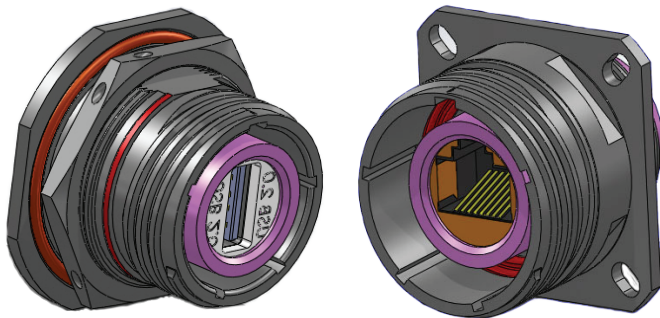


Ethernet and USB Connection System for Harsh Environments

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

**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>JT93RFG519CNFG</i>
RJFTV2PE1N	<i>JT93RFG519NNFG</i>
RJFTV2PEM1G	<i>JT93RFG519CNFG-M341*</i>
RJFTV2PEM1N	<i>JT93RFG519NNFG-M341*</i>
RJFTV71G	<i>JT93RJN519CNFG</i>
RJFTV71N	<i>JT93RJN519NNFG</i>
RJFTV7PE1G	<i>JT93RJP519CNFG</i>
RJFTV7PE1N	<i>JT93RJP519NNFG</i>
RJFTV7PEM1G	<i>JT93RJP519CNFG-M341*</i>
RJFTV7PEM1N	<i>JT93RJP519NNFG-M341*</i>

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



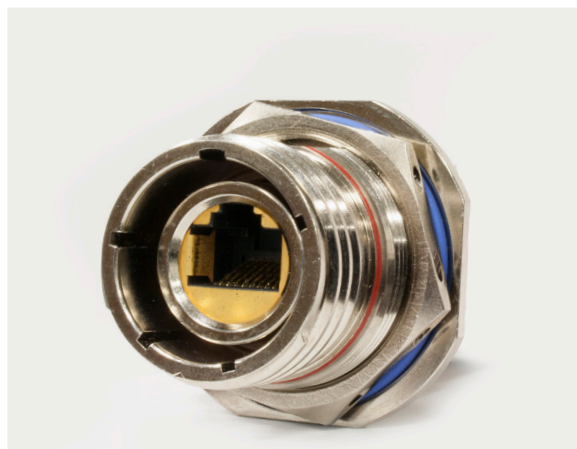
JT93



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										

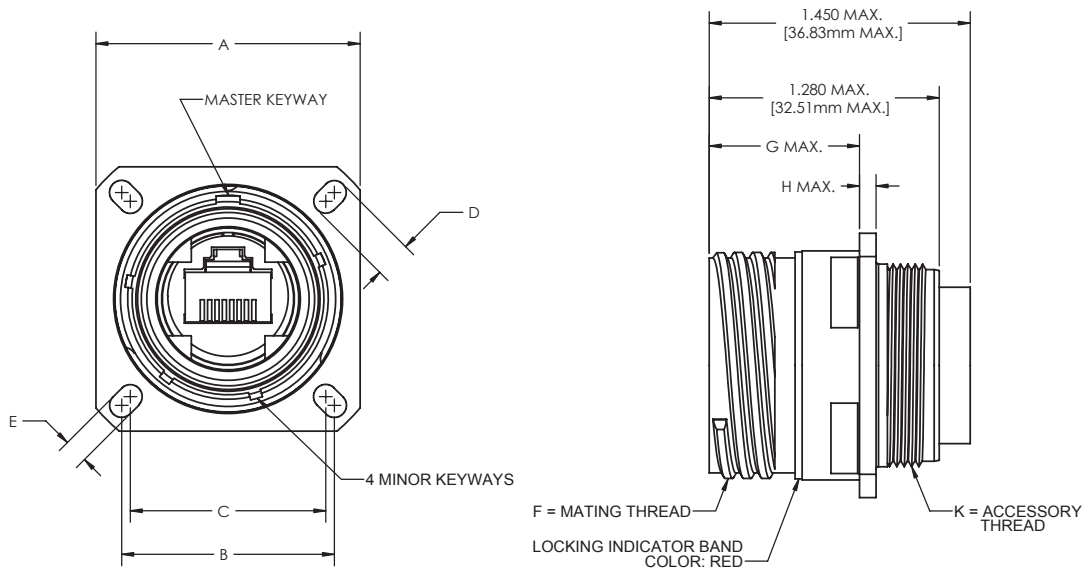
JT93



Ruggedized RJ45 Receptacles Shell Dimensions

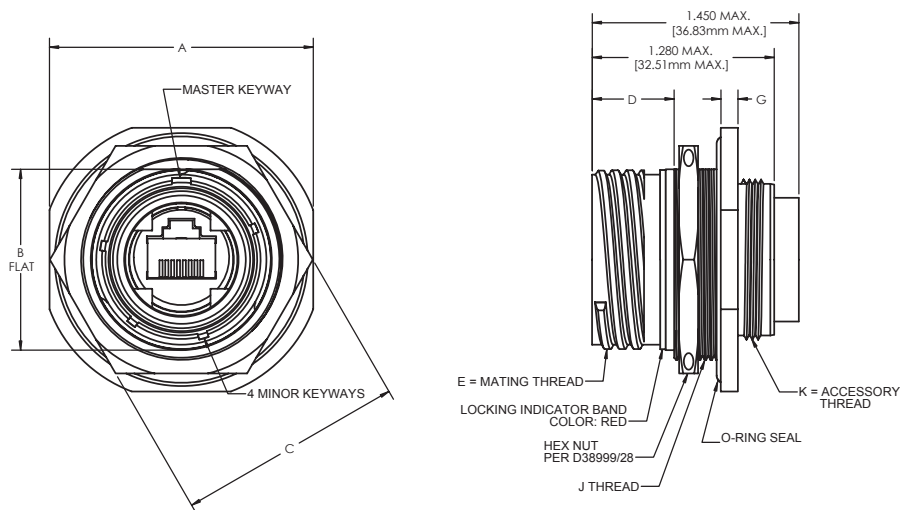


Wall Mount Receptacle Shell Type FN



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

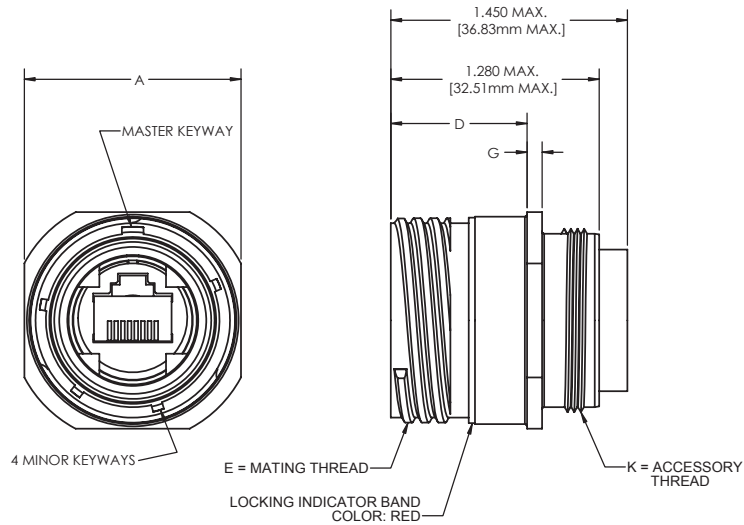
Jam Nut Receptacle Shell Type JN



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	

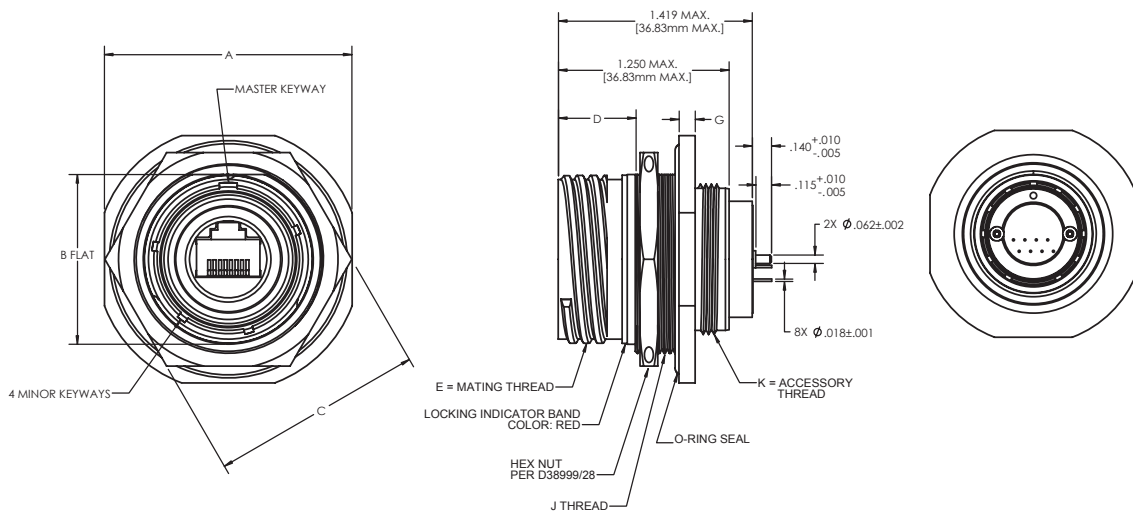
JT93

Inline Receptacle Shell Type KN



SHELL SIZE	A		D		F Mating Thread Class 2A	G		K Accessory Thread Metric
	$\pm.016$	$\pm.40$	$+.024$ -.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

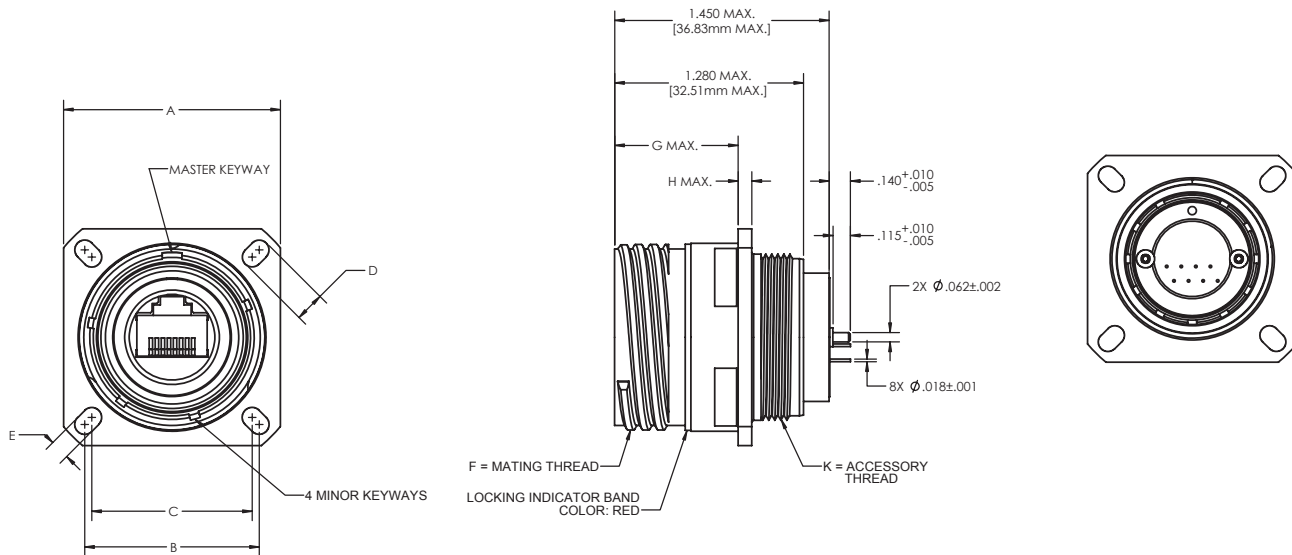


SHELL SIZE	A		B		C		D		F Mating Thread Class 2A	G		H		Accessory Thread Metric
	$\pm.016$	$\pm.40$	in.	mm	HEX NUT		$+.024$ -.000	$+.60$ -.00		MAX.	MAX.	in.	mm	
	in.	mm			in.	mm	in.	mm						
17	1.626	41.30	1.187	26.97	1.457/1.422	37.00/36.12	.555	14.10	1.1875-1P-0.3L	.820	20.83	.098	2.50	M28x1.0-6g 0.100r
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



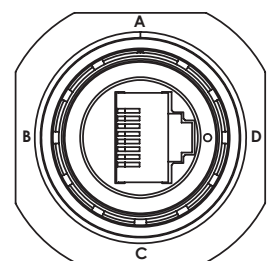
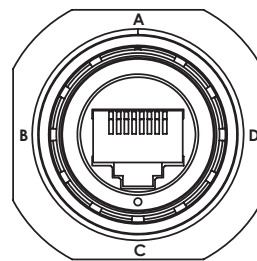
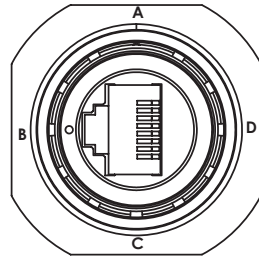
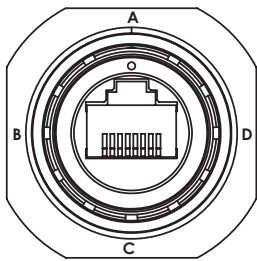
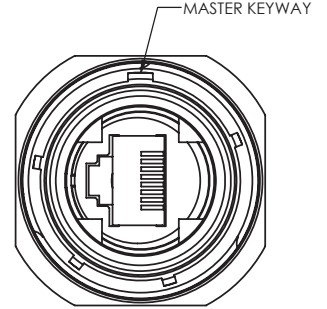
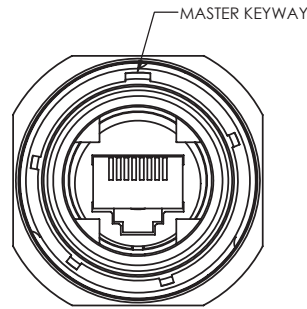
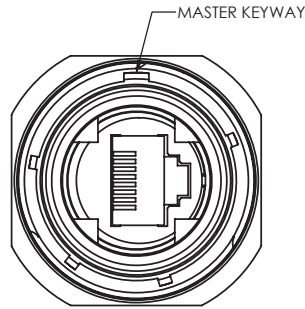
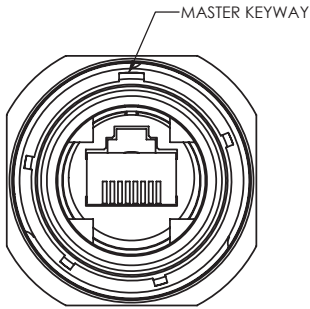
Shell Polarization

