Amphenol SOCAPEX

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 contacless 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.

ARINC 801 TERMINI

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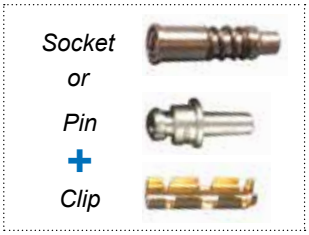
LUX-BEAM™ TERMINI



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EXPANDED BEAM TERMINI

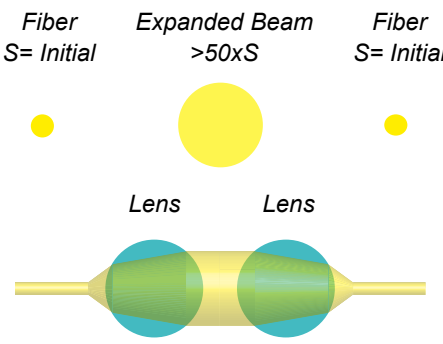
Main Features

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

Expanded Beam Technology



Markets

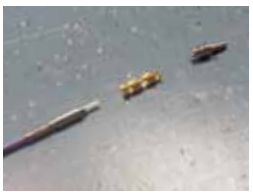
C4ISR | Ground Vehicle | Military Aerospace | Commercial Aerospace | Oil and Gas

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

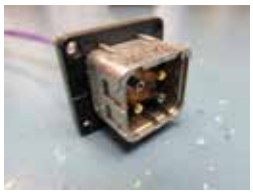
Upgrade Standard Optical termini (ARINC 801, LC termini) to LUX-BEAM™ (expanded beam termini), with a robust retention clip




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




MIL DTL 38999/EN 3645



EN4165

How To Order

DESIGNATION	LXB	12	P	1	A	R801
	LXB	12	S3	2	B	R801

Series
LXB: LUX-BEAM™, single expanded beam optical termini

Cavity size
12: size 12 for 38999 series III

Type of termini
P: pin termini
S3: socket termini for series III

Type of fibers
1: multimode 50/125
2: multimode 62.5/125

Wavelength
A: optimised for wavelength 850nm (Multimode)
B: optimised for wavelength 1300nm (Multimode)

Rear termination
R801: retention system to accept Arinc 801 optical termini

Termini For LUX-BEAM™

ARINC-801 Termini

Designation	M801	M	S	1	N

Series
M801: ARINC 801, Single expanded beam optical termini

Cavity size
M: size 12 for 38999 series III

Termini type
S: super Polish

Hole Inner Diameter
1: 127 +1/-0

Cable Structure
P: loose structure cable (pull proof)
N: tight structure cable (non pull proof)

1.25mm Termini

Designation	POL	7	A

Series
POL: optical termini type LC 1.25mm

Hole Inner Diameter
7: 127 +1/-0

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

Designation	LXB	12	P	1	A	1	D	L	0020	ST2	1	D	0	M

Type of Termini
LXB: LUX-BEAM™, Single expanded beam optical termini

Cavity size
12: size 12 for 38999 series III

Type of termini
P: pin termini
S: socket termini

Type of fibers
1: multimode fiber 50/125
2: multimode fiber 62.5/125

Wavelength
A: optimised for wavelength 850nm (Multimode)
B: optimised for wavelength 1300nm (Multimode)

Termination type
1: PC Ceramic

Boot form
D: straight boot

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

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

Type of Termini
XXX: pigtail
ST2: connector ST2
954: connector SC simplex
LCS: connector LC simplex
ELU: connector ARINC 801 optical termini

Termination type
1: PC Ceramic

Boot form
D: straight boot

Protective Cap
O: standard protective cap

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

Amphenol Socapex
948, promenade de l'Arve BP29
74311 Thyez Cedex - France
Phone: +33 (0)4 50 89 28 00
contact@amphenol-socapex.fr

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Amphenol SOCAPEX