

RJ45M R1V 1.9N4YG/YG RL

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com



RJ45 transmitter sockets (magnetics) for gigabit applications (1000 base-T) with integrated compensation actively counteracts inductive and capacitive couplings and saves space on the PCB.

The product range encompasses the following designs:

- 90°, lying (horizontal) and 180°, standing (vertical)
- latch up / latch down
- THT, THR or SMD soldering processes
- Wide range of different design types, also with integrated LEDs and shield contact tabs
- Transmission rates of up to 1 Gbps
- Packed either in a tray (TY) or on a roll (tape-on-reel, RL)
- Compatible with modular RJ45 connector according to ANSI / TIA-1096-A and IEC 60603
- Dielectric strength ≥ 1500 V AC RMS (2250 V AC peak value) according to IEEE 802.3
- Dielectric strength ≥ 1500 V AC (peak value) or ≥ 1500 V DC according to IEC 60603
- Compliance with IEEE 802.3 requirements (1000Base-T, 1 Gbps, IEEE 802.3ab or 100Base-Tx, 100 Mbps, IEEE 802.3u) Properties and advantages:
- Extended temperature range of -40 °C to $+85$ °C for maximum performance
- Reinforced gold layer ($30\mu\text{m}$) for improved corrosion protection
- At least 0.3mm stand-off ensures a perfect soldering result

General ordering data

Version	OMNIMATE Data - RJ45 transformer jack, PCB plug-in connector, THT/THR solder connection, 180°, none, Yes, Plugging cycles: 750, Number of poles: 8, PA 9T, 30...80 μm Ni / ≥ 30 μm Au , Tape
Order No.	2562150000
Type	RJ45M R1V 1.9N4YG/YG RL
GTIN (EAN)	4050118570380
Qty.	200 items
Packaging	Tape

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Technical data

Approvals

Approvals



ROHS	Conform
UL File Number Search	UL Website
Certificate No. (cURus)	E471884

Dimensions and weights

Depth	16.8 mm	Depth (inches)	0.6614 inch
Height	18.9 mm	Height (inches)	0.7441 inch
Height of lowest version	17 mm	Width	16 mm
Width (inches)	0.6299 inch	Net weight	9.85 g

Environmental Product Compliance

RoHS Compliance Status	Compliant without exemption
REACH SVHC	No SVHC above 0.1 wt%

System specifications

Number of poles	8	LED	Yes
Solder pin length (l)	1.9 mm	Mounting onto the PCB	THT/THR solder connection
Pitch in inches (P)	0.050 "	Shielding material	Brass
Shielding	Yes	Side termination, characteristic	Solder flange
Transmission rate	10/100 MBit/s	Number of solder pins per pole	1
Type of connection	Solder connection	Product family	OMNIMATE Data - RJ45 transformer jack
Pitch in mm (P)	1.27 mm	Protection degree	IP20
Plugging cycles	750	Outgoing elbow	180°
Forward current	20 mA	Forward voltage, max.	2.5 V
Shield surface	nickel-plated	Colour of right LED	Green/yellow
Shield tabs	none	Performance-Category	10/100 MBit/s
Soldering process	Reflow soldering, Manual soldering, Wave soldering	Solder pin dimensions	Octagonal
Tolerance of solder pin position	± 0.1 mm	Forward voltage, min.	1.8 V
Colour of left LED	Green/yellow		

Electrical properties

Dielectric strength, contact / shield	1500 V DC	Dielectric strength, contact / contact	1000 V DC
Insulation resistance	≥ 500 MΩ	Nominal voltage	125 V
Rated current	1.5 A		

Standards

Connector standard	IEC 60603-7
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Material data

Insulating material	PA 9T	Colour	black
Colour chart (similar)	RAL 9011	Insulating material group	II
Comparative Tracking Index (CTI)	≥ 500	Insulation resistance	≥ 500 MΩ
Moisture Level (MSL)	1	UL 94 flammability rating	V-0

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Technical data

Contact base material	Phosphorus bronze	Contact material	Cu-alloy
Contact surface	Gold over nickel	Layer structure of plug contact	30...80 µ" Ni / ≥ 30 µ" Au
Storage temperature, min.	-40 °C	Storage temperature, max.	85 °C
Operating temperature, min.	-40 °C	Operating temperature, max.	85 °C

Packing

Packaging	Tape	VPE length	357.00 mm
VPE width	352.00 mm	VPE height	129.00 mm
Tape reel diameter \varnothing (A)	330 mm	Surface resistance	Rs = 109 - 1012 Ω

