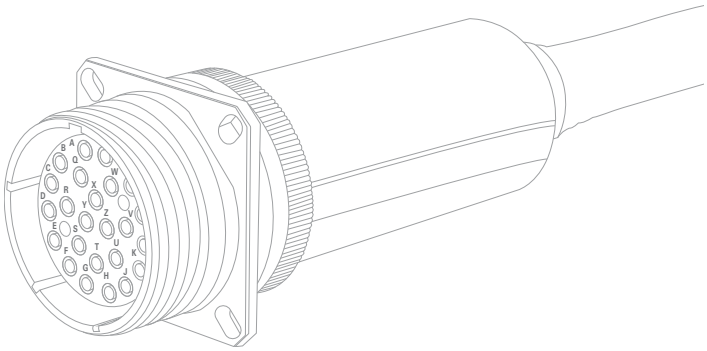
Fiber optic solutions

Contacts, Connectors, Patchcords and harnesses



Powering Business Worldwide



Fiber optic solutions

Contacts, Connectors, Patchcords and harnesses

Typical applications





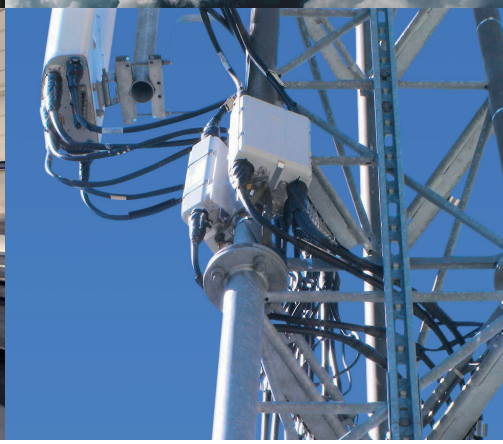



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Souriau fiber optic solutions

Overview

Features and benefits

Market standard

Solutions qualified and recognized

Airbus qualified.

EN4531 standard.

ARINC 801 standard.

Complete solution

From single contacts to full harness

Termini, connectors and backshells.

Patchcord and harness.

Accessories and tools.

Wide range

A solution for each market

Military and Aerospace, Industry, Railway market knowledge.

Well known standards such as 38999 Series III, ARINC 600, VGE1

compatible with optical solutions from Souriau.

Custom

Core technology and range extension

Knowledge and management of core technology.

Engineering and manufacturing capacities for custom adaptation.

User friendly solution.

Souriau in the optical market

Today's technology is more and more complex, requiring the management of an increasing flow of information at greater speeds combined with the necessity to save weight. In response to this need, Souriau offers a wide range of fiber optic solutions for high speed networks in harsh environments.

Fiber optic is the best solution when high data-rate, EMI immunity and weight savings are required. Our solutions can handle data speeds up to several Gbit/s thanks to its excellent optical performance in the most severe environments.

Its unique user-friendly design and its versatility account for the selection of Souriau by major customers in various markets for their fiber optic applications.



Our capabilities and expertise



Souriau fiber optic solutions

Overview

Souriau Fiber optic technologies

ELIO®



ELIO® is a standard butt joint terminus and connector solution recognized in aerospace and military applications.

It is ABS 1379 and ABS 1213 qualified.

See **Page 8**

ELIOBEAM



ELIOBEAM is an expanded beam solution derived from ELIO®.

It allows optical communication without physical contact.

It fits in all the ELIO® cavities.

See **Page 10**

ARINC 801



ARINC 801 is a standard butt joint terminus and connector solution recognized in aerospace and military application.

See **Page 20**

LC/MPO



Souriau is able to provide connector solutions for industry standard termini such as LC and MPO.

Patchcords can be terminated with standard termini like LC, FC, ST, SC and others.

See **Page 29**

Markets and product ranges matrix

Aerospace defense and military aircrafts



38999 SERIES III



ELIO® | ELIO BEAM | ARINC 801

see **Page 12** and **Page 22**

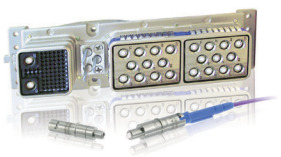
38999 SERIES III with #8 Quadrax cavity adaptor



ELIO® | ELIO BEAM

see **Page 16**

ARINC600 SERIES with #8 Quadrax cavity adaptor



ELIO® | ELIO BEAM

see **Page 18**

Railway



838 SERIES



ELIO® | ELIO BEAM

see **Page 26**

VGE1 SERIES



ELIO® | ELIO BEAM

see **Page 27**

Industrial FTTH-FTTA



UTS SERIES



LC / MPO

see **Page 29**

A complete optical solution

Backshells



Souriau has developed a dedicated backshell range to ensure the best optical performance

see **Page 31**

Patchcords and harnesses

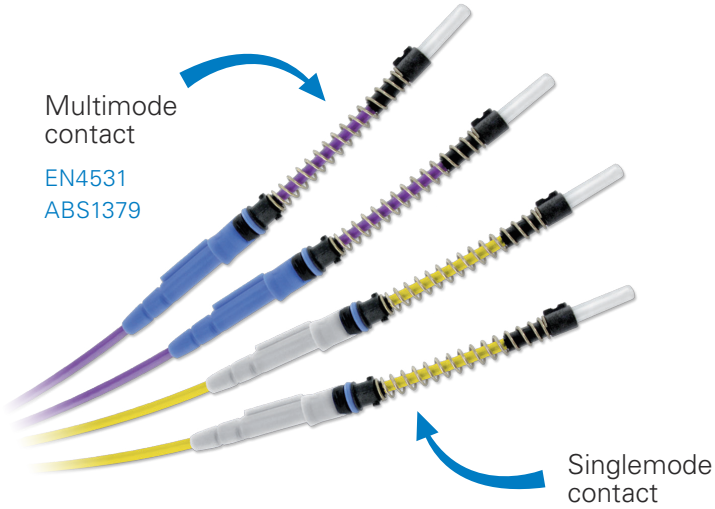


Souriau offers support from design through manufacturing

see **Page 35**

Souriau fiber optic solutions

Physical contact



ELIO® contact

Multimode and singlemode

- Robust 2.5mm ferrule
- Quick bayonet locking system.
  No tool needed
- Boot seal for sealing and bending restriction
- Compatible with tight and loose structure cable

Technical features

Mechanical

Endurance
- Minimum 500 mating/unmating operations

Shock
- 300 g, 3 ms 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 cm3/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

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

Singlemode contact - Insertion Loss (IL)
- 0.3dB typical < 0.5dB over 95% of the samples as per EN2591-601, < 0.9dB maximum on 100% of the samples after tests

Singlemode contact - Return Loss (RL)
- 55dB typical and > 50dB mininum

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".

ELIO® contact - Ordering information

ELIO 09N G L A

Cable external diameter and 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

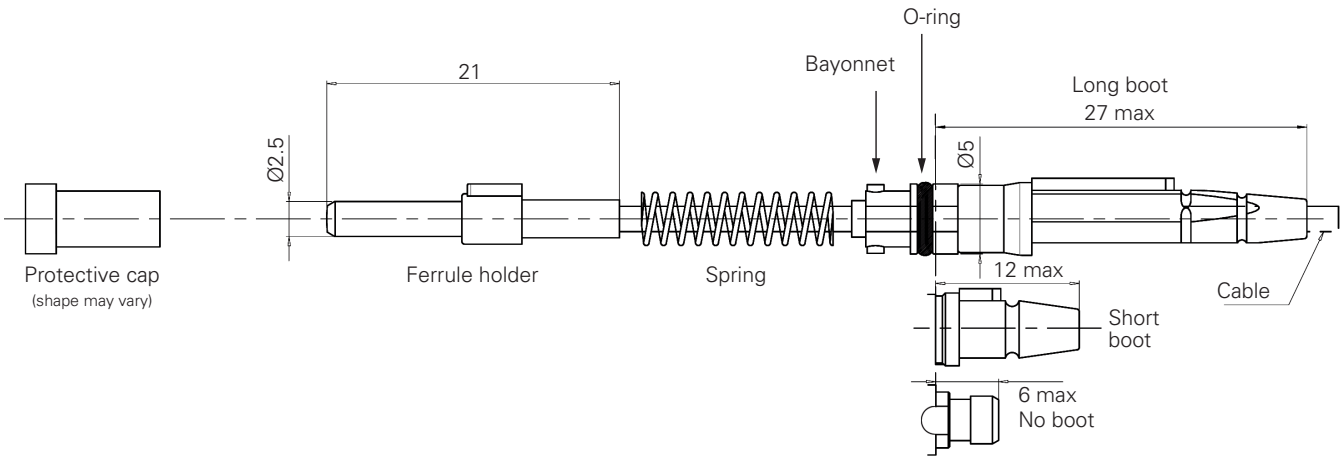
Fibre type
- **G:** ELIO® Multimode fibre, 50/125 or 62.5/125
- **E:** ELIO® Singlemode 9/125, PC polish

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



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 "Patchcords" **Page 35** and "Harnesses" **Page 41**.

Note: All dimensions are in millimeters (mm)

Souriau fiber optic solutions

Expanded beam contact



EN4531 Style
ABS1379 Style

ELIObeam contact

- Fit in all ELIO® standard cavities (ABS1213, EN4531)
- Optical lense for expanded beam
- Allows signal communication without physical contacts
- Used like ELIO® standard contact

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 cm3/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)
- < 0.7dB mean 95% of the samples as per EN2591-601, < 1.0dB maximum on 100% of the samples after tests

Multimode contact - Return Loss (RL)
- > 16dB 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

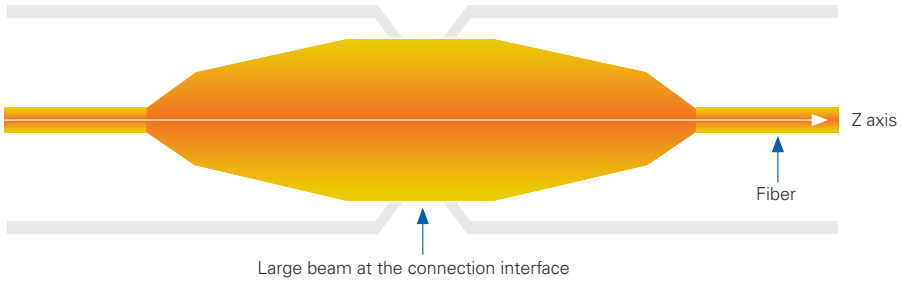
Cooling fluid
- Coolanol

* With multimode EN4641-100 and EN4641-301 cables and following the maintenance procedure in the document "Technical Bulletin N°170 - Fiber optics installation and maintenance procedure".

Principle of expanded beam

The expanded beam concept expands and collimates the beam from the launch fiber. Without mechanical contact of the optical elements, the beam remains collimated until it is focused down to the receiving fiber.

The beam expansion at the interface provides protection of the fiber from contaminants.



