

**OMNIMATE Data - Trasformatore jack RJ45  
RJ45M R1V 3.3N4Y/G TY**

**Weidmüller Interface GmbH & Co. KG**  
Klingenbergstraße 16  
D-32758 Detmold  
Germany  
Fon: +49 5231 14-0  
Fax: +49 5231 14-292083  
[www.weidmueller.com](http://www.weidmueller.com)



Le prese trasmettitore RJ45 (magnetiche) per applicazioni gigabit (1000 a base T) con compensazione integrata controbilanciano attivamente i giunti induttivi e capacitivi e permettono di risparmiare spazio sul circuito stampato.

- Processi di saldatura THT o THR
- Ampia gamma di forme diverse, anche con LED integrati e linguette per contatto schermato
- Versione con imballaggio in vassoio (TY) o su rotolo (Tape-on-Reel, RL)
- Campo di temperatura ampliato da -40°C a +85°C
- Lato dorato rinforzato per una migliore protezione dalla corrosione
- Velocità di trasmissione fino a 1 Gbit/s

**Dati generali per l'ordinazione**

|             |                                                                                                                                                                                                                                                     |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tipo        | RJ45M R1V 3.3N4Y/G TY                                                                                                                                                                                                                               |
| Nr.Cat.     | <a href="#">2461070000</a>                                                                                                                                                                                                                          |
| Versione    | Connettore per circuito stampato, Trasformatore jack RJ45, 10/100 MBit/s , Collegamento a saldare THT/THR, 180°, Linguette di schermatura: nessuno, 30-80 µ" Ni / 30-µ" Au , LED: Sì, giallo, verde, Numero di poli: 8, Vassoio (montaggio manuale) |
| GTIN (EAN)  | 4050118476071                                                                                                                                                                                                                                       |
| CPZ         | 120 Pezzo                                                                                                                                                                                                                                           |
| Imballaggio | Vassoio (montaggio manuale)                                                                                                                                                                                                                         |

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**Dati tecnici****Dimensioni e peso**

|                      |            |                     |            |
|----------------------|------------|---------------------|------------|
| Larghezza            | 16 mm      | Larghezza (pollici) | 0,63 inch  |
| Posizione verticale  | 20,3 mm    | Altezza (pollici)   | 0,799 inch |
| Altezza minima       | 17 mm      | Profondità          | 16,8 mm    |
| Profondità (pollici) | 0,661 inch | Peso netto          | 3,658 g    |

**Temperature**

|                                |       |                                |        |
|--------------------------------|-------|--------------------------------|--------|
| Temperatura d'esercizio , max. | 85 °C | Temperatura d'esercizio , min. | -40 °C |
| Temperatura di magazzino, max. | 85 °C | Temperatura di magazzino, min. | -40 °C |

**Conformità ambientale del prodotto**

|            |                |
|------------|----------------|
| REACH SVHC | Lead 7439-92-1 |
|------------|----------------|

**Caratteristiche elettriche**

|                                        |           |                                       |           |
|----------------------------------------|-----------|---------------------------------------|-----------|
| Corrente nominale                      | 1,5 A     | Resistenza contro l'isolamento        | > 500 MΩ  |
| Rigidità dielettrica contatto-contatto | 1000 V DC | Rigidità dielettrica contatto-schermo | 1500 V DC |
| Tensione nominale                      | 125 V AC  |                                       |           |

**Specifiche di sistema**

|                                            |                                   |                                     |                                            |
|--------------------------------------------|-----------------------------------|-------------------------------------|--------------------------------------------|
| Angolo di uscita                           | 180°                              | Cicli di inserimento                | 750                                        |
| Colore del LED destro                      | verde                             | Colore del LED sinistro             | giallo                                     |
| Diametro foro di equipaggiamento (D)       | 0,9 mm                            | Famiglia prodotti                   | OMNIMATE Data -<br>Trasformatore jack RJ45 |
| Grado di protezione                        | IP20                              | LED                                 | Sì                                         |
| Linguette di schermatura                   | nessuno                           | Materiale della schermatura         | Ottone                                     |
| Montaggio su circuito stampato             | Collegamento a saldare<br>THT/THR | Numero di codoli a saldare per polo | 1                                          |
| Numero di poli                             | 8                                 | Passo in mm (P)                     | 1,27 mm                                    |
| Passo in pollici (P)                       | 0,05 inch                         | Schermatura                         | Sì                                         |
| Superficie di schermatura                  | nichelato                         | Tipo di collegamento                | Femmina                                    |
| Tolleranza diametro di equipaggiamento (D) | ± 0,1 mm                          | Velocità di trasmissione            | 10/100 MBit/s                              |