CODE A

CODE B

CODE C

CODE D

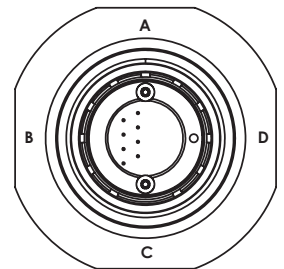
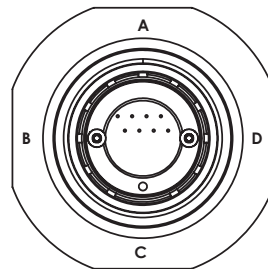
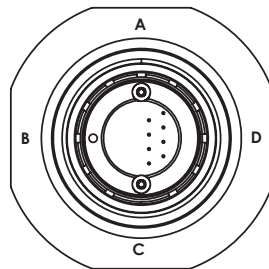
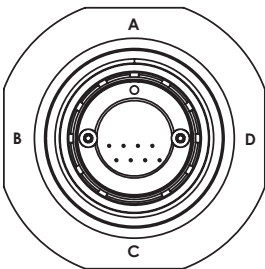
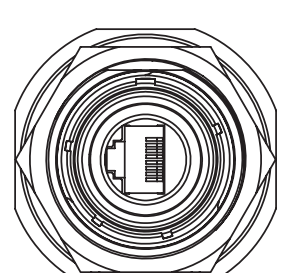
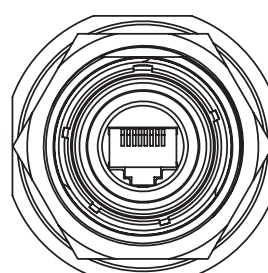
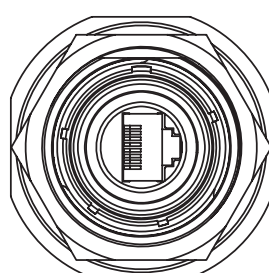
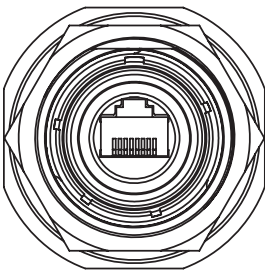


CODE A

CODE B

CODE C

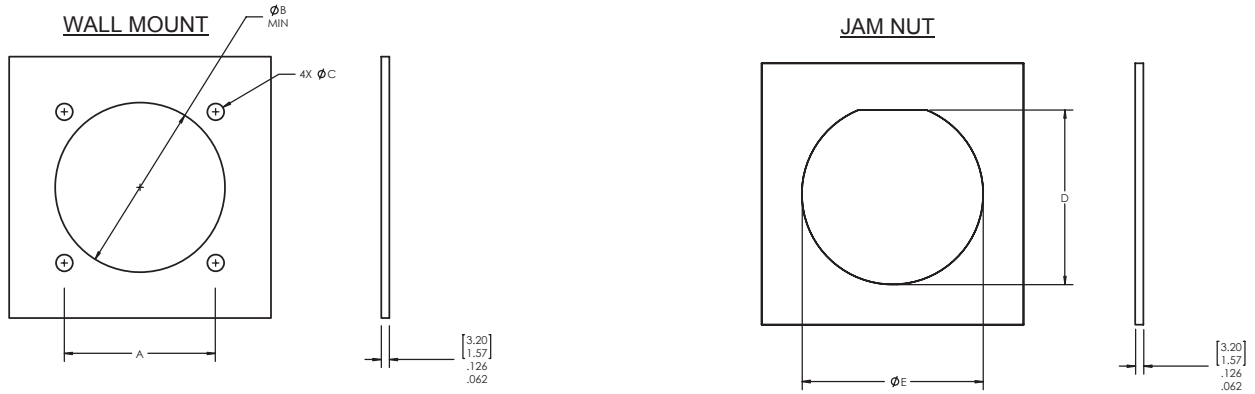
CODE D



Ruggedized RJ45 Receptacles Panel Cutouts/PCB Layout

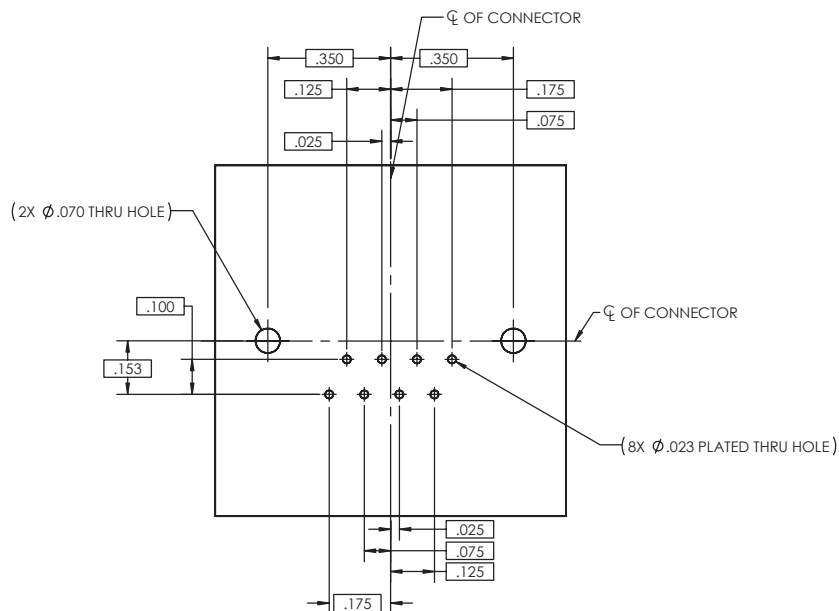


Panel Cutouts



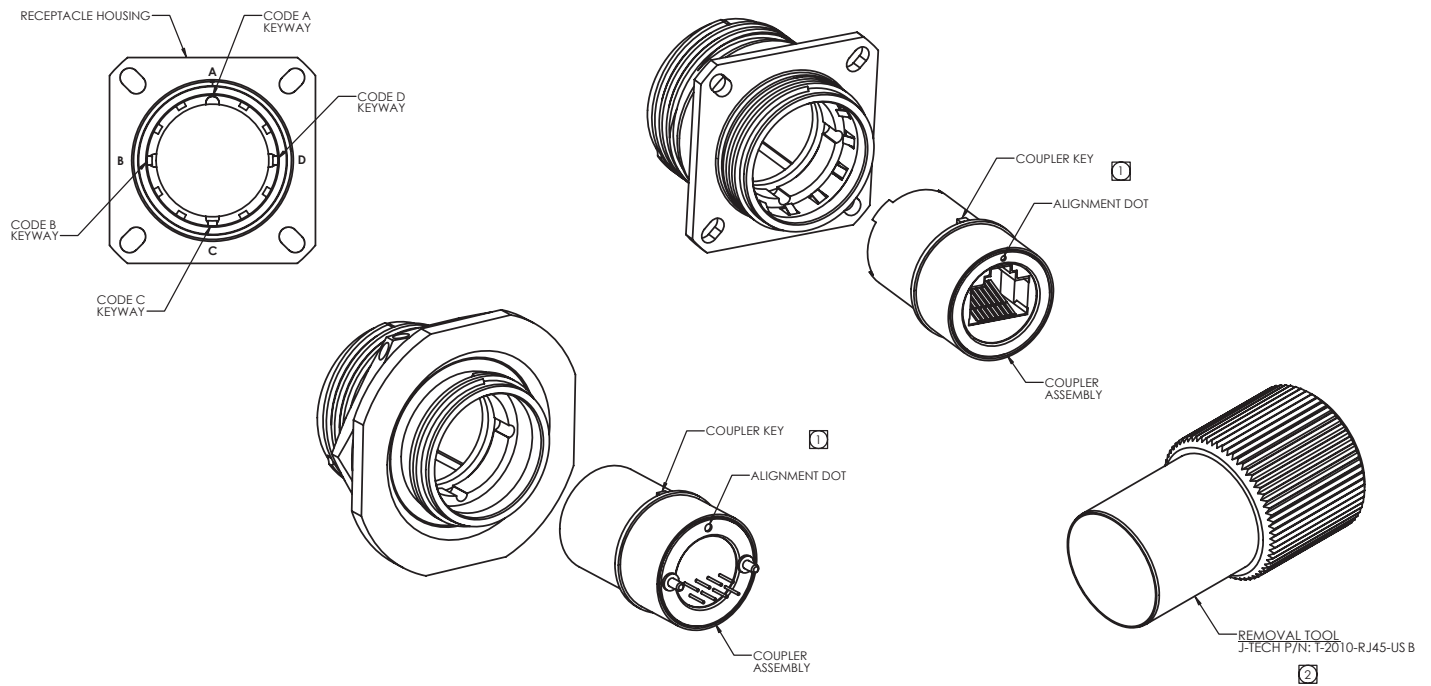
SHELL SIZE	A		B		B		C		D		E	
	(TP)		For Back Mounting Min.		For Front Mounting Min.		±.005	±.13	+0.00 -.010	+0.00 -.25	+0.010 -.000	+0.25 -.00
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
17	1.062	26.97	1.219	30.96	1.016	25.81	.128	3.25	1.210	30.73	1.260	32.01
19	1.156	29.36	1.297	32.94	1.141	28.98	.128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



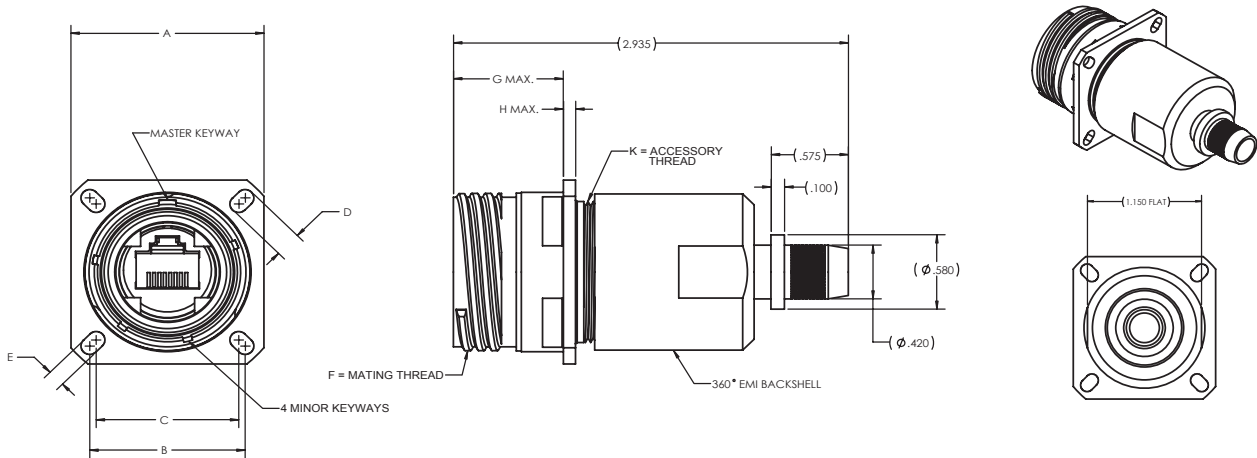
J-Tech Part Number Development

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 Plastic Backshell									
	JP = Jam Nut Receptacle with IP68 Plastic Backshell									
	KG= Inline Receptacle with IP68 Plastic 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

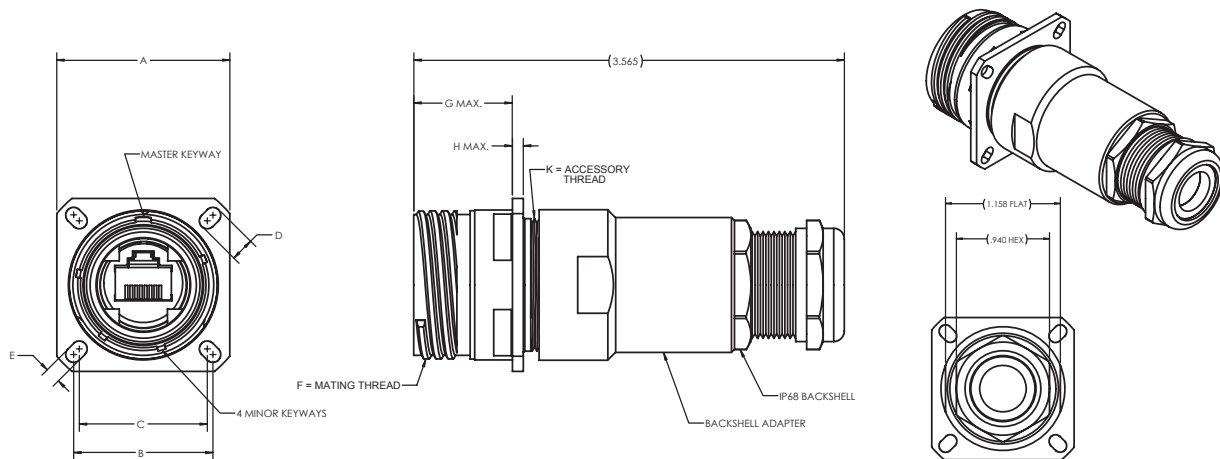


Wall Mount Receptacle Shell Type FE



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

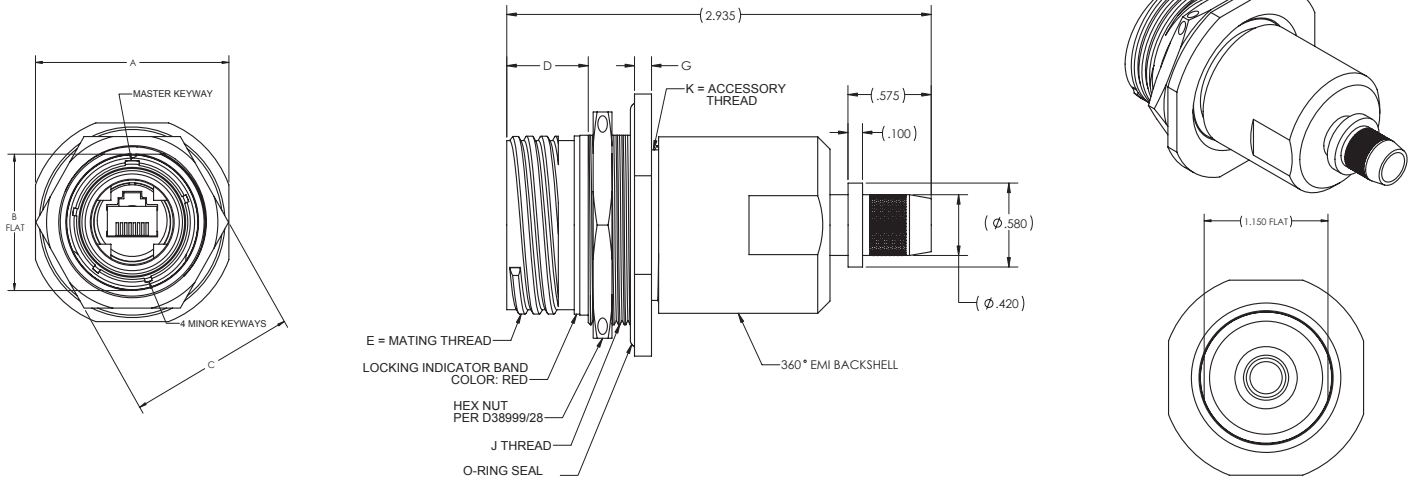


SHELL SIZE	A		B		C		D		E		F	G		H		Accessory Thread Metric
	±.012	±.30	(TP)		(TP)		±.008	±.20	±.008	±.20		Mating Thread Class 2A	MAX.		MAX.	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.		mm	in.	mm	
17	1.311	33.30	1.062	26.97	.969	24.61	.194	4.93	.128	3.25	1.1875-.1P-0.3L	.820	20.83	.098	2.50	M28x1.0-6g 0.100r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