ELIObeam contact - Ordering information

EOB1 09N G L A

Cable external diameter and 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

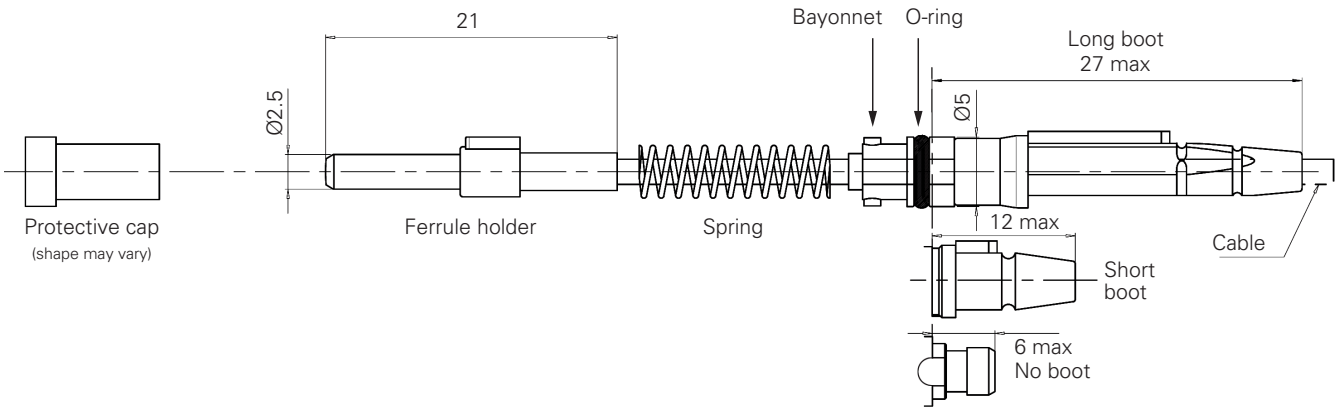
G: ELIObeam Multimode fiber, 50/125 or 62.5/125

Boot type

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

Contact version index

ELIOBEAM® contact dimensions



Note: All dimensions are in millimeters (mm)

Souriau fiber optic solutions

38999 Series III Connectors with High density inserts



MIL-DTL-38999 Series III/EN3645

with ELIO®/ELIObeam contacts high density insert

- Standard MIL-DTL-38999/EN3645 shells without shielding ring (aluminum, composite, stainless steel, bronze)
- Environmental performance as per EN4531 based on MIL-DTL-38999/EN3645
- Temperature range: - 65°C to +125°C (cable limitation)

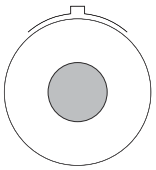
Applications

- Fiber optic connector for all military and aeronautical applications wherever severe vibration or mechanical resistance are required:
  - Ground army
  - Civil aircraft
  - Marine
  - Military aircraft
  - Rotary wing

Contact layouts

Contact #09

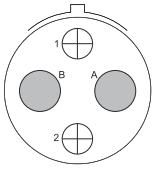
Size 01



1 optical ways

Contact #11

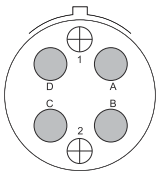
Size 02



2 optical ways

Contact #13

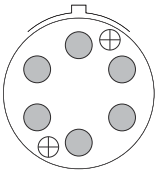
Size 04



4 optical ways

Contact #15

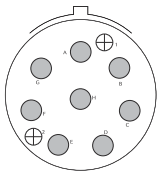
Size 06



6 optical ways

Contact #19

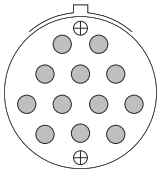
Size 08



8 optical ways

Contact #21

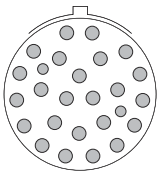
Size 12



12 optical ways

Contact #25

Size 24



24 optical ways

Note: Layout 15-06 limited availability, please consult us.

ELIO® high density insert Ordering information - Connectors delivered without contact

Composite, Aluminum and stainless steel

8D 5 E 11 W 02 A N
8D 0 E 11 W 02 B N 674

Shell type
- **5:** Plug
- **0:** Receptacle with 4-hole square flange fixing
- **7:** Receptacle with single hole jam nut fixing (aluminum & stainless steel)

Designation
- **E:** ELIO® optical connector

Shell size
- **09 - 11 - 13 - 15 - 19 - 21 - 25**

Plating

Aluminum	Composite	Stainless steel
Z: Zinc nickel	**J:** Olive green cadmium	**K:** Passivated
W: Olive green cadmium	**M:** Nickel	**S:** Nickel
F: Nickel	**X:** Without plating	

Layouts
- See previous page

Insert type
- **A:** Male insert
- **B:** Female insert with ceramic alignment sleeves

Polarization
- **N, A, B, C, D, E**

Specification
- **674:** Mandatory for singlemode female insert type B

Part number example:

Multimode connector couple: 8D5E11W02AN (plug) + 8D0E11W02BN (receptacle)

Singlemode connector couple: 8D5E11W02AN (plug) + 8D0E11W02BN674 (receptacle)

JVS Bronze

JVS E 6 A 11 02 A N
JVS E 0 A 11 02 B N 674

Designation
- **E:** ELIO® optical connector

Material
- **A:** Bronze

Shell type
- **6:** Plug
- **0:** Receptacle with 4-hole square flange fixing
- **7:** Receptacle with single hole jam nut fixing

Shell size
- **09 - 11 - 13 - 15 - 19 - 21 - 25**

Layouts
- See previous page

Insert type
- **A:** Male insert
- **B:** Female insert with ceramic alignment sleeves

Polarization
- **N, A, B, C, D, E**

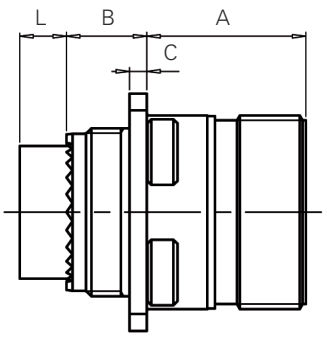
Specification
- **674:** Mandatory for singlemode female insert type B

Dimensions

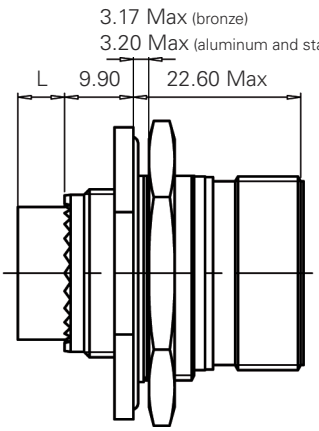
See **Pages 14 and 15.**

Dimensions

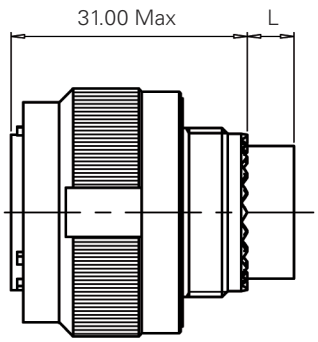
Type 0
Square flange receptacle



Type 7
Jam nut receptacle

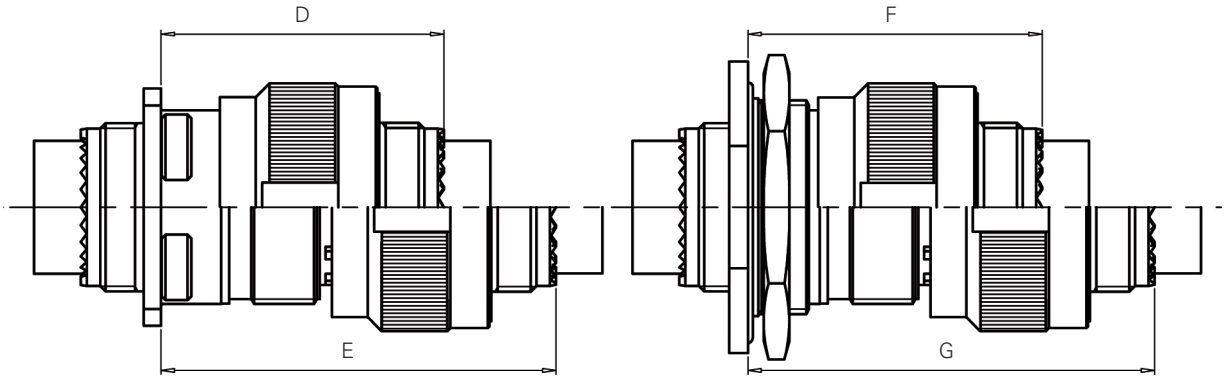


Type 5
Plug



	A		B		C	
	Shell size 09 to 19	Shell size 25	Shell size 09 to 19	Shell size 25	Shell size 09 to 19	Shell size 25
Receptacle Type 0 and 7 Metal	20.90 Max	20.10 Max	12.50 Max	13.00	2.50 Max	3.20 Max
Receptacle Type 0 Composite	20.90 Max	20.10 Max	12.50 Max	13.00 Max	3.65 Max	4.35 Max

L	
Male insulator	Female insulator
4 Max	6.60 Max

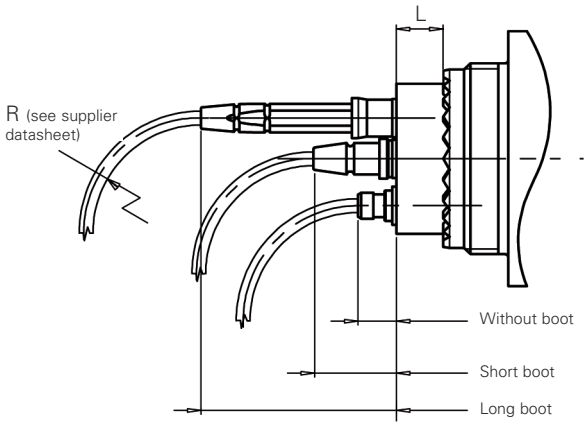


	D		E		F		G	
	Shell size 09 to 19	Shell size 25	Shell size 09 to 19	Shell size 25	Shell size 09 to 11	Shell size 13 to 25	Shell size 09 to 11	Shell size 13 to 25
Plug + Receptacle Type 0 and 7 Metal	37.00 Max	36.50 Max	52.30 Max	51.50 Max	39.00 Max	39.00 Max	54.00 Max	54.00 Max
Plug + Receptacle Type 0 Composite	37.00 Max	36.50 Max	52.30 Max	51.50 Max	N/A	N/A	N/A	N/A

Note: All dimensions are in millimeters (mm)

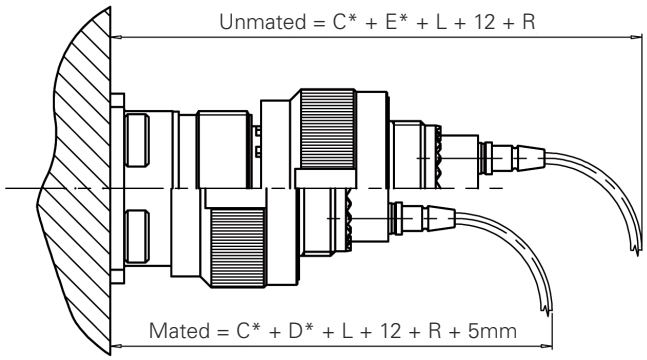
Dimensions

38999 Series III/EN3645 with ELIO® or ELIObeam contacts in high-density insert



Total length example

Square flange receptacle + plug + ELIO®/ELIObeam contacts in high-density insert



* See previous page

	L		Contact length		
	Male insulator	**Female insulator**	**Without boot**	**Short boot**	**Long boot**
Plug	4 Max	6.60 Max	6 Max	12 Max	27 Max
Square flange receptacle	4 Max	6.60 Max	6 Max	12 Max	27 Max
Jam nut receptacle	4 Max	6.60 Max	6 Max	12 Max	27 Max

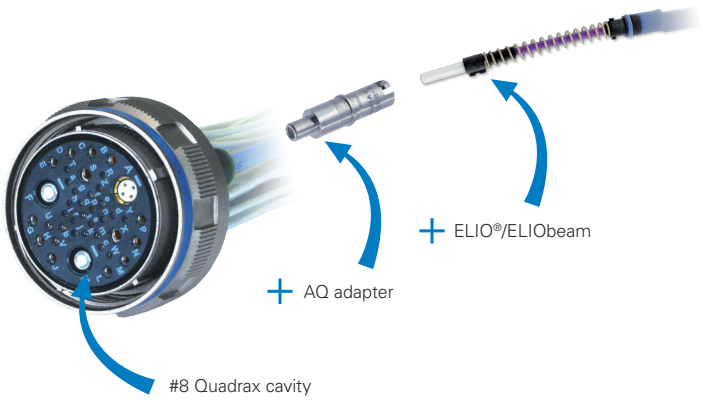
Backshells

Please see **Page 31**.

