

OMNIMATE Data - RJ45 jacks RJ45C5 R1U 2.8E4N RL

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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 ≥ 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 3 mm stand-off ensures a perfect soldering result

General ordering data

Type	RJ45C5 R1U 2.8E4N RL
Order No.	2562930000
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, No. of poles: 8, Tape
GTIN (EAN)	4050118571950
Qty.	200 pc(s).
Packaging	Tape

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Technical data

Dimensions and weights

Width	16.41 mm	Width (inches)	0.646 inch
Height	15.86 mm	Height (inches)	0.624 inch
Height of lowest version	13.11 mm	Depth	15.71 mm
Depth (inches)	0.619 inch	Net weight	8.59 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
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System specifications

Category	Cat. 5	LED	No
Latch option	bottom	Mounting onto the PCB	THT/THR solder connection
No. of poles	8	Number of solder pins per pole	1
Outgoing elbow	90°	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	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 length (l)	2.75 mm	Solder pin length tolerance	+0.2 / -0.2 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 ⁹ - 10 ¹² 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

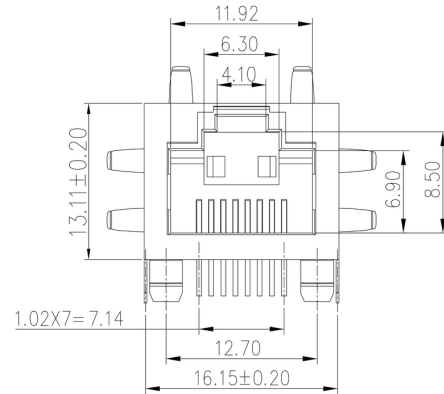
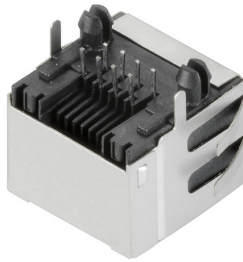
DownloadsEngineering Data [STEP](#)

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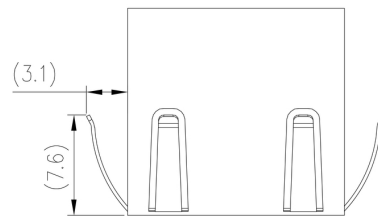
Drawings

Dimensioned drawing

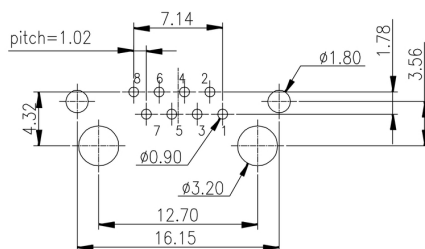


Dimensioned drawing

Dimensioned drawing



PCB design



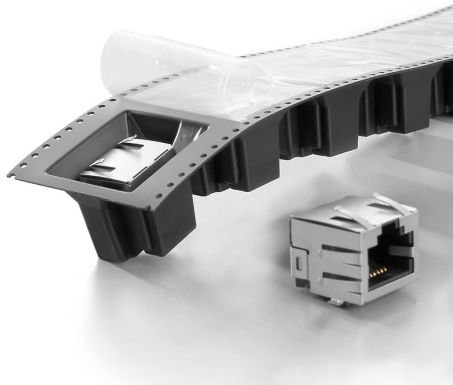
PCB LAYOUT

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Drawings

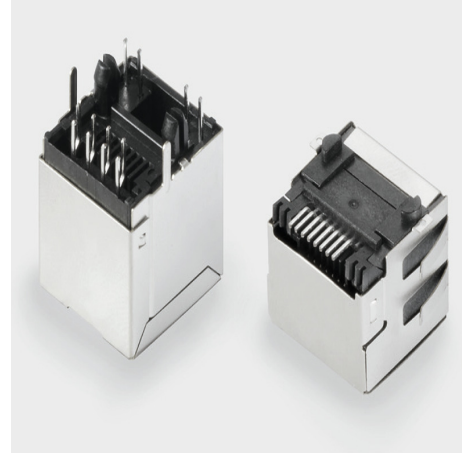
Product benefits



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

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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.