CeeLok FAS-T Connectors
10 Gb/s Ethernet Connectivity . . . Compact . . . Rugged . . . Reliable
CeeLok FAS-T Connectors
Small Form Factor, Field Terminable Connectors

CeeLok FAS-T connectors offer a small form factor, field terminable I/O connector capable of 10 Gb/s Ethernet. Crimp-snap contacts enable easy termination and field repairability. The integral backshell offers easy 360-degree shield termination.

The compact size 8 shell helps designers meet the needs of reduced SWaP (size, weight, and power).

The connector’s T-shaped contact pattern provides noise cancellation and decoupling to minimize crosstalk and increase signal integrity.

The CeeLok FAS-T connector is a true 100-ohm impedance connector that is compatible with Cat 5e and Cat 6a cables and protocols ranging from the USB and IEEE 1394 to gigabit and 10G Ethernet.

HIGH SPEED
• Gigabit or 10 Gigabit rates
• Compatible with Cat 5e, Cat 6a or Cat 7 cables
• T-shaped pin pattern improves signal integrity through uniform crosstalk cancellation

SPACE AND WEIGHT SAVINGS
• Compact size 8 shell

EASY TERMINATION AND FIELD REPAIRABILITY
• Crimp-snap, 39029-style contacts

FLEXIBLE BACKSHELL/SHEILDING OPTIONS
• Backshell integrated in plug body provides low profile, low cost, low weight strain relief and EMI protection
• Compatible with multiple braid termination techniques, adapter styles and seal boots

RUGGED
• Scoop-proof design
• Insert assembly mechanically retained for ≤25 lb. retention force
• Robust coupling ring mechanism

TE Components . . . TE Technology . . . TE Know-how . . .
AMP | AGASTAT | CII | HARTMANN | KILOVAC | MICRODOT | NANONICS | POLAMCO | Raychem | Rochester | DEUTSCH
SEACON Phoenix | LL Rowe | Phoenix Optix | AFP | SEACON

Get your product to market faster with a smarter, better solution.
Performance Characteristics

DATA RATES

- Gigabit and 10 Gigabit Ethernet when used with Cat 5e, Cat 6a or Cat 7 cables

ELECTRICAL

- Insulation Resistance: 5000 MΩ ambient, 1000 MΩ @ 175°C
- Dielectric Withstanding Voltage:
  - 500 VAC @ sea level
  - 100 VAC @ 70,000 ft.
- Shielding Effectiveness: per MIL-DTL-38999
- Shell-to-Shell Conductivity: 5 mV initial, 10 mV final

MECHANICAL

- Vibration, Sine: MIL-DTL-38999 Series III (60 g), 4 hrs per axis, no elevated temperature
- Vibration, Random: EIA-364-28 Condition VI Letter J (43.92 g)
- Durability: 500 mating cycles
- Contact Retention: 10 lb. min.
- Coupling Torque: 8 in-lb. max.

ENVIRONMENTAL PROPERTIES

- Operating Temperature: -65°C to +175°C
- Sealing: Altitude immersion: 70,000 ft. (mated condition)
- IP67: Mated condition
- IPX6 (water jet): Receptacle, panel mounted (unmated condition)
- Corrosion Resistance: 500 hr. salt mist — black zinc nickel per AMS-2417

MATERIALS

- Shell: Electroless nickel or black zinc for DOD-approved, RoHS-compliance, corrosion resistance (500 hr salt mist)
- Insert: High-temperature thermoplastic for excellent temperature endurance
- Low dielectric constant for superior signal integrity
- Contacts: Beryllium copper alloy

STANDARDS AND SPECIFICATIONS

- Product Specification: 108-2482
- Application Specification: 114-32025
- Instruction Sheet: 408-32046
- Test Report: 501-134002
- Electrical Performance Report: 505-116000
CeeLok FAS-T Connectors

CeeLok FAS-T - Differential Return Loss

CeeLok FAS-T - Differential NEXT

CeeLok FAS-T - Differential Insertion Loss
# CeeLok FAS-T Connectors

## Contacts

<table>
<thead>
<tr>
<th>Type</th>
<th>Contacts Included</th>
<th>Key</th>
<th>Part No.</th>
<th>Part No.</th>
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<td>A</td>
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<td>2102353-4</td>
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<tr>
<td>Box-Mount</td>
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<tr>
<td>Box-Mount</td>
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<td>2102453-2</td>
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<tr>
<td>Receptacle, PC Tail</td>
<td>A</td>
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<td>2102453-4</td>
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<td></td>
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<td>2102453-6</td>
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<td>Jam Nut</td>
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<td>2102351-2</td>
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<tr>
<td>Receptacle, PC Tail</td>
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<td>2102351-4</td>
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## Wire Size