Note: All dimensions are in millimeters (mm)

Souriau fiber optic solutions

38999 Series III Connectors with #8 Cavities adaptor



MIL-DTL-38999 Series III/EN3645

#8 Quadrax cavity adaptor for ELIO®/ELIObeam contacts

- ELIO® AQ is an adaptor to enable the ELIO® and ELIObeam contact to fit in any #8 cavities
- Multiple possibilities to mix optical and electrical signals in the same insert
- Compatible with standard MIL-DTL-38999 Series III/EN3645 connectors (aluminum, composite, stainless steel, bronze)
- Design ensures ELIO® and ELIObeam optical performance
- Environmental performance as per MIL-DTL-38999 and EN3645 standard
- Temperature range: - 65°C to +150°C (cable limitation)

Applications

- Fiber optic connector for all military and aeronautical applications wherever severe vibration or mechanical resistance are required.

AQ Adaptor

for #8 Quadrax cavity

Insert type	Part number multimode	Part number singlemode
Male insert		
	ELIOAQ6PB	ELIOAQ6PB
Female insert		
	ELIOAQ6SB	ELIOAQ6SB674

Delivered with alignment boot.

Ordering information

See Souriau «8D Series - MIL-DTL-38999 Series III» catalog.

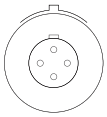
Dimensions

See **Pages 14 and 15**.

Contact layouts

Contact #11

Size 81



1 #8 Quadrax

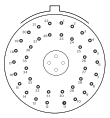
Contact #17

Size 80



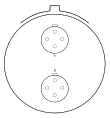
2 #12
2 #8 Quadrax

Size 81



38 #22D
1 #8 Quadrax

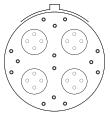
Size 82



2 #8
Quadrax

Contact #19

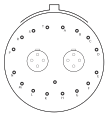
Size 84



14 #22D
4 #8 Quadrax

Contact #21

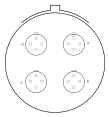
Size 78



17 #22D
2 #8 Quadrax

Contact #21

Size 84



4 #8 Quadrax

Contact #25

Size 80



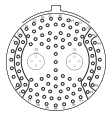
10 #20
13 #16, 4 #12,
3 #8 Quadrax

Size 81



22 #22D, 3 #20,
11 #16, 2 #12,
3 #8 Quadrax

Size 82



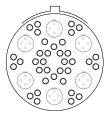
97 #22D
2 #8
Quadrax

Size 86



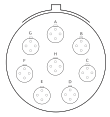
40 #20
4 #16
2 #8 Quadrax

Size 87



36 #22D
6 #8
Quadrax

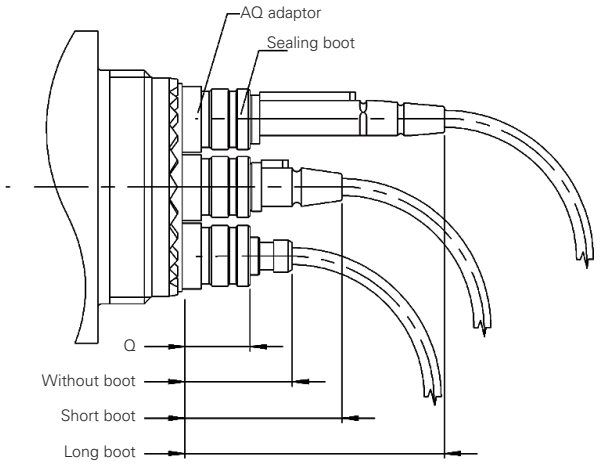
Size 88



8 #8
Quadrax

Dimensions

38999 Series III with ELIO® or ELIObeam contacts and #8 Quadrax cavity AQ adaptors



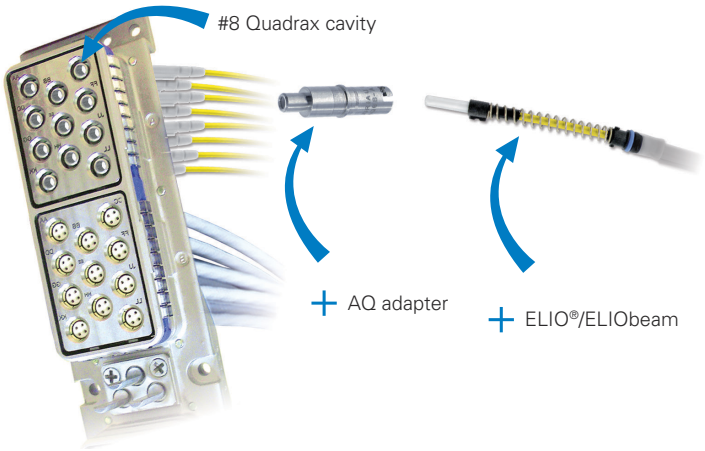
	Q		Contact length Long boot		Short boot		Without boot	
	Male insulator	Female insulator	Male insulator	Female insulator	Male insulator	Female insulator	Male insulator	Female insulator
Plug	12 Max	9.5 Max	34.5 Max	32 Max	19.5 Max	17 Max	12.5 Max	10 Max
Square flange receptacle	12.5 Max	10 Max	35 Max	32.5 Max	20 Max	17.5 Max	13 Max	10.5 Max
Jam nut receptacle	12 Max	9.5 Max	34.5 Max	32 Max	19.5 Max	17 Max	12.5 Max	10 Max

Backshells

Please see **Page 31**.

Souriau fiber optic solutions

ARINC 600 Series with #8 Cavities adaptor



ARINC 600 Series

with #8 Quadrax cavity adaptor for ELIO®/ ELIObeam contacts

- Compatible with standard ARINC 600 Souriau connector
- Designed to ensure ELIO® contact optical performances
- Many possibilities to mix optical and electrical contact
- Temperature range: -65°C to +125°C (cable limitation)

Applications

- Fiber optic connector for all military and aeronautical applications wherever severe vibration or mechanical resistance are required.

AQ Adaptor

for #8 Quadrax cavity

Multimode contacts only

Insert type	Part number
Male insert	
	ELIOAQ0P (rear release - delivered with alignment boot)
	ELIOAQ1P (front release)
Female insert	 ELIOAQ0S (rear release)

Dimensions

See next page.

Ordering information

See Souriau «ARINC 600 Series» catalog.

Contact layouts

ARINC 600 shell size 2 and 3

Cavity A, B, D & E

Q11*



11 #8

118Q2



118 #22
2 #8

C12Q6*



12 #12
6 #8

Cavity C & F

Q6*



6 #8

68Q2



68 #22
2 #8

11Q2



4 #20
3 #16
4 #12
2 #8

62Q2



60 #22
2 #16
2 #8

20Q4

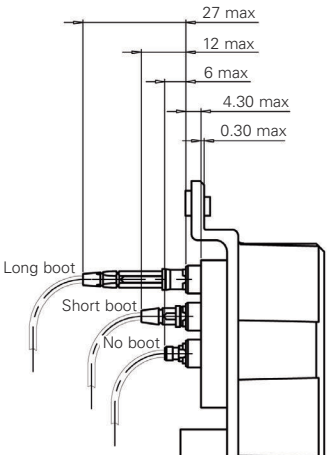


20 #20
4 #8

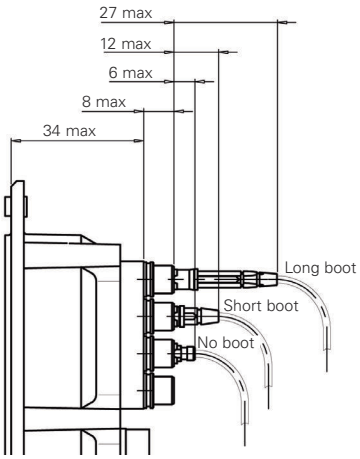
Dimensions

ARINC 600 with ELIO® or ELIObeam contacts and #8 Quadrax cavity AQ adaptors

Plug



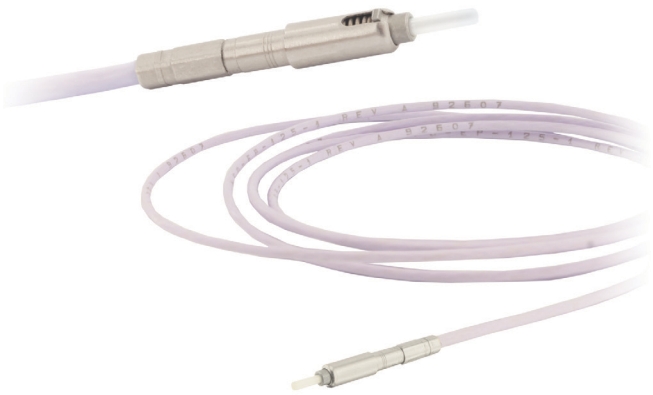
Receptacle



Note: All dimensions are in millimeters (mm)

Souriau fiber optic solutions

Physical contact



ARINC 801 contact

- Compact 1.25mm ferrule
- High density insert
- Same insertion and extraction tool as electrical contact size 16

Technical features

Optical

Multimode contact - insertion loss (IEC 61300-3-4 method B):

- Typical 0.3 dB

Multimode contact - return loss (IEC 61300-3-6):

- >20 dB

Mechanical

Endurance:

- Minimum 100 mating/unmating operations

Shock:

- 300 g, 3ms as per TIA/EIA 455-14

Vibration:

- 23.1 Grms as per TIA/EIA 455-11

Contact retention:

- 68N, as per SAE AS 13441 method 2009.1 for 1.8mm cable

Environmental

Salt spray:

- Aluminum shell:
  Olive Drab Cadmium (W): 500 Hrs
  Nickel (F): 48 Hrs
  Black Zinc Nickel (Z): 500 Hrs
- Composite shell:
  Olive Drab Cadmium (J): 2000 Hrs
  Nickel (M): 2000 Hrs
  Without plating (X): 2000 Hrs
- Stainless steel shell:
  Passivated (K): 500 Hrs
  Nickel (S): 500 Hrs

Temperature range:

- Thermal cycling 50 cycles between -55°C to +125°C as per TIA/EIA 455-3
- Temperature life 1000 hours at 125°C as per TIA/EIA-455-4C

Humidity:

- 10 cycles/24h, -25 to +65°C, 90% RH as per TIA/EIA 455-5

Altitude immersion

- Pressure equivalent to 50,000 ft (15,200 m)

Termini

Ordering information

ARC1 G 18T B

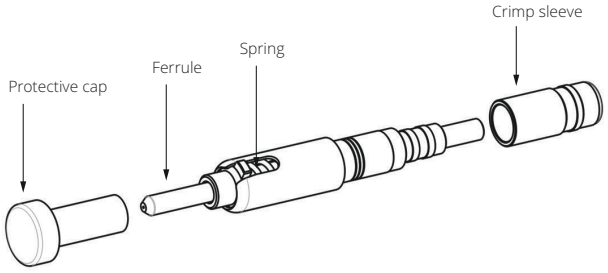
Souriau ARINC 801 Termini

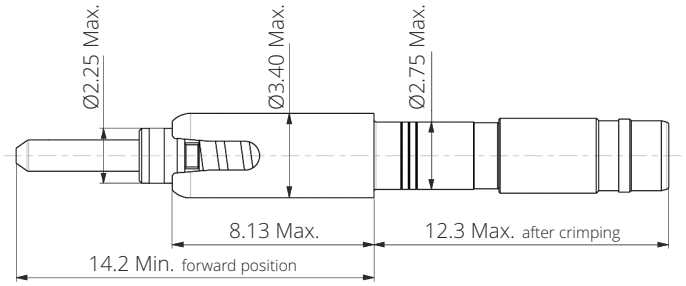
Fibre type
G: Multimode fiber 50/125µm or 62.5/125µm
E: Singlemode fiber 9/125µm - consult us for availability

Contact version index

Cable type and diameter
09T: Ø 900µm fiber cable - non waterproof
18T: Ø 1.6mm to Ø 2.2mm fiber cable, tight structure
18L: Ø 1.6mm to Ø 2.2mm fiber cable, loose structure

Termini dimensions





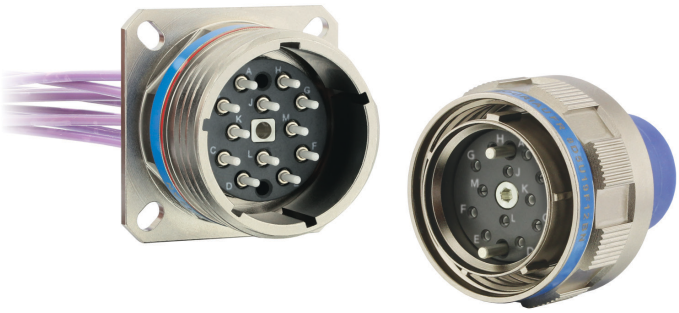
Accessories and Tooling

Please see "Common Section" **Page 42**.

