

## OMNIMATE Data - RJ45 jacks RJ45C3 S1V 2.7N4N RL

**Weidmüller Interface GmbH & Co. KG**  
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Product range covers standing and flat designs, as well as versions with the latching hook at the top and bottom.

- THT, THR or SMD soldering processes
- Wide range of different design types, also with integrated LEDs and shield contact tabs
- Packed either in a tray (TY) or on a roll (tape-on-reel, RL)
- Extended temperature range of  $-40\text{ °C}$  to  $+85\text{ °C}$
- Reinforced gold layer for improved corrosion protection
- Transmission rates of up to 1 Gbit/s

### General ordering data

Type	RJ45C3 S1V 2.7N4N RL
Order No.	<a href="#">1433900000</a>
Version	PCB plug-in connector, RJ45 jacks, SMD solder connection, 1.27 mm, No. of poles: 8, 180°, Solder pin length (l): 3.5 mm, Gold over nickel, Black, Tape (Ø 330 mm); $R_s = 10^9 - 10^{12}\ \Omega$
GTIN (EAN)	4050118238587
Qty.	300 pc(s).
Packaging	Tape (Ø 330 mm); $R_s = 10^9 - 10^{12}\ \Omega$

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

Net weight	3.467 g
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**Temperatures**

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

**System specifications**

Category	Cat.3	LED	No
Mounting onto the PCB	SMD solder connection	No. of poles	8
Number of solder pins per pole	1	Outgoing elbow	180°
Packaging	Tape (Ø 330 mm); Rs = 10 <sup>9</sup> - 10 <sup>12</sup> Ω	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	Copper alloy
Solder pin length (l)	3.5 mm	Type of connection	Socket
Wiring	8-core		

**Electrical properties**

Dielectric strength, contact / contact	≥ 1000 V DC	Insulation resistance	> 500 MΩ
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 resistance	> 500 MΩ
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		

**Classifications**

ETIM 6.0	EC002637	eClass 6.2	27-25-05-04
eClass 7.1	27-25-05-04	eClass 8.1	19-17-01-25
eClass 9.0	19-17-01-25		

**Approvals**

Approvals



ROHS	Conform
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**Data sheet****OMNIMATE Data - RJ45 jacks  
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**Technical data****Downloads**

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Brochure/Catalogue	<a href="#">CAT 9 IETH 15/16 EN</a> <a href="#">MB FREECONTACT EN</a> <a href="#">FL FIELDWIRING EN</a> <a href="#">PI PROFINET CABLING EN</a>
User Documentation	<a href="#">MAN IE GUIDE DE</a> <a href="#">MAN IE GUIDE EN</a>

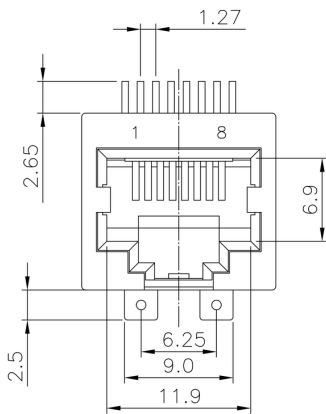
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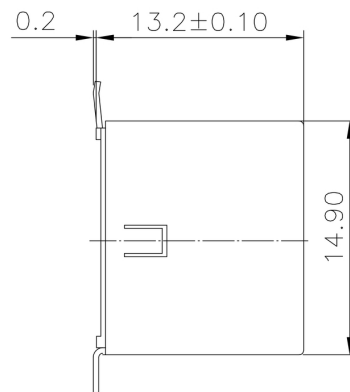
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**Drawings**

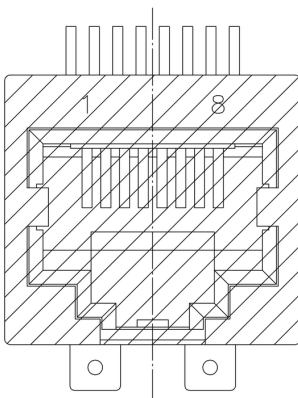
**Dimensioned drawing**



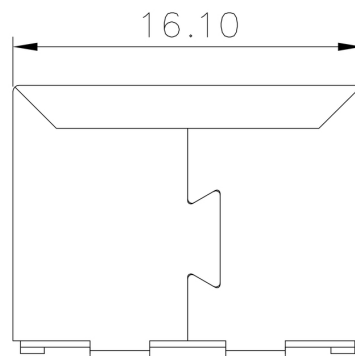
**Dimensioned drawing**



**Dimensioned drawing**

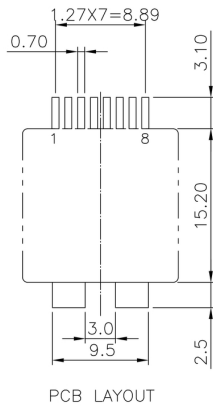


**Dimensioned drawing**



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**Drawings**

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**Drawings**

**Legend**

Code	Value	Description
RJ45	G1	RJ45G1
R1	R1	R1U
U	U	U
3.2	3.2	3.2E
E4	E4	E4
GY/GY	GY/GY	GY/GY
TY	TY	TY
<b>RJ45G1 R1U 3.2E4GY/GY TY</b>		
<b>Packaging</b>	<b>TY</b>	Tray in box (manual assembly)
	<b>RL</b>	Tape on Reel (automated assembly)
<b>LED</b>	<b>Y/G</b>	Yellow/Green
	<b>G/Y</b>	Green/Yellow (standard)
	<b>GY/GY</b>	Green-Yellow/Green-Yellow
	<b>O/G</b>	Orange/Green
	<b>R/O</b>	Red/Orange
	<b>...</b>	... (further combinations possible)
	<b>N</b>	without LED
<b>Contact surface thickness</b>	<b>4</b>	1 = 3µ", 2 = 6µ", 3 = 15µ", 4 = 30µ", 5 = 50µ"
<b>EMI tabs (ground fingers)</b>	<b>E</b>	E = with EMI tabs
	<b>N</b>	N = without EMI tabs
<b>Solder Pin length</b>	<b>3.2</b>	3.2 mm
	<b>1.6</b>	1.6 mm
	<b>D</b>	SMD
<b>Direction, latch style</b>	<b>U</b>	Horizontal (90°, side entry), latch up
	<b>D</b>	Horizontal (90°, side entry), latch down
	<b>V</b>	Vertical (180°, top entry)
	<b>Y</b>	Diagonal (45°), latch up
<b>Number of Ports</b>	<b>1</b>	1 Port
	<b>12; 14; ...</b>	multi ports side by side, Multiport
	<b>21; 41; ...</b>	multi ports about each other, Multilevel
<b>Assembly on PCB</b>	<b>R</b>	Through Hole Reflow - THR
	<b>S</b>	Soldering process: Wave or Reflow soldering
	<b>SMT</b>	Surface Mount Technology - SMT
	<b>T</b>	Soldering process: Reflow soldering
	<b>THT</b>	Through Hole Technology - THT
	<b>Wave</b>	Soldering process: Wave
<b>Performance Category</b>	<b>C5</b>	Category 5
	<b>C6</b>	Category 6
	<b>C6A</b>	Category 6A
	<b>C5e</b>	Category 5e
	<b>M</b>	10/100 Mbit
	<b>G1</b>	10/100/1000 Mbit
	<b>G10</b>	10 Gbit
	<b>U</b>	Unshielded
	<b>MP</b>	10/100 Mbit with POE
	<b>MP+</b>	10/100 Mbit with POE+

## 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.