

RJ45C5 R1D 3.3E4N RL**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com



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
- Performance category Cat. 3 to Cat. 6
- 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

Properties and advantages:

- Extended temperature range of -40°C to $+85^{\circ}\text{C}$ for maximum performance
- Reinforced gold layer ($30\mu\text{m}$) for improved corrosion protection
- At least 0.3mm stand-off ensures a perfect soldering result

General ordering data

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|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Version | PCB plug-in connector, RJ45 jacks, Cat. 5 , THT/THR solder connection, 90°, Latch option: bottom, Shield tabs: 6 tabs, 30...80 μm Ni / ≥ 30 μm Au , LED: No, Number of poles: 8, Tape |
| Order No. | 2562910000 |
| Type | RJ45C5 R1D 3.3E4N RL |
| GTIN (EAN) | 4050118571936 |
| Qty. | 200 pc(s). |
| Packaging | Tape |

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Technical data

Dimensions and weights

| | | | |
|--------------------------|------------|-----------------|------------|
| Depth | 21.3 mm | Depth (inches) | 0.839 inch |
| Height | 17.06 mm | Height (inches) | 0.672 inch |
| Height of lowest version | 13.76 mm | Width | 15.7 mm |
| Width (inches) | 0.618 inch | Net weight | 4.575 g |

System specifications

| | | |
|-------------------------------------------|----------------------------------------------------|------|
| Category | Cat. 5 | |
| LED | No | |
| 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 | Cat. 5 | |
| Pitch in inches (P) | 0.05 " | |
| Pitch in mm (P) | 1.27 mm | |
| Plugging cycles | 750 | |
| Product family | OMNIMATE Data - RJ45 modular 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 | Octagonal | |
| Solder pin length (l) | 3.3 mm | |
| Solder pin length tolerance | Lower tolerance with prefix (reveals minimum) | -0.5 |
| | Upper tolerance with prefix (reveals maximum) | +0.5 |
| | Tolerance, unit | mm |
| Solder pin length tolerance | +0.5 / -0.5 mm | |
| Soldering process | Reflow soldering, Manual soldering, Wave soldering | |
| Tolerance of solder pin position | ± 0.1 mm | |
| Type of connection | Solder connection | |
| Wiring | 8-core | |

Electrical properties

| | | | |
|----------------------------------------|-----------|---------------------------------------|----------------------------|
| Dielectric strength, contact / contact | 1000 V DC | Dielectric strength, contact / shield | 1500 V DC |
| Insulation strength | ≥ 500 MΩ | PoE / PoE+ | conforming to IEEE 802.3at |
| Rated current | 1.5 A | Rated voltage | 125 V |

Standards

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|--------------------|----------------|
| Connector standard | IEC 60603-7-51 |
|--------------------|----------------|

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Material data

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|----------------------------------|-------------------|---------------------------------|----------------------------|
| Insulating material | PA 9T | Colour | black |
| Colour chart (similar) | RAL 9011 | Insulating material group | II |
| Comparative Tracking Index (CTI) | ≥ 500 | Insulation strength | ≥ 500 MΩ |
| 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

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|--------------------------|--------|--------------------|-------------------------------------------|
| Packaging | Tape | VPE length | 330 mm |
| VPE width | 330 mm | VPE height | 58 mm |
| Tape reel diameter Ø (A) | 330 mm | Surface resistance | Rs = 10 ⁹ - 10 ¹² Ω |

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 |

Environmental Product Compliance

REACH SVHC /

Approvals

ROHS Conform

Downloads

Approval/Certificate/Document of Conformity [Certificate of Compliance](#)Engineering Data [CAD data – STEP](#)Catalogues [Catalogues in PDF-format](#)

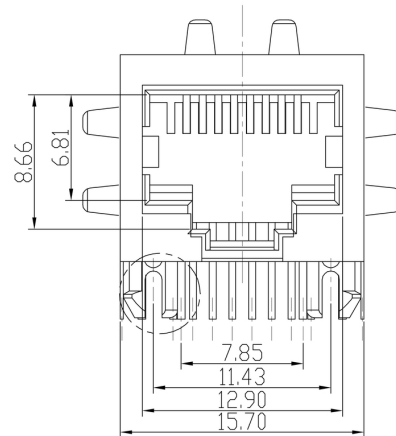
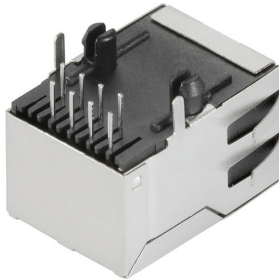
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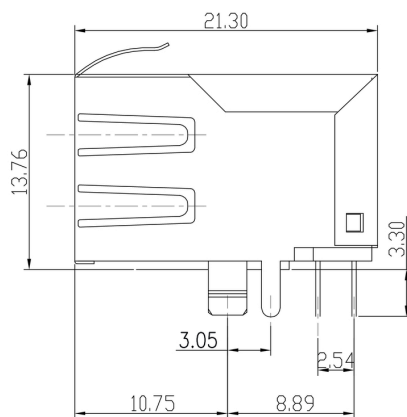
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Drawings

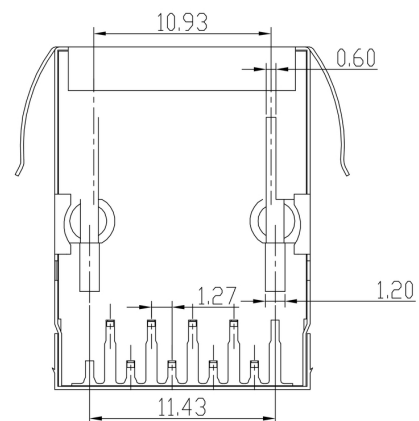
Dimensioned drawing



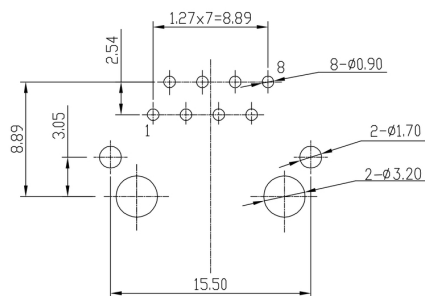
Dimensioned drawing



Dimensioned drawing



PCB design



PCB LAYOUT

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Drawings

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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

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.