ARINC 801 Fiber Optic Interconnects for Aerospace & Defense

A Complete End-to-End Solution Featuring Connectors, Terminals & Cable Harnesses
We Connect
the Aerospace & Defense Industry
with High-Speed Data, Video & Signal Transmission

From in-flight entertainment and ground-based communications, to military avionics and shipboard navigation, Cannon’s ARINC 801 Fiber Optic interconnect solutions satisfy the Aerospace & Defense Industry’s increasing demand for fast, reliable and secure data transmission, even in the harshest environments.

The ITT Cannon Difference
• Proven application expertise
• Global capabilities & local support
• Unrivaled customization expertise
• A committed innovator & business partner

About ITT
ITT is a diversified leading manufacturer of highly engineered critical components and customized technology solutions for the energy, transportation and industrial markets. Building on its heritage of innovation, ITT partners with its customers to deliver enduring solutions to the key industries that underpin our modern way of life. Founded in 1920, ITT is headquartered in White Plains, N.Y., with employees in more than 35 countries and sales in a total of approximately 125 countries. For more information visit www.itt.com
ARINC 801 Fiber Optic Interconnects
for commercial, military and shipboard applications

Designed for use in applications that require the quick and accurate data transfer, Cannon’s ARINC 801 Fiber Optic Connectors are capable of operating at transmission speeds of 10 gigabits/sec (Gb/S) or more.

Built for optimum performance in extreme conditions, our ARINC 801 Fiber Optic Solutions deliver signals, video and data when it matters most.

Key Markets & Applications

**Commercial Aerospace**
Avionic Platforms, IFE, Signal, Video & Data Transmission, Navigation, Imaging, Sensing

**Military**
Remote Communications & Ground-Based, Navigation, Imaging, Sensing, Signal & Data Transmission

**Shipboard Systems**
Marine Transports, Navigation & Communications, Signals, Data & Signal Transmission

Built for optimum performance in harsh environments.

Transmitting signals, video and data when it matters most.
Why Cannon?

• Robust, highly engineered ARINC 801 fiber optic connector series enables high-speed transmission of data, video and signals in extreme conditions and harsh environments
• Complete end-to-end solution includes connectors, termini & cable harnesses
• Use less power without sacrificing security or integrity
• Cost-efficient design for use in multiple markets and applications
• Comprehensive fiber optic manufacturing capabilities including testing, inspection and polishing (Flat, APC, PC)
• Complex assembly of a variety of cable constructions
Fast, Lightweight & Highly Reliable

ITT Cannon’s ARINC 801 Fiber Optic Series offers a complete line of Connectors, Termini and Cable Harnesses that enable the transmission of high speed data, video and signal transmission in harsh environments, where integrity and reliability are mission critical.

We offer complete fiber optic manufacturing services including testing, inspection and polishing (Flat, APC, PC), as well as complex assembly of a variety of cable constructions. All capabilities are performed by our technicians and team members who are highly skilled and trained in the manufacturing and assembly of fiber optic interconnects.
Key Features

- Cannon’s Size #16 Termini comply with ARINC 801 requirements
- Low loss termini with precision alignment features
- Termini designs available in both Pull-Proof and Non-Pull Proof types
- End-face finishes available in both APC and PC
- Genderless termini provide a common solution for plug and receptacle applications

- Removable alignment sleeve allows for easy field cleaning
- ARINC 801 Fiber Optic Connectors include a scoop-proof design that offers alternate keying positions
- Several standard ARINC 600 insert arrangements are available for Cannon’s Rack & Panel connector family

