

**OMNIMATE Data - Trasformatore jack RJ45
RJ45M R1V 1.9N4YG/YG RL**

Weidmüller Interface GmbH & Co. KG
 Klingenbergstraße 16
 D-32758 Detmold
 Germany
 Fon: +49 5231 14-0
 Fax: +49 5231 14-292083
 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 $+85^{\circ}\text{C}$
- 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 1.9N4YG/YG RL
Nr.Cat.	2562150000
Versione	Connettore per circuito stampato, Trasformatore jack RJ45, 10/100 MBit/s , Collegamento a saldare THT/THR, 180°, Linguette di schermatura: nessuno, 30-80 μs Ni / 30- μs Au , LED: Sì, Verde/giallo, Verde/giallo, Numero di poli: 8, Tape
GTIN (EAN)	4050118570380
CPZ	200 Pezzo
Imballaggio	Tape

**OMNIMATE Data - Trasformatore jack RJ45
RJ45M R1V 1.9N4YG/YG RL**

Weidmüller Interface GmbH & Co. KG
 Klingenbergstraße 16
 D-32758 Detmold
 Germany
 Fon: +49 5231 14-0
 Fax: +49 5231 14-292083
 www.weidmueller.com

Dati tecnici**Dimensioni e peso**

Larghezza	16 mm	Larghezza (pollici)	0,63 inch
Posizione verticale	18,9 mm	Altezza (pollici)	0,744 inch
Altezza minima	17 mm	Profondità	16,8 mm
Profondità (pollici)	0,661 inch	Peso netto	6,8 g

Temperature

Temperatura d'esercizio , max.	85 °C	Temperatura d'esercizio , min.	-40 °C
Temperatura di magazzinaggio, max.	85 °C	Temperatura di magazzinaggio, 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/giallo	Colore del LED sinistro	Verde/giallo
Famiglia prodotti	OMNIMATE Data - Trasformatore jack RJ45	Grado di protezione	IP20
LED	Sì	Linguette di schermatura	nessuno
Materiale della schermatura	Ottone	Montaggio su circuito stampato	Collegamento a saldare 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	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 magazzinaggio, min.	-40 °C
Temperatura di magazzinaggio, max.	85 °C	Temperatura d'esercizio , min.	-40 °C
Temperatura d'esercizio , max.	85 °C		

Imballaggio

Imballaggio	Tape	Lunghezza VPE	350 mm
Larghezza VPE	350 mm	Altezza VPE	120 mm
Diametro ø bobina nastro (A)	330 mm	Resistenza superficiale	Rs = 10 ⁹ - 10 ¹² Ω

Foglio dati**OMNIMATE Data - Trasformatore jack RJ45
RJ45M R1V 1.9N4YG/YG RL**

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 16
D-32758 Detmold
Germany
Fon: +49 5231 14-0
Fax: +49 5231 14-292083
www.weidmueller.com

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

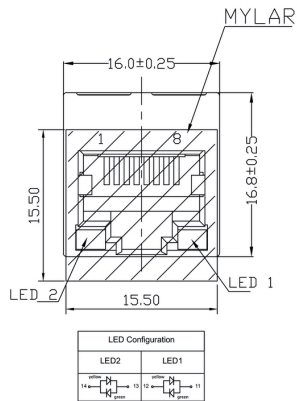
Conforme

**OMNIMATE Data - Trasformatore jack RJ45
RJ45M R1V 1.9N4YG/YG RL**

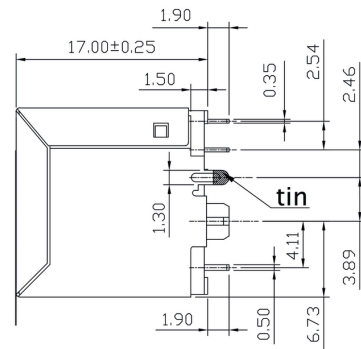
Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 16
D-32758 Detmold
Germany
Fon: +49 5231 14-0
Fax: +49 5231 14-292083
www.weidmueller.com

