

SEACON[®]

UNDERWATER ELECTRICAL AND FIBER OPTIC CONNECTORS



PRODUCTS 2011

This brochure contains many of our standard product lines which can be customized for higher pressures, different materials and higher electrical ratings or other parameters. Please contact SEA CON® for your special order requirements.

ELECTRICAL DRY-MATE PRODUCTS

SEA CON®'s electrical dry-mate connectors are mated in air with the mating interfaces being kept dry and sealed from the external environment. Once properly mated, the connector can be submerged to its rated depth.



RUBBER MOLDED (XS)

- 4 connector sizes
- Up to 12 contacts
- Up to 20,000 psi
- Up to 600 VDC (on standard cable)
- Up to 300 amps
- Neoprene, Glass Reinforced Epoxy, Stainless Steel, Delrin® (DuPont trademark for Acetal Resin)
- SO cable as standard
- Typical uses; Lights, cameras, swimming pool lighting & ROV's



Please see our RUBBER MOLDED brochure for more details



GRE (GLASS REINFORCED EPOXY)

- 4 connector sizes
- Up to 36 contacts including coax
- Optic available
- PBOF available
- Up to 20,000 psi
- Up to 2,800 VDC
- Up to 200 amps
- Glass Reinforced Epoxy, Stainless Steel, Delrin® (DuPont trademark for Acetal Resin)
- Typical uses; Lights, cameras and ROV's



Please see our GRE brochure for more details



CS-MS

- 2 shell sizes
- Up to 10 contacts
- Up to 7,000 psi mated
- Up to 500 VDC
- Up to 13 amps
- Optic available
- Oil Filled available as standard
- Aluminum, Glass Reinforced Epoxy
- Stainless Steel, Copper Alloy also available
- Typical uses; Cameras, lights and where size and weight is restricted



Please see our CS-MS brochure for more details



55 & 66 SERIES

- 5 shell sizes
- Up to 24 contacts
- Up to 10,000 psi mated/unmated
- 600 VDC
- 5 to 18 amps (dependent on contact size and cable)
- Oil filled options available
- Stainless Steel, Neoprene
- Non metallic PEEK version available
- Typical uses; UWTV, lights & ROV's



Please see our 55 & 66 SERIES brochure for more details



HUMMER

- 3 shell sizes
- Up to 28 contacts
- Up to 10,000 psi mated
- 300 VDC
- Up to 2.5 amps
- Copper Alloy, Glass Reinforced Epoxy, Neoprene Rubber, Delrin® (DuPont Trademark for Acetal Resin)
- Rubber jacketed cable as standard
- Typical uses; Lights, cameras and ROV's



Please see our HUMMER brochure for more details



MINI-CON / Micro MINI-CON

- 17 shell sizes
- Up to 203 contacts including coax (MINI-CON)/up to 26 contacts, no coax (Micro MINI-CON)
- Up to 16,000 psi
- Up to 5,000 VDC (MINI-CON)/300 VDC (Micro MINI-CON)
- Up to 50 amps dependent on cable (MINI-CON)/up to 4 amps (Micro MINI-CON)
- Glass sealed inserts available
- Optics & hybrid available
- Oil filled available
- Stainless Steel, Glass Reinforced Epoxy, Copper Alloy (MINI-CON)
- Titanium, Glass Reinforced Epoxy (Micro MINI-CON)
- Typical uses; Drilling systems, umbilical links & submarines



Please see our MINI-CON / Micro MINI-CON brochure for more details



MSS (METAL SHELL SERIES)

- 8 shell sizes
- Up to 156 contacts including coax
- Glass sealed inserts available
- Optics & hybrid available
- PBOF available
- Up to 20,000 psi
- Up to 600 VDC standard (higher ratings available)
- Up to 300 amps
- Stainless Steel, Glass Reinforced Epoxy, Copper Alloy
- Typical uses; Drilling systems, umbilical links for ROV's & submarines



Please see our MSS brochure for more details



GLOBE-CON

- 2 shell sizes
- Up to 12 contacts
- Up to 10,000 psi
- 300 VDC
- Up to 2.5 amps
- Wet-mate version available
- Stainless Steel, Glass Reinforced Epoxy, Neoprene Rubber, Copper Alloy
- Rubber jacketed cable as standard
- Typical uses; Lights, cameras and ROV's or where size is an issue