Note: All dimensions are in millimeters (mm)

Souriau fiber optic solutions

38999 Series III connectors with high density inserts



MIL-DTL-38999 Series III/EN3645

ARINC 801 contacts

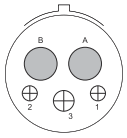
- Screw coupling
- Shell size from 11 to 25
- Large number of layouts from 2 to 32 termini
- Composite, aluminum, stainless steel material
- Protected by cadmium, nickel, green zinc cobalt or black zinc nickel plating
- Accessories and tools available (protective caps, backshells, etc…)

Contact layouts

Sleeve holder front view

Contact #11

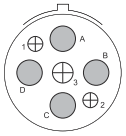
Size 02



2 optical ways

Contact #13

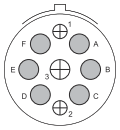
Size 04



4 optical ways

Contact #15

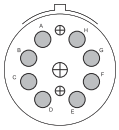
Size 06



6 optical ways

Contact #17

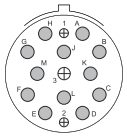
Size 08



8 optical ways

Contact #19

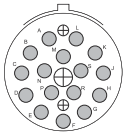
Size 12



12 optical ways

Contact #21

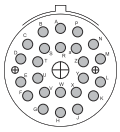
Size 16



16 optical ways

Contact #23

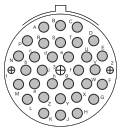
Size 24



24 optical ways

Contact #25

Size 32



32 optical ways

Backshells

Please see **Page 31**.

Ordering information

8D 5 U 25 F 32 B N

8D Connector

Shell type
0: Square flange receptacle (male insert only)
5: Plug (female insert only)
7: Jam nut receptacle (male insert only)

U: ARINC 801 optical connector

Shell size
11, 13, 15, 17, 19, 21, 23, 25

Material and plating

Aluminum:	**Stainless steel:**	**Composite:**
W: Olive green cadmium	**K:** Passivated	**J:** Olive green cadmium
F: Nickel	**S:** Nickel	**M:** Nickel
Z: Zinc Nickel		**X:** Without plating

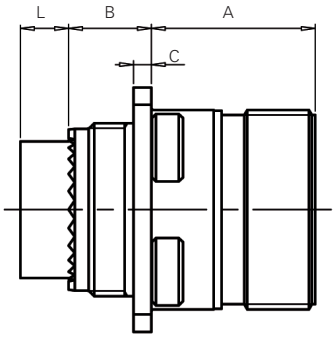
Layouts
See previous page

Insert gender
A: Male
B: Female

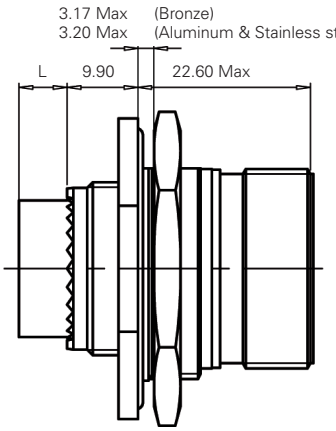
Orientation
N, A, B, C, D, E

Dimensions

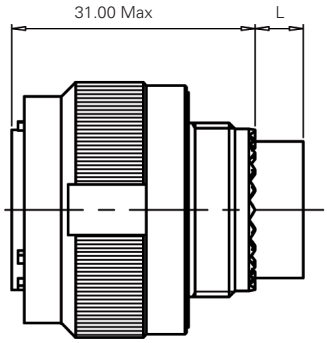
Type 0
Square flange receptacle



Type 7
Jam nut receptacle



Type 5
Plug



	A		**B**		**C**		**L**	
	Shell size 09 to 19	**Shell size 25**	**Shell size 09 to 19**	**Shell size 25**	**Shell size 09 to 19**	**Shell size 25**	**Male insulator**	**Female insulator**
Receptacle type 0 and 7 Metal	20.90 Max	20.10 Max	12.50 Max	13.00 Max	2.50 Max	3.20 Max	7.50 Max	12.00 Max
Receptacle type 0 Composite	20.90 Max	20.10 Max	12.50 Max	13.00 Max	3.65 Max	4.35 Max		

Coupling dimensions, see **Page 14**.

Note: All dimensions are in millimeters (mm)

Souriau fiber optic solutions

Railway contacts



ELIO® contact

- Robust spring-loaded butt-joint optical contact using ST style ferrule (diameter 2.5mm)
- Compatibility with loose and tight structure cables
- 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
- High level optical performance even after aging
- Bayonet locking system: no tool needed for mounting/dismounting
- Compatible with singlemode, multimode and POF cable: E.g. Radox®, Flamex® cable.

Technical features

Please see **Page 8**.

Ordering information and dimensions

Please see **Page 9**.

Accessories and tooling

Please see "Common Section" **Page 42**.



ELIObeam contact

- Fit in all ELIO® standard cavities
- Optical lense for expanded beam
- Allows signal communication without physical contacts
- Used like ELIO® standard contact

Technical features

Please see **Page 10**.

Ordering information and dimensions

Please see **Page 11**.

Accessories and tooling

Please see "Common Section" **Page 42**.

Souriau fiber optic solutions

838 Series connectors



838 Series

with ELIO®/ELIObeam contacts

- Screw coupling
- Aluminum alloy. 500 hours salt spray resistant
- 100 mating cycles
- Resistance to fluids: Gasoil, mineral oil, acid bath, basic bath, following NFF 61030, oxalic acid
- Temperature range: -40°C to +100°C

Ordering information

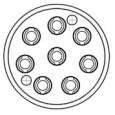
Consult us for availability

	Part Number - Connector delivered without contact	
Shell size	**Receptacle**	**Plug with backshell***
E	8380E1E8E7LM0A	8380F0E8E2LT74BA

* This backshell is defined for an intercoach application and cable Ø 25.5 to 30 mm. For other backshells, please consult us.

Contact layouts

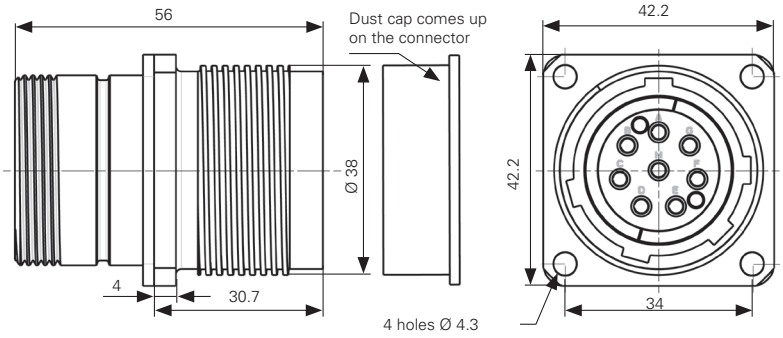
Contact # E8



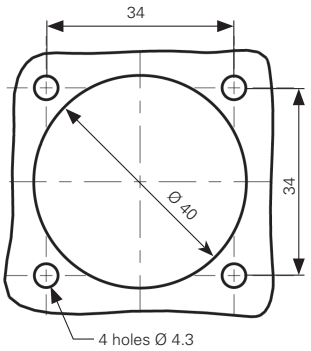
8 optical ways

Dimensions

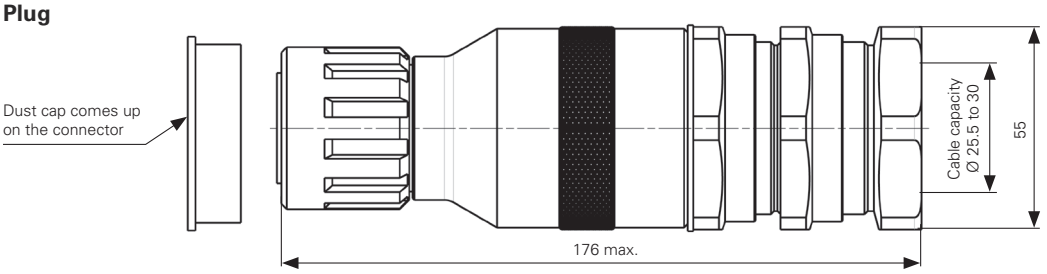
Receptacle



Panel cut out



Plug



Note: All dimensions are in millimeters (mm)



VGE1 Series

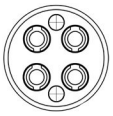
ELIO®/ELIObeam contacts

- Reverse bayonet coupling
- Aluminum alloy. 500 hours salt spray resistant
- 100 mating cycles
- Resistance to fluids: Gasoil, mineral oil, acid bath, basic bath, following NFF 61030, oxalic acid
- Temperature range: -40°C to +100°C

Contact layouts

Contact #18

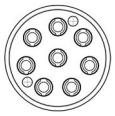
04



4 optical ways

Contact # 22

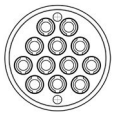
08



8 optical ways

Contact # 24

12



12 optical ways

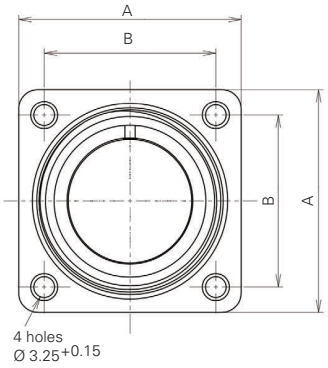
Ordering information

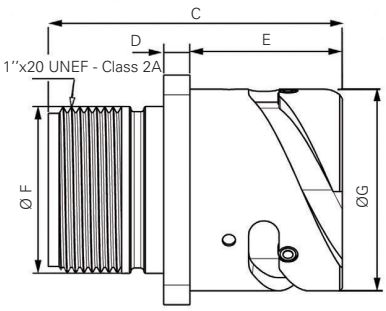
Consult us for availability

	Part number - Connector delivered without contact	
	Receptacle	Plug
Shell size	Male insert	Female insert
18	VGE1B18E04GN	VGE1D18E04JN
22	VGE1B22E08GN	VGE1D22E08JN
24	VGE1B24E12GN	VGE1D24E12JN

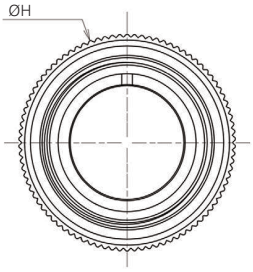
Dimensions

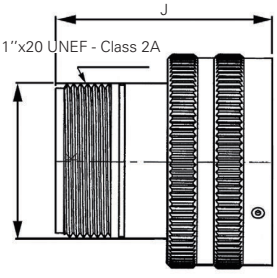
Receptacle





Plug





Shell size	A	B	C max	D	E	ØF max	ØG max	ØH max	J max	K max
18	35.00	27.00	45.50	4.00	23.05	25.50	30.80	37.30	45.60	25.50
22	41.00	31.80	45.50	4.00	23.05	31.90	37.40	44.00	45.60	31.90
24	44.50	34.90	45.50	4.00	23.05	35.20	40.90	48.50	45.60	35.20

Note: All dimensions are in millimeters (mm)

