



Overview

In today's world of high-speed communications, Ethernet has become the platform for all voice, video and data services. R-JACK™ Ethernet Interconnect 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 Interconnect 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



R-JACK™ SOLUTION

Features and Benefits

FEATURES		BENEFITS
<p>Conforms to MIL-DTL-83723 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-fits 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>Meets/exceeds IP-68 rating with or without dust covers engaged or when plug is engaged with receptacle.</p>
<p>Common cable strain relief can accommodate both small and large cable diameters, complete with compressive fittings for shielded cable</p>		<ul style="list-style-type: none"> • Designed to integrate with jam-nut, flange-mount, in-line receptacles and plugs. • Compression nut establishes 10lb. 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

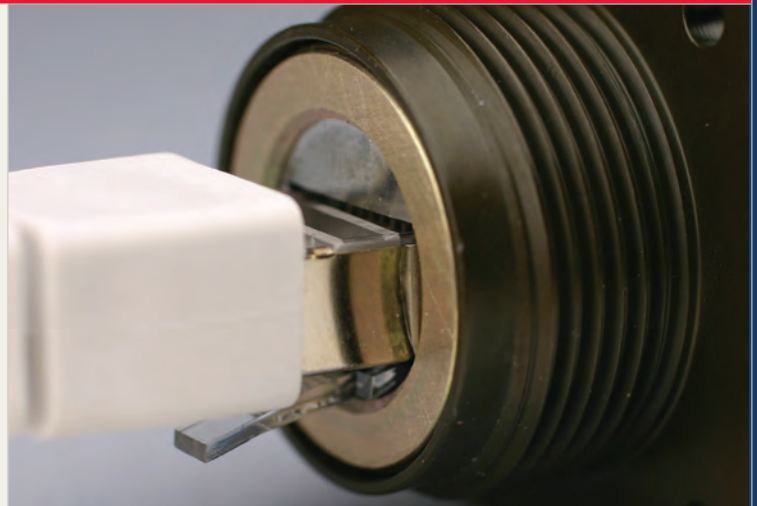
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EMC Capability – Built for Speed, Performance

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

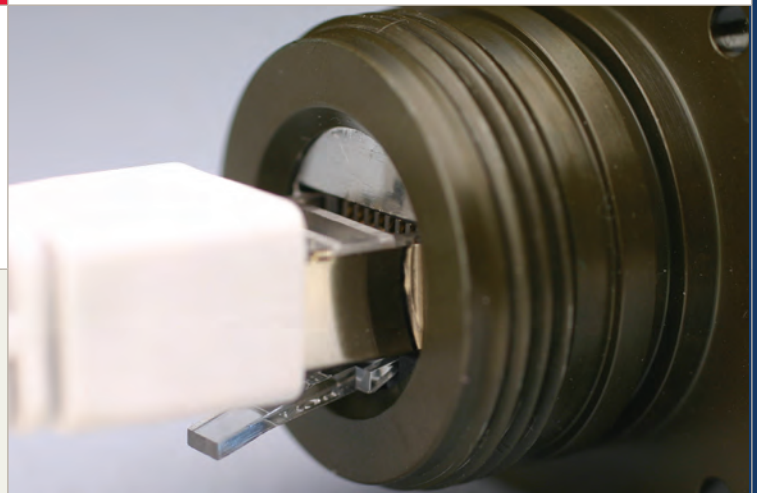
R-JACK™ shielding capabilities also provide EMC/EMI shielding for applications where immunity to electromagnetic interference is critical.

Available in Zinc Nickel, E-Nickel, or stainless steel plated options only.



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

FEATURES	BENEFITS
<p>>0.033 Ω – Shielded Cable to Cable</p> <p>>0.033 Ω – 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 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)