Please see our GLOBE-CON brochure for more details



MIL-SPEC

- Military specification and design
- Up to 10,000 psi
- Voltage: contact SEA CON® for details
- Current: contact SEA CON® for details
- Stainless Steel, Monej®
- Typical uses; Defense, energy, security, geophysical and telecommunication applications



Please see our SEA CON Phoenix, LLC brochure for more details

ELECTRICAL WET-MATE PRODUCTS

Our electrical wet-mate connectors enable the user to make and break connections both on the surface and underwater. Many of these connectors have been used successfully over the years for a variety of applications including underwater cameras, diver communications and ROV systems.



ALL-WET SERIES

- Round, split and flat configurations
- Up to 42 contacts
- Up to 20,000 psi
- Up to 600 VDC (with standard cable)
- Up to 50 amps
- Copper Alloy, Neoprene Rubber, Delrin® (DuPont trademark for Acetal Resin)
- SO cable as standard
- Typical uses; Diver communications, UWTV, lights, ROV's



Please see our **ALL-WET** brochure for more details



WET-CON

Micro WET-CON

Micro WET-CON Split

- Round, low profile and split configurations
- Up to 16 contacts
- Water blocked option available
- Up to 20,000 psi/10,000 psi for **Micro** and **Split** versions
- Up to 600 VDC with standard cable
- Up to 19 amps
- Copper Alloy, Neoprene rubber, Delrin® (Dupont trademark for Acetal Resin), SO cable as standard, Rubber jacketed cable as standard for **Micro** and **Split** connectors
- Typical uses; Diver communications, UWTV, lights & ROV's



Please see our **WET-CON / Micro WET-CON / Micro WET-CON Split** brochure for more details



SEA-MATE

- Second generation **U-MATE**
- 4 Shell sizes
- Up to 37 contacts
- Oil filled option available
- ROV mateable version available
- Up to 7,500 psi
- Up to 600 VDC
- Up to 10 amps/50 amps (for new high power version)
- Stainless Steel, Glass Reinforced Epoxy, Neoprene Rubber, Copper Alloy
- Typical uses; Diver communications, UWTV, lights, ROV's & ship to shore communications



Please see our **SEA-MATE** brochure for more details



U-MATE

- Still available but superseded by **SEA-MATE**
- 3 Shell sizes
- Up to 12 contacts
- Up to 5,000 psi
- Up to 600 VDC
- Up to 10 amps
- Stainless Steel, NES 833 engaging nut as standard
- Typical uses; Diver communications, UWTV, lights, ROV's & ship to shore communications



Please see our **U-MATE** catalogue section via our website for more details - www.seaconworldwide.com

OPTICAL HYBRID DRY-MATE PRODUCTS

As fiber optic communication continues to evolve, the **SEA CON®** Group are able to offer a comprehensive and extensive range of fiber optic products which are designed and manufactured to meet the specific and varied environmental conditions demanded today.



DRY-MATE FIBER OPTICS

- Single-mode & multi-mode
- Using Standard Connector Ranges:
MINI-CON, M56, OPTI-CON, CS-M6, XSJJ
- Insertion loss < 1.0dB (or < 0.5dB)
- Up to 20,000 psi
- Glass sealed options available in some connector styles and types
- Typical uses; Sonar & surveillance systems, ROV's/AUV's, BOP monitoring equipment, neutrino detection, stress monitoring, subsea camera systems & downhole applications



Please see our **FIBER OPTIC** brochure for more details



OPTI-CON

- 5 Shell sizes
- Up to 20 contacts in any electrical or optical configuration, single-mode or multi-mode
- Up to 7,500 psi
- 600 VDC
- 4 amps
- Oil filled hose as standard with molded unit as a cost option
- Stainless Steel
- Typical uses; Cameras, monitoring equipment, sonars, towed arrays and any applications requiring high data transfer rates



Please see our **OPTI-CON** brochure for more details



HP/HT (DOWNHOLE)

- Optical, electrical and hybrid (electro/optic) versions available: 2-channel optical
2-channel electrical
4-channel hybrid (2 electro/2 optic)
- Up to 10,000 psi
- Up to 600 VAC
- Up to 2.5 amps
- Less than 1 inch in diameter
- Field installable termination
- Maximum optical attenuation: 0.3dB
- Maximum optical back reflection: -50dB
- Inconel 625
- Typical uses; High-pressure and high-temperature applications, Downhole & tree/tubing hanger systems



Please see our **HP/HT** Connectors datasheet for more details - **SAPL-DS-0012**

ELECTRICAL UNDERWATER MATEABLE PRODUCTS

SEA CON®'s underwater mateable electrical connectors have features that protect the electrical contacts from the external environment. In addition, pressure compensated fluid-filled chambers allow repeated mates/de-mates underwater without servicing.



