



## CeeLok FAS-T CONNECTORS

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10 GB/S ETHERNET CONNECTIVITY ... COMPACT ... RUGGED ...  
RELIABLE



10 Gb/s ethernet connectivity . . . compact . . . rugged . . . reliable



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/SHIELDING 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  $\leq 25$  lb. retention force
- Robust coupling ring mechanism



# CeeLok FAS-T Connectors

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## Performance Characteristics

### DATA RATES

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

### ELECTRICAL

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- **Insulation Resistance:** 5000 M $\Omega$  ambient, 1000 M $\Omega$  @ 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

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- **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

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- **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

### MATERIALS

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- **Shell:** Electroless nickel 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

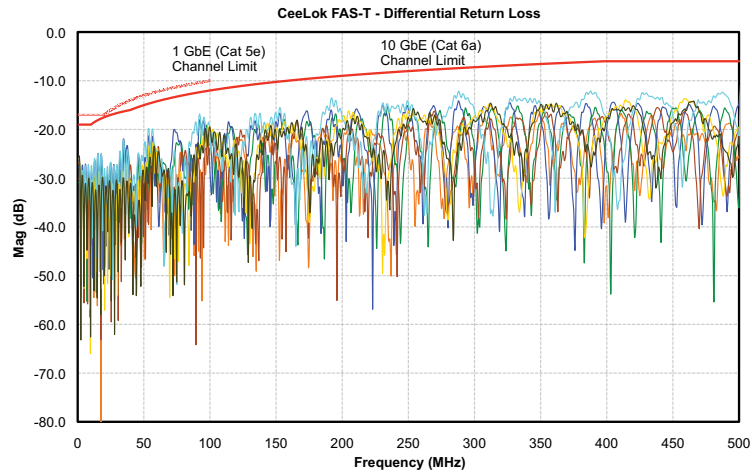
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- **Product Specification:** 108-2482
- **Application Specification:** 114-32025
- **Instruction Sheet:** 408-32046
- **Test Report:** 501-134002
- **Electrical Performance Report:** 505-116000

