MRJR Series Rugged RJ45 Connectors

RUGGED RJ45 CONNECTORS FOR HARSH ENVIRONMENT APPLICATION, GENERATION 2

Amphenol's MRJR series RJ45 Connectors serve many markets and applications across the globe including Automotive, Communications, Industrial, Medical and Military.

MRJR series is a line of Generation 2 ruggedized RJ45 connectors with die cast housings and IP67 sealing, designed for Harsh Environment applications. MRJR provides a standard RJ45 interface. Protection is provided for IP67 applications per IEC 60529 specification. Data rates conform to 10BaseT or 100BaseT Ethernet.

- Cat6A Harsh RJ45 available, both in Right Angle and Vertical
- IP67 environmental sealing protects against water and dust
- Die cast metal housings protect against mechanical damage
- Wide variety of mounting and termination options
- Operating temperature range from –40°C to +105°C for extreme conditions
- RoHS compliant to meet environmental standards

TARGET MARKETS

FEATURES

BENEFITS

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▪ Internal and external seals made with flexible silicone rubber	▪ Excellent sealing to IP67 and higher protection over wide temperature range ▪ Protects equipment from water and dust incursion
▪ Die cast metal housings	▪ Mechanically rugged and stable to protect against shock, vibration and impact ▪ Prevents distortion
▪ Standard RJ interface where Ethernet/IP Protocol is used	▪ Can be used in wide variety of applications where standard RJs would be used
▪ Mates with existing standard connectors	▪ Suitable for a wide variety of mating connectors which are readily available
▪ Similar in size compared to standard equivalents	▪ Able to replace existing standard parts with little to no changes
▪ Wide variety of mounting and termination options	▪ Replace virtually any existing standard connector using standard footprints and mounting hardware
▪ RoHS compliant	▪ Meets environmental, health and safety requirements

TECHNICAL INFORMATION

MATERIAL

- External Shell: Die Cast Zinc, Nickel Plated
- Front Insert: Clear Polucarbonate, UL94V-0
- Rear Inserts: High Temperature Resistant Nylon, Glass Reinforced, UL94V-0, Black
- Contacts: Phosphor Bronze, Plated with 1.27um (50u") min Gold over 1.27um (50u") min Nickel on the Mating Area and 2.54um (100u") min Matte Tin over Nickel on the Contact Tails
- Mating Area Ground Tab: Nickel Plated Copper Alloy
- Panel Gasket: Conductive Silicone Rubber, Black
- LED's: Epoxy Lens, Tin Plated Steel Tails
- Rear Screws: Nickel Plated Steel
- Internal O-ring: Silicone Rubber, Beige
- Printed Circuit Board: FR4 Fibreglass, Lead Free
- Additional Connector: UL Recognized Component
- Ferrite: Nickel Zinc Soft Ferrite Ceramic

ELECTRICAL PERFORMANCE

- Current Rating: 1.5A max per Contact (delta T ≤ 30°C)
- Contact Resistance: 20mΩ max
- Insulation Resistance: 500mΩ min
- Dielectric Withstanding Voltage: 1000 VAC rms (between adjacent contacts), 1500 VAC rms (contacts to ground)
- LED Characteristics: Forward DC Current 25mA max, Forward Voltage 2.5V max @2mA

MECHANICAL PERFORMANCE

- UL Recognition: Level DUXR2, File Number E135615
- Water & Dust Protection Level: Code IP67 per IEC 60529
- Operating Temperature Range: -40°C to +105°C
- Durability: Per EIA 364-09, 2500 Mating Cycles
- Vibration: Per EIA 364-28 Random Condition II (10g, 10-500Hz, 6 Hours), No Discontinuity > 1µs
- Shock: Per EIA 364-27 Test Condition A (11 ms, 50g, 1/2 Sine), No Discontinuity > 1µs
- Insertion & Withdrawal Force: Per EIA-364-13, 20N (4.5lbf) max (Latch Disengaged)

SPECIFICATION

- Amphenol Product Specification: TIA-1096-A, IEC 60603-7, IEC 60529

APPROVALS AND CERTIFICATIONS

- RoHS

PACKAGING

- Tray

ENVIRONMENTAL

- Temperature Life w/ Load: Per EIA-364-17, 1.5 A, 70°C, 500 Hours
- Temperature Life w/o Load: Per EIA-364-17, 105°C, 1000 Hours
- Thermal Shock: Per EIA-364-32, -55°C to +105°C, 25 Cycles
- Humidity: Per EIA 364-31, 21 Cycles, 504 Hrs, 25°C to 65°C, 90-95%RH, with -10°C Cold Shock
- Humidity: Per EIA-364-31, Steady State, 21 Days, 50°C, 90-95%RH
- Mixed Flowing Gas: Per EIA 364-65 Class IIA (Cl2, NO2, H2S & SO2), 14 Day Exposure
- Salt Spray: Per EIA 364-26, 250 Hours, 5% Salt, 35°C
- Solvent Resistance: Isopropyl Alcohol & 5% Sodium Hydroxide Solution, 24 Hrs Each
- LED Luminous Intensity: 0.5mCd min at 2mA Forward Current
- Solderability: Per EIA-364-52, 95% Coverage after Category 2 Steam Aging

TARGET MARKETS/APPLICATIONS


Transportation


Datacom
Telecom


Energy
Industrial


Medical


Military

PART NUMBER SELECTOR

MRJR — X X X X X X — X

Unique Special Code	
No Digit	Part defined by previous 10 digits
1 to 9	Unique special feature

Other Features	
1	1 port (vertical has through hole mounting, right angle has threaded lug)
F	1 port, vertical connector, threaded lug mounting

Tail Length & Thread Options	
0	2.54mm [.100"] Tail Length, #4–40 UNC Thread
B	3.81mm [.150"] Tail Length, #4–40 UNC Thread
M	2.54mm [.100"] Tail Length, M3 x 0.5 Thread
P	3.81mm [.150"] Tail Length, M3 x 0.5 Thread

LED options	
0	No LEDs
1	Green left, Yellow right
4	Yellow left, Green right
5	Green left, Green right
A	Bi–colour Green/Yellow Left & Right

Number of Contacts	
4	4 contacts
6	6 contacts
8	8 contacts
A	10 contacts

Termination Style	
3	Right Angle
4	Vertical
5	Right Angle on PCB with Right Angle Cable Header
7	Right Angle on PCB with Right Angle RJ45 Modular Jack
8	Right Angle on PCB with Vertical RJ45 Modular Jack
9	Right Angle on PCB with Terminal Blocks
A	Right Angle on PCB with Holes for Wiring (Style 5 PCB)
B	Right Angle on PCB with Vertical Cable Header
C	Right Angle on PCB with Holes for Wiring (Style 7 PCB)
D	Right Angle on PCB with Vertical Cable Header

Modular Jack Type	
3	RJ11, 6 Position
4	RJ11, 6 Position with EMI Ferrite Filtering
5	RJ45, 8 or 10 Position
6	RJ45, 8 or 10 Position with EMI Ferrite Filtering
7	RJ45, 8 or 10 Position with Transient Voltage Suppression
8	RJ45, 8 Position with Cat5e Performance Level

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