MPX OPTICAL & RF SOLUTIONS

RELIABILITY MEETS INNOVATION



To meet the demands of aerospace and telecommunications, Radiall has integrated advanced optical and RF solutions into the MPX connectors. These connectors offer high-performance optical connections in a compact design, ensuring superior reliability and environmental resilience while allowing for customizable configurations that address specific connectivity needs.

The MPX connectors are cutting-edge connectivity solutions that deliver high-performance connections, optimized for both single-mode and multi-mode fibers in their optical solutions.

The optical options available include Q-MTitan and EB-LuxCis contacts, while BMA contacts are designed for RF connections.

For EB-LuxCis, these connectors feature monobloc cavities precision-machined into the shell.

Three connector sizes are available: 2 cavities, 4 cavities and 6 cavities. The smaller cavity accommodates 4 contacts, while the larger cavity is designed to fit 6 contacts. Q-MTitan and BMA contacts are compatible with standard quadrax #8 cavities.

Customizable Configurations: The MPX connectors offer a range of optical and electrical configurations, allowing customers to tailor their connectivity solutions to meet specific operational requirements and enhance versatility in system design. They provide flexible design options that can integrate optical and electrical components, catering to specific application requirements without compromising performance.

Environmental Resilience: Designed to function effectively across a broad temperature range (refer to table below), the MPX connectors can withstand extreme conditions, including high humidity and exposure to salt spray, maintaining optical performance without degradation over time.

Durability and Longevity: Designed to withstand 1,000 hours at elevated temperatures, these connectors exhibit high resistance to mechanical stress, as specified by military standards. With a design that supports up to 500 mating/unmating cycles, they offer exceptional resilience against operational wear.

Effective Sealing Mechanism: This feature provides strong protection for internal components against environmental contaminants, ensuring longevity and optimal performance even at high altitudes and in harsh industrial conditions.

FEATURES & BENEFITS

- *Rugged performance*
- *Durability*
- *Customizable configurations*
- *Compliant with military standards*

APPLICATIONS

- *Aerospace*
- *Telecommunications*
- *Industrial automation*
- *Military and defense systems*

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The MPX connectors provide unparalleled performance and durability for critical applications in aerospace and telecommunications, ensuring seamless connectivity in extreme environments while reducing maintenance costs and enhancing system reliability for customers seeking robust and flexible solutions.

PERFORMANCES	MPX ELECTRICAL	MPX OPTICAL: Q-MTITAN	MPX OPTICAL: EB-LUXCIS	MPX BMA
SALT SPRAY	452h Mated + 48h Unmated	500h Mated	452h Mated + 48h Unmated	452h Mated + 48h Unmated
DURABILITY	500 Mating and Unmating Cycles			
THERMAL CYCLING	10 Cycles			
	- 65 °C / + 150 °C	- 40 °C / + 125 °C (Cable Dependent)	- 55 °C / + 125 °C (Cable Dependent)	- 65 °C / + 150 °C
TEMPERATURE LIFE	1,000 Hours			
	+150 °C	+125 °C (Cable Dependent)		+150 °C
VIBRATION	17.2 g / 2.5 Hours each in all three Axes			
	No Discontinuity > 1 µs	No Discontinuity > 1 dB Max Transmittance ±0.5 dB	No Discontinuity > 0.5 dB Max Transmittance ±0.5 dB	No Discontinuity > 1 µs
SHOCK	30 g, 11 ms, half sine			
	No Discontinuity > 1 µs	No Discontinuity > 1 dB Max Transmittance ±0.5 dB	No Discontinuity > 0.5 dB Max Transmittance ±0.5 dB	No Discontinuity > 1 µs
ALTITUDE IMMERSION	75,000 feet (33 mbar)	50,000 feet (116 mbar)	50,000 feet (116 mbar)	75,000 feet (33 mbar)
FLUIDS	• Fluids per MIL-DTL-83527B • Fluids per EN3682			
VSWR (VOLTAGE STANDING WAVE RATIO)	-	-	-	• BMA for EN4604-010 KX Cable: 1.25 max (0-5 Ghz) [1] • BMA for SHF2.4M Cable: 1.25 max (0-18 Ghz) [2] • BMA for SHF5M Cable: 1.25 max (0-18 Ghz) [2]
INSERTION LOSS	-	Wavelength 850 nm & 1300 nm • Initial: 0.50 dB max • Post Test: IL initial + 0.50 dB max	Wavelength 850 nm • Initial: 2 dB max • Post Test: 2 dB max	• BMA for EN4604-010 KX Cable: 0.07x √F dB max (0-5 Ghz) [1] • BMA for SHF2.4M cable: 0.07x √F dB max (0-18 Ghz) [2] • BMA for SHF5M Cable: 0.07x √F dB max (0-18 Ghz) [2]
RETURN LOSS	-	Wavelength 850 nm & 1300 nm • Initial: 20 dB min • Post Test: N/A	Wavelength 850 nm • Initial: 20 dB min • Post Test: N/A	-

Note

1. Limited to 5 GHz due to its crimp design

2. SHF cables are soldered, offering much better performance