CM2000

- Simple & unique design features combining superior electrical isolation ensuring high connector reliability
- Stab, diver and ROV configurations
- Standard 4, 7 & 12 contacts
- Other configurations up to 19 contacts
- Up to 10,000 psi
- Up to 3.3kVAC
- Up to 100 amps
- Titanium, 17-4 PH, Nitronic 50, Inconel®. Others available on request.
- Typical uses; Production control, drilling control, ROV, AUV systems, communications & power

Please see our **CM2000** datasheet for more details - SAPL-DS-0004

Please see our **CM2000** 3.3kVAC datasheet for more details - SAPL-DS-0014

Please see our **CM2001** datasheet for more details - SAPL-DS-0005

OPTICAL UNDERWATER MATEABLE PRODUCTS

Our underwater mateable optical connectors manufactured by SEA CON Advanced Products, LLC of Bellville, Texas, USA include the field proven **HYDRALIGHT** second generation fiber optic connector, the **S-SERIES**, **MICROSTAR** and new **G3** third generation connector suitable for downhole applications.



HYDRALIGHT

- 2nd generation, field proven, underwater mateable connector
- 8-channel optic only
- Up to 10,000 psi
- Oil filled and pressure balanced
- Qualified for 7,000m
- Average single mode insertion loss of less than 0.2dB
- Average single mode back reflection of -50dB
- Titanium
- Design life of 25 years
- Typical uses; High speed communications, long-distance, production control, pumping systems, sensing systems, Riser and PRM systems

Please see our **HYDRALIGHT** datasheet for more details - SAPL-DS-0001



S-SERIES S-4

- Simple & unique design based on **CM2000**
- 4-channel optic
- Up to 3,000 psi
- Up to 3.3kVAC
- Up to 100 amps
- Insertion loss better than -0.5dB
- Average back reflection better than -40dB
- Operating temperature -5°C to 45°C (23°F to 113°F)
- Hybrid capability
- Oil filled hose, molded or customer specific terminations
- Stainless Steel, Beryllium Copper
- Typical uses; High speed communications, long-distance, production control, shallow-water, lower cost, clear-water

Please see our **S-SERIES S4** datasheet for more details - SAPL-DS-0007



G3

- 3rd generation connector utilizing **HYDRALIGHT** technology
- Suitable for stab, diver and ROV operations
- 6-channel optic (single-mode, multi-mode)
- Up to 15,000 psi
- Internal pressure compensated
- Operating temperature 150°C (302°F)
- Very small form factor with low loss optical performance
- Few internal moving parts
- Simplicity of operation
- Stainless Steel, Titanium
- Typical uses; High speed communications & fiber sensing, long-distance, production control, space-restricted applications, tree/tubing hanger systems, DTS, DPS, DAS systems

Please see our **G3** datasheet for more details - SAPL-DS-0013



S-SERIES S-1

- Small size, simple & robust with few moving parts
- Single channel optic
- Tested to 3,200 ft (1,000m)
- Insertion loss better than 0.5dB
- Average back reflection better than -40dB
- Operating temperature -5°C to 30°C (23°F to 86°F)
- Life cycle of up to 25 mates/de-mates
- Maintenance free over design life (within number of mate/de-mate cycles)
- Beryllium Copper or other customer specific materials; Stainless Steel, CA630
- Typical uses; High speed communications, long-distance, production control, shallow-water, lower cost, clear-water, space-restricted applications

