MRJR Rugged RJ45 Connector

Product Specification S6055C Rev 1.6

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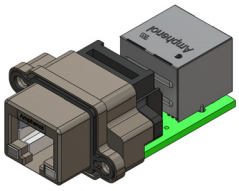
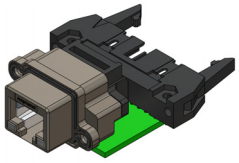
Amphenol's commercial connector products are used in a variety of end user applications including networking, telecom, server & computer, storage & HDD, consumer electronics and entertainment, professional audio & Industrial & Military/Aerospace.

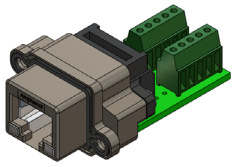
MRJ/MRJR PCB Options



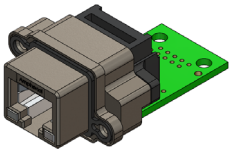
MRJR-8780-01
CAT5e RJ45 on PCB with Matching RJ45



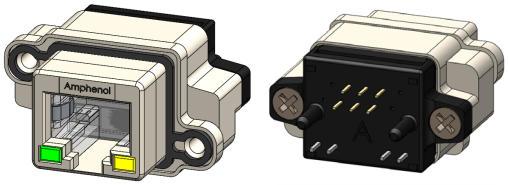
MRJR-5580-01
Standard RJ45 on PCB with Matching Cable Header



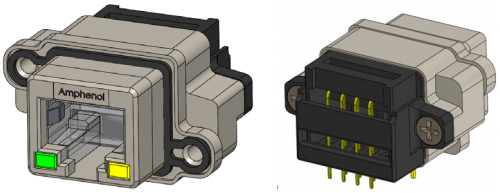
MRJR-5980-01
Standard RJ45 on PCB with Matching Terminal Block



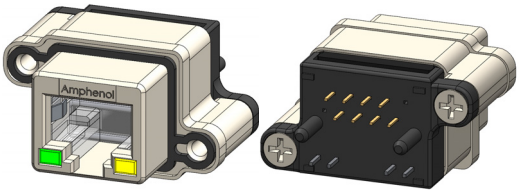
MRJR-5C80-01
Standard RJ45 on PCB For Discrete Wiring



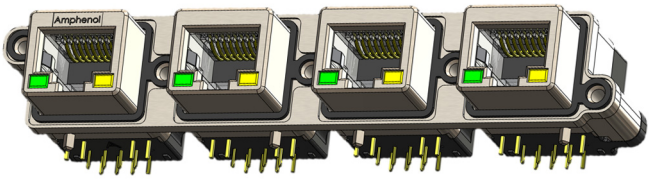
MRJR-3461-0F Shown
6 Position RJ11, Vertical PCB Tail



MRJR-5381-01 Shown
8 Position RJ45, Right Angle PCB Tail



MRJR-5481-0C Shown
8 Position RJ45, Vertical PCB Tail, Extra Shell Clearance



MRJR-5381-04 Shown
4 Port, 8 Position RJ45, Right Angle PCB Tail

Overview

This product specification defines the general use and performance parameters for Amphenol's MRJR series of connectors. **Available options include:**

- Right angle and vertical PCB tail termination with 4, 6, 8, or 10 positions
- Various LED, tail length, & thread options
- Various PCB options including matching RJ connector, cable header, terminal blocks, or without matching connector for hand wiring (short and long PCB's available)
- EMI ferrite filtering
- Shells with extra clearance about mounting holes for reduced port-to-port spacing
- Single or four port configurations
- CAT5e RJ45 options available on PCB with matching RJ45, Krone-style or 110-style IDC terminations, terminal blocks, or discretely wired PCB terminations
- Dust covers & IP67 sealing boots for enhanced mating area protection

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 IP68 applications per IEC 60529 specification. Epoxy free design protects from leakage under extreme temperature changes. Product options compatible with 10BaseT, 100BaseT, and 1000BaseT 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

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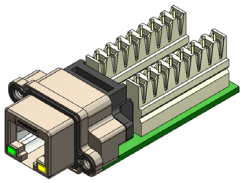
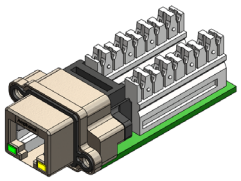
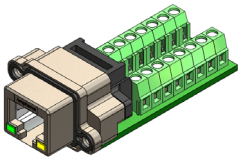
MRJR CAT5e Options



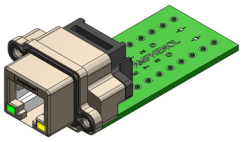
MRJR-8F81-01
CAT5e RJ45 on PCB with Krone-Style IDC Connectors



