

OMNIMATE Data - RJ45 jacks transformer RJ45M T12D 3.3E4G/Y RL

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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.

- THT or THR soldering processes
- Wide range of different design types, also with integrated LEDs and shield contact tabs
- Packed either in a tray (TY) or on a roll (tape-on-reel, RL)
- Extended temperature range of -40 °C to $+85\text{ °C}$
- Reinforced gold layer for improved corrosion protection
- Transmission rates of up to 1 Gbit/s

General ordering data

Type	RJ45M T12D 3.3E4G/Y RL
Order No.	2036460000
Version	PCB plug-in connector, RJ45 jacks transformer, THT solder connection, 1.27 mm, No. of poles: 8, 90°, Solder pin length (l): 3.3 mm, Gold over nickel, Black, Tape (Ø 330 mm); $R_s = 10^9 - 10^{12}\ \Omega$
GTIN (EAN)	4050118408317
Qty.	90 pc(s).
Packaging	Tape (Ø 330 mm); $R_s = 10^9 - 10^{12}\ \Omega$

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Technical data**Dimensions and weights**

Net weight	16.556 g
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Temperatures

Operating temperature, max.	85 °C	Operating temperature, min.	-40 °C
Storage temperature, max.	85 °C	Storage temperature, min.	-40 °C

System specifications

LED	Yes	Mounting onto the PCB	THT solder connection
No. of poles	8	Number of solder pins per pole	1
Outgoing elbow	90°	Packaging	Tape (Ø 330 mm); Rs = 10 ⁹ - 10 ¹² Ω
Pitch in inches (P)	0.05 inch	Pitch in mm (P)	1.27 mm
Plugging cycles	750	Product family	OMNIMATE Data - RJ45 jacks transformer
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	Tack option	bottom
Transmission rate	10/100 Mbit/s	Type of connection	Socket
Wiring	8-core		

Electrical properties

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

Material data

Insulating material	PA 66	Colour	Black
Colour chart (similar)	RAL 9011	Insulating material group	II
CTI	≥ 500	Insulation resistance	> 500 MΩ
UL 94 flammability rating	V-0	Contact base material	Phosphorus bronze
Contact surface	Gold over nickel	Layer structure of plug contact	30-80 μm Ni / 30-μm Au
Storage temperature, min.	-40 °C	Storage temperature, max.	85 °C
Operating temperature, min.	-40 °C	Operating temperature, max.	85 °C

Classifications

ETIM 6.0	EC002637	eClass 6.2	27-25-05-04
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Approvals

Approvals



ROHS	Conform
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Data sheet**OMNIMATE Data - RJ45 jacks transformer
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Technical data**Downloads**

Brochure/Catalogue	MB FREECONTACT EN FL FIELDWIRING EN PI PROFINET CABLING EN
User Documentation	MAN IE GUIDE DE MAN IE GUIDE EN

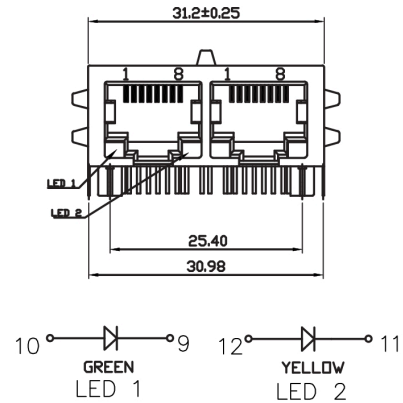
Data sheet

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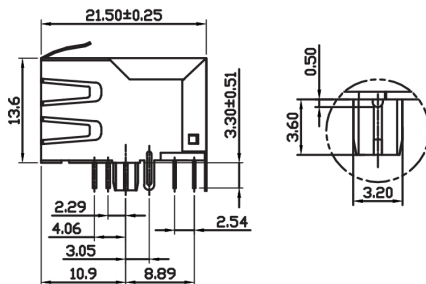
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Drawings

