

INTRODUCTION

With an increase in the use of fiber optics throughout the subsea industry, SEACON (europe) Ltd is pleased to introduce its standard, dry-mate, fiber optic hybrid connector range.

OPTI-CON is a unique design that allows the customer to choose any combination of optical and electrical configurations to suit their particular needs. The manufacture of all parts in house ensures that each connector is supplied with the highest of standards. This connector range is manufactured from 316L Stainless Steel as standard, but other materials are available upon request.

AVAILABILITY

OPTI-CON offers interchangeable electric or optic contacts and is available in 5 shell sizes from 1 to 20 contact configurations, oil filled or over-molded to any type of cable (subject to test sample). Pressure rated to 7,500 psi (5,200m water depth) this series is offered in a variety of fiber types from single-mode to multi-mode (9/125, 50/125 or 62.5/125) with optical insertion losses of <0.5dB, typically <0.3dB.

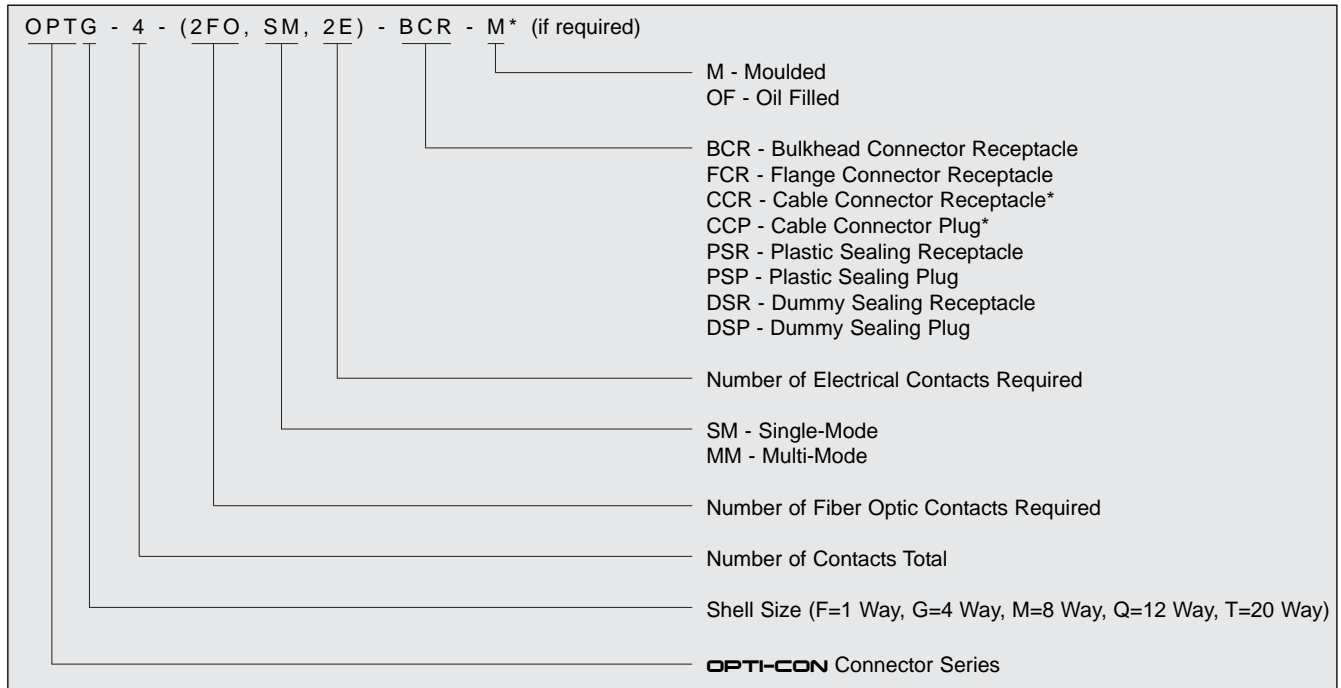
TESTING

Due to the modular nature of the OPTI-CON series, testing has been conducted to simulate the extremes of operation, this means carrying out the qualification four times on each assembly as the options are: -

- Electrical contact.
- Multi-mode optical contact.
- Single-mode optical contact.
- Mixed optical (single and multi-mode) and electrical contacts.

- The electrical contacts have been tested to 1,000 VDC with regard to shell and other conductors with a minimum Insulation Resistance of 1,000 megohms.
- Mated single-mode optical contacts have been tested to 10,000 psi, including cycling, with recorded dB losses well under the 0.3dB acceptance. (Typically 0.2dB).
- Mated multi-mode optical contacts have been tested to 10,000 psi, including cycling, with recorded dB losses well under the 0.3dB acceptance. (Typically 0.2dB).
- Mated electrical contacts have been pressure tested to 10,000 psi, including cycling, with no degradation in performance.

PART NUMBER SYSTEM - EXAMPLE



The above example would be the part number required to order a 4 way OPTI-CON connector. It would be a "G" size, would have 2 optical contacts (SM or MM to be specified), it would have 2 electrical contacts and would be a bulkhead receptacle shell style. Oil filled hoses CCP and CCR connectors will be supplied as standard. If molded versions are required "-M" must be added to the end of the part number and a sample of cable supplied for test purposes. Where ST or other style of connectors are required to be attached onto the BCR or FCR tails the style required and the length would need to be specified and would be priced accordingly. Standard shell material is 316L Stainless Steel with NES833 engaging nut although other materials are available upon request. Preferred material should be specified at time of enquiry.

GENERAL INFORMATION

COMPONENT	MATERIAL
BULKHEAD BODY (BCR/FCR)	316L SS
CCP BODY	316L SS with Aluminum Bronze engaging nut per NES 833
CCR BODY	316L SS
ELECTRICAL CONTACTS	Aluminum Bronze per NES 833 GRE overmolded contact size 20 AWG
OPTICAL CONTACTS	Single or multi-mode with insertion losses of <0.5dB typically <0.3dB
O-RING	Nitrile (formerly known as Buna N)

CATEGORY	VALUE
MATED PRESSURE	7,500 psi (5,200m water depth)
VOLTAGE RATING	600 VDC @ 4 amps
TEMPERATURE RATING	-50°C to +70°C (-58°F to 158°F)
TYPICAL OPTICAL RETURN LOSS	<-50dB @1310 and 1550nm using single-mode fiber
LENGTH	Up to 30m maximum hose length at additional cost

NOTES:

- * Standard supply is hose, however if cable is required please supply sample or specification.