

RJ45MP R1D 3.3E4N RL**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, 100 MBit/s, POE , THT/THR solder connection, 90°, Latch option: bottom, Number of poles: 10, Tape
Order No.	2661710000
Type	RJ45MP R1D 3.3E4N RL
GTIN (EAN)	4050118675177
Qty.	200 pc(s).
Packaging	Tape

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Technical data

Dimensions and weights

Net weight	10.61 g
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System specifications

Latch option	bottom	Mounting onto the PCB	THT/THR solder connection
Number of poles	10	Outgoing elbow	90°
Performance-Category	100 MBit/s, POE	Pitch in inches (P)	0.05 "
Pitch in mm (P)	1.27 mm	Plugging cycles	750
Product family	OMNIMATE Data - RJ45 transformer jack	Protection degree	IP20
Shielding	360° shield contact	Solder pin dimensions	Octagonal
Solder pin length (l)	3.3 mm	Soldering process	Reflow soldering, Manual soldering, Wave soldering
Tolerance of solder pin position	± 0.15 mm	Transmission rate	100 MBit/s, POE
Type of connection	Solder connection		

Electrical properties

Dielectric strength, contact / contact	1000 V DC	Dielectric strength, contact / shield	1500 V DC
Insulation strength	≥ 500 MΩ	PoE / PoE+	conforming to IEEE 802.3af
Rated current	350 mA	Rated voltage	57 V

Material data

Insulating material	PA 9T	Colour	black
Colour chart (similar)	RAL 9011	Insulation strength	≥ 500 MΩ
Moisture Level (MSL)	1	UL 94 flammability rating	V-0
Contact material	Cu-alloy	Contact surface	Ni/Au
Operating temperature, min.	-40 °C	Operating temperature, max.	85 °C

Packing

Packaging	Tape	VPE length	345 mm
VPE width	125 mm	VPE height	345 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

Environmental Product Compliance

REACH SVHC	/
RoHS Compliance Status	Compliant without exemption

Approvals

ROHS	Conform
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Technical data

Downloads

Approval/Certificate/Document of Con-
formity

[Certificate of Compliance](#)

Engineering Data

[CAD data – STEP](#)

Catalogues

[Catalogues in PDF-format](#)

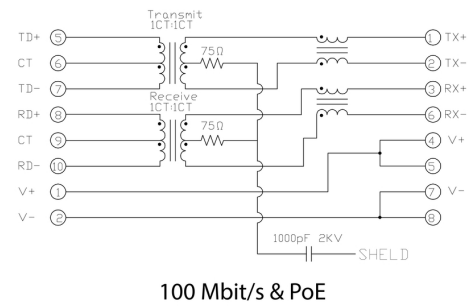
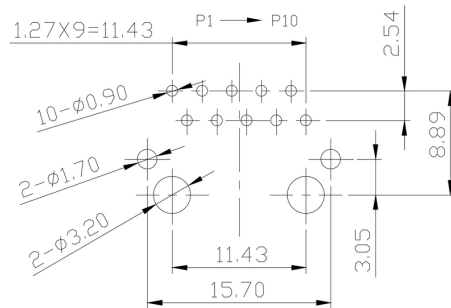
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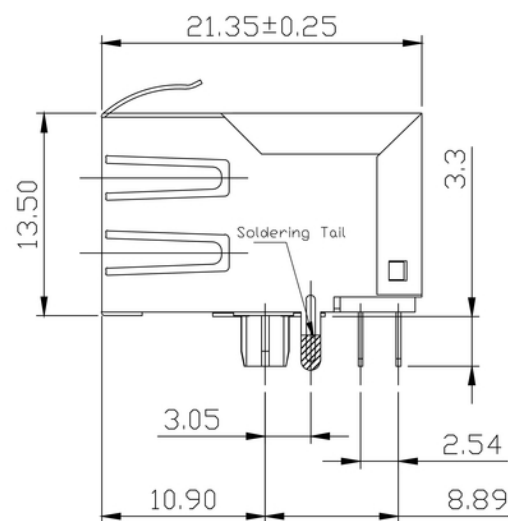
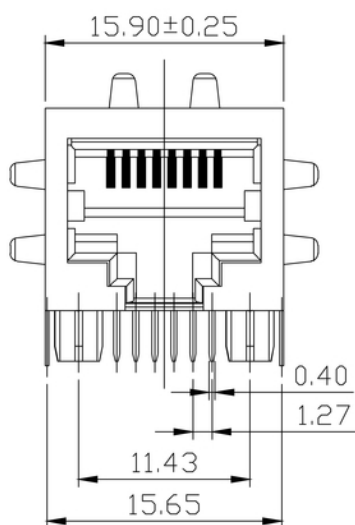
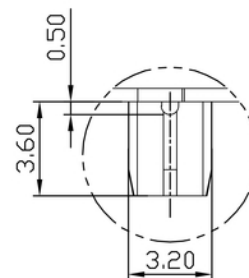
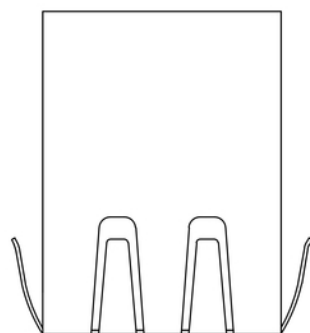
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Drawings

PCB design



100 Mbit/s & PoE



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RJ45	G1	R	1	U	3.2	E	4	GY/GY	TY	RJ45G1 R1U 3.2E4GY/GY TY
										Packaging
										TY
										RL
										Tray in box (manual assembly)
										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
										21; 41; ...
										multi ports about each other, Multilevel
										Assembly on PCB
										R
										Through Hole Reflow - THR
										Soldering process: Wave or Reflow soldering
										S
										Surface Mount Technology - SMT
										Soldering process: Reflow soldering
										T
										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

Creation date July 22, 2024 2:00:40 PM CEST

Catalogue status 13.07.2024 / 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.