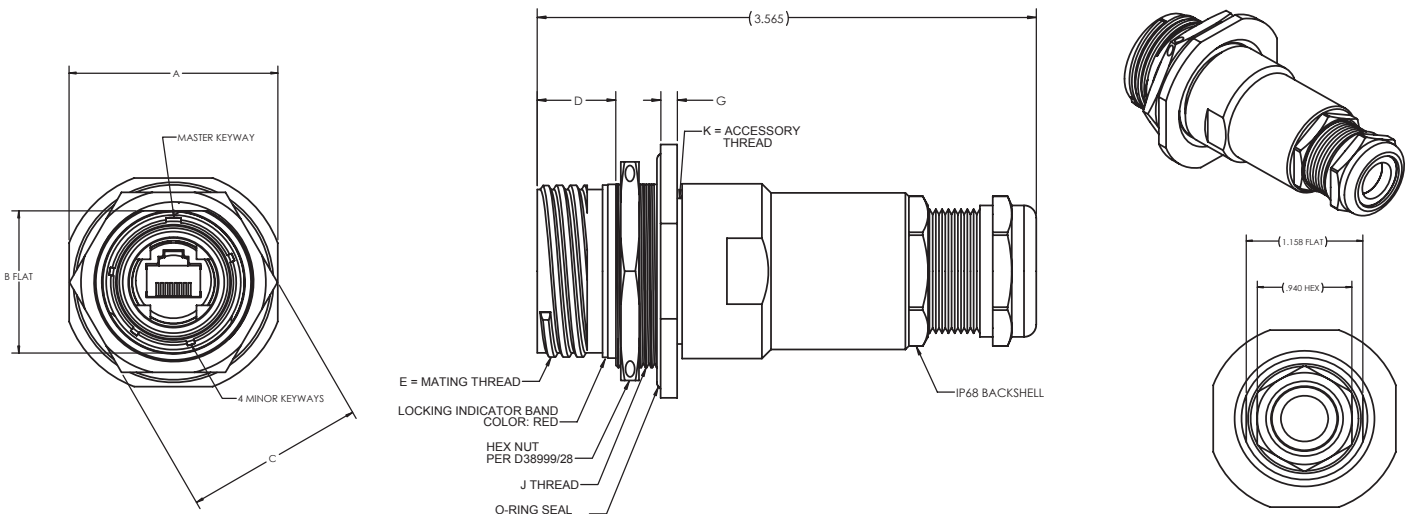


Jam Nut Receptacle Shell Type KE



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

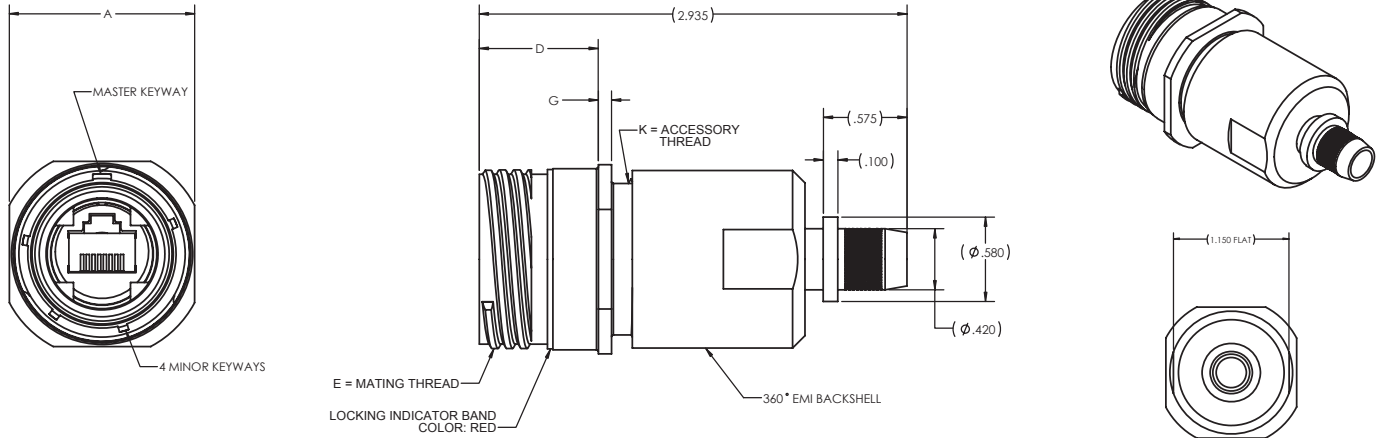
Jam Nut Receptacle Shell Type FG



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

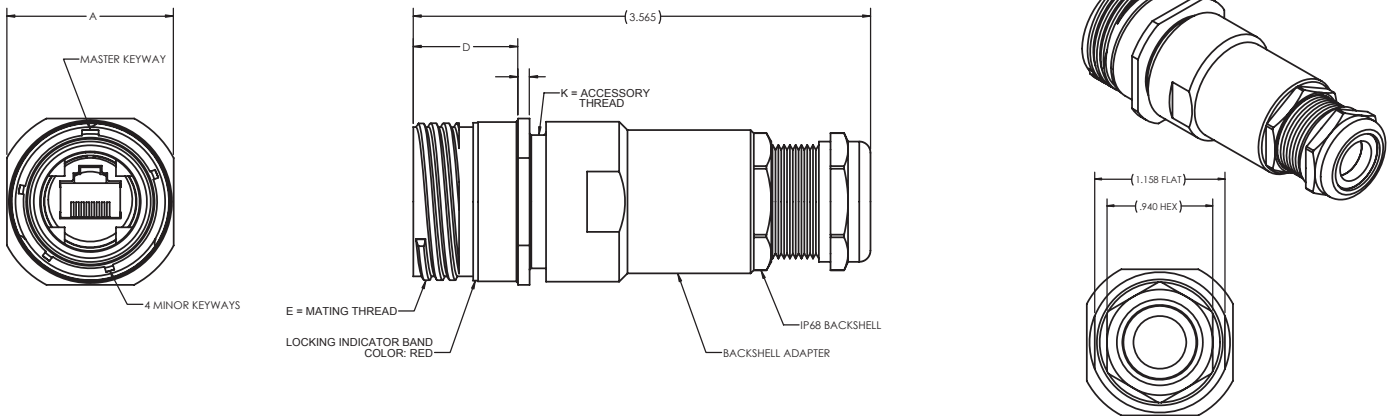
JT93

Inline Receptacle Shell Type JP



SHELL SIZE	A		D		F 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

Inline Receptacle Shell Type KG



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

Ruggedized RJ45 Receptacles with Backshell Polarizations



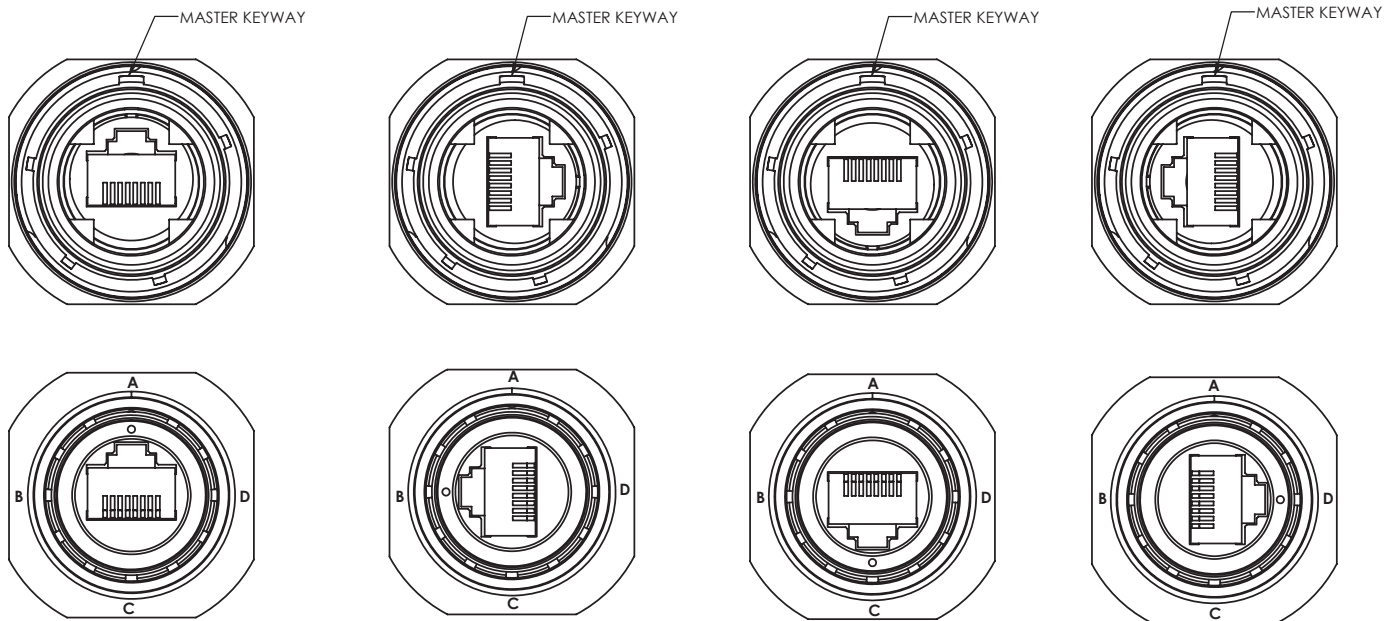
Shell Polarization

CODE A

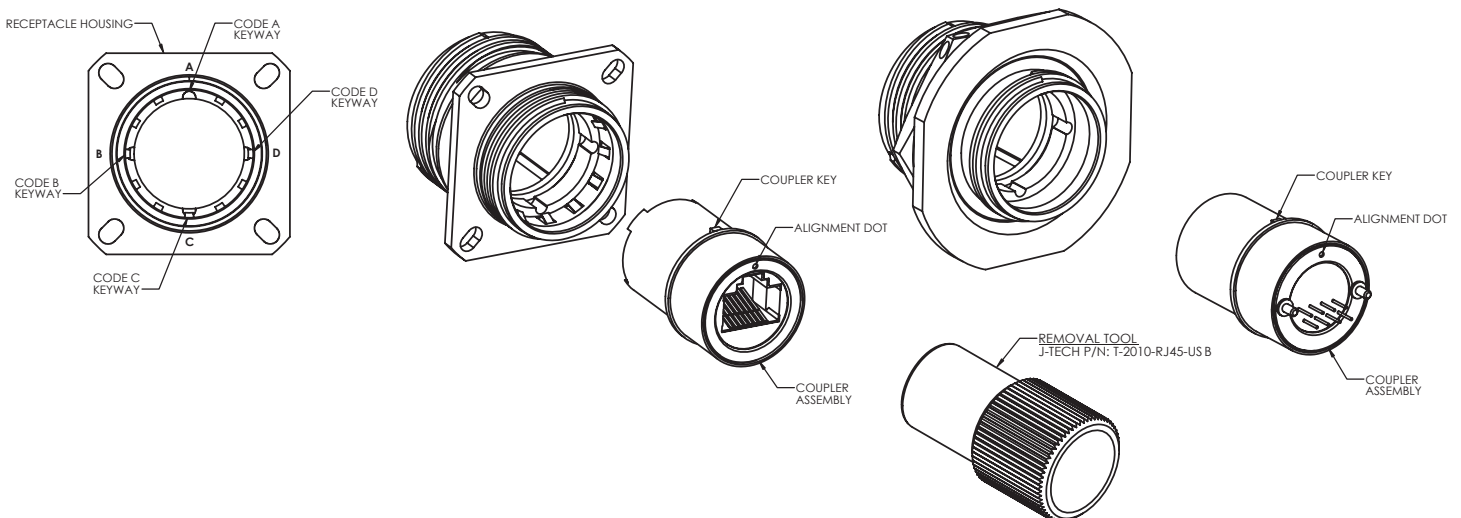
CODE B

CODE C

CODE D



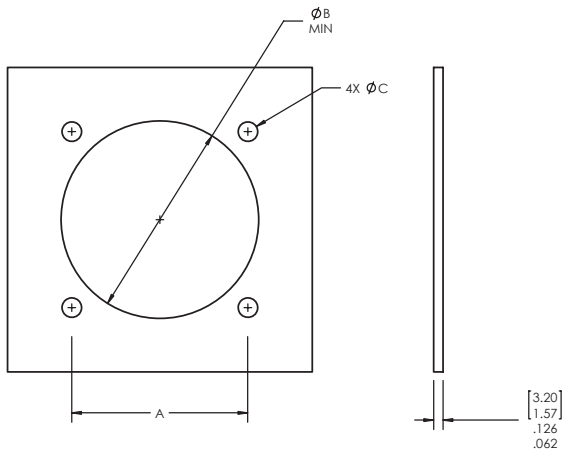
JT93



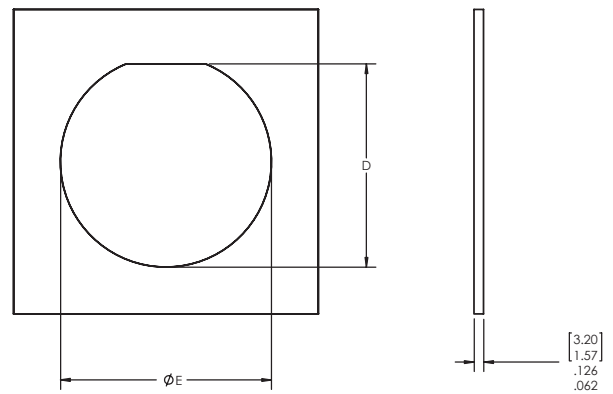


Panel Cutouts

WALL MOUNT



JAM NUT

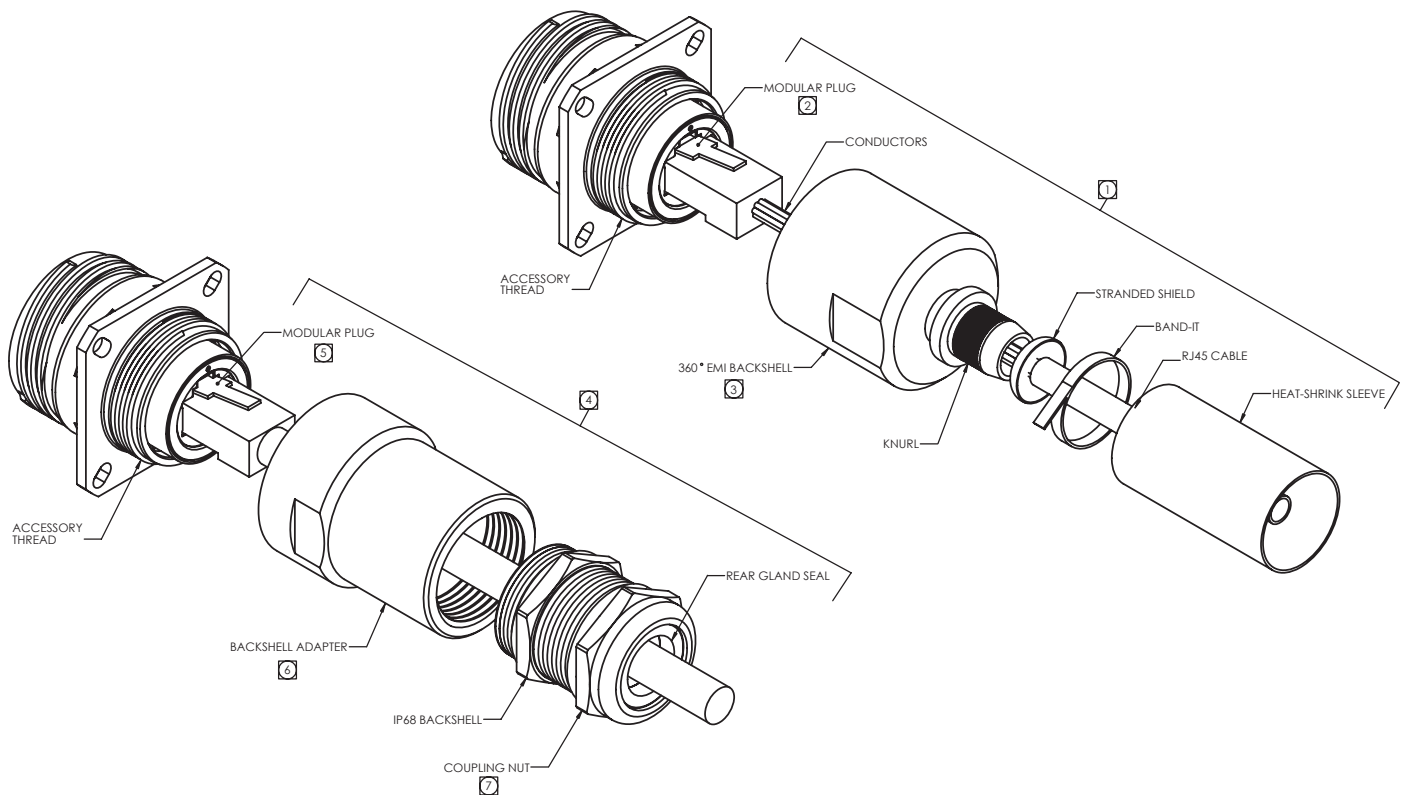


SHELL SIZE	A		B		B		C		D		E	
	(TP)		For Back Mounting Min.		For Front Mounting Min.		$\pm.005$	$\pm.13$	$+.000$ $-.010$	$+.00$ $-.25$	$+.010$ $-.000$	$+.25$ $-.00$
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
17	1.062	26.97	1.219	30.96	1.016	25.81	.128	3.25	1.210	30.73	1.260	32.01
