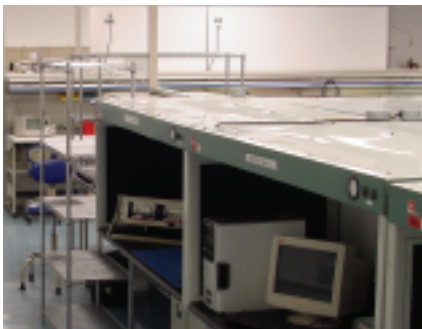


Build To Order Fiber Optic Harness Solutions

ITT has a world class Fiber Optic facility with proven reputation of delivering high quality, high performance fiber optic cable assemblies, for the Telecommunication, Automotive, Commercial Aircraft, Data Communications, Industrial, Medical and Military Electronic industries. ITT's fiber optic production facility is staffed with both project and manufacturing engineers along with highly skilled technicians/operators which work to strict military and commercial standards. Our in-house capabilities allow us to design, manufacture and test all in our production facility, and build standard to highly custom multi-channel cable assemblies complete in house. Our proven expertise allows us the ability to terminate all type of fiber in both single-mode and multimode along with terminating ferrule assemblies ranging from 1.25mm to 2.50mm and plastic fiber too, and meet the requirements of today's severe mechanical/environmental conditions. The key to developing a successful fiber optic system is understanding the performance and environmental requirements, implementing good design practices and utilizing appropriate components. For additional information please see pages 17-18 of Design Guide.

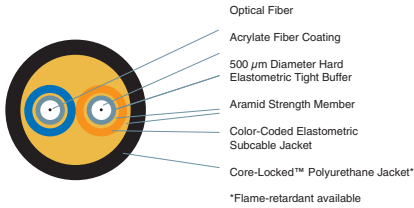
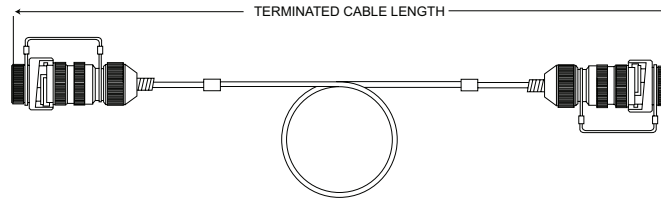


Typical Harness Configurations

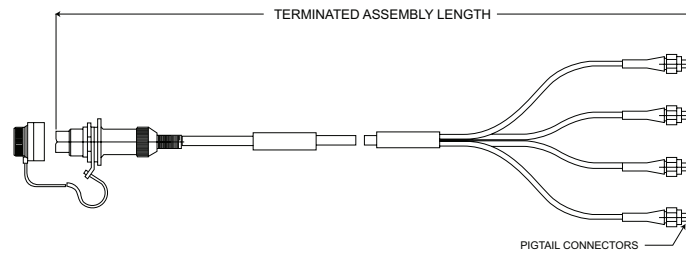
Consult Factory for Connector / Cable Options and Pricing

Harness Options with Breakout Cable

Harness Configuration: Connector to Connector

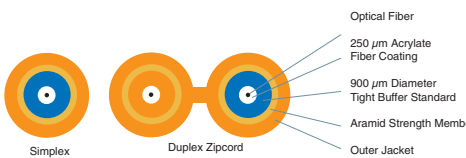
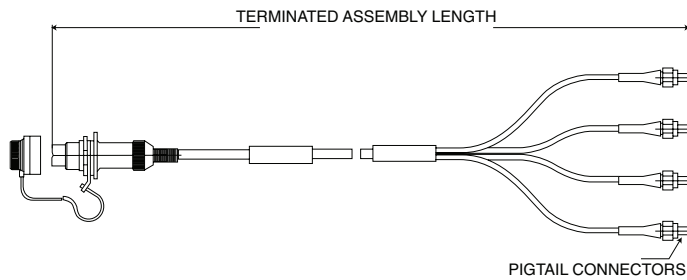


Harness Configuration: Connector to Sub-Cable Fan Out

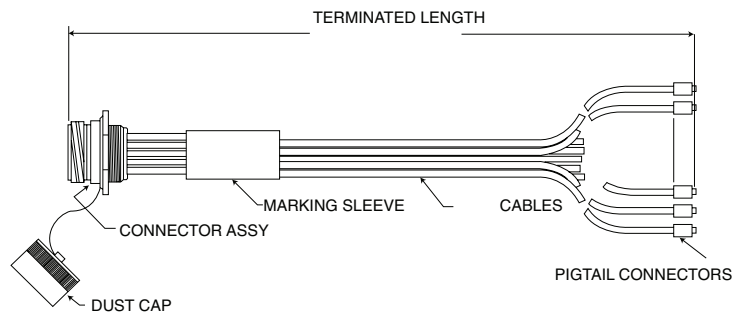


Harness Options with Simplex Cable

Harness Configuration: Connector to Fan Out



Harness Configuration: Connector to Simplex Fan Out

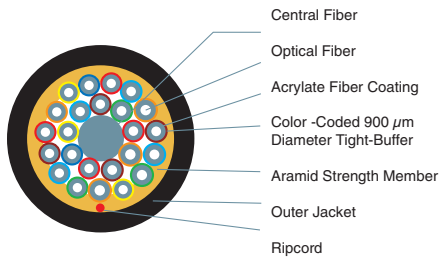
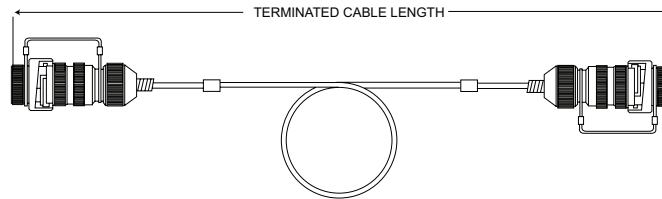


