



Overview

In today's world of high-speed communications, Ethernet has become the platform for all voice, video and data services. R-Jack Ethernet Inter-connect Solution, OCC's ruggedized family of RJ-45 receptacles, plugs, backshells and accessories, empowers customers to extend Ethernet platforms into harsh military and industrial operating environments.

The R-Jack Ethernet Inter-connect Solution provides an efficient, comprehensive and affordable solution to Ethernet connectivity in harsh and environmentally challenged applications. R-Jack Ethernet components feature a smaller mechanical footprint (receptacles, dust caps, backshells), occupying less panel space, allowing higher density. R-Jack Ethernet receptacles feature 100% transversely sealed (IP-68) configurations as a standard product design, preventing dust, water or moisture penetration, with or without dust cap or plug engagement. R-Jack Ethernet receptacles offer comprehensive shielding and grounding effectiveness capable of sustaining higher data transmission rates as well as Electro-Magnetic Conductance (EMC) for military applications. Lastly, R-Jack Ethernet components feature multiple pre-kitted solutions including gaskets, O-rings, mounting brackets, and hardware, making it easier for customers to procure, install and integrate these components.

Applications

- DATA, VOIP, IPTV in Harsh Environments
- Railways
- Radar Systems
- Industrial Process Control
- Data Acquisition and Control
- Shelters
- Battlefield Communication Systems
- 10/100/1000 BASE-T



Features and Benefits

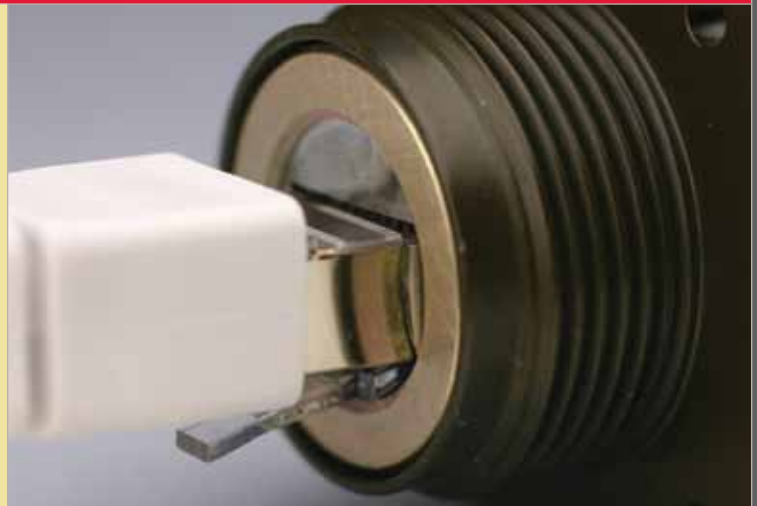
FEATURES		BENEFITS
<p>Conforms to MIL-DTL-38723 and MIL-DTL-38999 mechanical specifications</p>		<p>Smaller profile affords tighter panel density with ample space to remove dust cap, unlike other MIL-DTL-38999-style products (OCC configuration shown on right).</p>
<p>MIL-DTL-38999 form-fit receptacles available</p>		<p>Both MIL-DTL-38999 equivalent jam nut and flange receptacle versions are available and feature smaller dust cap profiles.</p>
<p>Transversely sealed: standard feature for jam nut, flange-mount and in-line receptacles</p>		<p>Product meets/exceeds IP-68 rating with or without dust covers engaged or when plug is engaged with receptacle.</p>
<p>Common cable strain relief that can accommodate both small and large cable diameters, complete with compressive fittings for shielded cable</p>	<p style="text-align: right; font-size: small;">ECRU0011UB 0.190-0.330" Cable O.D.</p>	<ul style="list-style-type: none"> • R-Jack is designed to integrate with jam nut, flange-mount, in-line receptacles and plugs. • Compression nut establishes 10 lbs. cable strain-relief. • Internal conductive compression developed to interoperate with cable braid to form 360° ground plane.
<p>Pre-provisioned mounting hardware, conductive O-rings, gasket options</p>		<p>Mounting hardware options for flange-mount units include:</p> <ul style="list-style-type: none"> • Screws with "pressed in" pem nuts • Screws with nylon "locking" nuts • Screws with mounting bracket • Self-sealing screws for "sealed" flange-mount options • Nitrile or conductive O-ring; gaskets supplied as standard provision



Higher data rates require proper grounding and shielding. R-Jack plugs, receptacles, and backshells are designed to establish sufficient grounding between shielded cord sets as well as between cord set and chassis ground.

