

## OMNIMATE Data - RJ45 jacks RJ45C5 R1V 3.2N4N RL

**Weidmüller Interface GmbH & Co. KG**  
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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  $\geq 1500$  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

Properties and advantages:

- Extended temperature range of  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$  for maximum performance
- Reinforced gold layer ( $30\mu\text{m}$ ) for improved corrosion protection
- At least 3 mm stand-off ensures a perfect soldering result

### General ordering data

|            |                                                                                                                                                                              |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type       | RJ45C5 R1V 3.2N4N RL                                                                                                                                                         |
| Order No.  | <a href="#">2562970000</a>                                                                                                                                                   |
| Version    | PCB plug-in connector, RJ45 jacks, Cat. 5, THT/THR solder connection, 180°, Shield tabs: none, 30-80 $\mu\text{m}$ Ni / 30- $\mu\text{m}$ Au, LED: No, No. of poles: 8, Tape |
| GTIN (EAN) | 4050118571998                                                                                                                                                                |
| Qty.       | 200 pc(s).                                                                                                                                                                   |
| Packaging  | Tape                                                                                                                                                                         |

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### Technical data

#### Dimensions and weights

|                          |            |                 |            |
|--------------------------|------------|-----------------|------------|
| Width                    | 16 mm      | Width (inches)  | 0.63 inch  |
| Height                   | 20 mm      | Height (inches) | 0.787 inch |
| Height of lowest version | 16.5 mm    | Depth           | 16.7 mm    |
| Depth (inches)           | 0.657 inch | Net weight      | 10 g       |

#### Temperatures

|                             |       |                             |        |
|-----------------------------|-------|-----------------------------|--------|
| Operating temperature, max. | 85 °C | Operating temperature, min. | -40 °C |
| Storage temperature, max.   | 85 °C | Storage temperature, min.   | -40 °C |

#### Environmental Product Compliance

|            |                |
|------------|----------------|
| REACH SVHC | Lead 7439-92-1 |
|------------|----------------|

#### System specifications

|                                                    |                           |                                 |                            |
|----------------------------------------------------|---------------------------|---------------------------------|----------------------------|
| Category                                           | Cat. 5                    | LED                             | No                         |
| Mounting onto the PCB                              | THT/THR solder connection | No. of poles                    | 8                          |
| Number of solder pins per pole                     | 1                         | Outgoing elbow                  | 180°                       |
| Pitch in inches (P)                                | 0.05 inch                 | Pitch in mm (P)                 | 1.27 mm                    |
| Plugging cycles                                    | 750                       | Product family                  | OMNIMATE Data - RJ45 jacks |
| 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) ± 0.1 mm |                           | Solder pin length (l)           | 3.2 mm                     |
| Solder pin length tolerance                        | +0.5 / -0.5 mm            | Type of connection              | Socket connector           |
| Wiring                                             | 8-core                    |                                 |                            |

#### Electrical properties

|                                        |           |                     |                     |
|----------------------------------------|-----------|---------------------|---------------------|
| Dielectric strength, contact / contact | 1000 V AC | Insulation strength | 1000 MΩ at 500 V DC |
| Rated current                          | 1.5 A     | Rated voltage       | 125 V AC            |

#### Material data

|                                 |                         |                             |                     |
|---------------------------------|-------------------------|-----------------------------|---------------------|
| Insulating material             | PA 9T                   | Colour                      | black               |
| Colour chart (similar)          | RAL 9011                | Insulating material group   | II                  |
| CTI                             | ≥ 500                   | Insulation strength         | 1000 MΩ at 500 V DC |
| Moisture Level (MSL)            | 1                       | UL 94 flammability rating   | V-0                 |
| Contact base material           | Phosphorus bronze       | 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         | 0 m                                       |
| VPE width                | 0 m    | VPE height         | 0 m                                       |
| Tape reel diameter Ø (A) | 330 mm | Surface resistance | Rs = 10 <sup>9</sup> - 10 <sup>12</sup> Ω |

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**Technical data****Classifications**

|            |             |            |             |
|------------|-------------|------------|-------------|
| 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 |