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<tr>
<th>Part No.</th>
<th>Pin</th>
<th>Socket, Hooded</th>
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<tbody>
<tr>
<td>2102349-3</td>
<td>2102350-5</td>
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## Application Tooling

- **Hand Crimp Tool:** M22520/2-01
- **Crimp Positioner:** TE Part No. 2217375-1
- **Insertion/Extraction Tool:** TE Part No. 2217376-1

## Pin

- Ø .034
- Ø .047
- Ø .050
- Ø .020
- Section B-B

## Socket

- Ø .047
- Ø .034
- Ø .021
- 0.021 Min.
- 0.140 Min.
- 0.155 Max.
CeeLok FAS-T Connectors

PRODUCT DIMENSIONS

Boxmount Receptacle Kit Assembly
Part No. 2102343

Jam Nut Receptacle Assembly, PC Tail
Part No. 2102351
CeeLok FAS-T Connectors

PRODUCT DIMENSIONS

Receptacle Kit Assembly
Part No. 2102352

Plug Kit Assembly
Part No. 2102353
CeeLok FAS-T Connectors

PRODUCT DIMENSIONS

Boxmount Receptacle Assembly, PC Tail
Part No. 2102453

Front Insert: Qty. 1
Material: Black
Thermoplastic

Internal Snap Ring: Qty. 1
Material: Stainless Steel

Rear Insert: Qty. 1
Material: Black
Thermoplastic

Contact Pins: Qty. 8
Material: Gold Plated
Leaded Copper

Red Full Mate Indicator Band

5/8" Modified Triple Start Acme Thread

Receptacle: Qty. 1
Material: Aluminum

Board Mounting Holes: 3X 4-40 UNC

Master Key: .950
.670
.723
.723
.913
2X .362
.125
CeeLok FAS-T Connectors

PRODUCT DIMENSIONS

Protective Cover Cap, Plug
Part No. 2221682-1

Protective Cover
Material: Aluminum

Lanyard
Material: Stainless Steel Wire

Interfacial Seal
Material: Fluorosilicone Rubber

Rivet
Material: 300 Series Stainless Steel
Finish: Passivated

Rivet, Oval
Material: 300 Series Stainless Steel
Finish: Passivated

Ring
Material: Stainless Steel
Finish: Passivated


Protective Cover Cap, Receptacle
Part No. 2221478-1 (Nickel Finish)
Part No. 2221478-2 (Black Zinc Nickel Finish)

Protective Cover
Ratchet Style
Material: Aluminum

Lanyard:
Material: Stainless Steel Wire

Ring
Material: 300 Series Stainless Steel
Finish: Passivated

Part No. 2221478-3 (Nickel Finish)
Part No. 2221478-4 (Black Zinc Nickel Finish)

Protective Cover
Ratchet Style
Material: Aluminum

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CeeLok FAS-T Connectors

ACCESSORIES

SolderSleeve Shield Terminators

Convenient and Effective
- Terminates a ground lead to cable shield in order to ground the shield
- Simple, quick termination
- Available with and without pigtails

Versatile
- Center or end strip for ease of termination
- Handles wide range of high data rate cables and diameters

Environmental
- Operating temperature: -55°C to +200°C
- Environmentally sealed
- Mechanically robust

Physical or Other Properties
- Terminates tin, silver and nickel flat or round braids
- Provides 360° of shielding

Product Offering
- Contact TE for a complete listing of SolderSleeve shield terminators

CRES-Lock Bandstraps

Easy to Use
- Quick, easy, cost-effective and reliable termination of braided shielding

High Performance
- Low profile, one-piece design eliminates EMI leakage paths

Rugged
- Shock, vibration and environmental tested to meet aerospace and defense requirements

Electrical
- Operating Temperature: -65°C to +200°C
- Electrical Resistance: Meets ≤1.0 mΩ requirement of AS85049/128
- Corrosion Resistance: 500 hr. salt spray

Mechanical
- Tensile Strength: 200 lb.
- Braid Retention: Meets 100 lb. requirement of AS85049/128

Application Tooling
- Micro Tie-Dex II, A30199

<table>
<thead>
<tr>
<th>Description</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bandstrap</td>
<td>BND-0812S</td>
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</table>

