

**RJ45G1 R12D 3.2E4YG/YG RL****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

[www.weidmueller.com](http://www.weidmueller.com)**Product image**

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, 1000 Mbps, THT/THR solder connection, 90°, Latch option: bottom, Shield tabs: 6 tabs, 30...80 $\mu$ m Ni / $\geq 30$ $\mu$ m Au, LED: Yes, Green/yellow, Green/yellow, Number of poles: 8, Tape
Order No.	<a href="#">2036510000</a>
Type	RJ45G1 R12D 3.2E4YG/YG RL
GTIN (EAN)	4050118408409
Qty.	180 pc(s).
Packaging	Tape

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**Technical data****Dimensions and weights**

Depth	21.5 mm	Depth (inches)	0.846 inch
Height	16.9 mm	Height (inches)	0.665 inch
Height of lowest version	13.6 mm	Width	31.2 mm
Width (inches)	1.228 inch	Net weight	7.675 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
Latch option	bottom	Mounting onto the PCB	THT/THR solder connection
Number of poles	8	Number of solder pins per pole	1
Outgoing elbow	90°	Performance-Category	1000 Mbps
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	6 tabs	Shielding	Yes
Shielding material	Brass	Solder eyelet hole diameter (D)	0.9 mm
Solder eyelet hole diameter tolerance (D)	± 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	± 0.1 mm	Transmission rate	1000 Mbps
Type of connection	Solder connection	Wiring	10-wire

**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

**Material data**

Insulating material	PA 9T	Colour	black
Colour chart (similar)	RAL 9011	Insulating material group	II
Comparative Tracking Index (CTI)	≥ 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 μ" Ni / ≥ 30 μ" Au	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	360 mm
VPE width	352 mm	VPE height	132 mm
Tape reel diameter Ø (A)	330 mm	Surface resistance	Rs = 10 <sup>9</sup> - 10 <sup>12</sup> Ω

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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**

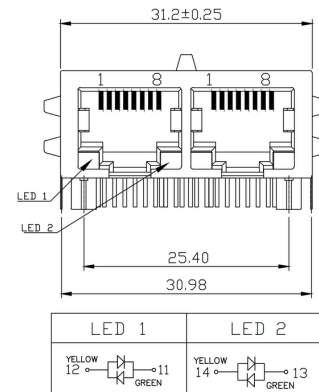
Approval/Certificate/Document of Conformity	<a href="#">Certificate of Compliance</a>
Engineering Data	<a href="#">CAD data – STEP</a>
Product Change Notification	<a href="#">PCN</a> <a href="#">PCN</a>
User Documentation	<a href="#">MAN IE GUIDE DE</a> <a href="#">MAN IE GUIDE EN</a>
Catalogues	<a href="#">Catalogues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

## RJ45G1 R12D 3.2E4YG/YG RL

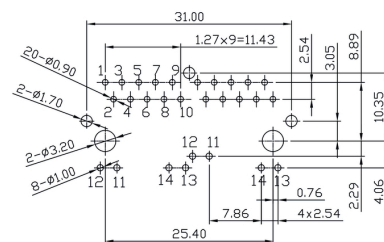
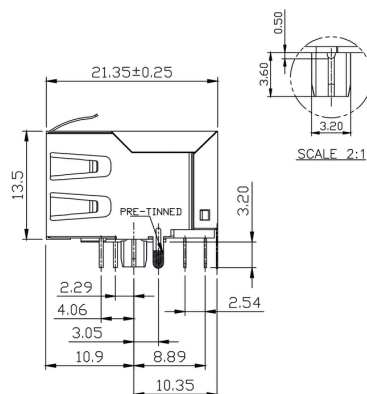
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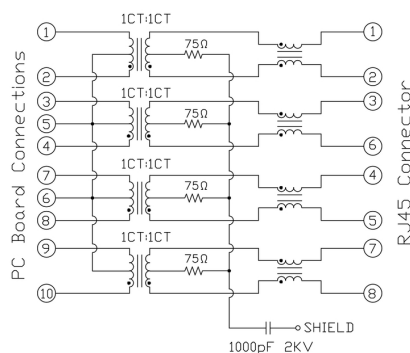
## Drawings



## PCB design



## Wiring diagram



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RJ45	G1	R	1	U	3.2	E	4	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.