

## RJ45MP R1D 3.3E4G/Y TY

**Weidmüller Interface GmbH & Co. KG**

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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 (30 $\mu$ m) 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, Tray (manual assembly)
Order No.	<a href="#">266170000</a>
Type	RJ45MP R1D 3.3E4G/Y TY
GTIN (EAN)	4050118675160
Qty.	120 pc(s).
Packaging	Tray (manual assembly)

Creation date May 1, 2024 5:58:56 PM CEST

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

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## Technical data

## Dimensions and weights

Net weight	8.125 g
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## System specifications

Forward current	20 mA	Forward voltage, max.	2.6 V
Forward voltage, min.	1.8 V	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	Tray (manual assembly)	VPE length	317 mm
VPE width	193 mm	VPE height	67 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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**Data sheet****RJ45MP R1D 3.3E4G/Y TY****Weidmüller Interface GmbH & Co. KG**  
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D-32758 Detmold  
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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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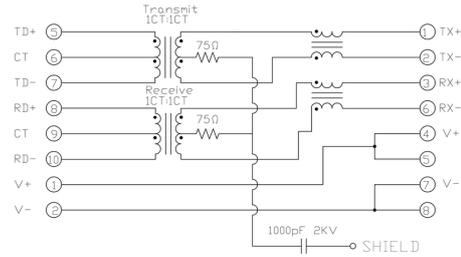
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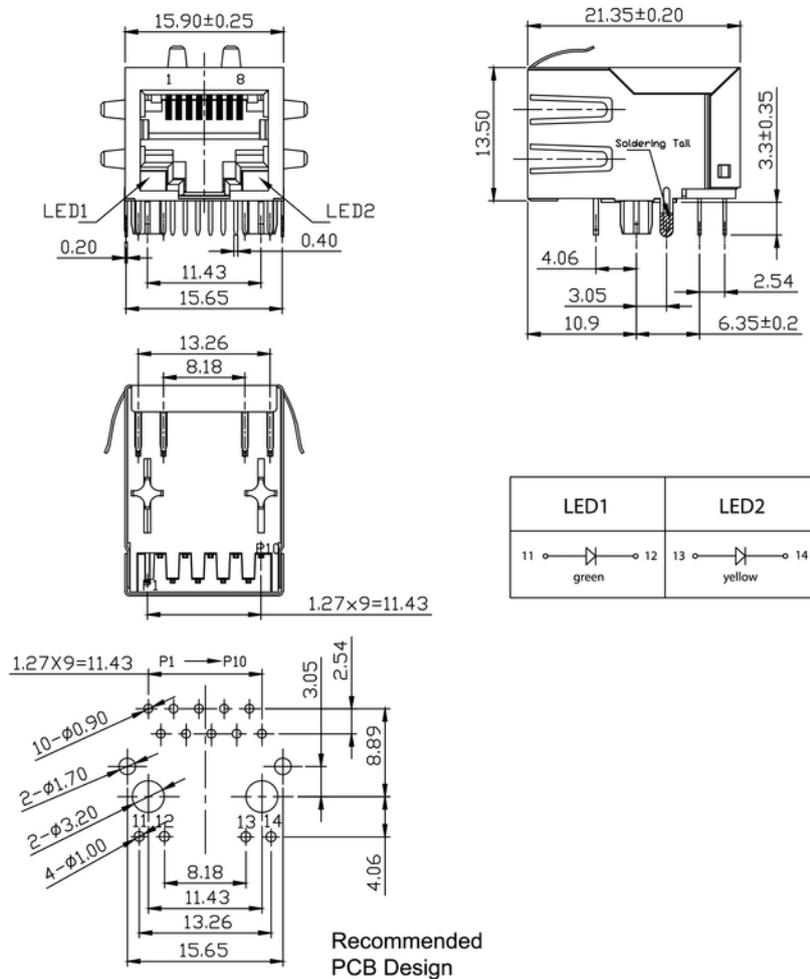
**Drawings**

**Wiring**



100 Mbit/s & PoE

**Dimensional drawing**



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Drawings

Code	Description	Value	Notes
RJ45	Category	Category 5	
G1	Performance Category	Category 6	
R	Assembly on PCB	Through Hole Reflow - THR	
I	Direction, latch style	Horizontal (90°, side entry), latch up	
U	Number of Ports	1 Port	
3.2	Solder Pin length	3.2 mm	
E	EMI tabs (ground fingers)	E = with EMI tabs	
4	Contact surface thickness	4 = 15µm	
GY/GY	LED	Green-Yellow/Green-Yellow	
TY	Packaging	TY Tray in box (manual assembly)	