Disegni

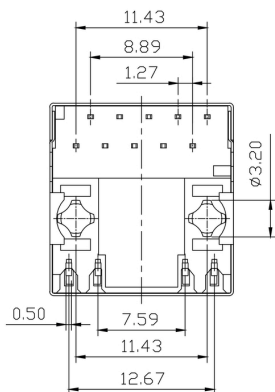
Disegno quotato



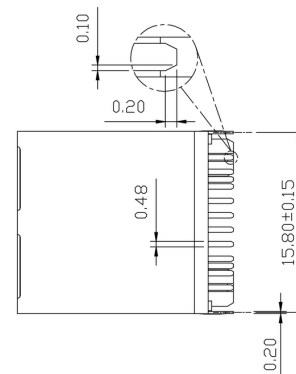
Disegno quotato



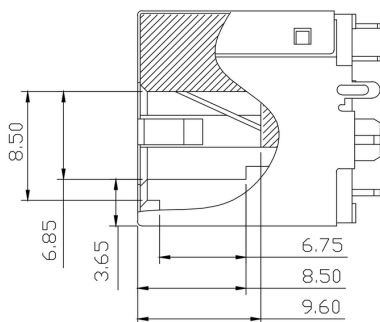
Disegno quotato



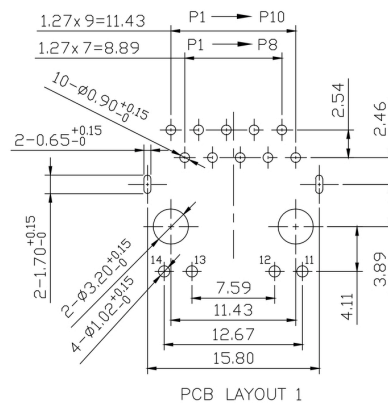
Disegno quotato



Disegno quotato



Disegno del circuito stampato

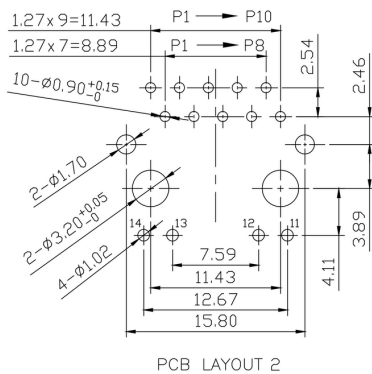


**OMNIMATE Data - Trasformatore jack RJ45
RJ45M R1V 1.9N4YG/YG RL**

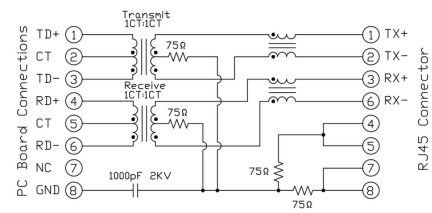
Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 16
D-32758 Detmold
Germany
Fon: +49 5231 14-0
Fax: +49 5231 14-292083
www.weidmueller.com

Disegni

Disegno del circuito stampato



Schema elettrico



**OMNIMATE Data - Trasformatore jack RJ45
RJ45M R1V 1.9N4YG/YG RL**

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 16
D-32758 Detmold
Germany
Fon: +49 5231 14-0
Fax: +49 5231 14-292083
www.weidmueller.com

