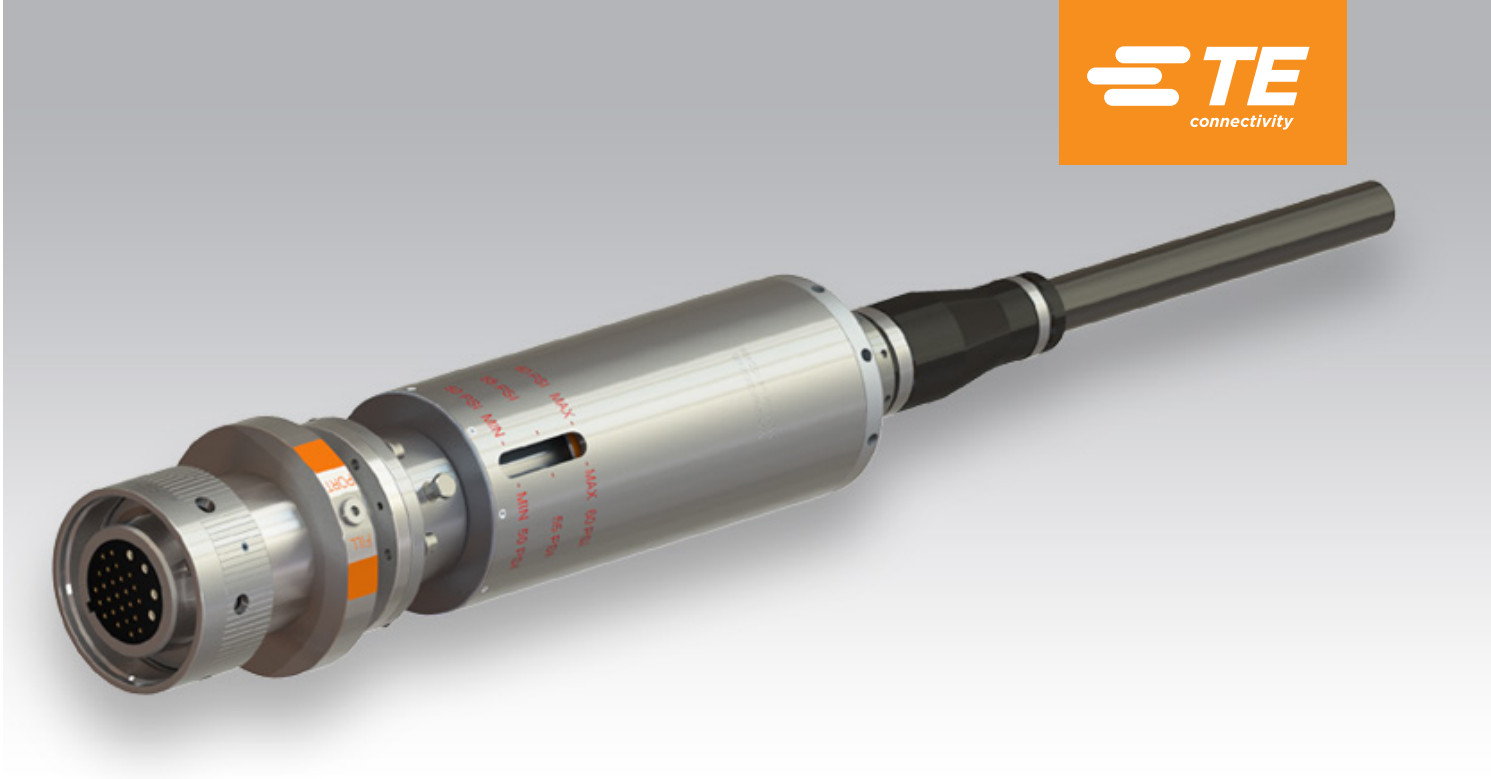

SEACON
Metal Shell Series (MSS) Q Cable Connector Plug (CCP)

Positively Pressurized, Deepwater MUX Cable Connector

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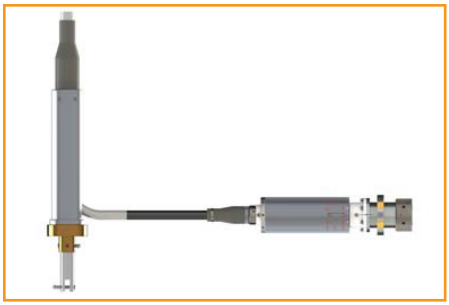

KEY FEATURES

- Overall Length: 24.2" (615mm)
- Overall Diameter: 4.75" (120mm)
- Megger Test Pin: Allows non-intrusive IR testing for presence of water inside
- Test Port: Verifies o-ring integrity in mated connector condition
- Modular Cable Terminations
- Field Installable (no compounds)
- Internal connector oil volume is positively pressurized to a maximum of 60 psi (4.0 Bar)

