

HMA-S Series connector

Description:

The OPTOKON HMA-S connector series, a large size „Expanded Beam“ connector is designed for connection of the nodes of tactical network by the help of cables with optical fibers. The used expanded beam technology preserves all advantages of signals transmission through the optical lines in field harsh environmental conditions. Additionally to military optical networks the HMA-S is suited for a vast array of applications, like heavy industry connections, petrochemical application, broadcasting temporary optical lines.

The innovative designs ensure its ability for deployment in the toughest environments where high performance and total reliability are critical. Benefiting from expanded beam technology the precision optical alignment system creates immunity from water, mud, dust oil and other contaminants.

The HMA-S Hermaphroditic coupling eliminates the need for adaptors and male and female mating halves. Hermaphroditic housings allow for rapid deployment, creating low loss Single mode and Multimode daisy chained links in a variety of planforms ranging from simplex fiber to a four fibers. The OPTOKON HMA-S is ideally suited for environmental extremities where low maintenance and quick reparability is necessary.

Features:

- Advanced expanded beam technology
- Hermaphroditic interconnection
- 1 to 8 fiber channels Single mode or Multimode
- Low insertion loss / high return loss
- Hybrid electrical & fiber channel options available
- Rugged field repairable connector design

Benefits:

- Best optical performance available
- No adaptors necessary
- Combined fiber and electrical channels
- Inexpensive, low downtime field repair
- Easy clean, no special tools

Application:

- Broadcast
- Military communications
- Industrial
- Petrochemical

Materials:

- Anodized high grade lightweight alloy
- Neoprene BR568 Grip ring



Plug Connector:



Bulkhead Jam-Nut

Ordering code:

HMA -S	-	(XX)	-	X(SM, M5, M6) - Y(D,P)
-	plug			X fiber number
BN	bulkhead jam nut			Y contact number
BF	bulkhead flange			YD data, size 20
BFL	bulkhead low profile			YP power, size 16

Typical configuration:

HMA-S – 6SM HMA plug connector, 6 SM fiber channels

HMA-S – 4SM-2P HMA plug connector, 4 SM fiber channels, 2 electrical power contacts

Insertion Loss	50/125 @ 850/1300 nm: 1 to 4 channels: 1.0 dB max; 6 & 8 channels: 1.5 dB max 9/125 @ 1310/1550 nm: 1 to 4 channels: 1.5 dB max; 6 & 8 channels: 2.0 dB max
Return Loss	9/125 @ 1310/1550 nm > 32 dB (typ. 40 dB), >20 dB multimode
Electrical power contacts	Size 20 & size 16 MIL-C-39029. Contact resistance <4 mΩ. Operating voltage 1000 VAC. Operating current 5 A (short term 15 A)
Electrical: Test Voltage	Between contacts and contact / housing: 3000V / 50Hz, 1 minute EN61984
Durability	3000 Matings minimum
Operating temperature	-40 to +85 °C
Storage temperature	-55 to +85 °C
Water immersion	up to 15 m depth
Vibration Sinusoidal	10-500 Hz, 0.75 mm amplitude @ 10 g acceleration
Free fall resistance	500 falls from 1.2 m height
Bump resistance	4000 bumps @ 40 g acceleration
Tensile Strength	Tensile of 1500 N, cable dependent
Crush resistance	6.7 kN
Corrosion resistance	500 Hours Salt Spray
Cable retention	1500 N (cable dependant)
Cable Variations	Compatible with tactical cable: Plug ≤ 6 mm o/d , Bulkhead ≤ 3 mm o/d Other cable sizes available on request
Color	black anodized green RAL 6014 ¹

All tests compliant to EN 186000-1 specifications

Plug Connector

Side View Dimensions: Overall length 148 (WHEN COUPLED), Front housing diameter $\varnothing 31$, Grip diameter $\varnothing 23$, Rear body diameter $\varnothing 20$, Boot diameter $\varnothing 26$ (MAX) / $\varnothing 25$ (MIN).

Panel Cut-Out View: Circular cut-out with diameter $\varnothing 31$.

Bulkhead Jam-Nut

Side View Dimensions: Overall length 79.5, Front housing diameter $\varnothing 31$, Panel housing diameter $\varnothing 29$, Rear body diameter $\varnothing 20$, Boot diameter $\varnothing 26$ (MAX) / $\varnothing 25$ (MIN). Panel thickness max 8.

Panel Cut-Out View: Circular cut-out with diameter $\varnothing 31$.

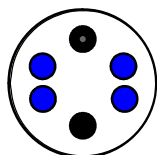
Bulkhead Flange

Side View Dimensions: Overall length 73.5, Front housing diameter $\varnothing 31$, Panel housing diameter $\varnothing 29$, Rear body diameter $\varnothing 20$, Boot diameter $\varnothing 26$ (MAX) / $\varnothing 25$ (MIN). Panel thickness max 8. Flange diameter 37, flange hole diameter $\varnothing 12.5$ (THIRD $\varnothing 5/16$ DEEP C BORE IN PLACE).

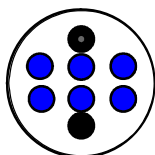
Panel Cut-Out View: Circular cut-out with diameter $\varnothing 31$.

A diagram of a cell. It is a large circle containing a smaller black circle (nucleus) at the top left and two blue circles (mitochondria) at the bottom right.

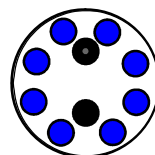
2CH OPTICAL



4CH OPTICAL



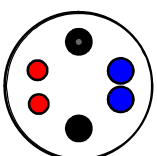
6CH OPTICAL



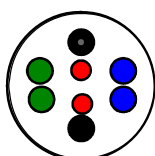
8CH OPTICAL

A diagram of a circular cell. In the center is a large, dark grey nucleus with a smaller, lighter grey nucleolus. Surrounding the nucleus are several organelles: two green oval mitochondria with internal folds, two blue oval vacuoles, and a large, clear, irregularly shaped central vacuole. The entire cell is enclosed within a thin black circular boundary.

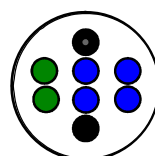
2CH OPTICAL
2 POWER (#16)



2CH OPTICAL
2 SIGNAL (#20)



2CH OPTICAL
2 POWER (#16)
2 SIGNAL (#20)



4CH OPTICAL
2 POWER (#16)