

OMNIMATE Data - RJ45 jacks transformer RJ45M T1D 3.2E4N TY

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 16
D-32758 Detmold
Germany
Fon: +49 5231 14-0
Fax: +49 5231 14-292083
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 3 mm stand-off ensures a perfect soldering result

General ordering data

Type	RJ45M T1D 3.2E4N TY
Order No.	2474160000
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: No, No. of poles: 8, Tray (manual assembly)
GTIN (EAN)	4050118485943
Qty.	120 pc(s).
Packaging	Tray (manual assembly)

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Technical data

Dimensions and weights

Width	15.9 mm	Width (inches)	0.626 inch
Height	16.8 mm	Height (inches)	0.661 inch
Height of lowest version	13.5 mm	Depth	21.35 mm
Depth (inches)	0.841 inch	Net weight	3.242 g

Temperatures

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

Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
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System specifications

LED	No	Latch option	bottom
Mounting onto the PCB	THT solder connection	No. of poles	8
Number of solder pins per pole	1	Outgoing elbow	90°
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 length (l)	3.2 mm
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
Insulation strength	> 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 strength	> 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 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	0 m
VPE width	0 m	VPE height	0 m

Classifications

ETIM 6.0	EC002637	eClass 6.2	27-25-05-04
eClass 9.0	27-44-04-02	eClass 9.1	27-44-04-02

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Technical data

Approvals

Approvals



ROHS

Conform

Downloads

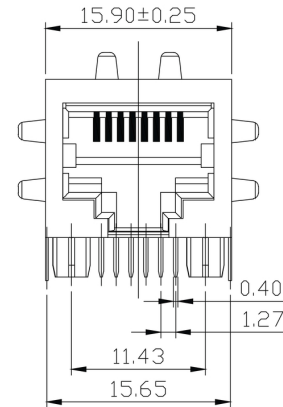
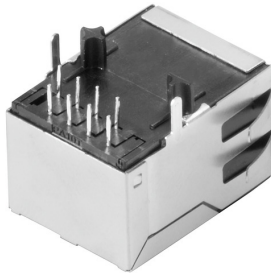
Brochure/Catalogue	MB FREECONTACT EN FL FIELDWIRING EN PI PROFINET CABLING EN
Engineering Data	EPLAN, WSCAD
User Documentation	MAN IE GUIDE DE MAN IE GUIDE EN

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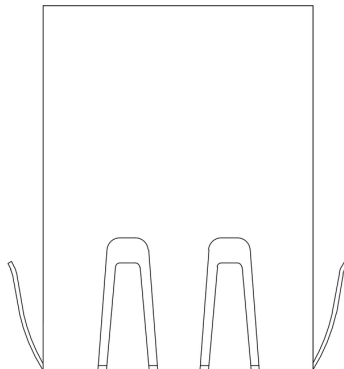
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Drawings

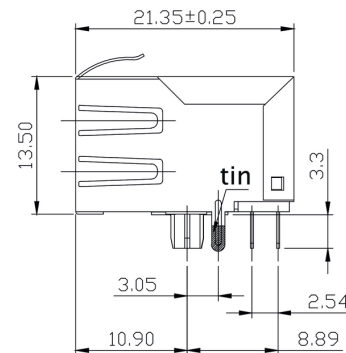
Dimensioned drawing



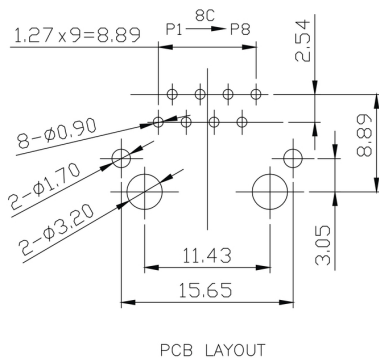
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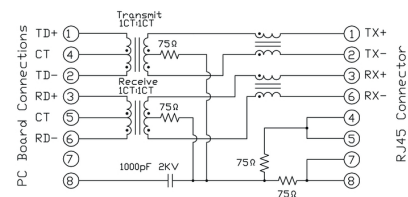
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PCB design