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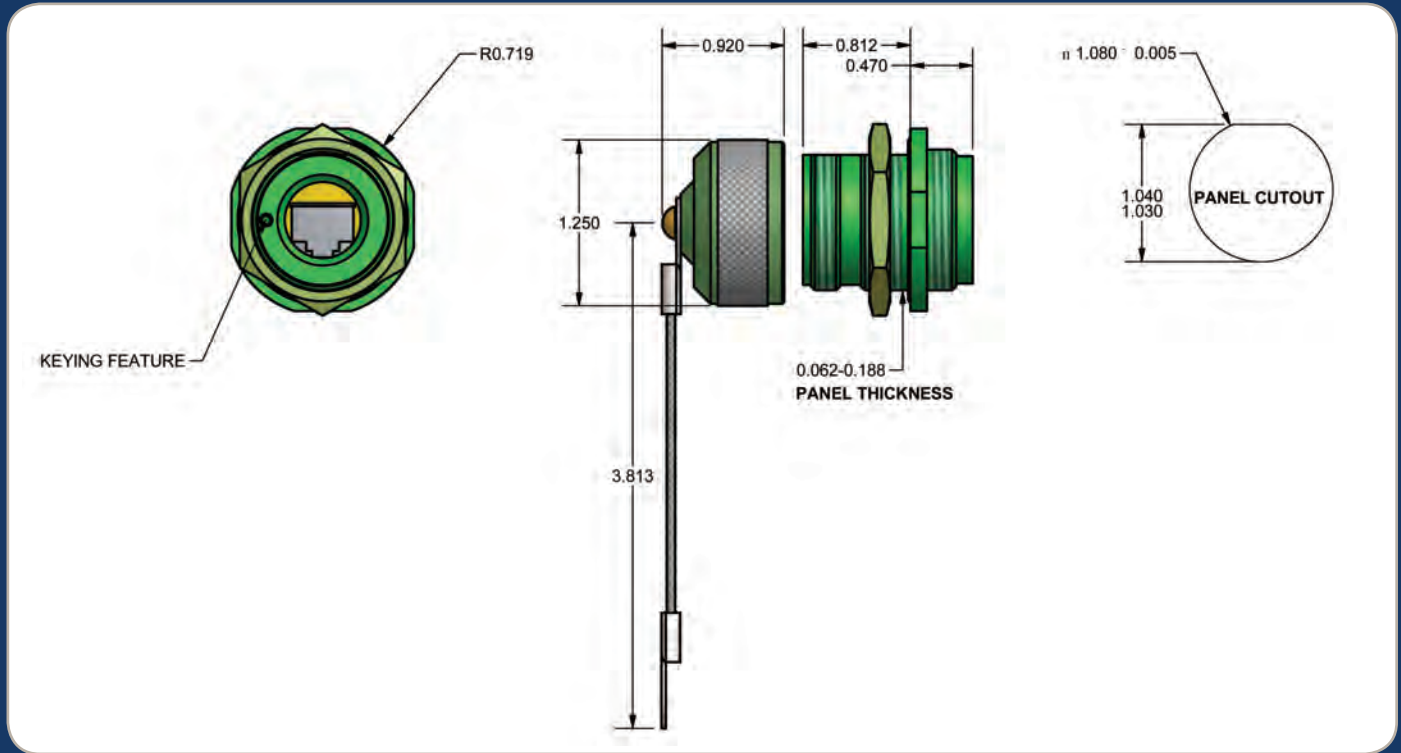
Performance Specifications

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	1 M Depth, 48 Hours
Dust Test	IP-68, IEC-60529	20mBARS Air Pressure, 8 Hours
Mechanical Shock	EIA-364-27B	100G, 6ms, Half Sine, 6 directions
Vibration	EIA-364-28	Test Condition IV, 4 Hours Per Axis, 12 Hours 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 Hours
Shell- To-Shell Conductivity (ZiNi Plating Only)	EIA-364-83	1V @ 1.5VDC, 100 Hours
Electromagnetic Shielding Effectiveness	IEEE-S TD-299	20kHz, 150kHz, 14 MHz, 400 MHz, 600 MHz, 1GHz, 2GHz, 8GHz, 10GHz, VER T. & HORZ., <-60dB
Hi-Pot High Voltage Test	EN61010-1	600VAC-60Hz, 900uA, Ramp=10sec., (8 channels)

