

RJ45M R1D 3.3E4G/Y 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 ($30\mu\text{m}$) for improved corrosion protection
- At least 0.3mm stand-off ensures a perfect soldering result

General ordering data

| | |
|------------|---|
| Version | OMNIMATE Data - RJ45 transformer jack, PCB plug-in connector, THT/THR solder connection, 90°, bottom, 6 tabs, Yes, Plugging cycles: 750, Number of poles: 8, PA 9T, 30...80 μm Ni / ≥ 30 μm Au, Tape |
| Order No. | 2564410000 |
| Type | RJ45M R1D 3.3E4G/Y RL |
| GTIN (EAN) | 4050118572902 |
| Qty. | 200 items |
| Packaging | Tape |

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Technical data

Approvals

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

Dimensions and weights

| | | | |
|--------------------------|------------|-----------------|-------------|
| Depth | 21.35 mm | Depth (inches) | 0.8405 inch |
| Height | 16.8 mm | Height (inches) | 0.6614 inch |
| Height of lowest version | 13.5 mm | Width | 15.9 mm |
| Width (inches) | 0.626 inch | Net weight | 6 g |

Environmental Product Compliance

| | |
|------------------------|-----------------------------|
| RoHS Compliance Status | Compliant without exemption |
| REACH SVHC | No SVHC above 0.1 wt% |

System specifications

| | | | |
|-----------------------|--|----------------------------------|---------------------------------------|
| Number of poles | 8 | LED | Yes |
| Solder pin length (l) | 3.3 mm | Mounting onto the PCB | THT/THR solder connection |
| Pitch in inches (P) | 0.050 " | Shielding material | Brass |
| Shielding | Yes | Side termination, characteristic | Solder flange |
| Transmission rate | 10/100 MBit/s | Number of solder pins per pole | 1 |
| Type of connection | Solder connection | Product family | OMNIMATE Data - RJ45 transformer jack |
| Pitch in mm (P) | 1.27 mm | Protection degree | IP20 |
| Plugging cycles | 750 | Outgoing elbow | 90° |
| Forward current | 20 mA | Forward voltage, max. | 2.6 V |
| Shield surface | nickel-plated | Colour of right LED | yellow |
| Shield tabs | 6 tabs | Performance-Category | 10/100 MBit/s |
| Soldering process | Reflow soldering, Manual soldering, Wave soldering | Latch option | bottom |
| Solder pin dimensions | Octagonal | Tolerance of solder pin position | ± 0.1 mm |
| Forward voltage, min. | 1.8 V | Colour of left LED | green |

Electrical properties

| | | | |
|---------------------------------------|-----------|--|-----------|
| Dielectric strength, contact / shield | 1500 V DC | Dielectric strength, contact / contact | 1000 V DC |
| Insulation resistance | ≥ 500 MΩ | Nominal voltage | 125 V |
| Rated current | 1.5 A | | |

Standards

| | |
|--------------------|-------------|
| Connector standard | IEC 60603-7 |
|--------------------|-------------|

Material data

| | | | |
|----------------------------------|-------------------|---------------------------------|----------------------------|
| Insulating material | PA 9T | Colour | black |
| Colour chart (similar) | RAL 9011 | Insulating material group | II |
| Comparative Tracking Index (CTI) | ≥ 500 | Insulation resistance | ≥ 500 MΩ |
| Moisture Level (MSL) | 1 | 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 |

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Technical data

| | | | |
|-----------------------------|--------|-----------------------------|-------|
| Storage temperature, min. | -40 °C | Storage temperature, max. | 85 °C |
| Operating temperature, min. | -40 °C | Operating temperature, max. | 85 °C |

Packing

| | | | |
|--------------------------------------|-----------|--------------------|--------------------------|
| Packaging | Tape | VPE length | 345.00 mm |
| VPE width | 345.00 mm | VPE height | 124.00 mm |
| Tape reel diameter \varnothing (A) | 330 mm | Surface resistance | Rs = 109 - 1012 Ω |

Important note

Notes

Classifications

| | | | |
|-------------|-------------|-------------|-------------|
| ETIM 8.0 | EC002637 | ETIM 9.0 | EC002637 |
| ETIM 10.0 | EC002637 | ECLASS 14.0 | 27-46-02-01 |
| ECLASS 15.0 | 27-46-02-01 | | |

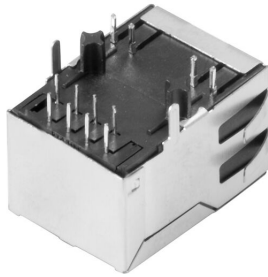
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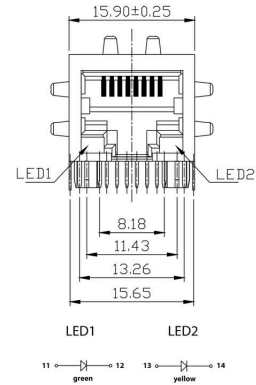
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Drawings

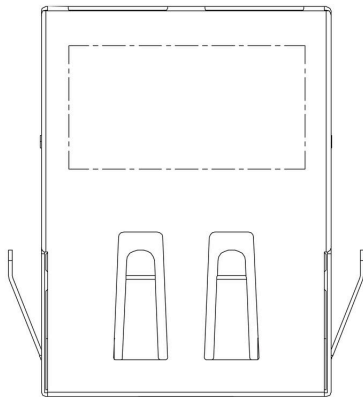
Dimensioned drawing



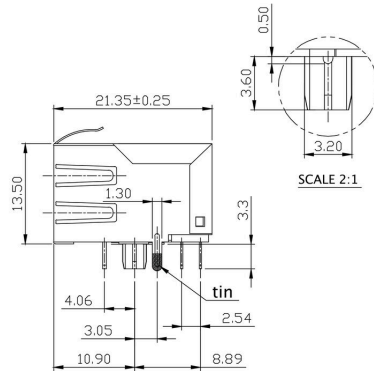
Dimensioned drawing



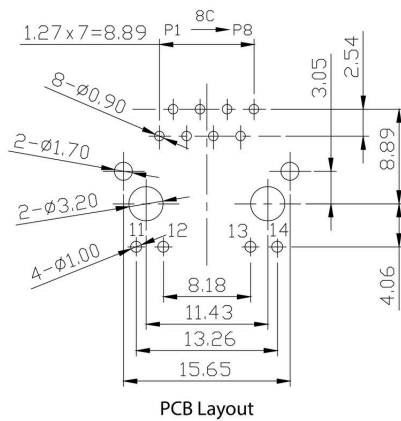
Dimensioned drawing



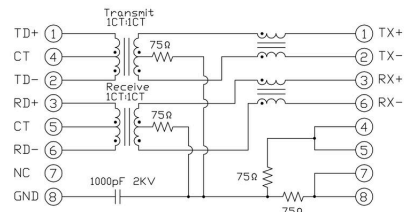
Dimensioned drawing



PCB design



Wiring diagram



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Drawings

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| Code | Value | Description |
|-------|-------|---------------------------|
| RJ45 | | Category |
| G1 | | Performance Category |
| R | | Assembly on PCB |
| 1 | | Number of Ports |
| U | | Direction, latch style |
| 3.2 | | Solder Pin length |
| E | | EMI tabs (ground fingers) |
| 4 | | Contact surface thickness |
| GY/GY | | LED |
| TY | | Packaging |

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

Type codes