Important note

Notes

Classifications

ETIM 8.0	EC002637	ETIM 9.0	EC002637
ETIM 10.0	EC002637	ECLASS 14.0	27-46-02-01
ECLASS 15.0	27-46-02-01		

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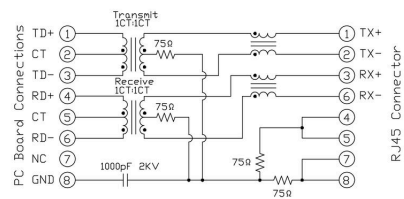
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Drawings

Wiring diagram

Characteristics

Inductance	350 µH min. @ 100 kHz 100 mV, 8 mA DC Bias
Leakage Inductance	0.3 µH max. @ 100 kHz, 100 mV
Insertion Loss	1.1 dB max. @ (1 - 100) MHz
Return Loss	18 dB min. @ (1 - 30) MHz 16 dB min. @ (30 - 60) MHz 12 dB min. @ (60 - 80) MHz
Cross Talk	30 dB min. @ (1 - 100) MHz
Common Mode Rejection	30 dB min. @ (1 - 100) MHz



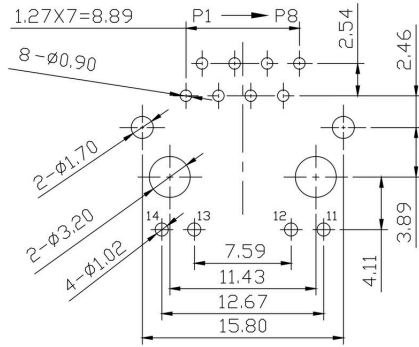
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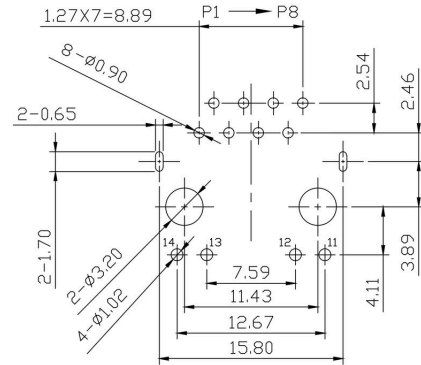
Drawings