**Approvals**

Approvals



|      |         |
|------|---------|
| ROHS | Conform |
|------|---------|

**Downloads**

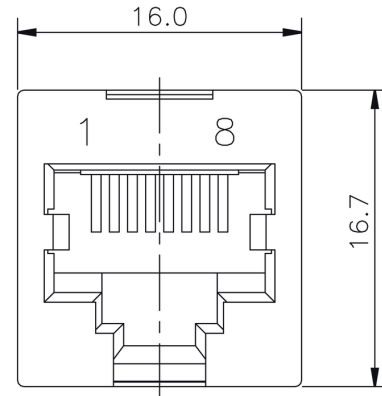
|                  |                      |
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| Engineering Data | <a href="#">STEP</a> |
|------------------|----------------------|

## OMNIMATE Data - RJ45 jacks RJ45C5 R1V 3.2N4N RL

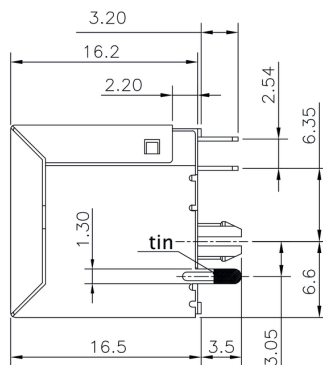
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# Drawings

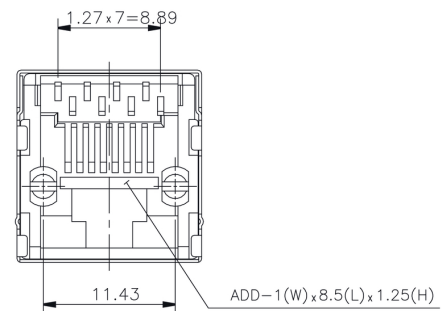
## Dimensioned drawing



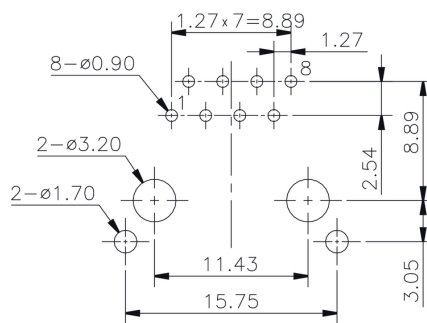
## Dimensioned drawing



## Dimensioned drawing



## PCB design



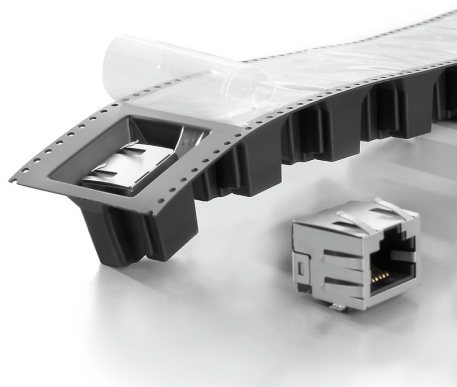
PCB Layout

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## Drawings

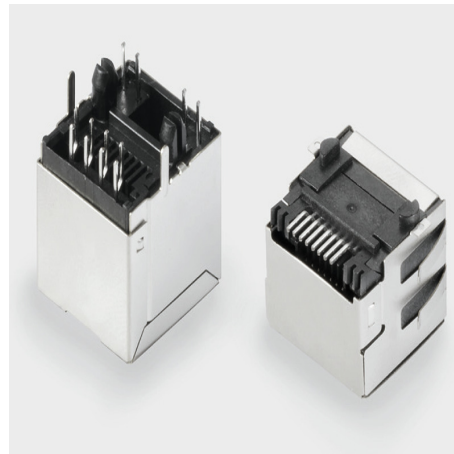
### Product benefits



Process-optimised packaging  
Tape-on-reel or tray

### Product benefits

### Product benefits



Trouble-free assembly  
Short, chamfered solder pins



Suitable for all soldering processes  
SMT, THT or THR

Creation date May 27, 2019 1:59:10 PM CEST

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## Drawings

## Legend

| RJ45 | G1 | R | 1 | U | 3.2 | E | 4 | GY/GY | TY | RJ45G1 R1U 3.2E4GY/GY TY |
|------|----|---|---|---|-----|---|---|-------|----|--------------------------|
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## 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.