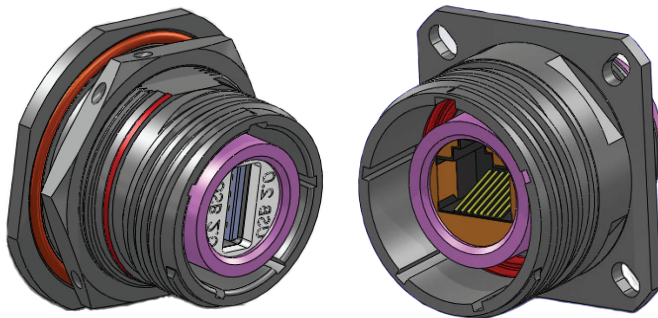


Ethernet and USB Connection System for Harsh Environments

With J-Tech's RJ45 and USB rugged Ethernet connectors you can use industry standard RJ45 and USB cordsets in a rugged metallic plug without any special tools needed for cable termination. The MIL-DTL-38999 Series III shells provide protection against mechanical and environmental conditions in harsh environments.



- MIL-DTL-38999 Series III Style
- Cat 5e, 6 or USB-A
- Use standard RJ45 or USB cordsets
- No tools for cabling
- Grounded options

Features

J-Tech JT93 RJ45 are Intermateable and Intermountable with Amphenol RJFTV series *

RoHS compliant plating options are available.

Cable versions are available with IP68 Backshells using a plastic gland or EMI Backshells.

Receptacles are available with inserts grounded to the shell of the connector.

Through-Bulkhead Receptacles are available - Designed to mate with EMI/RFI Plug on each side of receptacle.

Inserts have multiple options for insert rotation (mechanical coding) that can be changed by the user. Connectors with cable termination will accept cable diameters from 0.170" O.D. to 0.460" O.D. All connector kits are provided with insert removal tool.

Accessories are available including metal dust caps, self-closing caps and panel gaskets.

*Consult factory for further information: j-tech@conesys.com

Mechanical

Shell Material: Aluminum Alloy

Shell Types: EMI/RFI Plug
Wall Mount Receptacle
Jamnut Receptacle
Inline Receptacle

Plating: Electroless Nickel
Olive Drab Cadmium
Black Nickel - RoHS

Termination: Cable Termination
Receptacle, Feed-Thru
Receptacle, PC-Tail
Receptacle, Bulkhead Feed-Through

Data Transmission

10 BaseT, 100 BaseTX and 1000 BaseT
Cat 5e per TIA/EIA 568B, Class D per ISO/IEC 11801
Cat 6 per TIA/EIA 568B, Class E per ISO/IEC 11801
USB-A Specification 2.0 - up to 480Mb/s for High Speed USB

Environmental

Sealing: IP68 (Temporary immersion, when mated)
Temperature: -40°C to + 85°C
Durability: 500 mating cycles
Salt Spray: 48 h (Nickel plating)
400 Hours (Black Zinc Nickel)
>500 h (Olive Drab Cadmium)
Vibration: 10-500 Hz, 20 g

Connector Part Numbers

| J-Tech Prefix | JT93 | R | FN | 5 | 19 | C | N | P | G | - | XXX |
|--|-------|---------------------------------------|----|---|----|---|---|---|---|---|-----|
| Standard | | | | | | | | | | | |
| R = RJ45 | | | | | | | | | | | |
| U = USB-A | | | | | | | | | | | |
| | PAGES | | | | | | | | | | |
| Shell Type | RJ45 | | | | | | | | | | |
| FE = Wall Mount Receptacle with 360° EMI backshell (See note 1 below) | 10-16 | | | | | | | | | | |
| FG = Wall Mount Receptacle with IP68 Backshell | 10-16 | | | | | | | | | | |
| FN = Wall Mount Receptacle, no Backshell | 3-9 | 21-23 | | | | | | | | | |
| JE = Jamnut Receptacle with 360° EMI backshell (See note 1 below) | 10-16 | | | | | | | | | | |
| JN = Jamnut Receptacle, no Backshell (See note 2 below) | 3-9 | 21-23 | | | | | | | | | |
| JP = Jamnut Receptacle with IP68 Backshell | 10-16 | | | | | | | | | | |
| KE = Inline Receptacle, with 360° EMI backshell (See note 1 below) | 10-16 | | | | | | | | | | |
| KG = Inline Receptacle, with IP68 Backshell | 10-16 | | | | | | | | | | |
| KN = Inline Receptacle, no Backshell | 3-9 | | | | | | | | | | |
| PE = EMI/RFI Plug with 360° EMI backshell (See note 1 below) | 17-20 | | | | | | | | | | |
| PG = EMI/RFI Plug with IP68 Backshell | 17-20 | | | | | | | | | | |
| Category | | | | | | | | | | | |
| 5 = CAT 5E | | | | | | | | | | | |
| 6 = CAT 6 | | | | | | | | | | | |
| 2 = USB 2.0 | | | | | | | | | | | |
| Shell Size | | | | | | | | | | | |
| 15 = Size 15 Shell (USB-A only) | | | | | | | | | | | |
| 17 = Size 17 Shell (RJ45 or USB-A) | | | | | | | | | | | |
| 19 = Size 19 Shell (RJ45 Only) | | | | | | | | | | | |
| Plating | | | | | | | | | | | |
| N = Electroless Nickel | | Z = Black Zinc Nickel, RoHS Compliant | | | | | | | | | |
| C = Olive Drab Cadmium | | | | | | | | | | | |
| B = Black Nickel, ROHS Compliant | | | | | | | | | | | |
| Shell Polarization | | | | | | | | | | | |
| N = Normal | | | | | | | | | | | |
| A, B, C, D or E | | | | | | | | | | | |
| Rear Termination | | | | | | | | | | | |
| P = PC Tail (Receptacles Only, Shell Style: FN, JN only) | | | | | | | | | | | |
| F = Female RJ45 or USB-A (Receptacles Only, all Shell Styles) | | | | | | | | | | | |
| C = Cable Termination | | | | | | | | | | | |
| T = Through Bulkhead Receptacle (designed for EMI/RFI plug to mate to both sides, Shell Styles: FN, JN only) | | | | | | | | | | | |
| Grounding Options (for Receptacle Inserts) | | | | | | | | | | | |
| N = If plug shell chosen, use N | | | | | | | | | | | |
| U = RJ45 or USB-A Insert not Grounded to shell (Receptacles Only) | | | | | | | | | | | |
| G = RJ45 or USB-A Insert grounded to shell (Receptacles Only) | | | | | | | | | | | |
| Modification Codes | | | | | | | | | | | |
| Consult Factory for Modifications | | | | | | | | | | | |

Example: **JT93RFN519CNP**G - This p/n is a Cat 5e RJ45 Wall Mount Receptacle in size 19 shell with olive drab cadmium plating, N polarization, no backshell, pc-tail termination, grounded insert.

Note 1: Connectors with 360° EMI Backshells will require customer to crimp standard RJ45 to selected cable.

Note 2: Standard Jamnut O-Ring is silicone. Consult factory for other materials.

j-tech@conesys.com

**Ruggedized RJ45
Receptacles
Cross Reference**



J-Tech Conesys JT93 Series 38999 III Ruggedized RJ45 Cross to Amphenol RJFTV series

| Amphenol Part # | J-Tech/Conesys Cross |
|------------------------|-----------------------------|
| RJFTV6G | <i>JT93RPG519CNCN</i> |
| RJFTV6N | <i>JT93RPG519NNCN</i> |
| RJFTV6MG | <i>JT93RPG519CNCN-M341*</i> |
| RJFTV6MN | <i>JT93RPG519NNCN-M341*</i> |
| RJFTV21G | <i>JT93RFN519CNFG</i> |
| RJFTV21N | <i>JT93RFN519NNFG</i> |
| RJFTV2PE1G | <i>JT93RFG519CNFU</i> |
| RJFTV2PE1N | <i>JT93RFG519NNFU</i> |
| RJFTV2PEM1G | <i>JT93RFE519CNFG-M341*</i> |
| RJFTV2PEM1N | <i>JT93RFE519NNFG-M341*</i> |
| RJFTV71G | <i>JT93RJN519CNFG</i> |
| RJFTV71N | <i>JT93RJN519NNFG</i> |
| RJFTV7PE1G | <i>JT93RJP519CNFU</i> |
| RJFTV7PE1N | <i>JT93RJP519NNFU</i> |
| RJFTV7PEM1G | <i>JT93RJE519CNFG-M341*</i> |
| RJFTV7PEM1N | <i>JT93RJE519NNFG-M341*</i> |

*Note: M341 is a mod code that calls out metal pg gland



JT93



J-Tech Part Number Development

| | | | | | | | | | | |
|---|-------------|----------|-----------|----------|-----------|----------|----------|----------|----------|-------------|
| J-Tech Prefix | JT93 | R | FN | 5 | 19 | C | N | P | G | -XXX |
| Standard | | | | | | | | | | |
| R = RJ45 | | | | | | | | | | |
| Shell Type | | | | | | | | | | |
| FN = Wall Mount Receptacle, No Backshell | | | | | | | | | | |
| JN = Jam Nut Receptacle, No Backshell | | | | | | | | | | |
| KN= Inline Receptacle, No Backshell | | | | | | | | | | |
| Category | | | | | | | | | | |
| 5= CAT 5E | | | | | | | | | | |
| 6= CAT 6 | | | | | | | | | | |
| Shell Size | | | | | | | | | | |
| 17 = size 17 | | | | | | | | | | |
| 19 = size 19 | | | | | | | | | | |
| Plating | | | | | | | | | | |
| N = Electroless Nickel | | | | | | | | | | |
| C = Olive Drab Cadmium | | | | | | | | | | |
| B = Black Nickel, RoHS Compliant | | | | | | | | | | |
| Z = Black Zinc Nickel, RoHS Compliant | | | | | | | | | | |
| Polarization (Keying) | | | | | | | | | | |
| N = Normal (Included in part number) | | | | | | | | | | |
| A, B, C, D | | | | | | | | | | |
| Rear Termination | | | | | | | | | | |
| P = PC Tail (shell style FN, JN only) | | | | | | | | | | |
| F = Female RJ45 (all styles) | | | | | | | | | | |
| Grounding Options | | | | | | | | | | |
| U = RJ45 Insert not grounded to shell | | | | | | | | | | |
| G = RJ45 Insert grounded to shell | | | | | | | | | | |
| Modification Codes | | | | | | | | | | |
| Consult Factory for Modificatons | | | | | | | | | | |

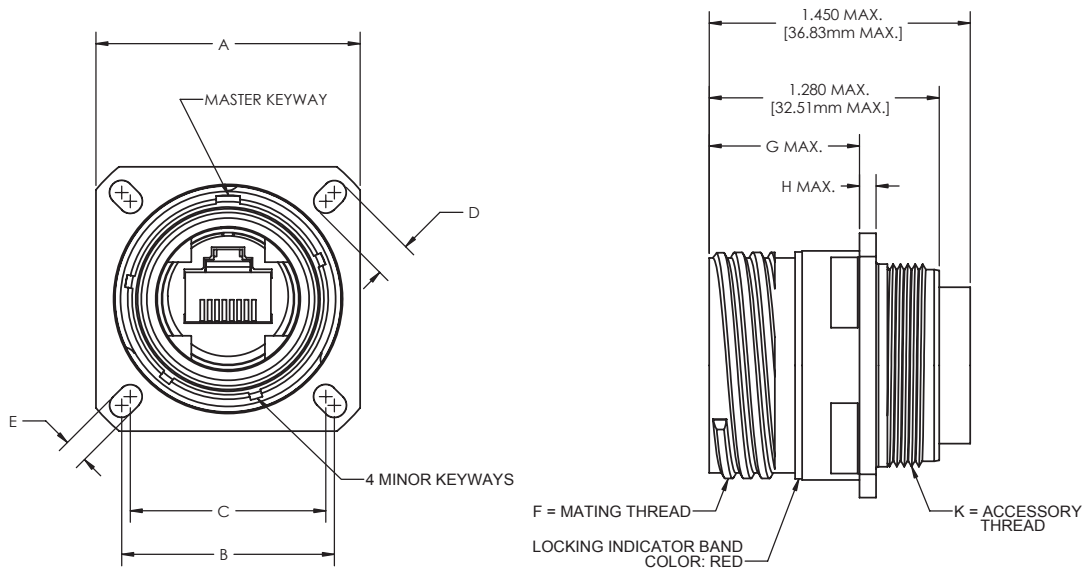
JT93



Ruggedized RJ45 Receptacles Shell Dimensions

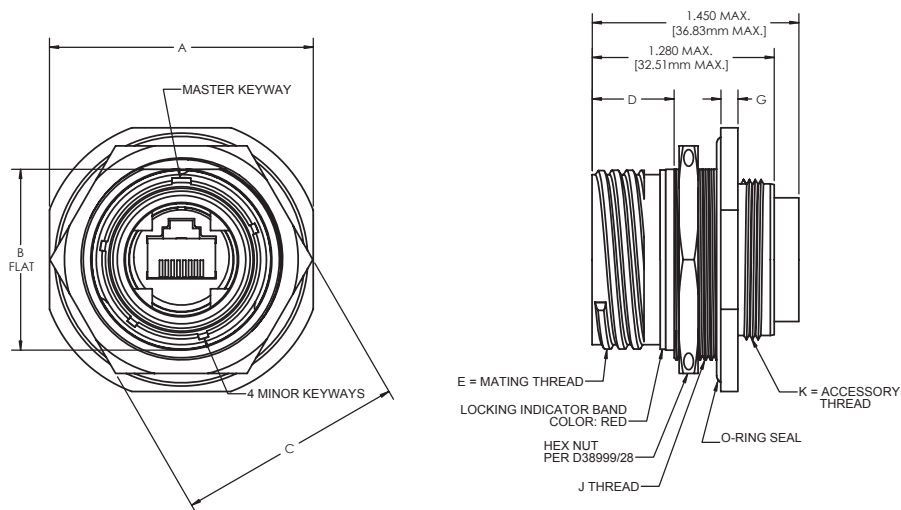


Wall Mount Receptacle Shell Type FN



| SHELL SIZE | A | | B | | C | | D | | E | | F | G | | H | | K |
|------------|-------|-------|-------|-------|-------|-------|-------|------|-------|------|------------------------|------|-------|------|------|-------------------|
| | ±.012 | ±.30 | (TP) | | (TP) | | ±.008 | ±.20 | ±.008 | ±.20 | | MAX. | | MAX. | | |
| | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | Mating Thread Class 2A | in. | mm | in. | mm | |
| 17 | 1.311 | 33.30 | 1.062 | 26.97 | .969 | 24.61 | .194 | 4.93 | .128 | 3.25 | 1.1875-1P-0.3L | .820 | 20.83 | .098 | 2.50 | M28x1.0-6g 0.100r |
| 19 | 1.437 | 36.50 | 1.156 | 29.36 | 1.062 | 26.97 | .194 | 4.93 | .128 | 3.25 | 1.2500-1P-0.3L | .820 | 20.83 | .098 | 2.50 | M28x1.0-6g 0.100r |

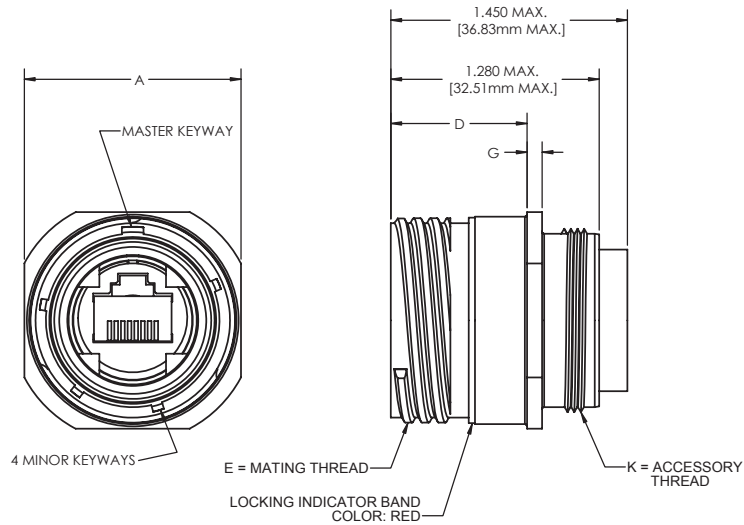
Jam Nut Receptacle Shell Type JN



| SHELL SIZE | A | | B | | C | | D | | E | | G | | J | Accessory Thread Metric |
|------------|-------|-------|----------------|---------------|-------------|-------------|-----------------|---------------|------------------------|-----------------|---------------|----------------|-------------------|-------------------------|
| | ±.016 | ±.40 | +0.04 -.006 | +0.10 -.15 | HEX NUT | | +0.024 -.000 | +0.60 -.00 | Mating Thread Class 2A | +0.035 -.004 | +0.90 -.10 | Jam Nut Thread | | |
| | in. | mm | in. | mm | in. | mm | in. | mm | | in. | mm | | | |
| 17 | 1.626 | 41.30 | 1.187 | 30.15 | 1.457/1.422 | 37.00/36.12 | .555 | 14.10 | 1.1875-1P-0.3L | .087 | 2.20 | M32x1-6g .100r | M28x1.0-6g 0.100r | |
| 19 | 1.811 | 46.00 | 1.312 | 33.32 | 1.614/1.546 | 41.00/39.26 | .555 | 14.10 | 1.2500-1P-0.3L | .118 | 3.00 | M35x1-6g .100r | M28x1.0-6g 0.100r | |

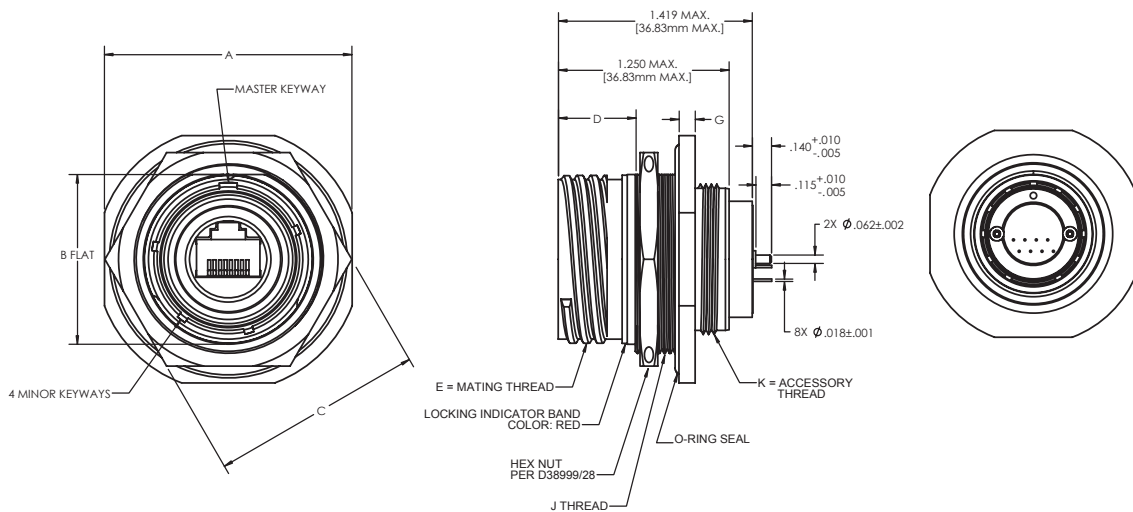
JT93

Inline Receptacle Shell Type KN



| SHELL SIZE | A | | D | | F Mating Thread Class 2A | G | | K Accessory Thread Metric |
|------------|-------|-------|----------------|--------------|--------------------------------|----------------|--------------|---------------------------------|
| | ±.016 | ±.40 | +.024 -.000 | +.60 -.00 | | +.035 -.004 | +.90 -.10 | |
| | in. | mm | in. | mm | | in. | mm | |
| 17 | 1.248 | 31.70 | .817 | 20.75 | 1.1875-0.1P-0.3L | .090 | 2.29 | M28x1.0-6g 0.100r |
| 19 | 1.300 | 33.02 | .817 | 20.75 | 1.2500-0.1P-0.3L | .090 | 2.29 | M28x1.0-6g 0.100r |