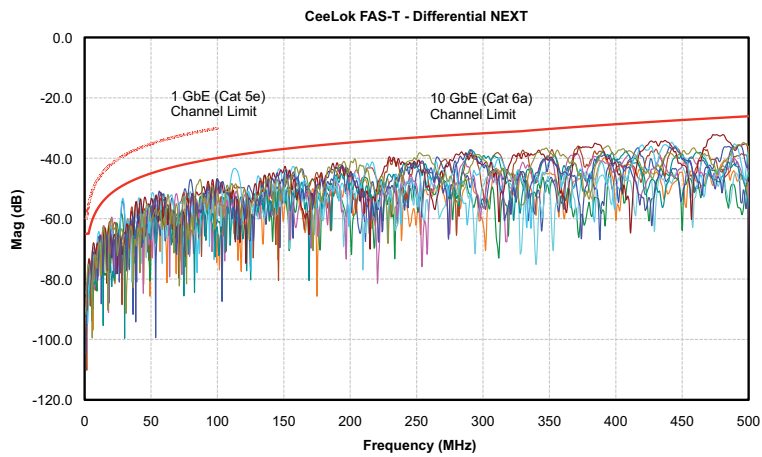


# CeeLok FAS-T Connectors

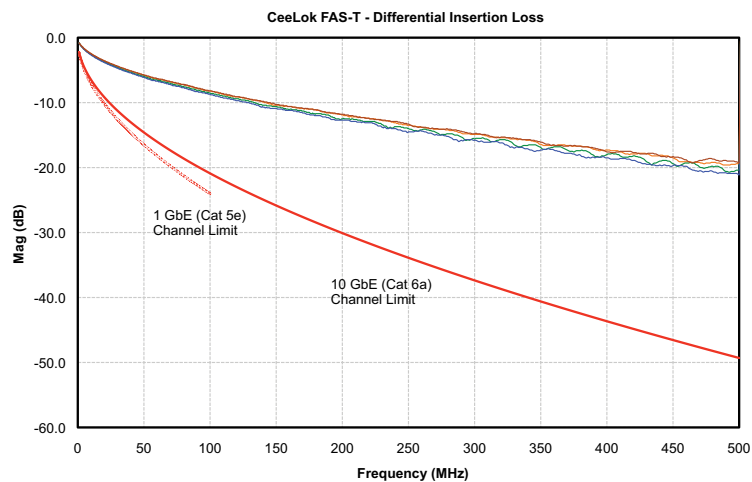
## CeeLok FAS-T Connectors



CeeLok FAS-T  
Differential Return Loss



CeeLok FAS-T  
Differential NEXT



CeeLok FAS-T  
Differential Insertion Loss

# CeeLok FAS-T Connectors

## CeeLok FAS-T Connectors

| Type                          | Contacts Included | Key | Part No.           |                   |
|-------------------------------|-------------------|-----|--------------------|-------------------|
|                               |                   |     | Electroless Nickel | Black Zinc Nickel |
| Plug                          | Socket            | N   | 2102353-1          | 2102353-2         |
|                               |                   | A   | 2102353-3          | 2102353-4         |
|                               |                   | B   | 2102353-5          | 2102353-6         |
|                               | None              | N   | 2102353-7          | 2102353-8         |
|                               |                   | A   | 2102353-9          | 1-2102353-0       |
|                               |                   | B   | 1-2102353-1        | 1-2102354-2       |
| Receptacle                    | Pin               | N   | 2102352-1          | 2102352-2         |
|                               |                   | A   | 2102352-3          | 2102352-4         |
|                               |                   | B   | 2102352-5          | 2102352-6         |
|                               | None              | N   | 2102352-7          | 2102352-8         |
|                               |                   | A   | 2102352-9          | 1-2102352-0       |
|                               |                   | B   | 1-2102352-1        | 1-2102352-2       |
| Box-Mount Receptacle          | Pin               | N   | 2102343-1          | 2102343-2         |
|                               |                   | A   | 2102343-3          | 2102343-4         |
|                               |                   | B   | 2102343-5          | 2102343-6         |
|                               | None              | N   | 2102343-7          | 2102343-8         |
|                               |                   | A   | 2102343-9          | 1-2102343-0       |
|                               |                   | B   | 1-2102343-1        | 1-2102343-2       |
| Box-Mount Receptacle, PC Tail | Pin               | N   | 2102453-1          | 2102453-2         |
|                               | Pin               | A   | 2102453-3          | 2102453-4         |
|                               | Pin               | B   | 2102453-5          | 2102453-6         |
| Jam Nut Receptacle, PC Tail   | Pin               | N   | 2102351-1          | 2102351-2         |
|                               | Pin               | A   | 2102351-3          | 2102351-4         |
|                               | Pin               | B   | 2102351-5          | 2102351-6         |

### Contacts

| Wire Size   | Part No.  |                |
|-------------|-----------|----------------|
|             | Pin       | Socket, Hooded |
| 24 - 26 AWG | 2102349-3 | 2102350-5      |

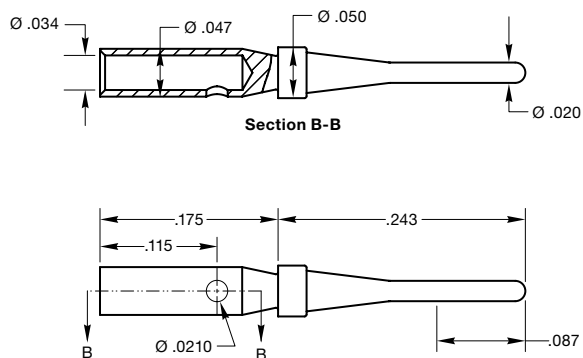
### Application Tooling

**Hand Crimp Tool:**  
M22520/2-01

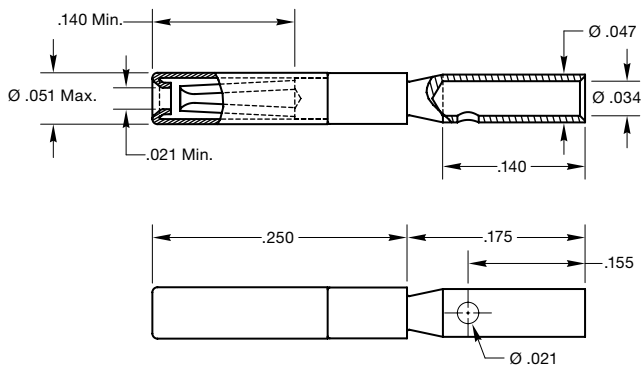
**Crimp Positioner:**  
TE Part No. 2217375-1