Souriau fiber optic solutions

VGE1 series connectors



VGE1 Series backshells

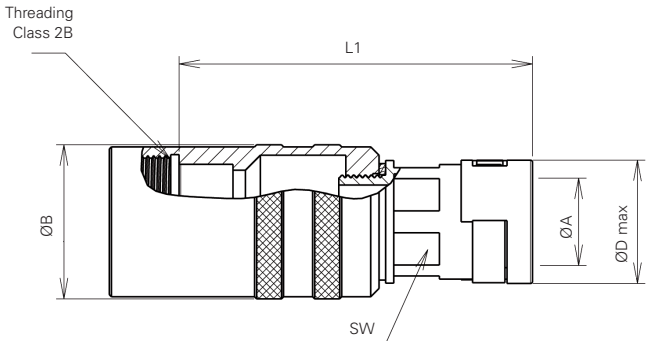
- The optical contact can have a specific mating sequence: the cable can move back during the mating in some situation. To avoid the mating sequence to be disturbed and to ensure the best optical.
- 2 types of backshell available: Straight long version with conduit adaptor, and straight long version with cable gland

Ordering information

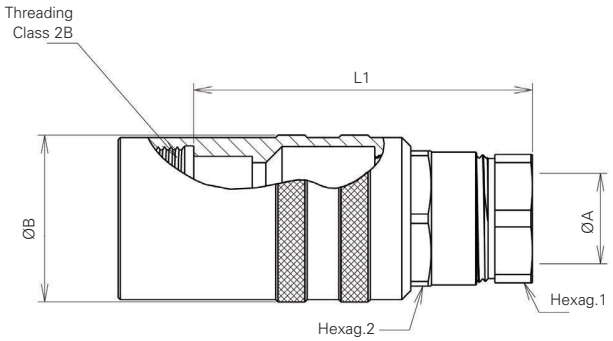
	Part number - for other backshells & adaptors, please consult us	
Shell size	**SS straight long version with conduit adaptor**	**JS straight long version with cable gland**
18	VGE1SS180010	VGE1JS180010
22	VGE1SS220010	VGE1JS220010
24	VGE1SS240010	VGE1JS240010

Dimensions

SS straight long version



JS straight long version



Backshell type	Shell size	ØA	ØB	ØD	SW	L1	Hexag. 1	Hexag.2
SS straight long version	18	PMA NW17	30.0	30.0	26.0	84.1	-	-
	22	PMA NW23	37.0	37.0	32.0	87.1	-	-
	24	PMA NW23	40.0	37.0	32.0	87.1	-	-
JS straight long version	18	7/12	30.0	-	-	71.6	20	22
	22	10/18	37.0	-	-	79.6	28	30
	24	10/18	40.0	-	-	79.6	28	30

Note: All dimensions are in millimeters (mm)



UTS Series

with LC or MPO contacts

- Secure and quick locking:
  Ergonomic 1/3-turn locking
  Low weight
  Audible click
- Environmental aerial and buried seal:
  Waterproof IP67/IP68, vibration proven
- Long life warranty:
  UV-resistant, corrosion free
- Robust field handling:
  Protected contact
  Robust shell material
  High cable retention system
- Optical contact multi-sourcing:
  Designed for all standard LC and MPO contacts

Ordering information

			Part number	
Contact type	**Connector type**	**Backshell**	**Male insert**	**Female insert**
LC	Free hanging receptacle	Cable gland	UTS1JC18LCN	-
	Free hanging receptacle	Flexible conduit	UTS1FC18LCN	-
	Plug	Cable gland	-	UTS6JC18LCN
	Plug	Flexible conduit	-	UTS6FC18LCN
	Jam nut receptacle	Without backshell	UTS718LCN	-
MPO	Free hanging receptacle	Cable gland	UTS1JC18MPN	-
	Free hanging receptacle	Flexible conduit	UTS1FC18MPN	-
	Plug	Cable gland	-	UTS6JC18MPN
	Plug	Flexible conduit	-	UTS6FC18MPN
	Jam nut receptacle	Without backshell	UTS718MPN	-

For a cable diameter higher than 6mm, please consult us.

Contact layouts

LC

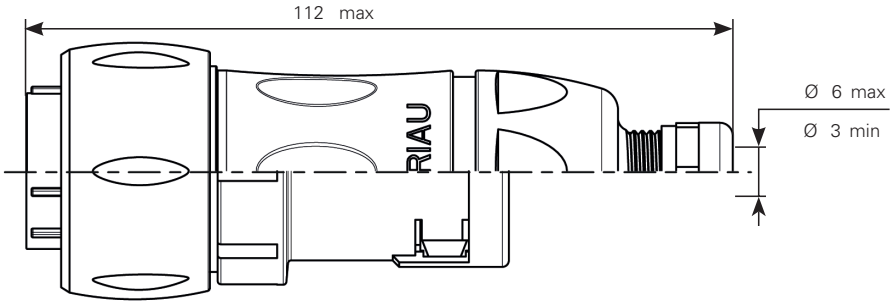


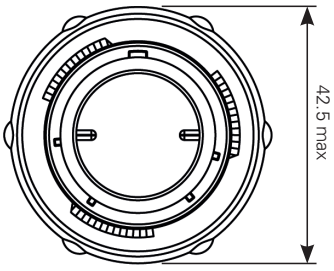
MPO



Dimensions

Plug

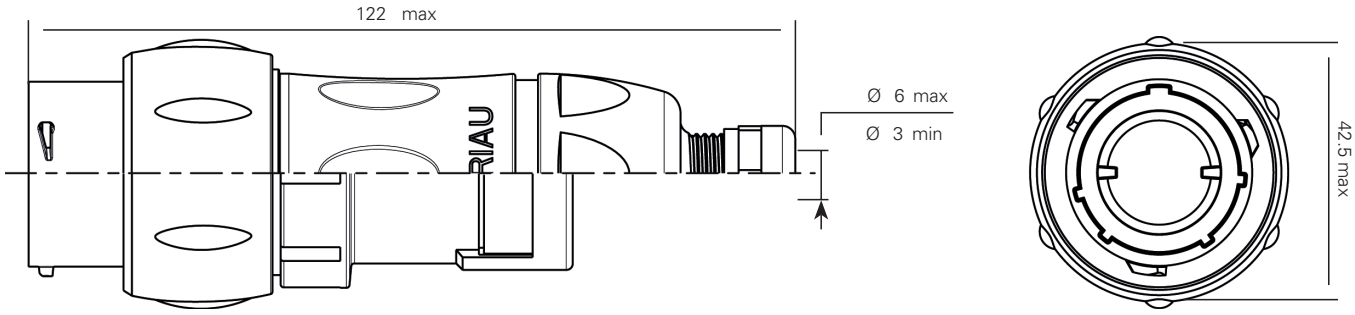




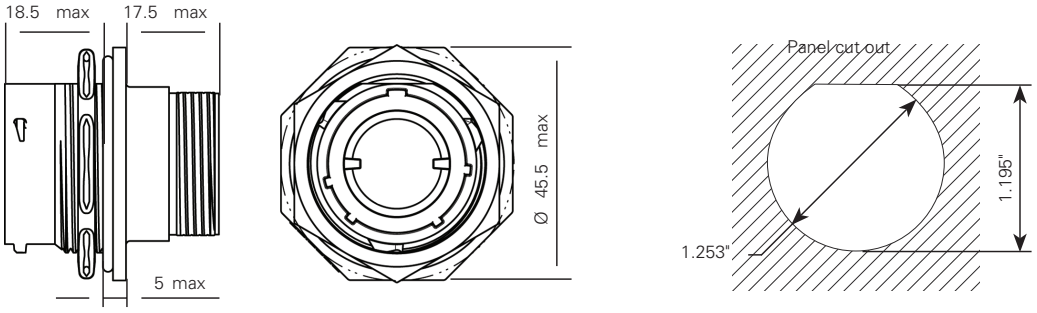
Note: All dimensions are in millimeters (mm)

Dimensions

Free hanging receptacle



Jam nut receptacle



Accessories

Sealing caps



Description	Part number
Cap for plug	**UTS618DCG2**
Cap for receptacle	**UTS18DCG2**

Flexible conduit



Description	Part number
IP68/69K conduit	**UTS18FCP1**

Note: All dimensions are in millimeters (mm)



38999 Series backshells

ELIO® | ELIO BEAM | ARINC 801

- The optical contact can have a specific mating sequence: the cable can move back during the mating in some situation. To avoid the mating sequence to be disturbed and to ensure the best optical performances, Souriau has developed a dedicated backshell range for MIL-DTL-38999 Series III/EN3645 connectors.
- There are 4 types of backshell available. They are compatible with standard electrical MIL-DTL-38999 Series III/EN3645 rear interface.



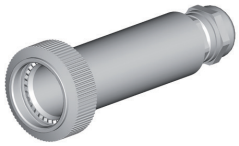
Type 1

Adaptor for use with a standard 38999 Series III/EN3645 backshell. Caution is necessary in the choice of the standard backshell: it must allow enough room to accomodate the push back of the cable during the connector mating.



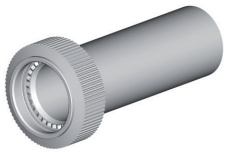
Type 2

Backshell for straight or right angled heat shrink boot (not supplied), suitable for tactical cables or protection tubes for example. Adapted to sealed and low mechanical retention applications.



Type 3

Backshell with cable gland suitable for tactical cables only. Adapted to sealed and high mechanical retention applications. See table **Page 33** for dimension code depending on the shell size and the cable diameter.



Type 4

Backshell derived from Type 3 without the cable gland. Suitable to adapt specific male threaded adaptors (not supplied) for ANAMET or PMA tubes for example. See table **Page 33** for the size of the female thread depending on the shell size.

Ordering information

8DABE 3 A F 13 F 01

Type
- **1:** Adaptor for standard 38999 Series III/EN3645 backshell (standard backshell not supplied)
- **2:** Backshell for straight or right angled heat shrink boot (heat shrink boot not supplied)
- **3:** Backshell with cable gland. See table p.40 for dimension code.
- **4:** Backshell for specific male threaded adaptor for PMA or ANAMET tubes for example (not supplied). See table p.40 for thread dimensions

Angle
- **A:** Straight
  For other angle, please consult us.

Coupling ring
- **F:** Non self locking type
  For other system, please consult us.

