

**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  $\geq 1500$  V AC RMS (2250 V AC peak value) according to IEEE 802.3
- Dielectric strength  $\geq 1500$  V AC (peak value) or  $\geq 1500$  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.	<a href="#">2661710000</a>
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

## Approvals

ROHS	Conform
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## Downloads

Approval/Certificate/Document of Conformity	<a href="#">Certificate of Compliance</a>
Engineering Data	<a href="#">CAD data – STEP</a>
Catalogues	<a href="#">Catalogues in PDF-format</a>

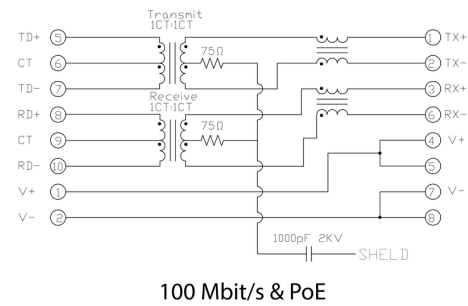
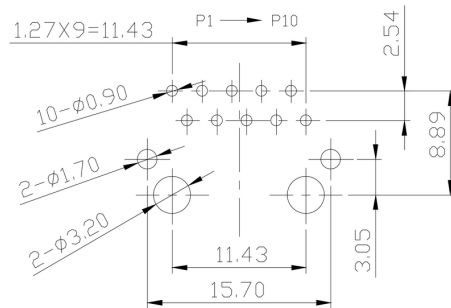
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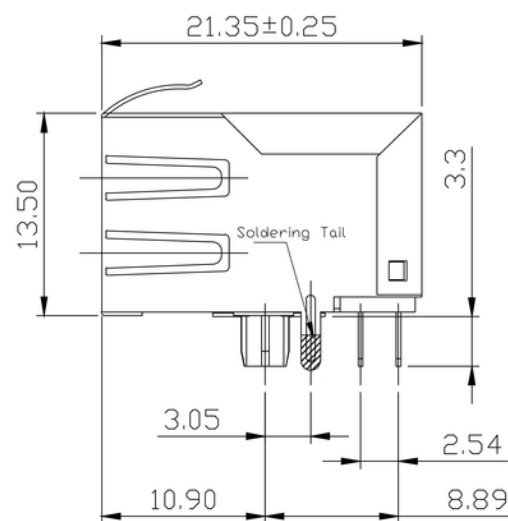
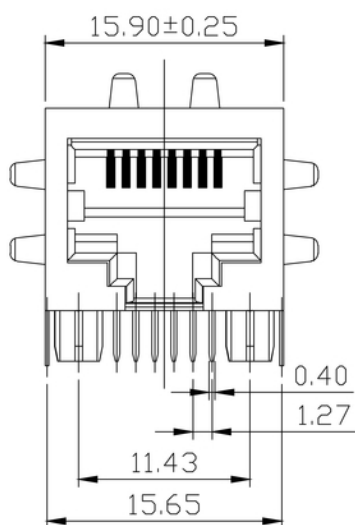
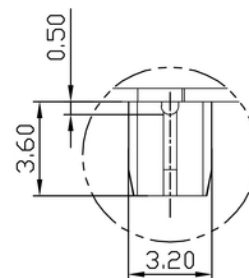
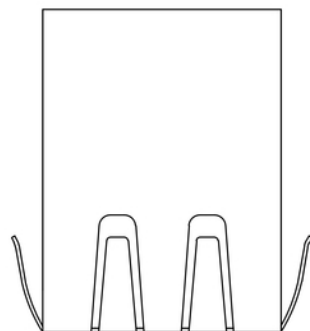
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## Drawings

## PCB design



100 Mbit/s & PoE



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**Drawings**

RJ45	G1	R	1	U	3.2	E	4	GY/GY	TY	RJ45G1 R1U 3.2E4GY/GY TY
										<b>Packaging</b>
										<b>TY</b>
										Tray in box (manual assembly)
										Tape on <b>Reel</b> (automated assembly)
										<b>LED</b>
										<b>Y/G</b>
										Yellow/Green
										<b>G/Y</b>
										Green/Yellow (standard)
										<b>GY/GY</b>
										Green-Yellow/Green-Yellow
										<b>O/G</b>
										Orange/Green
										<b>R/O</b>
										Red/Orange
										... (further combinations possible)
										<b>N</b>
										without LED
										<b>Contact surface thickness</b>
										<b>4</b>
										1 = 3µ", 2 = 6µ", 3 = 15µ", 4 = 30µ", 5 = 50µ"
										<b>EMI tabs (ground fingers)</b>
										<b>E</b>
										E = with EMI tabs
										<b>N</b>
										N = without EMI tabs
										<b>Solder Pin length</b>
										<b>3.2</b>
										3.2 mm
										<b>1.6</b>
										1.6 mm
										<b>D</b>
										SMD
										<b>Direction, latch style</b>
										<b>U</b>
										Horizontal (90°, side entry), latch up
										<b>D</b>
										Horizontal (90°, side entry), latch down
										<b>V</b>
										Vertical (180°, top entry)
										<b>Y</b>
										Diagonal (45°), latch up
										<b>Number of Ports</b>
										<b>1</b>
										1 Port
										<b>12; 14; ...</b>
										multi ports side by side, Multiport
										<b>21; 41; ...</b>
										multi ports about each other, Multilevel
										<b>Assembly on PCB</b>
										<b>R</b>
										Through Hole Reflow - THR
										Soldering process: Wave or Reflow soldering
										<b>S</b>
										Surface Mount Technology - SMT
										Soldering process: Reflow soldering
										<b>T</b>
										Through Hole Technology - THT
										Soldering process: Wave
										<b>Performance Category</b>
										<b>C5</b>
										Category 5
										<b>C6</b>
										Category 6
										<b>C6A</b>
										Category 6A
										<b>C5e</b>
										Category 5e
										<b>M</b>
										10/100 Mbit
										<b>G1</b>
										10/100/1000 Mbit
										<b>G10</b>
										10 Gbit
										<b>U</b>
										Unshielded
										<b>MP</b>
										10/100 Mbit with POE
										<b>MP+</b>
										10/100 Mbit with POE+

## Type codes

Creation date May 1, 2024 3:37:14 PM CEST

Catalogue status 20.04.2024 / We reserve the right to make technical changes.

## Recommended wave soldering profiles

**Weidmüller Interface GmbH & Co. KG**  
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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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## 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.