**Dati del materiale**

|                                           |                         |                                |               |
|-------------------------------------------|-------------------------|--------------------------------|---------------|
| Materiale isolante                        | PA 9T                   | Colori                         | Nero          |
| Tabella dei colori (simile)               | RAL 9011                | Gruppo materiali isolanti      | II            |
| CTI                                       | ≥ 500                   | Resistenza contro l'isolamento | > 500 MΩ      |
| Moisture Level (MSL)                      | 1                       | Classe d'infiammabilità UL 94  | V-0           |
| Materiale base dei contatti               | Fosforo bronzo          | Superficie dei contatti        | Oro su nichel |
| Struttura a strati del connettore maschio | 30-80 μ" Ni / 30- μ" Au | Temperatura di magazzino, min. | -40 °C        |
| Temperatura di magazzino, max.            | 85 °C                   | Temperatura d'esercizio , min. | -40 °C        |
| Temperatura d'esercizio , max.            | 85 °C                   |                                |               |

**Imballaggio**

|               |                             |               |     |
|---------------|-----------------------------|---------------|-----|
| Imballaggio   | Vassoio (montaggio manuale) | Lunghezza VPE | 0 m |
| Larghezza VPE | 0 m                         | Altezza VPE   | 0 m |

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**Dati tecnici****Classificazioni**

|            |             |            |             |
|------------|-------------|------------|-------------|
| ETIM 6.0   | EC002637    | eClass 6.2 | 27-25-05-04 |
| eClass 9.0 | 27-44-04-02 | eClass 9.1 | 27-44-04-02 |

**Approvazioni**

Omologazioni



ROHS      Conforme

**Downloads**

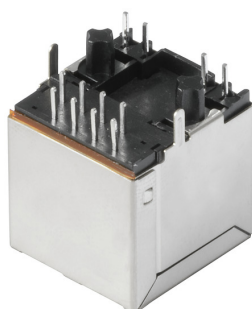
|                       |                                                                    |
|-----------------------|--------------------------------------------------------------------|
| Dati ingegneristici   | <a href="#">STEP</a>                                               |
| Documentazione utente | <a href="#">MAN IE GUIDE DE</a><br><a href="#">MAN IE GUIDE EN</a> |

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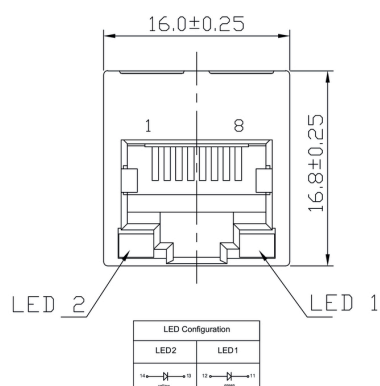
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**Disegni**

