Rulon
- Compensation fluid: Synthetic mineral oil
- Internal components: All seawater compatible

## PRESERVATION / HANDLING GUIDELINES

### 1. Preservation

- a) Storage temperature: -25°C to +60°C (-13°F to 140°F).
- b) When not in use, the connector should be stored in its shipping container with dust cap in place over the end.

### 2. Handling

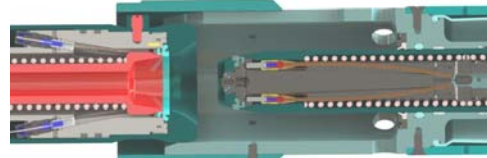
- a) Under no circumstances should any cover sleeve be retracted. Compensation fluid loss will automatically occur.
- b) Prior to mating any connector, check that no foreign objects, debris or packaging material is trapped within the housing or body. Clean all interface surfaces (wash with clean water) and apply a light coating of silicone grease to the elastomeric seals and mating surfaces.

## PRODUCT DATASHEET

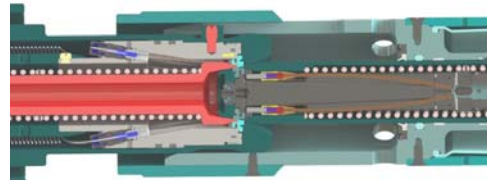
### PRINCIPLE OF OPERATION

The critical fiber-to-fiber joint is made without exposure to external contamination in a harsh subsea environment. This is achieved as both ends of the optical termination are protected from seawater, sand and silt by being enclosed within separate, oil-filled and pressure compensated chambers. The sequence of operation is as follows:

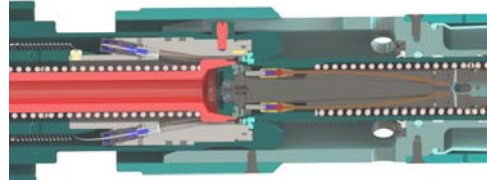
The first stage is the 'physical alignment' of the two connector halves. The receptacle is shown on the left and the plug on the right.



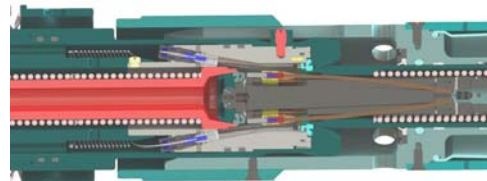
The next step is the 'front seals' of each connector half contact and engage on their respective other half.



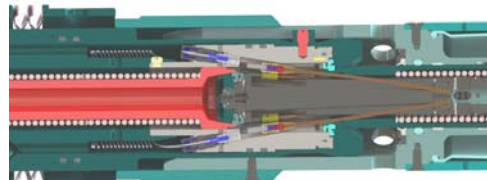
Continued mating 'squeezes out all external fluids and contaminants' as the connector halves seal against each other.



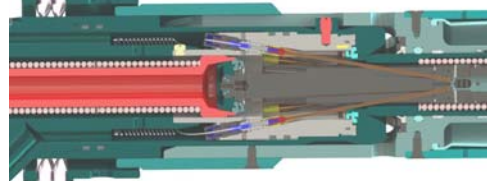
The two connector halves then open up into a single patented 'joined chamber'.



The connectors continue to move and the flexible contact guide tubes splay and align via guide-ways in their opposite half, which facilitates the coupling of the optical ferrules within the benign oil-filled environment.



The connector is fully mated.



All reasonable efforts have been taken to ensure that the information contained herein is accurate at the date of publication, but no representation or warranty as to the accuracy or completeness of such information is intended or to be implied by its inclusion herein. Any and all representations and warranties pertaining to the information and products referred to herein shall be set forth in SEACON® standard sales order form. In addition, SEACON® reserves the right to make changes to the contents hereof without notice, therefore it is suggested that at the time of inquiry, the appropriate sales office or factory be contacted directly for verification of published specifications and products availability.

© 2011 SEACON Advanced Products, LLC.  
ALL RIGHTS RESERVED

SEACON Advanced Products, LLC.

1321 Nelius Road, PO Box 767, Bellville, Texas 77418, USA

TEL: +1 (979) 865 8846 FAX: +1 (979) 865 8859

E-Mail: sales@seacon-ap.com Website: www.seacon-ap.com

SAPL-DS-0016

48 CHANNEL HYDRALIGHT

Rev 2

Page 3 of 3