

MRJ Rugged RJ45 Connector

Product Specification S6043C Rev 1.0

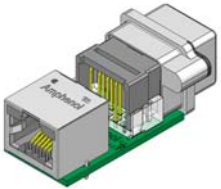
Amphenol

Now you're connected!

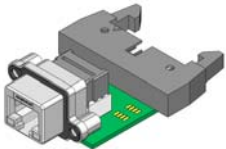
About Amphenol Commercial Products

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.

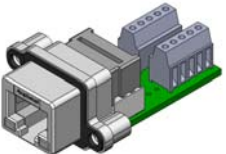
With matching RJ45



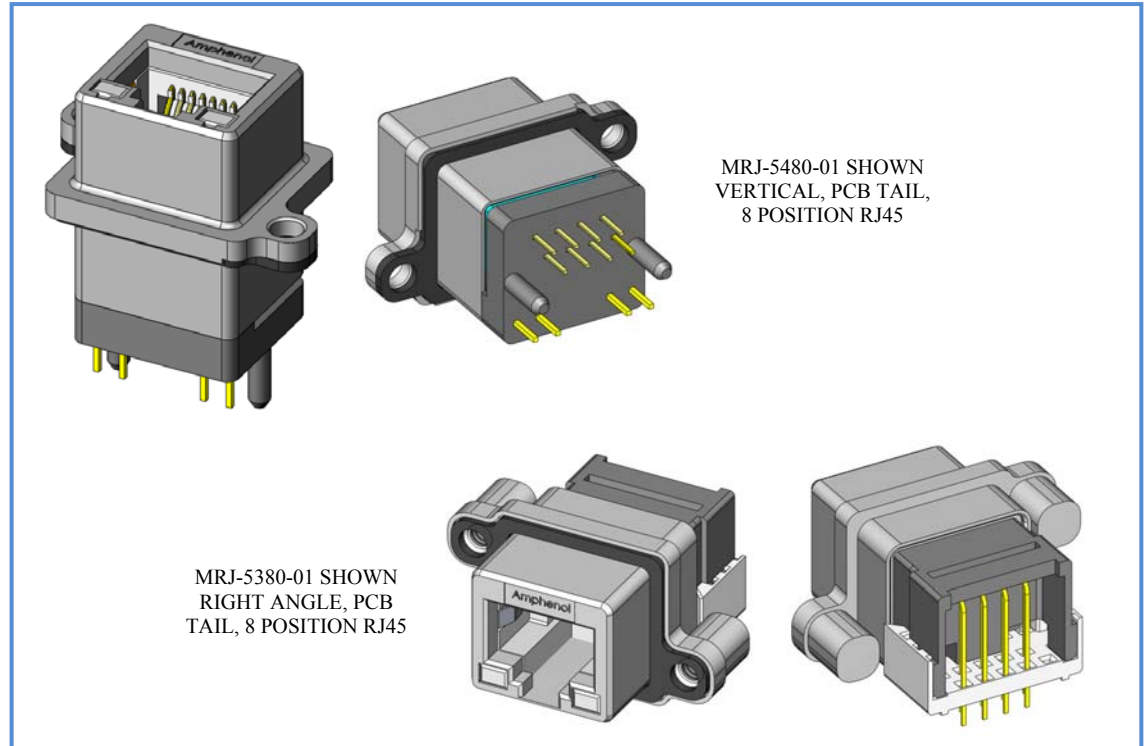
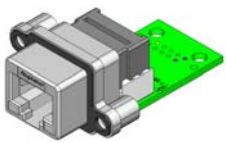
With Cable Header



With Terminal Block



With PCB for wiring



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

Now you're connected!

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.

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

Amphenol Canada Corp.
 605 Milner Avenue
 Toronto, Ontario, Canada, M1B 5X6
 +1 416 291 4401

www.amphenolcanada.com

Copyright © Amphenol Corporation 2011 • All rights reserved

Page 2 of 3

Amphenol

THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND SUCH INFORMATION MAY NOT BE DISCLOSED TO OTHERS FOR ANY PURPOSE OR USED FOR MANUFACTURING PURPOSES WITHOUT WRITTEN PERMISSION FROM AMPHENOL CANADA CORP.

Now you're connected!