Disegni

Schematic

Characteristics

Inductance	350 µH min. @ 100 kHz, 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 16 dB min. @ (30 - 60) MHz 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	R	U	3.2	E	4	GY/GY	TY	RJ45G1 R1U 3.2E4GY/GY TY																																																																																																																		
									<table border="0"> <tr> <td>Packaging</td> <td>TY</td> <td>Tray in box (manual assembly)</td> </tr> <tr> <td></td> <td>RL</td> <td>Tape on Reel (automated assembly)</td> </tr> <tr> <td>LED</td> <td>Y/G</td> <td>Yellow/Green</td> </tr> <tr> <td></td> <td>G/Y</td> <td>Green/Yellow (standard)</td> </tr> <tr> <td></td> <td>GY/GY</td> <td>Green-Yellow/Green-Yellow</td> </tr> <tr> <td></td> <td>O/G</td> <td>Orange/Green</td> </tr> <tr> <td></td> <td>R/O</td> <td>Red/Orange</td> </tr> <tr> <td></td> <td>...</td> <td>... (further combinations possible)</td> </tr> <tr> <td></td> <td>N</td> <td>without LED</td> </tr> <tr> <td>Contact surface thickness</td> <td>4</td> <td>1 = 3µ", 2 = 6µ", 3 = 15µ", 4 = 30µ", 5 = 50µ"</td> </tr> <tr> <td>EMI tabs (ground fingers)</td> <td>E</td> <td>E = with EMI tabs</td> </tr> <tr> <td></td> <td>N</td> <td>N = without EMI tabs</td> </tr> <tr> <td>Solder Pin length</td> <td>3.2</td> <td>3.2 mm</td> </tr> <tr> <td></td> <td>1.6</td> <td>1.6 mm</td> </tr> <tr> <td></td> <td>D</td> <td>SMD</td> </tr> <tr> <td>Direction, latch style</td> <td>U</td> <td>Horizontal (90°, side entry), latch up</td> </tr> <tr> <td></td> <td>D</td> <td>Horizontal (90°, side entry), latch down</td> </tr> <tr> <td></td> <td>V</td> <td>Vertical (180°, top entry)</td> </tr> <tr> <td></td> <td>Y</td> <td>Diagonal (45°), latch up</td> </tr> <tr> <td>Number of Ports</td> <td>1</td> <td>1 Port</td> </tr> <tr> <td></td> <td>12; 14; ...</td> <td>multi ports side by side, Multiport</td> </tr> <tr> <td></td> <td>21; 41; ...</td> <td>multi ports about each other, Multilevel</td> </tr> <tr> <td>Assembly on PCB</td> <td>R</td> <td>Through Hole Reflow - TH-R</td> </tr> <tr> <td></td> <td>S</td> <td>Soldering process: Wave or Reflow soldering</td> </tr> <tr> <td></td> <td>S</td> <td>Surface Mount Technology - SMT</td> </tr> <tr> <td></td> <td>T</td> <td>Soldering process: Reflow soldering</td> </tr> <tr> <td></td> <td>T</td> <td>Through Hole Technology - TH-T</td> </tr> <tr> <td></td> <td>T</td> <td>Soldering process: Wave</td> </tr> <tr> <td>Performance Category</td> <td>C5</td> <td>Category 5</td> </tr> <tr> <td></td> <td>C6</td> <td>Category 6</td> </tr> <tr> <td></td> <td>C6A</td> <td>Category 6A</td> </tr> <tr> <td></td> <td>C5e</td> <td>Category 5e</td> </tr> <tr> <td></td> <td>M</td> <td>10/100 Mbit</td> </tr> <tr> <td></td> <td>G1</td> <td>10/100/1000 Mbit</td> </tr> <tr> <td></td> <td>G10</td> <td>10 Gbit</td> </tr> <tr> <td></td> <td>U</td> <td>Unshielded</td> </tr> <tr> <td></td> <td>MP</td> <td>10/100 Mbit with POE</td> </tr> <tr> <td></td> <td>MP+</td> <td>10/100 Mbit with POE+</td> </tr> </table>	Packaging	TY	Tray in box (manual assembly)		RL	Tape on Reel (automated assembly)	LED	Y/G	Yellow/Green		G/Y	Green/Yellow (standard)		GY/GY	Green-Yellow/Green-Yellow		O/G	Orange/Green		R/O	Red/Orange	 (further combinations possible)		N	without LED	Contact surface thickness	4	1 = 3µ", 2 = 6µ", 3 = 15µ", 4 = 30µ", 5 = 50µ"	EMI tabs (ground fingers)	E	E = with EMI tabs		N	N = without EMI tabs	Solder Pin length	3.2	3.2 mm		1.6	1.6 mm		D	SMD	Direction, latch style	U	Horizontal (90°, side entry), latch up		D	Horizontal (90°, side entry), latch down		V	Vertical (180°, top entry)		Y	Diagonal (45°), latch up	Number of Ports	1	1 Port		12; 14; ...	multi ports side by side, Multiport		21; 41; ...	multi ports about each other, Multilevel	Assembly on PCB	R	Through Hole Reflow - TH-R		S	Soldering process: Wave or Reflow soldering		S	Surface Mount Technology - SMT		T	Soldering process: Reflow soldering		T	Through Hole Technology - TH-T		T	Soldering process: Wave	Performance Category	C5	Category 5		C6	Category 6		C6A	Category 6A		C5e	Category 5e		M	10/100 Mbit		G1	10/100/1000 Mbit		G10	10 Gbit		U	Unshielded		MP	10/100 Mbit with POE		MP+	10/100 Mbit with POE+
Packaging	TY	Tray in box (manual assembly)																																																																																																																									
	RL	Tape on Reel (automated assembly)																																																																																																																									
LED	Y/G	Yellow/Green																																																																																																																									
	G/Y	Green/Yellow (standard)																																																																																																																									
	GY/GY	Green-Yellow/Green-Yellow																																																																																																																									
	O/G	Orange/Green																																																																																																																									
	R/O	Red/Orange																																																																																																																									