Please see our **S-SERIES S1** datasheet for more details - SAPL-DS-0002



MICROSTAR

- Vertical tree connector
- 4-channel optic only
- Up to 10,000 psi
- To be qualified for 7,000m
- Insertion loss of better than -0.5dB
- Back reflection of better than -30dB
- Operating temperature -5°C to 121°C (23°F to 250°F)
- Design life of 25 years
- Super Duplex Stainless Steel
- Typical uses; High speed communications, long-distance, production control, space-restricted applications, tree/tubing hanger systems

Please see our **MICROSTAR** datasheet for more details - SAPL-DS-0006

FIELD INSTALLABLE PRODUCTS

In recent years the search for oil has required operations in progressively deeper waters by mobile offshore drilling units. Drilling at these depths places strong demands on equipment, particularly the cable and connectors that link subsea operations to the surface. SEA CON® addressed the equipment problem by developing an underwater connector system with high reliability, improved condition assessment capability and better maintainability. SEA CON®'s next-generation multiplex (MUX) cable termination system is the tangible result of the company's ability to apply real-world operator field experience to its product design and produce a step-change improvement in connector performance.

SEA CON®'s range of MUX systems consist of 1 Atmosphere and Positively Pressurized (RUFF-NEK) connector solutions as well as the new underwater cable termination system which consists of the ARMOR TERMINATION ASSEMBLY (ATA), BREAKAWAY UNIT and RUFF-NEK connector.

The RUFF-NEK connector is an electro/optical/mechanical termination that contains an integral system that does not rely on separate external compensator systems to apply a constant overpressure (internal pressure greater than external pressure) to the end of the cable and termination volume. The overpressure is maintained at 15 pounds per square inch (psi) over ambient pressure and helps to prevent water intrusion into the termination chamber that could be caused by flooding of the conductor strands (in the event of cable jacket and conductor insulation breach) or by seal failure. In the cable termination system the ATA is affixed to a clevis mount (padeye) at a convenient location on the BOP (Blow Out Prevention) stack while the RUFF-NEK connector mates to either a transformer module, crossover or directly to the subsea electronics module (pod). The orientation aspect that can be a problem with a conventional connector is eliminated due to the breakaway unit that interfaces the ATA with the BOP, enabling a connection in 90-degree intervals.

There are many benefits to the cable termination system including a lighter, more manageable connector, separate armor termination function from electrical connector function and a controlled breakaway function.

Every seal is redundant (e.g., dual versus single o-ring) for maximum reliability, and everywhere possible, the seals are testable to enable verification of seal integrity off the critical path. The RUFF-NEK connector provides visual verification of correct pressure over ambient. It also includes the ability to electrically check for fluid contamination without opening the connector.

ARMOR TERMINATION ASSEMBLY (ATA)
Please see our ATA datasheet for more details - SAPL-DS-0107

BREAKAWAY UNIT
Please see our BREAKAWAY UNIT datasheet for more details - SAPL-DS-0106

MSSQ RUFF-NEK
Please see our MSSQ RUFF-NEK datasheet for more details - SAPL-DS-0111 and MSSQ RUFF-NEK DOUBLE CHAMBER datasheet for more details - SAPL-DS-0114

SBP SERIES FIELD INSTALLABLE & TESTABLE ASSEMBLY (FITA)
Please see our SBP SERIES FITA datasheet for more details - SAPL-DS-0113

FIELD INSTALLABLE & TESTABLE ASSEMBLY (FITA)
Please see our FITA datasheet for more details - SAPL-DS-0108

SUBSEA UMBILICAL TERMINATION ASSEMBLY (SUTA)
Please see our SUTA datasheet for more details - SAPL-DS-0112

RIGHT ANGLE FLANGED CONNECTOR RECEPTACLE (FCR)
Please see our RA-FCR datasheet for more details - SAPL-DS-0109

MSSQ FLANGED CONNECTOR RECEPTACLE (FCR)
Please see our MSSQ FCR datasheet for more details - SAPL-DS-0110

ATA FITA Termination System

OPTICAL & ELECTRICAL PENETRATORS



We manufacture a wide range of penetrators for use in applications in which a waterproof seal needs to be made between a cable and a pressure vessel. This is often accomplished using a connector set, but if there is no requirement to separate the cable from the equipment a penetrator can be used. Typical uses; high speed communications, long-distance, production control.