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	

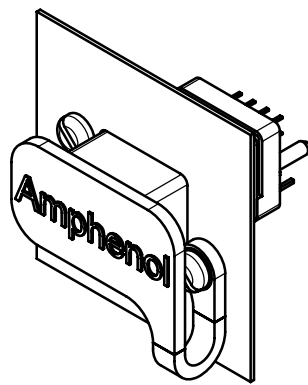
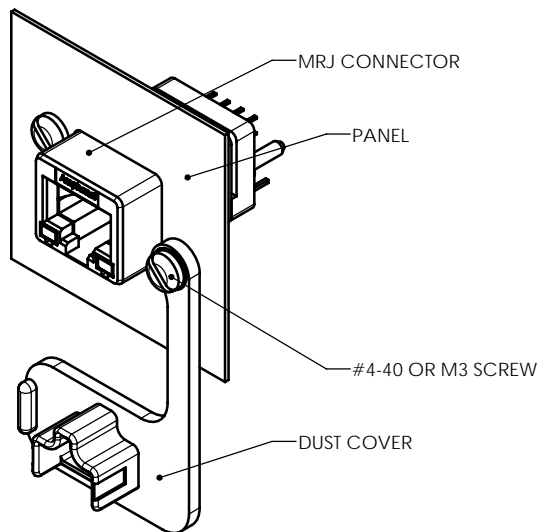
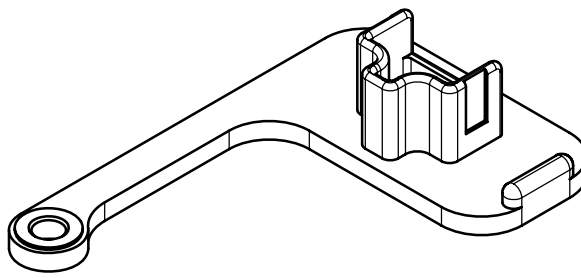
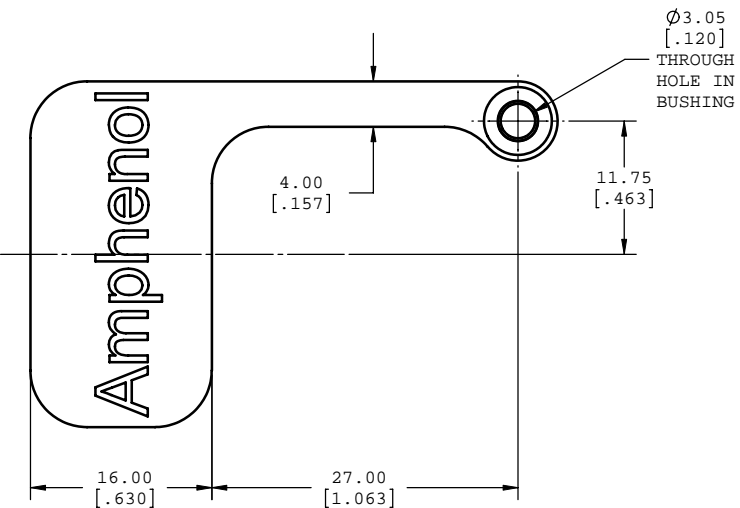
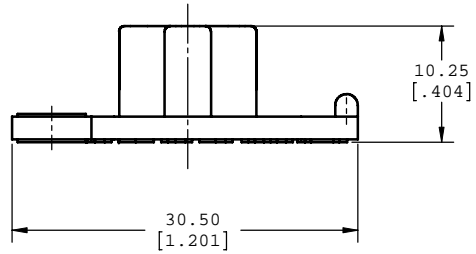
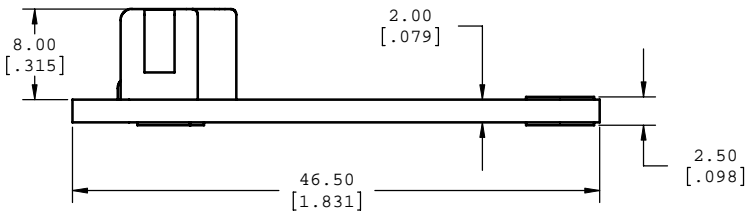
Other Features	
1 - 1 port (vertical has through hole mounting, right angle has threaded lug)	
B - 1 port, vertical connector, through hole mounting, gasket on front shell flange	
F - 1 port, vertical connector, threaded lug mounting	
N - 1 port, vertical connector, threaded lug mounting, no alignment 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.

REVISIONS			
REV	ECN, ERN NO.	DATE	APPRD.
A	PRODUCT DRAWING	JUN28/07	K.L.
B	ADD MRJ-2586-20BP (EAR 13215)	FEB07/08	K.L.



AMPHENOL PART NUMBER	COVER COLOR
MRJ-2586-10BP	GREY
MRJ-2586-20BP	BLACK

NOTES:

- MATERIAL:
 - DUST COVER - SILICONE RUBBER, COLOR - SEE CHART.
 - BUSHING - BRASS, NICKEL PLATED.
- OPERATING TEMPERATURE: -40°C TO +105°C.
- PART IS ROHS COMPLIANT PER EU DIRECTIVE 2002/95/EC AND AMENDMENTS.
- PART SUPPLIED BULK PACKED.

TYPICAL APPLICATION MRJ CONNECTOR WITH DUST COVER
SCALE 2:1

DO NOT SCALE DRAWING
THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND SUCH INFORMATION MAY NOT BE DISCLOSED TO OTHERS FOR ANY PURPOSE OR USED FOR MANUFACTURING PURPOSES WITHOUT PERMISSION FROM AMPHENOL CANADA CORP.

PROPRIETARY AND CONFIDENTIAL
THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND SUCH INFORMATION MAY NOT BE DISCLOSED TO OTHERS FOR ANY PURPOSE OR USED FOR MANUFACTURING PURPOSES WITHOUT WRITTEN PERMISSION FROM AMPHENOL CANADA CORP.

UNLESS OTHERWISE SPECIFIED:		DATE	Amphenol Canada Corp.
DIMENSIONS ARE IN MILLIMETERS		DRAWN A. DODDS JUN28/07	
FRACTIONAL ±		DESIGNED	TITLE: MRJ SERIES DUST COVER FOR RECEPTACLE CONNECTOR, INTERNAL STYLE, ROHS COMPLIANT
ANGULAR MATCH ± BEND ±		CHECKED K. LAMBE JUN28/07	
TWO PLACE DECIMAL ±		I.E. APPRD.	SIZE DWG. NO. REV C P-MRJ-2586-X0BP B
THREE PLACE DECIMAL ±		D. A. APPRD.	
INTERPRET GEOMETRIC TOLERANCING PER:		DWG. APPRD.	SCALE: 3:1 WEIGHT: SHEET 1 OF 1
MATERIAL		ENG. REL. NO. EAR E13132	
APPLICATION	DO NOT SCALE DRAWING	DIMENSIONS ARE IN MILLIMETERS	CODE ID. NO.
NEXT ASSY	USED ON	FINISH	