19	1.156	29.36	1.297	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 36 0 ° 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 Plastic 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 = converts IP68 plastic backshell to metal										
Consult Factory for Modificatons										

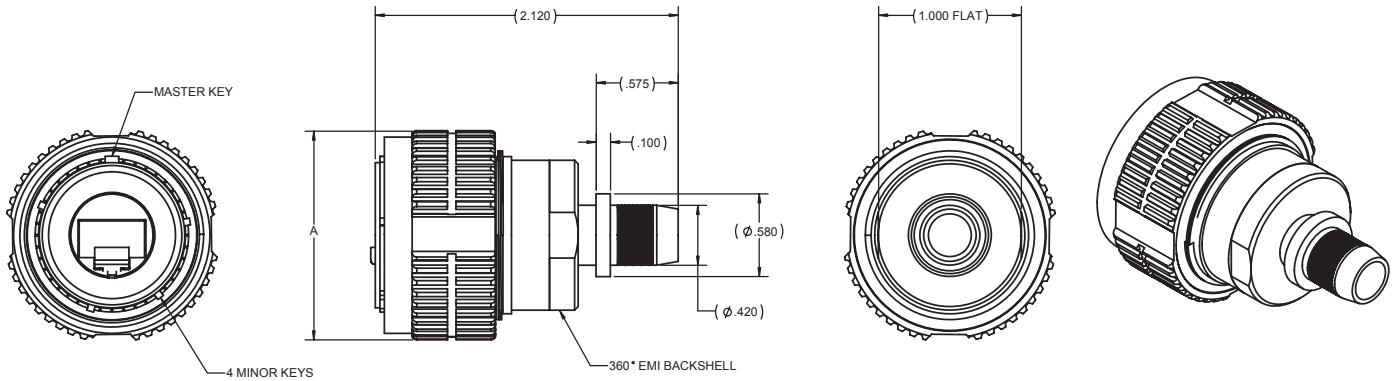
JT93



Ruggedized RJ45 Plug Connectors Shell Dimensions

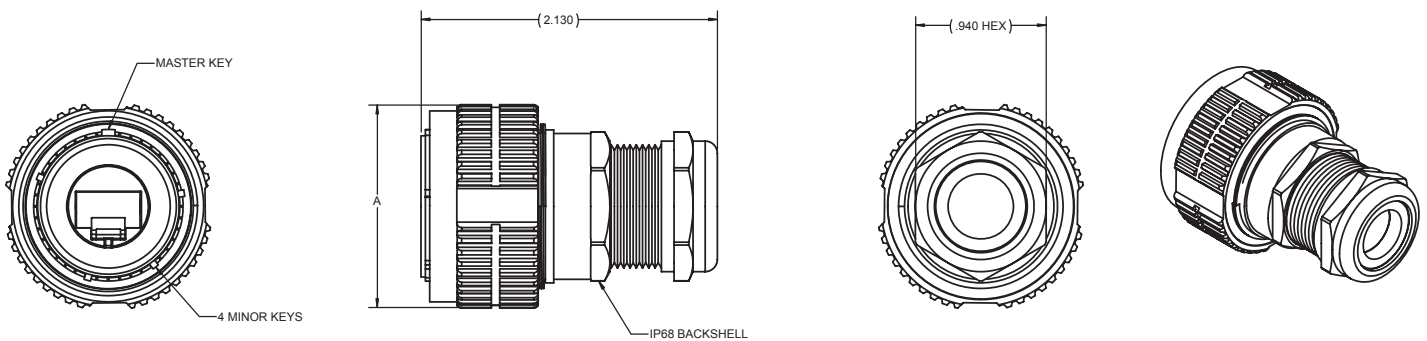


Plug Connector Shell Type PE



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

Plug Connector Shell Type PG



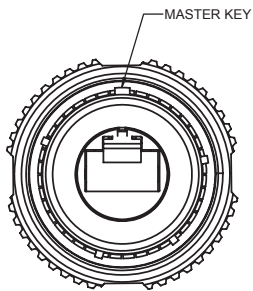
SHELL SIZE	A	
	MAX	
	in.	mm
17	1.406	35.70
19	1.516	38.50

JT93

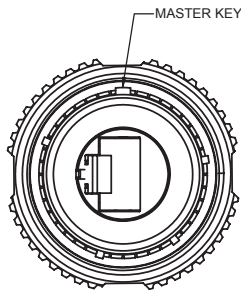


Shell Polarization

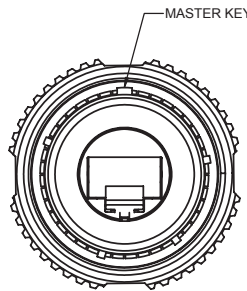
CODE A



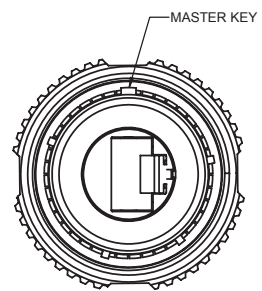
CODE B



CODE C



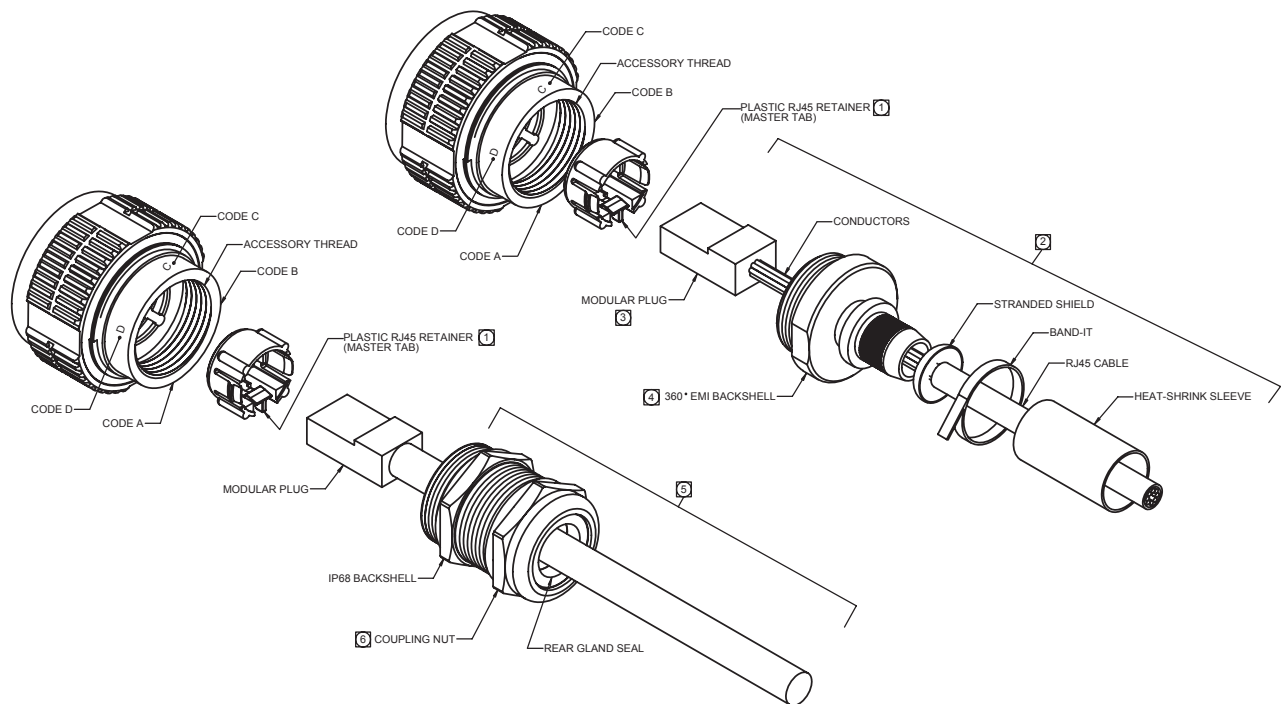
CODE D



Ruggedized RJ45 Plug Connectors Assembly Instructions



Assembly Instructions



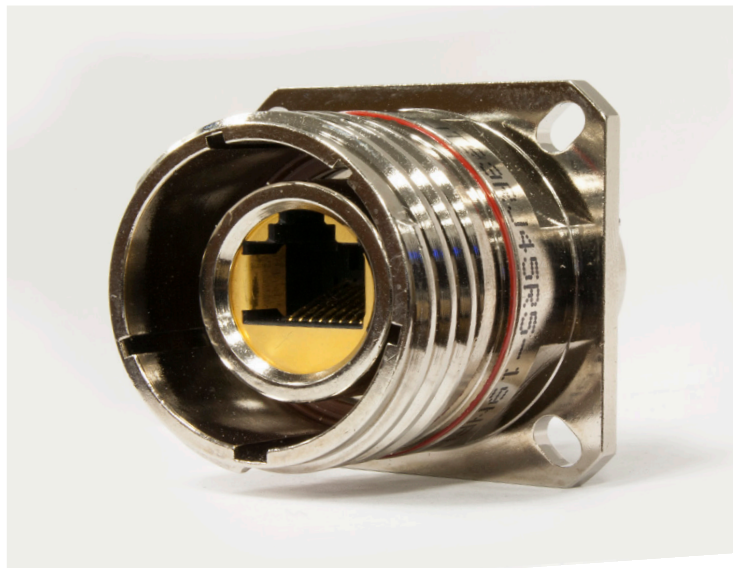
- 1 POSITION THE PLASTIC RJ45 RETAINER MASTER TAB WITH PLUG HOUSING KEYWAYS TO THE DESIRED CODE A, B, C, OR D ILLUSTRATED ON SHELL HOUSING AND ON SHEET 3. NEXT, PUSH THE PLASTIC RJ45 RETAINER FIRMLY INTO PLACE UNTIL IT CLICKS.
- 2 TERMINATION INSTRUCTIONS FOR 360° EMI BACKSHELL: SLIDE THE HEAT SHRINK 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.