We reserve the right to make technical changes.

Recommended reflow soldering profile

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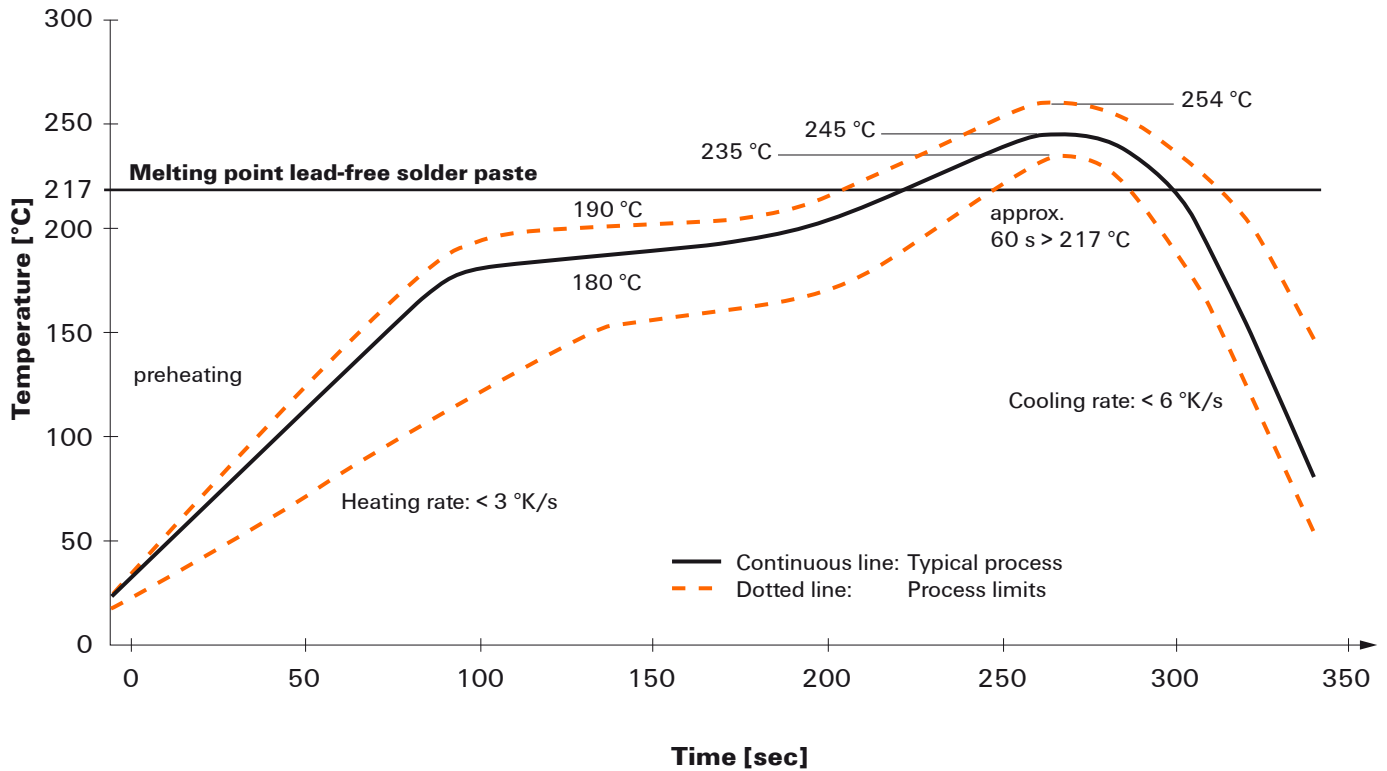
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Reflow soldering profile

The perfect soldering profile for SMT Surface Mount Technology is one the most exiting question in SMT production. But there are more than one correct answer: The diagram of temperature-on-time is related to processing features of solder paste and to maximum load of components.

We have to consider the following parameters:

- Time for pre heating
- Maximum temperature
- Time above melting point
- Time for cooling
- Maximum heating rate
- Maximum cooling rate

We recommend a typical solder profile with associated process limits. With preheating components and board are prepared smoothly for the solder phase. Heating rate is typically $\leq +3\text{K/s}$. In parallel the solder paste is 'activated'. The time above melting point of 217°C the paste gets liquid and components and boards begin to connect. The maximum temperature of 245°C to 254°C should stay between 10 and 40 seconds. In the cooling phase at $\geq -6\text{K/s}$ solder is cured. Board and components cool down while avoiding cold cracks.