

**RJ45M R1V 3.3N4YG/YG 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  $\geq 1500$  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 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/THR solder connection, 180°, Shield tabs: none, 30...80 $\mu$ " Ni / $\geq 30$ $\mu$ " Au , LED: Yes, Green/yellow, Green/yellow, Number of poles: 8, Tray (manual assembly)
Order No.	<a href="#">1534750000</a>
Type	RJ45M R1V 3.3N4YG/YG TY
GTIN (EAN)	4050118338416
Qty.	120 pc(s).
Packaging	Tray (manual assembly)

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## Technical data

## Dimensions and weights

Depth	16.8 mm	Depth (inches)	0.661 inch
Height	20.3 mm	Height (inches)	0.799 inch
Height of lowest version	17 mm	Width	16 mm
Width (inches)	0.63 inch	Net weight	4.208 g

## System specifications

Colour of left LED	Green/yellow	Colour of right LED	Green/yellow
Forward current	20 mA	Forward voltage, max.	2.5 V
Forward voltage, min.	1.8 V	LED	Yes
Mounting onto the PCB	THT/THR solder connection	Number of poles	8
Number of solder pins per pole	1	Outgoing elbow	180°
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	Protection degree	IP20
Shield surface	nickel-plated	Shield tabs	none
Shielding	Yes	Shielding material	Brass
Solder eyelet hole diameter (D)	0.9 mm	Solder eyelet hole diameter tolerance (D)	$\pm 0.1$ mm
Solder pin dimensions	0.40 x 0.30 mm, LED pins = 0.50 x 0.50 mm	Solder pin length (l)	3.2 mm
Soldering process	Reflow soldering, Manual soldering, Wave soldering	Tolerance of solder pin position	$\pm 0.1$ mm
Transmission rate	10/100 MBit/s	Type of connection	Solder connection
Wiring	8-core		

## Electrical properties

Dielectric strength, contact / contact	1000 V DC	Dielectric strength, contact / shield	1500 V DC
Rated current	1.5 A	Rated voltage	125 V

## Standards

Connector standard	IEC 60603-7-51
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## Material data

Insulating material	PA 9T	Colour	black
Colour chart (similar)	RAL 9011	Insulating material group	II
Comparative Tracking Index (CTI)	$\geq 500$	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 $\mu$ " Ni / $\geq 30$ $\mu$ " 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	319 mm
VPE width	192 mm	VPE height	68 mm

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## 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

## Approvals

Approvals



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

## Downloads

Approval/Certificate/Document of Conformity	<a href="#">Certificate of Compliance</a>
Engineering Data	<a href="#">CAD data – STEP</a>
Product Change Notification	<a href="#">PCN</a> <a href="#">PCN</a>
User Documentation	<a href="#">MAN IE GUIDE DE</a> <a href="#">MAN IE GUIDE EN</a>
Catalogues	<a href="#">Catalogues in PDF-format</a>
Brochures	<a href="#">MB FREECONTACT EN</a> <a href="#">FL FIELDWIRING EN</a> <a href="#">PI PROFINET CABLING EN</a>

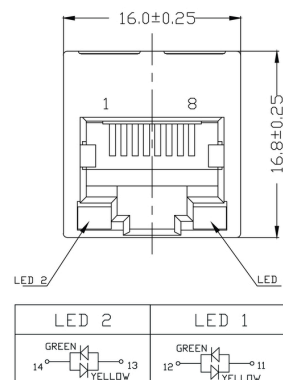
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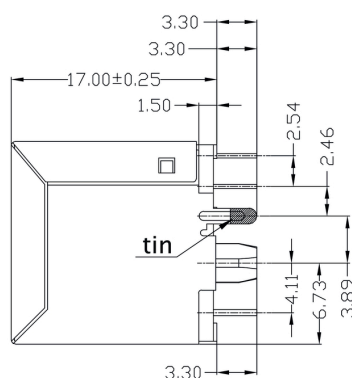
[www.weidmueller.com](http://www.weidmueller.com)

## Drawings

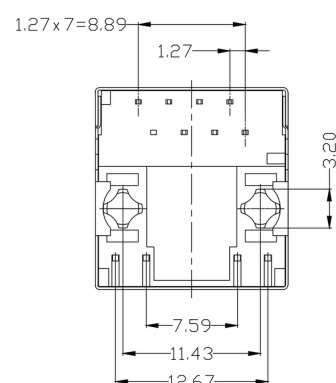
## Dimensioned drawing



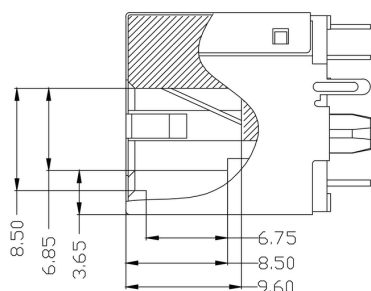
## Dimensioned drawing



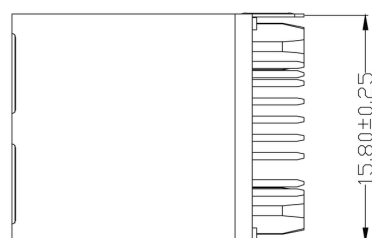
## Dimensioned drawing



## Dimensioned drawing



## Dimensioned drawing



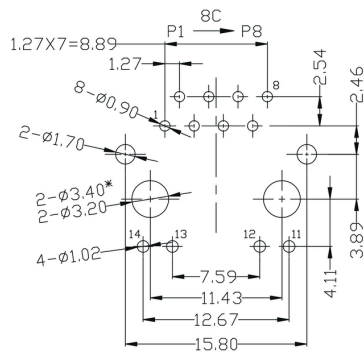
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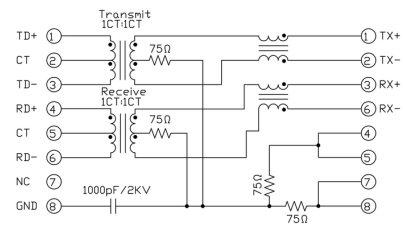
## Drawings

## PCB design



PCB LAYOUT

## Wiring diagram



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## Drawings

RJ45	G1	R1	U3.2	E4	GY/GY	TY	RJ45G1 R1U 3.2E4GY/GY TY

## 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.