

# MRJ Rugged RJ45 Connector

Product Specification S6043C Rev 1.1

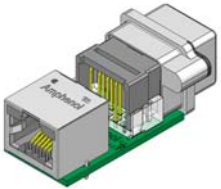
Amphenol

*Now you're connected!*

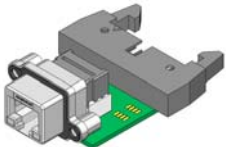
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Amphenol's commercial connector products are used in a variety of end user applications including networking, telecom, server & computer, storage & HDD, consumer electronics and entertainment, professional audio & Industrial & Military/Aerospace.

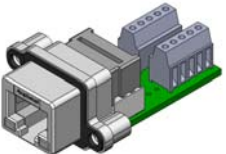
### With matching RJ45



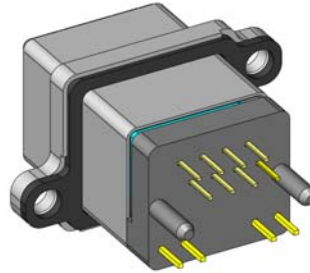
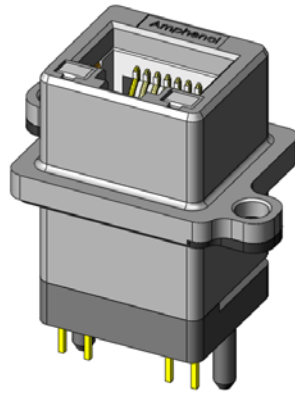
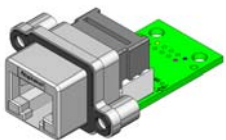
### With Cable Header



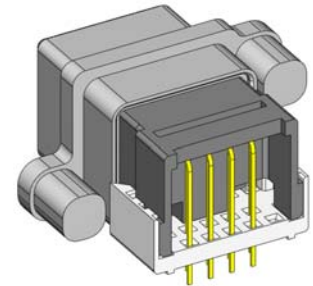
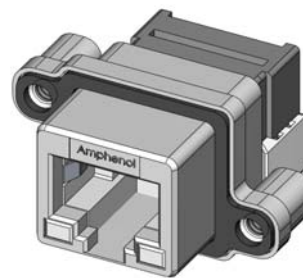
### With Terminal Block



### With PCB for wiring



MRJ-5480-01 SHOWN  
VERTICAL, PCB TAIL,  
8 POSITION RJ45



MRJ-5380-01 SHOWN  
RIGHT ANGLE, PCB  
TAIL, 8 POSITION RJ45

## Overview

This Product Specification defines the general use and performance parameters for Amphenol's MRJ series of connector.

Availability: Right angle PCB tail termination with 8 or 10 positions, LED options, EMI ferrite filtering and PCB options (with matching RJ connector, cable header, terminal block or for hand wiring). Vertical PCB tail termination with 8 positions and LED options. Both termination styles have dust covers for enhanced mating area protection. A clear rubber boot for use with standard plugs is also available.

## Usage

The connector system is designed to provide a standard RJ45 interface, ideal for harsh environments where Ethernet/IP protocol is used. Protection is provided for IP67 applications per IEC 60529 specification. Data rates conform to 10BaseT or 100BaseT Ethernet.

## Applications

Intended for use in applications such as:

- Medical equipment
- ATM machines
- Lottery terminals & slot machines
- GPS positioning equipment
- Military vehicles, radios, computers
- Test equipment
- Mobile communication systems
- Traffic control & monitoring systems

# Now you're connected!

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## Related Products

### MDB



9 POSITION CONNECTOR SHOWN

### MUSB



MUSB-B151-34  
SERIES MINI-B, RIGHT ANGLE SHOWN



MUSB-C111-30  
SERIES A, RIGHT ANGLE, STACKED SHOWN

## Connector Electrical Characteristics

Current rating: 1.5A per contact  
 Contact resistance: 30 mΩ max  
 Insulation Resistance: 500 MΩ min  
 Dielectric Withstand Voltage: 1000/1500 V AC @ sea level  
 LED forward DC current: 25mA max  
 LED forward Voltage: 2.5 Volts max. @ 20mA  
 Minimum Impedance (Ferrite): 38 Ohms at 25 MHz

## Connector Mechanical Characteristics

Thermal Shock: 25 cycles @ -40° to +70° C  
 Physical Shock: Per EIA364-27, Condition H (11ms 30G)  
 Humidity: Per EIC512-6 / EIA364-11A  
 Vibration: Per EIA364-28, Condition 5A  
 Salt spray: Per EIA364-26, 250 Hrs  
 Mating cycles: 2500

## Assembly Process Characteristics

Recommended Torque for Panel Mount Screws: 0.45 to 0.65 Nm (4.00 – 5.75 in-lbs).  
 Hand or wave solder: 150°C for 180 seconds (Pre-heat) and 265°C for 8 seconds max (Solder tails).  
 Solder tails suitable for PCB thickness of 1.57 to 3.18 mm (.062" to 0.125")

## Material Requirements

MRJ connectors are RoHS compliant.

