



## 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 receptacles offer a 100% transversely sealed (IP-68) configuration option, preventing dust, water or moisture penetration, with or without dust cap or plug engagement. Other R-Jack options include 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 offers multiple pre-kitted solutions including gaskets, O-rings, mounting brackets, and hardware, making it easier for customers to procure, install and integrate these components. OCC also offers completed R-Jack harness assemblies for drop in place, harsh environment applications.

## Applications

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



## Features and Benefits

### Features & Benefits:

- Flange Mount Receptacles conform to MIL-DTL-83723 and MIL-DTL-38999 mechanical panel cutout specifications
- Achieves higher panel density due to small form factor design compared to other MIL-DTL-38999 style products
- R-Jack "J" Series jam-nut receptacles fits MIL-DTL-38999/24, shell size 19 or F panel cut out
- All R-Jacks provide an IP-68 compliant seal with or without the dust cover engaged or when the plug is mated to a receptacle due to a unique internal seal that eliminates the need for potting or other special compounds
- R-Jack plugs inter mate with OCC jam nut, flange mount or in-line receptacles to provide a complete mating solution
- Compression nut provides cable sealing and strain relief
- Internal conductive compression designed to work with cable braid to form a 360 degree ground plane
- R-Jack plugs are available with 360 degree EMC/EMI shielding without the use of special kits which makes them the smallest EMI/EMC compliant RJ-45 connection solution on the market

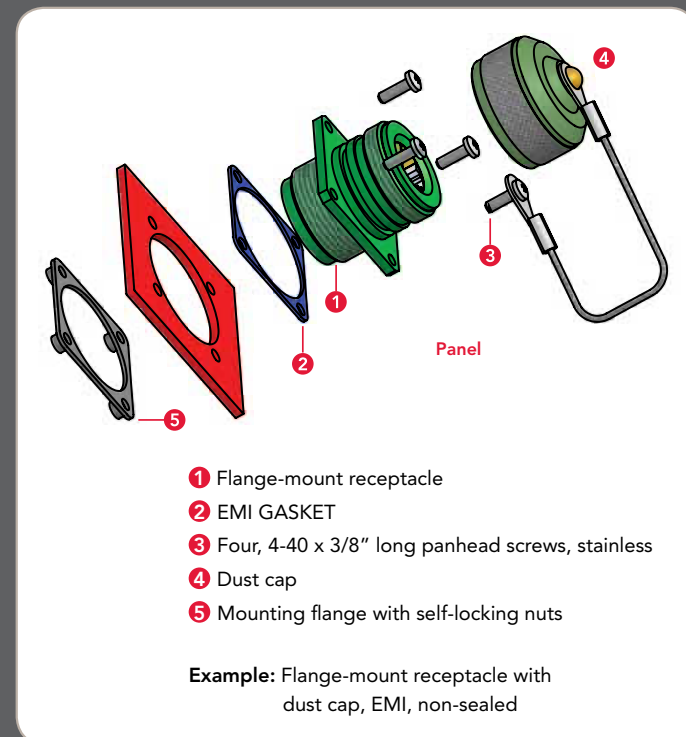


## Offering Fully Kitted Solutions

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 flange mount receptacle configurations with hardware, standard screws provided are four, 4-40 x 3/8"
- Sealed version – self-sealing screws are provided
- Non-sealed version – regular screws are provided



## Performance Specifications

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PARAMETER	SPECIFICATION	RANGE
Insertion Loss	IEEE 802.3, LX	1000 BASE-T, NXT, FXT
Temperature cycling	EIA-364-32C, 25 cycles	-45°C to +100°C
Temperature shock	EIA-364-32C, 5 cycles	-40°C to +100°C
Humidity resistance	EIA-364-31B, 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-364-27	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-364-26B	500 hrs.
Shell-to-shell conductivity Available with all plating/material options except Andoize	EIA-364-83	1A @ 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)



ECRA plug assembly



ECRA plug, material option "4"



Receptacle paddle board  
Consult OCC for desired options



ECRP in-line receptacle, plating option "3"



ECRP in-line receptacle, plating option "1"



ECRK jam nut receptacle, material option "4"

## Ordering Information

Part Numbering	ECR	A	0	1	0	2	U	A	A
<p><b>CONFIGURATION TYPE</b></p> <p>A – Plug (compatible with D, F, G, J, K, H and P style receptacles)            D – Receptacle, flange-mnt., front/rear mnt., no mnt. hardware            F – Receptacle, flange-mnt., w/pem nuts and HDW            G – Receptacle, flange-mnt., front/rear mnt., w/mnt. screws/l. nuts            H – Receptacle, flange-mnt., mnt. bracket and screws            J – Receptacle, jam nut, FITS D38999/24 cutout, M83723/60            K – Receptacle, jam nut, small profile, rear mnt.            P – Receptacle, in-line            U – Accessories (backshell, dust caps)</p>									<p><b>CORDSET LENGTH</b> (Receptacle termination only)</p> <p>0 – None (female receptacle)            A – 1 ft.            B – 2 ft.            C – 3 ft.            D – 5 ft.</p>
<p><b>DUST CAP</b></p> <p>0 – None            1 – Female, metal, collar and lanyard jam nut (ECRJ) receptacle only            2 – Female, metal, collar and lanyard for jam nut (ECRK) receptacle            3 – Female, metal, eyelet and lanyard for flange-mnt. (ECRD, F, G &amp; H) receptacle            4 – Male, metal, crimp sleeve and lanyard for plug (ECRA)            5 – Female, metal, crimp and lanyard for in-line receptacle (ECRP)</p>									<p><b>STRAIN-RELIEF (CABLE O.D.)</b></p> <p>0 – Not applicable            A – Straight backshell, 0.190–0.270" O.D.            B – Straight backshell, 0.271–0.330" O.D.            E – Strain-relief clamp 0.190–0.286" O.D.</p>
<p><b>EMC SHIELDING</b></p> <p>1 – EMC Shielding (includes metal shroud, conduction gasket, O-ring)            2 – No EMC shielding (default for dust cap, backshell or plug)</p>									<p><b>KEYING</b></p> <p>U – Key 1 (default)            V – Key 2            W – Key 3            Y – Key 4</p>
<p><b>INSERT SEALING</b></p> <p>0 – Sealed transversely (Applies to receptacles with or without dust caps)            1 – Not sealed transversely</p> <p>All Plugs are specified with "1" as the sealing option.</p>									<p><b>FINISH</b></p> <p>1 – Aluminum, Black Anodize<sup>1</sup>            2 – Aluminum, Electroless Nickel<sup>1,2</sup>            3 – Aluminum, Zinc Nickel<sup>2</sup>            4 – 303 Stainless Steel, Passivate<sup>1,2</sup>            5 – 316 Stainless Steel, Passivate<sup>1,2</sup>            6 – Naval Brass<sup>1,2</sup>            8 – Aluminum, Nickel Teflon<sup>1,2</sup>            9 – Free Machining Brass<sup>1,2</sup></p> <p><sup>1</sup> RoHS compliant. Check with OCC inside sales representative for details.  <sup>2</sup> Use this type of plating/material for EMI/EMC applications</p>

**NOTE:**

All plugs, dust caps and back shell options are conductive with all plating/material options except for Anodize.

Straight back shells accommodate braided style cable.

Configurations above for Flange Mount Receptacles: D, F, G & H are the same except for mounting hardware supplied.



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