

LUX-BEAM™

Single Expanded Beam Termini
Size 12 series III for MIL-DTL-38999 / EN3645 / EN4165
Fiber Optics Solutions

Description

Lux-Beam™ is a single expanded beam termini that enables upgrades from optical physical contact technology to optical contactless technology.

Designed for applications such as avionics and field communication systems, demanding a large amount of data, voice and video to be securely transmitted, this fiber optic termini provide a reliable, easy to install solution.

Lux-Beam™ is easy to clean, and is less sensitive to pollution by dust or debris. The contactless coupling of LUX-BEAM™ is not subject to degradation of performances resulting from friction of optical surfaces as it usual is on traditional butt joint termini.

With its patented pin to socket realignment feature, Lux-Beam™ is compatible with connectors from different suppliers and provides an efficient adjustment to tolerances during mating.

Main Features

Expanded beam technology

- Surface expanded bundle > 35X
- Reduced sensitivity to dust
- No degradation of the optical face
- Easy cleaning
- Low maintenance

Compatibility

- Cavity #12
 - MIL-DTL-38999 series III TV/CTV, EN3645
 - EN 4165 (SIM)
- Accept ARINC 801 or dia. 1.25 mm optical termini

Other benefits technology:

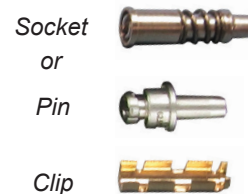
- Easy installation and replacement as a FUSE (without optical wiring)
- Realignment Patented, for compatibility with multisources connectors
- Possibility to mix with Electrical contact for Hybrid solutions

ARINC 801 TERMINI



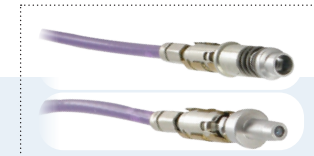
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LUX-BEAM™ TERMINI

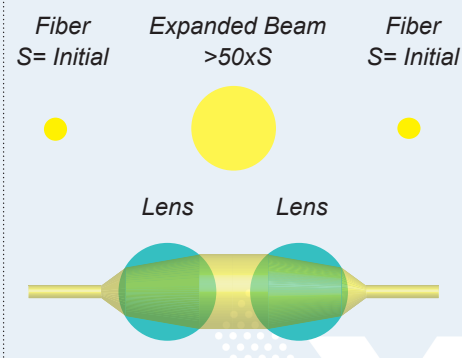


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EXPANDED BEAM TERMINI



Expanded Beam Technology



Markets & Applications



C6ISR



Ground vehicle



Military Aerospace



Commercial Aerospace



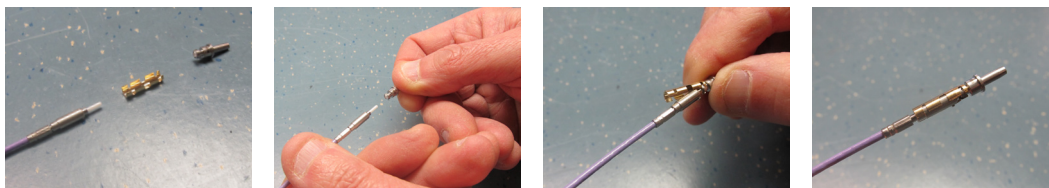
Oil and Gas

Technical Data

SPECIFICATION	MEASUREMENT DETAILS	STANDARD	METHOD
INSERTION LOSS	2dB max multimode, 850nm 2dB max multimode, 1300nm	MIL-PRF-29504D	TIA-455-34
MATING DURABILITY	1000 cycles	MIL-DTL-38999	TIA-455-21
OPERATING TEMPERATURE, TEMPERATURE LIFE	125°C 1000H	EN 2591-100	EN 2591-6301
STORAGE TEMPERATURE	-40°C / +85°C	MIL-PRF-29504D	
TEMPERATURE CYCLING	5 cycles -40°C +70°C	MIL-DTL-38999	TIA-455-03
THERMAL SHOCK	5 cycles of 30 min / -55°C +125°C	SAE AS 13441	TIA-455-34
HUMIDITY	24 h at 50°C max 33% HUM 240 h at 40°C 90% RH	MIL-DTL-38999	TIA-455-05
SALT SPRAY	48h	MIL-PRF-29504D	TIA-455-16
EXTERNAL BENDING MOMENT	869N	MIL-DTL-38999	TIA-455-71
VIBRATION	Random vibration 1g2/Hz 8 hours - 2 axes X and Z	EN2591	403 Table 2 - Nivel J
SHOCK	1/2 sinus - 18 shocks - 300g - 3ms	EN2591	402
INSERTION AND REMOVAL FORCE	max 98 N	MIL-PRF-29504D	3.6.9
MAINTENANCE AGING	10 insertion / removal cycles	MIL-PRF-29504D	3.6.13
CABLE RETENTION (ARINC 801)	68N	ARINC 801	TIA-455-06

