

RJ45M R1V 1.9N4YG/YG TY

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 , Tray (manual assembly)
Order No.	2562140000
Type	RJ45M R1V 1.9N4YG/YG TY
GTIN (EAN)	4050118570588
Qty.	120 items
Packaging	Tray (manual assembly)

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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	7 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	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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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	Tray (manual assembly)	VPE length	321.00 mm
VPE width	188.00 mm	VPE height	69.00 mm

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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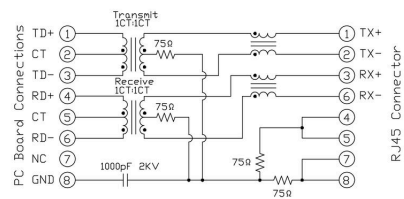
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Drawings

Wiring diagram

Characteristics

Inductance	350 µH min. @ 100 kHz
Leakage Inductance	100 mV, 8 mA DC Bias
Insertion Loss	0.3 µH max. @ 100 kHz, 100 mV
Return Loss	1.1 dB max. @ (1 - 100) MHz
	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



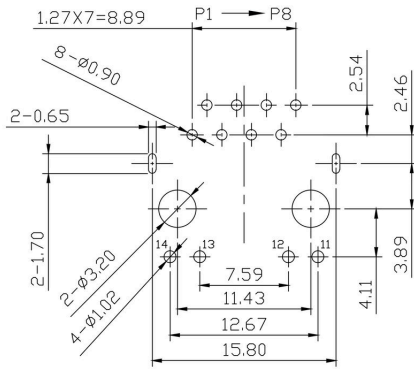
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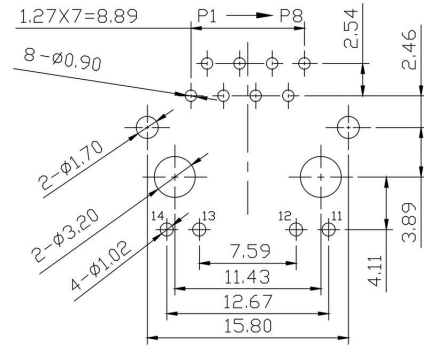
Drawings

PCB design



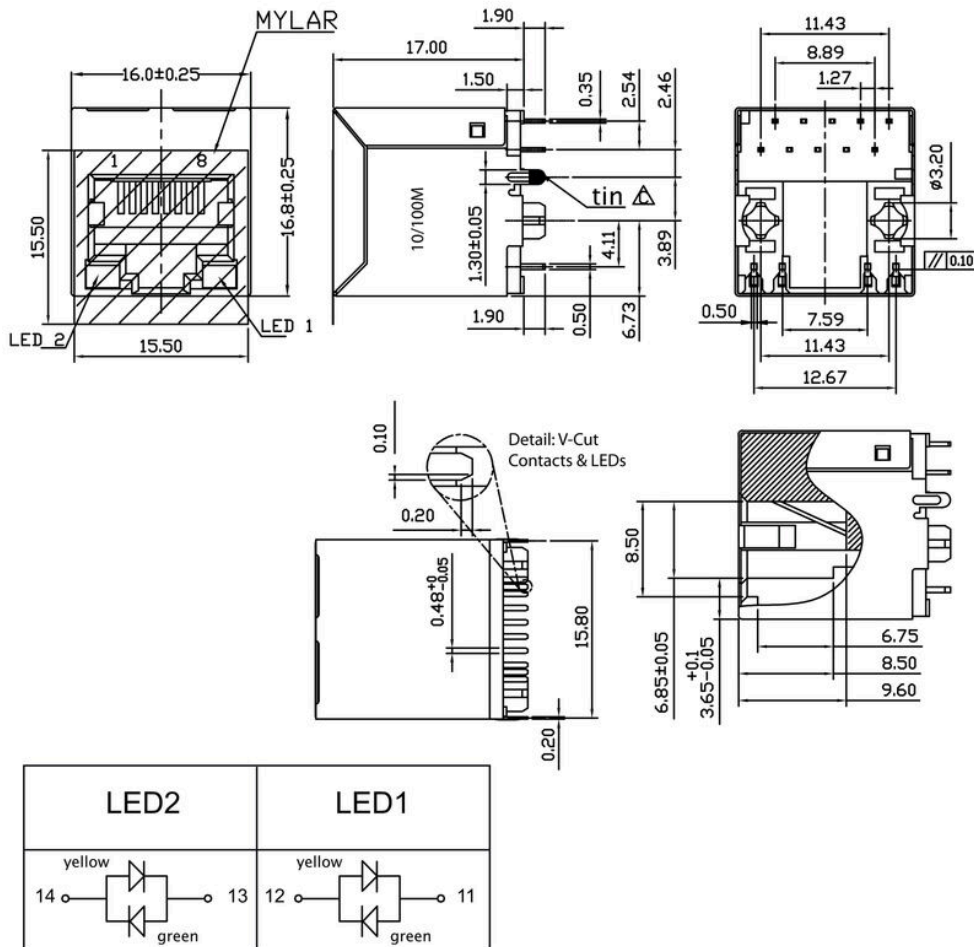
PCB LAYOUT 2

PCB design



PCB LAYOUT 1

Drawing



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Drawings

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Code	Parameter	Value	Description
RJ45			
G1			
R			
1			
U			
3.2			
E			
4			
GY/GY			
TY			
	RJ45G1 R1U 3.2E4GY/GY TY		
	Packaging	TY RL	Tray in box (manual assembly) Tape on Reel (automated assembly)
	LED	Y/G G/Y GY/GY O/G R/O ... N	Yellow/Green Green/Yellow (standard) Green-Yellow/Green-Yellow Orange/Green Red/Orange .. (further combinations possible) without LED
	Contact surface thickness	4	1 = 3µ", 2 = 6µ", 3 = 15µ", 4 = 30µ", 5 = 50µ"
	EMI tabs (ground fingers)	E N	E = with EMI tabs N = without EMI tabs
	Solder Pin length	3.2 1.6 D	3.2 mm 1.6 mm SMD
	Direction, latch style	U D V Y	Horizontal (90°, side entry), latch up Horizontal (90°, side entry), latch down Vertical (180°, top entry) Diagonal (45°), latch up
	Number of Ports	1 12; 14; ... 21; 41; ...	1 Port multi ports side by side, Multiport multi ports about each other, Multilevel
	Assembly on PCB	R S T	Through Hole Reflow - THR Soldering process: Wave or Reflow soldering Surface Mount Technology - SMT Soldering process: Reflow soldering Through Hole Technology - THT Soldering process: Wave
	Performance Category	C5 C6 C6A C6e M G1 G10 U MP MP+	Category 5 Category 6 Category 6A Category 6e 10/100 Mbit 10/100/1000 Mbit 10 Gbit Unshielded 10/100 Mbit with POE 10/100 Mbit with POE+

Type codes