Jam Nut Receptacle Shell Type JN

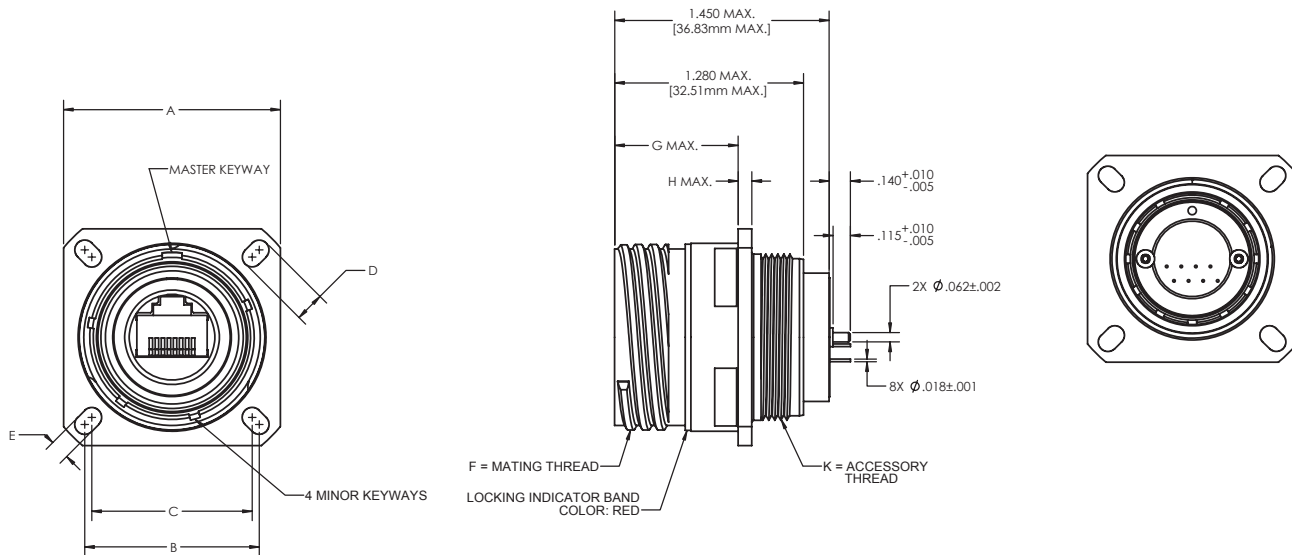


| SHELL SIZE | A | | B | | C | | D | | F Mating Thread Class 2A | G | | H | | Accessory Thread Metric |
|------------|-------|-------|---------|-------|----------------|--------------|------|-------|--------------------------------|------|-------|------|------|----------------------------|
| | ±.016 | ±.40 | HEX NUT | | +.024 -.000 | +.60 -.00 | MAX. | MAX. | | | | | | |
| | in. | mm | in. | mm | in. | mm | | | | in. | mm | | | |
| 17 | 1.626 | 41.30 | 1.187 | 26.97 | 1.457/1.422 | 37.00/36.12 | .555 | 14.10 | 1.1875-1P-0.3L | .820 | 20.83 | .098 | 2.50 | M28x1.0-6g 0.100r |
| 19 | 1.811 | 46.00 | 1.312 | 29.36 | 1.614/1.546 | 41.00/39.26 | .555 | 14.10 | 1.2500-1P-0.3L | .820 | 20.83 | .098 | 2.50 | M28x1.0-6g 0.100r |

Ruggedized RJ45 Receptacles Shell Dimensions



Wall Mount Receptacle with PC Tail Shell Type FN



| SHELL SIZE | A | | B | | C | | D | | E | | F | G | | H | | K |
|------------|-------|-------|-------|-------|-------|-------|-------|------|-------|------|---------------------------|------|-------|------|------|----------------------------|
| | ±.012 | ±.30 | (TP) | | (TP) | | ±.008 | ±.20 | ±.008 | ±.20 | Mating Thread Class 2A | MAX. | | MAX. | | Accessory Thread Metric |
| | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | | in. | mm | | | |
| 17 | 1.311 | 33.30 | 1.062 | 26.97 | .969 | 24.61 | .194 | 4.93 | .128 | 3.25 | 1.1875-1P-0.3L | .820 | 20.83 | .098 | 2.50 | M28x1.0-6g 0.100r |
| 19 | 1.437 | 36.50 | 1.156 | 29.36 | 1.062 | 26.97 | .194 | 4.93 | .128 | 3.25 | 1.2500-1P-0.3L | .820 | 20.83 | .098 | 2.50 | M28x1.0-6g 0.100r |

JT93



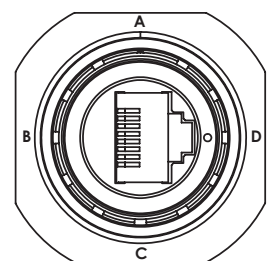
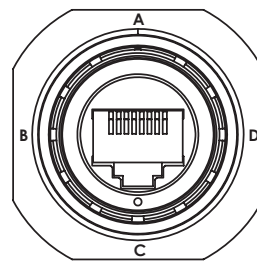
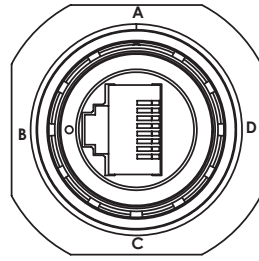
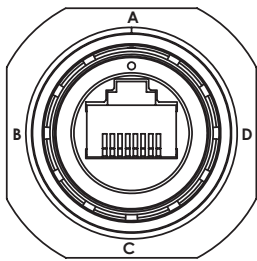
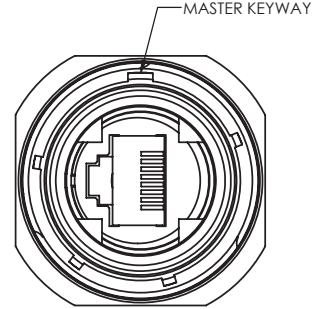
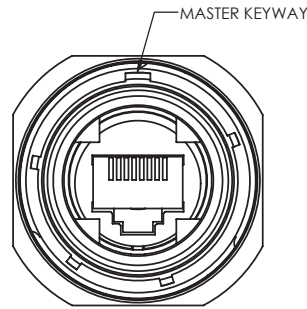
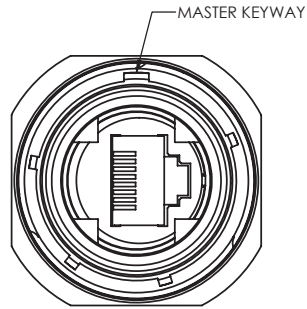
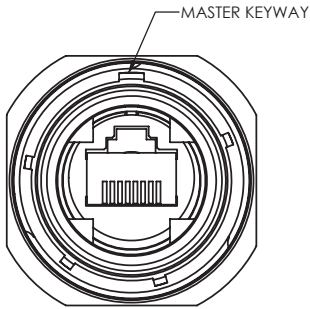
Shell Polarization

CODE A

CODE B

CODE C

CODE D

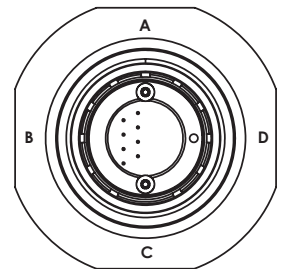
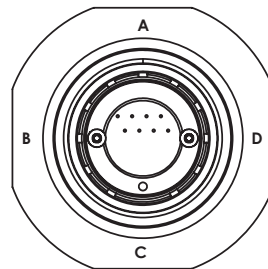
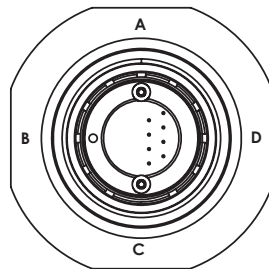
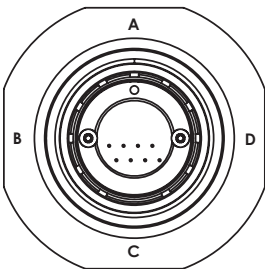
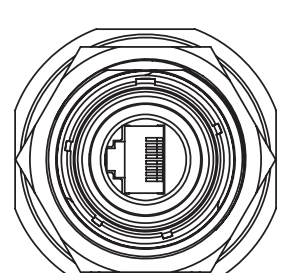
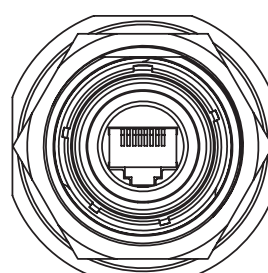
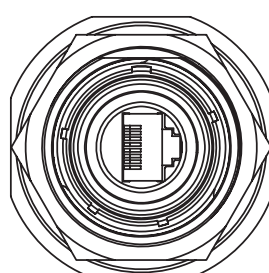
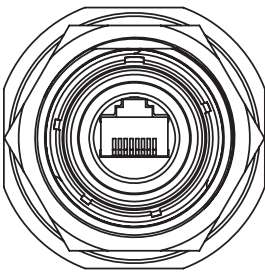


CODE A

CODE B

CODE C

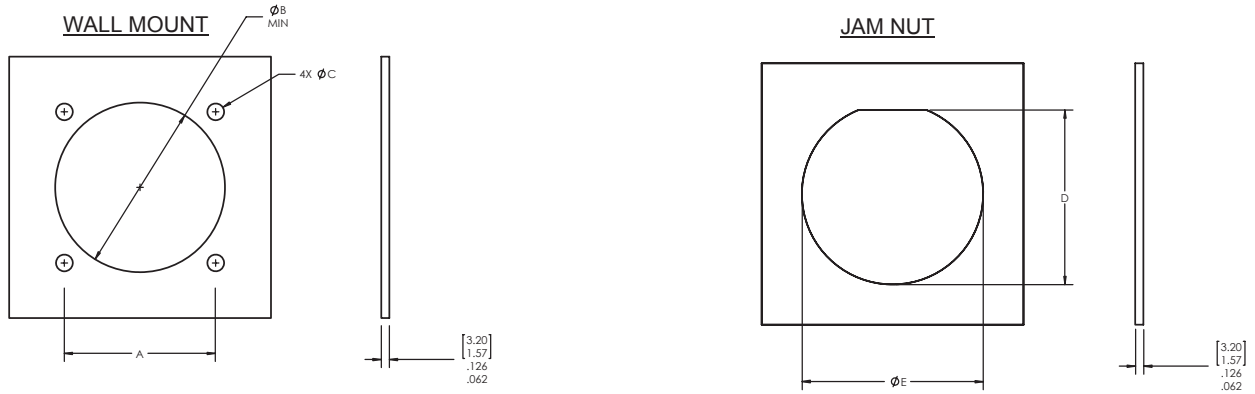
CODE D



Ruggedized RJ45 Receptacles Panel Cutouts/PCB Layout

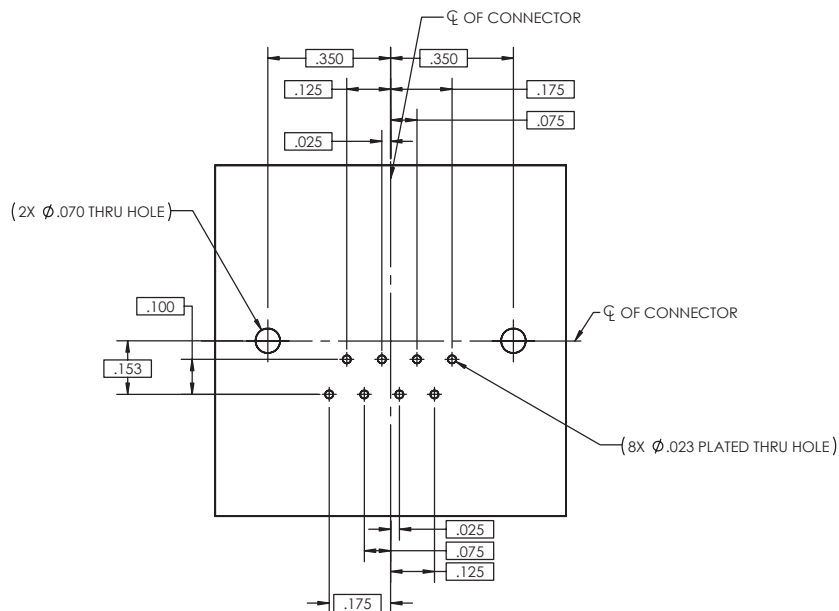


Panel Cutouts



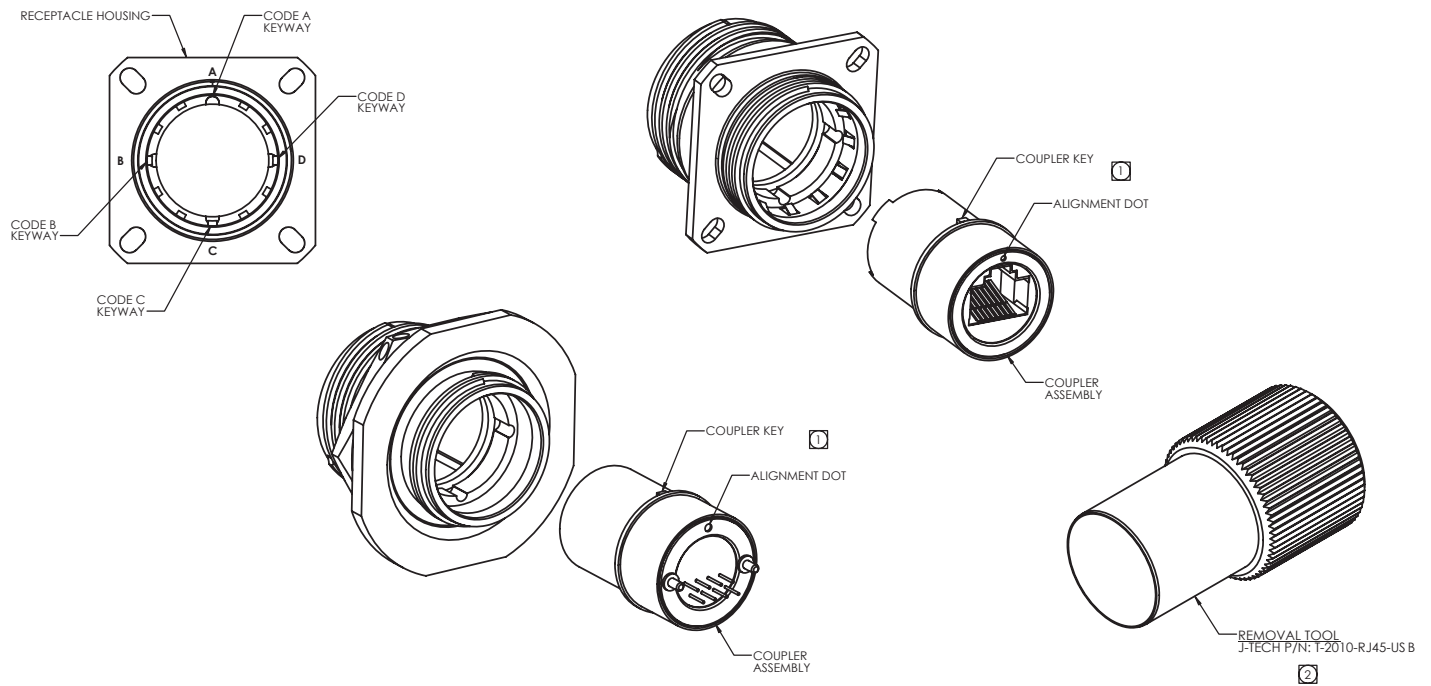
| SHELL SIZE | A | | B | | B | | C | | D | | E | |
|------------|-------|-------|------------------------|-------|-------------------------|-------|-------|------|----------------|---------------|-----------------|---------------|
| | (TP) | | For Back Mounting Min. | | For Front Mounting Min. | | ±.005 | ±.13 | +0.00 -.010 | +0.00 -.25 | +0.010 -.000 | +0.25 -.00 |
| | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm |
| 17 | 1.062 | 26.97 | 1.219 | 30.96 | 1.016 | 25.81 | .128 | 3.25 | 1.210 | 30.73 | 1.260 | 32.01 |
| 19 | 1.156 | 29.36 | 1.297 | 32.94 | 1.141 | 28.98 | .128 | 3.25 | 1.335 | 33.91 | 1.385 | 35.18 |

PCB Layout



JT93

Assembly Instructions



- ① ALIGN COUPLER KEY/ALIGNMENT DOT, WITH RECEPTACLE HOUSING KEYWAY CODE A, B,C, OR D ILLUSTRATED ON RECEPTACLE HOUSING. NEXT, PUSH COUPLER ASSEMBLY FIRMLY INTO PLACE UNTIL IT CLICKS.
- ② TO REMOVE COUPLER ASSEMBLY, USE J-TECH REMOVAL TOOL P/N: T-2010-RJ45-US B BY INSERTING TOOL OVER REAR COUPLER AND PUSHING FIRMLY ON BOTH TOOL AND ON FRONT OF COUPLER ASSEMBLY TO RELEASE.

Ruggedized RJ45 Receptacles with Backshell How to Order



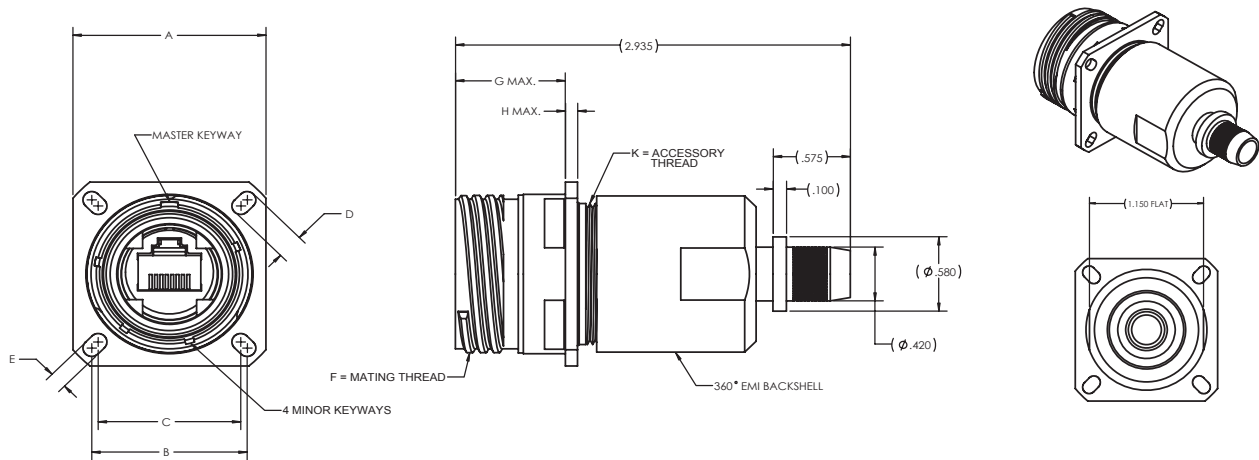
J-Tech Part Number Development

| | | | | | | | | | | |
|------------------------------|---|----------|-----------|----------|-----------|----------|----------|----------|----------|-------------|
| J-Tech Prefix | JT93 | R | FE | 5 | 19 | C | N | F | G | -XXX |
| Standard | | | | | | | | | | |
| | R = RJ45 | | | | | | | | | |
| Shell Type | | | | | | | | | | |
| | FE = Wall Mount Receptacle with 360 Emi Backshell | | | | | | | | | |
| | JE = Jam Nut Receptacle with 360 Emi Backshell | | | | | | | | | |
| | KE= Inline Receptacle with 360 Emi Backshell | | | | | | | | | |
| | FG= Wall Mount Receptacle with Ip68 Backshell | | | | | | | | | |
| | JP = Jam Nut Receptacle with Ip68 Backshell | | | | | | | | | |
| | KG= Inline Receptacle with Ip68 Backshell | | | | | | | | | |
| Category | | | | | | | | | | |
| | 5= CAT 5E | | | | | | | | | |
| | 6= CAT 6 | | | | | | | | | |
| Shell Size | | | | | | | | | | |
| | 17 = size 17 | | | | | | | | | |
| | 19 = size 19 | | | | | | | | | |
| Plating | | | | | | | | | | |
| | N = Electroless Nickel | | | | | | | | | |
| | C = Olive Drab Cadmium | | | | | | | | | |
| | B = Black Nickel, RoHS Compliant | | | | | | | | | |
| | Z = Black Zinc Nickel, RoHS Compliant | | | | | | | | | |
| Polarization (Keying) | | | | | | | | | | |
| | N = Normal (Included in part number) | | | | | | | | | |
| | A, B, C, D | | | | | | | | | |
| Rear Termination | | | | | | | | | | |
| | F = Female RJ45 (all styles) | | | | | | | | | |
| Grounding Options | | | | | | | | | | |
| | U = RJ45 Insert not grounded to shell | | | | | | | | | |
| | G = RJ45 Insert grounded to shell | | | | | | | | | |
| Modification Codes | | | | | | | | | | |
| | Consult Factory for Modificatons | | | | | | | | | |

