

RJ45M T1D 3.3E4G/Y 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 (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, Tray (manual assembly)
Order No.	2563850000
Type	RJ45M T1D 3.3E4G/Y TY
GTIN (EAN)	4050118572896
Qty.	120 pc(s).
Packaging	Tray (manual assembly)

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Technical data

Dimensions and weights

Depth	21.35 mm	Depth (inches)	0.841 inch
Height	16.8 mm	Height (inches)	0.661 inch
Height of lowest version	13.5 mm	Width	15.9 mm
Width (inches)	0.626 inch	Net weight	7 g

System specifications

Colour of left LED	green	Colour of right LED	yellow
Forward current	20 mA	Forward voltage, max.	2.6 V
Forward voltage, min.	1.8 V	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 "	Pitch in mm (P)	1.27 mm
Plugging cycles	750	Product family	OMNIMATE Data - RJ45 transformer jack
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	Octagonal	Solder pin length (l)	3.3 mm
Soldering process	Manual soldering, Wave soldering	Tolerance of solder pin position	± 0.1 mm
Transmission rate	10/100 MBit/s	Type of connection	Solder connection

Electrical properties

Dielectric strength, contact / contact	1000 V DC	Dielectric strength, contact / shield	1500 V DC
Insulation strength	≥ 1000 M Ω	Rated current	1.5 A
Rated voltage	57 V		

Material data

Insulating material	PA 66	Colour	black
Colour chart (similar)	RAL 9011	Insulating material group	II
Comparative Tracking Index (CTI)	≥ 500	Insulation strength	≥ 1000 M Ω
UL 94 flammability rating	V-0	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	322 mm
VPE width	195 mm	VPE height	68 mm

Classifications

ETIM 6.0	EC002637	ETIM 7.0	EC002637
ETIM 8.0	EC002637	ETIM 9.0	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
ECLASS 12.0	27-46-02-01	ECLASS 13.0	27-46-02-01

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Technical data

Approvals

Approvals



ROHS Conform

UL File Number Search UL Website

Certificate No. (cURus) E471884

Downloads

Approval/Certificate/Document of Con-
formity[Certificate of Compliance](#)

Engineering Data

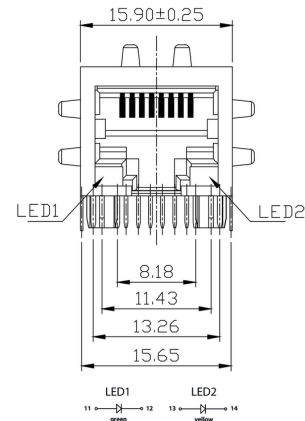
[CAD data – STEP](#)

Catalogues

[Catalogues in PDF-format](#)

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Dimensioned drawing



The schematic diagram shows a transformer-coupled circuit with two primary and two secondary windings. The primary side (left) has a transmit (TX) winding and a receive (RX) winding, both labeled '75Ω'. The secondary side (right) has a transmit (TX) winding and a receive (RX) winding, both labeled '75Ω'. A 1000pF capacitor is connected between the TX and RX lines on the primary side. A 75Ω resistor is connected between the TX and RX lines on the secondary side. The circuit is labeled with pins 1 through 8 on the left and right sides.