Please see our OPTICAL FIBER PENETRATORS datasheet for more details - SAPL-DS-0120 or see our PENETRATORS catalog section via our website - www.seaconworldwide.com

DOWNHOLE PRODUCTS

Our range of products for downhole applications include the **HP/HT** connector available in either electrical, optical or hybrid versions and recently developed **G3** 3rd Generation 6-channel optic which combines the strength of the **HYDRALIGHT** design with the latest technology from the telecommunications industry.

For further information please see our **DOWNHOLE** catalog section via our website - www.seaconworldwide.com or see the individual datasheets below;

G3



- 3rd generation connector utilizing **HYDRALIGHT** technology
- Suitable for stab, diver and ROV operations
- 6-channel optic (single-mode, multi-mode)
- Up to 15,000 psi
- Internal pressure compensated
- Operating temperature 150°C (302°F)
- Very small form factor with low loss optical performance
- Few internal moving parts
- Simplicity of operation
- Stainless Steel, Titanium
- Typical uses; High speed communications & fiber sensing, long-distance, production control, space-restricted applications, tree/tubing hanger systems, DTS, DPS, DAS systems

Please see our **G3** datasheet for more details - SAPL-DS-0013

MICROSTAR



- Vertical tree connector
- 4-channel optic only
- Up to 10,000 psi
- To be qualified for 7,000m
- Insertion loss of better than -0.5dB
- Back reflection of better than -30dB
- Operating temperature -5°C to 121°C (23°F to 250°F)
- Design life of 25 years
- Super Duplex Stainless Steel
- Typical uses; High speed communications, long-distance, production control, space-restricted applications, tree/tubing hanger systems

Please see our **MICROSTAR** datasheet for more details - SAPL-DS-0006

HP/HT (DOWNHOLE)



- Optical, electrical and hybrid (electro/optic) versions available: 2-channel optical
2-channel electrical
4-channel hybrid (2 electro/2 optic)
- Up to 10,000 psi
- Up to 600 VAC
- Up to 2.5 amps
- Less than 1 inch in diameter
- Field installable termination
- Maximum optical attenuation: 0.3dB
- Maximum optical back reflection: -50dB
- Inconel 625
- Typical uses; High-pressure and high-temperature applications, Downhole & tree/tubing hanger systems

Please see our **HP/HT** Connectors datasheet for more details - SAPL-DS-0012

4 CHANNEL DRY-MATE FIBER OPTIC CONNECTOR



- Small compact connector
- 4-channel optic
- Up to 10,000 psi
- Single-mode or multi-mode fiber accommodated
- Dual "O" seals
- PBOF available
- Field installable (in certain environments)
- Operating temperature -20° to 150°C (-4°F to 300°F)
- Titanium or 17-4 PH. Others available to suit different specification/compatibility requirements
- Typical uses; Downhole applications

Please see our **4 Channel Dry-Mate Fiber Optic Connector** datasheet for more details - SCE-DS-0001

CM2001



- High integrity, single pin, electrical connector
- Less than 1 inch diameter
- Up to 10,000 psi
- 1,000 VAC
- Up to 10 amps
- Rated to 7,000m
- Oil filled, molded cable, customer specific terminations
- Extensive qualification testing data available
- Titanium, 17-4 PH, Nitronic® 50, others available upon request
- Typical uses; Production control systems, communications, space-restricted applications, Downhole & XT's

Please see our **CM2001** datasheet for more details - SAPL-DS-0005

VITON®



- High temperature, small diameter and weight
- 8 electrical contacts
- Up to 20,000 psi
- 600 VDC
- 2.5 amps
- Harsh environment compatible
- Positive external grip for disconnection
- Field installable free halves
- Wet mateable
- Operating temperature +200°C (392°F)
- Body material; DuPont VITON®
- Typical uses; Downhole applications

Please see our **VITON®** datasheet for more details - SCE-DS-0009

ETHERNET PRODUCTS



With ever increasing inquiries for connectors to be used for Ethernet applications and our continuous program of specifying suitable connectors from our standard range for use on these systems, **SEA CON®** has identified a number of standard connector ranges suitable for Ethernet use. These include;

- HUMMER:** Dry-mate, up to 1Gbps, up to 100m cable length, 10,000 psi/690 bar
- Micro WET-CON:** Wet-mate, up to 1Gbps, up to 100m cable length, 10,000 psi/690 bar
- MINI-CON:** Dry-mate, up to 1Gbps, up to 90m cable length, 16,000 psi/1200 bar

The initial examination consisted of mating pairs of each connector range and testing against the requirements for the various Ethernet communications standards with a Validator NT955 high speed certifier. Following these tests, the cable/connector assemblies were subjected to pressure testing and certified under pressure.