PCB design



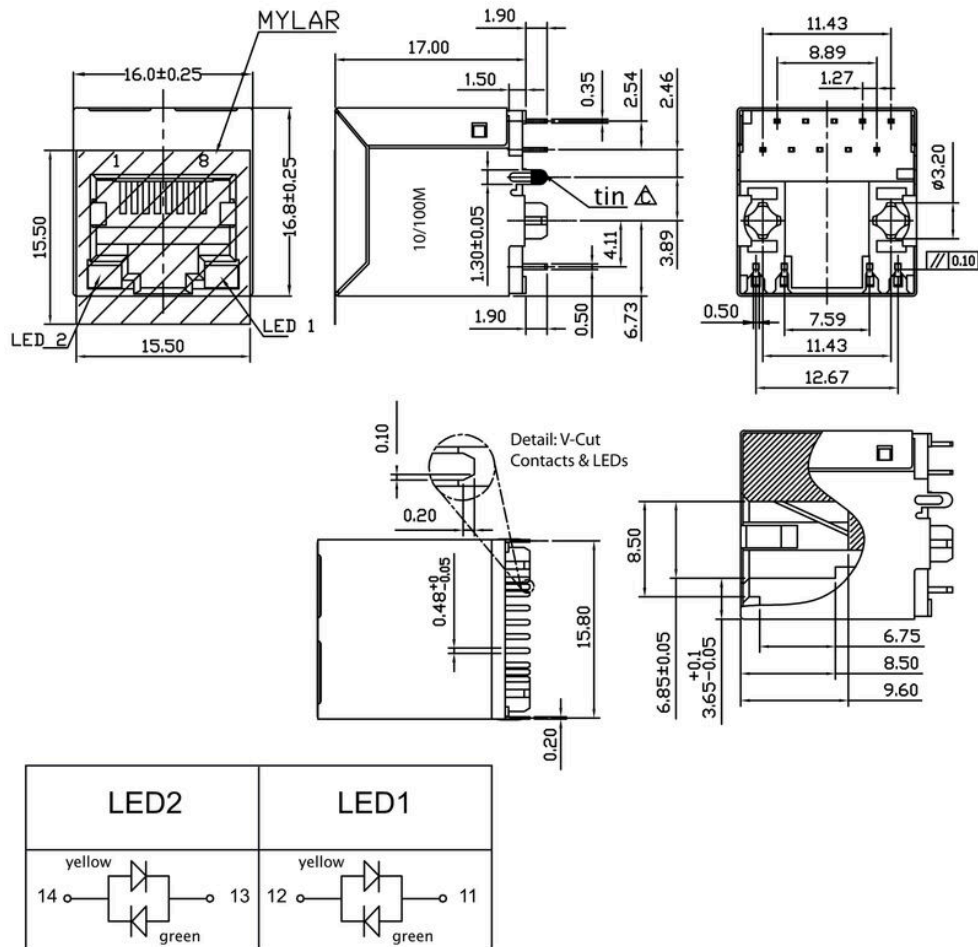
PCB LAYOUT 1

PCB design



PCB LAYOUT 2

Drawing

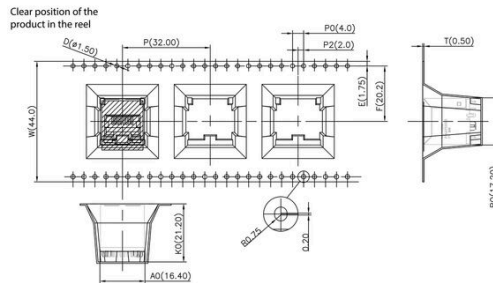
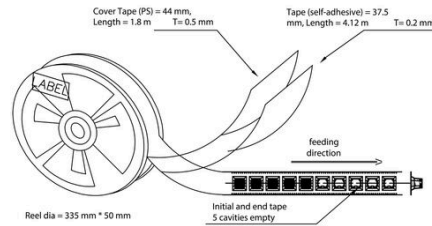


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Drawings

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Code	Description	Value	Notes
RJ45	Product Type	RJ45G1 R1U 3.2E4GY/GY TY	
G1	Performance Category	G1	10/100/1000 Mbit
R	Assembly on PCB	R	Through Hole Reflow - THR
1	Number of Ports	1	1 Port
U	Direction, latch style	U	Horizontal (90°, side entry), latch up
3.2	Solder Pin length	3.2	3.2 mm
E	EMI tabs (ground fingers)	E	E = with EMI tabs
4	Contact surface thickness	4	1 = 3µ", 2 = 6µ", 3 = 15µ", 4 = 30µ", 5 = 50µ"
GY/GY	LED	GY/GY	Green-Yellow/Green-Yellow
TY	Packaging	TY	Tape on Reel (automated assembly)

Type codes

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Counterpart

RJ45 crimp

RJ45 crimp plug-in connector according to IEC 60603-7-51 for wire outer diameters up to 1.05 mm

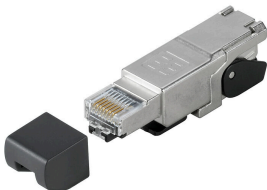


General ordering data

Type	IE-P	Version
Order No.	8813100000	RJ45 plug-in connector, without kink protection; 5.5 - 7.1 mm,
GTIN (EAN)	4032248512850	Cat.6A / Class EA (ISO/IEC 11801 2010), IP20
Qty.	100 ST	
Type	IE-P63	Version
Order No.	8813110000	RJ45 plug-in connector, with kink protection; 5.5 - 6.2 mm, Cat.6A /
GTIN (EAN)	4032248512867	Class EA (ISO/IEC 11801 2010), IP20
Qty.	10 ST	
Type	IE-P70	Version
Order No.	8813120000	RJ45 plug-in connector, with kink protection; 6.2 - 7.1 mm, Cat.6A /
GTIN (EAN)	4032248512874	Class EA (ISO/IEC 11801 2010), IP20
Qty.	10 ST	
Type	IE-PM-RJ45-TH	Version
Order No.	1963580000	RJ45 crimp plug, Plug without bending protection sleeve, Cat.6A /
GTIN (EAN)	4032248645688	Class EA (ISO/IEC 11801 2010)
Qty.	100 ST	
Type	IE-PS-RJ45-TH-BK	Version
Order No.	1963590000	RJ45 crimp plug, Plug with bending protection sleeve in black,
GTIN (EAN)	4032248645695	Cat.6A / Class EA (ISO/IEC 11801 2010)
Qty.	10 ST	
Type	IE-PS-RJ45-TH-BK-P	Version
Order No.	2584980000	RJ45 crimp plug, with kink protection; 6.5 - 7.5 mm, Cat.5 (ISO/IEC
GTIN (EAN)	4050118593556	11801)
Qty.	10 ST	

straight

RJ45 plug-in connector (no tools required) according to IEC 60603-7-51.