**Insertion/Extraction Tool:**  
TE Part No. 2217376-1

### Pin



### Socket



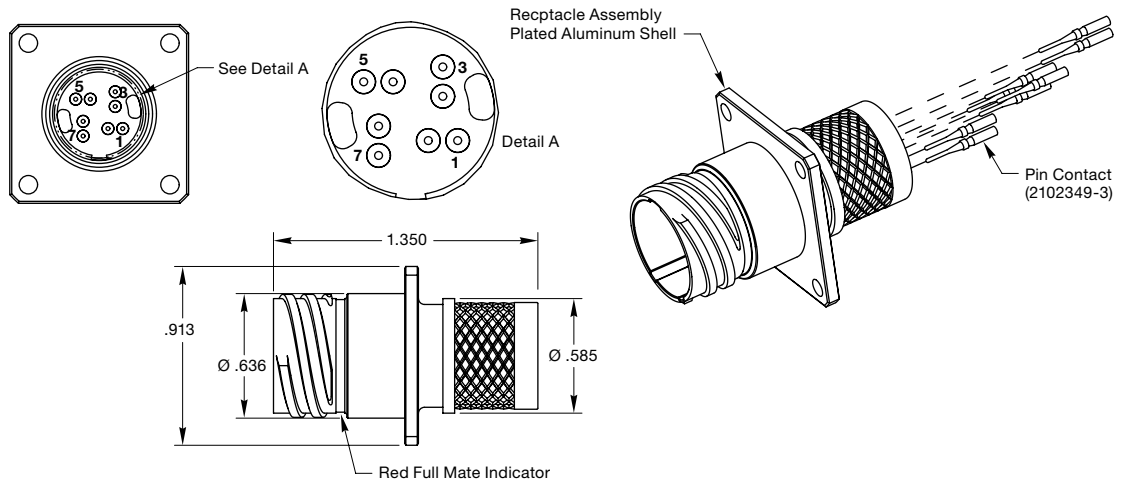
# CeeLok FAS-T Connectors

## CeeLok FAS-T Connectors

### PRODUCT DIMENSIONS

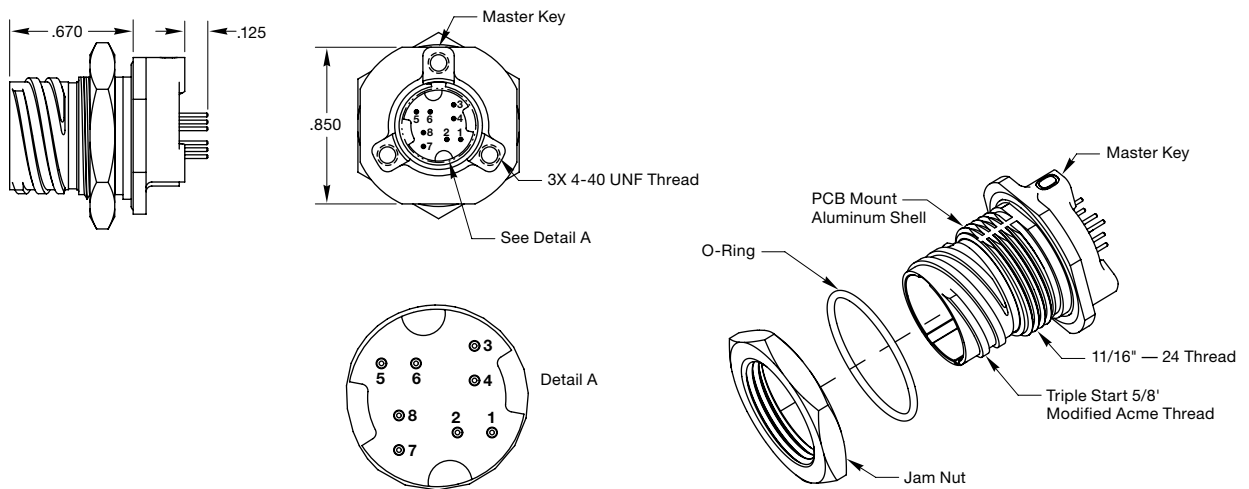