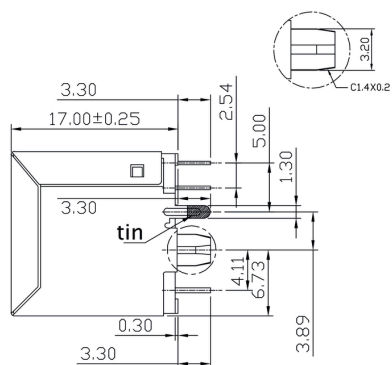
**Disegno quotato**



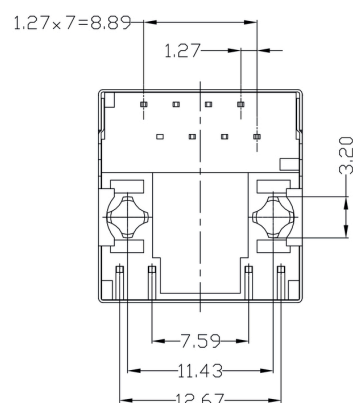
**Dimensional drawing**



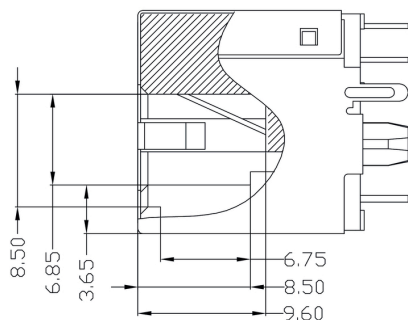
**Dimensional drawing**



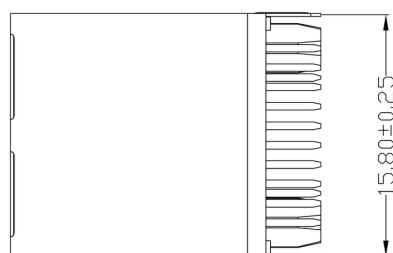
**Dimensional drawing**



**Dimensional drawing**



**Dimensional drawing**

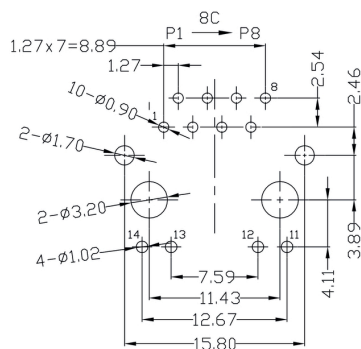


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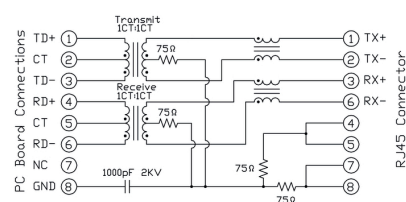
**Disegni**

**Disegno del circuito stampato**



PCB LAYOUT

**Schema elettrico**



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## Disegni

## Schematic

### Characteristics

|                       |                                                                                       |
|-----------------------|---------------------------------------------------------------------------------------|
| Inductance            | 350 µH min. @ 100 kHz,<br>100 mV, 8 mA DC Bias                                        |
| Leakage Inductance    | 0.3 µH 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                                                            |

## Type codes

|      |    |    |      |    |       |    |                           |                                                            |                                                                                                                                                                                                               |
|------|----|----|------|----|-------|----|---------------------------|------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RJ45 | G1 | R1 | U3.2 | E4 | GY/GY | TY | RJ45G1 R1U 3.2E4GY/GY TY  |                                                            |                                                                                                                                                                                                               |
|      |    |    |      |    |       |    | Packaging                 | TY<br>RL                                                   | Tray in box (manual assembly)<br>Tape on Reel (automated assembly)                                                                                                                                            |
|      |    |    |      |    |       |    | LED                       | Y/G<br>G/Y<br>GY/GY<br>O/G<br>R/O<br>...<br>N              | Yellow/Green<br>Green/Yellow (standard)<br>Green-Yellow/Green-Yellow<br>Orange-Green<br>Red/Orange<br>... (further combinations possible)<br>without LED                                                      |
|      |    |    |      |    |       |    | Contact surface thickness | 4                                                          | 1 = 3µ", 2 = 6µ", 3 = 15µ", 4 = 30µ", 5 = 50µ"                                                                                                                                                                |
|      |    |    |      |    |       |    | EMI tabs (ground fingers) | E<br>N                                                     | E = with EMI tabs<br>N = without EMI tabs                                                                                                                                                                     |
|      |    |    |      |    |       |    | Solder Pin length         | 3.2<br>1.6<br>D                                            | 3.2 mm<br>1.6 mm<br>SMD                                                                                                                                                                                       |
|      |    |    |      |    |       |    | Direction, latch style    | U<br>D<br>V<br>Y                                           | Horizontal (90°, side entry), latch up<br>Horizontal (90°, side entry), latch down<br>Vertical (180°, top entry)<br>Diagonal (45°), latch up                                                                  |
|      |    |    |      |    |       |    | Number of Ports           | 1<br>12; 14; ...<br>21; 41; ...                            | 1 Port<br>multi ports side by side, Multiport<br>multi ports about each other, Multilevel                                                                                                                     |
|      |    |    |      |    |       |    | Assembly on PCB           | R<br>S<br>T                                                | Through Hole Reflow - THR<br>Soldering process: Wave or Reflow soldering<br>Surface Mount Technology - SMT<br>Soldering process: Reflow soldering<br>Through Hole Technology - THT<br>Soldering process: Wave |
|      |    |    |      |    |       |    | Performance Category      | C5<br>C6<br>C6A<br>C5e<br>M<br>G1<br>G10<br>U<br>MP<br>MP+ | Category 5<br>Category 6<br>Category 6A<br>Category 5e<br>10/100 Mbit<br>10/100/1000 Mbit<br>10 Gbit<br>Unshielded<br>10/100 Mbit with POE<br>10/100 Mbit with POE+                                           |