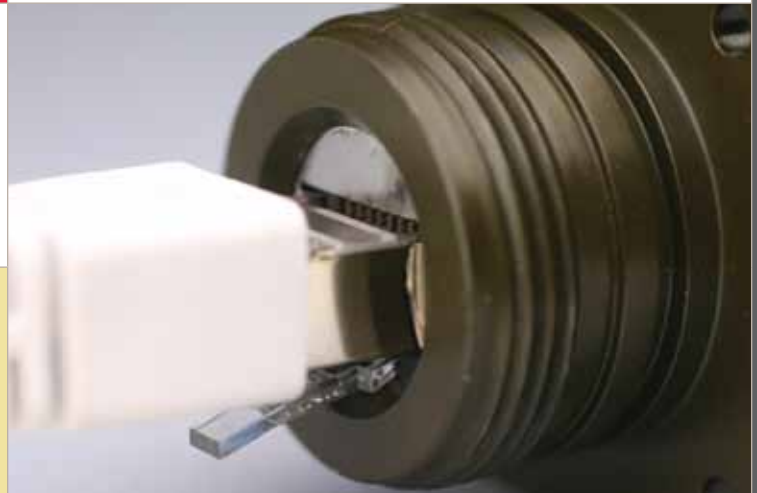
R-Jack shielding capabilities also provide EMC/EMI shielding for applications where immunity to electromagnetic interference is critical.

Available in zinc nickel, e-nickel, nickel-teflon or stainless-steel plated options only.



EMC Shroud (rear view) – conductive surface with shielded cable

FEATURES	BENEFITS
<p>>0.033Ω – Shielded cable to cable</p> <p>>0.033Ω – Shielded cable to chassis ground</p>	<p>Ensures grounding between cord sets with shielding on both jacks</p> <p>Ensures chassis ground between receptacle, shielded RJ-45 cord sets</p>
<p>Conductive O-ring (jam nut) and gasket (flange-mount) options for receptacles</p> <p>Zinc nickel, nickel-teflon or e-nickel plating option</p>	<p>Tested IAW MIL-STD-461F, RS103</p>