 (further combinations possible)																																																																																																																									
	N	without LED																																																																																																																									
Contact surface thickness	4	1 = 3µ", 2 = 6µ", 3 = 15µ", 4 = 30µ", 5 = 50µ"																																																																																																																									
EMI tabs (ground fingers)	E	E = with EMI tabs																																																																																																																									
	N	N = without EMI tabs																																																																																																																									
Solder Pin length	3.2	3.2 mm																																																																																																																									
	1.6	1.6 mm																																																																																																																									
	D	SMD																																																																																																																									
Direction, latch style	U	Horizontal (90°, side entry), latch up																																																																																																																									
	D	Horizontal (90°, side entry), latch down																																																																																																																									
	V	Vertical (180°, top entry)																																																																																																																									
	Y	Diagonal (45°), latch up																																																																																																																									
Number of Ports	1	1 Port																																																																																																																									
	12; 14; ...	multi ports side by side, Multiport																																																																																																																									
	21; 41; ...	multi ports about each other, Multilevel																																																																																																																									
Assembly on PCB	R	Through Hole Reflow - TH-R																																																																																																																									
	S	Soldering process: Wave or Reflow soldering																																																																																																																									
	S	Surface Mount Technology - SMT																																																																																																																									
	T	Soldering process: Reflow soldering																																																																																																																									
	T	Through Hole Technology - TH-T																																																																																																																									
	T	Soldering process: Wave																																																																																																																									
Performance Category	C5	Category 5																																																																																																																									
	C6	Category 6																																																																																																																									
	C6A	Category 6A																																																																																																																									
	C5e	Category 5e																																																																																																																									
	M	10/100 Mbit																																																																																																																									
	G1	10/100/1000 Mbit																																																																																																																									
	G10	10 Gbit																																																																																																																									
	U	Unshielded																																																																																																																									
	MP	10/100 Mbit with POE																																																																																																																									
	MP+	10/100 Mbit with POE+																																																																																																																									

Recommended wave soldering profiles

Weidmüller Interface GmbH & Co. KG
 Klängenbergstraße 16
 D-32758 Detmold
 Germany
 Fon: +49 5231 14-0
 Fax: +49 5231 14-292083
 www.weidmueller.com

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

Weidmüller Interface GmbH & Co. KG
 Klingenbergstraße 16
 D-32758 Detmold
 Germany
 Fon: +49 5231 14-0
 Fax: +49 5231 14-292083
 www.weidmueller.com



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.