

## OMNIMATE Data - RJ45 jacks transformer RJ45M R1V 1.9N4YG/YG RL

**Weidmüller Interface GmbH & Co. KG**  
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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 3 mm stand-off ensures a perfect soldering result

### Általános rendelési adatok

Típus	RJ45M R1V 1.9N4YG/YG RL
Rendelési szám	<a href="#">2562150000</a>
Verzió	NYÁK dugaszoló csatlakozó, RJ45 jacks transformer, 10/100 MBit/s , THT/THR-forrasztott csatlakozással, 180°, Shield tabs: none, 30-80 $\mu$ " Ni / 30- $\mu$ " Au , LED: lgen, Zöld / sárga, Zöld / sárga, Pólusszám: 8, Tape
GTIN (EAN)	4050118570380
Menny.	200 Stück
Csomagolás	Tape

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**Műszaki adatok****Méreték és tömegek**

Szélesség	16 mm	Szélesség (coll)	0,63 inch
Magasság	18,9 mm	Magasság (coll)	0,744 inch
Legalacsonyabb változat magassága	17 mm	Mélység	16,8 mm
Mélység (coll)	0,661 inch	Nettó tömeg	6,8 g

**Hőmérsékletek**

Tárolási hőmérséklet, max.	85 °C	Tárolási hőmérséklet, min.	-40 °C
Üzemi hőmérséklet, max.	85 °C	Üzemi hőmérséklet, min.	-40 °C

**Termék környezetvédelmi megfelelése**

REACH SVHC	Lead 7439-92-1
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**System specifications**

Colour of left LED	Zöld / sárga	Colour of right LED	Zöld / sárga
Csatlakozás típusa	Aljzatos csatlakozó	Dugaszolási ciklusok	750
Felszerelés NYÁK-ra	THT/THR-forrasztott csatlakozással	Forrasztótűskék száma pólusonként	1
Kimenő könyök	180°	LED	Igen
Osztás, inch (P)	0,05 inch	Osztás, mm (P)	1,27 mm
Pólusszám	8	Shield tabs	none
Termékcsalád	OMNIMATE Data - RJ45 jacks transformer	Védelmi osztály	IP20
Árnyékolás	Igen	Árnyékolás felülete	nikkelezett
Árnyékoló anyag	Sárgaréz	Átviteli sebesség	10/100 MBit/s

**Electrical properties**

Névleges feszültség	125 V AC	Névleges áram	1,5 A
Szigetelés erőssége	> 500 MΩ	Átütési szilárdság, érintkező / árnyékolás	1500 V DC
Átütési szilárdság, érintkező / érintkező	1000 V DC		

**Anyagjellemzők**

Szigetelőanyag	PA 9T	Szín	fekete
Színskála (hasonló)	RAL 9011	Szigetelőanyag csoport	II
CTI	≥ 500	Szigetelés erőssége	> 500 MΩ
Moisture Level (MSL)	1	UL 94 éghetőségi osztály	V-0
Érintkező alapanyaga	Foszfór-bronz	Érintkező felület	Arany a nikkel felett
Dugó érintkező rétegének felépítése	30-80 μ" Ni / 30-μ" Au	Tárolási hőmérséklet, min.	-40 °C
Tárolási hőmérséklet, max.	85 °C	Üzemi hőmérséklet, min.	-40 °C
Üzemi hőmérséklet, max.	85 °C		

**Csomagolás**

Csomagolás	Tape	VPE hosszúság	350 mm
VPE szélesség	350 mm	VPE magasság	120 mm
Dobos tekercs átmérője ∅ (A)	330 mm	Felületi ellenállás	Rs = 10 <sup>9</sup> - 10 <sup>12</sup> Ω

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**Műszaki adatok****Besorolások**

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

**Jóváhagyások**

Jóváhagyások



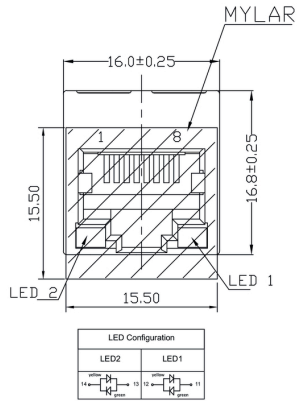
ROHS Megfelel

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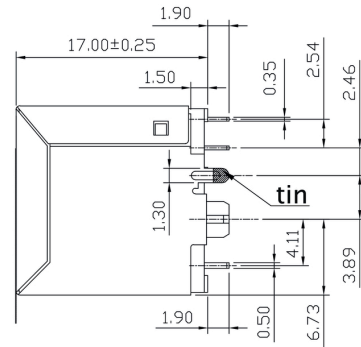
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**Rajzok**