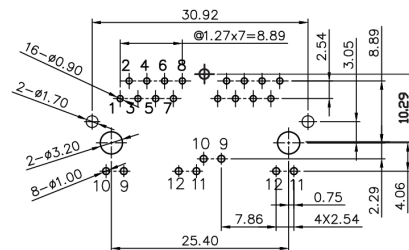
Dimensioned drawing



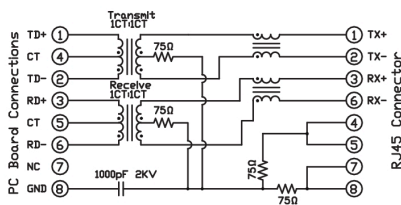
Dimensioned drawing



PCB design



Wiring diagram



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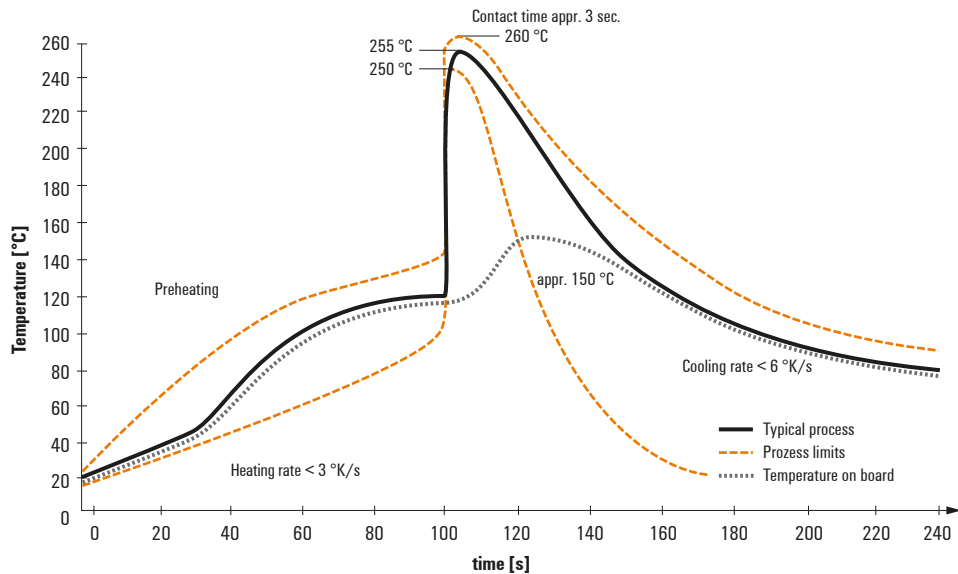
Miscellaneous**Characteristics**

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

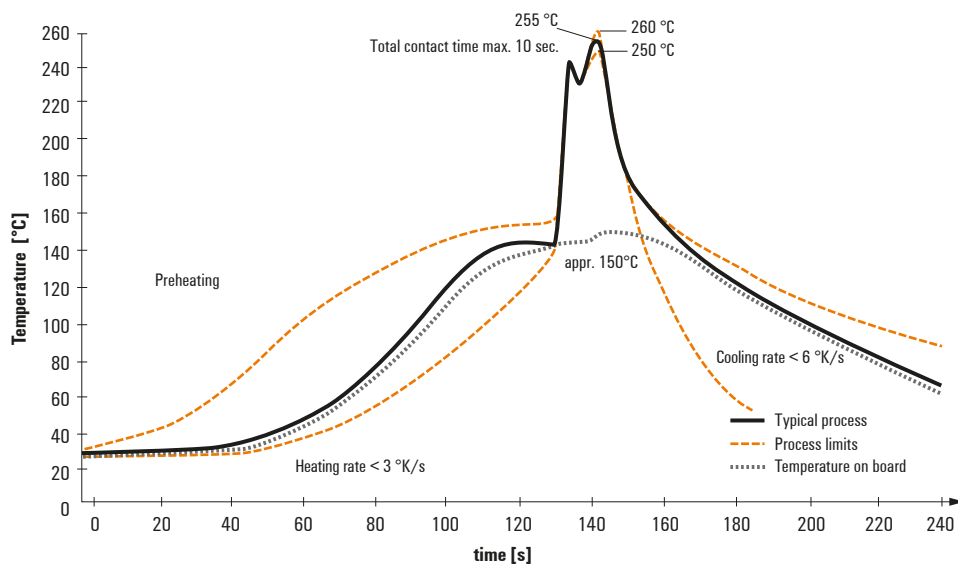
Recommended wave soldering profiles

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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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