Typical Harness Configurations

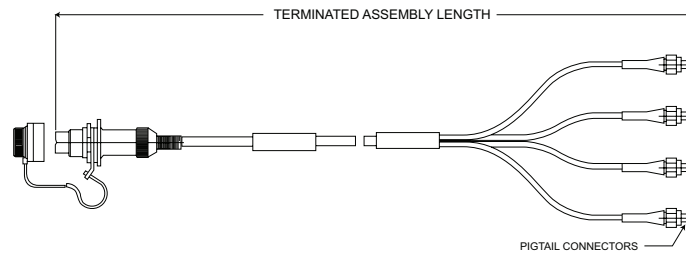
Consult Factory for Connector / Cable Options and Pricing

Harness Options with Distribution Cable

Harness Configuration: Connector to Connector

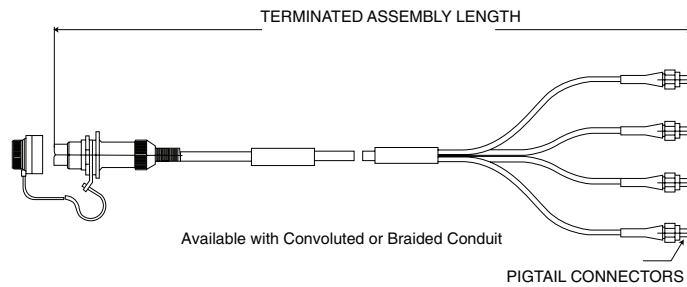


Harness Configuration: Connector to Discrete Fiber Fan Out

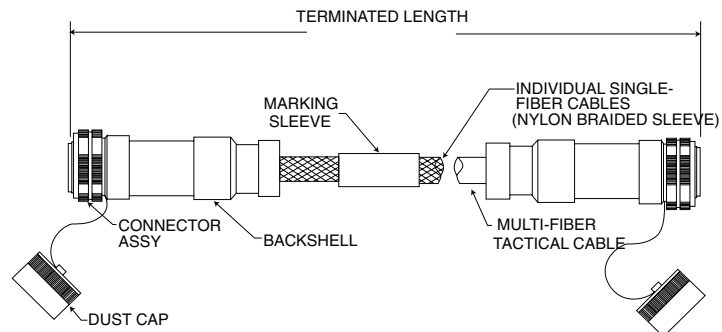


Harness Options with Simplex Buffered Fiber

Harness Configuration: Connector to Discrete Fiber Fan Out



Harness Configuration: Connector to Connector



FIBER OPTIC HARNESS ASSEMBLY WORKSHEET

Customer: _____ Project/Program: _____ Description: _____

APPLICATION

Type: Air Land Sea Space Special: _____

Industry / Market: Military Industrial Commercial Transportation
 Space Medical Other: _____

Environment: Exposed (Outside Environment – Sealed Connector / Backshell)
 Non-Exposed (Inside the Box)

Temperature: Operating: _____ Storage: _____ Thermal Cycle / Shock _____

Shock / Vibe: _____

Additional Environmental Conditions: _____

FIBER / CABLE

Fiber: Single Mode Multi-mode (50/125, 62.5/125) Multi Mode (100/140)
 Large Core: _____ Special: _____

Cable: Customer Specified: Manufacturer: _____ P/N: _____

Supplier Standard: Mil Tact. Shipboard Ground Tactical
 Riser Plenum Zero Hal.

Construction: Distribution Breakout Simplex Buffered Fiber

CONFIGURATION

Total Channel Count: _____ Mixed Mode: Fiber: _____

Electrical: _____

Harness Length (Termini End A to Termini End B): _____

Labels: Standard (ITT PN) End Markers: _____ Special: _____

End A Termini: Pin FOHC PHD Size 22 PHD Size 16 29504
 Socket NGCON ITAC FOMC Other: _____

Connector Family: _____, (PHD, NGCON, Std 38999, ITAC, FOMC, PHD Backplane, Other) Dust Cap

Connector Config: 38999 38999 (Precision) Panel Mount Rack & Panel D-Sub

Connector Type: _____ (Plug, Jam-nut, Wall Mt., In-line, Special) Arrangement: _____

Backshell: None Configuration: Straight 90 Other _____

End B Termini: Pin FOHC PHD Size 22 PHD Size 16 29504
 NONE Socket NGCON ITAC FOMC Other: _____

Connector Family: _____, (PHD, NGCON, Std 38999, ITAC, FOMC, Back Plan, Other) Dust Cap

Connector Config: 38999 38999 (Precision) Panel Mount Rack & Panel D-Sub

Connector Type: _____ (Plug, Jam-nut, Wall Mt., In-line, Special)

Arrangement: _____

Backshell: None Configuration: Straight 90 Other _____

MISCELLANEOUS INFO

No Customer Spec. / Build to ITT Part Number Customer Supplied Material: _____

Customer Spec: _____

Price Target: _____ (1 – 9), _____ (10 - 49), _____ (50 – 250), _____ (Over 250)

GENERAL REQUIREMENTS

Testing/Inspection: Standard (Includes IL-one direction, End Face Geometry, Visual Inspection)

Requirements: IL _____ RL _____ Other: _____ (Return Loss, Bi-Directional IL, Mechanical)