## About Amphenol Commercial Products
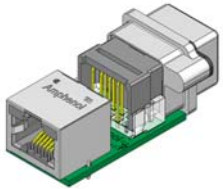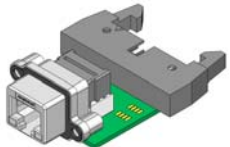
Amphenol's commercial connector products are used in a variety of end user applications including networking, telecom, server & computer, storage & HDD, consumer electronics and entertainment, professional audio & Industrial & Military/Aerospace.
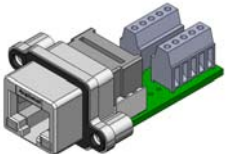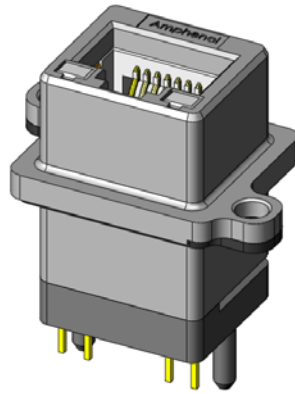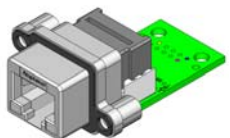
**With matching RJ45**
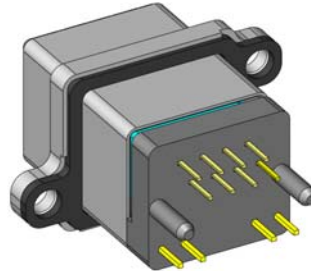


**With Cable Header**
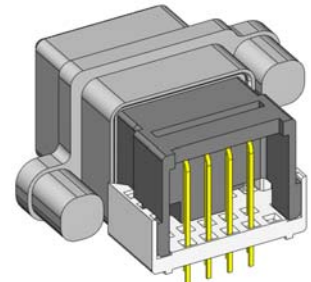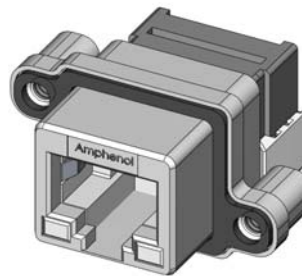


**With Terminal Block**



**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 Gigabit Ethernet (1000Base-T) protocols.

## 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

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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 for additional configurations

QTR9300376    Quality Test Report

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## Product Numbering System

MRJ - 5 3 8 0 - 0 1

| MRJ | Connector series designation – Rugged RJ |
|-----|-------------------------------------------|

**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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  [MRJ5A8101](#)