

PRODUCT NEWS

ETHERNET Connector Developments

INTRODUCTION

SEACON is pleased to introduce a range of high integrity connector solutions for Cat5 and Cat5e applications. These solutions utilize already established and widely used connector ranges that SEACON has been offering for many years, but now with the addition of new cables and specialized termination methods that enable their operation within Ethernet systems.



Ethernet connectivity is highly dependent on cable selection. There are many cable manufacturers that are able to offer a wide range of relatively inexpensive Cat5 and Cat5e cable solutions for commercial land based applications and a few cable manufacturers are now beginning to provide cable solutions for the harsh subsea environment. As we move into these harsh subsea environments, the components and termination become more critical for the system to achieve success. SEACON has identified harsh environment Cat5 and Cat5e compliant cables for use with our connectors and are now working to develop a Cat6 cable.

EVALUATION

SEACON considered the needs of the subsea industry and identified candidates from its standard connector ranges that might be suitable for use on Ethernet systems. SEACON then implemented a testing program to verify which connectors could be used to support the various Ethernet categories. 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 evaluation showed that there were a selection of connectors suitable for the various Ethernet categories:

Cat5: MINI-CON, Micro WET-CON, GLOBE-CON, HUMMER, CM2000, SEA-MATE

Cat5e: MINI-CON, Micro WET-CON, GLOBE-CON, HUMMER, CM2000, SEA-MATE

In addition to this, the testing conducted also showed that the HUMMER connector was suitable for the higher level Cat6, although further testing is still underway.

TESTING

As with all connector/cable configurations, the environment in which the assemblies are used has an effect on their operation and this is nowhere more important than with Ethernet communications. SEACON's testing has shown that once the correct connector is selected for the appropriate Ethernet requirement the connector does not change the Ethernet performance during changes in the environment (pressure/temperature). However, careful consideration is required in the selection of cable as this is affected by the harsh subsea environment.

This unique approach adopted by SEACON provides us the capability to match customer requirement with both connector performance and cable selection. While SEACON has 'Harsh Environment' cable available for the Cat5 and Cat5e applications suitable Cat6 cable investigation is being tested and will be available shortly.

- **HUMMER:** Dry-mate, up to 1Gbps, up to 100m, 10,000psi/690bar
- **Micro WET-CON:** Wet-mate, up to 1Gbps, up to 100m, 10,000psi/690bar
- **MINI-CON:** Dry-mate, up to 1Gbps, up to 90m, 16,000psi/1200bar
- **55 SERIES:** Dry-mate, up to 1Gbps, up to 80m cable length, 10,000 psi/690 bar
- **SEA-MATE:** Wet-mate, up to 1Gbps, 10,000 psi/690 bar