JT93

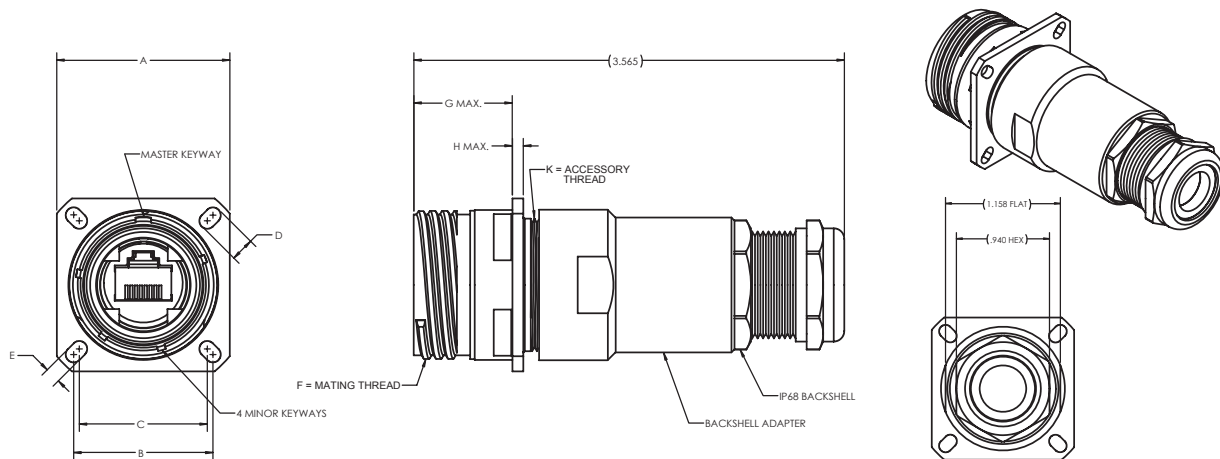


Wall Mount Receptacle Shell Type FE



| SHELL SIZE | A | | B | | C | | D | | E | | F | G | | H | | Accessory Thread Metric |
|------------|-------|-------|-------|-------|-------|-------|-------|------|-------|------|------------------------|------|-------|------|------|-------------------------|
| | ±.012 | ±.30 | (TP) | | (TP) | | ±.008 | ±.20 | ±.008 | ±.20 | Mating Thread Class 2A | MAX. | | MAX. | | |
| | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | | in. | mm | in. | mm | |
| 17 | 1.311 | 33.30 | 1.062 | 26.97 | .969 | 24.61 | .194 | 4.93 | .128 | 3.25 | 1.1875-.1P-0.3L | .820 | 20.83 | .098 | 2.50 | M28x1.0-6g 0.100r |
| 19 | 1.437 | 36.50 | 1.156 | 29.36 | 1.062 | 26.97 | .194 | 4.93 | .128 | 3.25 | 1.2500-.1P-0.3L | .820 | 20.83 | .098 | 2.50 | M28x1.0-6g 0.100r |

Jam Nut Receptacle Shell Type JE

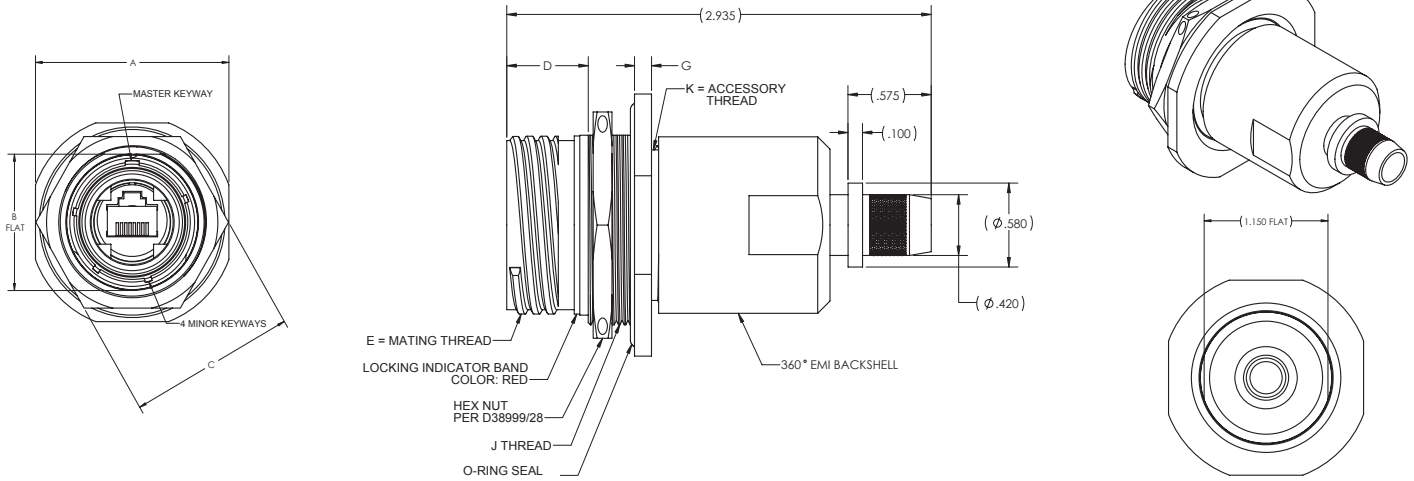


| SHELL SIZE | A | | B | | C | | D | | E | | F | G | | H | | Accessory Thread Metric |
|------------|-------|-------|-------|-------|-------|-------|-------|------|-------|------|------------------------|------|-------|------|------|-------------------------|
| | ±.012 | ±.30 | (TP) | | (TP) | | ±.008 | ±.20 | ±.008 | ±.20 | Mating Thread Class 2A | MAX. | | MAX. | | |
| | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | | in. | mm | in. | mm | |
| 17 | 1.311 | 33.30 | 1.062 | 26.97 | .969 | 24.61 | .194 | 4.93 | .128 | 3.25 | 1.1875-.1P-0.3L | .820 | 20.83 | .098 | 2.50 | M28x1.0-6g 0.100r |
| 19 | 1.437 | 36.50 | 1.156 | 29.36 | 1.062 | 26.97 | .194 | 4.93 | .128 | 3.25 | 1.2500-.1P-0.3L | .820 | 20.83 | .098 | 2.50 | M28x1.0-6g 0.100r |

Ruggedized RJ45 Receptacles with Backshell Shell Dimensions

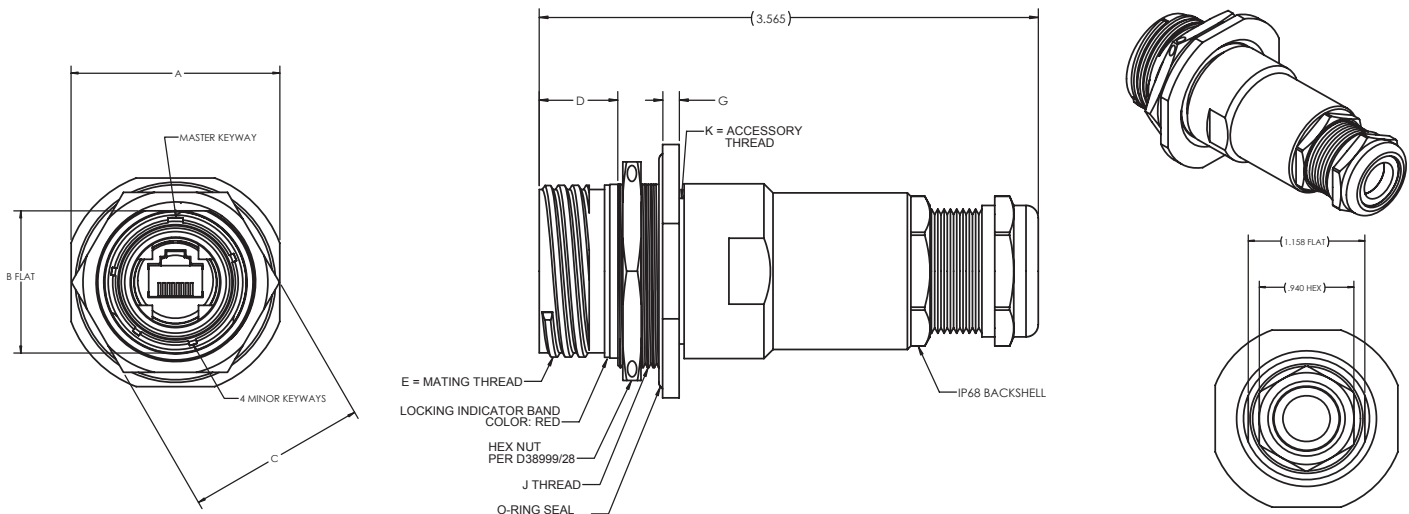


Jam Nut Receptacle Shell Type KE



| SHELL SIZE | A | | B | | C | | D | | E | G | | J | Accessory Thread Metric |
|------------|-------|-------|----------------|--------------|-------------|-------------|----------------|--------------|-----------------|------------------------|----------------|----------------|-------------------------|
| | ±.016 | ±.40 | +.004 -.006 | +.10 -.15 | HEX NUT | | +.024 -.000 | +.60 -.00 | | Mating Thread Class 2A | +.035 -.004 | | |
| | in. | mm | in. | mm | in. | mm | in. | mm | in. | | mm | Jam Nut Thread | |
| 17 | 1.626 | 41.30 | 1.187 | 30.15 | 1.457/1.422 | 37.00/36.12 | .555 | 14.10 | 1.1875-.1P-.03L | .087 | 2.20 | M32x1-6g .100r | M28x1.0-6g 0.100r |
| 19 | 1.811 | 46.00 | 1.312 | 33.32 | 1.614/1.546 | 41.00/39.26 | .555 | 14.10 | 1.2500-.1P-.03L | .118 | 3.00 | M35x1-6g .100r | M28x1.0-6g 0.100r |

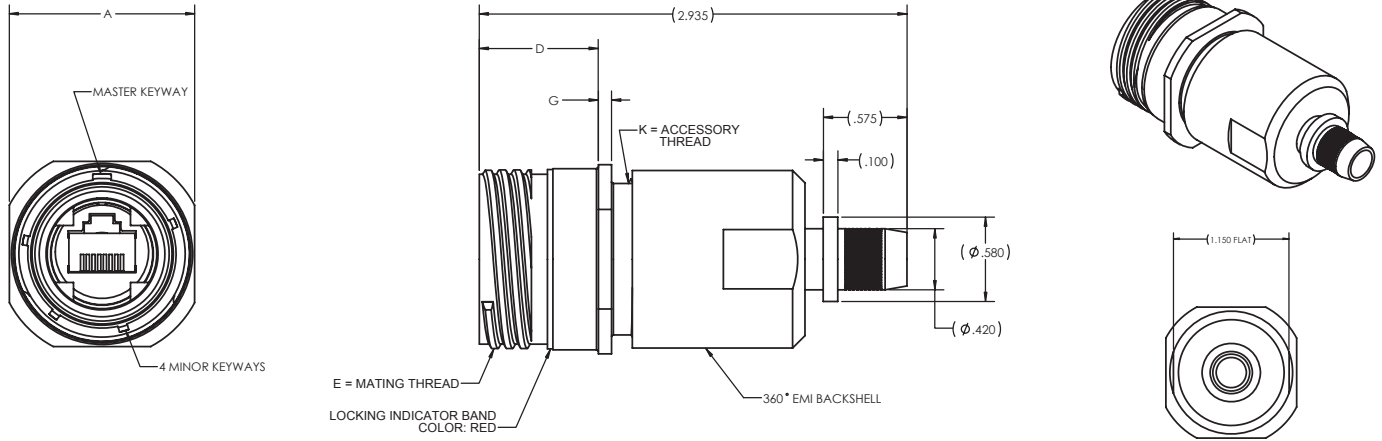
Jam Nut Receptacle Shell Type FG



| SHELL SIZE | A | | B | | C | | D | | E | G | | J | Accessory Thread Metric |
|------------|-------|-------|----------------|--------------|-------------|-------------|----------------|--------------|-----------------|------------------------|----------------|----------------|-------------------------|
| | ±.016 | ±.40 | +.004 -.006 | +.10 -.15 | HEX NUT | | +.024 -.000 | +.60 -.00 | | Mating Thread Class 2B | +.035 -.004 | | |
| | in. | mm | in. | mm | in. | mm | in. | mm | in. | | mm | Jam Nut Thread | |
| 17 | 1.626 | 41.30 | 1.187 | 30.15 | 1.457/1.422 | 37.00/36.12 | .555 | 14.10 | 1.1875-.1P-.03L | .087 | 2.20 | M32x1-6g .100r | M28x1.0-6g 0.100r |
| 19 | 1.811 | 46.00 | 1.312 | 33.32 | 1.614/1.546 | 41.00/39.26 | .555 | 14.10 | 1.2500-.1P-.03L | .118 | 3.00 | M35x1-6g .100r | M28x1.0-6g 0.100r |

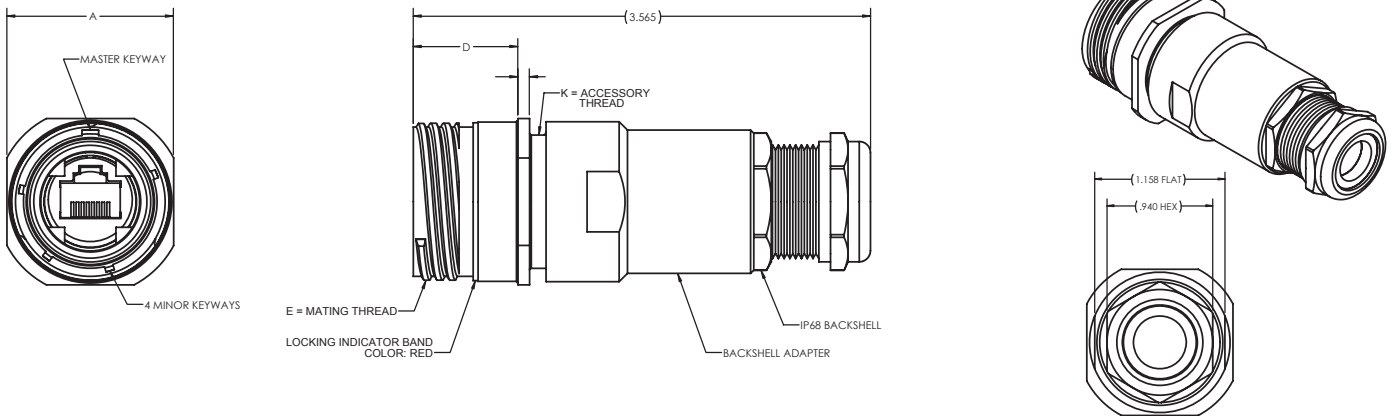
JT93

Inline Receptacle Shell Type JP



| SHELL SIZE | A | | D | | F | G | | K | | |
|------------|-------|-------|----------------|--------------|------------------|---------------------------|----------------|-------------------|--------------|----------------------------|
| | ±.016 | ±.40 | +.024 -.000 | +.60 -.00 | | Mating Thread Class 2A | +.035 -.004 | | +.90 -.10 | Accessory Thread Metric |
| | in. | mm | in. | mm | | | in. | | mm | |
| 17 | 1.248 | 31.70 | .817 | 20.75 | 1.1875-0.1P-0.3L | .090 | 2.29 | M28x1.0-6g 0.100r | | |
| 19 | 1.300 | 33.02 | .817 | 20.75 | 1.2500-0.1P-0.3L | .090 | 2.29 | M28x1.0-6g 0.100r | | |

Inline Receptacle Shell Type KG



| SHELL SIZE | A | | D | | F | G | | K | | |
|------------|-------|-------|----------------|--------------|------------------|---------------------------|----------------|-------------------|--------------|----------------------------|
| | ±.016 | ±.40 | +.024 -.000 | +.60 -.00 | | Mating Thread Class 2A | +.035 -.004 | | +.90 -.10 | Accessory Thread Metric |
| | in. | mm | in. | mm | | | in. | | mm | |
| 17 | 1.248 | 31.70 | .817 | 20.75 | 1.1875-0.1P-0.3L | .090 | 2.29 | M28x1.0-6g 0.100r | | |
| 19 | 1.300 | 33.02 | .817 | 20.75 | 1.2500-0.1P-0.3L | .090 | 2.29 | M28x1.0-6g 0.100r | | |

