# 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 |
|---|---|
| • Internal and external seals made with flexible silicone rubber | • Excellent sealing to IP67 and higher protection over wide temperature range<br>• Protects equipment from water and dust incursion |
| • Die cast metal housings | • Mechanically rugged and stable to protect against shock, vibration and impact<br>• 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 $\leq$ 30°C)

- Contact Resistance: 20m$\Omega$ max

- Insulation Resistance: 500m$\Omega$ 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

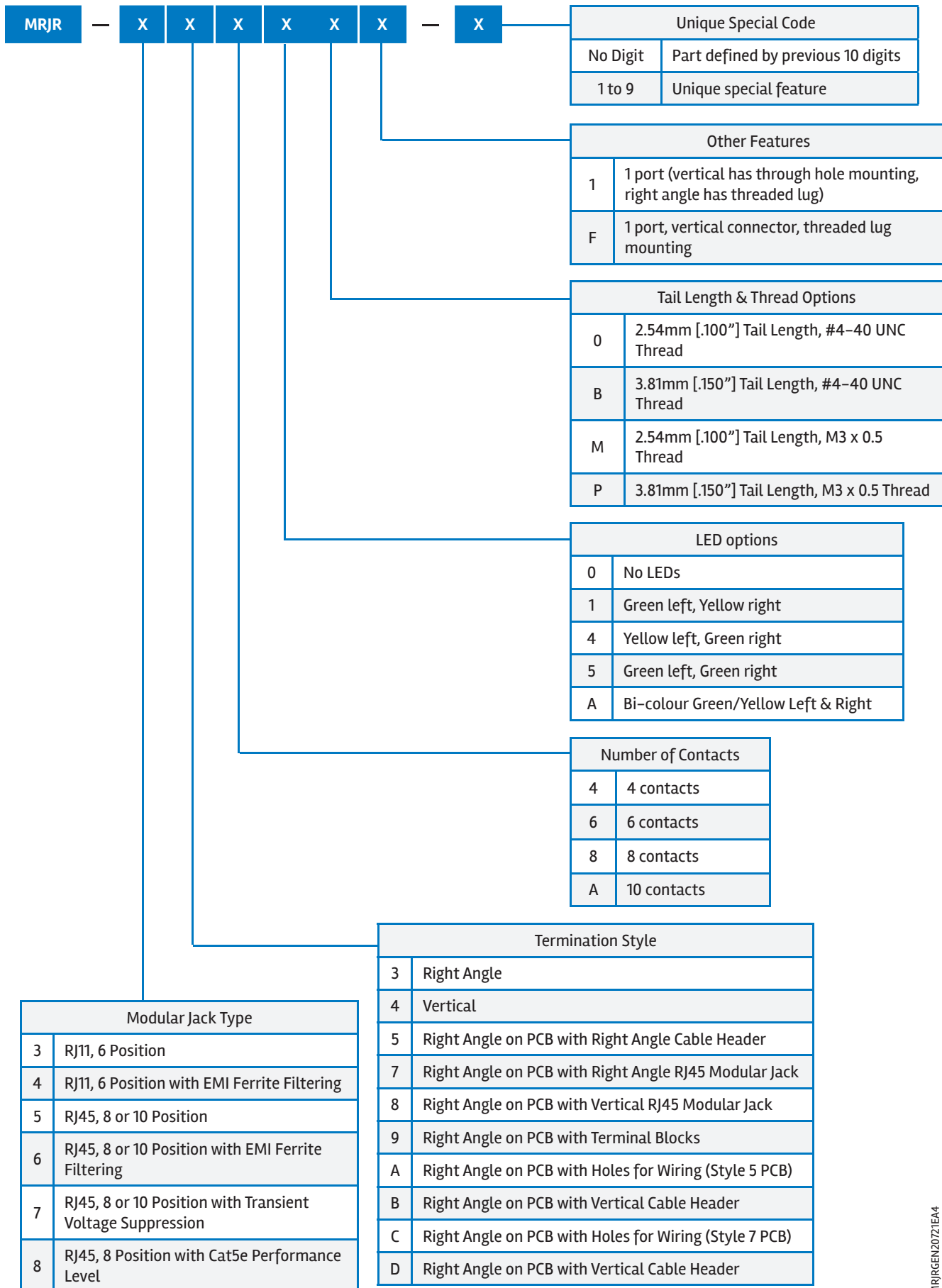Transportation

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 |

CMIOMRJRGEN20721EA4

# www.amphenol-icc.com
**Disclaimer**
Please note that the above information is subject to change without notice.

# Mouser Electronics

Authorized Distributor


Click to View Pricing, Inventory, Delivery & Lifecycle Information:


[Amphenol](#):

[MRJ-5580-01](#)  [MRJ258610BP](#)  [MRJ538401](#)  [MRJ-2586-20BP](#)  [MRJ-6381-01](#)  [MRJ-258E-11-BP](#)  [MRJ548101](#)
[MRJ558401](#)  [MRJ-5980-01](#)  [MRJ258601BP](#)  [MRJR-5481-0F](#)  [MRJR-5381-01](#)  [MRJR-3340-01](#)  [MRJR-5480-0F](#)  [MRJR-5380-01](#)  [MRJR-3460-0F](#)  [MRJR-3440-0F](#)  [MRJR-5780-01](#)  [MRJR-3360-01](#)  [MRJR5385M1](#)  [MRJR5384M1](#)  [MRJ6380B1](#)