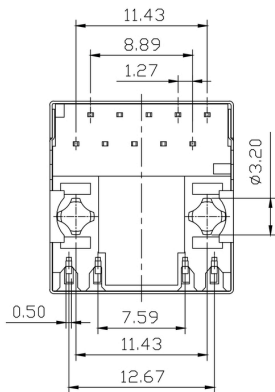
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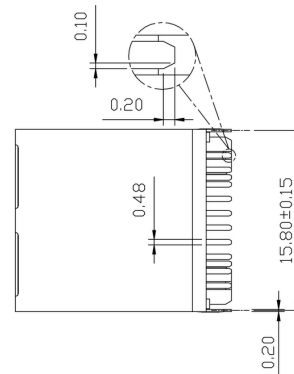
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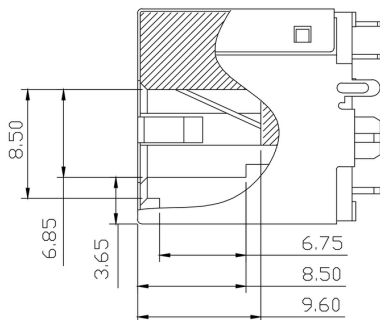
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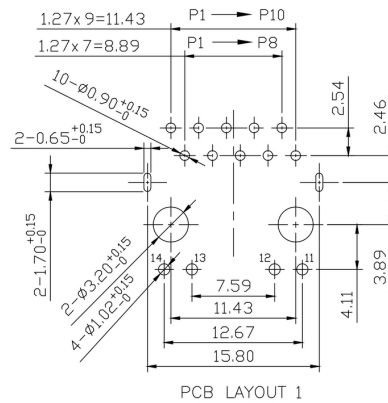
**Méretrajz**



**Méretrajz**



**NYÁK kivitel**

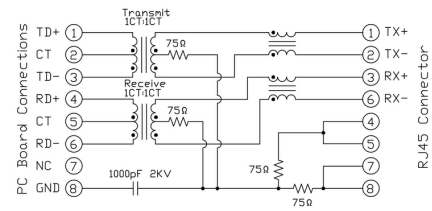
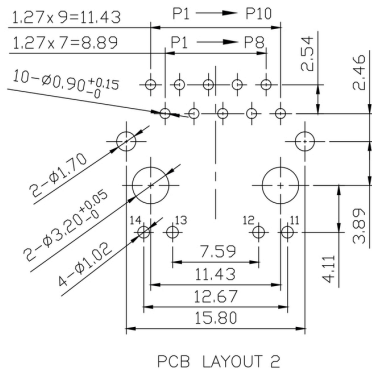


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**NYÁK kivitel**

**Kapcsolási rajz**



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# Rajzok

## 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

Type Code	Parameter	Value	Description
RJ45	Product	RJ45	Product
G1	Performance Category	G1	Category 5, 10/100/1000 Mbit
R	Assembly on PCB	R	Through Hole Reflow - THR
1	Number of Ports	1	1 Port
U	Direction, latch style	U	Horizontal (90°, side entry), latch up
3.2	Solder Pin length	3.2	3.2 mm
E	EMI tabs (ground fingers)	E	E = with EMI tabs
4	Contact surface thickness	4	1 = 3µ", 2 = 6µ", 3 = 15µ", 4 = 30µ", 5 = 50µ"
GY/GY	LED	GY/GY	Green-Yellow/Green-Yellow
TY	Packaging	TY	Tray in box (manual assembly)
RJ45G1 R1U 3.2E4GY/GY TY			
		RL	Tape on Reel (automated assembly)
		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
		D	SMD
		N	N = without EMI tabs
		16	1.6 mm
		V	Vertical (180°, top entry)
		Y	Diagonal (45°), latch up
		21; 41; ...	multi ports about each other, Multilevel
		S	Surface Mount Technology - SMT
		T	Through Hole Technology - THT
		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

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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.

## 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  $217^\circ\text{C}$  the paste gets liquid and components and boards begin to connect. The maximum temperature of  $245^\circ\text{C}$  to  $254^\circ\text{C}$  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.