JT93

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									

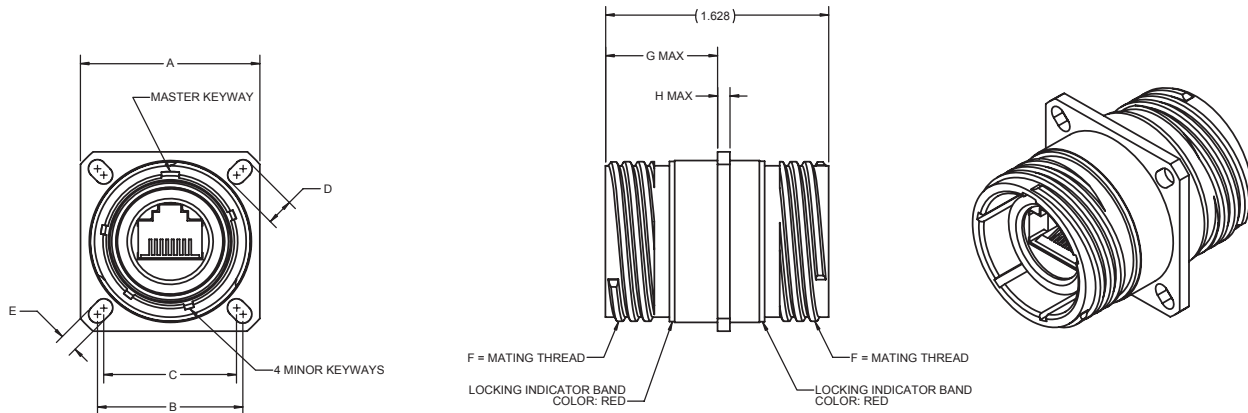
JT93



Ruggedized RJ45 Through Bulkhead Receptacles Shell Dimensions

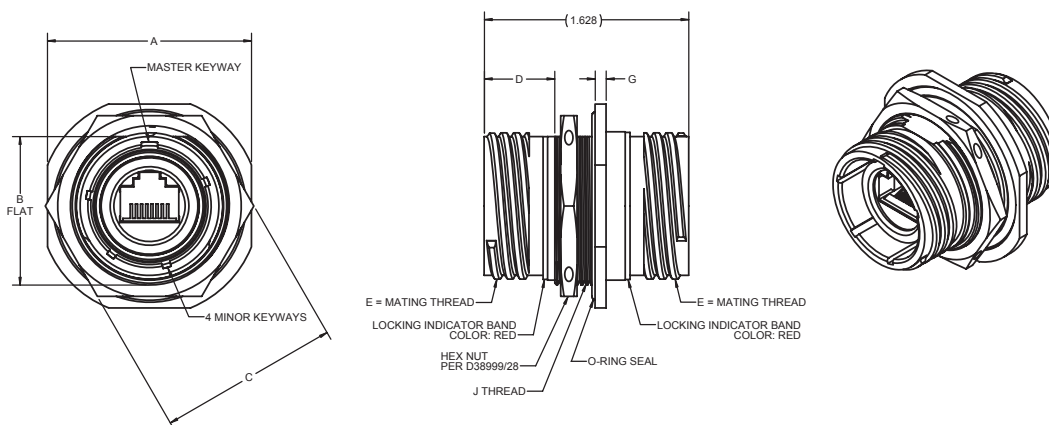


Bulkhead Receptacle Connector Shell Type FN



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

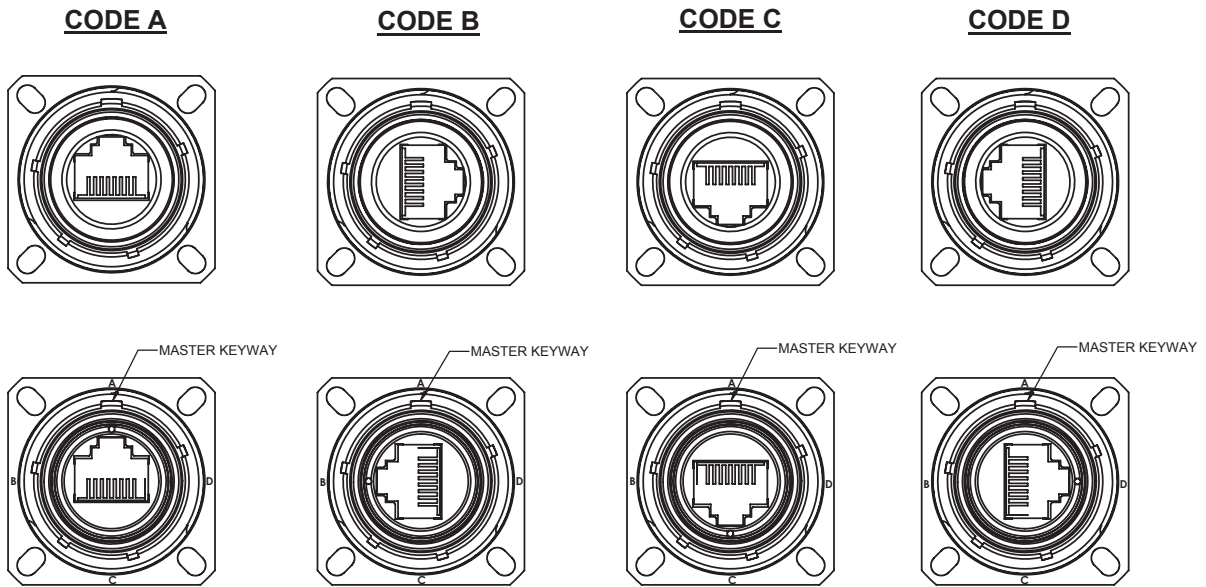
Jam Nut Receptacle Shell Type JN



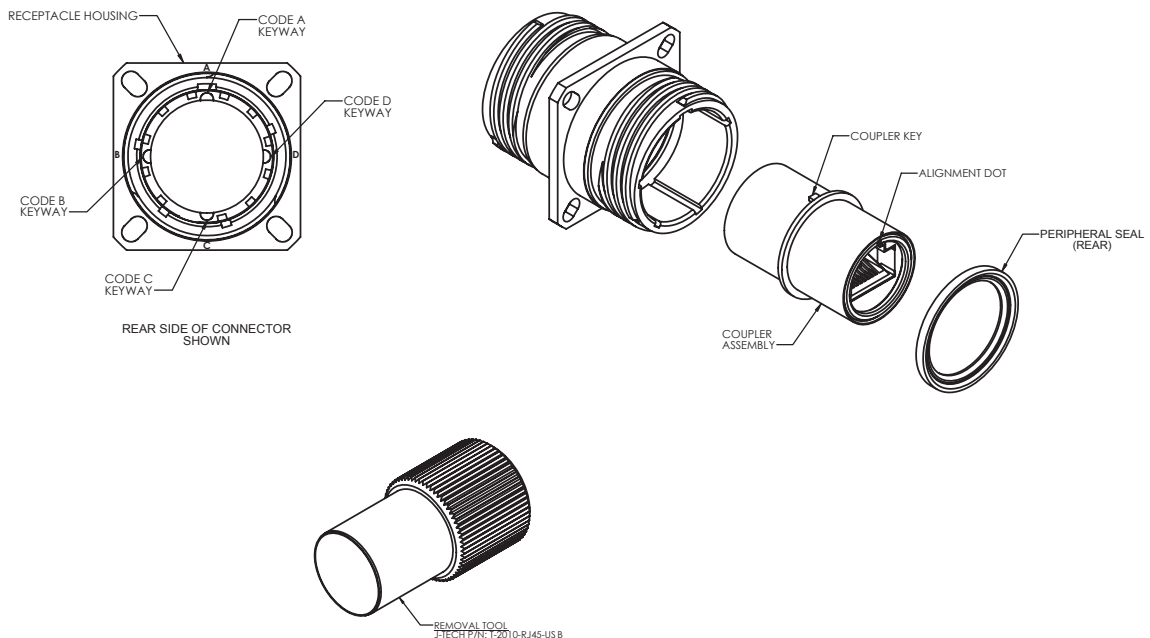
SHELL SIZE	A		B		C		D		E	G		J	
	±.016	±.40	+ .004 - .006	+ .10 - .15	HEX NUT		+ .024 - .000	+ .60 - .00		Mating Thread Class 2B	+ .035 - .004	+ .90 - .10	Jam Nut Thread
	in.	mm	in.	mm	in.	mm	in.	mm	in.		mm		
17	1.626	41.30	1.187	30.15	1.457/1.422	37.00/36.12	.555	14.10	1.1875-0.1P-0.3L	.087	2.20	M32x1-6g 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

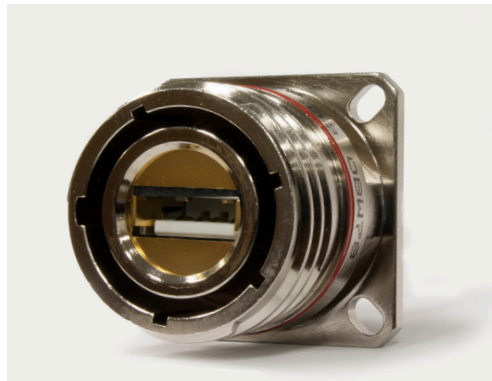
How to Order



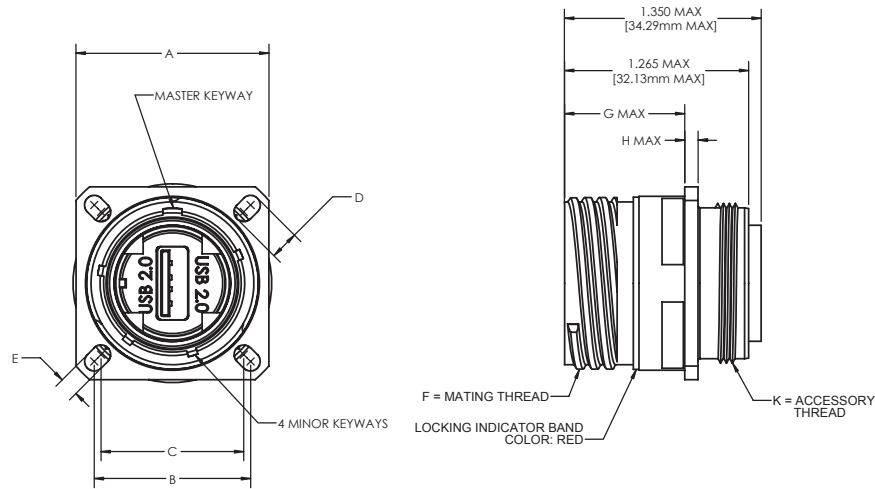
J-Tech Part Number Development

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

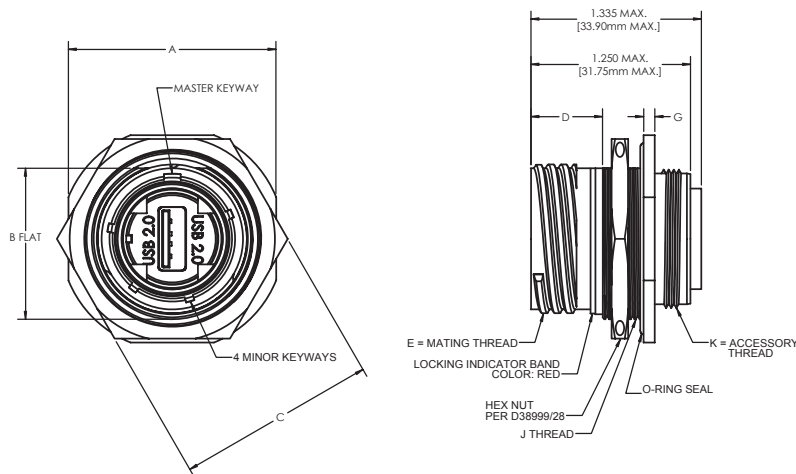


Wall Mount Receptacle Shell Type FN



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

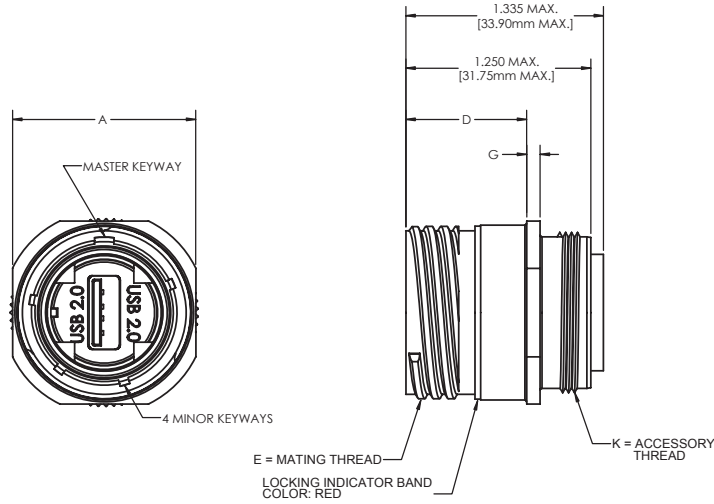


SHELL SIZE	A		B		C		D		E	G		J		Accessory Thread Metric
	±.016	±.40	+ .004 - .006	+ .10 - .15	HEX NUT		+ .024 - .000	+ .60 - .00		Mating Thread Class 2B	+ .035 - .004	+ .90 - .10	Jam Nut Thread	
	in.	mm	in.	mm	in.	mm	in.	mm	in.		mm			
15	1.500	38.10	1.062	26.97	1.417/1.296	36.00/32.91	.555	14.10	1.0000-0.1P-0.3L	.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

