

QUICKFUSIO™ 10 Gb/s

Faster Connection



Radiall has introduced a 10 Gb/s solution to address the growing need for higher-speed digital networks in civil aerospace. The QuickFusio™ 10 Gb/s connector delivers high data rates in a compact, miniature format, making it perfectly suited for cabin in-flight entertainment, flight management systems and other avionics network applications.

Radiall's QuickFusio™ Ethernet range has been enhanced with an innovative 10 Gb/s solution that delivers exceptional signal integrity while effectively reducing cross-talk interference.

The QuickFusio™ 10 Gb/s complies with Cat6A standards and boasts impressive high-frequency and digital performance. Leveraging its expertise and innovative capabilities, Radiall has designed a new insert that provides efficient EMI shielding between the cable pairs. Extensive simulations and tests have confirmed that QuickFusio™ 10 Gb/s significantly minimizes cross-talk. Its optimized design and unique features protect against environmental disturbances, ensuring reliability and preserving signal integrity.

To address the needs of Ethernet applications, Radiall has integrated high-speed data link technology into one of its most advanced connectors. This lightweight, compact solution balances high performance with competitive pricing and features The Radiall Touch, allowing for easy one-finger mating in a snap!



FEATURES & BENEFITS

- 10 Gb/s Ethernet
- Cat6A performance
- Excellent signal integrity
- Lightweight
- Miniature connector
- Simple wiring
- Competitive cost

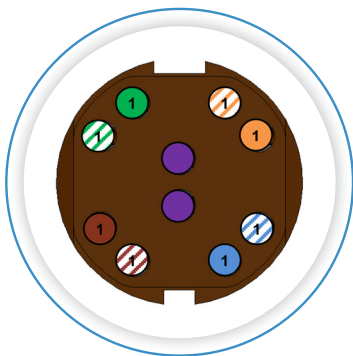
APPLICATIONS

- Avionic networks
- Cabin management systems
- Digital video systems
- Ethernet Backbones
- Flight management systems
- In-flight entertainment (IFE) system

With the QuickFusio™ 10 Gb, customers enjoy unparalleled reliability and performance, benefiting from high-speed data rates, reduced cross-talk and straightforward installation in tight spaces, all at a competitive price.

The QuickFusio™ connector complies with ARINC 800 part 4 standards and achieves TIA 568 C.2 channel specifications for Cat6A performance. It employs GORE RCN9047-26 cable with individually shielded pairs to enhance performance across a frequency range of 0 to 500 MHz. The connector's architecture involves molded insulators and machined contact cavities, ensuring structural integrity and improving performance characteristics like reduced insertion and return losses.

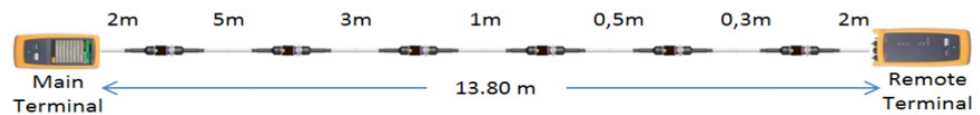
The QuickFusio™ 10 Gb/s connectors are configured for a variety of applications. Each configuration includes dedicated cavities and #23 contacts designed to ensure seamless performance. Radiall's robust testing procedures validate performance with thorough measurements of wire mapping, shielding quality and performance metrics such as insertion loss and return loss.



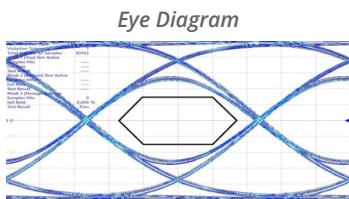
10 Gb/s contact mapping

TEST PROTOCOL & DATA TRANSMISSION CHARACTERISTICS

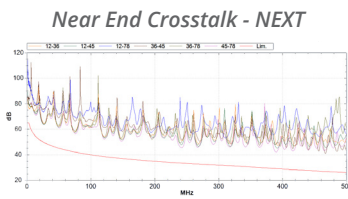
Based on ARINC specification 800 part 4, a 13.8 m harness with 6 QuickFusio™ connections and Gore Ethernet cable RCN9047-26 was tested.



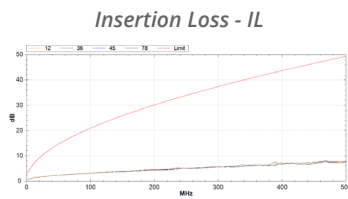
To achieve the channel Cat6A performance level following TIA568 C.2 specification, a specific insert layout configuration was developed, which preserves the signal integrity while minimizing crosstalk, insertion loss and return loss effects.



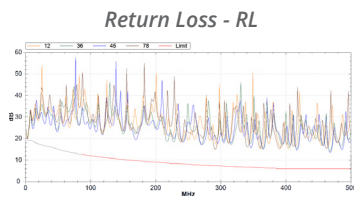
Eye Diagram



Near End Crosstalk - NEXT



Insertion Loss - IL



Return Loss - RL

QUICKFUSIO™ SERIES

MATERIALS & FINISHES	
Shell	High-grade thermoplastic, nickel-plated
Insert Retention Clip	Beryllium copper
Contacts	Copper alloy, gold over nickel
Inserts	High-grade thermoplastic with metallic retention clips
Slide Lock (Plug)	High-grade thermoplastic
Mounting Plate (Receptacle)	Stainless steel