MRJR-8G81-01
CAT5e RJ45 on PCB with 110-Style IDC Connectors



MRJR-8981-01
CAT5e RJ45 on PCB with Terminal Blocks



MRJR-8J81-01
CAT5e RJ45 on PCB For Discrete Wiring

Connector Electrical Characteristics

Current Rating:	1.5A per contact
Contact Resistance:	30 mΩ max
Insulation Resistance:	500 MΩ min
Dielectric Withstanding Voltage:	1000/1500 VAC @ sea level
LED Forward DC Current:	25mA max
LED Forward Voltage:	2.5V max @ 20mA
Minimum Impedance (Ferrite):	38Ω @ 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
Operating Temperature:	-40°C to +105°C
Temperature Rise:	Meets the requirement of 30°C ΔT

Assembly Process Characteristics

Recommended Torque for Panel Mount Screws: 0.45 to 0.65 Nm (4.00 to 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")

Recommended IDC Punchdown Tool:	Handle:	Jonard Tools P/N EPB-914
	Krone-Style Blade:	Jonard Tools P/N EPB-KR
	110-Style Blade:	Jonard Tools P/N EPB-110

Material Characteristics

MRJR connectors are RoHS compliant per EU directive 2011/65/EU and amendments.
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

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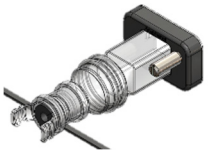
Related Products

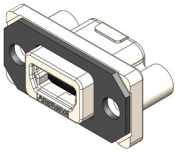
MUSBR-XHD Series



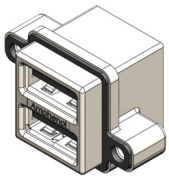
MUSBR-AHD2-821XX
Thumb Screw, Translucent Colour

MUSBR-AHD2-221XX
Cap Screw, Black Colour

MUSB Series



MUSB-B151-34
Mini-B USB,
Right Angle PCB Tail



MUSB-C111-30
Stacked Type-A USB,
Right Angle PCB Tail

Available Documents

Drawing Numbers:

P-MRJR-33XX-X1	MRJR Receptacle, Right Angle, 4 or 6 position, LED, Tail Length, & Thread Options
P-MRJR-34XX-XF	MRJR Receptacle, Vertical, 4 or 6 position, LED, Tail Length, & Thread Options
P-MRJR-37XX-X1	MRJR Receptacle, Right Angle on PCB with RJ45 Adapter, 4 or 6 position, LED & Thread Options
P-MRJR-53XX-X1	MRJR Receptacle, Right Angle, 8 or 10 position, LED, Tail Length, & Thread Options
P-MRJR-53XX-X4	MRJR Receptacle, Right Angle, 8 or 10 position, LED, Tail Length, & Thread Options, 4-Port
P-MRJR-53XX-XC	MRJR Receptacle, Right Angle, 8 or 10 position, LED, Tail Length, & Thread Options, Extra Shell Clearance
P-MRJR-54XX-XC	MRJR Receptacle, Vertical, 8 or 10 position, LED, Tail Length, & Thread Options, Extra Shell Clearance
P-MRJR-54XX-XF	MRJR Receptacle, Vertical, 8 or 10 position, LED, Tail Length, and Thread Options
P-MRJR-578X-X1	MRJR Receptacle, Right Angle on PCB with RJ45 Adapter, 8 Position, LED & Thread Options
P-MRJR-578X-XC	MRJR Receptacle, Right Angle on PCB with RJ45 Adapter, 8 Position, LED & Thread Options, Extra Shell Clearance
P-MRJR-588X-X1	MRJR Receptacle, Right Angle on PCB with Vertical RJ45 Adapter, 8 Position, LED & Thread Options
P-MRJR-59XX-X1	MRJR Receptacle, Right Angle on PCB with Terminal Blocks, 8 or 10 Position, LED & Thread Options
P-MRJR-5AXX-X1	MRJR Receptacle, Right Angle on Short PCB for Wiring, 8 or 10 Position, LED & Thread Options
P-MRJR-5CXX-X1	MRJR Receptacle, Right Angle on PCB for Wiring, 8 or 10 Position, LED & Thread Options
P-MRJR-5D80-X1	MRJR Receptacle, Right Angle on PCB with 2 x 5 Vertical Header, 8 Position, Thread Options
P-MRJR-63XX-X1	MRJR Receptacle, Right Angle, EMI Filtered, 8 or 10 position, LED, Tail Length, & Thread Options
P-MRJR-878X-X1	MRJR Receptacle, Cat5e, Right Angle on PCB with RJ45 Adapter, 8 Position, LED & Thread Options
P-MRJR-898X-X1	MRJR Receptacle, Cat5e, Right Angle on PCB with Terminal Blocks, 8 Position, LED & Thread Options
P-MRJR-8F8X-X1	MRJR Receptacle, Cat5e, Right Angle on PCB with Krone-Style IDC Connectors, 8 Position, LED & Thread Options
P-MRJR-8G8X-X1	MRJR Receptacle, Cat5e, Right Angle on PCB with 110-Style IDC Connectors, 8 Position, LED & Thread Options
P-MRJR-8J8X-X1	MRJR Receptacle, Cat5e, Right Angle on PCB for Wiring, 8 Position, LED & Thread Options