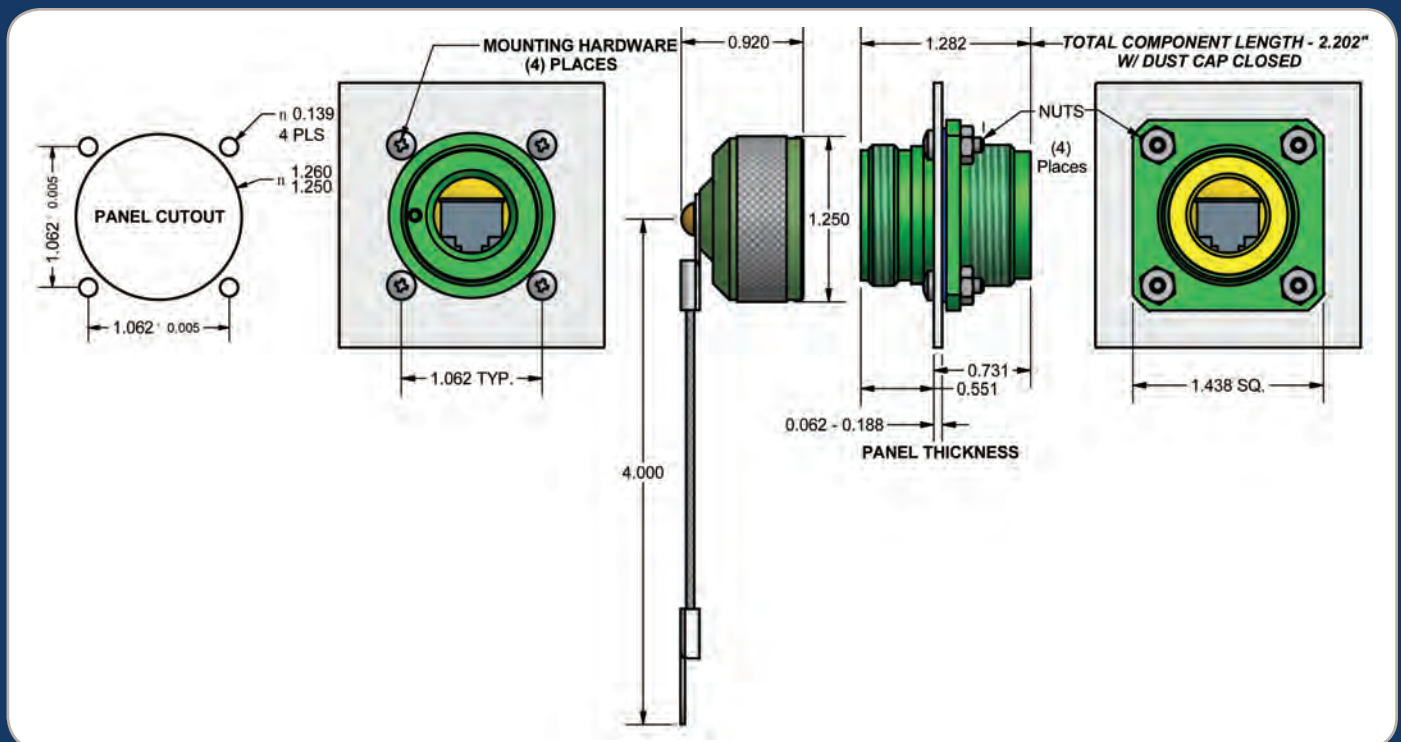
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Product Drawings

Jam-Nut Receptacle



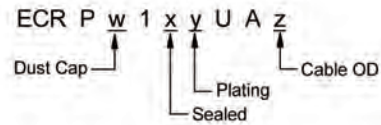
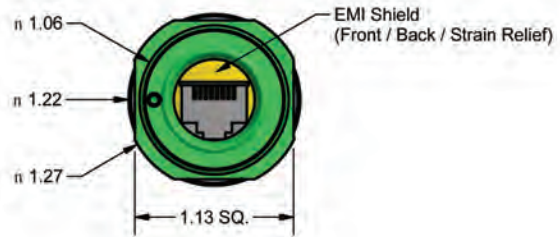
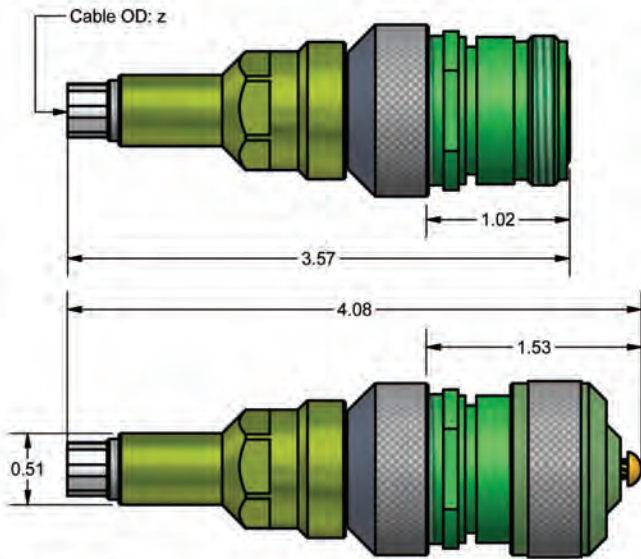
Flange-Mount Receptacle