## 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:

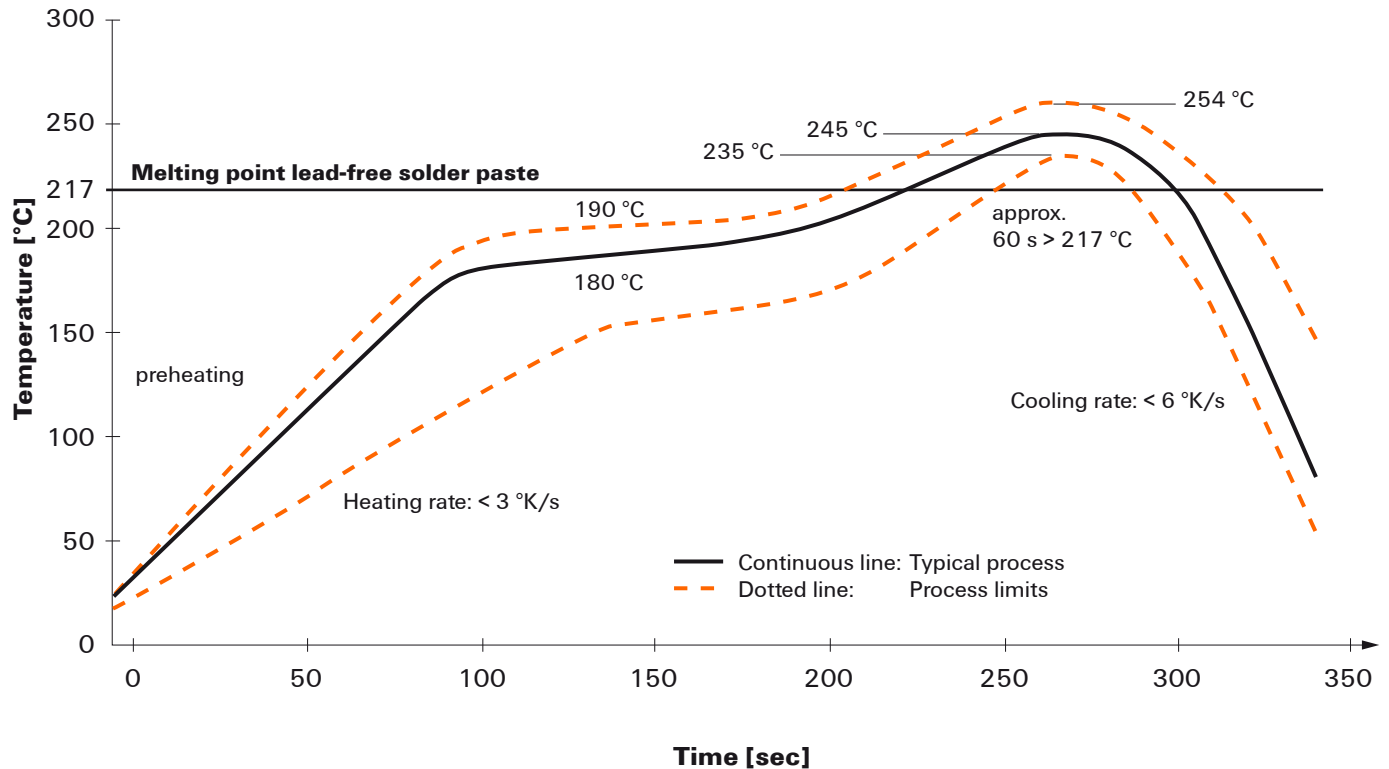
- PCB thickness
- Proportion of Cu in the layers
- Single/double-sided assembly
- Product range
- Heating and cooling rates

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.

## 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.