#### Boxmount Receptacle Kit Assembly

Part No. 2102343



#### Jam Nut Receptacle Assembly, PC Tail

Part No. 2102351



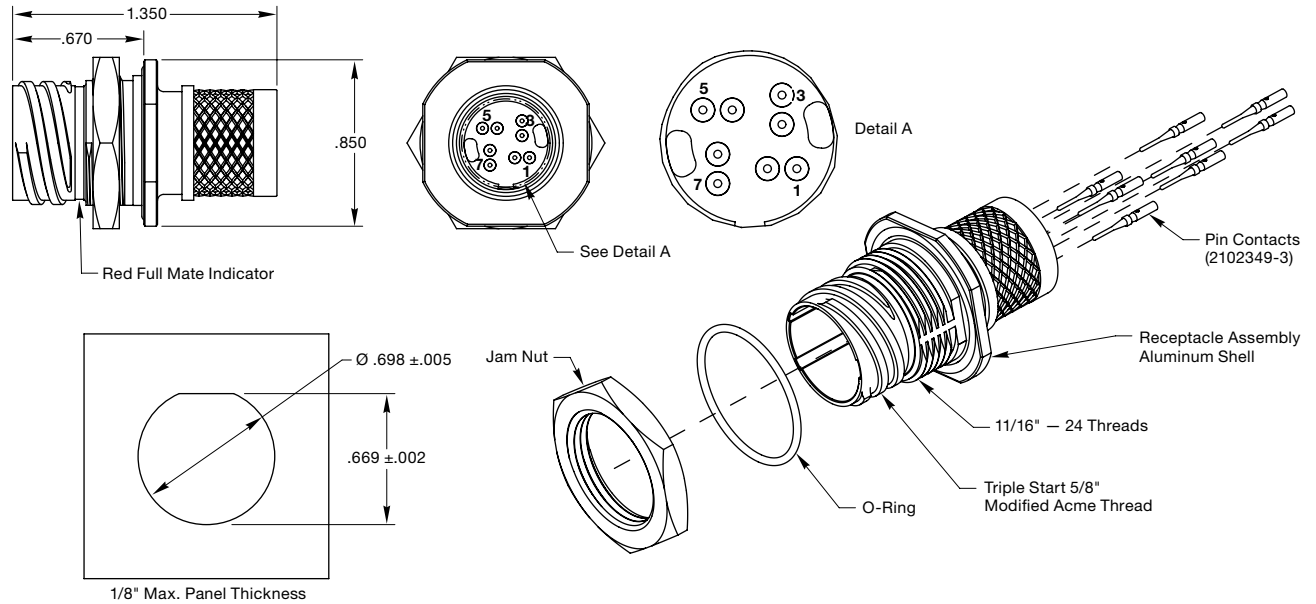
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### PRODUCT DIMENSIONS

