Teledyne Impulse-PDM

Omicron Optical Subsea Connector

Small Form Factor Dry Mate Submersible

Teledyne Impulse-PDM's Omicron 5030/5070 optical connectors utilize proven small form factor ferrule technology and are available for multi-mode or single-mode operation.

The connectors are offered, as standard, in stainless steel to BSEN10088-3 Grade 1.4404 (316L), which is electro-polished to remove surface contamination, thus improving resistance to corrosion. Connector bodies can also be manufactured in other materials, either to address specific anti-corrosion requirements, or to increase depth rating. Engaging nuts are normally manufactured in naval brass to UNS C46400.

CCP connectors are supplied as standard on a double-ended assembly, or with robust molded ST connectors on the second end. Teledyne Impulse-PDM offers a standard cable, PDM 140, from stock, which can be used for either single mode or multi-mode applications. Cable can also be customer specified, but as cable types containing optical fibers are both varied and complex, their termination is often unique to each type. As such, details should be furnished with the request for quotation, so that Teledyne Impulse-PDM can consider any design implications.

The 0-ring sealing face for the BCR connector must be 14mm diameter minimum, of a surface finish of 0.8 micrometers and lightly smeared with silicone grease. The connector uses a single face seal. The mounting thread required is 5/16" - 24 UNF, 2B, the axis of which must be perpendicular to the sealing face. The user must ensure suitable compatibility between materials when using connectors in seawater to avoid bimetallic corrosion. The BCR connector is supplied as standard with an MU type connector. Adaptor patch cables are available on request. Any installation of the BCR connector must allow the jacketed fiber, on the dry-side, up to 0.8mm of movement during mating and unmating.

RELATED PRODUCTS

- Omega Fiber Optic and Electrical Underwater Connectors
- Cable Bend Restrictors
- Subsea Harness Design and Manufacture
- Polyurethane Elastomers and Primers
- Underwater Cable
- Elastomers

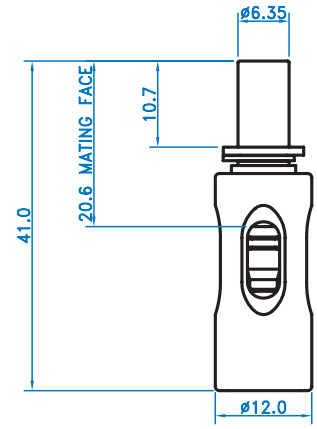
Omicron Fiber Optic Connector

Electrical Products

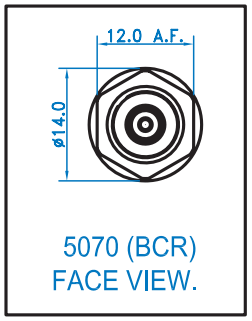
GENERAL SPECIFICATIONS

Operational Depth	6,000m Bulkhead Connectors: open-face rated to 4,000m*
Optical Fiber	Single-mode or multi-mode
Insertion Loss	<0.5 dB @ 1300nm (1550nm available upon request)

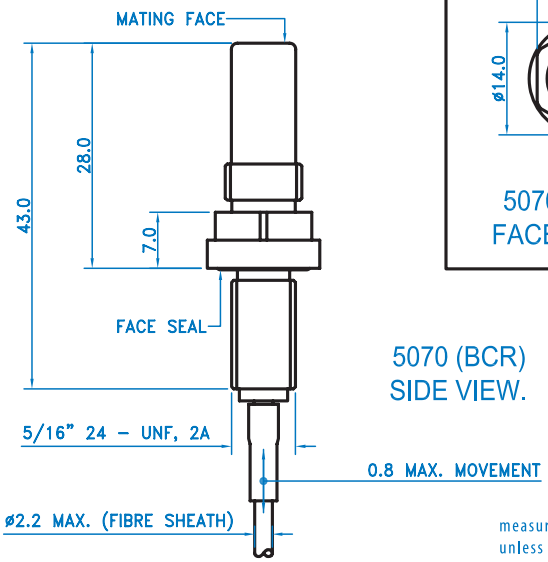
* The open-face rating on Bulkhead connectors is intended for accidental open-face immersion or CCP sealing O-ring failure. The connector sets are dry-mateable only and should not be left unmated without protective caps fitted. Teledyne Impulse-PDM recommends returning them for inspection should they be submerged open-face.



5030 (CCP)
SIDE VIEW.



5070 (BCR)
FACE VIEW.



5070 (BCR)
SIDE VIEW.

measurements are in mm
unless otherwise specified

Impulse-PDM has supplied the underwater industry with the highest quality dry mate submersible connectors and cable assemblies since 1978 and are world leaders in the design and manufacture of electrical and optical interconnection systems for a wide range of harsh environments.

