

## D38999 Series III connector

### Description:

The OPTOKON D38999 Series III derived Expanded Beam fiber optic connectors have been designed for use in the most demanding civil and military electronic equipment interface applications. The connector features the generic MIL-DTL-38999 Series III tri-start thread and one-turn self locking anti-vibration coupling mechanism making it ideal for use in vehicle, aircraft and naval environments. Plug and receptacle connectors are available with straight or 90° back-shell options and a choice of shell materials including Aluminum alloy (Zinc Cobalt, Olive drab), Aluminum alloy (electroless Nickel plated), Nickel Aluminum Bronze (shot blast, non-reflective) and Stainless Steel (passivated). Receptacle connectors are available with jam-nut or square-flange mounting and strain relief for zip-cords or tactical cable.

The connectors are terminated using an epoxy-polish ferrule termination process with standard fiber optic termination tools and equipment. The terminated ferrules are simply inserted into the Expanded Beam housing and fixed in place via a spring and cover-plate. Ferrule alignment to the lenses is achieved automatically by the unique optical arrangement.

The OPTOKON D38999 Series III Expanded Beam connectors offer high performance, flexibility and cost effectiveness.

- Size 11 Shell: 1 to 4 Optical Channels
- Size 13 Shell: 2 or 4 Optical Channels
- Size 15 Shell: 2, 4, 6, or 8 Optical Channels
- Size 17 Shell: 12 or 16 Optical Channels
- Singlemode or Multimode
- Straight or 90° Back-Shell Options
- Low insertion loss / high return loss
- Aluminum, nickel aluminum bronze or stainless steel shell options
- Copper / optical hybrids
- IP67



**Specifications:**

|                              |  |
|------------------------------|--|
| <b>Insertion Loss</b>        | 9/125 Fiber at 1310 nm / 1550 nm: 1 to 4 channels: -1.5 dB max / 6 to 16 channels: -2.0 dB max<br>50/125 Fiber at 850 nm / 1300 nm: 1 to 4 channels: -1.0 dB max / 6 to 16 channels: -1.5 dB max |
| <b>Return Loss</b>           | > 32 dB (typical 40 dB) single mode / > 20 dB multimode  |
| <b>Durability</b>            | 1000 Matings minimum   |
| <b>Operating Temperature</b> | -40°C to +85°C   |
| <b>Storage Temperature</b>   | -55°C to +85°C   |
| <b>Water Immersion</b>       | IP67   |
| <b>Free Fall Resistance</b>  | 350 Falls from 1.2 m height  |
| <b>Vibration</b>             | 10-500 Hz, 3 directions, 0.75 mm amplitude@ 10 g acceleration  |
| <b>Bump</b>                  | 4000 bumps @ 40g acceleration  |
| <b>Corrosion Resistance</b>  | 350 Hours Salt Spray   |
| <b>Cable Retention</b>       | 1000 N (Cable Dependant)   |

| Weight (approx) (g)              |           | Aluminum  |         | Stainless Steel |         | Nickel Aluminum Bronze |         |
|----------------------------------|-----------|---|---------|-----------------|---------|------------------------|---------|
|                                  |           | Size 11   | Size 15 | Size 11         | Size 15 | Size 11                | Size 15 |
|                                  | Plug:     | 50  | 90      | 95              | 170     | 95                     | 170     |
|                                  | Bulkhead: | 45  | 85      | 85              | 155     | 85                     | 155     |
| Connector Shell Material / Color |           | Aluminum Alloy (Zinc Cobalt, Olive Drab), Aluminum Alloy (electroless Nickel plated), nickel Aluminum Bronze (shot blast, non-reflective) or Stainless Steel (passivated) |         |                 |         |                        |         |

**Optical Insert Arrangements:**



**Hybrid Insert Arrangements:**



**Ordering code:**

|  |          |  |          |   |          |            |          |                          |          |             |  |
|--|----------|--|----------|---|----------|------------|----------|--------------------------|----------|-------------|--|
| <b>D38999</b>  | <b>-</b> | <b>XXX</b>   | <b>-</b> | <b>SS</b>   | <b>-</b> | <b>XXX</b> | <b>/</b> | <b>X(SM, M5, M6-(Y))</b> | <b>-</b> | <b>(XX)</b> |  |
|  |          |  |          |   |          |            |          |                          |          |             |  |
| <b>XXX-connector type</b><br><b>PS</b>   plug straight<br><b>PA</b>   plug right angled<br><b>BSF</b>   bulkhead, straight<br><b>BAF</b>   bulkhead, right<br><br><b>SS-shell size</b><br><b>11</b><br><b>15</b> |          | <b>XXX-material</b><br><b>A</b>   Aluminium<br><b>S</b>   Stainless steel<br><b>N</b>   Nickel Al Bronze |          | <b>X</b>   Fiber number<br><b>YD</b>   Contact number #20<br><b>YP</b>   Contact number #16 |          | Cable OD   |          |                          |          |             |  |