

LUX-BEAM™

Single Expanded Beam Termini



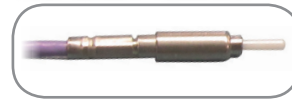
ABOUT LUX-BEAM™

The new requirements for Avionics and Field communication systems demand for always higher amount of data, HD video transmission and higher bandwidth to be transmitted. Fiber optic technology is the technology of choice for those requirements.

With over 20 years of production of fiber optics expanded beam solutions, Amphenol introduces the **LUX-BEAM™** Single Expanded beam termini. A solution to upgrade the optical physical contact technology to an optical contactless technology.

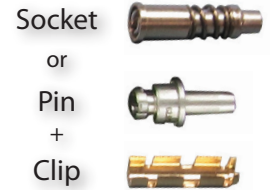
LUX-BEAM™ is easy to clean, less sensitive to pollution by dust or debris. The contactless coupling of LUX-BEAM™ is not subject to degradation of performances resulting from friction of optical surfaces as it usual is on traditional butt joint termini. With its patented pin to socket realignment feature, LUX-BEAM™ is compatible with connectors from different suppliers and provides an efficient adjustment to tolerances during mating. Per design, LUX-BEAM™ is as easy to install or replace as a FUSE on a patch board.

ARINC 801 TERMINI



+

LUX-BEAM™ TERMINI



EXPANDED BEAM
TERMINI



FEATURES AND BENEFITS

➤ Expanded Beam technology

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

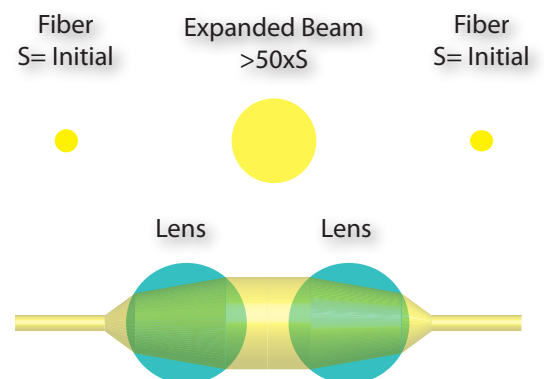
➤ Compatibility

- 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 & APPLICATIONS

- **DEFENSE:** C4ISR battlefield communications
- **AERONAUTICAL:** Data link high-speed Digital
- **GEOPHYSICS:** Oil & gas, Mining

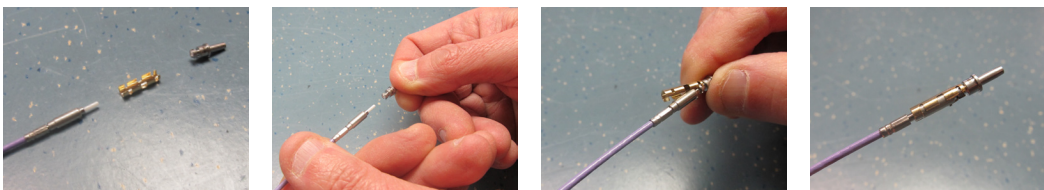


TECHNICAL DATA

SPECIFICATION	MEASUREMENT DETAILS	STANDARD	METHOD
INSERTION LOSS	2.dB max multimode, 850nm 2.dB max multimode, 1300nm	MIL-PRF-29504D	TIA-455-34
MATING DURABILITY	1000 cycles	MIL-DTL-38999	TIA-455-21
OPERATING TEMPERATURE, TEMPERATURE LIFE	165°C 1000H	MIL-PRF-29504D	TIA-455-04
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 -55°C +165°C	MIL-PRF-29504D	TIA-455-34
HUMIDITY	24h at 50°C max 33% hum 240H 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	Sine vibration 60 G at ambient temperature	MIL-DTL-38999	4.5.23.2.1
	Random vibration 41,7 G rms at 125°C	MIL-DTL-38999	4.5.23.2.3
	Random vibration 49,5 G rms at ambient temperature	MIL-DTL-38999	4.5.23.2.4
SHOCK	18 shocks : 1/2 sinus pulse	MIL-DTL-38999	TIA-455-14
	Standard shocks	MIL-PRF-29504D	MIL-5-901
INSERTION AND REMOVAL FORCE	max 22 pounds	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 standart cavity #12 with Standart tool



MIL DTL 38999/EN 3645

EN4165

HOW TO ORDER

LUX-BEAM™ IN PIECE PART

Designation	LXB	12	P	1	A	R801	
	LXB	12	S	2	B	R125	09X
Series							
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 50/125							
2: multimode 62.5/125							
Wavelength							
A: optimised for wavelength 850nm (Multimode)							
B: optimised for wavelength 1300nm (Multimode)							
Rear termination							
R125: retention system to accept 1.25mm optical termini							
R801: retention system to accept Arinc 801 optical termini							
Cable - For R125 rear termination only							
09X: for cable 900µm							
12X: for cable 1.2mm							

TERMINI FOR LUX-BEAM™

ARINC-801 Termini

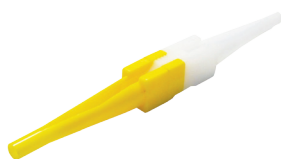
Designation	M801	- M	S	1	N
Series					
M801: ARINC 801, Single expanded beam optical termini					
Cavity size					
M: size 12 for 38999 series III					
Termini type					
S: super Polish					
Hole Inner Diameter					
1: 127 +1/-0					
Cable Structure					
P: loose structure cable (pull proof)					
N: tight structure cable (non pull proof)					

1.25mm Termini

Designation	POL	7	09X
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														



In development: 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