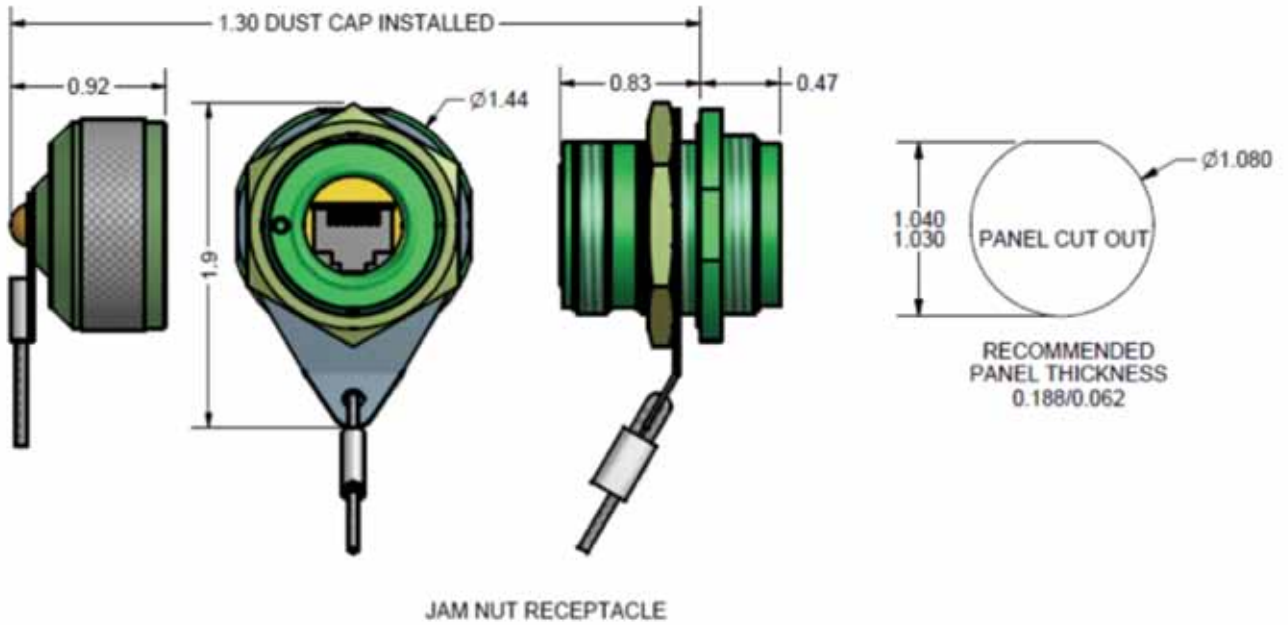


EMC Shroud (front view) – conductive surface with shielded cable and receptacle ground (chassis ground)

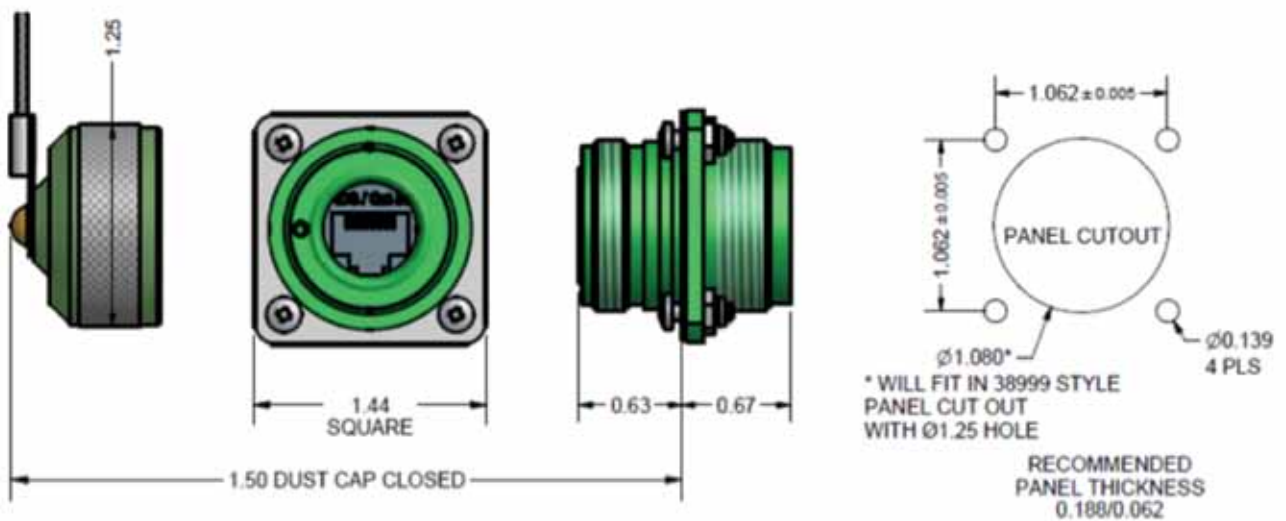
Performance Specifications

SPECIFICATION	PARAMETER	RANGE
Insertion Loss	IEEE 802.3, LX	1000 BASE-T, NXT, FXT
Temperature cycling	EIA-364-32, 25 cycles	-45°C to +100°C
Temperature shock	EIA-364-32, 5 cycles	-40°C to +100°C
Humidity resistance	EIA-364-31, 21 days	43°C, 98% humidity
Water submersion	IP-68, IEC-60529	1M depth, 48 hrs.
Dust test	IP-68, IEC-60529	20mBARS air pressure, 8 hrs.
Mechanical shock	EIA-364-27B	100G, 6ms, half sine, 6 directions
Vibration	EIA-364-28	Test Condition IV, 4 hrs. per axis, 12 hrs./total
Matting durability	EIA-364-09	500 mate/demate cycles
Flammability	Per UL94	Compliant to V0, V1, 10 sec. each
Salt spray	EIA-364-26	500 hrs.
Shell-to-shell conductivity (ZiNi plating only)	EIA-364-83	1V @ 1.5VDC, 100 hrs.
Electromagnetic shielding effectiveness	IEEE-STD-299	20kHz, 150kHz, 14MHz, 400MHz, 600MHz, 1GHz, 2GHz, 8GHz, 10GHz, vert. and horz., <-60dB
Hi-pot high-voltage test	EN61010-1	600VAC-60Hz, 900uA, Ramp=10 sec., (8 channels)