Shell size
- **09, 11, 13, 19, 25**

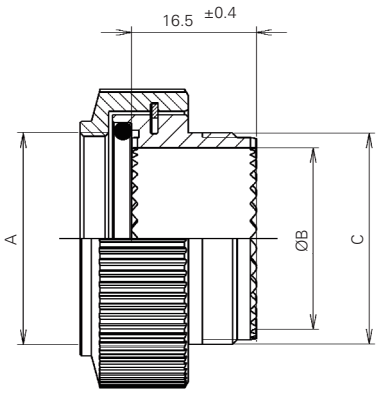
Material and plating
- **Z:** Aluminum black zinc nickel plating
- **W:** Aluminum olive green cadmium plating
- **F:** Aluminum nickel plating
- **B:** Bronze

Dimension code
- **01:** Only for Type 3, see table p.40
  No digit for other types

Dimensions

Backshell type 1

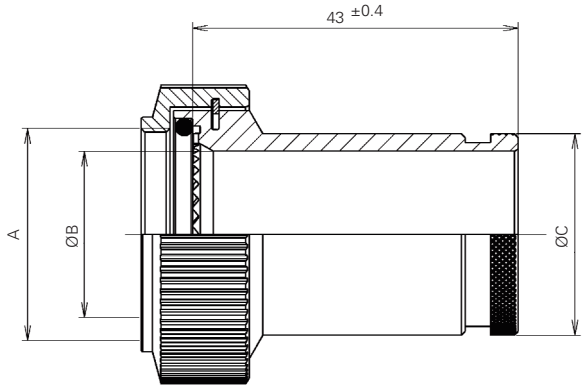
ELIO® ELIO BEAM ARINC 801



Size	Thread A	ØB±0.25	Thread C
09	M12x1	8.7	M12x1
11	M15x1	11.7	M15x1
13	M18x1	14.7	M18x1
19	M28x1	22.3	M28x1
21	M31x1	25.8	M31x1
25	M37x1	32.6	M37x1

Backshell type 2

ELIO® ELIO BEAM ARINC 801



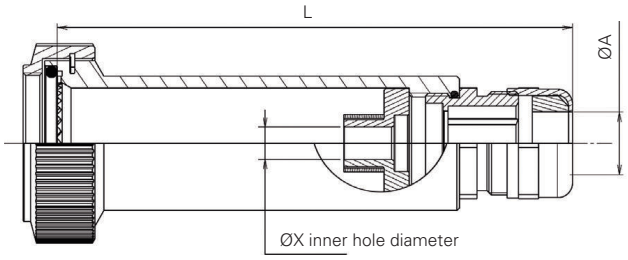
Size	Thread A	ØB±0.25	ØC±0.2
09	M12x1	8.7	16.7
11	M15x1	11.7	19.7
13	M18x1	14.7	22.7
19	M28x1	22.3	26.6
21	M31x1	26.3	30.4
25	M37x1	32.6	36.8

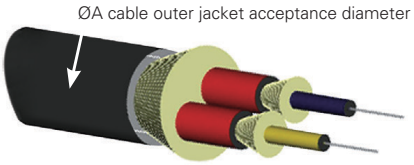
Note: All dimensions are in millimeters (mm)

Dimensions

Backshell type 3

ELIO® ELIO BEAM ARINC 801





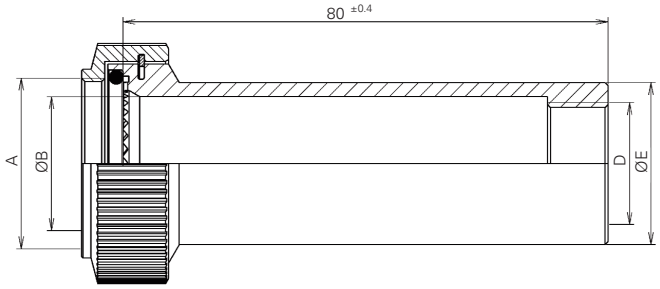
Note: Same marquing as Type 4.

Shell size	09			11			13			19			21			25		
Cable diameter acceptance ØA	**DC**	**L**	**ØX Max**	**DC**	**L**	**ØX Max**	**DC**	**L**	**ØX Max**	**DC**	**L**	**ØX Max**	**DC**	**L**	**ØX Max**	**DC**	**L**	**ØX Max**
3 to 6 mm	00	101	3.5	00	101	5	00	101	5	00*	104	5	00*	104	5	00*	104	5
5 to 7.8 mm	01	103	3.5															
5 to 8 mm				01	101	5	01	101	7	01*	104	7	01*	104	7	01*	104	7
6 to 10 mm				02**	114	5	02**	114	7	02	102	11	02	105	11	02	105	11
8 to 11.8 mm				03**	115	5	03 **	115	7									
8 to 12 mm										03	103	11	03*	106	11	03*	106	11
9.5 to 14 mm										04**	116	11	04	104	14	04	104	14
11.5 to 15.8 mm										05**	122	11						
11.5 to 18 mm													05	110	14	05	110	14
15 to 20.8 mm													06**	130	17	06**	130	17

DC = Dimension Code
* with reducer
** with amplifier

Backshell type 4

ELIO® ELIO BEAM ARINC 801



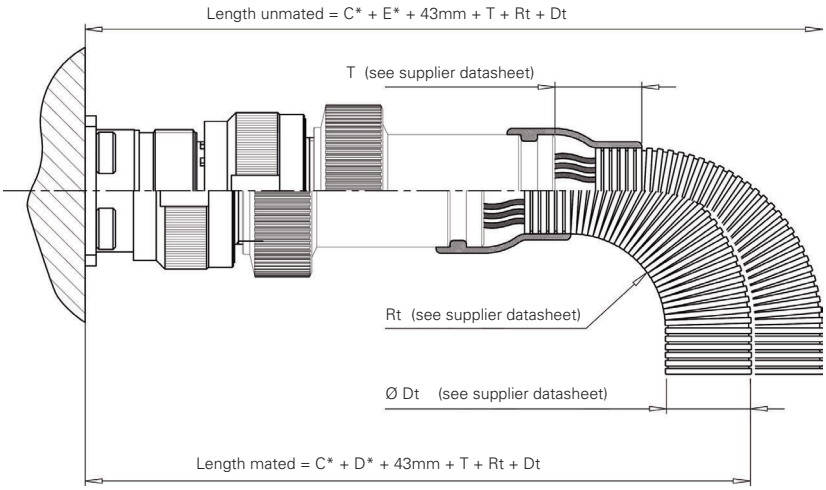
Size	Thread A	ØB±0.25	Thread D	ØE±0.2
09	M12x1	8.7	M12x1.5	16.7
11	M15x1	11.7	M16x1.5	19.7
13	M18x1	14.7	M16x1.5	22.7
19	M28x1	22.3	M20x1.5	26.6
21	M31x1	26.3	M25x1.5	30.4
25	M37x1	32.6	M25x1.5	36.8

Note: All dimensions are in millimeters (mm)

Dimensions

ELIO® ELIO BEAM ARINC 801

Total length with backshell



* See **Page 14**

Backshell use examples

Type 2 - heat shrink boot not supplied

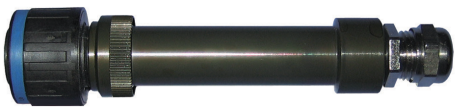
- 8DABE2AF13W with a straight boot on PMA tube



- 8DABE2AF13F with a right angled boot on tactical cable

Type 3 - supplied with cable gland

- 8DABE3AF13W01

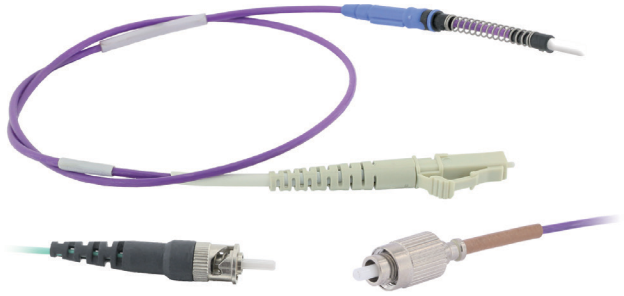


Type 4 - supplied without the specific adaptor

- 8DABE4AF13W with PMA tube adaptor



Note: All dimensions are in millimeters (mm)



Patchcords

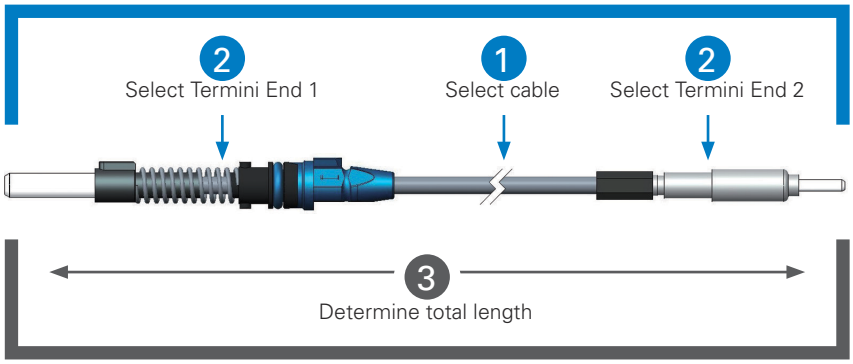
ELIO® | ELIO BEAM | ARINC 801 | LC,ST, SC,FC

- Souriau offers a wide range of optical contacts that can be terminated.
- From full standard such as LC, ST or SC contacts up to milaero standard like ELIO® or ARINC 801.

- Souriau offers optical patchcords which are contacts terminated to a single wire.
- These sub assemblies can then be plugged into the corresponding connector to make complete connector assemblies.
- The patchords facilitate the access to the fiber optic technology to customer regarding fiber optic termination.
- Patchcords can easily be ordered using the part number configurator below.

Patchcord - Your optical patchcord in 3 steps!

Patchcord Cable/Terminus Combination Code



Patchcord Length

Ordering information

HA02 XXXX XXX M A

Patchcord cable/terminus combination code
XXXX: See tables p.44 and 45

Length unit
M: Meter **CM:** Centimeter

Patchcord version index

Patchcord length		
In meter when possible. Examples: • for a 3 meter assembly, use **003**(M) and not 300(CM) • for a 3.5 meter assembly, use **350**(CM)	**Standard length tolerances**	
	Patchcord from 30 cm to 1 m	0 / + 5 cm
	Patchcord from 1 m to 4 m	0 / + 10 cm
	Patchcord from 4 m to 15 m	0 / + 20 cm
	Patchcord > 15 m	0 / + 30 cm

Note: To create your patchcord part number, select your patchcord combination code in tables p.44 and 45 (1st contact - 2nd contact - Fiber Optic cable) and the length of your assembly on 3 digits in meter (M) or centimetre (CM). You must use meter when possible (see examples above).

Recommended cables

ELIO® ELIO BEAM ARINC 801 LC,ST, SC,FC

Souriau offers a wide range of cables, from cost efficient to high performance aeronautical cables. Fast delivery!

Application	Standard	Cable code	Fiber type	Cable diameter	Temperature range	Tensile strength (N)	Number of ways	Bandwidth Limit (MHz.km)*	Attenuation (dB/km)*	Min. bend radius (mm)	Weight (kg/km)	Structure outer jacket
High performance cables												
For flying use	ABS0963-003LF, EN4641-102	FCABLE11	62.5/125	1.8	-55°C to +125°C	250	1	400/1000	4.0/2.0	20	4	Tight
	ARINC802	FCABLE21	62.5/125	1.8	-55°C to +100°C	300	1	200/500	3.0/0.8	9	4.6	Semiloose
	EN4641-101	FCABLE41	62.5/125	0.9	-55°C to +125°C	20	1	400/1000	4.0/2.0	10	1	NA
	-	FCABLE33	9/125	1.8	-55°C to +125°C	250	1	No limit	0.5/0.5	20	2.2	Tight
	EN4641-301, ABS2293 LG (50µm)	FCABLE22	50/125	1.8	-65°C to +135°C	200	1	400/1000	2.5/1.0	20	4	Tight
Cost efficient cables												
For harsh environment	-	FCABLE61	62.5/125	1.8	-40°C to +85°C	130	1	200/500	3.5/1.5	25	2.2	Loose
	-	FCABLE42	50/125	1.8	-40°C to +85°C	130	1	1500/500	3.0/1.0	25	2.2	Loose
	-	FCABLE43	9/125	1.8	-40°C to +85°C	130	1	No limit	0.5/0.5	25	2.2	Loose
	-	FCABLE13	9/125	0.9	-40°C to +85°C	10	1	No limit	0.6/0.6	15	0.4	NA
	-	FCABLE31	62.5/125	1.6	-20°C to +70°C	200	1	200/500	3.5/1.0	30	4	Loose
	-	FCABLE12	50/125	1.8	-10°C to +70°C	200	1	1500/500	2.8/0.8	20	4	Loose

*1st value @850nm for multimode cable, 2nd value @1300nm for multimode (respectivly 1300nm and 1550nm for singlemode) ELIO® is compatible with loose and tight structured cables.

Consult us for other harsh environment cables.

Standard length tolerances

Patchcord from 30 cm to 1 m	0 / + 5 cm
Patchcord from 1 m to 4 m	0 / + 10 cm
Patchcord from 4 m to 15 m	0 / + 20 cm
Patchcord from 15 m to 50 m	0 / + 30 cm
Patchcord from 50 m to 100 m	0 / + 50 cm

Note: All dimensions are in millimeters (mm)

Patchcord combination code

ELIO® | ELIO BEAM | ARINC 801 | LC,ST, SC,FC

Most common cables with most common contacts - For other combinations please consult us. All contact are UPC polished otherwise specified.