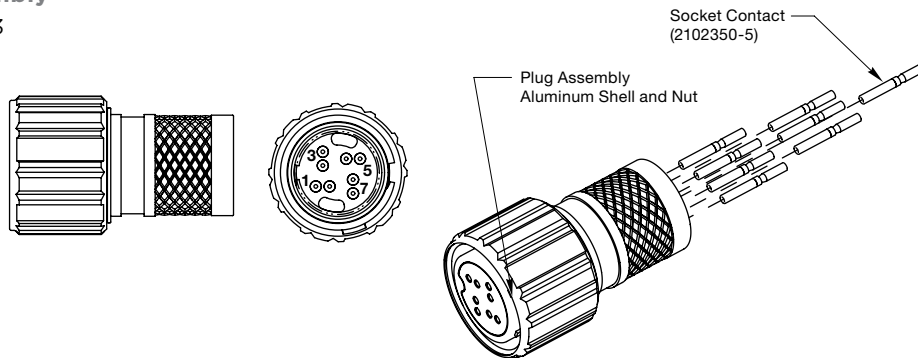
#### Receptacle Kit Assembly

Part No. 2102352



#### Plug Kit Assembly

Part No. 2102353



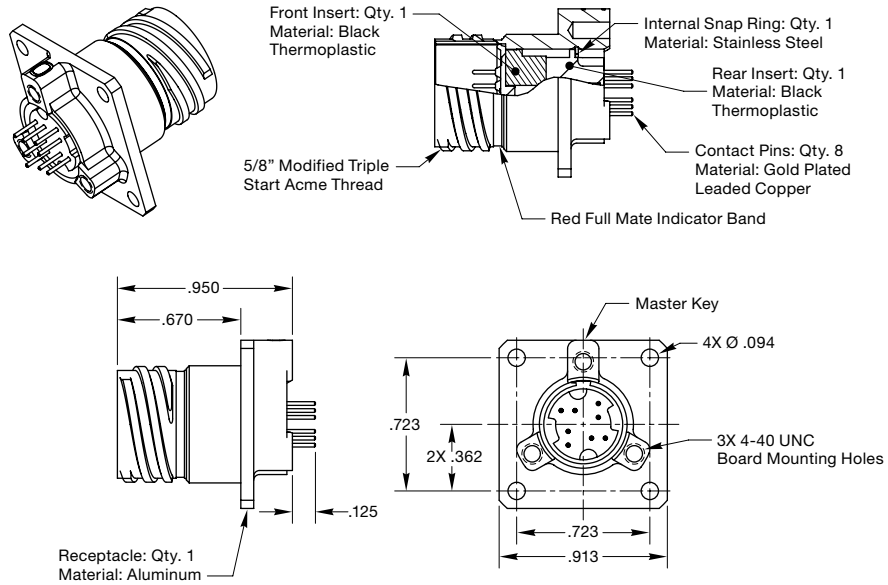
# CeeLok FAS-T Connectors

## CeeLok FAS-T Connectors

### PRODUCT DIMENSIONS

#### Boxmount Receptacle Assembly, PC Tail

Part No. 2102453





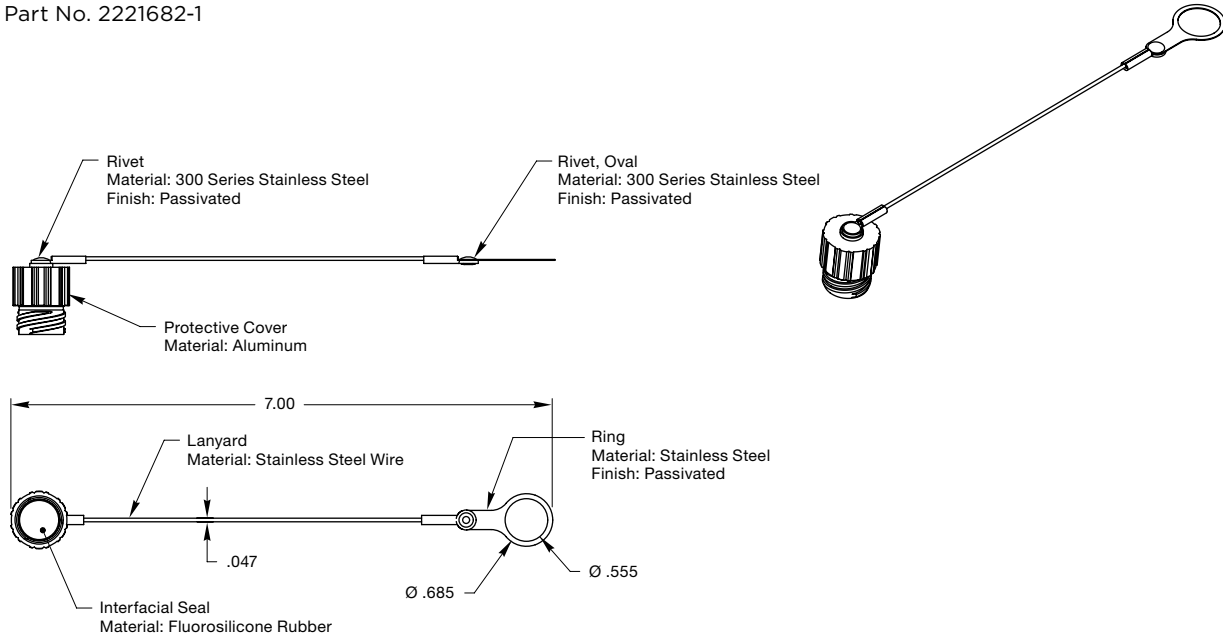
# CeeLok FAS-T Connectors

## CeeLok FAS-T Connectors

### PRODUCT DIMENSIONS

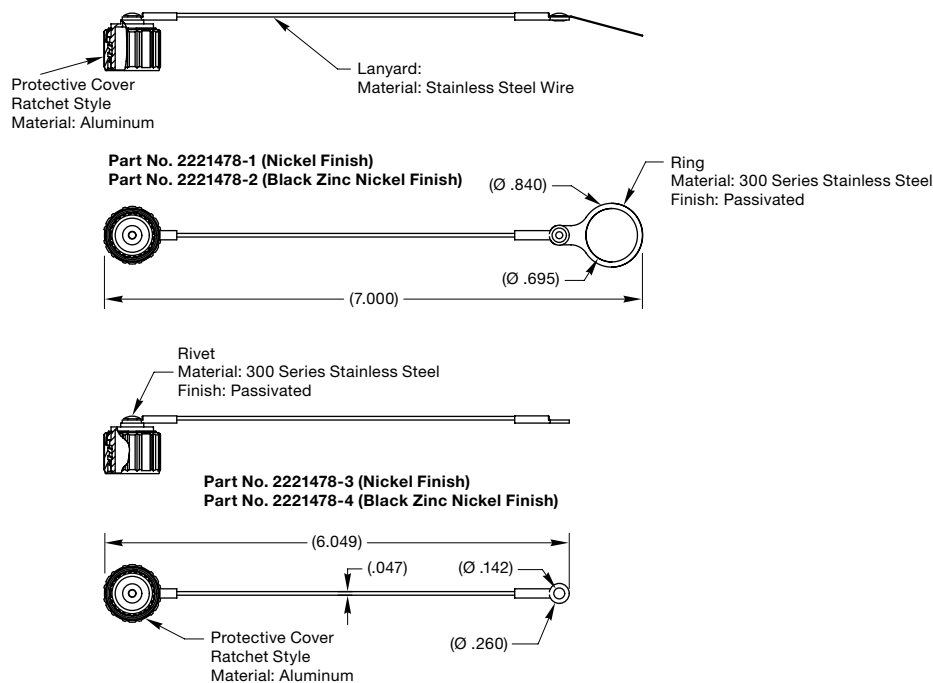
#### Protective Cover Cap, Plug

Part No. 2221682-1



#### Protective Cover Cap, Receptacle

Part No. 2221478-x



# CeeLok FAS-T Connectors

## 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  $\leq 1.0$  m $\Omega$  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

| Description | Part No.  |
|-------------|-----------|
| Bandstrap   | BND-0812S |

# CeeLok FAS-T Connectors

## CeeLok FAS-T Connectors

### ACCESSORIES

#### Heat-Shrinkable Molded Boots



#### Hazard Matched

- Different materials to meet different temperature and environmental requirements
- Optional with pre-applied adhesives for quick installation and high-reliability IP67 sealing
- Epoxy sealing kits available

#### Versatile

- Sealing and strain relief to the wires and cables
- Straight or 90 degree cable exit

#### Application Tooling

- HL1910E or the HG-501A ThermoGun heat gun and appropriate hot air reflectors

#### Product Offering

| Temperature Range | Material                  | Adhesive Lined | Size* mm    | Descriptive Part No. |                  |
|-------------------|---------------------------|----------------|-------------|----------------------|------------------|
|                   |                           |                |             | Straight             | 90°              |
| -20°C to 60°C     | Flexible polyolefin       | Yes            | 24/10.4/5.6 | 202K121-4/42-0       | 222K121-4/42-0   |
|                   | Flexible polyolefin       | Yes            | 30/14.2/5.9 | 202K132-4/42-0       | 222K132-4/42-0   |