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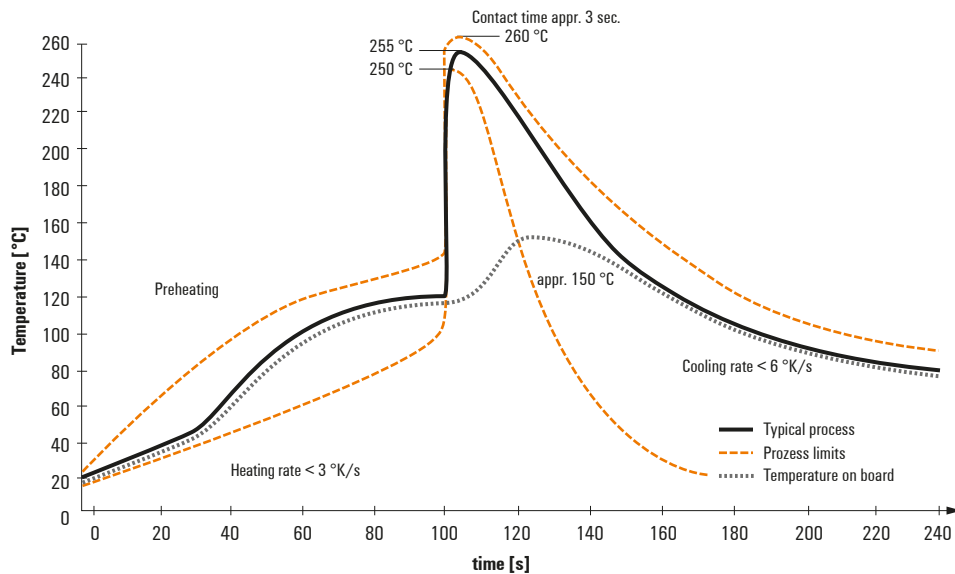
RJ45	G1	R1	U1	U2	E4	GY/GY	TY	RJ45G1 RIU 3.2E46/GY TY	
							Packaging	TY RL	Ty in box (manual assembly) Tape on Reel (automated assembly)
							LED	Y/G G/Y GY/GY O/G R/O ... N	Yellow/Green Green/Yellow (standard) Green-Yellow-Green-Yellow Orange-Green Red/Orange ... (further combinations possible) 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 C5e M G1 G10 U	Category 5 Category 6 Category 6A Category 5e 10/100 Mbit 10/100/1000 Mbit 10 Gbit Unshielded
								NP NP+	10/100 Mbit with PoE 10/100 Mbit with PoE+

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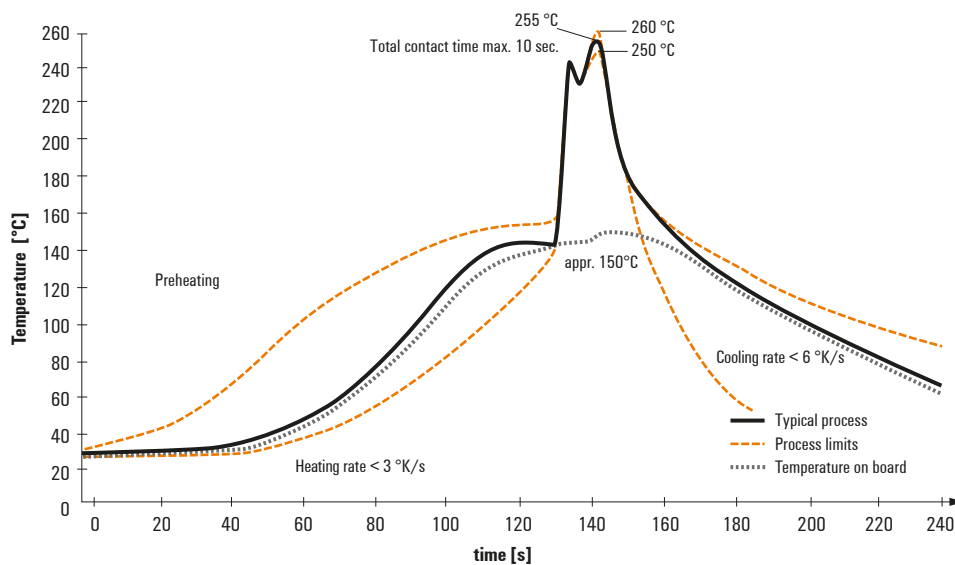
Recommended wave soldering profiles

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 16
D-32758 Detmold
Germany
Fon: +49 5231 14-0
Fax: +49 5231 14-292083
www.weidmueller.com

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.

We reserve the right to make technical changes.