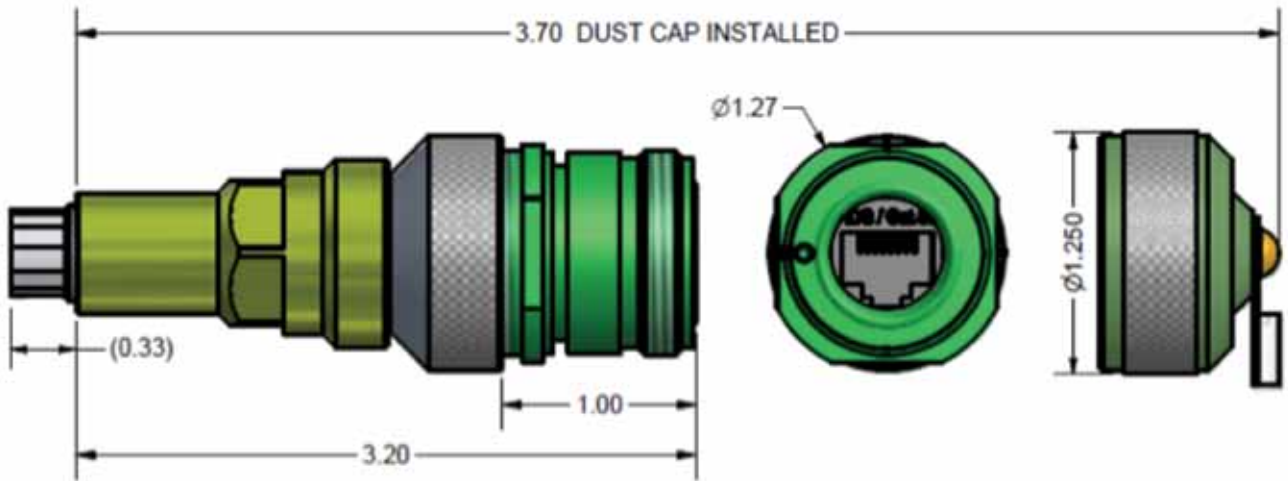
Jam Nut Receptacle



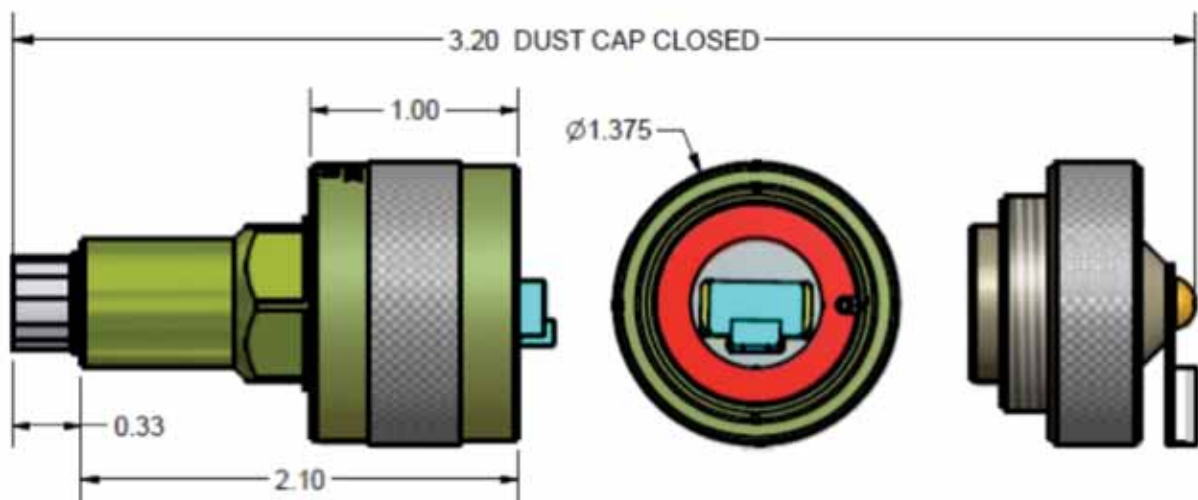
Flange-Mount Receptacle



In-Line Receptacle



Plug



Ordering Information

Part Numbering	ECR	A	0	1	0	2	U	A	A
<p>CONFIGURATION TYPE</p> <p>A* – Plug (compatible with D, F, G, J, K, H, P, and S style receptacles)</p> <p>B – Receptacle, jam nut, MIL-DTL-38999 style, rear mnt.</p> <p>C – Receptacle, flange-mnt., MIL-DTL-38999 style front/rear mnt.</p> <p>D – Receptacle, flange-mnt., front/rear mnt., no mnt. hardware</p> <p>F – Receptacle, flange-mnt., front/rear mnt., w/pem nuts and HDW</p> <p>G – Receptacle, flange-mnt., front/rear mnt., w/mnt. screws/l. nuts</p> <p>H – Receptacle, flange-mnt., mnt. bracket and screws</p> <p>J – Receptacle, jam nut, FITS D38999/24 cutout, M83723/60</p> <p>K – Receptacle, jam nut, small profile, rear mnt.</p> <p>P – Receptacle, in-line</p> <p>S – Receptacle, jam nut, special mnt.</p> <p>U – Accessories (backshell, dust caps)</p>									<p>CORDSET LENGTH (Receptacle termination only)</p> <p>0 – None (female receptacle)</p> <p>A – 1 ft.</p> <p>B – 2 ft.</p> <p>C – 3 ft.</p> <p>D – 5 ft.</p>
<p>DUST CAP</p> <p>0 – None</p> <p>1 – Female, metal, collar and lanyard ECRJ jam nut receptacle only</p> <p>2 – Female, metal, collar and lanyard for jam nut receptacle</p> <p>3 – Female, metal, eyelet and lanyard for flange-mnt. receptacle</p> <p>4 – Male, metal, crimp sleeve and lanyard for plug</p> <p>5 – Female, metal, crimp sleeve and lanyard for in-line receptacle</p> <p>6 – Female, metal, eyelet and lanyard for MIL-DTL-38999 flange-mnt. recpt.