

RJ45M T12D 3.3E4G/Y RL

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Product image



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 (30μ) for improved corrosion protection

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

General ordering data

Version	PCB plug-in connector, RJ45 jacks transformer, 10/100 MBit/s, THT solder connection, 90°, Latch option: bottom, Shield tabs: 6 tabs, 30...80 μ " Ni / ≥ 30 μ " Au, LED: Yes, green, yellow, Number of poles: 8, Tape
Order No.	2036460000
Type	RJ45M T12D 3.3E4G/Y RL
GTIN (EAN)	4050118408317
Qty.	180 pc(s).
Packaging	Tape

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Technical data

Dimensions and weights

Depth	21.5 mm	Depth (inches)	0.846 inch
Height	16.9 mm	Height (inches)	0.665 inch
Height of lowest version	13.6 mm	Net weight	7.45 g
Width	31.2 mm	Width (inches)	1.228 inch

System specifications

Colour of left LED	green	Colour of right LED	yellow
LED	Yes	Latch option	bottom
Mounting onto the PCB	THT 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 (P)	0.05 inch
Pitch in mm (P)	1.27 mm	Product family	OMNIMATE Data - RJ45 transformer jack
Protection degree	IP20	Shield surface	nickel-plated
Shield tabs	6 tabs	Shielding	Yes
Shielding material	Brass	Solder eyelet hole diameter (D)	0.9 mm
Solder eyelet hole diameter tolerance (D)	± 0.1 mm	Solder pin dimensions	0.40 x 0.30 mm, LED pins = 0.50 x 0.50 mm
Solder pin length (l)	3.3 mm	Soldering process	Manual soldering, Wave soldering
Transmission rate	10/100 MBit/s	Type of connection	Socket connector
Wiring	8-core		

Electrical properties

Dielectric strength, contact / contact	≥ 1000 V DC	Dielectric strength, contact / shield	1500 V DC
Rated current	1.5 A	Rated voltage	125 V

Material data

Insulating material	PA 66	Colour	black
Colour chart (similar)	RAL 9011	Insulating material group	II
Comparative Tracking Index (CTI)	≥ 500	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	0.33 m
VPE width	0.33 m	VPE height	0.06 m
Tape reel diameter Ø (A)	330 mm	Surface resistance	Rs = 10 ⁹ - 10 ¹² Ω

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	27-46-02-01

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www.weidmueller.com**Technical data****Approvals**

Approvals



ROHS	Conform
UL File Number Search	E471884

Downloads

Engineering Data	STEP
Product Change Notification	PCN PCN
User Documentation	MAN IE GUIDE DE MAN IE GUIDE EN

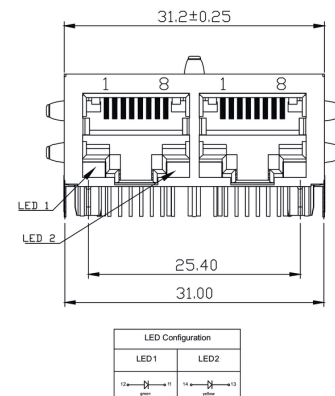
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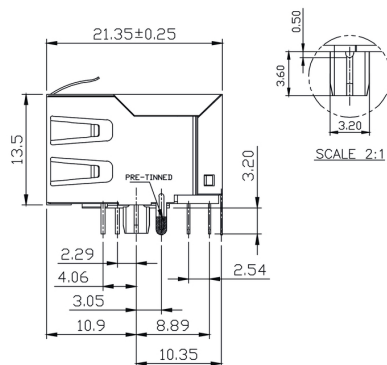
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Drawings

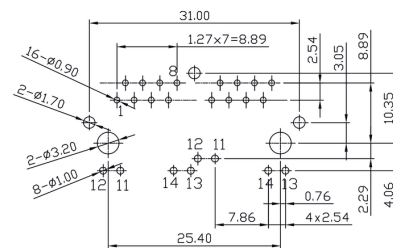
Dimensioned drawing



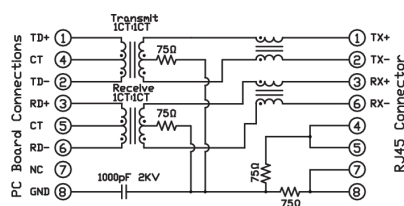
Dimensioned drawing



PCB design



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

RJ45	G1	R	U	3.2	E	4	GY/GY	TY	RJ45G1 R1U 3.2E4GY/GY TY
									Packaging
									TY Tray in box (manual assembly)
									RL Tape on Reel (automated assembly)
									LED
									Y/G Yellow/Green
									G/Y Green/Yellow (standard)
									GY/GY Green-Yellow/Green-Yellow
									O/G Orange/Green
									R/O Red/Orange
									... (further combinations possible)
									N without LED
									Contact surface thickness
									4 1 = 3µ", 2 = 6µ", 3 = 15µ", 4 = 30µ", 5 = 50µ"
									EMI tabs (ground fingers)
									E E = with EMI tabs
									N N = without EMI tabs
									Solder Pin length
									3.2 3.2 mm
									1.6 1.6 mm
									D SMD
									Direction, latch style
									U Horizontal (90°, side entry), latch up
									D Horizontal (90°, side entry), latch down
									V Vertical (180°, top entry)
									Y Diagonal (45°), latch up
									Number of Ports
									1 1 Port
									12; 14; ... multi ports side by side, Multiport
									2; 4; ... multi ports about each other, Multilevel
									Assembly on PCB
									R Through Hole Reflow - THR
									S Soldering process: Wave or Reflow soldering
									S Surface Mount Technology - SMT
									T Soldering process: Reflow soldering
									Through Hole Technology - THT
									Soldering process: Wave
									Performance Category
									C5 Category 5
									C6 Category 6
									C6A Category 6A
									C5e Category 5e
									M 10/100 Mbit
									G1 10/100/1000 Mbit
									G10 10 Gbit
									U Unshielded
									MP 10/100 Mbit with POE
									MP+ 10/100 Mbit with POE+

Type codes

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Catalogue status 12.03.2021 / We reserve the right to make technical changes.

Recommended wave soldering profiles

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Single Wave:



Double Wave:



Wave soldering profiles

Wired connection elements should be processed in accordance with the DIN EN 61760-1 standard. We have included two recommendations for practical wave soldering profiles, with which Weidmüller PCB terminals and connectors are qualified.

When choosing a suitable profile for your application, the following factors also need to be considered:

- PCB thickness
- Proportion of Cu in the layers
- Single/double-sided assembly
- Product range
- Heating and cooling rates

The single and double wave profiles each indicate the recommended operating range, including the maximum soldering temperature of 260°C. In practice, the maximum soldering temperature is quite often well below the above maximum profile.

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