

OMNIMATE Data - RJ45 jacks RJ45C3 S1D 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 °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 S1D 2.7N4N RL
Order No.	2000890000
Version	PCB plug-in connector, RJ45 jacks, SMD solder connection, 1.27 mm, No. of poles: 8, 90°, Solder pin length (l): 3.2 mm, Gold over nickel, Black, Tape (Ø 330 mm); $R_s = 10^9 - 10^{12}\ \Omega$
GTIN (EAN)	4050118382440
Qty.	240 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	3.417 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	90°
Packaging	Tape (Ø 330 mm); Rs = 10 ⁹ - 10 ¹² 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)	3.2 mm	Tack option	bottom
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
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Approvals

Approvals



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

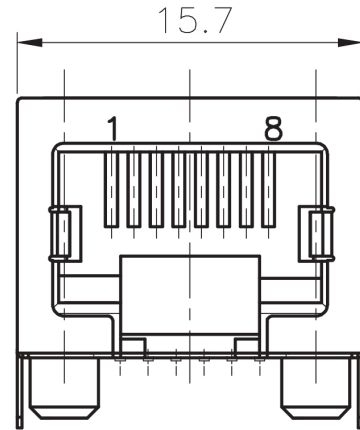
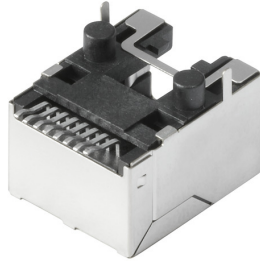
Brochure/Catalogue	MB FREECONTACT EN FL FIELDWIRING EN PI PROFINET CABLING EN
User Documentation	MAN IE GUIDE DE MAN IE GUIDE EN

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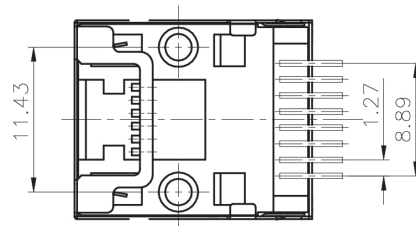
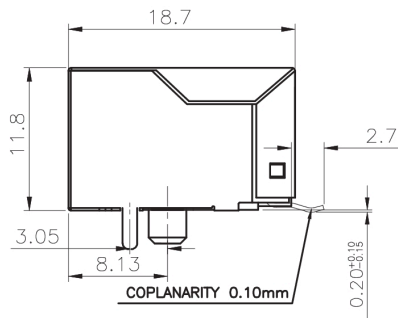
Drawings

Dimensioned drawing

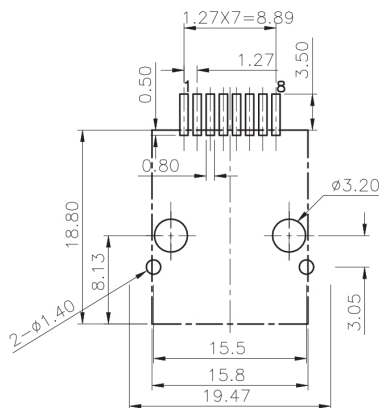


Dimensioned drawing

Dimensioned drawing



PCB design



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Drawings

Legend

Code	Value	Description
RJ45	G1	RJ45G1
R1	R	R1R
U	U	U
3.2	3.2	3.2
E	E	E
4	4	4
GY/GY	GY/GY	GY/GY
TY	TY	TY
RJ45G1 R1U 3.2E4GY/GY TY		
Packaging	TY	Tray in box (manual assembly)
	RL	Tape on Reel (automated assembly)
LED	Y/G	Yellow/Green
	G/Y	Green/Yellow (standard)
	GY/GY	Green-Yellow/Green-Yellow
	O/G	Orange/Green
	R/O	Red/Orange
 (further combinations possible)
	N	without LED
Contact surface thickness	4	1 = 3µ, 2 = 6µ, 3 = 15µ, 4 = 30µ, 5 = 50µ
EMI tabs (ground fingers)	E	E = with EMI tabs
	N	N = without EMI tabs
Solder Pin length	3.2	3.2 mm
	1.6	1.6 mm
	D	SMD
Direction, latch style	U	Horizontal (90°, side entry), latch up
	D	Horizontal (90°, side entry), latch down
	V	Vertical (180°, top entry)
	Y	Diagonal (45°), latch up
Number of Ports	1	1 Port
	12; 14; ...	multi ports side by side, Multiport
	21; 41; ...	multi ports about each other, Multilevel
Assembly on PCB	R	Through Hole Reflow - THR
	S	Soldering process: Wave or Reflow soldering
	SMT	Surface Mount Technology - SMT
	T	Soldering process: Reflow soldering
	THT	Through Hole Technology - THT
	W	Soldering process: Wave
Performance Category	C5	Category 5
	C6	Category 6
	C6A	Category 6A
	C5e	Category 5e
	M	10/100 Mbit
	G1	10/100/1000 Mbit
	G10	10 Gbit
	U	Unshielded
	MP	10/100 Mbit with POE
	MP+	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.