Ruggedized RJ45 Receptacles with Backshell Polarizations



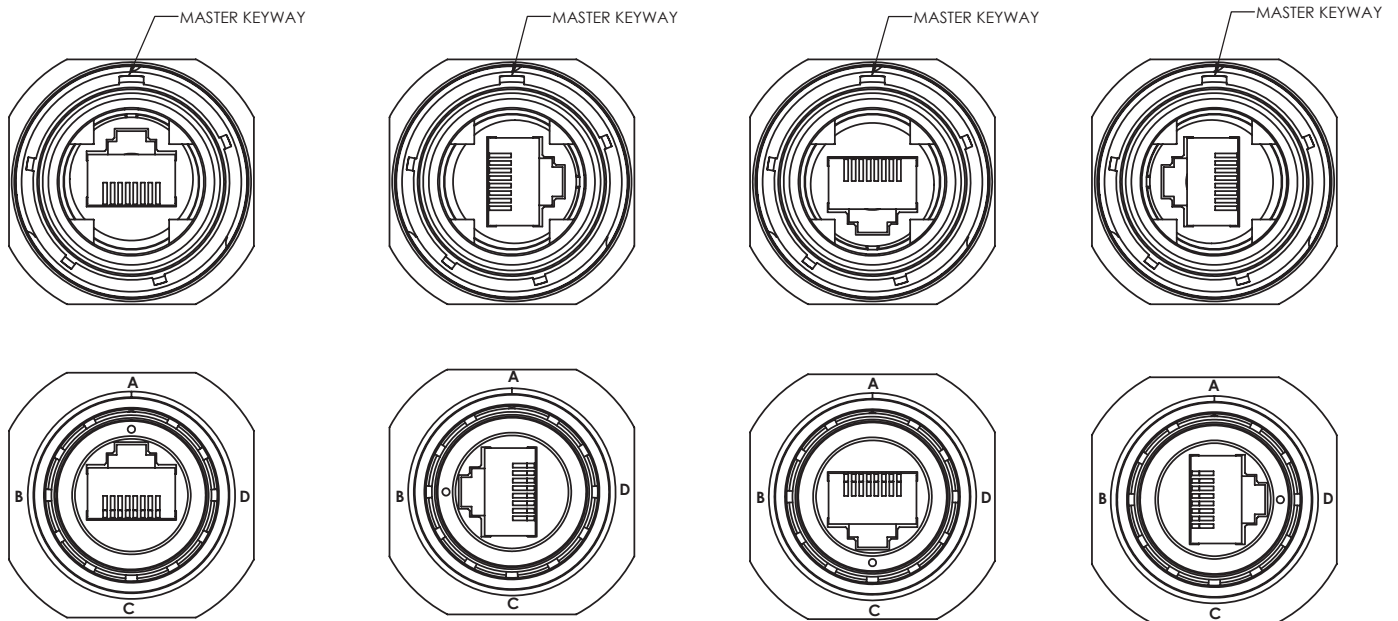
Shell Polarization

CODE A

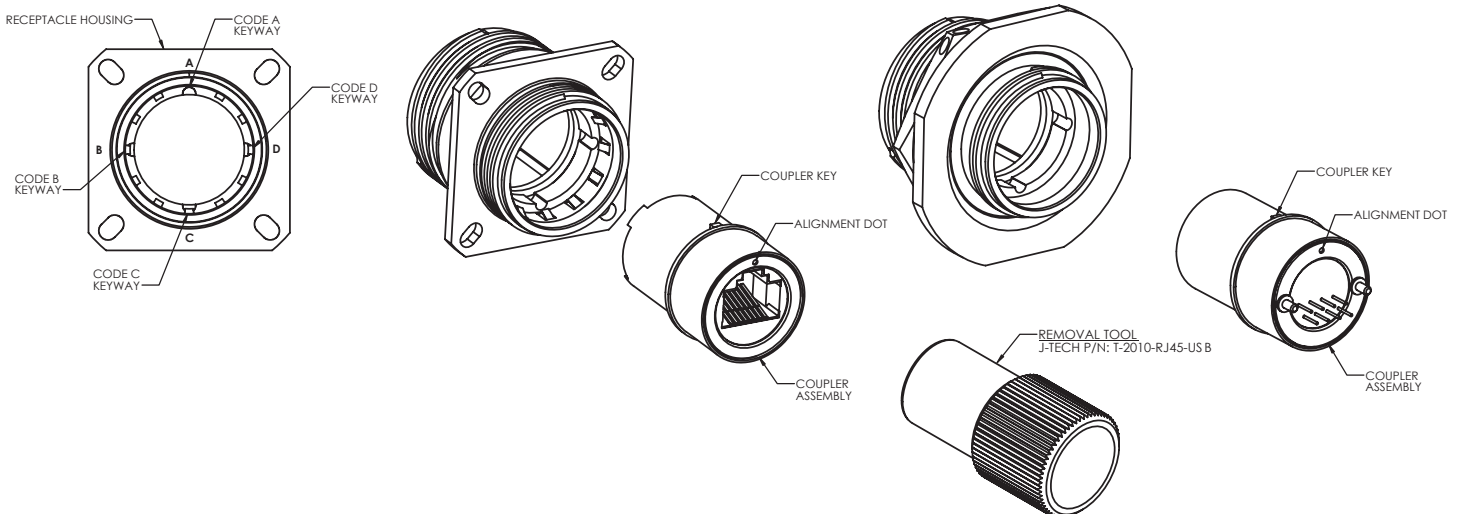
CODE B

CODE C

CODE D



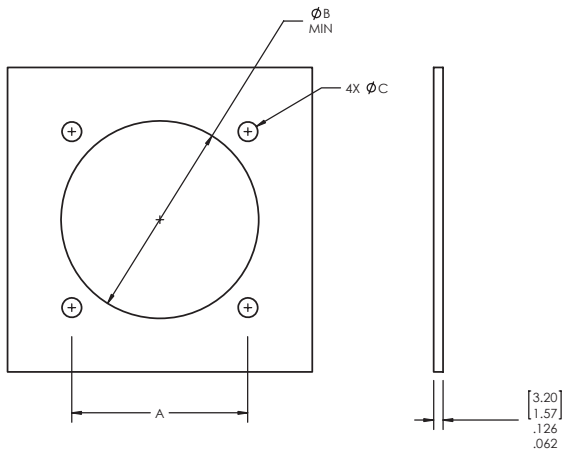
JT93



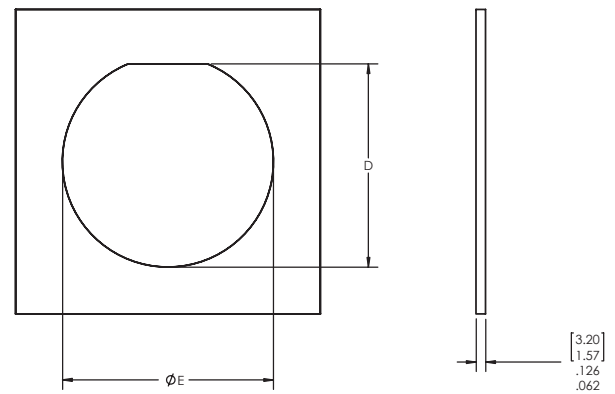


Panel Cutouts

WALL MOUNT



JAM NUT

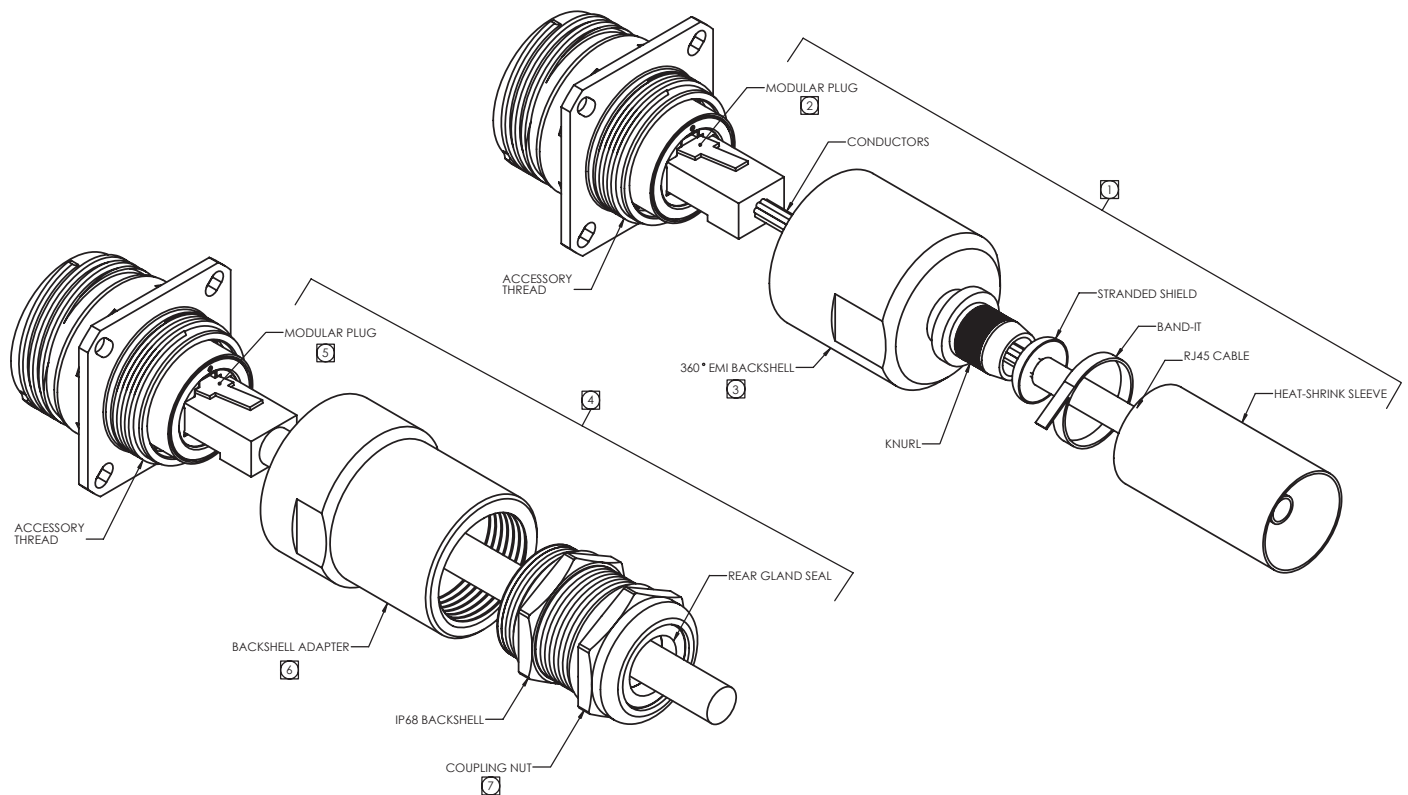


| SHELL SIZE | A | | B | | B | | C | | D | | E | |
|---------------|-------|-------|---------------------------|-------|----------------------------|-------|-----------|----------|--------------------|------------------|--------------------|------------------|
| | (TP) | | For Back Mounting Min. | | For Front Mounting Min. | | $\pm.005$ | $\pm.13$ | $+.000$ $-.010$ | $+.00$ $-.25$ | $+.010$ $-.000$ | $+.25$ $-.00$ |
| | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm |
| 17 | 1.062 | 26.97 | 1.219 | 30.96 | 1.016 | 25.81 | .128 | 3.25 | 1.210 | 30.73 | 1.260 | 32.01 |
| 19 | 1.156 | 29.36 | 1.297 | 32.94 | 1.141 | 28.98 | .128 | 3.25 | 1.335 | 33.91 | 1.385 | 35.18 |

Ruggedized RJ45 Receptacles with Backshell Assembly Instructions



Assembly Instructions



- ① **TERMINATION INSTRUCTIONS FOR 360 ° EMI BACKSHELL:** SLIDE THE HEAT SHRINK SLEEVE FIRST ALONG WITH THE 360 ° EMI BACKSHELL OVER THE RJ45 CABLE PRIOR TO EXPOSING SHIELD. STRIP CABLE JACKET BACK BY EXPOSING STRANDED SHIELD, AND PUSH THE CONDUCTORS THROUGH THE I.D. OF THE 360 ° EMI BACKSHELL. TERMINATE THE CONDUCTORS TO THE MODULAR PLUG USING THE APPROPRIATE CRIMP TOOL.
- ② POSITION THE MODULAR PLUG INTO THE RJ45 JACK UNTIL IT SEATS INTO PLACE.
- ③ THREAD THE 360 ° EMI BACKSHELL FIRMLY BY HAND TO THE REAR ACCESSORY THREADS OF THE RECEPTACLE HOUSING. WRAP THE STRANDED SHIELD AROUND THE KNURL AREA OF THE BACKSHELL. USE THE BAND-IT TO SECURE TIGHTLY TO SHELL. NOW SLIDE THE HEAT SHRINK SLEEVE OVER THE BAND-IT AND HEAT SHRINK INTO PLACE.
- ④ **TERMINATION INSTRUCTIONS FOR IP68 BACKSHELL:** THREAD THE IP68 BACKSHELL TO THE BACKSHELL ADAPTER FIRMLY TO THE THREADS. NEXT, INSTALL THE TERMINATED RJ45 MODULAR PLUG THROUGH THE REAR GLAND SEAL.
- ⑤ POSITION THE MODULAR PLUG INTO THE RJ45 JACK UNTIL IT SEATS INTO PLACE.
- ⑥ THREAD THE BACKSHELL ADAPTER TO THE REAR ACCESSORY THREADS OF THE RECEPTACLE HOUSING.
- ⑦ TURN COUPLING NUT UNTIL REAR GLAND SEAL SQUEEZES TIGHTLY AGAINST RJ45 CABLE JACKET.

JT93



J-Tech Part Number Development

| | | | | | | | | | | |
|---|-------------|----------|-----------|----------|-----------|----------|----------|----------|----------|-------------|
| J-Tech Prefix | JT93 | R | PE | 5 | 17 | C | N | C | N | -XXX |
| Standard | | | | | | | | | | |
| R = RJ45 | | | | | | | | | | |
| Shell Type | | | | | | | | | | |
| PE = EMI/RFI plug with 360 Backshell | | | | | | | | | | |
| PG = EMI/RFI plug with IP68 Backshell | | | | | | | | | | |
| Category | | | | | | | | | | |
| 5= CAT 5E | | | | | | | | | | |
| 6= CAT 6 | | | | | | | | | | |
| Shell Size | | | | | | | | | | |
| 17 = size 17 | | | | | | | | | | |
| 19 = size 19 | | | | | | | | | | |
| Plating | | | | | | | | | | |
| N = Electroless Nickel | | | | | | | | | | |
| C = Olive Drab Cadmium | | | | | | | | | | |
| B = Black Nickel, RoHS Compliant | | | | | | | | | | |
| Z = Black Zinc Nickel, RoHS Compliant | | | | | | | | | | |
| Polarization (Keying) | | | | | | | | | | |
| N = Normal (Included in part number) | | | | | | | | | | |
| A, B, C, D | | | | | | | | | | |
| Rear Termination | | | | | | | | | | |
| C = Cable Termination | | | | | | | | | | |
| Grounding Options | | | | | | | | | | |
| N = Plug | | | | | | | | | | |
| Modification Codes | | | | | | | | | | |
| M341 = Metal PG Gland | | | | | | | | | | |
| Consult Factory for Modificatons | | | | | | | | | | |

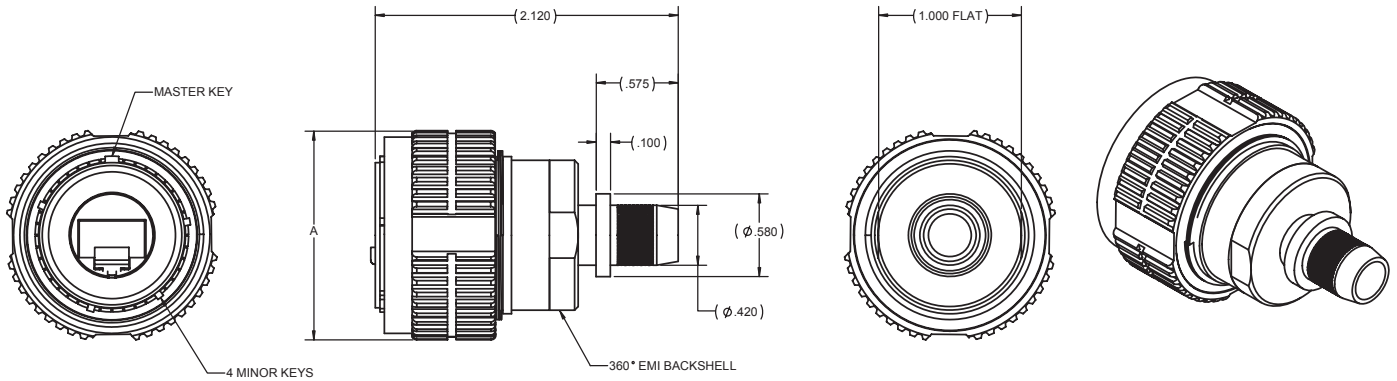
JT93



Ruggedized RJ45 Plug Connectors Shell Dimensions

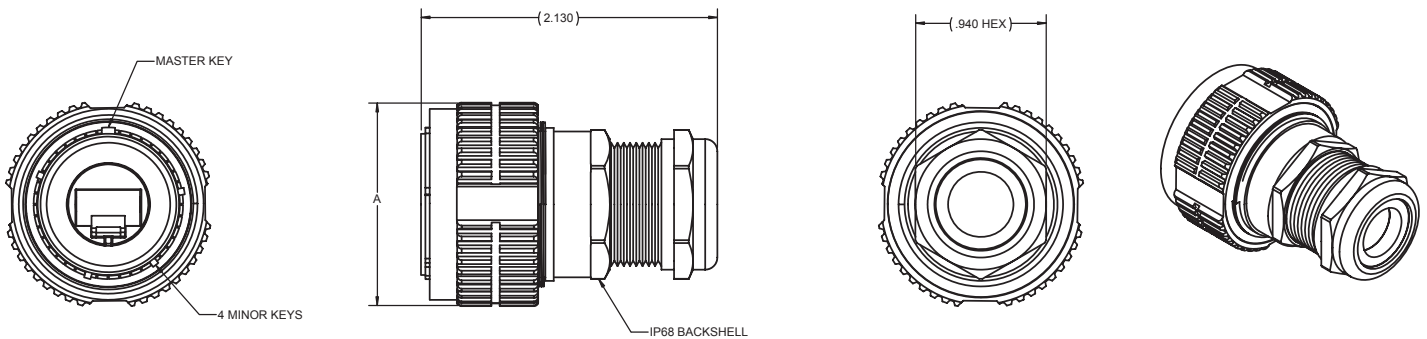


Plug Connector Shell Type PE



| SHELL SIZE | A | |
|------------|-------|-------|
| | MAX | |
| | in. | mm |
| 17 | 1.406 | 35.70 |
| 19 | 1.516 | 38.50 |

Plug Connector Shell Type PG

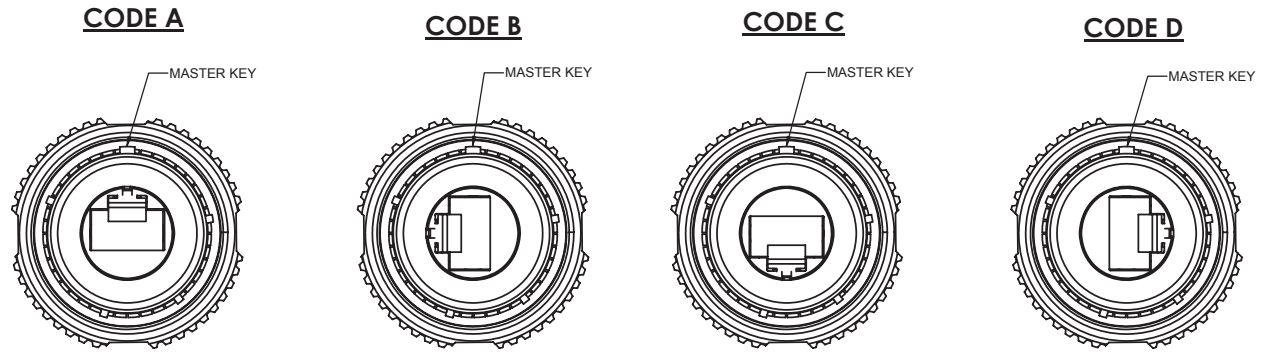


| SHELL SIZE | A | |
|------------|-------|-------|
| | MAX | |
| | in. | mm |
| 17 | 1.406 | 35.70 |
| 19 | 1.516 | 38.50 |

JT93



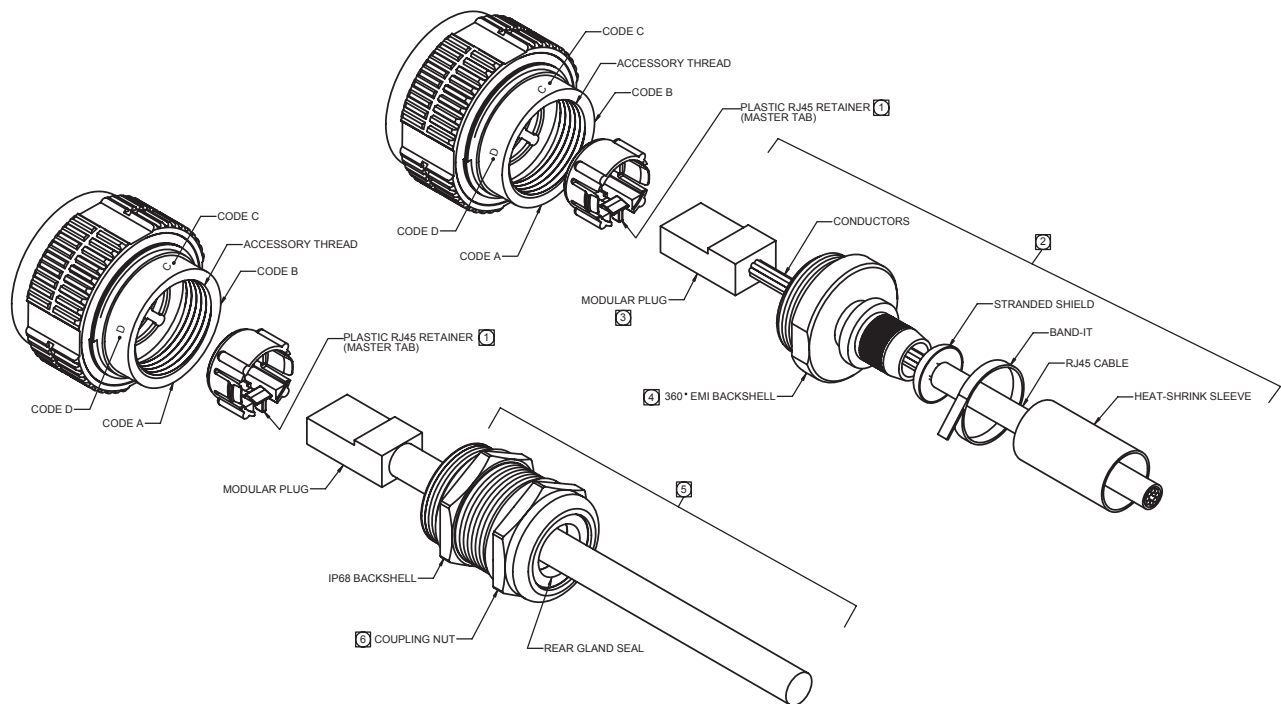
Shell Polarization



Ruggedized RJ45 Plug Connectors Assembly Instructions



Assembly Instructions

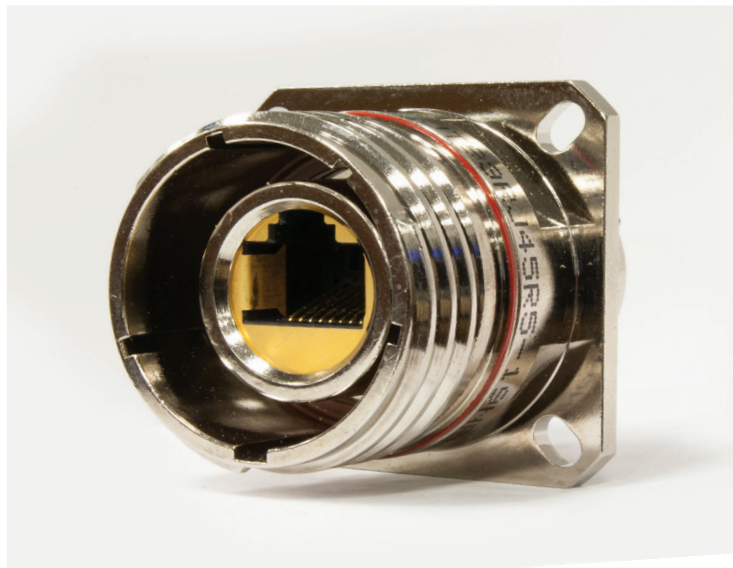


- 1 POSITION THE PLASTIC RJ45 RETAINER MASTER TAB WITH PLUG HOUSING KEYWAYS TO THE DESIRED CODE A, B, C, OR D ILLUSTRATED ON SHELL HOUSING AND ON SHEET 3. NEXT, PUSH THE PLASTIC RJ45 RETAINER FIRMLY INTO PLACE UNTIL IT CLICKS.
- 2 TERMINATION INSTRUCTIONS FOR 360° EMI BACKSHELL: SLIDE THE HEAT SHRINK SLEEVE FIRST ALONG WITH THE 360° EMI BACKSHELL OVER THE RJ45 CABLE PRIOR TO EXPOSING SHIELD. STRIP CABLE JACKET BACK BY EXPOSING STRANDED SHIELD, AND PUSH THE CONDUCTORS THROUGH THE I.D. OF THE 360° EMI BACKSHELL. TERMINATE THE CONDUCTORS TO THE MODULAR PLUG USING THE APPROPRIATE CRIMP TOOL.
- 3 POSITION THE MODULAR PLUG INTO THE PLASTIC RJ45 RETAINER UNTIL IT SNAPS INTO PLACE.
- 4 THREAD THE 360° EMI BACKSHELL FIRMLY BY HAND TO THE ACCESSORY THREADS OF THE PLUG HOUSING. WRAP THE STRANDED SHIELD AROUND THE KNURL AREA OF THE BACKSHELL. USE THE BAND-IT TO SECURE TIGHTLY TO SHELL. NOW SLIDE THE HEAT SHRINK SLEEVE OVER THE BAND-IT AND HEAT SHRINK INTO PLACE.
- 5 TERMINATION INSTRUCTIONS FOR IP68 BACKSHELL:
INSTALL THE TERMINATED RJ45 MODULAR PLUG THROUGH THE REAR GLAND SEAL. POSITION THE MODULAR PLUG INTO THE PLASTIC RJ45 RETAINER UNTIL IT SNAPS INTO PLACE. NEXT, THREAD THE IP68 BACKSHELL FIRMLY TO THE ACCESSORY THREADS OF THE PLUG HOUSING.
- 6 TURN COUPLING NUT UNTIL REAR GLAND SEAL SQUEEZES TIGHTLY AGAINST RJ45 CABLE JACKET.