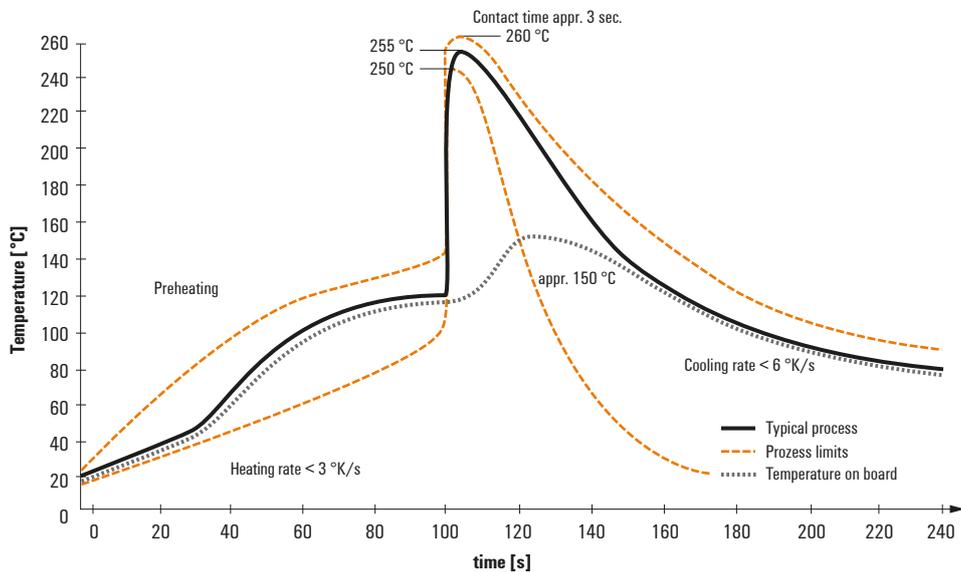
Code	Description	Value	Notes
RJ45G1R1U3.2E4GY/GYTY	Product Name	RJ45G1R1U3.2E4GY/GYTY	
TY	Packaging	TY Tray in box (manual assembly)	RL Tape on Reel (automated assembly)
Y/G	LED	Yellow/Green	
G/Y	LED	Green/Yellow (standard)	
GY/GY	LED	Green-Yellow/Green-Yellow	
O/G	LED	Orange/Green	
R/O	LED	Red/Orange	
...	LED	...	(further combinations possible)
N	LED	without LED	
4	Contact surface thickness	4 = 15µm, 2 = 6µm, 3 = 15µm, 4 = 30µm, 5 = 50µm	
E	EMI tabs (ground fingers)	E = with EMI tabs	N = without EMI tabs
3.2	Solder Pin length	3.2 mm	1.6 mm
D	Solder Pin length	SMD	
U	Direction, latch style	Horizontal (90°, side entry), latch up	Horizontal (90°, side entry), latch down
D	Direction, latch style	Horizontal (90°, side entry), latch down	
V	Direction, latch style	Vertical (180°, top entry)	
Y	Direction, latch style	Diagonal (45°), latch up	
1	Number of Ports	1 Port	multi ports side by side, Multiport
12; 14; ...	Number of Ports	multi ports about each other, Multilevel	
2; 4; ...	Number of Ports	multi ports about each other, Multilevel	
R	Assembly on PCB	Through Hole Reflow - THR	Soldering process: Wave or Reflow soldering
S	Assembly on PCB	Surface Mount Technology - SMT	Soldering process: Reflow soldering
T	Assembly on PCB	Through Hole Technology - THT	Soldering process: Wave
C5	Performance Category	Category 5	
C6	Performance Category	Category 6	
C6A	Performance Category	Category 6A	
C5e	Performance Category	Category 5e	
M	Performance Category	10/100 Mbit	
G1	Performance Category	10/100/1000 Mbit	
G10	Performance Category	10 Gbit	
U	Performance Category	Unshielded	
MP	Performance Category	10/100 Mbit with POE	
MP+	Performance Category	10/100 Mbit with POE+	