Description

The MSSQ-CCP connector is a MUX cable termination that maintains a constant positive pressure (max 60 psi / 4.0 Bar) inside its oil-filled volume via a spring-loaded piston. This helps prevent water ingress to internal conductor elements that could create electrical short circuits. Additional internal water barriers are formed through advanced elastomeric boot sealing technology to seal each individual cable element. This helps ensure full functionality even in a major event where the internal oil volume becomes completely water flooded. The MSSQ-CCP is field installable and testable. It is currently available in both all-electric and hybrid (electro-optic) configurations as listed in the tables on page 3. The overall connector designs are modular, where only the cable termination element needs to be specifically designed to suit the characteristics of different cables.

Specifications

MATERIALS

- 15-5 PH Stainless Steel, 316 Stainless Steel, 17-4 PH Stainless Steel, CA360, Titanium Grade 5
- Electrical and electro-optical inserts: Glass Reinforced Epoxy (GRE), 316 Stainless Steel
- **Elastomers:** Neoprene, Nitrile, Chlorosulphonated Polyethylene (CSM)
- **Internal Volume Fluid Type:** DC200 or DC710 non-conductive silicone oil

PRINCIPLE OF OPERATION

The MSSQ-CCP was designed to be an integral part of the MUX umbilical cable termination system. The Armor Termination Assembly (ATA) is secured to the host structure using a Breakaway Unit that is designed to separate at a pre-determined load of approximately 8,000 lbf (35,600 N). The cable armor is terminated to the ATA, which removes the cable strain from the connector. The cable inner jacket is then routed and the smaller, more manageable MSSQ-CCP is connected to the host control system. In the case of unintentional Blowout Preventer (BOP) disconnect, the Breakaway Unit shears and the unarmored section of cable pulls out of the MSSQ-CCP. Generally, all metallic components can be re-used in the event of cable re-termination.

DESIGN PARAMETERS

- **Design Life:** 20 Years
- **Qualification Test Pressure:** 7,500 psi / 517 Bar / 16,740ft
- **Design (Operating) Pressure:** 5,000 psi / 345 Bar / 11,160ft
- **Voltage Rating:** 1,000 VAC (Power), 600 VDC (Signal)
- **Current Rating:** 23 A (Power), 13 A (Signal)
- **Insulation Resistance (Power):** >1,000 MOhm @ 1,000 VDC (Pin-Pin & Pin-Shell)
- **Insulation Resistance (Signal):** >500 MOhm @ 500 VDC (Pin-Pin & Pin-Shell)
- **Optical Performance:** <1.0 dB (Single-Mode) per mated contact pair
- **Optical Performance:** <1.5 dB (Multi-Mode) per mated contact pair
- **Cable Pull-Out Force:** ≈700 lbf (≈3,100 N)

QUALIFIED CONNECTOR & CABLE CONFIGURATIONS

All Electric MUX Cable	MSSL 12#16 (7861-103)	Rochester A304739
	MSSL 12#16 (7873-101)	NSW 831407
	MSSL 12#16 (7876-101)	NSW 116372
	MSSL 12#16 (7876-105)	Geospace 472-00040-02
	MSSL 12#16 (7909-101)	Vector A61045
	MSSQ 4#10 / 25#16 (7991-102)	Vector A72022
	MSSQ 4#10 / 25#16 (7991-102)	Rochester A306660
	MSSQ 4#10 / 25#16 (7991-102)	Rochester A307617
	MSSQ 4#10 / 25#16 (7991-102)	Rochester A307631
	MSSQ 4#10 / 25#16 (7991-102)	Geospace 472-00050-02
Hybrid MUX Cable (Electro-Optic)	MSSQ 8FOMM / 6#10 (7966-102)	Rochester A304862
	MSSQ 8FOMM / 6#10 (7966-102)	Rochester A305605
	MSSQ 8FOMM / 6#10 (7966-102)	Rochester A307243
	MSSQ 8FOMM / 6#10 (7996-102)	Vector A71033
	MSSQ 8FOMM / 6#10 (A073-102)	NSW 116375
	MSSQ 8FOMM / 6#10 (A073-103)	Rochester A305614
	MSSQ 8FOMM / 6#10 (A073-104)	Rochester A307476
	MSSQ 8FOMM / 4#10 (A073-105)	Rochester A304862
	MSSQ 8FOMM / 4#10 (A073-106)	JDR 016A060
	MSSQ 6FOMM / 12#10 (A074-101)	Rochester A305614

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