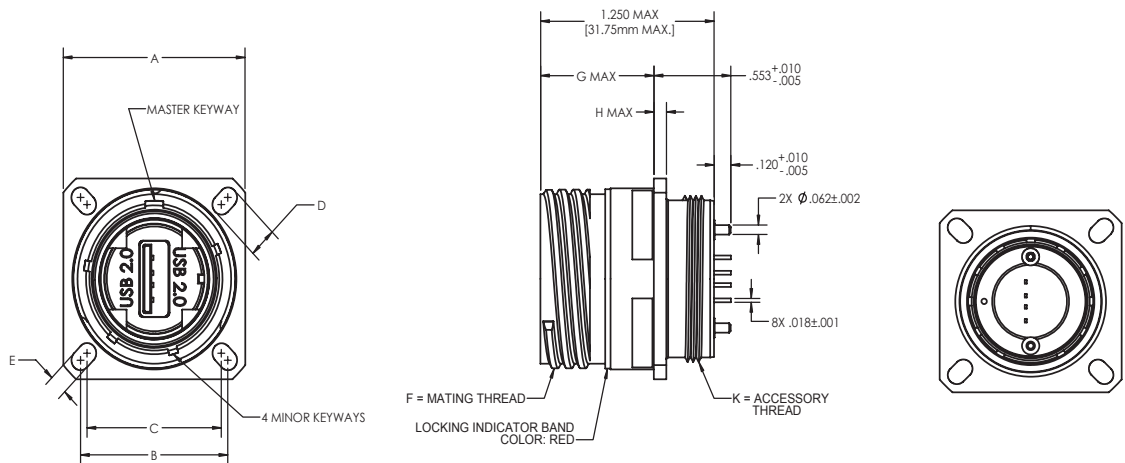


Inline Receptacle Shell Type KN



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	1.0000-1P-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

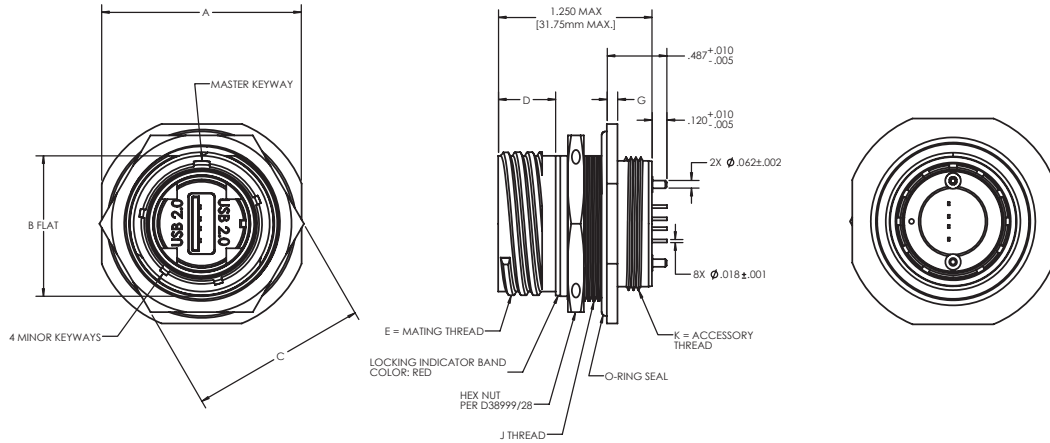
Wall Mount Receptacle with PC Tail Shell Type FN



SHELL SIZE	A		B		C		D		E		F	G		H		K
	±.012	±.30	(TP)		(TP)		±.008	±.20	±.008	±.20		MAX.		MAX.		
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	Mating Thread Class 2A	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

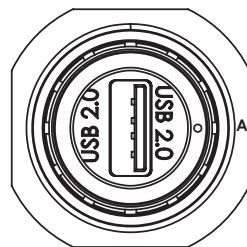
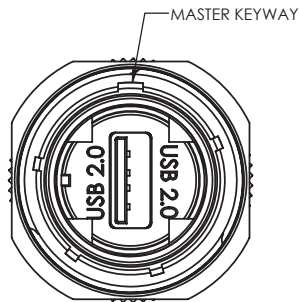
Jam Nut Receptacle with PC Tail Shell Type JN



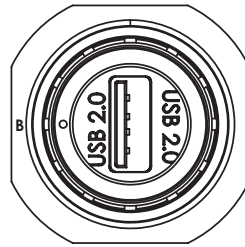
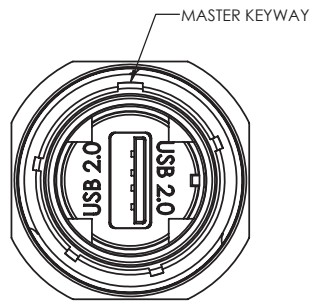
SHELL SIZE	A		B		C		D		E	G		J	Accessory Thread Metric
	±.016	±.40	+0.004	+0.10	HEX NUT		+0.024	+0.60	Mating Thread Class 2B	+0.035	+0.90	Jam Nut Thread	
	in.	mm	-0.006	-0.15	in.	mm	in.	mm		in.	mm		
15	1.500	38.10	1.062	26.97	1.417/1.296	36.00/32.91	.555	14.10	1.0000-0.1P-0.3L	.087	2.20	M28x1-6g 0.100R	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



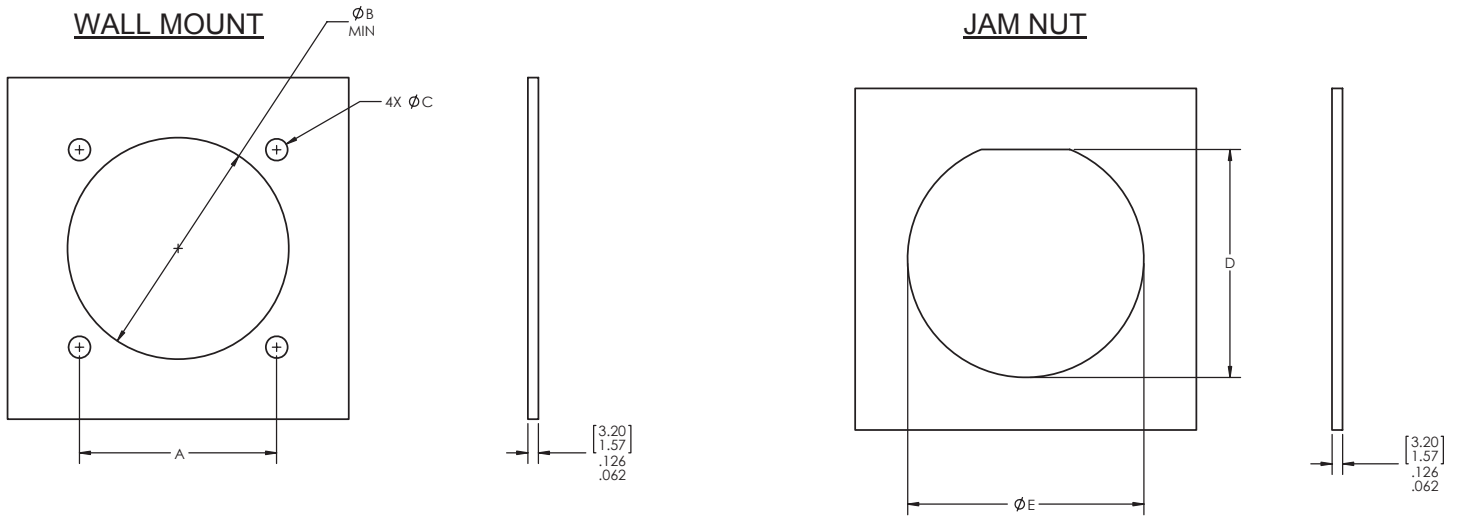
CODE B



Ruggedized USB Receptacles Panel Cutouts/PCB Layout

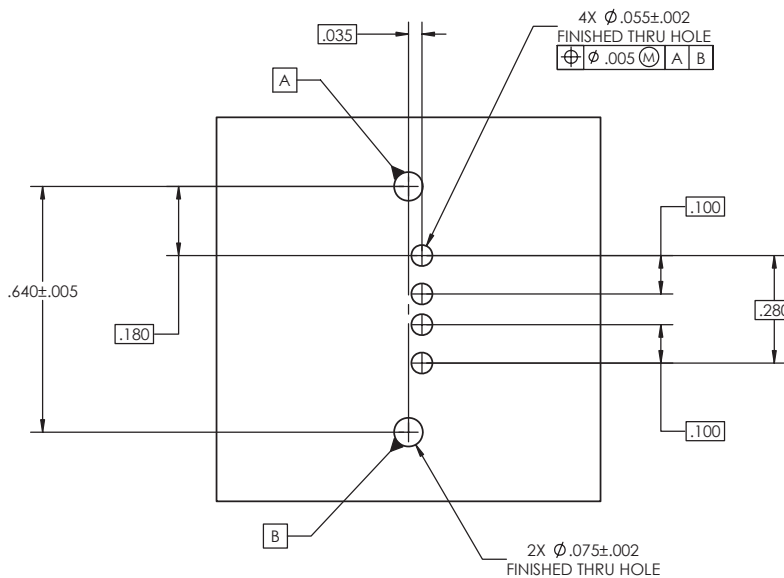


Panel Cutouts



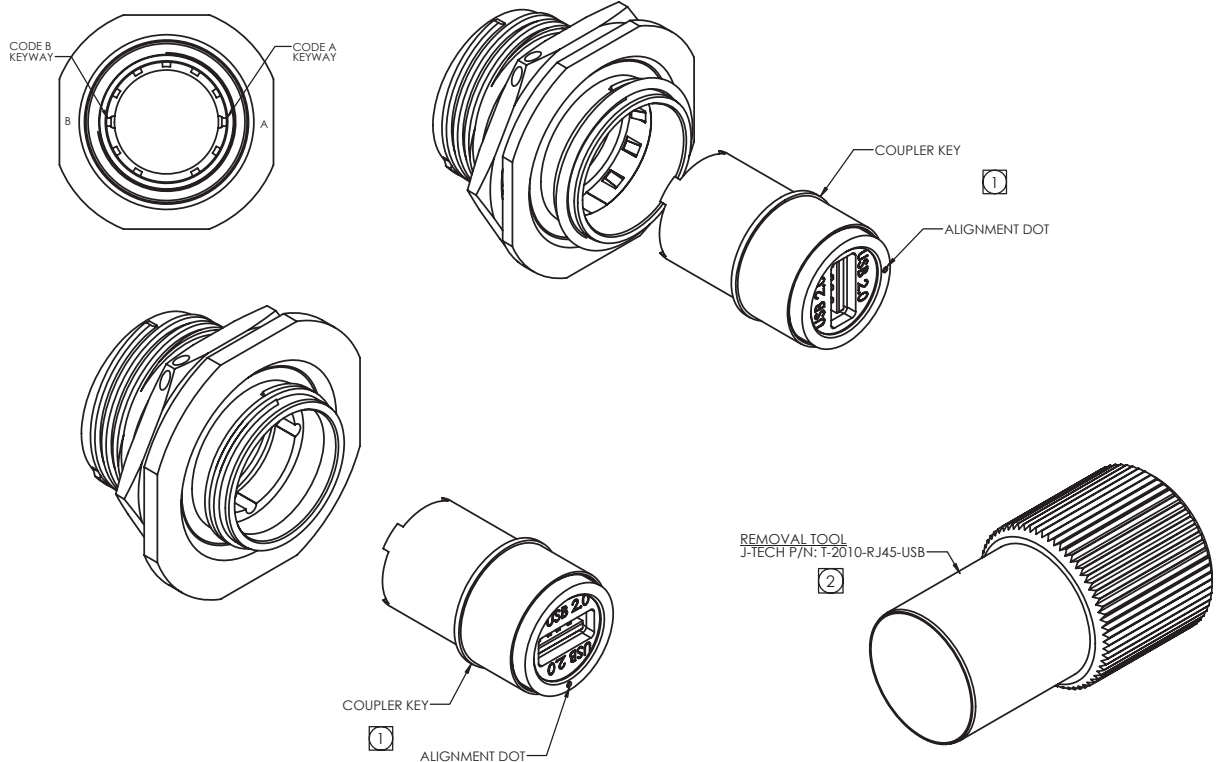
SHELL SIZE	A		B		B		C		D		E	
	(TP)		For Back Mounting Min.		For Front Mounting Min.		±.005	±.13	+ .000 - .010	+ .00 - .25	+ .010 - .000	+ .25 - .00
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
15	.969	24.61	1.047	26.59	.906	23.01	.128	3.25	1.085	27.56	1.135	28.83
17	1.062	26.97	1.219	30.96	1.016	25.81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

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



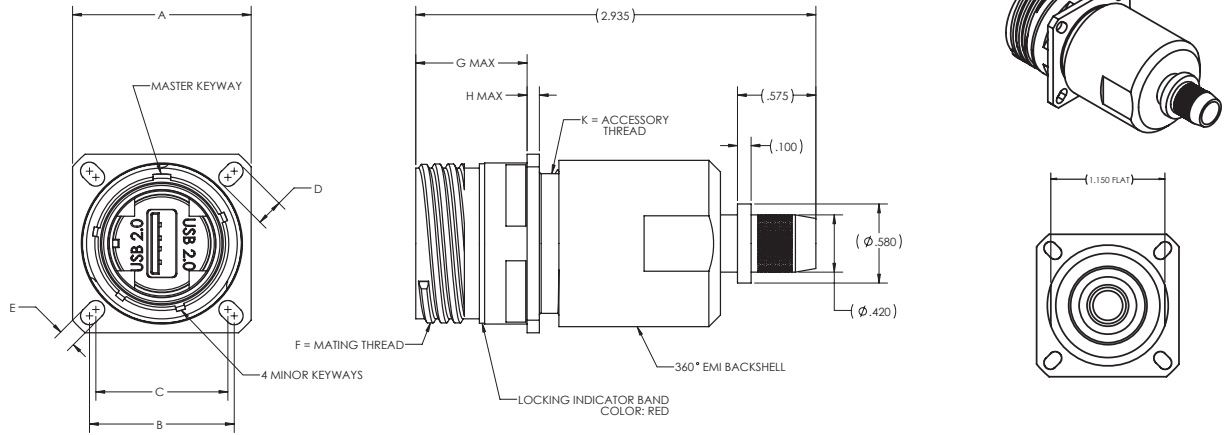
J-Tech Part Number Development

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 Plastic Backshell JP = Jam Nut Receptacle with IP68 Plastic Backshell KG = Inline Receptacle with IP68 Plastic 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 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