[MRJ5180PF](#)  [MRJ518001](#)  [MRJR5381B1](#)  [MRJR5380M1](#)  [MRJ558501](#)  [MRJ5C8001](#)  [MRJ678001](#)  [MRJ518501](#)
[MRJR54850F](#)  [MRJR3460MF](#)  [MRJ558101](#)  [MRJR53A401](#)  [MRJR3464MF](#)  [MRJR5580M1](#)  [MRJ54810F](#)  [MRJ5785M1](#)
[MRJR53A501](#)  [MRJ5A80M1](#)  [MRJR5485MF](#)  [MRJR5384B1](#)  [MRJ5484MF](#)  [MRJ258642BP](#)  [MRJ5781M1](#)  [MRJ5A8501](#)
[MRJR3465MF](#)  [MRJ638401](#)  [MRJR34640F](#)  [MRJR53A0M1](#)  [MRJR5584M1](#)  [MRJ5980M1](#)  [MRJ548401](#)  [MRJ5580M1](#)
[MRJR558501](#)  [MRJR5481MF](#)  [MRJ578501](#)  [MRJ5C8501](#)  [MRJ5481MF](#)  [MRJR53A4M1](#)  [MRJ6380P1](#)  [MRJR5385B1](#)
[MRJ5A8401](#)  [MRJ598501](#)  [MRJ51810F](#)  [MRJR5480MF](#)  [MRJ258612BP](#)  [MRJR5484MF](#)  [MRJ51840F](#)  [MRJR53A1M1](#)
[MRJ5584M1](#)  [MRJR3360M1](#)  [MRJR5380B1](#)  [MRJR3461MF](#)  [MRJ53A1M1](#)  [MRJ5480PF](#)  [MRJR53A4B1](#)  [MRJR558401](#)
[MRJR53A0B1](#)  [MRJ5C8401](#)  [MRJR5585M1](#)  [MRJR53A1B1](#)  [MRJ54840F](#)  [MRJ5180B1](#)  [MRJ54850F](#)  [MRJ5484M1](#)
[MRJ5180BB](#)  [MRJR53A5M1](#)  [MRJ5581M1](#)  [MRJR53A5B1](#)  [MRJ6380M1](#)  [MRJR5381M1](#)  [MRJ5585M1](#)  [MRJR53A001](#)
[MRJ51850F](#)  [MRJ5380B1](#)  [MRJR558001](#)  [MRJ5C8101](#)  [MRJR53A101](#)  [MRJ54800B](#)