With cable FCABLE11

Contact 2 / Contact 1	ST	SC	ARINC801 1.25mm	LC Simplex	ELIO18WGSA	ELIO18WGLA	ELIO18NGSA	ELIO18NGNA	ELIO18NGLA	EOB118WGLA
EOB118WGLA	3069	3068	3066	3065	3064	3063	3062	3061	3060	3070
ELIO18NGLA	0350	0349	0533	0348	0183	0114	0347	0186	0346	
ELIO18NGNA	0206	0215	0534	0211	0195	0190	0221	0220		
ELIO18NGSA	0207	0216	0535	0212	0196	0191	0222			
ELIO18WGLA	0107	0110	0251	0109	0188	0111				
ELIO18WGSA	0192	0194	0254	0193	0116					
LC Simplex	0203	0209	0536	0208						
ARINC801 1.25mm	0538	0537	0263							
SC	0204	0213								
ST	0124									

With cable FCABLE33

Contact 2 / Contact 1	ST	SC/UPC	SC/APC	ARINC801 1.25mm	LC Simplex/ UPC	LC Simplex/ APC	ELIO18WESA	ELIO18WELA	ELIO18NESA	ELIO18NENA	ELIO18NELA
ELIO18NELA	0763	0762	0761	0760	0759	0758	0755	0754	0753	0752	0751
ELIO18NENA	0775	0774	0773	0772	0771	0770	0767	0766	0765	0764	
ELIO18NESA	0786	0785	0784	0783	0782	0781	0778	0777	0776		
ELIO18WELA	0796	0795	0794	0793	0792	0791	0788	0787			
ELIO18WESA	0805	0804	0803	0802	0801	0800	0797				
LC Simplex/APC	X	X	0824	0823	X	0821					
LC Simplex/UPC	0831	0830	X	0828	0827						
ARINC801 1.25mm	0835	0834	0833	0832							
SC/APC	X	X	0836								
SC/UPC	0840	0839									
ST	0841										

With cable FCABLE22

Contact 2 / Contact 1	ST	SC	FC	ARINC801 1.25mm	LC Simplex	ELIO18WGSA	ELIO18WGLA	ELIO18NGSA	ELIO18NGNA	ELIO18NGLA	EOB118WGLA
EOB118WGLA	X	3079	3078	3077	3076	3075	3074	3073	3072	3071	3081
ELIO18NGLA	0582	0591	0599	0606	0612	0617	0621	0624	0626	0627	
ELIO18NGNA	0581	0590	0598	0605	0611	0616	0620	0623	0625		
ELIO18NGSA	0580	0589	0597	0604	0610	0615	0619	0622			
ELIO18WGLA	0579	0588	0596	0603	0609	0614	0618				
ELIO18WGSA	0578	0587	0595	0602	0608	0613					
LC Simplex	0577	0586	0594	0601	0607						
ARINC801 1.25mm	0576	0585	0593	0600							
FC	0575	0584	0592								
SC	0574	0583									
ST	0570										

Note: For other combination cable/contacts please send a request to contactmilaero@Souriau.com

Souriau fiber optic solutions

Patchcords

With cable FCABLE21

Contact 2 / Contact 1	ST	SC	FC	ARINC801 1.25mm	LC Simplex	ELIO18WGSA	ELIO18WGLA	ELIO18NGSA	ELIO18NGNA	ELIO18NGLA
ELIO18NGLA	0696	0706	0715	0723	0730	0736	0741	0745	0748	0750
ELIO18NGNA	0697	0707	0716	0724	0731	0737	0742	0746	0749	
ELIO18NGSA	0698	0708	0717	0725	0732	0738	0743	0747		
ELIO18WGLA	0699	0709	0718	0726	0733	0739	0744			
ELIO18WGSA	0700	0710	0719	0727	0734	0740				
LC Simplex	0701	0711	0720	0728	0735					
ARINC801 1.25mm	0702	0712	0721	0729						
FC	0703	0713	0722							
SC	0704	0714								
ST	0705									

With cable FCABLE31

Contact 2 / Contact 1	ST	SC	ARINC801 1.25mm	LC Simplex	FC	ELIO18NGSA	ELIO18NGNA	ELIO18NGLA
ELIO18NGLA	0345	0344	0641	0343	0342	0341	0153	0340
ELIO18NGNA	0166	0175	0640	0171	0178	0181	0180	
ELIO18NGSA	0167	0176	0639	0172	0179	0182		
FC	0165	0174	0636	0170	0177			
LC Simplex	0163	0169	0635	0168				
ARINC801 1.25mm	0686	0685	0634					
SC	0164	0173						
ST	0162							

With cable FCABLE13

Contact 2 / Contact 1	ST	SC	ARINC801 1.25mm	LC Simplex	FC	ELIO09NESA	ELIO09NENA	ELIO09NELA
ELIO09NELA	0561	0560	0633	0559	0558	0675	0674	0551
ELIO09NENA	0564	0563	0632	0550	0562	0676	0552	
ELIO09NESA	0568	0567	0631	0566	0565	0553		
FC	0679	0678	0630	0677	0554			
LC Simplex	0681	0680	0629	0555				
ARINC801 1.25mm	0683	0682	0628					
SC	0684	0556						
ST	0557							

Note: For other combination cable/contacts please send a request to contactmilaero@Souriau.com

ELIO® ELIO BEAM ARINC 801 LC,ST, SC,FC

With cable FCABLE43

Contact 2 / Contact 1	ST	SC/ UPC	SC/APC	ARINC801 1.25mm	LC Simplex/ UPC	LC Simplex/ APC	FC/UPC	FC/APC	ELIO18WESA	ELIO18WESA	ELIO18NESA	ELIO18NENA	ELIO18NELA
ELIO18NELA	0464	0457	0449	0673	0443	0437	0433	0429	0425	0422	0420	0419	0409
ELIO18NENA	0465	0458	0450	0672	0444	0438	0434	0430	0426	0423	0421	0410	
ELIO18NESA	0466	0459	0451	0671	0445	0439	0435	0431	0427	0424	0411		
ELIO18WELA	0467	0460	0452	0670	0353	0440	0408	0432	0428	0356			
ELIO18WESA	0468	0461	0453	0669	0446	0441	0436	0367	0366				
FC/APC	X	X	0454	0668	X	0442	X	0412					
FC/UPC	0470	0462	X	0667	0447	X	0413						
LC Simplex/ APC	X	X	0455	0666	X	0414							
LC Simplex/ UPC	0472	0463	X	0665	0415								
ARINC801 1.25mm	0695	0694	0456	0664									
SC/APC	X	X	0416										
SC/UPC	0474	0417											
ST	0418												

With cable FCABLE61

Contact 2 / Contact 1	ST	SC	ARINC801 1.25mm	LC Simplex	FC	ELIO18WGSA	ELIO18WGLA	ELIO18NGSA	ELIO18NGNA	ELIO18NGLA	EOB118WGLA
EOB118WGLA	3111	3110	3109	3108	3107	3106	3105	3104	3103	3102	3112
ELIO18NGLA	0384	0383	0655	0382	0381	0404	0401	0398	0397	0372	
ELIO18NGNA	0522	0521	0654	0520	0519	0405	0402	0399	0373		
ELIO18NGSA	0388	0387	0653	0386	0385	0406	0403	0374			
ELIO18WGLA	0392	0391	0652	0390	0389	0407	0375				
ELIO18WGSA	0396	0395	0651	0394	0393	0376					
FC	0525	0524	0650	0523	0377						
LC Simplex	0527	0526	0649	0378							
ARINC801 1.25mm	0691	0690	0648								
SC	0528	0379									
ST	0380										

With cable FCABLE42

Contact 2 / Contact 1	ST	SC	ARINC801 1.25mm	LC Simplex	FC	ELIO18WGSA	ELIO18WGLA	ELIO18NGSA	ELIO18NGNA	ELIO18NGLA	EOB118WGLA
EOB118WGLA	3100	3099	3098	3097	3096	3095	3094	3093	3092	3091	3101
ELIO18NGLA	0491	0490	0663	0489	0488	0487	0486	0485	0484	0475	
ELIO18NGNA	0498	0497	0662	0496	0495	0494	0493	0492	0476		
ELIO18NGSA	0504	0503	0661	0502	0501	0500	0499	0477			
ELIO18WGLA	0508	0507	0660	0113	0506	0505	0478				
ELIO18WGSA	0512	0511	0659	0510	0509	0479					
FC	0515	0514	0658	0513	0480						
LC Simplex	0517	0516	0657	0481							
ARINC801 1.25mm	0693	0692	0656								
SC	0518	0482									
ST	0483										

Note: For other combination cable/contacts please send a request to contactmilaero@Souriau.com

Souriau fiber optic solutions

Patchcords

ELIO® | ELIO BEAM | ARINC 801 | LC,ST, SC,FC

With cable FCABLE41

Contact 2 / Contact 1	ST	SC	ARINC801 1.25mm	LC Simplex	FC	ELIO09NGSA	ELIO09NGNA	ELIO09NGLA	EOB109NGLA
EOB109NGLA	3089	3088	3087	3086	3085	3084	3083	3082	3090
ELIO09NGLA	0226	0227	0647	0103	0228	0229	0230	0126	
ELIO09NGNA	0529	0239	0646	0235	0242	0244	0245		
ELIO09NGSA	0530	0238	0645	0234	0241	0243			
FC	0240	0237	0644	0233	0687				
LC Simplex	0531	0232	0643	0231					
ARINC801 1.25mm	0689	0688	0642						
SC	0532	0236							
ST	0253								

With cable FCABLE12

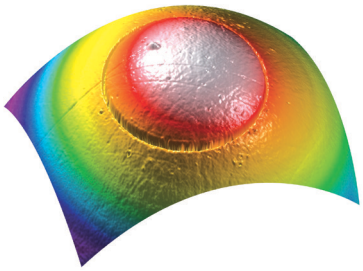
Contact 2 / Contact 1	ST	SC	LC Simplex	FC	ELIO18WGSA	ELIO18WGLA	ELIO18NGNA
ELIO18NGNA			0310				
ELIO18WGLA	0267		0284	0285		0260	
ELIO18WGSA	0270	0269	0300	0301			
FC							
LC Simplex							
SC							
ST	0286						

Note: For other combinations please send a request to contactmilaero@Souriau.com



Interferometry

- Technical measurement that calculates the topography of a surface.



- The system gives in 3 dimensions the observed surface with curves similar to levels of a geographic map. As a result it is possible to get the geometric parameters of the optical contact with an extreme accuracy.

Harnessing

ELIO® | ELIO BEAM | ARINC 801 | LC,ST, SC,FC

- Military or aerospace jumpers, highly exposed to extreme acceleration, deceleration with shock, vibration and environmental constraints like dust and contaminant, are a perfect example where know-how and experience are key to providing a cost-efficient and sustainable solution.
- The dedicated R&D optical team supports your specific needs from pre-project to full industrial release with adapted solutions:
  Technical and economical analysis with the customer, design and development of optical solution, deployment support (work instruction, field training, installation procedure) and robust after sales support.
- 100% of harnesses and patchcords are tested with interferometer to check the positioning of the fiber inside the ferrule.
- 100% visually inspected under microscope.
- 30 years of experience in designing fiber optics connectors harnesses.
- Test lab able to realize mechanical, environmental, climatic tests.
- Reactivity: in house production line close to the design office.

Ordering information

To order harness assemblies, please consult us.
We will be glad to analyze your need and propose the best solution for your application.