Wiring diagram



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Drawings

Schematic

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

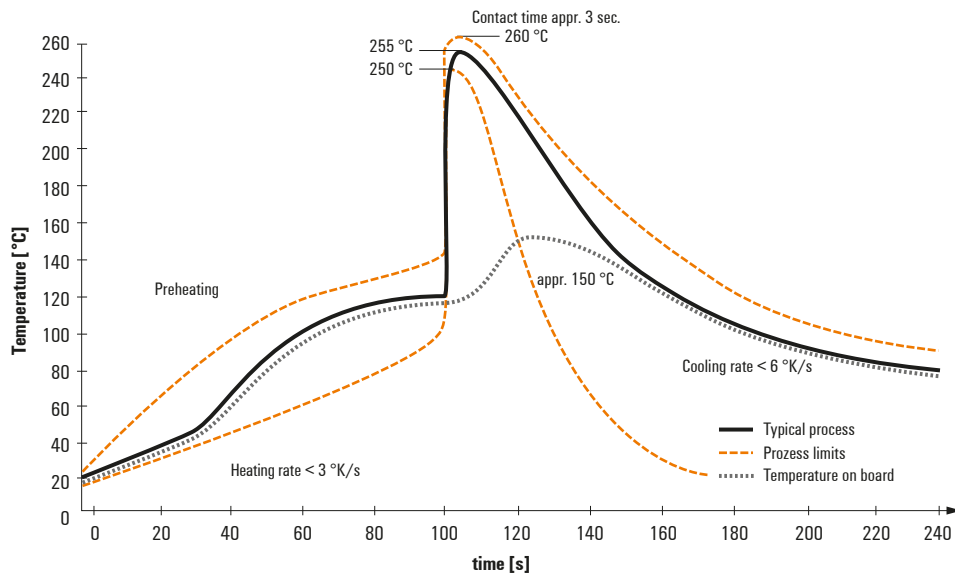
Type codes

RJ45	G1	R	1	U	3.2	E	4	GY/GY	TY	RJ45G1 R1U 3.2E4GY/GY TY																																																																																																																		
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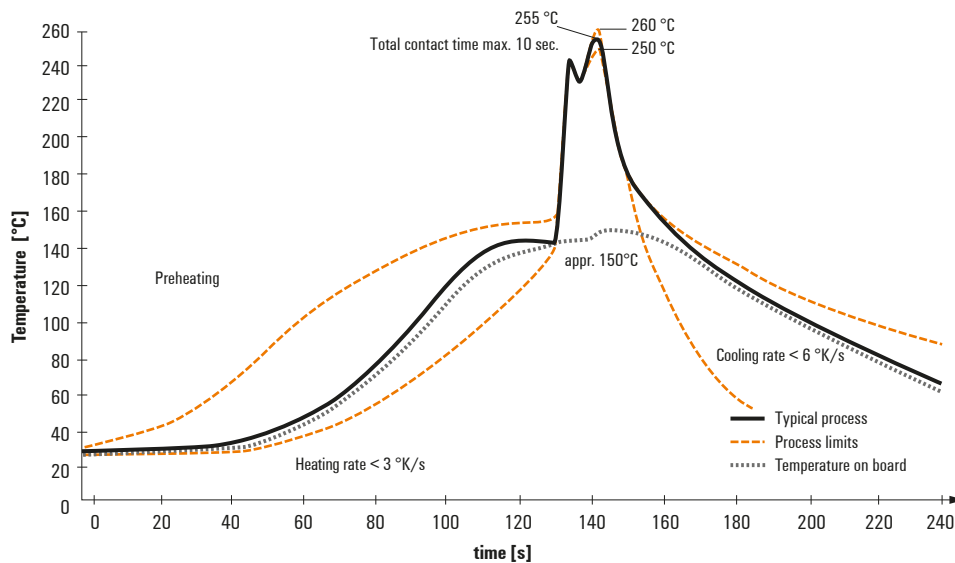
Recommended wave soldering profiles

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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.

We reserve the right to make technical changes.