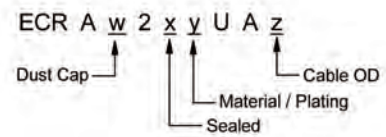
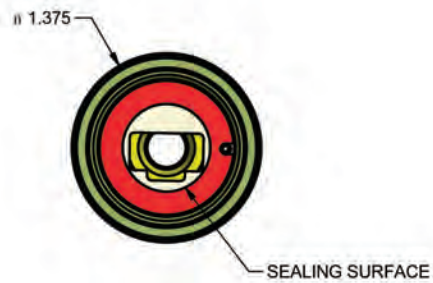
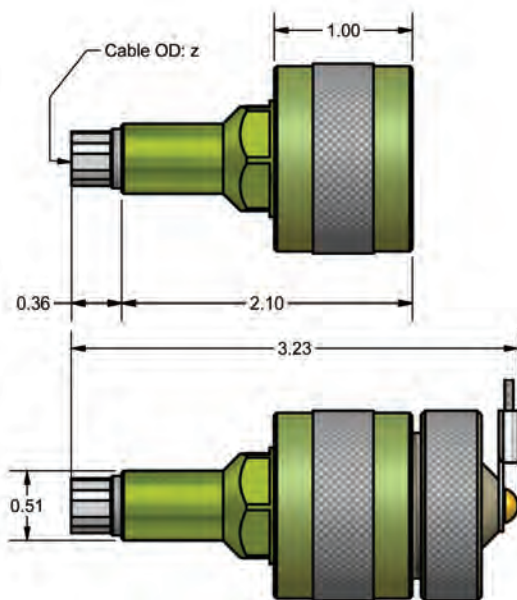
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Product Drawings

In-Line Receptacle



Plug



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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, & 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 Mnt., w/Pem Nuts & HDW</p> <p>G – Receptacle, Flange-Mnt., Front/Rear Mnt., w/Mnt. Screws/L. Nuts</p> <p>H – Receptacle, Flange-Mnt., Mnt. Bracket & Screws</p> <p>J – Receptacle, Jam-Nut, FITS D38999/24 CUT-OUT, 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 & Lanyard ECRJ Jam-Nut Recept. only</p> <p>2 – Female, Metal, Collar & Lanyard for Jam-Nut Recept.</p> <p>3 – Female, Metal, Eyelet & Lanyard for Flange-Mnt. Recept.</p> <p>4 – Male, Metal, Crimp Sleeve & Lanyard for Plug</p> <p>5 – Female, Metal, Crimp Sleeve & Lanyard for In-Line Recept.</p> <p>6 – Female, Metal, Eyelet & Lanyard for MIL-DTL-38999 Flange-Mnt. Recept.</p> <p>7 – Female, Metal, Collar & Lanyard for MIL-DTL-38999 Jam-Nut Recept.</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>0 – Not Applicable (use for Dust Cover, Backshell or Plug)</p> <p>1 – EMC Shielded (includes Conductive Gasketing)^a</p> <p>2 – No EMC Shielding</p>									
<p>INSERT SEALING</p> <p>0 – Sealed Transversely (IP68 Uncapped/Receptacle Mated to Plug)</p> <p>1 – Not sealed Transversely^b (IP68 Dust Caps Mated to Plugs/Receptacle Only)</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 – Brass</p> <p>7 – CAD²</p> <p>¹ RoHS compliant. Check with OCC Inside Sales Representative for details.</p> <p>² Use this type of plating/material for EMI/EMC applications</p>

NOTE:

^a EMC configurations include: ECRA, ECRD, ECRE, ECRG, ECRH, ECRJ, ECRK; Dust Caps, Backshells plated with Zinc Nickel

^b Use 1 for A or U Configuration types

R-JACK™ SOLUTION

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 4-40 x 3/8".
- Sealed Version – self-sealing screws are provided.
- Non-Sealed Version – regular screws are provided.