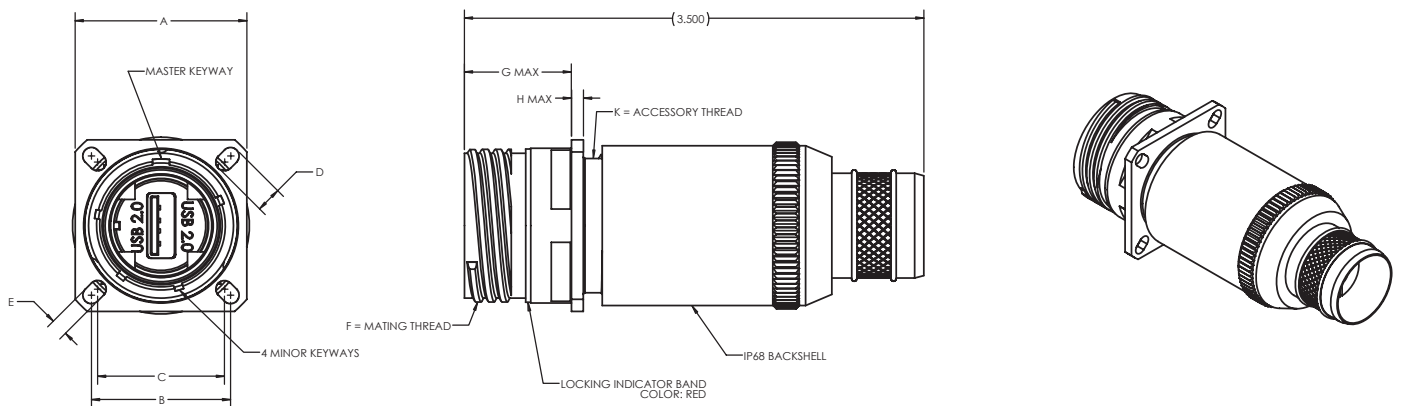


Wall Mount Receptacle Shell Type FE



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



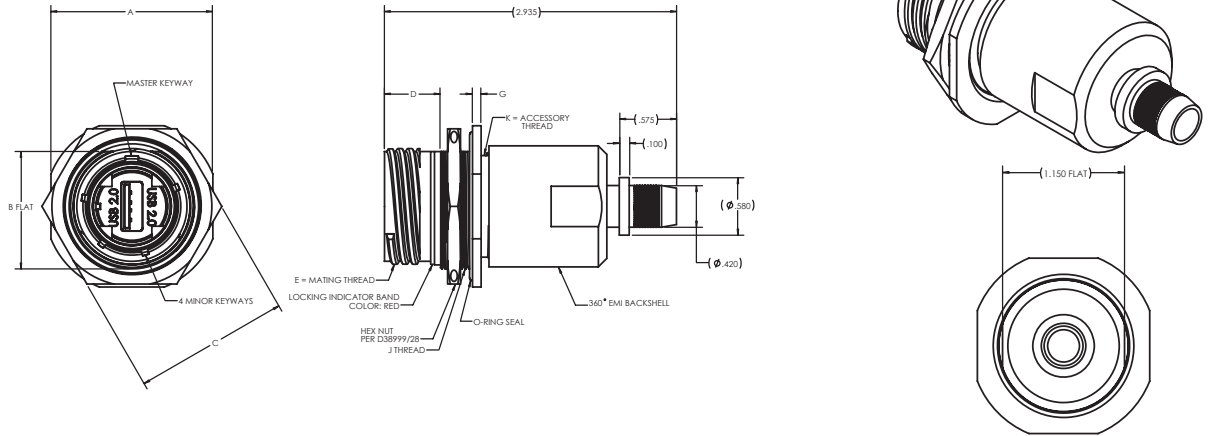
SHELL SIZE	A		B		C		D		E		F	G		H		Accessory Thread Metric
	±.012	±.30	(TP)		(TP)		±.008	±.20	±.008	±.20		Mating Thread Class 2A	MAX.		MAX.	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.		mm	in.	mm	
15	1.220	31.00	.969	24.61	.906	23.01	.173	4.39	.128	3.25	1.0000-0.1P-0.3L	.820	23.83	.098	2.50	M28x1.0-6g 0.100r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

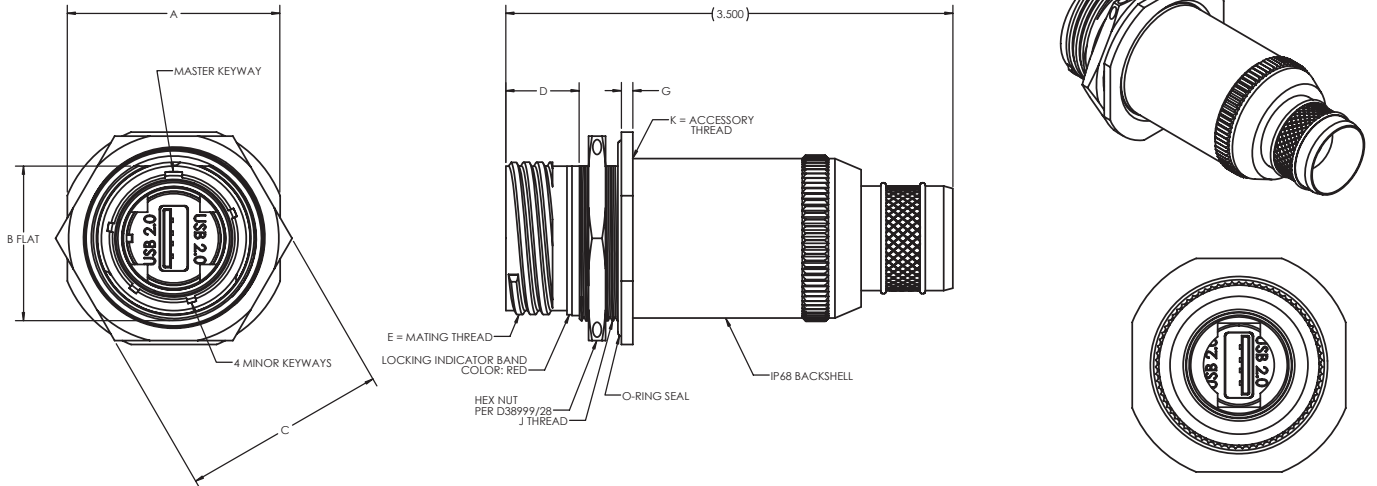


Jam Nut Receptacle Shell Type JE



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	+0.90	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-.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	

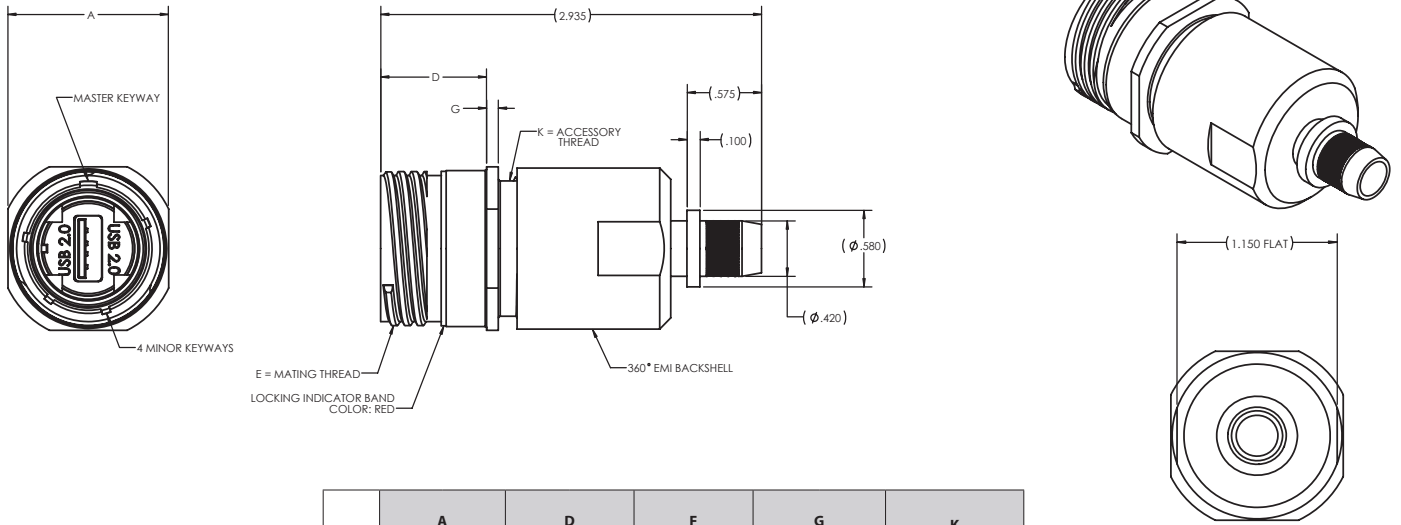
Jam Nut Receptacle Shell Type JP



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	+0.90	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-.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	