| -55°C to 120°C    | Fluid-resistant elastomer | Yes            | 30/14.2/5.9 | 202K132-25/86-0      | 222K132-25/86-0  |
| -55°C to 135°C    | Flexible polyolefin       | No             | 30/14.2/5.9 | 202K132-4-0          | 222K132-4-0      |
| -55°C to 200°C    | Modified fluoroelastomer  | No             | 30/14.2/5.9 | 202K132-12-0         | 222K132-12-0     |
|                   | Fluid-resistant elastomer | Yes            | 30/14.2/5.9 | 202K132-25/225-0     | 222K132-25/225-0 |
| -75°C to 150°C    | Fluid-resistant elastomer | No             | 30/14.2/5.9 | 202K132-25-0         | 222K132-25-0     |

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

#### High-Data-Rate Cables



#### Compact and Lightweight

- Thin-wall technology for smaller, lighter cables
- 28 AWG to 22 AWG conductors

#### Versions for Common Protocols

- Fast and Gigabit Ethernet in Cat 5e and Quadrx configurations
- IEEE 1394
- USB

#### Rugged

- Specialized TE developed polymer formulations designed to support better mechanical and thermal performance in harsh environments
- State-of-the-art FAA approved foam dielectrics for better signal transmission
- Ruggedized zero halogen jacket for marine applications that passes the rigorous military standards for flammability while meeting stringent smoke and toxicity requirements

#### Customizable

- Customizable to meet mission-critical needs such as EMI, fluid resistance, and flammability
- Hybrid designs
- Electrical testing capability, including skew and eye patterns

#### Robust

- Operating temperature range from -55°C to +200°C
- Full range of shielding options for signal integrity

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## QUALITY STARTS WITH THE RIGHT APPLICATION TOOLING

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1-1773464-2 05/21

### CeeLok FAS-T CONNECTORS

TE Connectivity  
Aerospace, Defense & Marine  
2900 Fulling Mill Road  
Middletown, PA 17057

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