Product Testing & Results*

<table>
<thead>
<tr>
<th>Performance Characteristic</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insertion Loss, 0.30 dB Max</td>
<td>TIA/EIA-455-171, Method D1(Multimode) D3 (Singlemode)</td>
</tr>
<tr>
<td>Return Loss, -20 dB Max</td>
<td>TIA/EIA-455-107</td>
</tr>
<tr>
<td>Termini Retention Force</td>
<td>TIA/EIA-364-38B</td>
</tr>
<tr>
<td>Connector Coupling Forces</td>
<td>TIA/EIA-364-13B, Type 1 Connectors per M38999</td>
</tr>
<tr>
<td>Connector Coupling Durability</td>
<td>TIA/EIA-455-21, 100 Cycles</td>
</tr>
<tr>
<td>Maintenance Aging</td>
<td>TIA/EIA-364-24B</td>
</tr>
<tr>
<td>Thermal Cycling</td>
<td>TIA/EIA-455-3, Condition A-2</td>
</tr>
<tr>
<td>Temperature Life, 1000 hours</td>
<td>TIA/EIA-455-4C</td>
</tr>
<tr>
<td>Termini Walk-out Resistance</td>
<td>ARINC 801, Para 2.4.5.4</td>
</tr>
<tr>
<td>Vibration</td>
<td>TIA/EIA-455-11C, Cond. VI-A</td>
</tr>
<tr>
<td>Mechanical Shock</td>
<td>TIA-455-14-A, Cond. A</td>
</tr>
<tr>
<td>Humidity</td>
<td>TIA/EIA-455-5C, Method A, Exposure Time A.</td>
</tr>
<tr>
<td>Salt Spray</td>
<td>TIA/EIA-455-16</td>
</tr>
</tbody>
</table>

*Full Qualification testing in progress

Connect with your ITT Cannon representative today or visit us at www.ittcannon.com
ARINC 801 Termini for Aerospace

How to Order | Part Number Configurator

Descriptive Part Number

<table>
<thead>
<tr>
<th>ARC</th>
<th>T</th>
<th>1</th>
<th>PP</th>
<th>125A</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Series

Termini Assembly (Genderless)

Cable Jacket Ø (Dash No) - See Table 1

PP = Pull-Proof (Loose structure cable) NPP = Non-Pull Proof (tight structure cable or 900 micron buffer)

Ferrule Diameter A - See Table 2

Table 1

<table>
<thead>
<tr>
<th>Dash No</th>
<th>Cable Micron Ø</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>900 Micron Buffer Only</td>
</tr>
<tr>
<td>2</td>
<td>2.0/1.7mm</td>
</tr>
</tbody>
</table>

Table 2

<table>
<thead>
<tr>
<th>Ferrule ØA</th>
<th>Fiber Type</th>
<th>Ferrule Polish Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>125A</td>
<td>Singlemode 9/125 Micron Fiber</td>
<td>APC, PC</td>
</tr>
<tr>
<td>125P</td>
<td>Singlemode 9/125 Micron Fiber</td>
<td>APC, PC</td>
</tr>
<tr>
<td>1255A</td>
<td>Singlemode 9/125 Micron Fiber</td>
<td>APC, PC</td>
</tr>
<tr>
<td>1255P</td>
<td>Singlemode 9/125 Micron Fiber</td>
<td>APC, PC</td>
</tr>
<tr>
<td>126A</td>
<td>Singlemode 9/125 Micron Fiber</td>
<td>APC, PC</td>
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<tr>
<td>126P</td>
<td>Singlemode 9/125 Micron Fiber</td>
<td>APC, PC</td>
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<tr>
<td>126A</td>
<td>Multimode 50/125 or 62.5/125 Micron Fiber</td>
<td>APC, PC</td>
</tr>
<tr>
<td>126P</td>
<td>Multimode 50/125 or 62.5/125 Micron Fiber</td>
<td>APC, PC</td>
</tr>
</tbody>
</table>

Material / Finish

- Ferrule: Zirconia Ceramic
- Terminus Body: Brass Alloy/Nickel
  - Crimp Sleeve: Brass Alloy/Nickel
  - Spring: Stainless Steel/Passivate

Notes

- Crimp sleeve is packaged loose with terminus assembly. Spares may be ordered separately, consult factory.
- Termini for 900 Micron buffer are not provided with crimp sleeves
### ARC 38999-Style Series III with ARINC 801 Inserts

#### How to Order | Part Number Configurator

<table>
<thead>
<tr>
<th>ARC38999-Style</th>
<th>26</th>
<th>F</th>
<th>D</th>
<th>6</th>
<th>P</th>
<th>N</th>
<th>XXXX</th>
</tr>
</thead>
</table>

**Series**

**Shell Style**
- /20: Wall-mount receptacle
- /24: Jam-nut receptacle
- /26: Straight plug

**Service Class**
- Class F: Aluminum shell, Electroless nickel finish
- Class W: Aluminum shell, OD Cad over electroless nickel finish
- Class M: Composite shell, Electroless nickel finish
- Class J: Composite shell, OD Cad over electroless nickel finish
- Class K: Stainless steel shell, Passivated finish