TELEDYNE IMPULSE-PDM
Everywhereyoulook™
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Tel +44 (0)1420 552200 Email: pdmsales@teledyne.com

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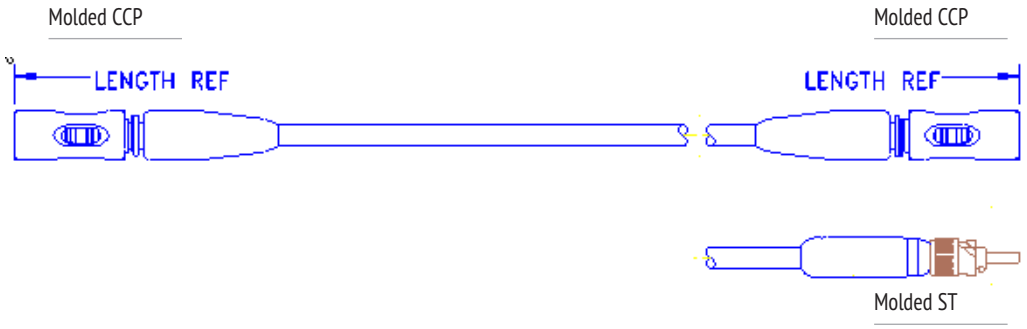
OMICRON CCP ASSEMBLIES

There are 2 options for the CCP assembly
Supplied under the generic drawing code 5293
Double ended – Omicron CCP each end (Top view)
Single ended will be supplied with a molded ST connector (as shown bottom view)



5293-X-00000-X

GENERIC OMICRON CCP DRAWING NUMBER

MODE
S = Single Mode
M = Multi Mode

LENGTH
Express in metres to 2 decimal places with the decimal point removed.
e.g. 3.45 is 345 – 34.5m is 3450 – 345m is 34500

SECOND END CONNECTOR
O = OMICRON – (Double Ended Assembly)
M = Moulded ST for operational use

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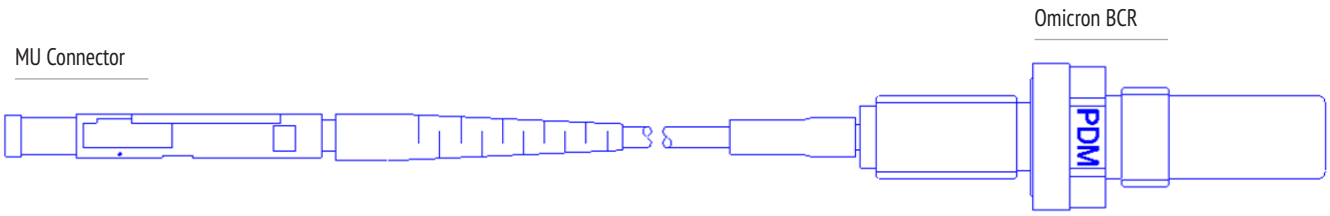
OMICRON BCR ASSEMBLIES

The Omicron BCR, supplied under the generic drawing code 5297, has a 5/16"-24 UNF mounting thread. As the only patch-cord connector that will fit through this thread the connector is an MU connector the assembly is supplied as standard with an MU as shown.



5297-X0-00000-M

GENERIC OMICRON BCR DRAWING NUMBER

MODE- FIBRE
S1 = 9um Single Mode – Minimum Bend Rad (MBR) = 25mm (25)
S2 = Single Mode Reduced Bend Sensitivity Fibre "G.657A1" (15)
S3 = Single Mode Reduced Bend Sensitivity Fibre "G.657A2" (10)
M1 = 50um Multi Mode (25)
M2 = Multi Mode Reduced Bend Sensitivity Fibre "OM3" (15)
M3 = Multi Mode Reduced Bend Sensitivity Fibre "OM4" (7.5)

LENGTH
Express in metres to 2 decimal places with the decimal point removed.
e.g. 3.45 is 345 – 34.5m is 3450 – 345m is 34500

DRY SIDE CONNECTOR
M = MU (Default for the BCR)
Adaptor cables available

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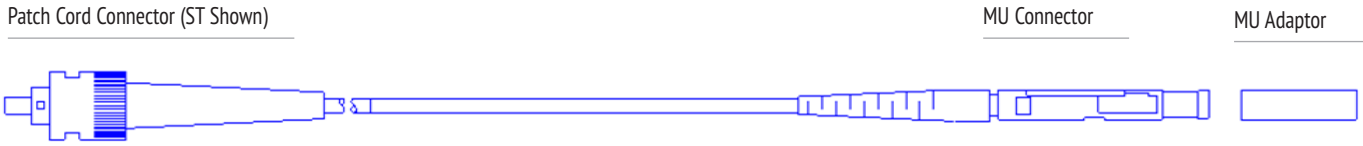
OMICRON BCR ASSEMBLIES

Adaptor assemblies which include an MU coupler can be supplied to adapt to a range of standard patch-cord connectors.

Omicron BCR



5298-X0-00000-X

GENERIC OMICRON BCR ADAPTOR NUMBER

MODE- FIBRE
S1 = 9um Single Mode – Minimum Bend Rad (MBR) = 25mm (25)
S2 = Single Mode Reduced Bend Sensitivity Fibre "G.657A1" (15)
S3 = Single Mode Reduced Bend Sensitivity Fibre "G.657A2" (10)
M1 = 50um Multi Mode (25)
M2 = Multi Mode Reduced Bend Sensitivity Fibre "OM3" (15)
M3 = Multi Mode Reduced Bend Sensitivity Fibre "OM4" (7.5)

LENGTH
Express in metres to 2 decimal places with the decimal point removed.
e.g. 3.45 is 345 – 34.5m is 3450 – 345m is 34500

FREE END CONNECTOR
T = ST
L = LC
F = FC
E = E2000

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