8D Series & ARINC 600 Series
ELIO® Fiber Optic Contact

SOURIAU

High Value for Money Solution

Robust connection withstanding the most severe vibrations with excellent optical performances (0.1 dB typical MM).

A qualified technology
- Flight proven ARINC 801 and EN4531 qualified.
  Airbus qualified fiber optic technology: ABS1379, ABS1213.

User friendly
- Easy cleaning of the contact, no part to remove.
  No tool needed for insertion/extraction.
  Sealed contact without backshell (IP67).

Standard size 8 cavities with adaptors
- Hybrid optical/electrical layouts in 38999 and ARINC 600.
  Intermateable with Electro Optic Conversion in a Quadrax contact packaging.

Esterline
Connection Technologies

EN4531

ABS1379

ARINC 801

ELIO® contacts

- Robust spring-loaded butt-joint optical contact using ST style ferrule (diameter 2.5mm)
- Contact size equivalent to a #16 contact
- Anti-rotation of the contact for better vibration withstanding and optical performance
- Boot-grommet for rear sealing and protection of the cable against excessive bending
- Compatibility with loose and tight structure cables
- High level optical performance even after aging
- Bayonet locking system: no tool needed for mounting/dismounting
- Compatible with singlemode, multimode and POF cable

Technical features

Mechanical

- **Endurance:**
  Minimum 500 mating/unmating operations
- **Shock:**
  300 g, 3ms as per EN 2591-6402 method A
- **Vibration:**
  In MIL-DTL-38999 Series III/EN3645 connectors:
  - Sine 5Hz to 3000Hz as per EN2591-6403 method A
  - Random as per EN2591-6403 method B
- **Cable cyclic flexing*:**
  100 cycles, load 40N as per EN2591-609
- **Cable pulling*:** 111N
- **Cable torsion*:**
  100 cycles, load 40N as per EN2591-611

Environmental

- **Salt spray:** See the connector standard
- **Temperature range*:**
  - 65°C to +125°C (1000 hours)
- **Rapid temperature change:**
  10 cycles - 65°C / +150°C (30min/30min)
- **Air leakage:**
  Max leakage 16 cm^3/h, 2 hours, 40kPa differential pressure
- **Damp heat and low temperature:**
  5 cycles of 48h -65°C/+70°C with stage at 40°C with 95% of humidity as per EN2591- 6303 method A

Optical

- **Multimode contact - Insertion Loss (IL):**
  0.1dB typical
  < 0.3dB over 95% of the samples as per EN2591-601,
  < 0.7dB maximum on 100% of the samples after tests
- **Multimode contact - Return Loss (RL):**
  > 21dB before and after tests as per EN2591-605

Resistance to fluids as per MIL-DTL-38999/EN3645 standard

- **Fuel:** JP5
- **Mineral Hydraulic fluid:**
  MIL-PRF-5606 (NATO H-515)
- **Synthetic hydraulic fluid:**
  AS1241 (Skydrol 500B4, LD4)
- **Mineral lubricant:**
  MIL-PRF-7870 (NATO O-142)
- **Synthetic lubricant:**
  MIL-PRF-23699 (NATO O-156),
  MIL-PRF-7808 (NATO O-148)
- **Cleaning fluid:**
  MIL-PRF-87937 diluted, Propanol, white spirit, Azeotrope R113 + Methanol
- **De-icing fluid:** AMS 1424 (NATO S-742)
- **Extinguishing fluid:** Chlorobromethane
- **Cooling fluid:** Coolanol

* With multimode EN4641-100 cable and following the cabling process described in the "Technical Bulletin N°204 - ELIO® assembly wiring instructions" and the maintenance procedure in the document "Technical Bulletin N°170 - Fiber optics installation and maintenance procedure".

Ordering information

ELIO	09N	G	L	A

Cable external diameter & Contact sealing:
09N: $0.9^{\pm 0.1}$mm. Non waterproof
18N: from 1.5mm to 1.9mm. Non waterproof
18W: $1.8^{\pm 0.1}$mm. Waterproof
20N: from 1.7mm to 2.1mm. Non waterproof
20W: $2.0^{\pm 0.1}$mm. Waterproof

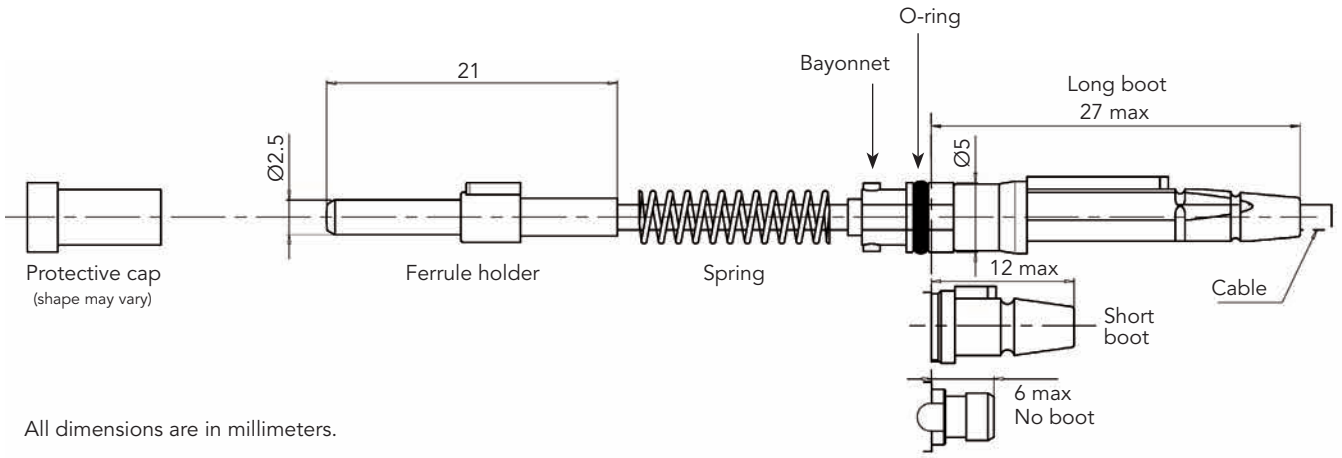
Fibre type:
G: ELIO® Multimode fibre, 125 micrometers cladding

Boot type:
L: Long boot
S: Short boot
N: No boot (non waterproof version only)

Contact version index

Note: For ABS1379/EN4531 cross reference, please consult us.

ELIO® contact dimensions



All dimensions are in millimeters.

Recommended cables

SOURIAU can offer a wide range of cables in its assemblies, from low cost to high performance aeronautical cables.
ELIO® contact is compatible with singlemode and multimode cable, with tactical and breakout cable.
ELIO® contact is suitable with loose and tight structure cable.

See Souriau "ELIO® Fiber Optic Technology» catalog.

#8 Adaptors, Accessories & Tooling

See Souriau "ELIO® Fiber Optic Technology» catalog.

For further information contact us at contactmilaero@souriau.com
or visit our web site www.optical-connectors.com