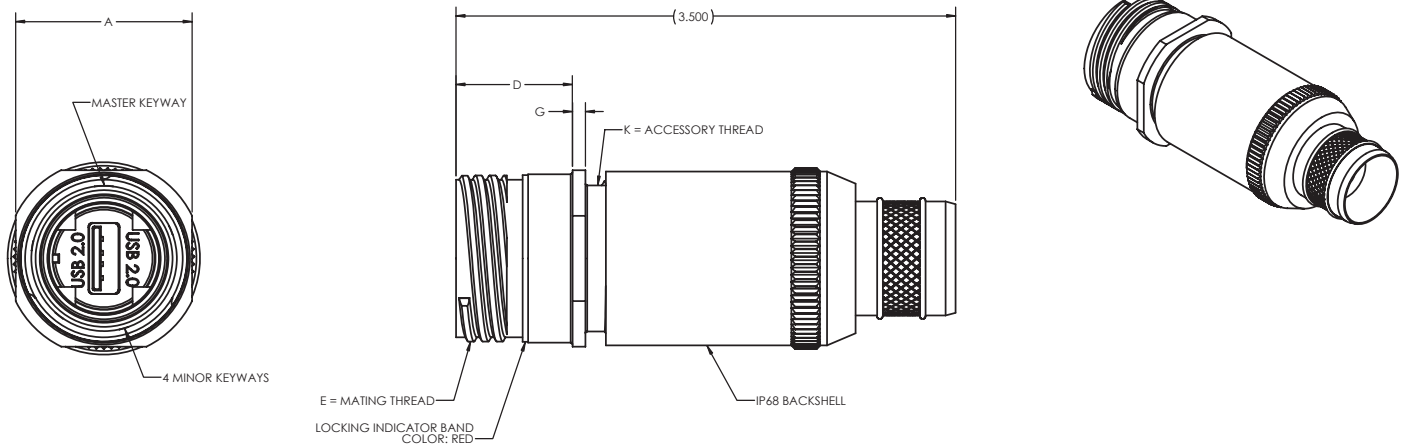
JT93

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

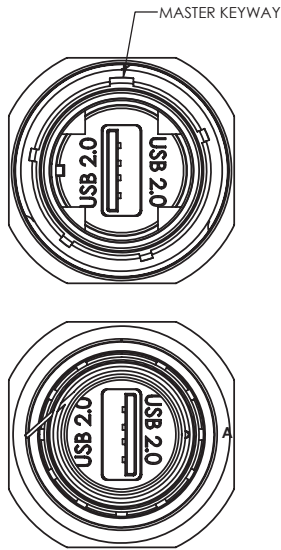
JT93

Ruggedized USB Receptacles with Backshell Polarizations

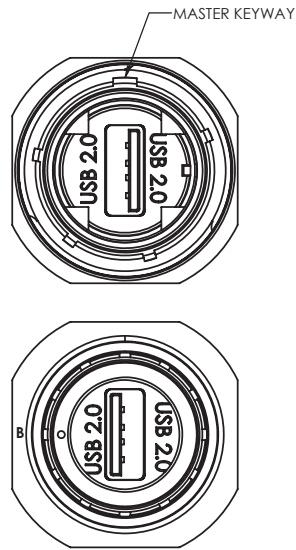


Shell Polarization

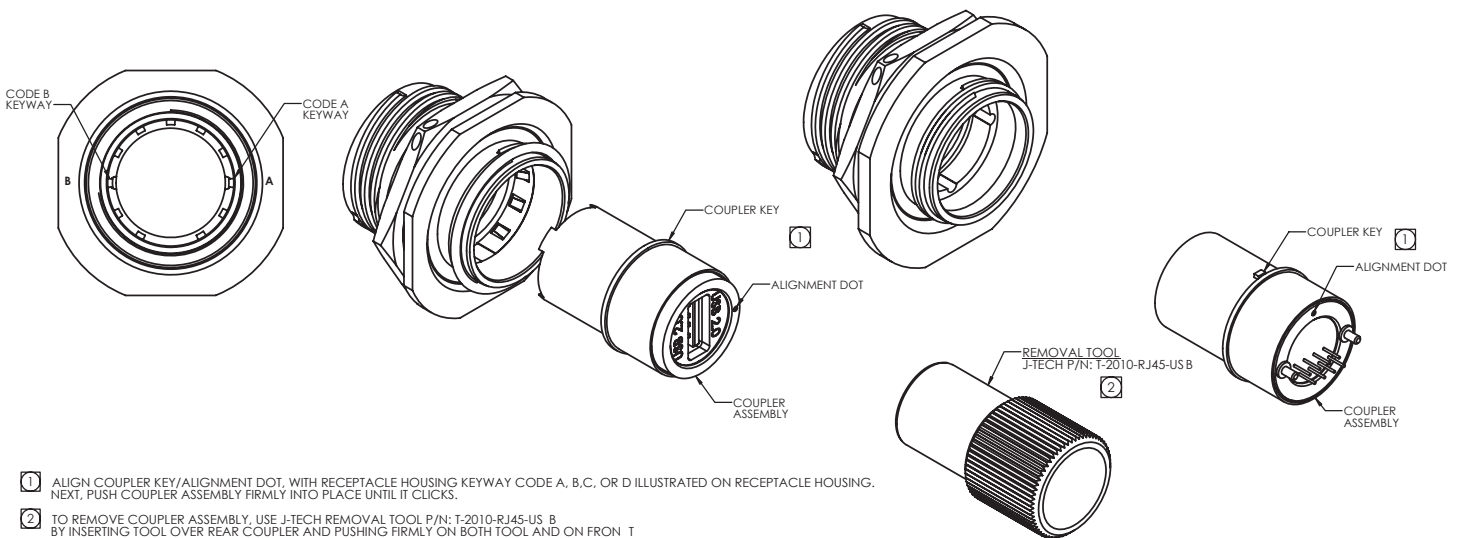
CODE A



CODE B



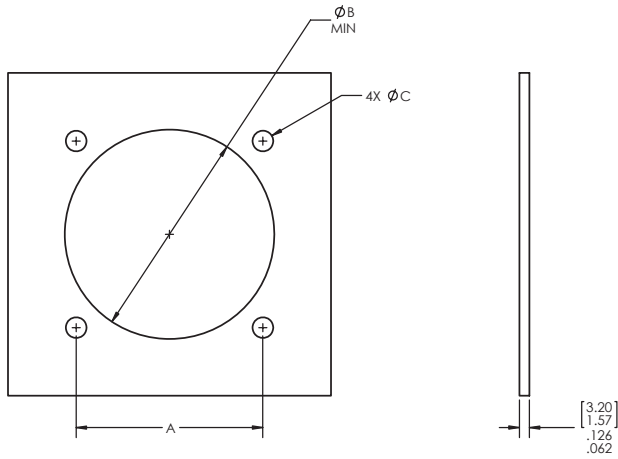
JT93



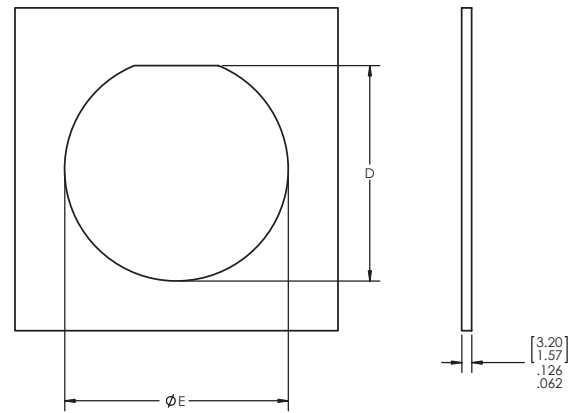
- ① ALIGN COUPLER KEY/ALIGNMENT DOT, WITH RECEPTACLE HOUSING KEYWAY CODE A, B, C, OR D ILLUSTRATED ON RECEPTACLE HOUSING. NEXT, PUSH COUPLER ASSEMBLY FIRMLY INTO PLACE UNTIL IT CLICKS.
- ② TO REMOVE COUPLER ASSEMBLY, USE J-TECH REMOVAL TOOL P/N: T-2010-RJ45-US B BY INSERTING TOOL OVER REAR COUPLER AND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

Panel Cutouts

WALL MOUNT



JAM NUT

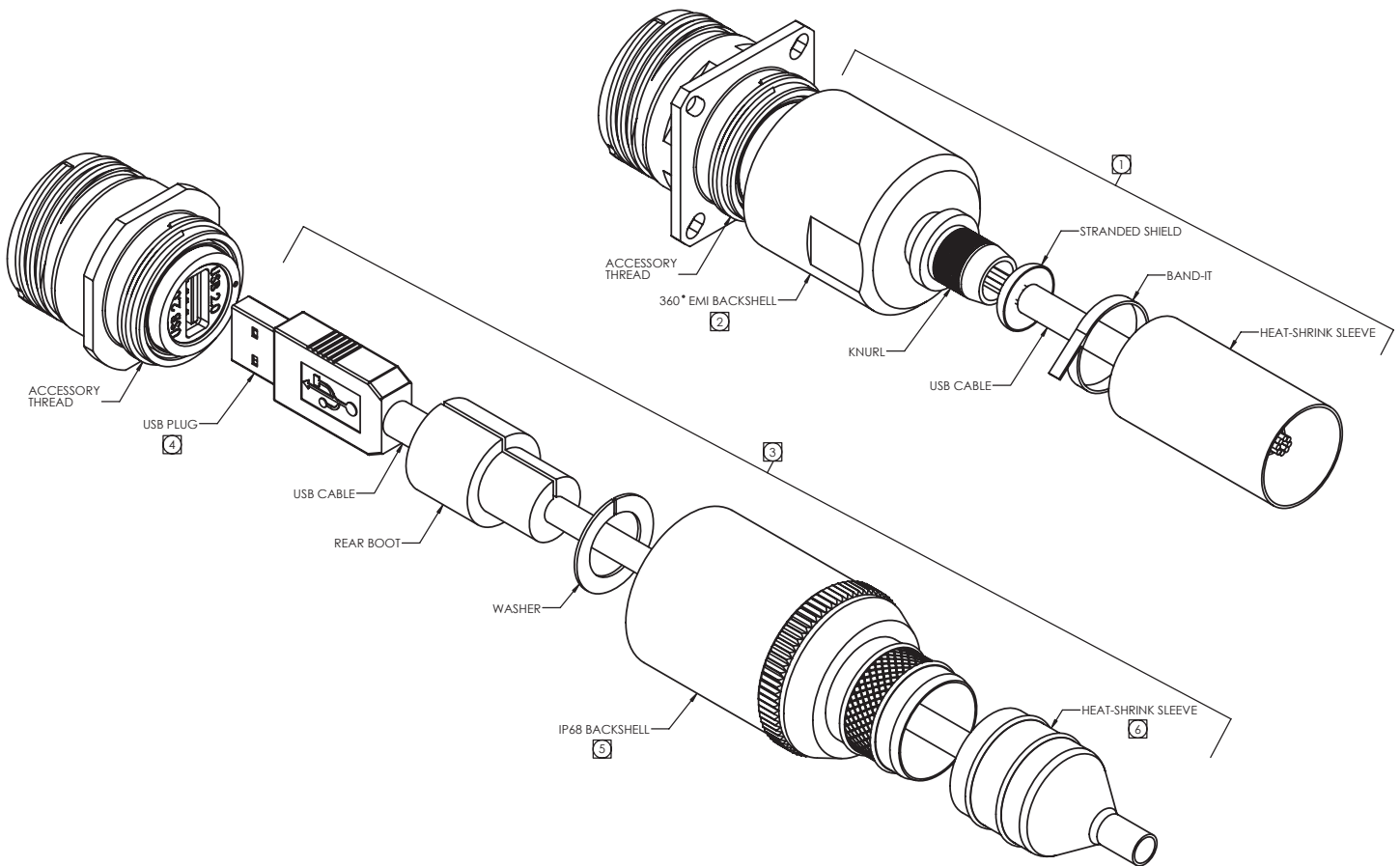


SHELL SIZE	A		B		B		C		D		E	
	(TP)		For Back Mounting Min.		For Front Mounting Min.		±.005	±.13	+ .000 - .010	+ .00 - .25	+ .010 - .000	+ .25 - .00
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
15	.969	24.61	1.047	26.59	.906	23.01	.128	3.25	1.085	27.56	1.135	28.83
17	1.062	26.97	1.219	30.96	1.016	25.81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



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 Plastic 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										

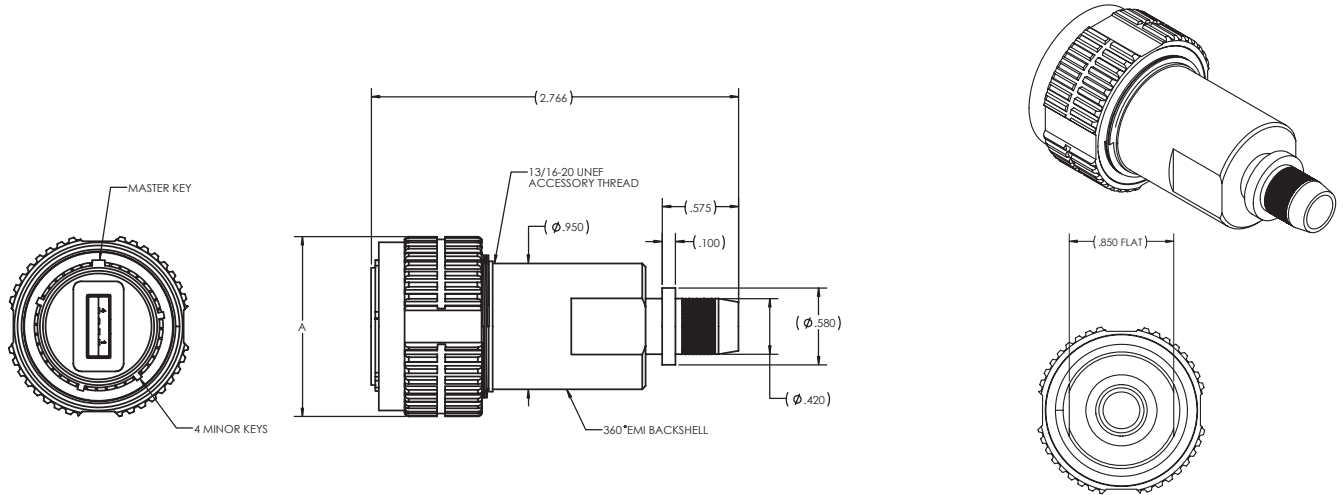
JT93



Ruggedized USB Plug Connector Shell Dimensions

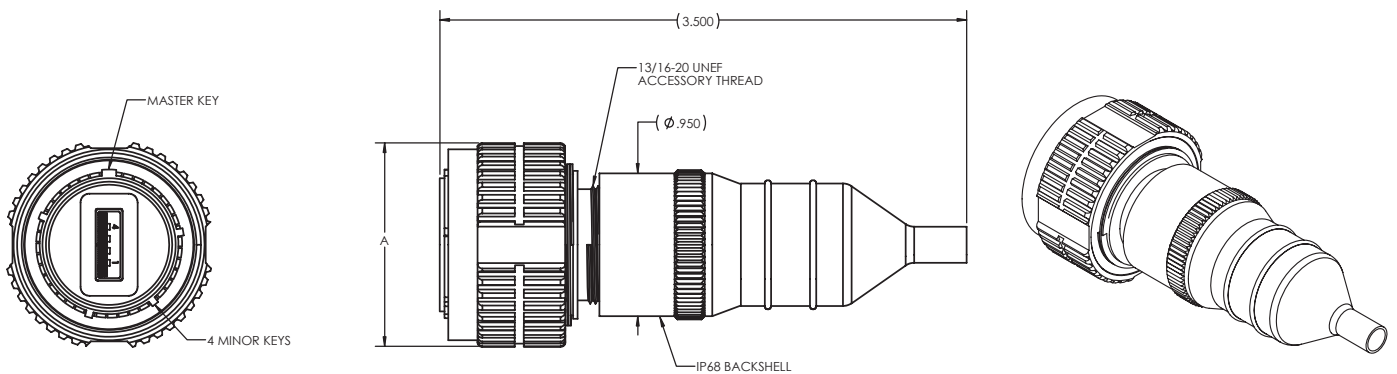


Jam Nut Receptacle Shell Type PE



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

Jam Nut Receptacle Shell Type PG



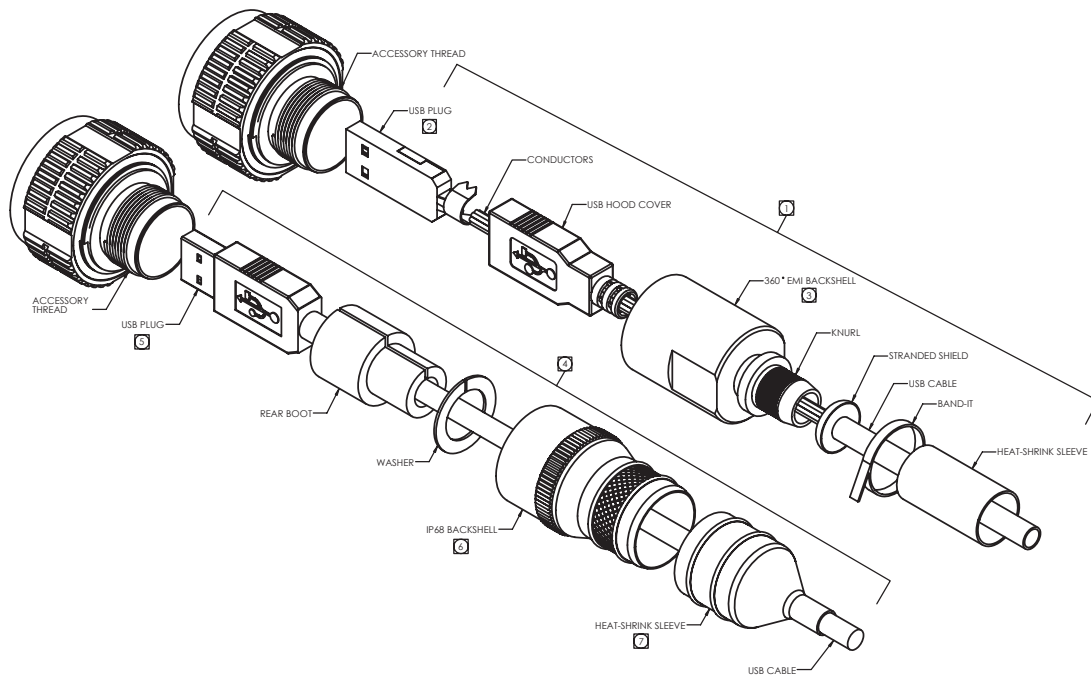
SHELL SIZE	A	
	MAX	
	in.	mm
15	1.280	32.50
17	1.406	35.70

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.