TECHNICAL SUMMARY

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

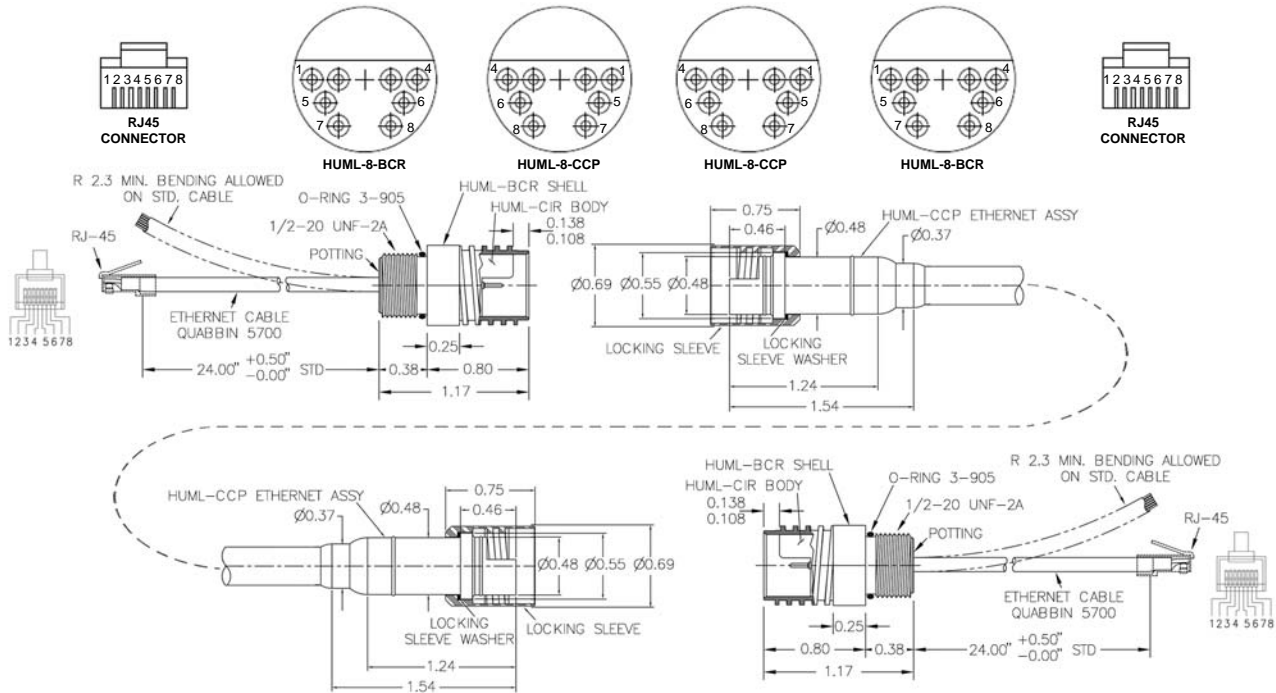
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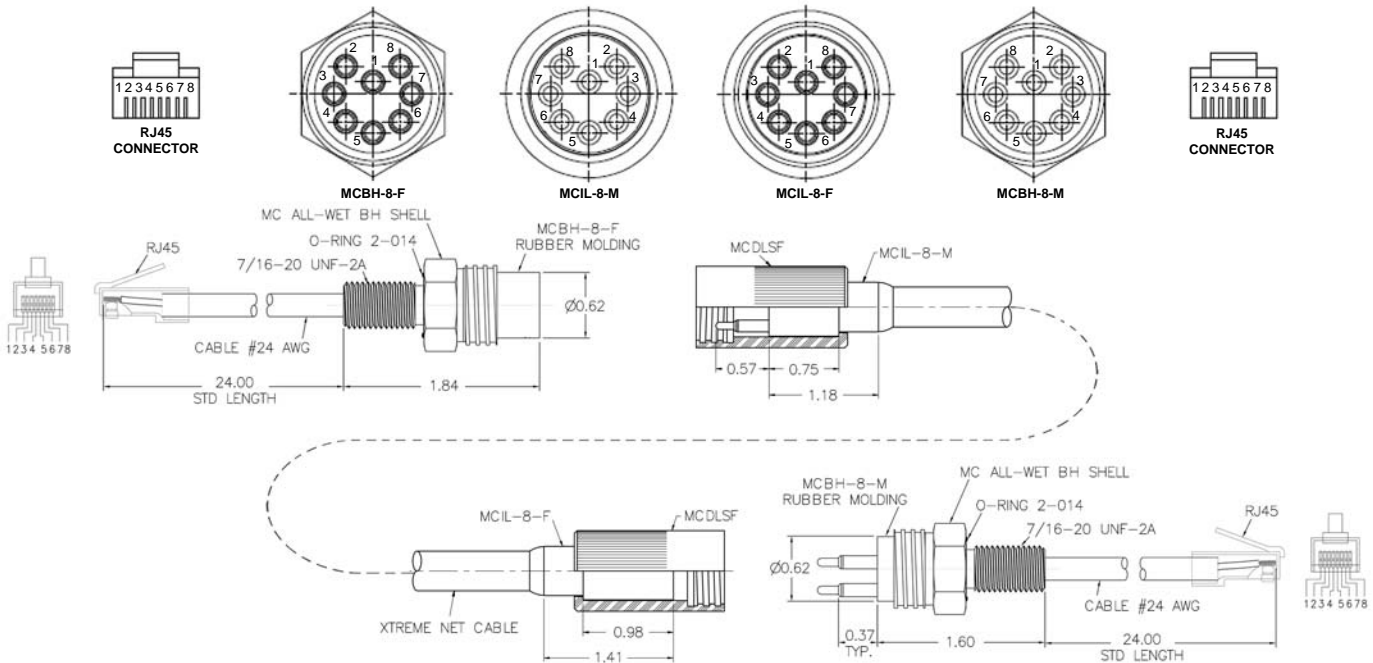
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TESTING WIRING CABLE - HUMMER



TESTING WIRING CABLE - Micro WET-CON



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