

## RJ45M R12D 3.2N4G/Y RL

Weidmüller Interfaces GmbH & Co. KG

Postfach 3030

32760 Detmold

Tel. +49 5231 14-0

Fax. +49 5231 14-2083

info@weidmueller.com

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  $\geq 1500$  V AC RMS (2250 V AC peak value) according to IEEE 802.3
- Dielectric strength  $\geq 1500$  V AC (peak value) or  $\geq 1500$  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 ( $30\mu$ "") for improved corrosion protection

- At least 0.3mm stand-off ensures a perfect soldering result

### General ordering data

Article - short description	PCB plug-in connector, RJ45 jacks transformer, 10/100 MBit/s, THT/THR solder connection, 90°, Latch option: bottom, Shield tabs: none, 30...80 $\mu$ " Ni / $\geq 30$ $\mu$ " Au, LED: Yes, green, yellow, Number of poles: 8, Tape
Material number	<a href="#">2551900000</a>
Short text for material	RJ45M R12D 3.2N4G/Y RL
EAN	4050118562187
Qty.	200 pc(s).

Creation date November 18, 2020 1:34:29 PM CET

Catalogue status 18.11.2020 / We reserve the right to make technical changes.

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## Technical data

## Dimensions and weights

Depth	21.35 mm	Depth (inches)	0.841 inch
Height	16.7 mm	Height (inches)	0.657 inch
Height of lowest version	13.5 mm	Net weight	7.07 g
Width	31.2 mm	Width (inches)	1.228 inch

## Environmental Product Compliance

REACH SVHC Lead 7439-92-1

## System specifications

Colour of left LED	green	Colour of right LED	yellow
Diameter of solder eyelet	0.9 mm	LED	Yes
Latch option	bottom	Mounting onto the PCB	THT/THR solder connection
Number of poles	8	Number of solder pins per pole	1
Outgoing elbow	90°	Performance-Category	10/100 MBit/s
Pitch in inches	0.05 inch	Pitch in mm	1.27 mm
Plugging cycles	750	Product family	OMNIMATE Data - RJ45 transformer jack
Protection degree	IP20	Shield surface	nickel-plated
Shield tabs	none	Shielding	Yes
Shielding material	Brass	Soldering process	Manual soldering, Wave soldering
Tolerance of the diameter of the solder eyelet	± 0.1 mm	Transmission rate	10/100 MBit/s
Type of connection	Socket connector		

## Electrical properties

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

## Material data

Insulating material	PA 9T	Colour	black
Colour chart (similar)	RAL 9011	Insulating material group	II
Comparative Tracking Index (CTI)	≥ 500	Insulation strength	> 500 MΩ
Moisture Level (MSL)	1	UL 94 flammability rating	V-0
Contact base material	Phosphorus bronze	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	0 m
VPE width	0 m	VPE height	0 m
Tape reel diameter Ø (A)	330 mm	Surface resistance	Rs = 10 <sup>9</sup> - 10 <sup>12</sup> Ω

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**Technical data**

**Classifications**

ETIM 6.0	EC002637	ETIM 7.0	EC002637
eClass 9.0	27-44-04-02	eClass 9.1	27-44-04-02
eClass 10.0	27-44-04-02	eClass 11.0	27460201

**Approvals**

Approvals	CURUS
ROHS	Conform
UL File Number Search	E471884

**Downloads**

Engineering Data	<a href="#">STEP</a>
Product Change Notification	<a href="#">PCN</a> <a href="#">PCN</a>

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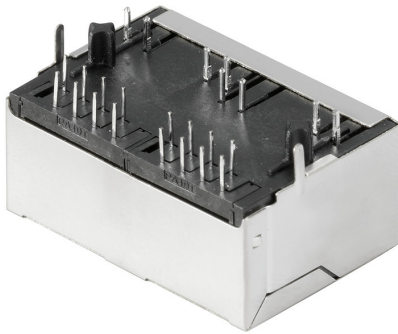
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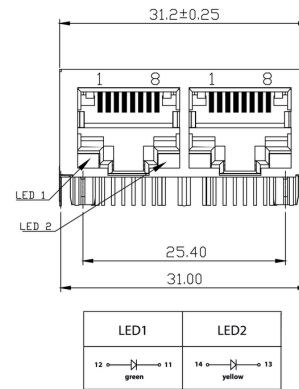
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**Drawings**

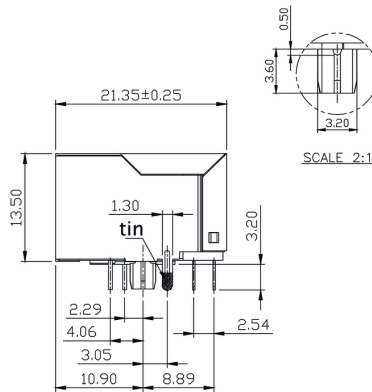
**Dimensioned drawing**



**Dimensioned drawing** [info@weidmueller.com](mailto:info@weidmueller.com)



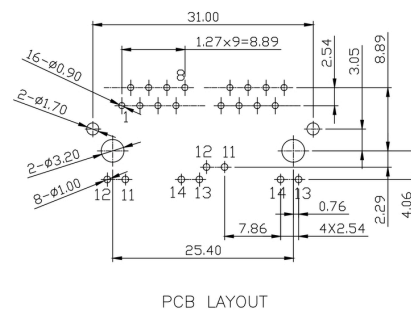
**Dimensioned drawing**



**Dimensioned drawing**

**Wiring diagram**

**PCB design**



**Data sheet**

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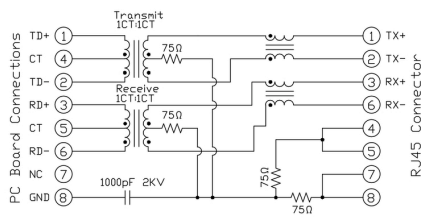
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**Drawings**

**Wiring diagram**



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**Drawings**

**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

Code	Parameter	Value	Description
RJ45	Packaging	TY RL	Tray in box (manual assembly) Tape on Reel (automated assembly)
G1	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
R1	Contact surface thickness	4	1 = 3µ", 2 = 6µ", 3 = 15µ", 4 = 30µ", 5 = 50µ"
U	EMI tabs (ground fingers)	E N	E = with EMI tabs N = without EMI tabs
3.2	Solder Pin length	3.2 1.6 D	3.2 mm 1.6 mm SMD
E4	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
GY/GY	Number of Ports	1 12; 14; ... 21; 41; ...	1 Port multi ports side by side, Multiport multi ports about each other, Multilevel
TY	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 C5e M G1 G10 U MP MP+	Category 5 Category 6 Category 6A Category 5e 10/100 Mbit 10/100/1000 Mbit 10 Gbit Unshielded 10/100 Mbit with POE 10/100 Mbit with POE+

Type codes