J-Tech Part Number Development

| J-Tech Prefix | JT93 | R | XX | X | XX | X | N | T | X | -XXX |
|--|------|---|----|---|----|---|---|---|---|------|
| Standard | | | | | | | | | | |
| R = RJ45 | | | | | | | | | | |
| Shell Type | | | | | | | | | | |
| FN = Wall Mount Receptacle, no Backshell | | | | | | | | | | |
| JN = Jam Nut Receptacle, no Backshell | | | | | | | | | | |
| Category | | | | | | | | | | |
| 5 = CAT 5E | | | | | | | | | | |
| 6 = CAT 6 | | | | | | | | | | |
| Shell Size | | | | | | | | | | |
| 17 = size 17 | | | | | | | | | | |
| 19 = size 19 | | | | | | | | | | |
| Plating | | | | | | | | | | |
| N = Electroless Nickel | | | | | | | | | | |
| C = Olive Drab Cadmium | | | | | | | | | | |
| B = Black Nickel, RoHS Compliant | | | | | | | | | | |
| Z = Black Zinc Nickel, RoHS Compliant | | | | | | | | | | |
| Polarization (Keying) | | | | | | | | | | |
| N = Normal (Included in part number) | | | | | | | | | | |
| A, B, C, D | | | | | | | | | | |
| Rear Termination | | | | | | | | | | |
| T = Through Bulkhead Receptacle | | | | | | | | | | |
| Grounding Options | | | | | | | | | | |
| U = RJ45 Insert not grounded to shell | | | | | | | | | | |
| G = RJ45 Insert grounded to shell | | | | | | | | | | |
| Modification Codes | | | | | | | | | | |
| Consult Factory for Modificatons | | | | | | | | | | |

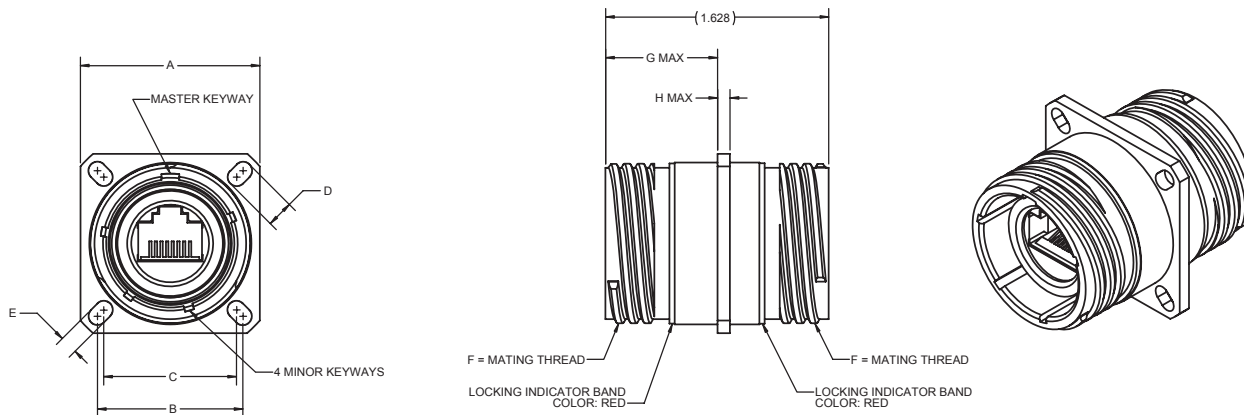
JT93



Ruggedized RJ45 Through Bulkhead Receptacles Shell Dimensions

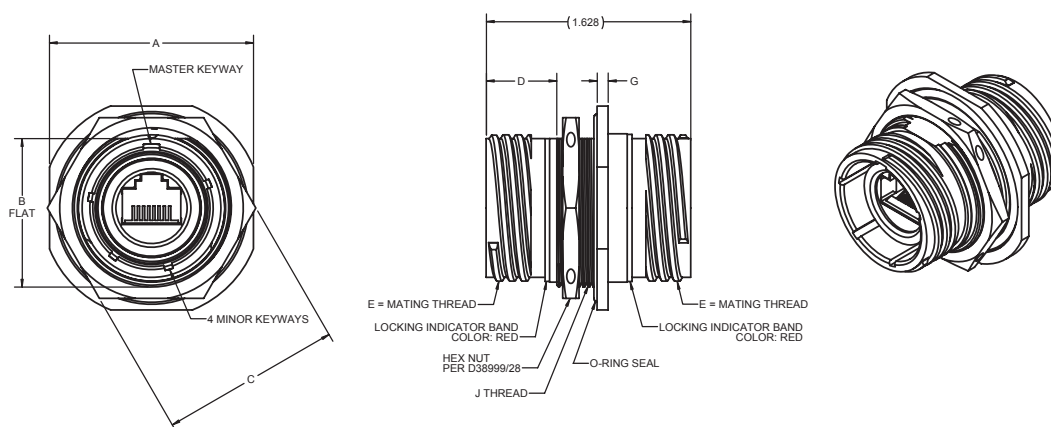


Bulkhead Receptacle Connector Shell Type FN



| SHELL SIZE | A | | B | | C | | D | | E | | F | G | | H | |
|------------|-------|-------|-------|-------|-------|-------|-------|------|-------|------|----------------|---------------------------|-------|------|------|
| | ±.012 | ±.30 | (TP) | | (TP) | | ±.008 | ±.20 | ±.008 | ±.20 | | Mating Thread Class 2A | MAX. | | MAX. |
| | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | | mm | in. | mm |
| 17 | 1.311 | 33.30 | 1.062 | 26.97 | .969 | 24.61 | .194 | 4.93 | .128 | 3.25 | 1.1875-1P-0.3L | .820 | 20.83 | .098 | 2.50 |
| 19 | 1.437 | 36.50 | 1.156 | 29.36 | 1.062 | 26.97 | .194 | 4.93 | .128 | 3.25 | 1.2500-1P-0.3L | .820 | 20.83 | .098 | 2.50 |

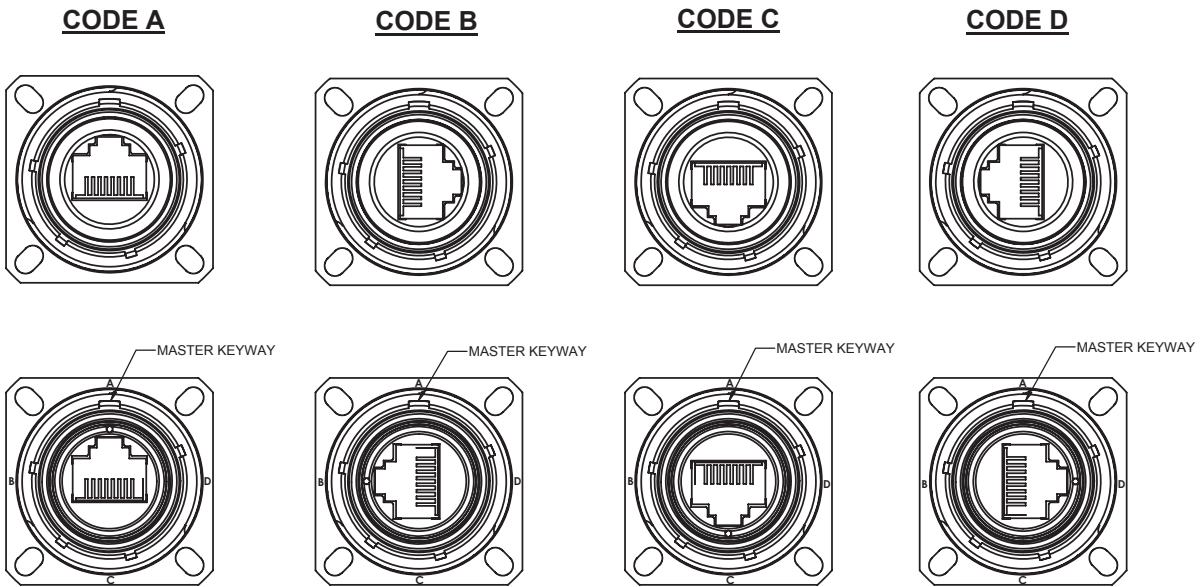
Jam Nut Receptacle Shell Type JN



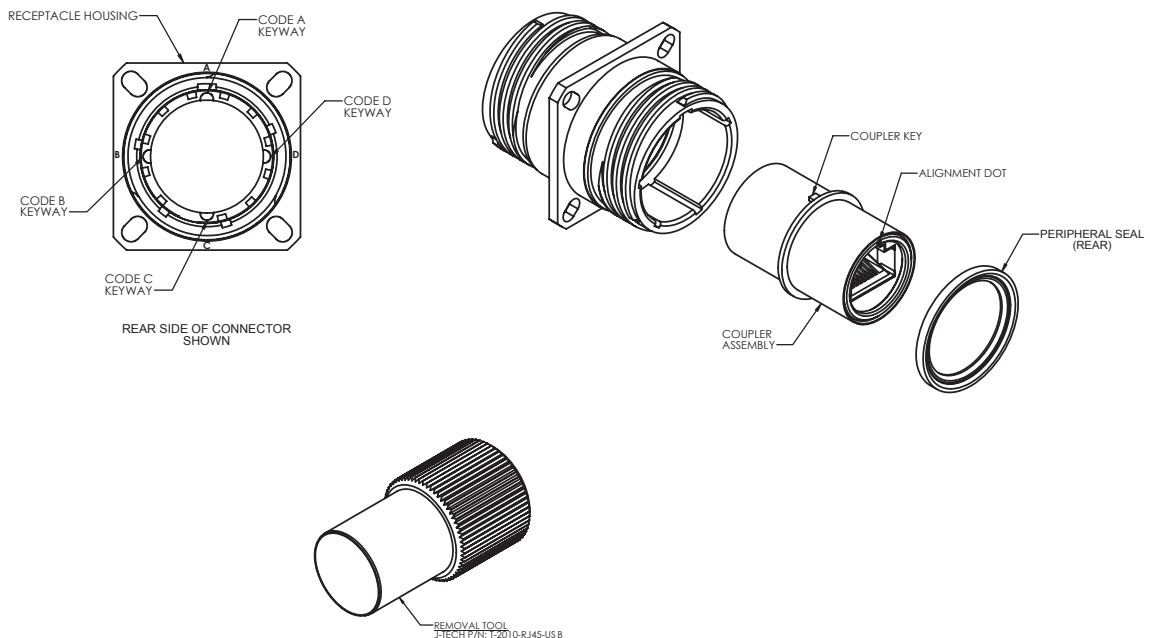
| SHELL SIZE | A | | B | | C | | D | | E | G | | J | |
|------------|-------|-------|------------------|----------------|-------------|-------------|------------------|----------------|------------------|---------------------------|------------------|-----------------|----------------|
| | ±.016 | ±.40 | + .004 - .006 | + .10 - .15 | HEX NUT | | + .024 - .000 | + .60 - .00 | | Mating Thread Class 2B | + .035 - .004 | + .90 - .10 | Jam Nut Thread |
| | in. | mm | in. | mm | in. | mm | in. | mm | in. | | mm | | |
| 17 | 1.626 | 41.30 | 1.187 | 30.15 | 1.457/1.422 | 37.00/36.12 | .555 | 14.10 | 1.1875-0.1P-0.3L | .087 | 2.20 | M32x1-6g 0.100R | |
| 19 | 1.811 | 46.00 | 1.312 | 33.32 | 1.614/1.546 | 41.00/39.26 | .555 | 14.10 | 1.2500-0.1P-0.3L | .118 | 3.00 | M35x1-6g 0.100R | |

JT93

Shell Polarization



Assembly instructions for all styles



Ruggedized USB Receptacles

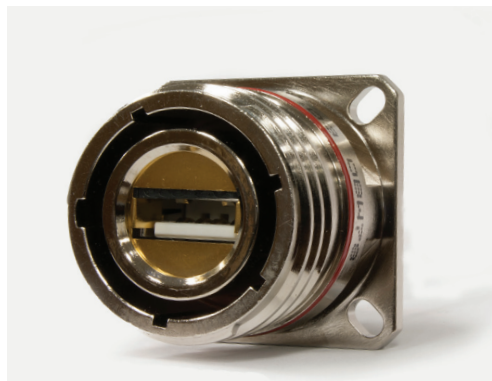
How to Order



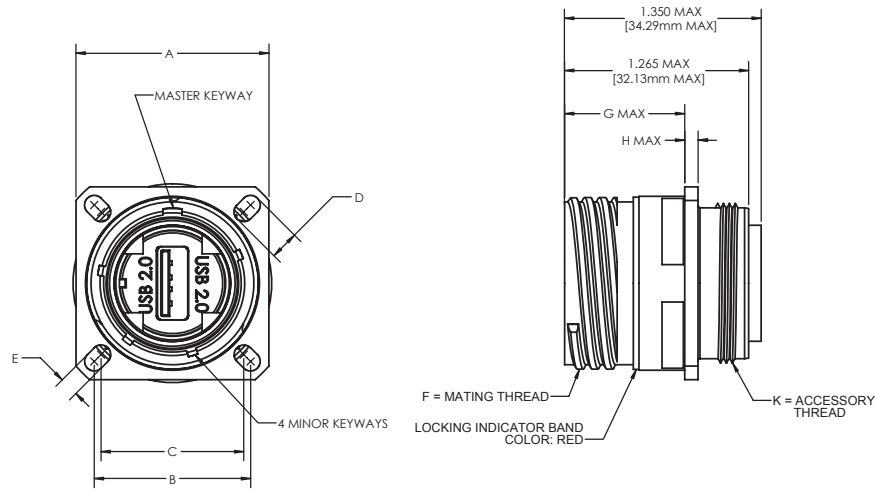
J-Tech Part Number Development

| J-Tech Prefix | JT93 | U | FN | 2 | 15 | C | N | P | G | -XXX |
|--|------|---|----|---|----|---|---|---|---|------|
| Standard | | | | | | | | | | |
| U = USB-A | | | | | | | | | | |
| Shell Type | | | | | | | | | | |
| FN = Wall Mount Receptacle, no Backshell | | | | | | | | | | |
| JN = Jam Nut Receptacle, no Backshell | | | | | | | | | | |
| KN = Inline Receptacle, no Backshell | | | | | | | | | | |
| Category | | | | | | | | | | |
| 2 = USB 2.0 | | | | | | | | | | |
| Shell Size | | | | | | | | | | |
| 15 = size 15 | | | | | | | | | | |
| 17 = size 17 | | | | | | | | | | |
| Plating | | | | | | | | | | |
| N = Electroless Nickel | | | | | | | | | | |
| C = Olive Drab Cadmium | | | | | | | | | | |
| B = Black Nickel, RoHS Compliant | | | | | | | | | | |
| Z = Black Zinc Nickel, RoHS Compliant | | | | | | | | | | |
| Polarization (Keying) | | | | | | | | | | |
| N = Normal (Included in part number) | | | | | | | | | | |
| A, B, C, D | | | | | | | | | | |
| Rear Termination | | | | | | | | | | |
| P = PC Tail (Shell Styles FN, JN & KN only) | | | | | | | | | | |
| F = Female (All Styles) | | | | | | | | | | |
| Grounding Options | | | | | | | | | | |
| U = USB Insert not grounded to shell | | | | | | | | | | |
| G = USB Insert grounded to shell | | | | | | | | | | |
| Modification Codes | | | | | | | | | | |
| Consult Factory for Modificatons | | | | | | | | | | |

JT93

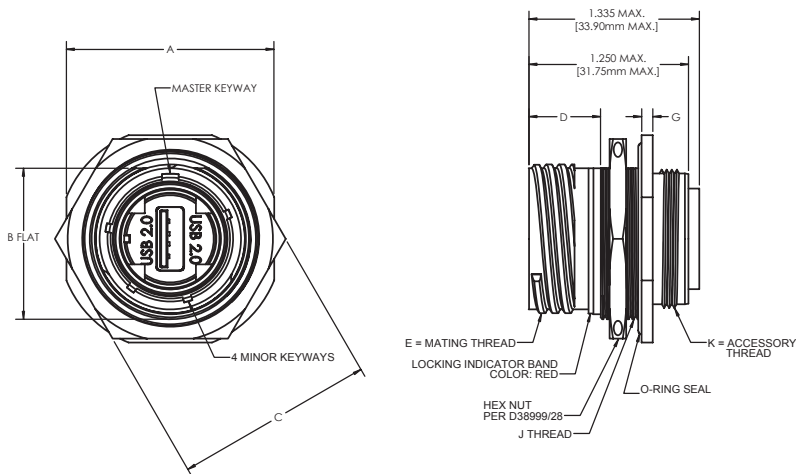


Wall Mount Receptacle Shell Type FN



| SHELL SIZE | A | | B | | C | | D | | E | | F | G | | H | | Accessory Thread Metric |
|------------|-------|-------|-------|-------|------|-------|-------|------|-------|------|------------------------|------|-------|------|------|-------------------------|
| | ±.012 | ±.30 | (TP) | | (TP) | | ±.008 | ±.20 | ±.008 | ±.20 | Mating Thread Class 2A | MAX. | | MAX. | | |
| | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | | in. | mm | in. | mm | |
| 15 | 1.220 | 31.00 | .969 | 24.61 | .906 | 23.01 | .173 | 4.39 | .128 | 3.25 | 1.0000-.1P-0.3L | .820 | 20.83 | .098 | 2.50 | M28x1.0-6g 0.100r |
| 17 | 1.311 | 33.30 | 1.062 | 26.97 | .969 | 24.61 | .194 | 4.93 | .128 | 3.25 | 1.1875-.1P-0.3L | .820 | 20.83 | .098 | 2.50 | M28x1.0-6g 0.100r |

