

# RJ45G1 T1D 3.3E4N TY

**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

[www.weidmueller.com](http://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 ( $30\mu$ ) 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, 1000 Mbps, THT solder connection, 90°, Latch option: bottom, Shield tabs: 6 tabs, $30\ldots 80\mu$ Ni / $\geq 30\mu$ Au, LED: No, Number of poles: 10, Tray (manual assembly) |
| Order No.  | <a href="#">2564420000</a>                                                                                                                                                                                                   |
| Type       | RJ45G1 T1D 3.3E4N TY                                                                                                                                                                                                         |
| GTIN (EAN) | 4050118572919                                                                                                                                                                                                                |
| Qty.       | 120 pc(s).                                                                                                                                                                                                                   |
| Packaging  | Tray (manual assembly)                                                                                                                                                                                                       |

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## Technical data

## Dimensions and weights

|                          |          |                 |            |
|--------------------------|----------|-----------------|------------|
| Depth                    | 21.35 mm | Depth (inches)  | 0.841 inch |
| Height                   | 16.8 mm  | Height (inches) | 0.661 inch |
| Height of lowest version | 13.5 mm  | Net weight      | 0.001 g    |
| Width                    | 15.9 mm  | Width (inches)  | 0.626 inch |

## System specifications

|                                 |                       |                                           |                                       |
|---------------------------------|-----------------------|-------------------------------------------|---------------------------------------|
| LED                             | No                    | Latch option                              | bottom                                |
| Mounting onto the PCB           | THT solder connection | Number of poles                           | 10                                    |
| Number of solder pins per pole  | 1                     | Outgoing elbow                            | 90°                                   |
| Performance-Category            | 1000 Mbps             | Pitch in inches (P)                       | 0.05 inch                             |
| Pitch in mm (P)                 | 1.27 mm               | Product family                            | OMNIMATE Data - RJ45 transformer jack |
| 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)           | 3.3 mm                | Soldering process                         | Manual soldering, Wave soldering      |
| Transmission rate               | 1000 Mbps             | Type of connection                        | Socket connector                      |

## Electrical properties

|                                        |           |                                       |           |
|----------------------------------------|-----------|---------------------------------------|-----------|
| Dielectric strength, contact / contact | 1000 V DC | Dielectric strength, contact / shield | 1500 V DC |
| Rated current                          | 1.5 A     | Rated voltage                         | 125 V     |

## Material data

|                                  |                            |                             |                  |
|----------------------------------|----------------------------|-----------------------------|------------------|
| Insulating material              | PA 66                      | Colour                      | black            |
| Colour chart (similar)           | RAL 9011                   | Insulating material group   | II               |
| Comparative Tracking Index (CTI) | ≥ 500                      | 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 | 315 mm |
| VPE width | 190 mm                 | VPE height | 65 mm  |

## Classifications

|             |             |             |             |
|-------------|-------------|-------------|-------------|
| ETIM 6.0    | EC002637    | ETIM 7.0    | 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 |

## Approvals

Approvals



|                       |         |
|-----------------------|---------|
| ROHS                  | Conform |
| UL File Number Search | E471884 |

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Catalogue status 09.04.2021 / We reserve the right to make technical changes.

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## Technical data

### Downloads

Engineering Data

[STEP](#)

Brochure/Catalogue

[Catalogues in PDF-format](#)

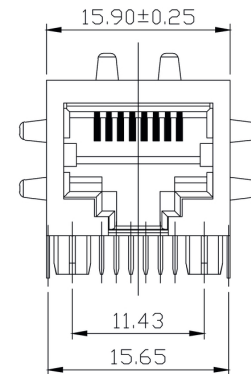
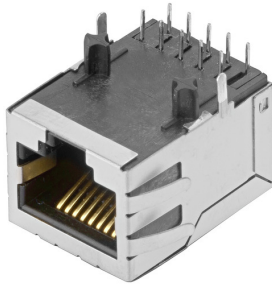
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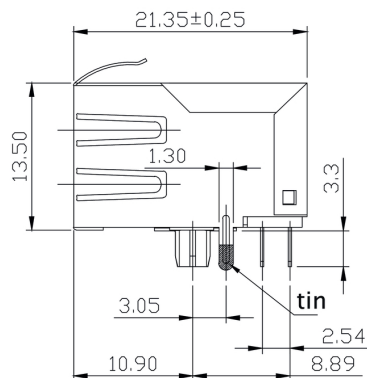
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# Drawings

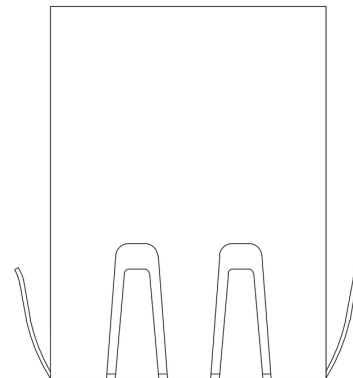
## Dimensioned drawing



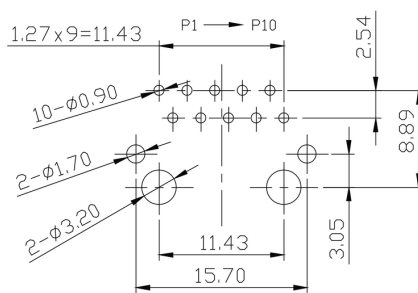
## Dimensioned drawing



## Dimensioned drawing

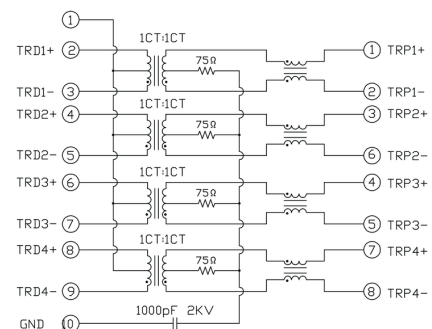


## PCB design



PCB Layout

## Wiring diagram



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## Drawings

### Characteristics

|                       |                                                                                       |
|-----------------------|---------------------------------------------------------------------------------------|
| Inductance            | 350 $\mu$ H min. @ 100 kHz,<br>100 mV, 8 mA DC Bias                                   |
| Leakage Inductance    | 0.3 $\mu$ H max. @ 100 kHz, 100 mV                                                    |
| Insertion Loss        | 1.1 dB max. @ (1 - 100) MHz                                                           |
| Return Loss           | 18 dB min. @ (1 - 30) MHz<br>16 dB min. @ (30 - 60) MHz<br>12 dB min. @ (60 - 80) MHz |
| Cross Talk            | 30 dB min. @ (1 - 100) MHz                                                            |
| Common Mode Rejection | 30 dB min. @ (1 - 100) MHz                                                            |

[illegible]

## 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.

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