Unless otherwise specified, the materials for each component shall be:

- Contacts: Phosphor Bronze with 1.27μm (50μ") min Gold over 1.27μm (50μ") min Nickel
- Housing: High temperature thermoplastic, UL94V-0 rated, Black
- Front Housing: Clear Polycarbonate (customer process cleaners must be compatible)
- Shell: Die cast Zinc alloy, Nickel plating
- Gasket: Silicone rubber
- LED: Epoxy lens, Tin plating on steel tail

Temperature rise: Meets the requirement of 30° C ΔT  
 Operating temperature -40° to +105° C

## Available Documents

### Drawing Numbers:

P-MRJ-53XX-X1	MRJ Receptacle, Right Angle, 8 or 10 position
P-MRJ-548X-X1	MRJ Receptacle, Vertical, 8 position
P-MRJ-55XX-X1	MRJ Receptacle, Right Angle on PCB with Right Angle Cable Header
P-MRJ-578X-X1	MRJ Receptacle, Right Angle on PCB with RJ connector
P-MRJ-59XX-X1	MRJ Receptacle, Right Angle on PCB with Terminal Blocks
P-MRJ-63XX-X1	MRJ Receptacle, Right Angle, EMI filtered
P-MRJ-758X-X1	MRJ Receptacle, Right Angle on PCB with Transient Voltage Protection and Cable Header

Contact Factory, authorized Amphenol representative or website [www.amphenolcanada.com](http://www.amphenolcanada.com) for additional configurations

QTR9300376

Quality Test Report

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Page 2 of 3

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# Now you're connected!

## Product Numbering System

MRJ

-

5

3

8

0

-

0

1

MRJ	Connector series designation – Rugged RJ
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Version	
3 - Receptacle, RJ11 (proposed)	
5 - Receptacle, RJ45	
6 - Receptacle, RJ45, with EMI filter	
7 - Receptacle, RJ45, with Transient Voltage Protection (proposed) note 1	

Termination	
1 - PCB tail, vertical, with dust cover (note 2)	
3 - PCB tail, right angle	
4 - PCB tail, vertical, no dust cover	
5 - PCB tail, right angle, on PCB with right angle cable header	
7 - PCB tail, right angle, on PCB with RJ45 right angle termination	
8 - PCB tail, right angle, on PCB with RJ45 vertical termination	
9 - PCB tail, right angle, on PCB with terminal block	
A - PCB tail, right angle, on PCB for hand wiring (termination code 5 board)	
B - PCB tail, right angle, on PCB with vertical cable header	
C - PCB tail, right angle, on PCB for hand wiring (termination code 7 board)	

Number of contacts (note 3)	
8 - 8 contacts	
A - 10 contacts	

LED options	
0 - No LEDs	
1 - Green left, Yellow right	
4 - Yellow left, Green right	
5 - Green left, green right	

Options (Tail Length & Thread)	
0 - Tail 2.54mm (.100"), standard, through hole or #4-40 threaded lugs	
B - Tail 3.81mm (.150"), through hole or #4-40 threaded lugs	
M - Tail 2.54mm (.100"), M3 threaded lugs	
P - Tail 3.81mm (.150"), M3 threaded lugs	

Other Features	
1 - 1 port (vertical has through hole mounting, right angle has threaded lug)	
B - 1 port, vertical connector, through hole mounting, gasket on front shell flange	
F - 1 port, vertical connector, threaded lug mounting	
N - 1 port, vertical connector, threaded lug mounting, no alignment insert, contact & led length = 4mm (.157")	

Unique Special Code	
No Digit - Part defined by previous 10 digits	
1 to 9 - Unique special feature. Note 4	

### Notes

- 1) Transient voltage protection is only possible with the connector supplied on a PCB.
- 2) Dust covers supplied bulk packed with the connectors.
- 3) 10 contact option is currently available for right angle PCB tail connectors only.
- 4) Many unique features are readily available to suit customer requirements. Consult with Amphenol Canada for details.

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Page 3 of 3

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