**Shell Size Code**

<table>
<thead>
<tr>
<th>Shell Size</th>
<th>11</th>
<th>13</th>
<th>15</th>
<th>17</th>
<th>19</th>
<th>21</th>
<th>23</th>
<th>25</th>
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</thead>
<tbody>
<tr>
<td>Shell Code</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
<td>F</td>
<td>G</td>
<td>H</td>
<td>J</td>
</tr>
</tbody>
</table>

**Insert Arrangement (See Chart)**

<table>
<thead>
<tr>
<th>Shell Size</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>J</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shell Code</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td>8</td>
<td>12</td>
<td>16</td>
<td>24</td>
<td>32</td>
</tr>
</tbody>
</table>

**Termini (Pin or Socket)**
- P – With ASR (Standard for Plug)
- S – Without ASR (Standard for Receptacle)

**Alternate Positions**
- N (Normal) A, B, C, D & E

**Modification Code**
- Consult Factory for Modification Codes (Omit for None)
- Other connector styles available upon request

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### MATERIAL / FINISH

- Shells, Barrel, Coupling Nut: See above
- Inserts: Aluminum Alloy/Adonize
- Guide Pins: Stainless Steel / Passivate
- Seals: Fluorosilicone
- EMI/RFI/Ground Spring: Copper Alloy/Nickel

### NOTES

- Alignment Sleeve Retainer (ASR) is supplied with plug connector only and may be ordered separately.
Alignment Sleeve Retainer (ASR)

How to Order | Part Number Configurator

Insert Assembly Table

<table>
<thead>
<tr>
<th>Insert Assembly with Cavity Marking for Plug Connectors</th>
<th>Insert Arrangement</th>
</tr>
</thead>
<tbody>
<tr>
<td>195-3001-100</td>
<td>11-02</td>
</tr>
<tr>
<td>195-3001-101</td>
<td>13-04</td>
</tr>
<tr>
<td>195-3001-102</td>
<td>15-06</td>
</tr>
<tr>
<td>195-3001-103</td>
<td>17-08</td>
</tr>
<tr>
<td>195-3001-104</td>
<td>19-12</td>
</tr>
<tr>
<td>195-3001-105</td>
<td>21-16</td>
</tr>
<tr>
<td>195-3001-106</td>
<td>23-24</td>
</tr>
<tr>
<td>195-3001-107</td>
<td>25-32</td>
</tr>
<tr>
<td>195-1021-000</td>
<td>BKA 12 Position</td>
</tr>
</tbody>
</table>

MATERIAL / FINISH

• Housing: Aluminum Alloy/Adonize
• Misc. Hardware: Stainless Steel / Passivate
• Alignment Sleeve: Zirconia Ceramic

NOTES

• Alignment sleeve retainer is designed to meet or exceed all mechanical and performance requirements of ARINC 801 specification
• Ceramic alignment sleeve replacements may be purchased separately

ARINC 801 Insert Arrangements
### BKA Rack & Panel Connectors with ARINC 801 ASR

#### How to Order | Part Number Configurator

<table>
<thead>
<tr>
<th>BKA</th>
<th>R</th>
<th>D</th>
<th>2</th>
<th>QF</th>
<th>M</th>
<th>3</th>
<th>00</th>
<th>01</th>
<th>F0</th>
</tr>
</thead>
</table>

**Connector Series**
- RoHS
- Class
- Shell Size

**Connector Layout Description**
- Size 1 Coax Insert Modifier

**Shell Style**

**Connector Mounting Modifier**

**Polarizing Position**
- Modifier (Contact, Finish, Material)

* = For Polarizing Position greater than 99, add third digit.

### Insert Description

<table>
<thead>
<tr>
<th>Insert</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>17Q2</td>
<td>12x #16 Optical, 3x #16, 2x #8 (Quadrax)</td>
</tr>
<tr>
<td>12F5C2</td>
<td>5x #16 Optical, 4x #12, 1x #16, 2x #5 (Coax)</td>
</tr>
<tr>
<td>20F12T8</td>
<td>12x #16 Optical, 8x #8 (Twinax)</td>
</tr>
<tr>
<td>20F12Q8</td>
<td>12x #16 Optical, 8x #8 (Quadrax)</td>
</tr>
<tr>
<td>36F36</td>
<td>36x #16 Optical</td>
</tr>
</tbody>
</table>

![Images of connectors](image1.png)
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Connect with the experts

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