

RJ45G1 R1D 3.3E4GY/GY RL**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 ≥ 1500 V AC RMS (2250 V AC peak value) according to IEEE 802.3
- Dielectric strength ≥ 1500 V AC (peak value) or ≥ 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 (30µ") 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, THT/THR solder connection, 90°, Latch option: bottom, Number of poles: 8, Tape
Order No.	2638860000
Type	RJ45G1 R1D 3.3E4GY/GY RL
GTIN (EAN)	4050118657098
Qty.	200 pc(s).
Packaging	Tape

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Technical data**Dimensions and weights**

Net weight	0.025 g
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System specifications

Forward current	20 mA	Forward voltage, max.	2.5 V
Forward voltage, min.	1.8 V	Latch option	bottom
Mounting onto the PCB	THT/THR solder connection	Number of poles	8
Outgoing elbow	90°	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
Solder pin dimensions	Octagonal	Solder pin length (l)	3.3 mm
Soldering process	Reflow soldering, Manual soldering, Wave soldering	Tolerance of solder pin position	± 0.1 mm
Type of connection	Solder connection		

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	Moisture Level (MSL)	1
UL 94 flammability rating	V-0	Contact material	Cu-alloy
Contact surface	Gold over nickel	Operating temperature, min.	-40 °C
Operating temperature, max.	85 °C		

Packing

Packaging	Tape	VPE length	356 mm
VPE width	353 mm	VPE height	131 mm

Classifications

ETIM 6.0	EC002637	ETIM 7.0	EC002637
ETIM 8.0	EC002637	ETIM 9.0	EC002637
ETIM 10.0	EC002637	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
ECLASS 14.0	27-46-02-01	ECLASS 15.0	27-46-02-01

Environmental Product Compliance

RoHS Compliance Status	Compliant without exemption
REACH SVHC	No SVHC above 0.1 wt%

Approvals

ROHS	Conform
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Technical data

Downloads

Approval/Certificate/Document of Con-
formity

[Certificate of Compliance](#)

Engineering Data

[CAD data – STEP](#)

Catalogues

[Catalogues in PDF-format](#)

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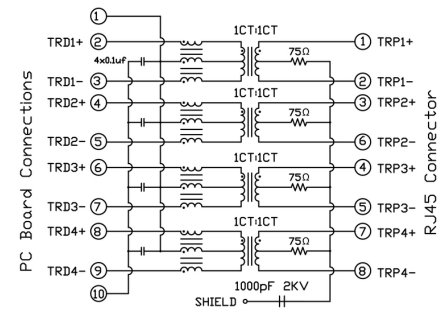
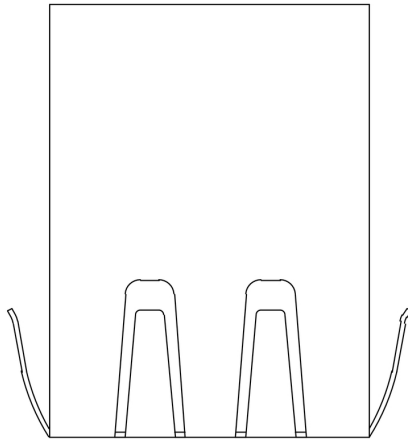
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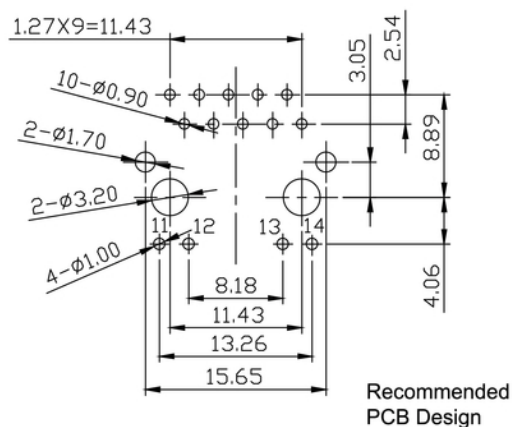
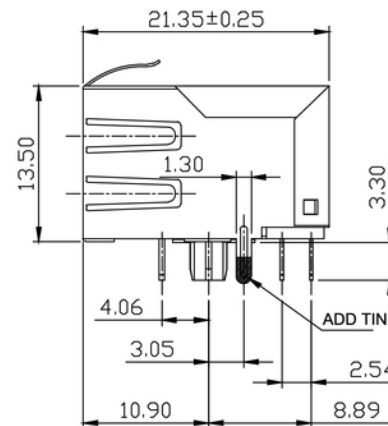
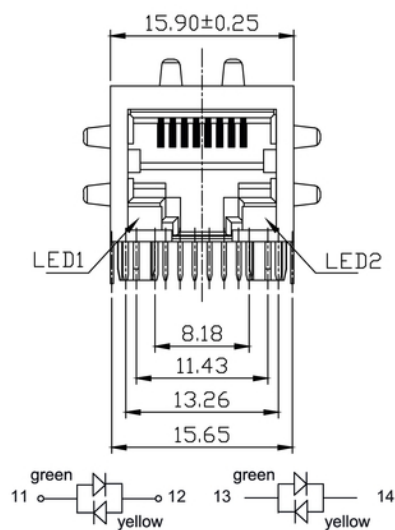
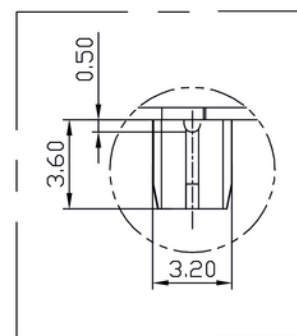
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Drawings

Wiring



1 Gbit/s

Recommended
PCB DesignDETAIL "C"
SCALE 2:1

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www.weidmueller.com**Drawings**

RJ45	G1	R	1	U	3.2	E	4	GY/GY	TY	RJ45G1 R1U 3.2E4GY/GY TY

Recommended wave soldering profiles

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 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.

We reserve the right to make technical changes.

Recommended reflow soldering profile

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Fax: +49 5231 14-292083
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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.