Downloaded from Arrow.com.
CeeLok FAS-T Connectors

ACCESSORIES
Heat-Shrinkable Molded Boots

<table>
<thead>
<tr>
<th>Hazard Matched</th>
<th>Versatile</th>
<th>Application Tooling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Different materials to meet different temperature and environmental requirements</td>
<td>Sealing and strain relief to the wires and cables</td>
<td>HL1910E or the HG-501A</td>
</tr>
<tr>
<td>Optional with pre-applied adhesives for quick installation and high-reliability IP67 sealing</td>
<td>Straight or 90 degree cable exit</td>
<td>ThermoGun heat gun and appropriate hot air reflectors</td>
</tr>
<tr>
<td>Epoxy sealing kits available</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Product Offering

<table>
<thead>
<tr>
<th>Temperature Range</th>
<th>Material</th>
<th>Adhesive Lined</th>
<th>Size* mm</th>
<th>Descriptive Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>-20°C to 60°C</td>
<td>Flexible polyolefin</td>
<td>Yes</td>
<td>24/10.4/5.6</td>
<td>202K121-4/42-0/222K121-4/42-0</td>
</tr>
<tr>
<td>-55°C to 120°C</td>
<td>Flexible polyolefin</td>
<td>Yes</td>
<td>30/14.2/5.9</td>
<td>202K132-4/42-0/222K132-4/42-0</td>
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<tr>
<td>-55°C to 135°C</td>
<td>Fluid-resistant elastomer</td>
<td>Yes</td>
<td>30/14.2/5.9</td>
<td>202K132-25/86-0/222K132-25/86-0</td>
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<tr>
<td>-55°C to 200°C</td>
<td>Flexible polyolefin</td>
<td>No</td>
<td>30/14.2/5.9</td>
<td>202K132-4-0/222K132-4-0</td>
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<tr>
<td>-75°C to 150°C</td>
<td>Modified fluororubber</td>
<td>No</td>
<td>30/14.2/5.9</td>
<td>202K132-12-0/222K132-12-0</td>
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<tr>
<td>Fluid-resistant elastomer</td>
<td>Yes</td>
<td>30/14.2/5.9</td>
<td>202K132-25/225-0/222K132-25/225-0</td>
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<tr>
<td>Fluid-resistant elastomer</td>
<td>No</td>
<td>30/14.2/5.9</td>
<td>202K132-25-0/222K132-25-0</td>
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</tbody>
</table>

*Size = as-supplied diameter both ends/recovered diameter connector end/recovered diameter cable end.

High-Data-Rate Cables

<table>
<thead>
<tr>
<th>Compact and Lightweight</th>
<th>Customizable</th>
<th>Robust</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thin-wall technology for smaller, lighter cables</td>
<td>Customizable to meet mission-critical needs such as EMI, fluid resistance, and flammability</td>
<td>Operating temperature range from -55°C to +200°C</td>
</tr>
<tr>
<td>28 AWG to 22 AWG conductors</td>
<td>Hybrid designs</td>
<td>Full range of shielding options for signal integrity</td>
</tr>
<tr>
<td>Versions for Common Protocols</td>
<td>Electrical testing capability, including skew and eye patterns</td>
<td></td>
</tr>
<tr>
<td>Fast and Gigabit Ethernet in Cat 5e and Quadrax configurations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IEEE 1394</td>
<td></td>
<td></td>
</tr>
<tr>
<td>USB</td>
<td></td>
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<tr>
<td>Rugged</td>
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<tr>
<td>Specialized TE developed polymer formulations designed to support better mechanical and thermal performance in harsh environments</td>
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<td></td>
</tr>
<tr>
<td>State-of-the-art FAA approved foam dielectrics for better signal transmission</td>
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<td></td>
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<tr>
<td>Ruggedized zero halogen jacket for marine applications that passes the rigorous military standards for flammability while meeting stringent smoke and toxicity requirements</td>
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LET’S CONNECT

We make it easy to connect with our experts and are ready to provide all the support you need. Just call your local support number or visit www.te.com/industrial to chat with a Product Information Specialist.

Technical Support
te.com/support-center

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<td>North America</td>
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<tr>
<td>North America (Toll)</td>
<td>+1 717 986 7777</td>
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<tr>
<td>EMEA/South Africa</td>
<td>+800 0440 5100</td>
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<td>EMEA (Toll)</td>
<td>+31 73 624 6999</td>
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<td>+86 400 820 6015</td>
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<td>Japan</td>
<td>+81 044 844 8180</td>
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<td>Australia</td>
<td>+61 2 9554 2695</td>
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<tr>
<td>New Zealand</td>
<td>+64 (0) 9 634 4580</td>
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