The above tests are for the first products qualified. Additional testing is on-going on a variety of **SEA CON®** products for Ethernet use.

Please see our **ETHERNET** news bulletin for more details via our website - www.seaconworldwide.com

SPECIALTY PRODUCTS

The SEA CON® Group has produced many specialty products for customers over the years. These include the VITON® connector developed for a high temperature and high pressure application, cable protection products such as the Universal Joint Bend Restrictor and a range of fiber optics.

For further information please see our **SPECIALTY PRODUCTS** catalog section via our website - www.seaconworldwide.com or see the individual datasheets below;



VITON®

- High temperature, small diameter and weight
- 8 electrical contacts
- Up to 20,000 psi
- 600 VDC
- 2.5 amps
- Harsh environment compatible
- Positive external grip for disconnection
- Field installable free halves
- Wet mateable
- Operating temperature +200°C (392°F)
- Body material; DuPont VITON®
- Typical uses; Downhole applications

Please see our VITON® datasheet for more details - SCE-DS-0009



SUBSEA JUMPER ASSEMBLY AND DISTRIBUTION HARNESS

- Fiber management
- Good cable flexibility (typical 5" bend radius)
- Deployment techniques similar to jacketed cable
- Good ROV maneuverability during connector mating
- Easy interface to connector
- Early leak detection
- Ease of repair
- Double Barrier against water ingress
- Temperature and pressure Compensated
- Size 13mm & 20mm ID (Other Sizes Available upon request)
- Multi-mode & single-mode available
- Typical uses; Ocean science observatories, towed arrays, drilling systems, production control systems and ROV's

Please see our SUBSEA JUMPER AND DISTRIBUTION HARNESS datasheet for more details - SAPL-DS-0022



SUTA (SUBSEA UMBILICAL TERMINATION ASSEMBLY)

- Integral Fiber Management System
- High Pressure Fiber Optic Feed through Penetrations
- Dual cone, mechanical armor plug
- Overall boot sealed
- Depth rating: Full Ocean Depth
- Oil filled and pressure compensated
- Compatible with embedded & non-embedded MUX cables
- Field installable (no compounds)
- Options for multiple cable entry/multiple connections

Please see our SUTA datasheet for more details - SAPL-DS-0112



UNIVERSAL JOINT BEND RESTRICTOR

- Utilizes a universal joint design that allows cable bending through restricted space areas whilst still providing an adequate level of strain relief and bend restriction
- Suitable for MSS, MINI-CON & Micro MINI-CON
- Operating Tensile Load: 267 kN (60,000 lbf)
- Dynamic Cyclic Bend Load: 50 kN (11,000 lbf)
- Depth Rating: 1,500m (5,000 feet)
- Typical uses; Deepwater applications, small bore modular arrays

Please see our UNIVERSAL JOINT BEND RESTRICTOR datasheet for more details - SEACON-DS-0001

UNDERWATER SWITCH PRODUCTS

Our variety of versatile and robust switches include Limit, Positive Action and Proximity which are available in a range of materials including Titanium, Plastic and Stainless Steel. In addition we also offer a Modular Proximity Switch that has been integrated with the Micro WET-CON electrical wet-mate connector. Typical uses; position and limit indication, Hall effect, diver communications, dead-switches, communications.