</p> <p>7 – Female, metal, collar and lanyard for MIL-DTL-38999 jam nut recpt.</p>									<p>STRAIN-RELIEF (CABLE O.D.)</p> <p>0 – Not applicable</p> <p>A – Straight backshell, 0.190–0.270" O.D.</p> <p>B – Straight backshell, 0.271–0.330" O.D.</p> <p>C – 90° backshell, 0.190–0.315" O.D.</p> <p>D – 45° backshell, 0.190–0.315" O.D.</p> <p>E – Strain-relief clamp 0.190–0.286" O.D.</p>
<p>EMC SHIELDING</p> <p>1 – EMC shielded (includes conductive gasketing)^a</p> <p>2 – No EMC shielding (default for dust cap, backshell or plug)</p>									
<p>INSERT SEALING</p> <p>0 – Sealed transversely (IP-68 uncapped/receptacle mated to plug)</p> <p>1 – Not sealed transversely (IP-68 dust caps mated to plugs/receptacle only)</p> <p>*If configuring a plug, "1" will be your sealing option.</p>									
									<p>NOT USED</p>
									<p>FINISH</p> <p>1 – Anodized¹</p> <p>2 – E-Nickel²</p> <p>3 – Zinc Nickel²</p> <p>4 – 303 Stainless²</p> <p>5 – 316 Stainless²</p> <p>6 – Naval Brass</p> <p>7 – CAD²</p> <p>8 – Nickel Teflon</p>

NOTE:

^a EMC configurations include ECRA, ECRD, ECRE, ECRG, ECRH, ECRJ, and ECRK; dust caps, backshells plated with zinc nickel.

Ordering Information

Offering Fully Kitted Solutions

No longer do you have to order multiple parts to install your RJ-45 solution.

Notes:

- Kit example includes receptacle, dust cover, back plate, hardware and gasket
- For receptacle configurations, hardware standard screws provided are four 40 x 3/8"
- Sealed Version – self-sealing screws are provided
- Non-Sealed Version – regular screws are provided