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Counterpart

General ordering data

Type	IE-PS-RJ45-FH-180-A-1.1	Version
Order No.	1992850000	RJ45 plug with piercing contacts, straight, Cat.6A / Class EA (ISO/
GTIN (EAN)	4050118378115	IEC 11801 2010), EIA/TIA T568 A
Qty.	1 ST	
Type	IE-PS-RJ45-FH-180-A-1.6	Version
Order No.	1992820000	RJ45 plug with piercing contacts, straight, Cat.6A / Class EA (ISO/
GTIN (EAN)	4050118377897	IEC 11801 2010), EIA/TIA T568 A
Qty.	1 ST	
Type	IE-PS-RJ45-FH-180-B-1.1	Version
Order No.	1992860000	RJ45 plug with piercing contacts, straight, Cat.6A / Class EA (ISO/
GTIN (EAN)	4050118378108	IEC 11801 2010), EIA/TIA T568 B
Qty.	1 ST	
Type	IE-PS-RJ45-FH-180-B-1.6	Version
Order No.	1992830000	RJ45 plug with piercing contacts, straight, Cat.6A / Class EA (ISO/
GTIN (EAN)	4050118377972	IEC 11801 2010), EIA/TIA T568 B
Qty.	1 ST	
Type	IE-PS-RJ45-FH-180-P-1.6	Version
Order No.	1992840000	RJ45 plug with piercing contacts, straight, Cat.5 (ISO/IEC 11801),
GTIN (EAN)	4050118378023	PROFINET
Qty.	1 ST	

angled with cable gland

RJ45 plug-in connector (no tools required) according to IEC 60603-7-51.



General ordering data

Type	IE-PS-RJ45-FH-90-A-1.1	Version
Order No.	1518080000	RJ45 plug with piercing contacts, angled, 4x90°, Cat.6A / Class EA
GTIN (EAN)	4050118324969	(ISO/IEC 11801 2010), EIA/TIA T568 A
Qty.	1 ST	
Type	IE-PS-RJ45-FH-90-A-1.6	Version
Order No.	1992870000	RJ45 plug with piercing contacts, angled, 4x90°, Cat.6A / Class EA
GTIN (EAN)	4050118378054	(ISO/IEC 11801 2010), EIA/TIA T568 A
Qty.	1 ST	
Type	IE-PS-RJ45-FH-90-B-1.1	Version
Order No.	1518090000	RJ45 plug with piercing contacts, angled, 4x90°, Cat.6A / Class EA
GTIN (EAN)	4050118325300	(ISO/IEC 11801 2010), EIA/TIA T568 B
Qty.	1 ST	
Type	IE-PS-RJ45-FH-90-B-1.6	Version
Order No.	1992890000	RJ45 plug with piercing contacts, angled, 4x90°, Cat.6A / Class EA
GTIN (EAN)	4050118378122	(ISO/IEC 11801 2010), EIA/TIA T568 B
Qty.	1 ST	

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Counterpart

Type	IE-PS-RJ45-FH-90-P-1.6	Version
Order No.	1518100000	RJ45 plug with piercing contacts, angled, 4x90°, Cat.5 (ISO/IEC 11801), PROFINET
GTIN (EAN)	4050118325232	
Qty.	1 ST	

RJ45 tool-free



RJ45 plug-in connector (tool-less) according to IEC 60603-7-51 for wire outer diameters up to 1.6 mm

General ordering data

Type	IE-PS-RJ45-FH-BK	Version
Order No.	1963600000	RJ45 IDC plug, Cat.6A / Class EA (ISO/IEC 11801 2010), 8-core, 4-core, EIA/TIA T568 A, EIA/TIA T568 B, PROFINET
GTIN (EAN)	4032248645725	
Qty.	10 ST	
Type	IE-PS-RJ45-FH-BK-A	Version
Order No.	1132040000	RJ45 IDC plug, Cat.6A / Class EA (ISO/IEC 11801 2010), 8-core, EIA/TIA T568 A
GTIN (EAN)	4032248912155	
Qty.	10 ST	
Type	IE-PS-RJ45-FH-BK-B	Version
Order No.	1132050000	RJ45 IDC plug, Cat.6A / Class EA (ISO/IEC 11801 2010), 8-core, EIA/TIA T568 B
GTIN (EAN)	4032248912148	
Qty.	10 ST	
Type	IE-PS-RJ45-FH-BK-P	Version
Order No.	1132060000	RJ45 IDC plug, Cat.5 (ISO/IEC 11801), 4-core, PROFINET
GTIN (EAN)	4032248912162	
Qty.	10 ST	