Jam Nut Receptacle Shell Type JN

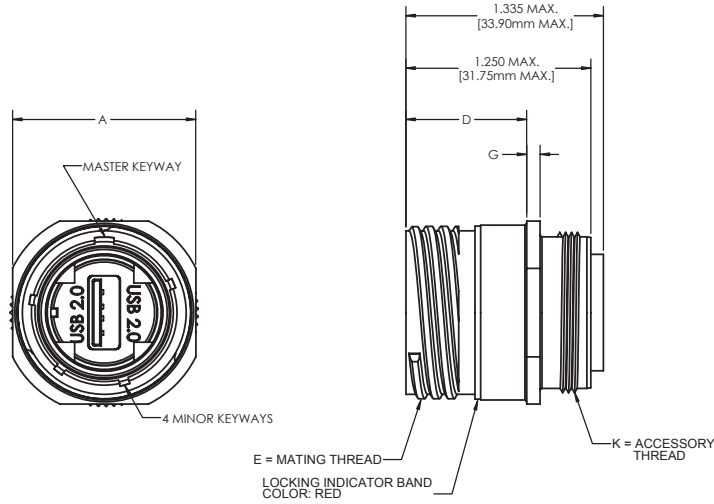


| SHELL SIZE | A | | B | | C | | D | | E | G | | J | Accessory Thread Metric |
|------------|-------|-------|------------------|----------------|-------------|-------------|------------------|----------------|------------------------|------------------|----------------|-----------------|-------------------------|
| | ±.016 | ±.40 | + .004 - .006 | + .10 - .15 | HEX NUT | | + .024 - .000 | + .60 - .00 | Mating Thread Class 2B | + .035 - .004 | + .90 - .10 | Jam Nut Thread | |
| | in. | mm | in. | mm | in. | mm | in. | mm | | in. | mm | | |
| 15 | 1.500 | 38.10 | 1.062 | 26.97 | 1.417/1.296 | 36.00/32.91 | .555 | 14.10 | 1.0000-0.1P-0.3L | .087 | 2.20 | M28x1-6g 0.100R | M28x1.0-6g 0.100r |
| 17 | 1.626 | 41.30 | 1.187 | 30.15 | 1.457/1.422 | 37.00/36.12 | .555 | 14.10 | 1.1875-0.1P-0.3L | .087 | 2.20 | M32x1-6g 0.100R | M28x1.0-6g 0.100r |

Ruggedized USB Receptacles Shell Dimensions

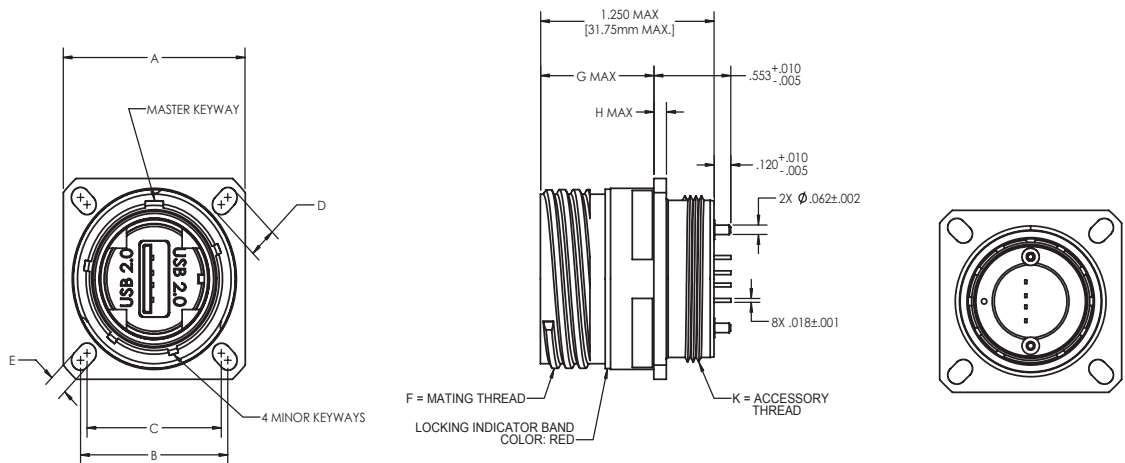


Inline Receptacle Shell Type KN



| SHELL SIZE | A | | D | | E | | G | | K |
|------------|-------|-------|----------------|--------------|---------------------------|--|----------------|--------------|-------------------|
| | ±.016 | ±.40 | +.024 -.000 | +.60 -.00 | Mating Thread Class 2B | | +.035 -.004 | +.90 -.10 | |
| | in. | mm | in. | mm | | | in. | mm | |
| 15 | 1.100 | 27.94 | .817 | 20.75 | 1.0000-0.1P-0.3L | | .090 | 2.29 | M28x1.0-6g 0.100r |
| 17 | 1.248 | 31.70 | .817 | 20.75 | 1.1875-0.1P-0.3L | | .090 | 2.29 | M28x1.0-6g 0.100r |

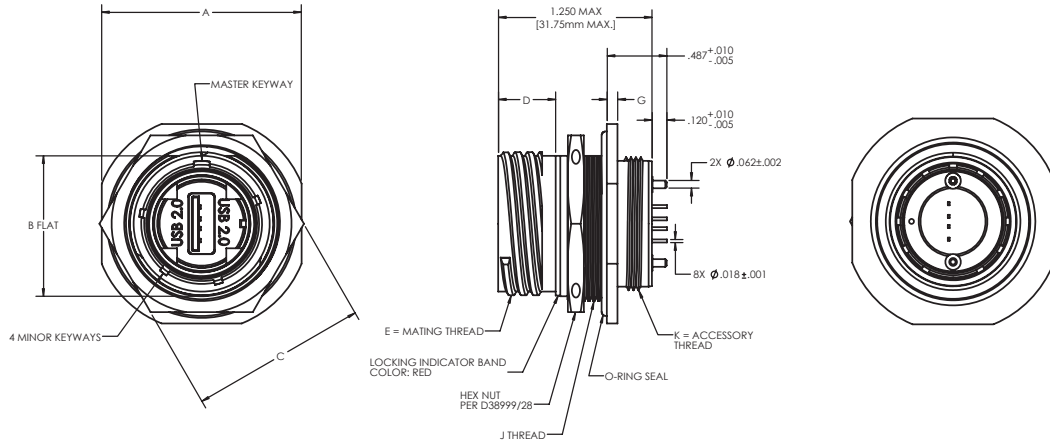
Wall Mount Receptacle with PC Tail Shell Type FN



| SHELL SIZE | A | | B | | C | | D | | E | | F | | G | | H | | K |
|------------|-------|-------|-------|-------|------|-------|-------|------|-------|------|---------------------------|--|------|-------|------|------|-------------------|
| | ±.012 | ±.30 | (TP) | | (TP) | | ±.008 | ±.20 | ±.008 | ±.20 | Mating Thread Class 2A | | MAX. | | MAX. | | |
| | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | | | in. | mm | in. | mm | |
| 15 | 1.220 | 31.00 | .969 | 24.61 | .906 | 23.01 | .173 | 4.39 | .128 | 3.25 | 1.0000-1P-0.3L | | .820 | 20.83 | .098 | 2.50 | M28x1.0-6g 0.100r |
| 17 | 1.311 | 33.30 | 1.062 | 26.97 | .969 | 24.61 | .194 | 4.93 | .128 | 3.25 | 1.1875-1P-0.3L | | .820 | 20.83 | .098 | 2.50 | M28x1.0-6g 0.100r |

JT93

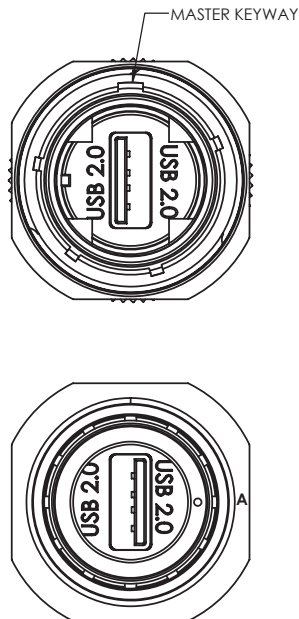
Jam Nut Receptacle with PC Tail Shell Type JN



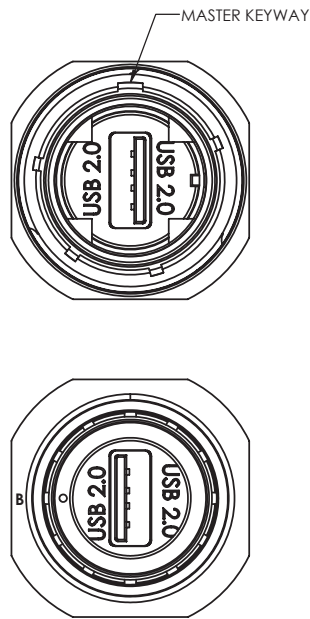
| SHELL SIZE | A | | B | | C | | D | | E | G | | J | Accessory Thread Metric |
|------------|-----------|----------|--------------------|------------------|-------------|-------------|--------------------|------------------|------------------------|--------------------|------------------|-----------------|-------------------------|
| | $\pm.016$ | $\pm.40$ | $+.004$ $-.006$ | $+.10$ $-.15$ | HEX NUT | | $+.024$ $-.000$ | $+.60$ $-.00$ | Mating Thread Class 2B | $+.035$ $-.004$ | $+.90$ $-.10$ | Jam Nut Thread | |
| | in. | mm | in. | mm | in. | mm | in. | mm | | in. | mm | | |
| 15 | 1.500 | 38.10 | 1.062 | 26.97 | 1.417/1.296 | 36.00/32.91 | .555 | 14.10 | 1.0000-0.1P-0.3L | .087 | 2.20 | M28x1-6g 0.100R | M28x1.0-6g 0.100r |
| 17 | 1.626 | 41.30 | 1.187 | 30.15 | 1.457/1.422 | 37.00/36.12 | .555 | 14.10 | 1.1875-0.1P-0.3L | .087 | 2.20 | M32x1-6g 0.100R | M28x1.0-6g 0.100r |

Shell Polarization

CODE A



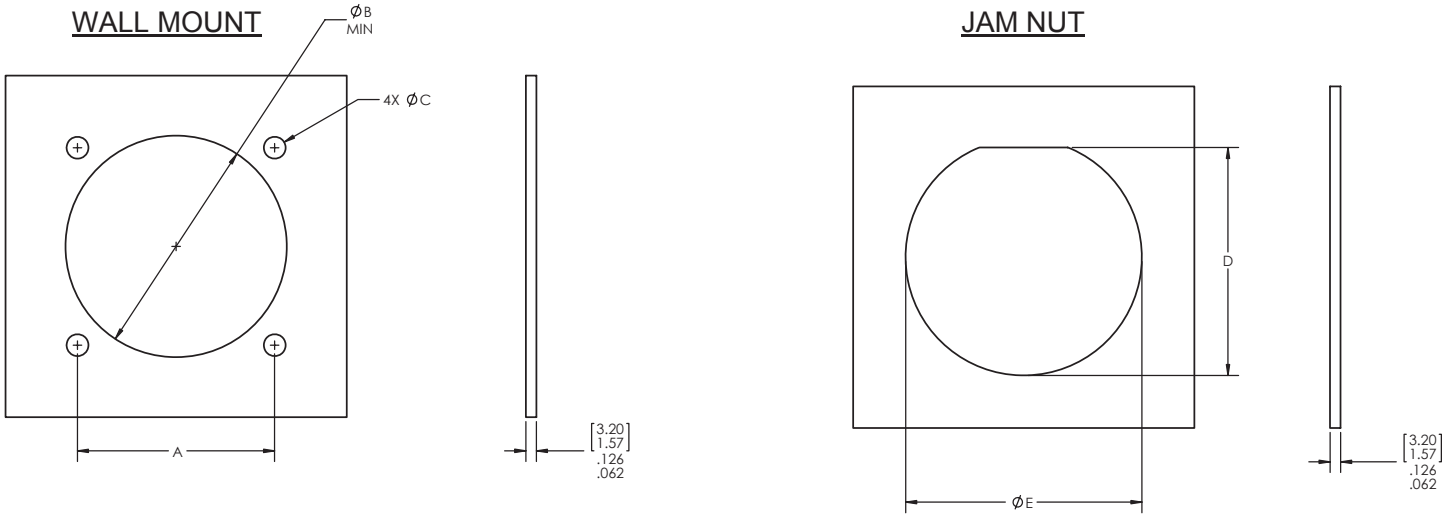
CODE B



Ruggedized USB Receptacles Panel Cutouts/PCB Layout

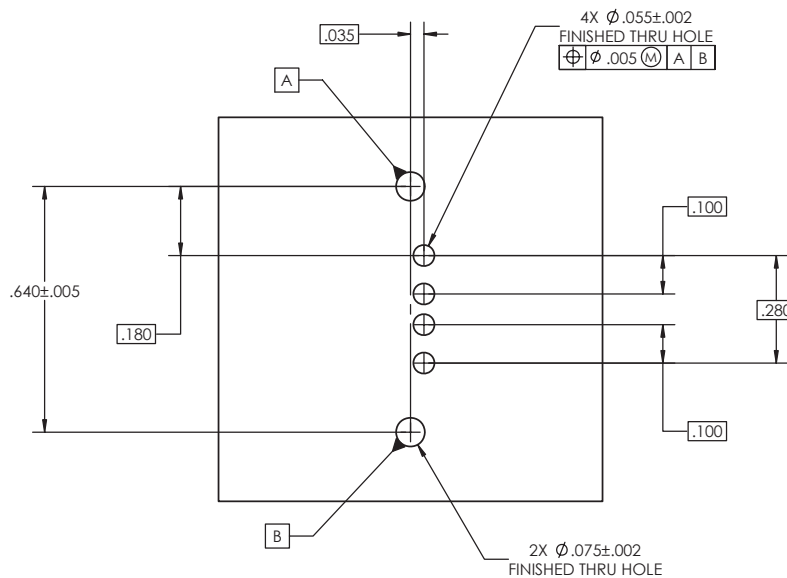


Panel Cutouts



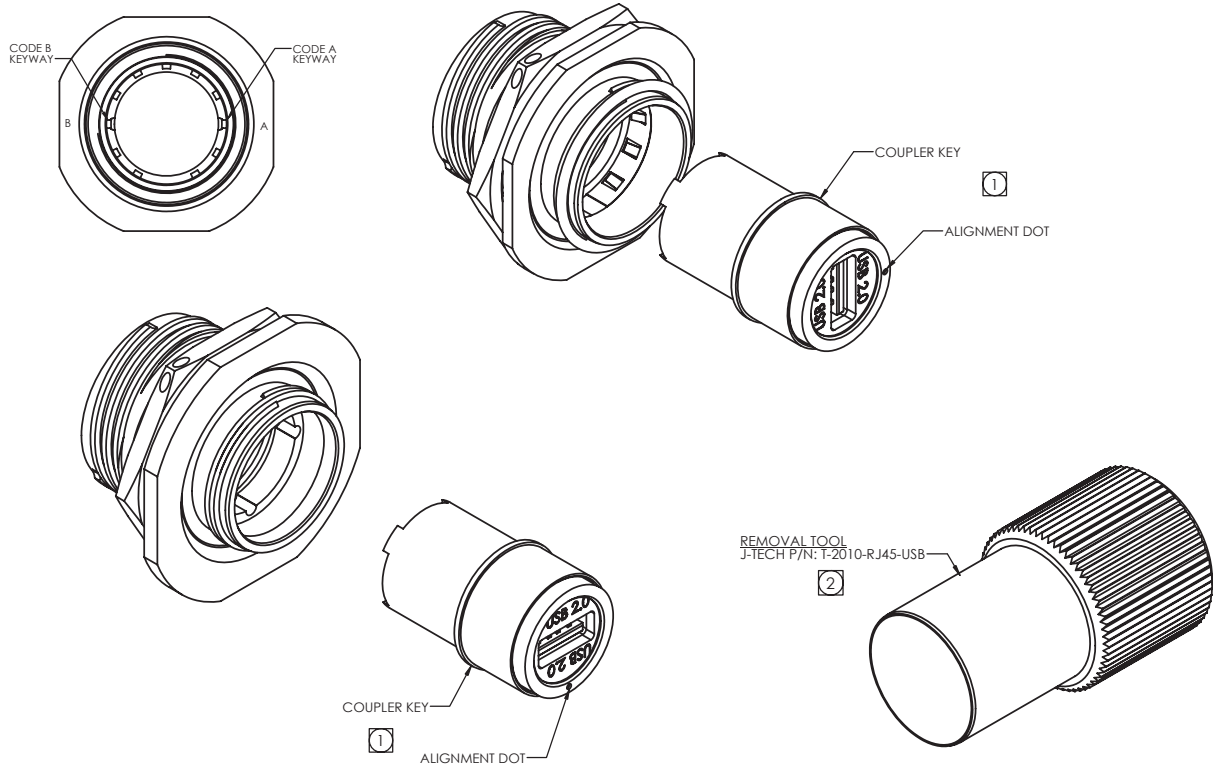
| SHELL SIZE | A | | B | | B | | C | | D | | E | |
|------------|-------|-------|------------------------|-------|-------------------------|-------|------------|-----------|--------------------|------------------|--------------------|------------------|
| | (TP) | | For Back Mounting Min. | | For Front Mounting Min. | | $\pm .005$ | $\pm .13$ | $+.000$ $-.010$ | $+.00$ $-.25$ | $+.010$ $-.000$ | $+.25$ $-.00$ |
| | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm |
| 15 | .969 | 24.61 | 1.047 | 26.59 | .906 | 23.01 | .128 | 3.25 | 1.085 | 27.56 | 1.135 | 28.83 |
| 17 | 1.062 | 26.97 | 1.219 | 30.96 | 1.016 | 25.81 | .128 | 3.25 | 1.210 | 30.73 | 1.260 | 32.01 |

PCB Layout



JT93

Assembly Instructions



- ① ALIGN COUPLER KEY/ALIGNMENT DOT, WITH RECEPTACLE HOUSING KEYWAY CODE A, OR B ILLUSTRATED ON RECEPTACLE HOUSING. NEXT, PUSH COUPLER ASSEMBLY FIRMLY INTO PLACE UNTIL IT CLICKS .
- ② TO REMOVE COUPLER ASSEMBLY, USE J-TECH REMOVAL TOOL P/N: T-2010-RJ45-US B BY INSERTING TOOL OVER REAR COUPLER AND PUSHING FIRMLY ON BOTH TOOL AND ON FRONT OF COUPLER ASSEMBLY TO RELEASE .