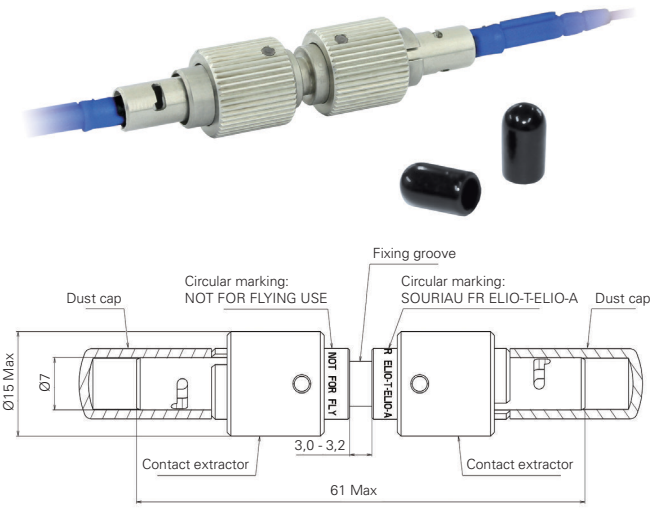
Insertion and extraction tool



ELIO® | ELIO BEAM | ARINC 801

Material	Part number	Comments	Contact type
Plastic	80WV0059A	For ELIO®/ELIObeam contact with boot. Compatible with previous and new ELIO® contact versions.	ELIO® / ELIO BEAM
Metallic	80WV0060A	For ELIO®/ELIObeam contact without boot. Compatible with previous and new ELIO® contact versions.	ELIO® / ELIO BEAM
Plastic	M81969/14-03	Blue side: insertion White side: extraction	ARINC 801

ELIO® coupler



ELIO® | ELIO BEAM

The ELIO® coupler is a tool used to measure optical losses of multimode and singlemode ELIO® jumpers without introducing a bias in the measurement due to the connector's influence and without having to pull on the cable to remove the contact from the tool.

Delivered with dust caps. Not for use in flight.

Part number: **ELIOTELIOA**

The operating instructions and the cleaning instructions are described in BT255A Instruction sheet.

ELIO® coupler



ELIO® | ELIO BEAM

ELIO® sealed contacts terminated with the ELIO® cabling kit and connected through the ELIO® mechanical sleeve is a reliable and sealed solution to repair damaged optical links.

Part number: **ELIOELIO**

Note: Heatshrink boot and ELIO® contacts to be ordered separatly.

Note: All dimensions are in millimeters (mm)

End face inspection tool



ELIO® ELIO BEAM

Contact end face inspection tool suitable for use with ELIO®, EN4531 and ARINC801 technologies. Inspect before you connect.

Proactive inspection and cleaning can prevent poor signal performance and permanent damage to the contact end face.

The inspection tips can be bought through Souriau using the Souriau part numbers below.



Inspection tool

Barrel assembly
Souriau PN:
80WL0044A

Accessory to adapt ELIO® adaptors on the probe.

Male cavity for plug and receptacle

Female cavity for plug and receptacle

Singlemode and multimode



Male tip
for ELIO®/ELIOBeam cavities and #8 cavities
Souriau PN: **80WL0047A**

Multimode



Female tip
for ELIO®/ELIOBeam cavities and #8 cavities
Souriau PN: **80WL0045A**

Singlemode



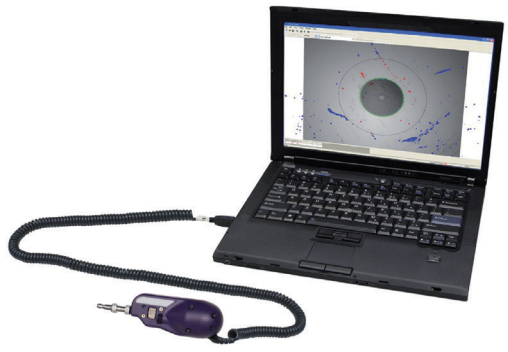
Female tip
for ELIO®/ELIOBeam cavities
Souriau PN: **80WL0040A**

Singlemode



Female tip
for #8 cavities
Souriau PN: **80WL0042A**

Automated contact inspection kit



Kit to be used with a PC or labtop to determine the acceptability of optical end face through automated inspection and analysis.

Souriau PN: **80ML0002A**

Contents:

200/400x P5000 digital probe
+ barrel assembly FBPP-BAP3
+ female ELIO® adaptor FBPT-ELIO
+ male ELIO® adaptor FBPT-U25M-N
+ soft case

Blind inspection tool



ELIO® ELIO BEAM

The blind inspection tool is developed for faster and safer termini inspection in mass production environment and field use.

- **Fast**: It enables blind inspection thanks to a long guiding. Same inspection tip for the female and male insert.
- **Safe**: There is no risk of damaging with the probe tip the close-by termini or a ferrule.
- **User friendly**: Control with one hand. The tool remains fixed on the connector during inspection.

The blind inspection tool is delivered by Kit for each layout, consisting of male and female puck. The Blind inspection tool is dedicated to MIL-DTL-38999 Series III/EN3645 with ELIO® high insert density.



Inspection tool

Barrel assembly
Souriau PN:
80WL0044A

Accessory to adapt ELIO® adaptors on the probe.



Layout 11-02
Kit part number: **80WL0036A**



Layout 13-04
Kit part number: **80WL0037A**



Layout 19-08
Kit part number: **80WL0038A**



Layout 21-12
Kit part number: **80WL0043A**
Limited availability, please consult us.



Layout 25-24
Kit part number: **80WL0039A**

Cleaning pen



ELIO® ELIO BEAM ARINC 801

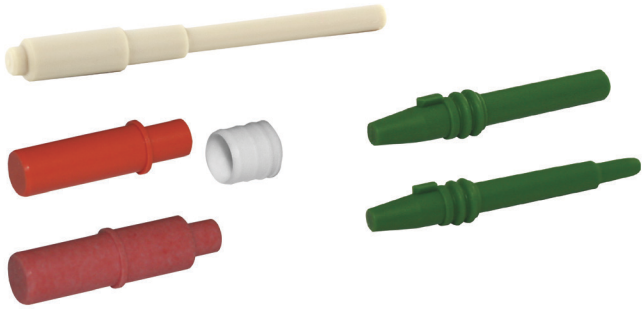
Standard cleaning pen for ceramic termini

- Simple pushing motion to engage tool
- Audible CLICK to alert operator when tool is fully engage
- Dry & large cleaning strand eliminates the need for solvents to be effective
- Contaminates such as alcohol, water, skin oil, vegetable and hand lotion residue

as well as graphite and t-shirt lint are lifted from the connector end face Souriau recommends:

- IBCTM Brand Cleaner M250 from USConec for cleaning ELIO®/ELIObeam termini
- IBCTM Brand Cleaner LC for cleaning the ARINC 801 termini

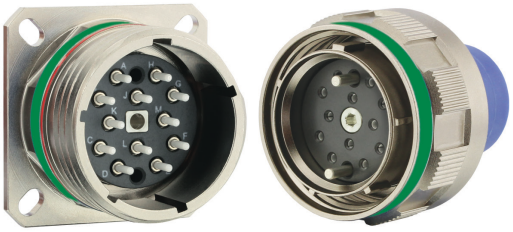
Dummy contact



ELIO® ELIO BEAM ARINC 801

Designation	Part number	Product range	Contact type
For male and female insert	ARC1-FILL	MIL-DTL-38999 Series III with ARINC 801 cavities	ARINC 801
For male insert	ELIOAFPP	MIL-DTL-38999 Series III with ELIO®/ELIObeam high density cavities	ELIO® ELIO BEAM
For female insert	ELIOAFPS		
For male insert	ELIOA001	ARINC 600 Series with Quadrax #8 cavities for ELIO®/ELIObeam	ELIO® ELIO BEAM
For female insert	ELIOA002		

Universal test connector



ELIO® ELIO BEAM ARINC 801

This connector can be connected to any other polarization. Ideal to limit the number of test leads.

The connector is customized with a green band and with a red band on the main polarization key to facilitate mating.

Consult us for availability and ordering.

Not for use in flight.

ELIO® adaptor for ST polishing fixture



ELIO®

With this adaptor, turn your ELIO® contact into an ST contact and save costs using standard ST polishing fixture.

Part Number: **ELIOAST**

ARINC 801 adaptor for LC polishing and measuring



LC Adaptor + ARINC 801 termini

ARINC 801

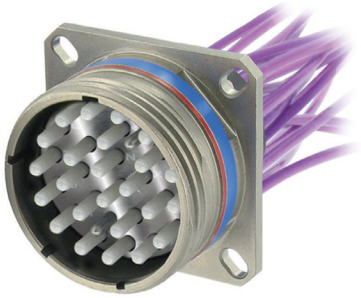
Part Number: **80WP0091A**
(contact us for availability)



= LC compatible interface

Product range extension

ELIO® fiber optic hermetic



Hermetic receptacles or feedthrough based on 38999 shells, intermateable with 38999 Series III plug populated ELIO® contacts.

Truly hermetic:

- Leak rate: < 10-9 atm.cm3/s.
- Temperature range: -55°C to 200°C.

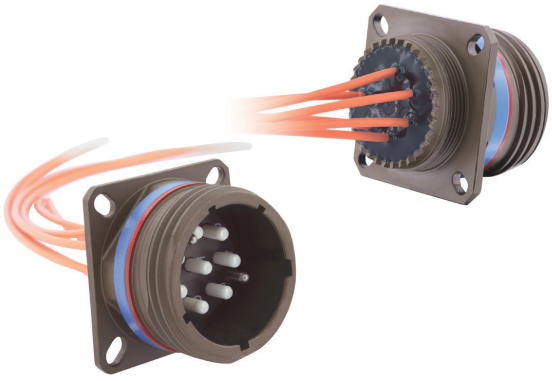
Wide range of layouts:

- From 1 to 24 fiber optic channels.

Customs:

- Versatile technology that can be adapted to your needs.

ELIO® Fiber optic resin sealed



ELIO® receptacle with additionnal resin filling at the back side.

Low leak rate:

- Leak rate < 1.10-6 atm.cm3/s.

Low profile:

- No back end accessory needed.
- So sealing boot required.

Custom:

- Available on request following analyzis.

Termini #16 for trim trio



Termini to be used with UTS, UTO, UTL and other Souriau connectors series.

Standard:

- Fit Trim Trio connector cavities #16.
- Compliant with IEC61753-1.

For glass fiber cable:

- Single mode (9/125µm).
- Multimode (50/125 µm & 62.5/125 µm).

Hybrid connector with power and fiber



The solution for a quick and reliable installation or retrofit of Fiber to the Antenna equipment.

Quick locking:

- Ergonomic 1/3-turn locking.
- Audible click.

Long outdoor use:

- UV resistant.
- Corrosion free.
- IP69/69K.

Secure mating

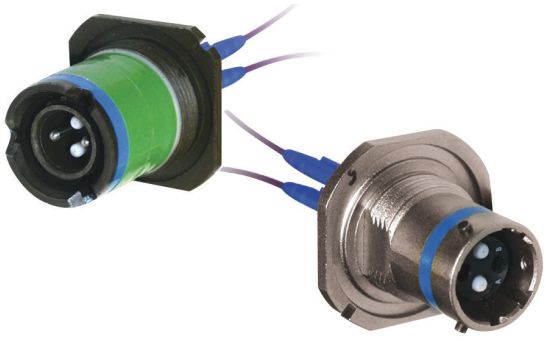
Optical M series connector



Watertight up to 100bar for optical or hybrid connectors. Based on three existing shells, 14MO, 20MO and 24MO.

For more information, please consult us.

Rack and panel



Sealed rack & panel for blind connection. A 100% scoop proof connector with quick connection in hard-to-reach areas.

Blind connection:

- Easy & fast connection without any coupling/uncoupling between a float-mounting unit & a fixed unit.

Float-mounting unit - rack:

- Mounting on the cabinet side.
- Angular orientation with a key.
- Possibility to supply rear accessories.

Misalignment catching:

- Longitudinal, axial and angular.

For more information, contact us:
Eaton.com/interconnect-support

Powering Business Worldwide

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November 2025

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