Report Numbers:

QTR9300463	Qualification Test Report for MRJR-5380-011
QTR9300519	Qualification Test Report for MRJR-3463-MF

Contact Factory, authorized Amphenol representative or website www.amphenolcanada.com for additional configurations.

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Product Numbering System

MRJR - X X X X - X X X

Series

MRJR	Rugged RJ Series, Generation 2

Modular Jack Type

3	RJ11, 6 Position[1]
4	RJ11, 6 Position with EMI Ferrite Filtering[2]
5	RJ45, 8 or 10 Position [3]
6	RJ45, 8 or 10 Position with EMI Ferrite Filtering[2]
7	RJ45, 8 or 10 Position with Transient Voltage Supression[4]
8	RJ45, 8 Position with Cat5e Performance Level[5]

Termination Style

3	Right Angle (R/A)	B	R/A on PCB with Vertical Cable Header[10]
4	Vertical	C	R/A on PCB for Wiring (Style 7 PCB)[9]
5	R/A on PCB with R/A Cable Header[6]	D	R/A on PCB with Vertical Cable Header[10]
7	R/A on PCB with R/A RJ45 Modular Jack[7]	F	R/A on PCB with Krone-Style IDC Connectors[8]
8	R/A on PCB with Vertical RJ45 Modular Jack[8]	G	R/A on PCB with 110-Style IDC Connectors[8]
9	R/A on PCB with Terminal Blocks	J	R/A on PCB for Wiring (Styles D, F, & G PCB)[8]
A	R/A on PCB for Wiring (Style 5 PCB)[9]		

Number of Contacts

4	4 Contacts	8	8 Contacts
6	6 Contacts	A	10 Contacts

LED Options

0	No LED's	6	Yellow Left, Yellow Right
1	Green Left, Yellow Right	A	Bi-colour Green/Yellow Left & Right
4	Yellow Left, Green Right	D	Green Left, Bi-colour Green/Yellow Right
5	Green Left, Green Right	E	Yellow Left, Bi-colour Green/Yellow Right

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

Other Options[10]

1	1 port (vertical has through hole mounting, right angle has threaded lug)
4	4 port (right angle connector, threaded lug mounting)
C	1 port, extra clearance near shell mounting holes
F	1 port (vertical connector, threaded lug mounting)

Unique Special Code[10]

None	No Digit - Part defined by previous 10 digits
1 to 9	1 to 9 - Unique special feature

Notes

1) Term RJ11 refers to jack for 6P2C, 6P4C, or 6P6C (RJ11, RJ12, RJ13, RJ14, RJ18 or RJ25).
2) Ferrite option currently available for right angle connectors only.
3) Term RJ45 refers to non-keyed jack for 8P8C or 10P10C (RJ31, RJ38, RJ48C, RJ49, RJ50, RJ61).
4) Transient voltage suppression for connectors on a PCB only. Consult with Amphenol for availability.
5) Cat5e performance level available for RJ45 (8P8C) only with termination styles 7, 9, F, G, & J. Consult with Amphenol for availability.
6) Termination style 5 suitable for both RJ11 and RJ45 jacks. Consult with Amphenol regarding applications where a smaller 14 pin cable header would be preferred.
7) Termination style 7 currently available for RJ11 (6P4C & 6P6C) and RJ45 (8P8C) only.
8) Termination styles 8, F, G, & J currently available for RJ45 (8P8C) only.
9) Termination style A uses the PCB from termination style 5. Termination style C uses the PCB from termination style 7.
10) Termination styles B & D currently available for RJ11 (6P4C & 6P6C) without LED's and RJ45 (8P8C) without LED's only.
11) Consult with Amphenol for additional termination styles, solder cup contacts, LED colours, contact tail lengths, mounting styles, non-conductive gaskets or other requirements of interest. See catalogue Accessories pages for dust cover and plug boot options.

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