Ruggedized USB Receptacles with Backshell How to Order



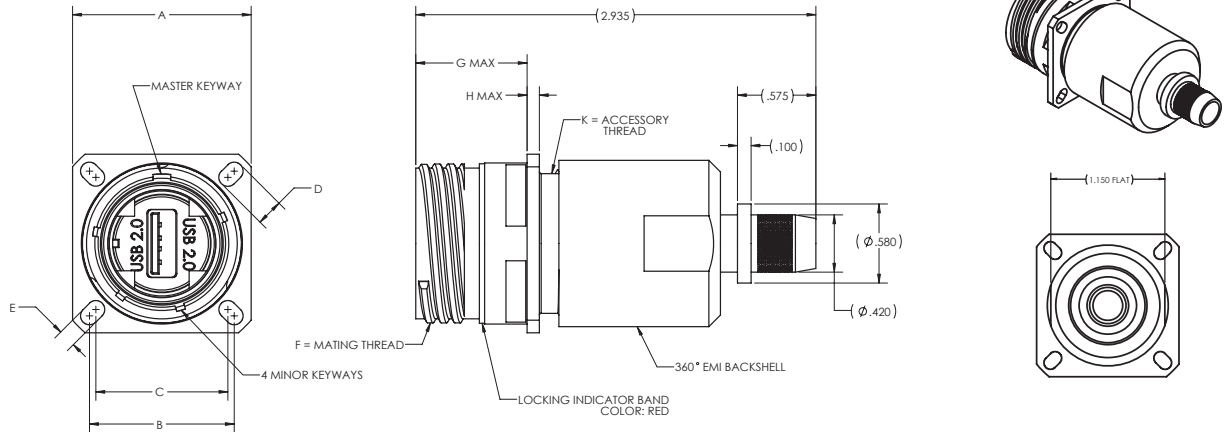
J-Tech Part Number Development

| J-Tech Prefix | JT93 | U | FE | 2 | 15 | C | N | P | G | -XXX |
|------------------------------|------|---|---|---|----|---|---|---|---|------|
| Standard | | U = USB-A | | | | | | | | |
| Shell Type | | | FE = Wall Mount Receptacle with 360 Emi Backshell JE = Jam Nut Receptacle with 360 Emi Backshell KE = Inline Receptacle with 360 Emi Backshell FG = Wall Mount Receptacle with Ip68 Backshell JP = Jam Nut Receptacle with Ip68 Backshell KG = Inline Receptacle with Ip68 Backshell | | | | | | | |
| Catagory | | 2 = USB 2.0 | | | | | | | | |
| Shell Size | | 15 = size 15 17 = size 17 | | | | | | | | |
| Plating | | N = Electroless Nickel C = Olive Drab Cadmium B = Black Nickel, RoHS Compliant Z = Black Zinc Nickel, RoHS Compliant | | | | | | | | |
| Polarization (Keying) | | N = Normal (Included in part number) A, B, C, D | | | | | | | | |
| Rear Termination | | P = PC Tail (Shell styles FN & JN only) F = Female (all styles) | | | | | | | | |
| Grounding Options | | U = USB Insert not grounded to shell G = USB Insert grounded to shell | | | | | | | | |
| Modification Codes | | Consult Factory for Modificatons | | | | | | | | |

JT93

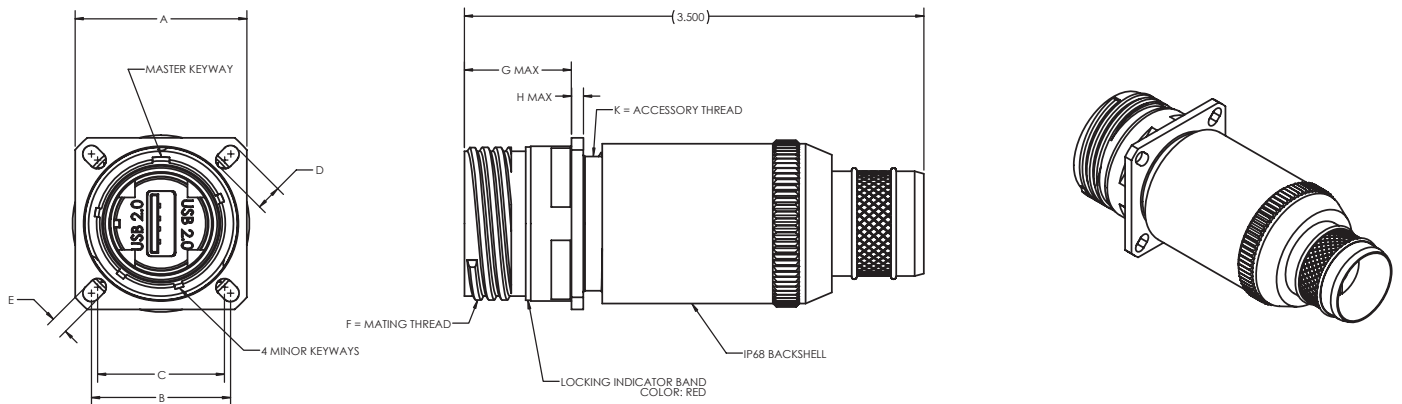


Wall Mount Receptacle Shell Type FE



| SHELL SIZE | A | | B | | C | | D | | E | | F | G | | H | | Accessory Thread Metric |
|------------|-------|-------|-------|-------|------|-------|-------|------|-------|------|------------------|------------------------|-------|------|------|-------------------------|
| | ±.012 | ±.30 | (TP) | | (TP) | | ±.008 | ±.20 | ±.008 | ±.20 | | Mating Thread Class 2A | MAX. | | MAX. | |
| | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | | mm | in. | mm | |
| 15 | 1.220 | 31.00 | .969 | 24.61 | .906 | 23.01 | .173 | 4.39 | .128 | 3.25 | 1.0000-0.1P-0.3L | .820 | 23.83 | .098 | 2.50 | M28x1.0-6g 0.100r |
| 17 | 1.311 | 33.30 | 1.062 | 26.97 | .969 | 24.61 | .194 | 4.93 | .128 | 3.25 | 1.1875-.1P-0.3L | .820 | 20.83 | .098 | 2.50 | M28x1.0-6g 0.100r |

Jam Nut Receptacle Shell Type FG

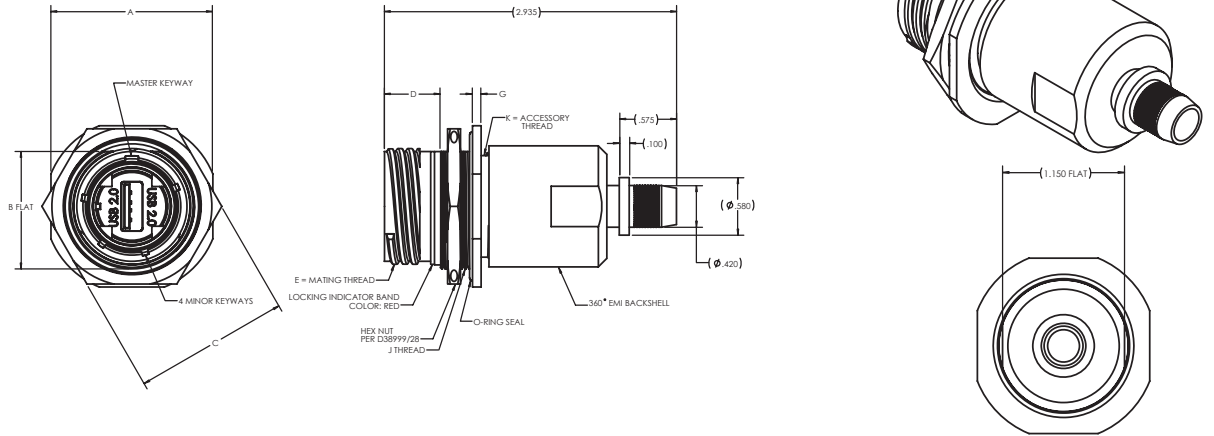


| SHELL SIZE | A | | B | | C | | D | | E | | F | G | | H | | Accessory Thread Metric |
|------------|-------|-------|-------|-------|------|-------|-------|------|-------|------|------------------|------------------------|-------|------|------|-------------------------|
| | ±.012 | ±.30 | (TP) | | (TP) | | ±.008 | ±.20 | ±.008 | ±.20 | | Mating Thread Class 2A | MAX. | | MAX. | |
| | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | | mm | in. | mm | |
| 15 | 1.220 | 31.00 | .969 | 24.61 | .906 | 23.01 | .173 | 4.39 | .128 | 3.25 | 1.0000-0.1P-0.3L | .820 | 23.83 | .098 | 2.50 | M28x1.0-6g 0.100r |
| 17 | 1.311 | 33.30 | 1.062 | 26.97 | .969 | 24.61 | .194 | 4.93 | .128 | 3.25 | 1.1875-.1P-0.3L | .820 | 20.83 | .098 | 2.50 | M28x1.0-6g 0.100r |

Ruggedized USB Receptacles with Backshell How to Order

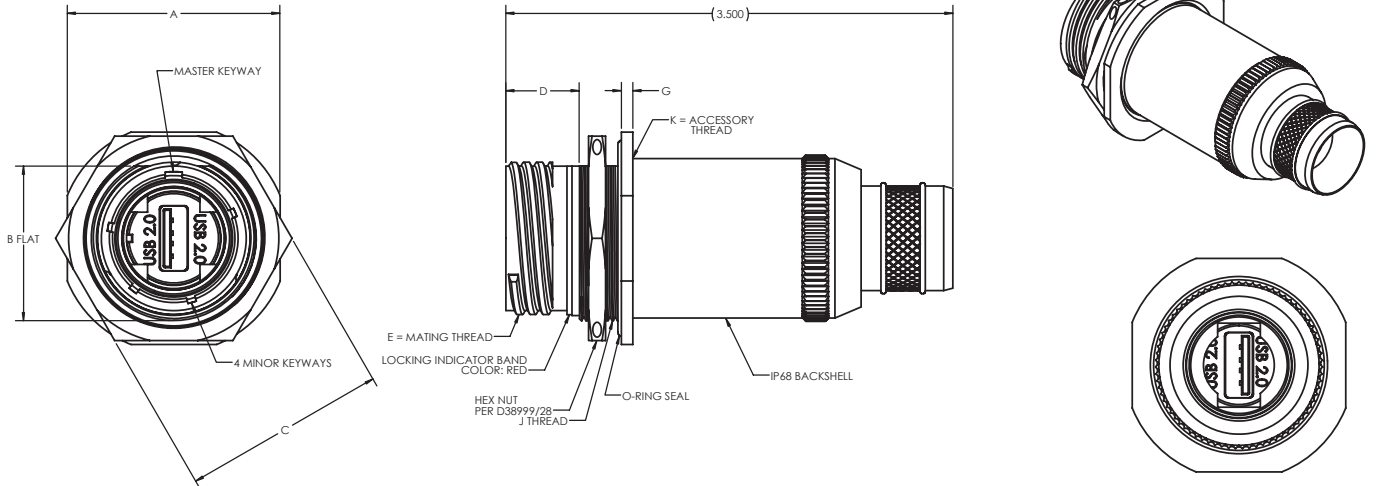


Jam Nut Receptacle Shell Type JE



| SHELL SIZE | A | | B | | C | | D | | E | G | | J | Accessory Thread Metric |
|------------|-------|-------|--------|-------|-------------|-------------|--------|-------|-----------------|------------------------|--------|----------------|-------------------------|
| | ±.016 | ±.40 | +0.004 | +0.10 | HEX NUT | | +0.024 | +0.60 | | Mating Thread Class 2A | +0.035 | | |
| | in. | mm | in. | mm | in. | mm | in. | mm | in. | | mm | Jam Nut Thread | |
| 15 | 1.500 | 38.10 | 1.062 | 26.97 | 1.417/1.296 | 36.00/32.91 | .555 | 14.10 | 1.0000-.1P-0.3L | .087 | 2.20 | M28x1-6g .100r | M28x1.0-6g 0.100r |
| 17 | 1.626 | 41.30 | 1.187 | 30.15 | 1.457/1.422 | 37.00/36.12 | .555 | 14.10 | 1.1875-.1P-0.3L | .087 | 2.20 | M32x1-6g .100r | M28x1.0-6g 0.100r |

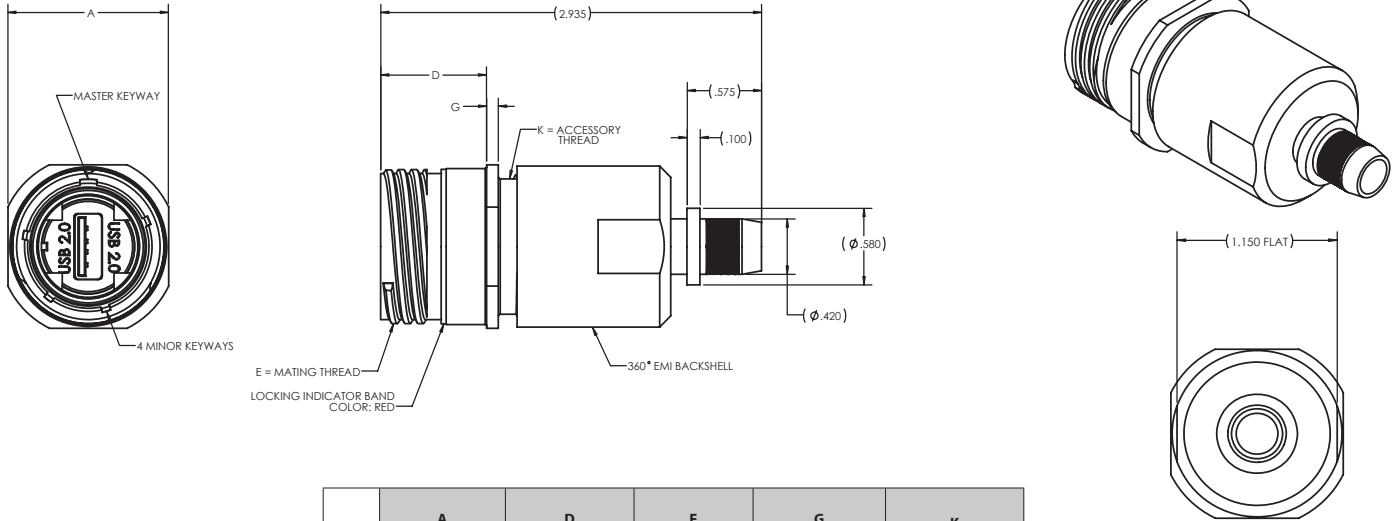
Jam Nut Receptacle Shell Type JP



| SHELL SIZE | A | | B | | C | | D | | E | G | | J | Accessory Thread Metric |
|------------|-------|-------|--------|-------|-------------|-------------|--------|-------|-----------------|------------------------|--------|----------------|-------------------------|
| | ±.016 | ±.40 | +0.004 | +0.10 | HEX NUT | | +0.024 | +0.60 | | Mating Thread Class 2B | +0.035 | | |
| | in. | mm | in. | mm | in. | mm | in. | mm | in. | | mm | Jam Nut Thread | |
| 15 | 1.500 | 38.10 | 1.062 | 26.97 | 1.417/1.296 | 36.00/32.91 | .555 | 14.10 | 1.0000-.1P-0.3L | .087 | 2.20 | M28x1-6g .100r | M28x1.0-6g 0.100r |
| 17 | 1.626 | 41.30 | 1.187 | 30.15 | 1.457/1.422 | 37.00/36.12 | .555 | 14.10 | 1.1875-.1P-0.3L | .087 | 2.20 | M32x1-6g .100r | M28x1.0-6g 0.100r |

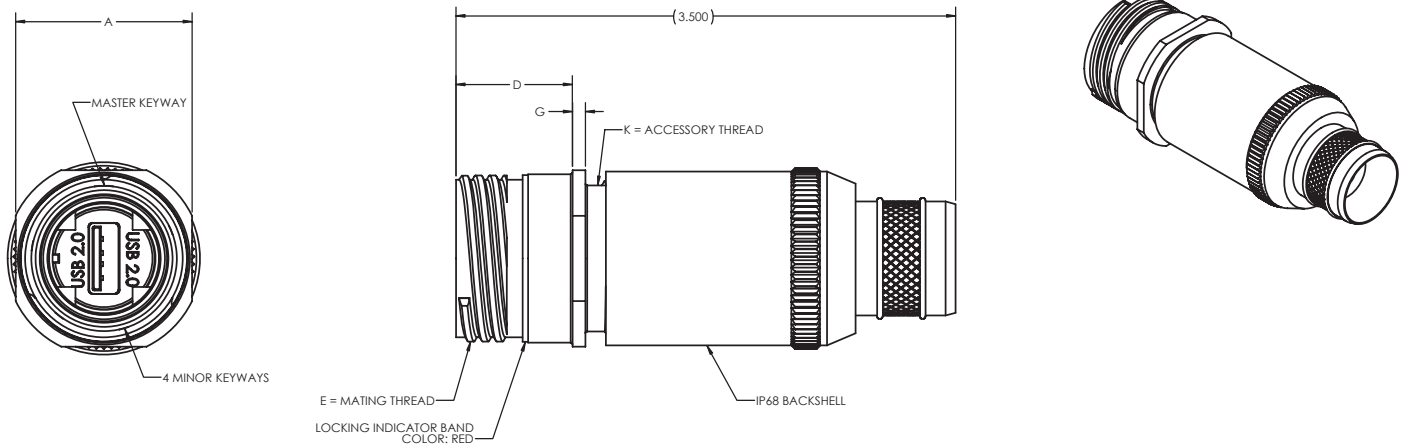
JT93

Inline Receptacle Shell Type KE



| SHELL SIZE | A | | D | | F | G | | K |
|------------|-------|-------|----------------|--------------|------------------|---------------------------|----------------|----------------------------|
| | ±.016 | ±.40 | +.024 -.000 | +.60 -.00 | | Mating Thread Class 2A | +.035 -.004 | |
| | in. | mm | in. | mm | in. | | mm | Accessory Thread Metric |
| 15 | 1.100 | 27.94 | .817 | 20.75 | 1.0000-0.1P-0.3L | .090 | 2.29 | M28x1.0-6g 0.100r |
| 17 | 1.248 | 31.70 | .817 | 20.75 | 1.1875-0.1P-0.3L | .090 | 2.29 | M28x1.0-6g 0.100r |

Inline Receptacle Shell Type KG



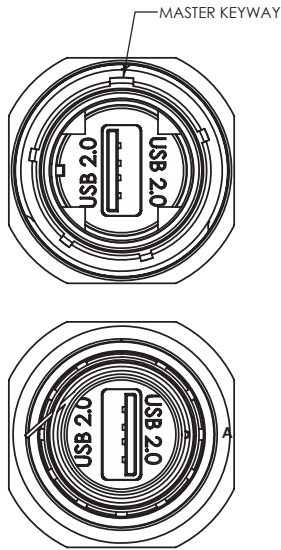
| SHELL SIZE | A | | D | | F | G | | K |
|------------|-------|-------|----------------|--------------|------------------|---------------------------|----------------|----------------------------|
| | ±.016 | ±.40 | +.024 -.000 | +.60 -.00 | | Mating Thread Class 2A | +.035 -.004 | |
| | in. | mm | in. | mm | in. | | mm | Accessory Thread Metric |
| 15 | 1.100 | 27.94 | .817 | 20.75 | 1.0000-0.1P-0.3L | .090 | 2.29 | M28x1.0-6g 0.100r |
| 17 | 1.248 | 31.70 | .817 | 20.75 | 1.1875-0.1P-0.3L | .090 | 2.29 | M28x1.0-6g 0.100r |

Ruggedized USB Receptacles with Backshell Polarizations

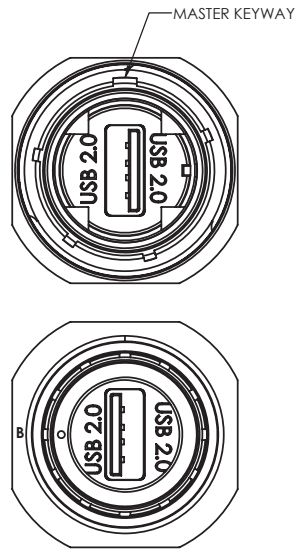


Shell Polarization

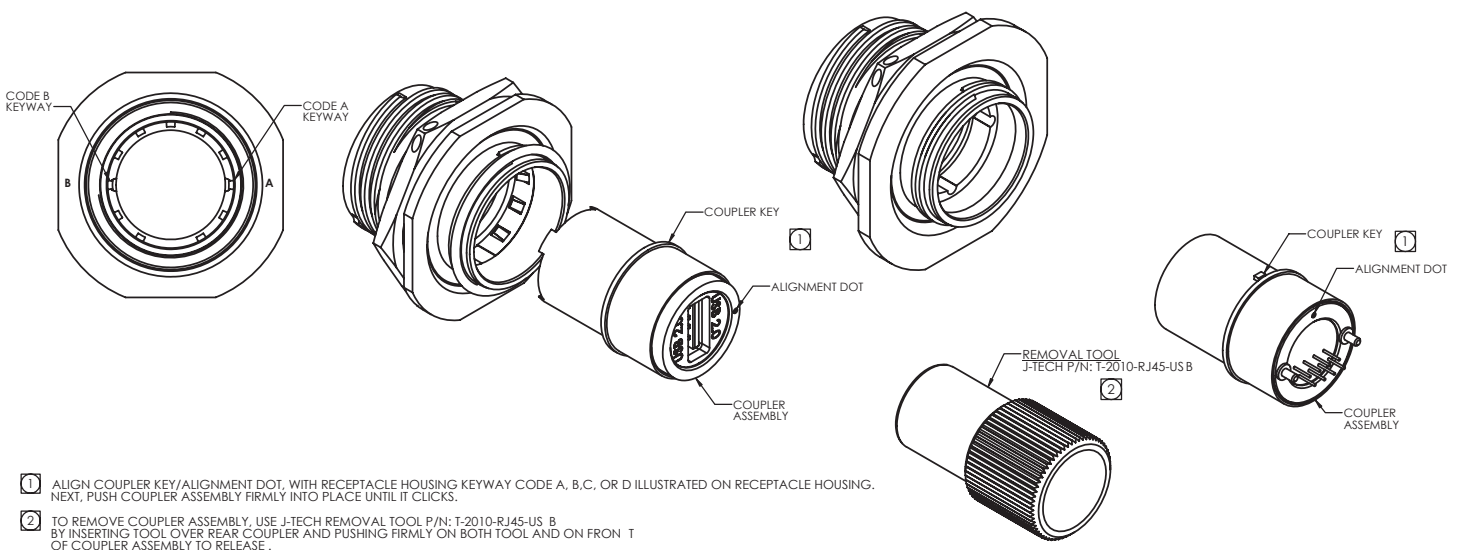
CODE A



CODE B



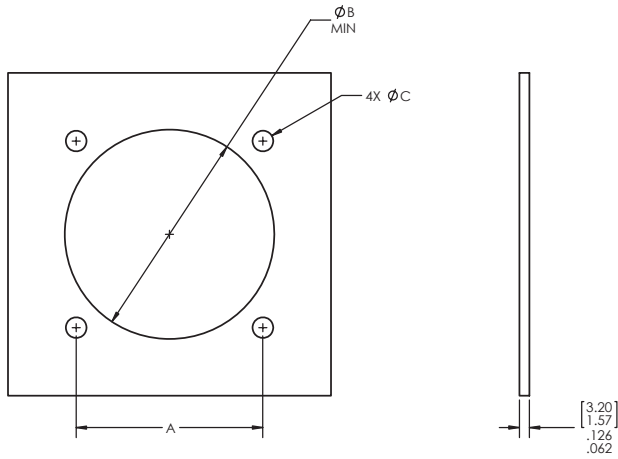
JT93



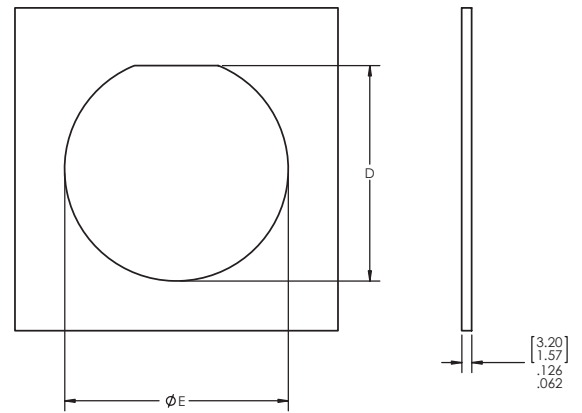
- 1 ALIGN COUPLER KEY/ALIGNMENT DOT, WITH RECEPTACLE HOUSING KEYWAY CODE A, B, C, OR D ILLUSTRATED ON RECEPTACLE HOUSING. NEXT, PUSH COUPLER ASSEMBLY FIRMLY INTO PLACE UNTIL IT CLICKS.
- 2 TO REMOVE COUPLER ASSEMBLY, USE J-TECH REMOVAL TOOL P/N: T-2010-RJ45-US B BY INSERTING TOOL OVER REAR COUPLER AND PUSHING FIRMLY ON BOTH TOOL AND ON FRONT OF COUPLER ASSEMBLY TO RELEASE.

