

RJ45M T1D 3.3E4G/Y TY**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, 10/100 MBit/s , THT solder connection, 90°, Latch option: bottom, Shield tabs: 6 tabs, 30...80 µ" Ni / ≥ 30 µ" Au , LED: Yes, green, yellow, Number of poles: 8, Tray (manual assembly) |
| Order No. | 2563850000 |
| Type | RJ45M T1D 3.3E4G/Y TY |
| GTIN (EAN) | 4050118572896 |
| 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 | Width | 15.9 mm |
| Width (inches) | 0.626 inch | Net weight | 7 g |

System specifications

| | | | |
|---------------------------------|----------------------------------|---|---------------------------------------|
| Colour of left LED | green | Colour of right LED | yellow |
| Forward current | 20 mA | Forward voltage, max. | 2.6 V |
| Forward voltage, min. | 1.8 V | LED | Yes |
| Latch option | bottom | Mounting onto the PCB | THT solder connection |
| Number of poles | 8 | Number of solder pins per pole | 1 |
| Outgoing elbow | 90° | Performance-Category | 10/100 MBit/s |
| Pitch in inches (P) | 0.05 " | Pitch in mm (P) | 1.27 mm |
| Plugging cycles | 750 | 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 dimensions | Octagonal | Solder pin length (l) | 3.3 mm |
| Soldering process | Manual soldering, Wave soldering | Tolerance of solder pin position | ± 0.1 mm |
| Transmission rate | 10/100 MBit/s | Type of connection | Solder connection |

Electrical properties

| | | | |
|--|------------------------|---------------------------------------|-----------|
| Dielectric strength, contact / contact | 1000 V DC | Dielectric strength, contact / shield | 1500 V DC |
| Insulation strength | ≥ 1000 M Ω | Rated current | 1.5 A |
| Rated voltage | 57 V | | |

Material data

| | | | |
|----------------------------------|---|-----------------------------|------------------------|
| Insulating material | PA 66 | Colour | black |
| Colour chart (similar) | RAL 9011 | Insulating material group | II |
| Comparative Tracking Index (CTI) | ≥ 500 | Insulation strength | ≥ 1000 M Ω |
| UL 94 flammability rating | V-0 | Contact base material | Phosphorus bronze |
| Contact material | Cu-alloy | 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 | 322 mm |
| VPE width | 195 mm | VPE height | 68 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 |

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Environmental Product Compliance

| | |
|------------------------|-----------------------------|
| REACH SVHC | / |
| RoHS Compliance Status | Compliant without exemption |

Approvals

Approvals



| | |
|-------------------------|------------|
| ROHS | Conform |
| UL File Number Search | UL Website |
| Certificate No. (cURus) | E471884 |

Downloads

| | |
|---|---|
| Approval/Certificate/Document of Conformity | Certificate of Compliance |
| Engineering Data | CAD data – STEP |
| Catalogues | Catalogues in PDF-format |

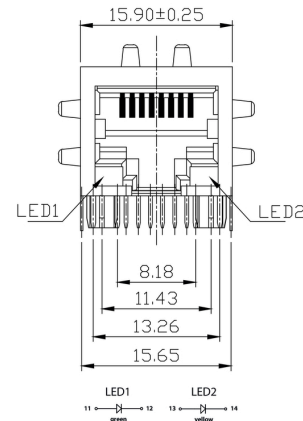
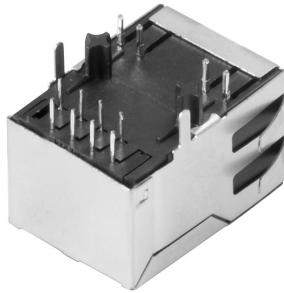
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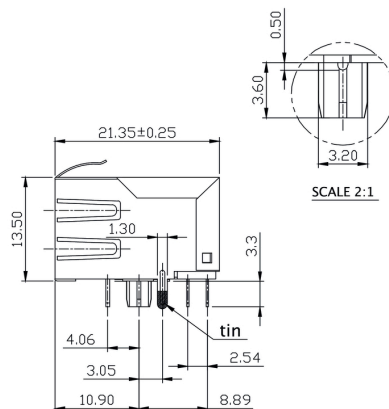
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Drawings

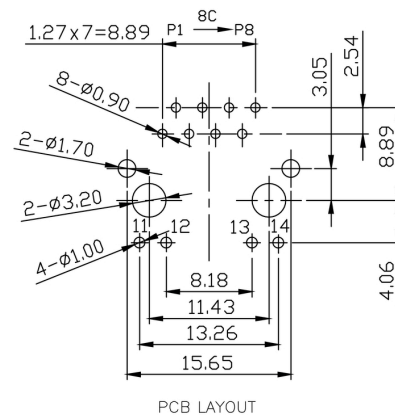
Dimensioned drawing



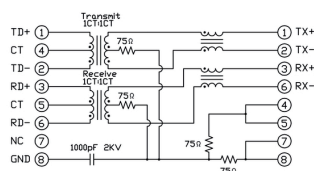
Dimensioned drawing



PCB design



Wiring diagram



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| | | | | | | | | |
|------|----|----|----|----|----|-------|---------------------------|--|
| RJ45 | G1 | R1 | U1 | U2 | E4 | GY/GY | TY | RJ45G1 RIU R1U 3.2E4G/GY TY |
| | | | | | | | Packaging | TY RL |
| | | | | | | | LED | Y/G G/Y GY/GY O/G R/O ... N |
| | | | | | | | Contact surface thickness | 4 |
| | | | | | | | EMI tabs (ground fingers) | E N |
| | | | | | | | Solder Pin length | 3.2 1.6 D |
| | | | | | | | Direction, latch style | U D V Y |
| | | | | | | | Number of Ports | 1 12; 14; ... 21; 41; |
| | | | | | | | Assembly on PCB | R S T |
| | | | | | | | Performance Category | C5 C6 C6A C5e M G1 G10 U NP NP+ |

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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.