Assembling your LUX-BEAM by yourself

Upgrade Standard Optical termini (ARINC 801, LC termini) to LUX-BEAM™ (expanded beam termini), with a robust retention clip



Insert LUX-BEAM™ on standard cavity #12 with standard tool



MIL DTL 38999/EN 3645 EN4165

How To Order

1.	2.	3.	4.	5.	6.
Series	Cavity size	Type of termini	Types of fibers	Wavelength	Rear termination
LXB	12	P	1	A	R801

1. Series

LXB LUX-BEAM™, single expanded beam optical termini

2. Cavity size

12 Size 12 for 38999 series III

3. Type of termini

P Pin termini

S3 Socket termini for series III

4. Type of fibers

1 Multimode 50/125

2 Multimode 62.5/125

5. Wavelength

A Optimised for wavelength 850nm (Multimode)

B Optimised for wavelength 1300nm (Multimode)

6. Rear termination

R801 Retention system to accept Arinc 801 optical termini

Termini For LUX-BEAM™

ARINC-801 Termini

1.	2.	3.	4.	5.
Series	Cavity size	Termini type	Hole Inner Diameter	Cable structure
M801	M	S	1	N

1. Series

M801 ARINC 801, single expanded beam optical termini

2. Cavity size

M Size 12 for 38999 Series III

3. Termini type

S Super Polish

4. Hole Inner Diameter

1 127+1/-0

5. Cable structure

P Loose structure cable (pull proof)

N Tight structure cable (non pull proof)

1.25mm Termini

1.	2.	3.
Series	Hole Inner Diameter	Type of cable
POL	7	A

1. Series

POL Optical termini type LC 1.25mm

2. Hole Inner diameter

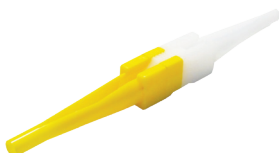
7 127 +1/-0

3. Type of cable

A Compatible for cable 900µm & 1.2mm

Tools

Termini insertion & removal tool
for termini p/n **M81959/14-04**



Amphenol tool
146443



Amphenol tool
146444



NOTA: To get the mounting instructions, please contact us.

How to Order Cable Assemblies with LUX-BEAM™

Cable Assemblies with LUX-BEAM™ to Other Termini

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
Type of termini	Cavity size	Type of termini	Type of fibers	Wave-length	Termination type	Boot form	Type of cable	Length	Type of termini	Termination type	Boot form	Protective cap	Marking
LXB	12	P	1	A	1	D	L	0020	ST2	1	D	0	M

1. Type of termini

LXB LUX-BEAM™, Single expanded beam optical termini

2. Cavity size

12 Size 12 for 38999 series III

3. Type of termini

P Pin termini
S Socket termini

4. Type of fibers

1 Multimode fiber 50/125
2 Multimode fiber 62.5/125

5. Wavelength

A Optimised for wavelength 850nm (Multimode)
B Optimised for wavelength 1300nm (Multimode)

6. Termination type

1 PC Ceramic

7. Boot form

D Straight boot

8. Type of cable

A Fiber with buffer 900µm
O Fiber with buffer, outer jacket dia 1.2mm
L Fiber with buffer 900µm, outer jacket dia. 1.8mm

9. Length

XXXX Length in m for L ≥ 10m, ex 0020 for L=20 meters
X.XX Length in m for L < 10m, ex 5.00 for L=5.0 meters

10. Type of termini

XXX Pigtail
ST2 Connector ST2
954 Connector SC simplex
LCS Connector LC Simplex
ELU Connector ARINC 801 Optical termini

11. Termination type

1 PC Ceramic

12. Boot form

D Straight boot

13. Protective Cap

0 Standard protective cap

14. Marking

- Standard marking
MX Specific marking



LUX-BEAM™ Size 16



Expanded Beam technology

- Surface expanded bundle > 140X
- Reduced sensitivity to dust
- No degradation of the optical face
- Easy cleaning
- Low maintenance

Compatibility

- Cavity #16
- MIL-DTL-38999 series III & series II TV/CTV, EN3645
- EN 4165 (SIM)

Other benefits technology

- Easy installation
- Possibility to mix with Electrical contact for Hybrid solutions