Type codes

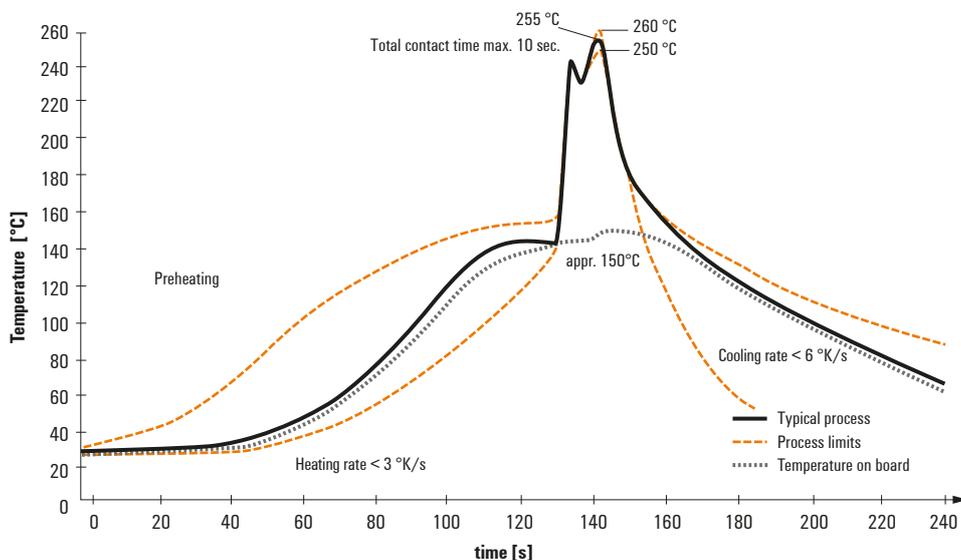
## Recommended wave soldering profiles

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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.

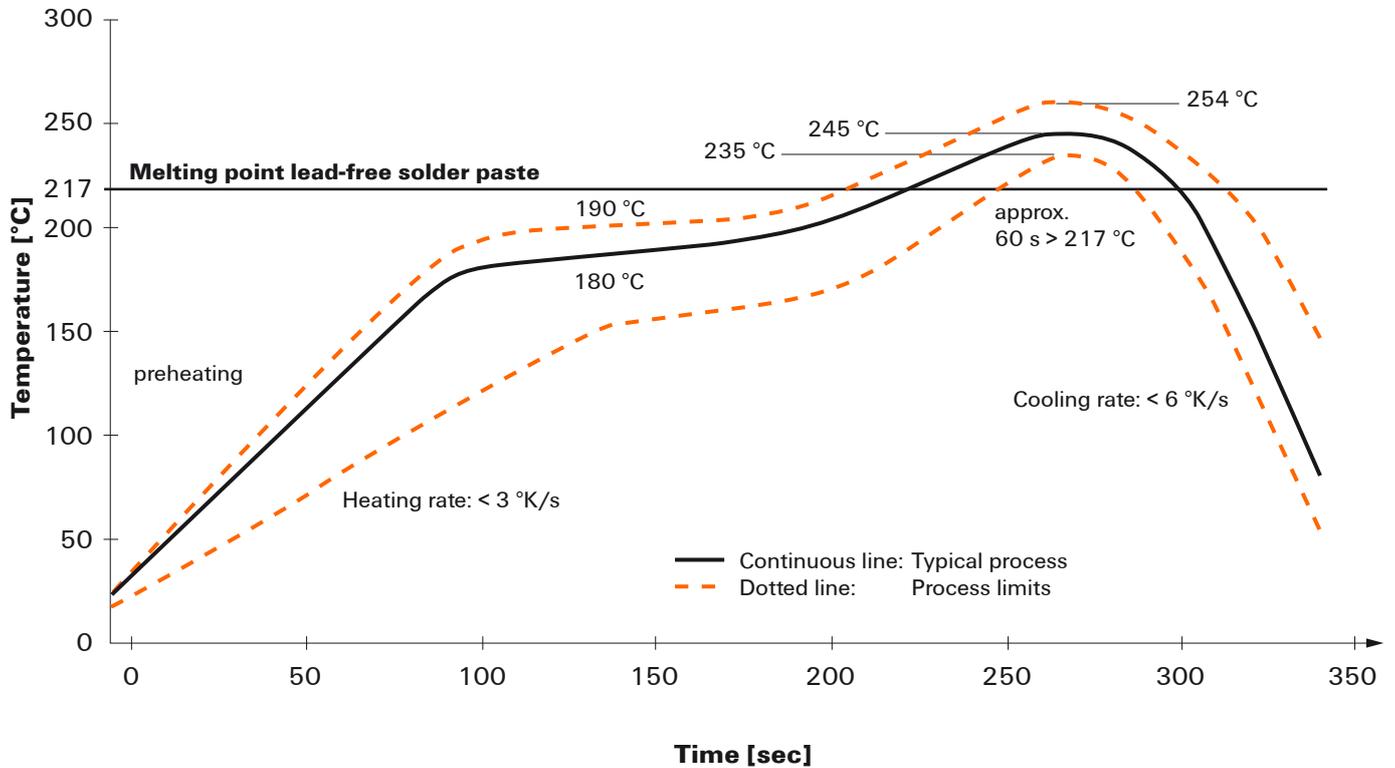
When choosing a suitable profile for your application, the following factors also need to be considered:

- 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.

## 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.