Panel Cutouts

WALL MOUNT



JAM NUT

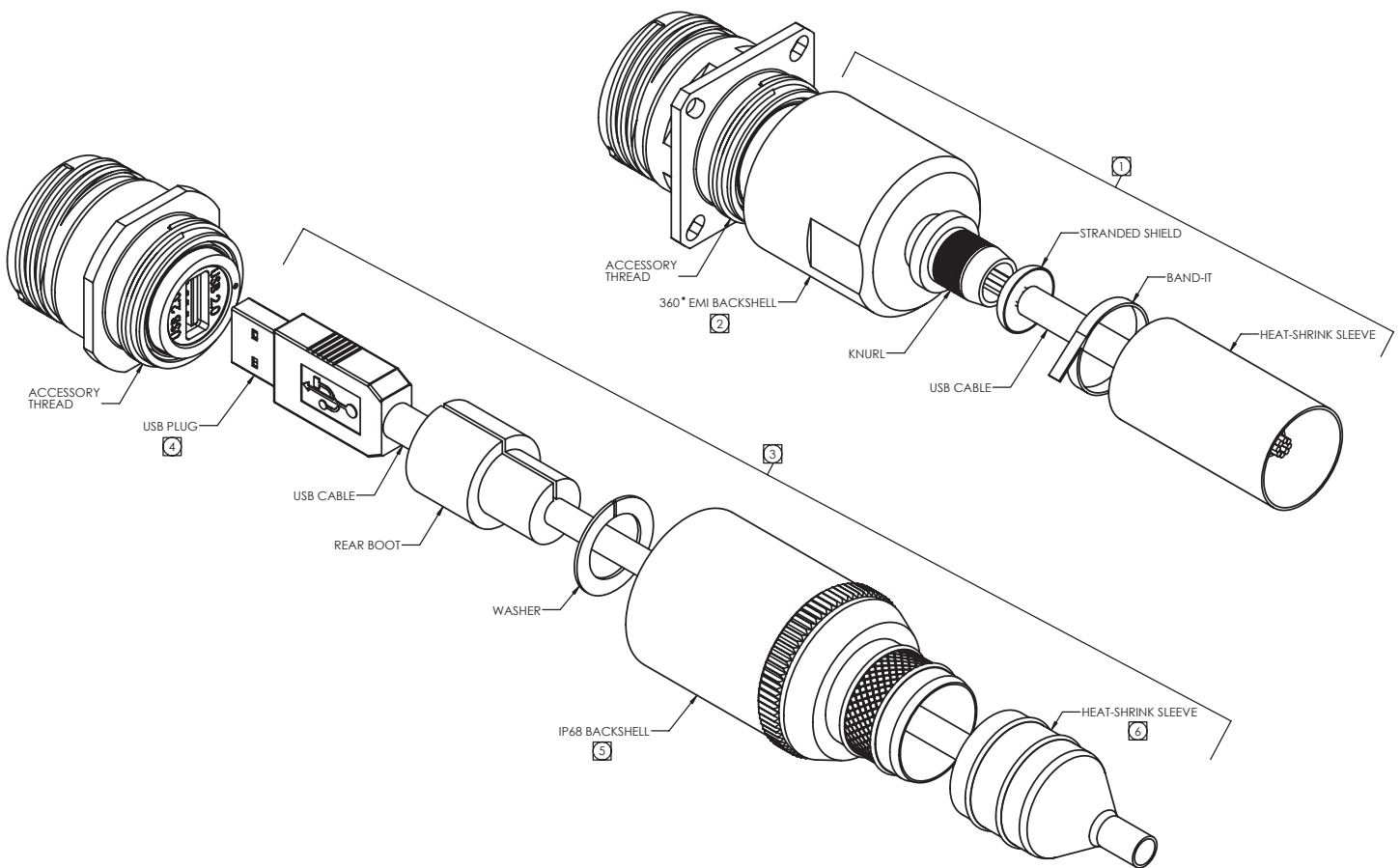


| SHELL SIZE | A | | B | | B | | C | | D | | E | |
|---------------|-------|-------|---------------------------|-------|----------------------------|-------|-------|------|------------------|----------------|------------------|----------------|
| | (TP) | | For Back Mounting Min. | | For Front Mounting Min. | | ±.005 | ±.13 | + .000 - .010 | + .00 - .25 | + .010 - .000 | + .25 - .00 |
| | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm |
| 15 | .969 | 24.61 | 1.047 | 26.59 | .906 | 23.01 | .128 | 3.25 | 1.085 | 27.56 | 1.135 | 28.83 |
| 17 | 1.062 | 26.97 | 1.219 | 30.96 | 1.016 | 25.81 | .128 | 3.25 | 1.210 | 30.73 | 1.260 | 32.01 |

Ruggedized USB Receptacles with Backshell Assembly Instructions



Assembly Instructions



- 1 TERMINATION INSTRUCTIONS FOR 360 ° EMI BACKSHELL: SLIDE THE HEAT SHRINK SLEEVE FIRST ALONG WITH THE 360 ° EMI BACKSHELL OVER THE USB CABLE PRIOR TO EXPOSING SHIELD. STRIP CABLE JACKET BACK BY EXPOSING STRANDED SHIELD, AND PUSH THE EXPOSED CONDUCTORS THROUGH THE I.D. OF THE 360 ° EMI BACKSHELL. TERMINATE THE CONDUCTORS TO THE PCB.
- 2 THREAD THE 360 ° EMI BACKSHELL FIRMLY BY HAND TO THE REAR ACCESSORY THREADS OF THE RECEPTACLE HOUSING. WRAP THE STRANDED SHIELD AROUND THE KNURL AREA OF THE BACKSHELL. USE THE BAND-IT TO SECURE TIGHTLY TO SHELL. NOW SLIDE THE HEAT SHRINK SLEEVE OVER THE BAND-IT AND HEAT SHRINK INTO PLACE.
- 3 TERMINATION INSTRUCTIONS FOR IP68 BACKSHELL : SLIDE THE HEAT SHRINK SLEEVE FIRST OVER THE USB CABLE. THEN SLIDE THE USB CABLE THROUGH THE OPENING IN THE BACKSHELL. NEXT, INSTALL THE WASHER OVER THE USB CABLE BY TEMPORARILY SPREADING THE WASHER TO ALLOW IT TO FIT OVER THE USB CABLE . NEXT, SPREAD THE REAR BOOT OVER THE USB CABLE AND POSITION THE RECTANGULAR OPENING OVER THE USB CABLE JACKET TO SEAT INTO PLACE.
- 4 POSITION THE USB PLUG INTO THE USB JACK UNTIL IT SEATS INTO PLACE.
- 5 TIGHTEN THE IP68 BACKSHELL FIRMLY TO THE REAR ACCESSORY THREADS. NEXT, PULL ON THE CABLE TO ENSURE THE USB CONNECTOR DOES NOT MOVE TO EXCESSIVELY .
- 6 SLIDE HEAT SHRINK SLEEVE OVER REAR BACKSHELL UNTIL COMPLETELY FLUSH. NOW HEAT SHRINK INTO PLACE.

JT93



J-Tech Part Number Development

| J-Tech Prefix | JT93 | U | PE | 2 | 15 | C | N | C | N | -XXX |
|--|------|---|----|---|----|---|---|---|---|------|
| Standard | | | | | | | | | | |
| U = USB-A | | | | | | | | | | |
| Shell Type | | | | | | | | | | |
| PE = EMI/RFI plug with 360 Backshell | | | | | | | | | | |
| PG = EMI/RFI plug with IP68 Backshell | | | | | | | | | | |
| Category | | | | | | | | | | |
| 2 = USB 2.0 | | | | | | | | | | |
| Shell Size | | | | | | | | | | |
| 15 = size 15 | | | | | | | | | | |
| 17 = size 17 | | | | | | | | | | |
| Plating | | | | | | | | | | |
| N = Electroless Nickel | | | | | | | | | | |
| C = Olive Drab Cadmium | | | | | | | | | | |
| B = Black Nickel, RoHS Compliant | | | | | | | | | | |
| Z = Black Zinc Nickel, RoHS Compliant | | | | | | | | | | |
| Polarization (Keying) | | | | | | | | | | |
| N = Normal (Included in part number) | | | | | | | | | | |
| A, B, C, D | | | | | | | | | | |
| Rear Termination | | | | | | | | | | |
| C = Cable Termination | | | | | | | | | | |
| Grounding Options | | | | | | | | | | |
| N = For Plug Shell | | | | | | | | | | |
| Modification Codes | | | | | | | | | | |
| Consult Factory for Modificatons | | | | | | | | | | |

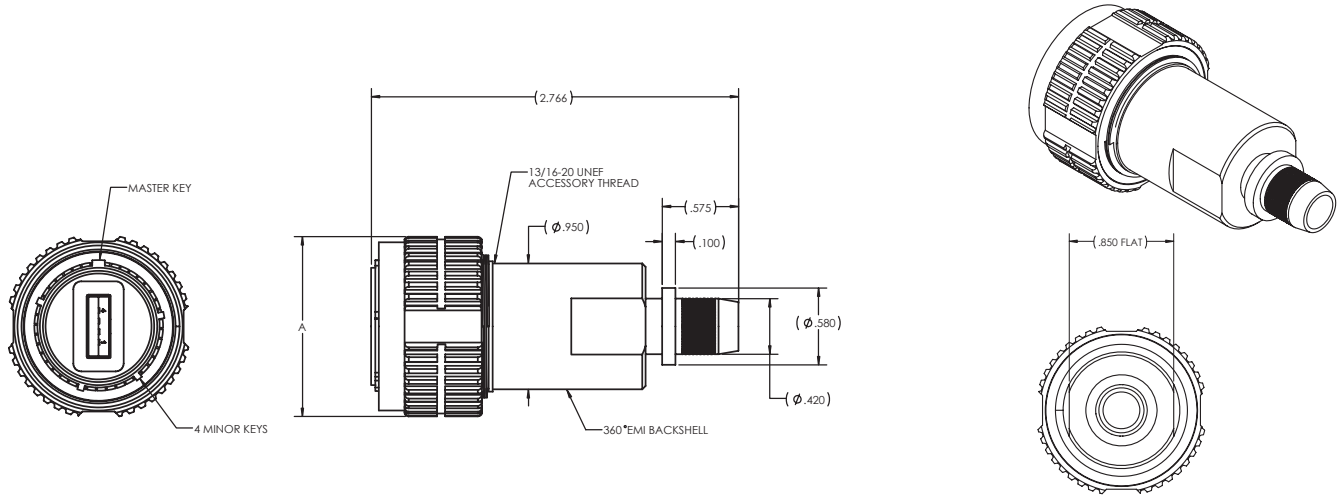
JT93



Ruggedized USB Plug Connector Shell Dimensions

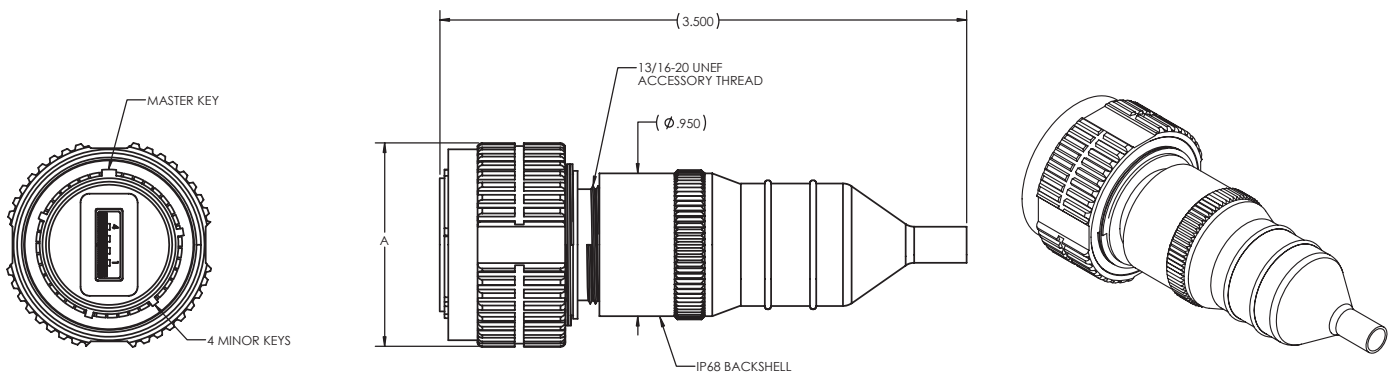


Jam Nut Receptacle Shell Type PE



| SHELL SIZE | A MAX | |
|------------|----------|-------|
| | in. | mm |
| 15 | 1.280 | 32.50 |
| 17 | 1.406 | 35.70 |

Jam Nut Receptacle Shell Type PG



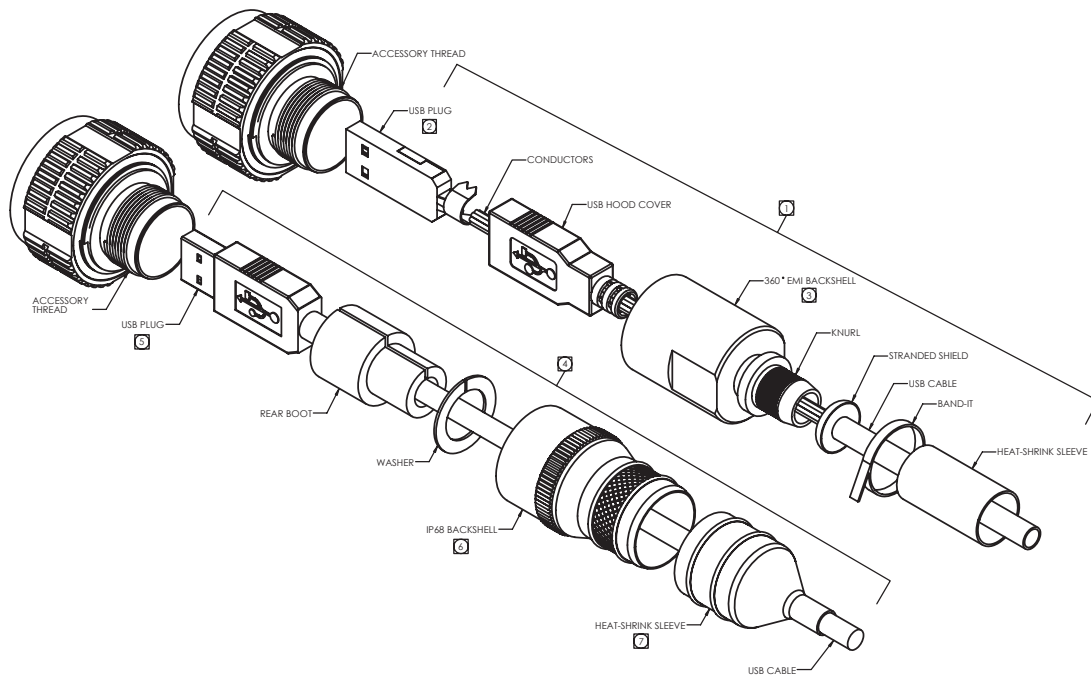
| SHELL SIZE | A MAX | |
|------------|----------|-------|
| | in. | mm |
| 15 | 1.280 | 32.50 |
| 17 | 1.406 | 35.70 |

JT93

Shell Polarization



Assembly Instructions



- ① TERMINATION INSTRUCTIONS FOR 360 ° EMI BACKSHELL: SLIDE THE HEAT SHRINK SLEEVE FIRST ALONG WITH THE 360 ° EMI BACKSHELL OVER THE USB CABLE PRIOR TO EXPOSING SHIELD. STRIP CABLE JACKET BACK BY EXPOSING STRANDED SHIELD, AND PUSH THE EXPOSED CONDUCTORS THROUGH THE I.D. OF THE 360 ° EMI BACKSHELL. TERMINATE THE CONDUCTORS TO THE USB PLUG. THEN SLIDE THE USB HOOD COVER OVER THE USB PLUG CONNECTOR.
- ② POSITION THE USB PLUG INTO THE PLUG HOUSING CAVITY UNTIL IT SEATS INTO PLACE .
- ③ THREAD THE 360° EMI BACKSHELL FIRMLY BY HAND TO THE REAR ACCESSORY THREADS OF THE PLUG HOUSING . WRAP THE STRANDED SHIELD AROUND THE KNURL AREA OF THE BACKSHELL. USE THE BAND-IT TO SECURE TIGHTLY TO SHELL. NOW SLIDE THE HEAT SHRINK SLEEVE OVER THE BAND-IT AND HEAT SHRINK INTO PLACE .
- ④ TERMINATION INSTRUCTIONS FOR IP68 BACKSHELL:
SLIDE THE HEAT SHRINK SLEEVE FIRST OVER THE USB CABLE. THEN SLIDE THE USB CABLE THROUGH THE OPENING IN THE BACKSHELL . NEXT, INSTALL THE WASHER OVER THE USB CABLE BY TEMPORARILY SPREADING THE WASHER TO ALLOW IT TO FIT OVER THE USB CABLE . NEXT, SPREAD THE REAR BOOT OVER THE USB CABLE AND POSITION THE RECTANGULAR OPENING OVER THE USB CABLE JACKET TO SEAT INTO PLACE.
- ⑤ POSITION THE USB PLUG INTO THE USB JACK UNTIL IT SEATS INTO PLACE.
- ⑥ TIGHTEN THE IP68 BACKSHELL FIRMLY TO THE REAR ACCESSORY THREADS. NEXT, PULL ON THE CABLE TO ENSURE THE USB CONNECTOR DOES NOT MOVE TO EXCESSIVELY.
- ⑦ SLIDE HEAT SHRINK SLEEVE OVER REAR BACKSHELL UNTIL COMPLETELY FLUSH. NOW HEAT SHRINK INTO PLACE.