For further information please see our **SWITCHES** catalog section via our website - www.seaconworldwide.com or see the individual datasheets below;



LIMIT

- Hermetically sealed
- Up to 6,000 psi
- Rated for > 50,000 cycles
- Load capacities; 1 & 7 amps
- Single pole, double throw
- Stainless Steel or Titanium
- Non-metal options available

Please see our Limit Switches datasheet for more details - SAPL-DS-0020



PROXIMITY

- Hermetically sealed
- Up to 6,000 psi
- Rated for > 50,000 cycles
- Load capacities; 1 & 7 amps
- Standard proximity and hall effect
- Stainless Steel or Titanium
- Proximity switch meets NAVSEA requirements for part number 5162424-101-11
- Magnet retainer meets NAVSEA requirements for part number 5062424-102-11

Please see our Proximity Switches datasheet for more details - SAPL-DS-0023



PLASTIC LIMIT

- Rated for > 50,000 cycles
- Pressure rated up to 500 ft (152m)
- Load capacities; 1 & 7 amps
- Single pole, double throw
- Black Acetal (Delrin® - Dupont trademark for Acetal Resin) construction

Please see our Plastic Limit Switches datasheet for more details - SAPL-DS-0021



MODULAR PROXIMITY

- Hermetically sealed
- No o-rings or gaskets
- Up to 6,000 psi
- Rated for > 50,000 cycles
- Load capacities; 1 & 7 amps
- Standard proximity and hall effect
- Manufactured to NAVSEA requirements
- Incorporates MC-BH-3M connector
- Reinforced Neoprene mold

Please see our Modular Proximity Switches datasheet for more details - SAPL-DS-0024



POSITIVE ACTION

- Hermetically sealed
- Up to 6,000 psi
- Rated for > 50,000 cycles
- Load capacities; 1 & 7 amps
- Single pole, double throw
- Stainless Steel or Titanium

Please see our Positive Action Switches datasheet for more details - SAPL-DS-0022

SEACON® SEA CON®
1700 Gillespie Way,
El Cajon, California 92020, USA.
TEL: +1 (619) 562-7071
FAX: +1 (619) 562-9706
E-Mail: seacon@seacon-usa.com
Website: www.seaconworldwide.com

SEACON® SEA CON US GULF AREA SALES OFFICE
21925 Franz Road, Suite 401,
Katy, Texas 77449, USA.
TEL: +1 (281) 599-3509
FAX: +1 (281) 599-3517
E-Mail: gulfcoastsales@seaconbrantner.com
Website: www.seaconworldwide.com

SEACON® SEA CON US EAST COAST SALES OFFICE
50 Airport Road,
Westerly, RI 02891, USA.
TEL: +1 (401) 348-0155
FAX: +1 (401) 348-0227
E-Mail: eastcoastsales@seaconbrantner.com
Website: www.seaconworldwide.com

SEACON® SEA CON FLORIDA SALES OFFICE
Building B, Suite 22,
3959 South Nova Road,
Port Orange,
Florida 32127, USA.
TEL: +1 (281) 802-5504
E-Mail: steven.thumbek@seacon-ap.com

SEACON advanced **SEACON ADVANCED PRODUCTS, LLC**
1321 Nelius Road, P.O. 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

SEACON brazil **SEACON BRAZIL**
Rua Conde de Bonfim 120 sala 212,
Tijuca, Rio de Janeiro,
Brazil, CEP: 20520-053.
TEL: +55 (21) 8849-3336
E-Mail: renata@seacon-ap.com

SEACON europe **SEACON (europe) LTD**
Seacon House, Hewett Road,
Gaptown Industrial Estate,
Great Yarmouth, Norfolk, NR31 0RB, UK.
TEL: +44 (0) 1493-652733
FAX: +44 (0) 1493-652840
E-Mail: sales@seaconeurope.com
Website: www.seaconeurope.com

SEACON global **SEA CON GLOBAL PRODUCTION**
Callejon Terrazos #8, Local 2-C,
Las Brisas 1ra. Seccion,
Tijuana, B.C., Mexico C.P. 22610.
TEL: +52 (664) 626-2726
FAX: +52 (664) 686-8922
E-Mail: sales@seaconglobal.com
Website: www.seaconglobal.com
Dial from U.S.A. TEL: +1 (619) 308-7901
TOLL FREE: (888) 562-7072
FAX: +1 (619) 308-7900

SEACON phoenix **SEACON PHOENIX, LLC.**
15 Gray Lane, Suite 108,
Hopkinton Industrial Park,
Ashaway, RI 02804, USA.
TEL: +1 (401) 637-4952
FAX: +1 (401) 637-4953
E-Mail: sales@seaconphoenixllc.com
Website: www.seaconphoenixllc.com

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 SEA CON® standard sales order form. In addition, SEA CON® 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 SEA CON®

ALL RIGHTS RESERVED