

RJ45C5E S1U 0.9N4N 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

Version	PCB plug-in connector, RJ45 jacks, Cat. 5e , SMD solder connection, 90°, Latch option: top, Shield tabs: none, 30...80 μm Ni / ≥ 30 μm Au , LED: No, Number of poles: 8, Tape
Order No.	1455220000
Type	RJ45C5E S1U 0.9N4N RL
GTIN (EAN)	4050118261516
Qty.	200 pc(s).
Packaging	Tape

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Technical data**Dimensions and weights**

Depth	16.6 mm	Depth (inches)	0.654 inch
Height	15.19 mm	Height (inches)	0.598 inch
Height of lowest version	13.41 mm	Width	16.41 mm
Width (inches)	0.646 inch	Net weight	0.009 g

System specifications

Category	Cat. 5e	Coplanarity:	100 µm
LED	No	Latch option	top
Mounting onto the PCB	SMD solder connection	Number of poles	8
Number of solder pins per pole	1	Outgoing elbow	90°
Performance-Category	Cat. 5e	Pitch in inches (P)	0.05 inch
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	none
Shielding	Yes	Shielding material	Copper alloy
Solder pin length (l)	3.5 mm	Soldering process	Reflow soldering, Manual soldering
Tolerance of solder pin position	± 0.1 mm	Type of connection	Socket connector
Wiring	8-core		

Electrical properties

Dielectric strength, contact / contact	1000 V DC	Dielectric strength, contact / shield	1500 V DC
Insulation strength	≥ 500 MΩ	Rated current	1.5 A
Rated voltage	125 V		

Standards

Connector standard	IEC 60603-7-51
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Material data

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 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	370 mm
VPE width	363 mm	VPE height	116 mm
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	ETIM 7.0	EC002637
ETIM 8.0	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

Approvals

Approvals



ROHS	Conform
Certificate No. (UL)	E47 1884
Certificate No. (cURus)	E47 1884

Downloads

Approval/Certificate/Document of Conformity	Certificate of Compliance
Engineering Data	CAD data – STEP
User Documentation	MAN IE GUIDE DE MAN IE GUIDE EN
Catalogues	Catalogues in PDF-format
Brochures	MB FREECONTACT EN FL FIELDWIRING EN PI PROFINET CABLING EN PI PROFINET CABLING EN

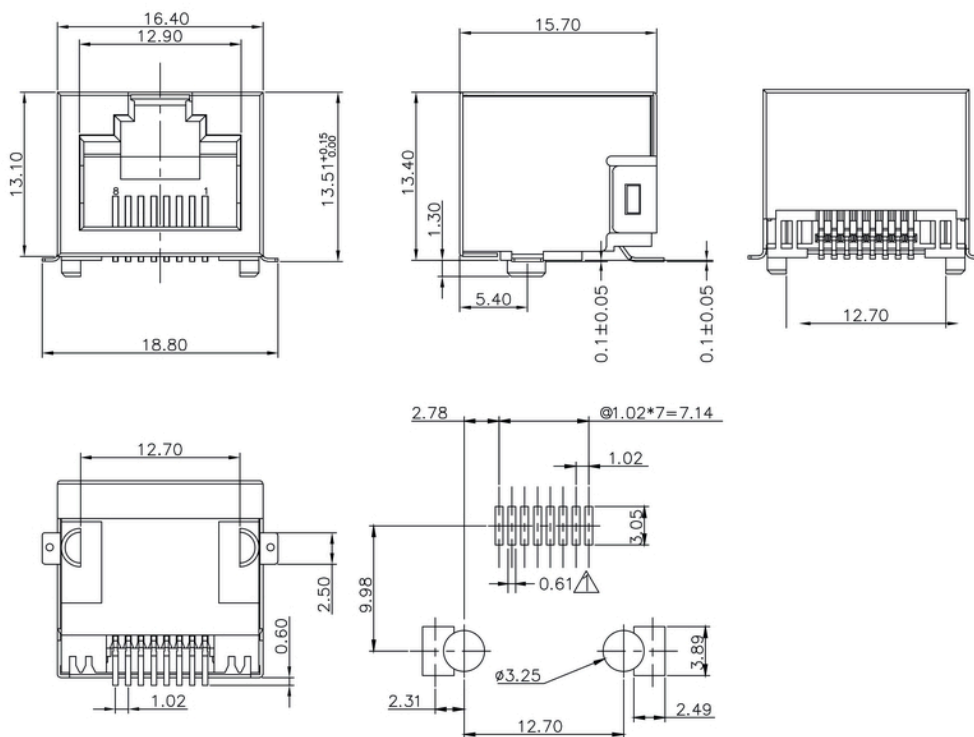
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Drawings

Dimensional drawing



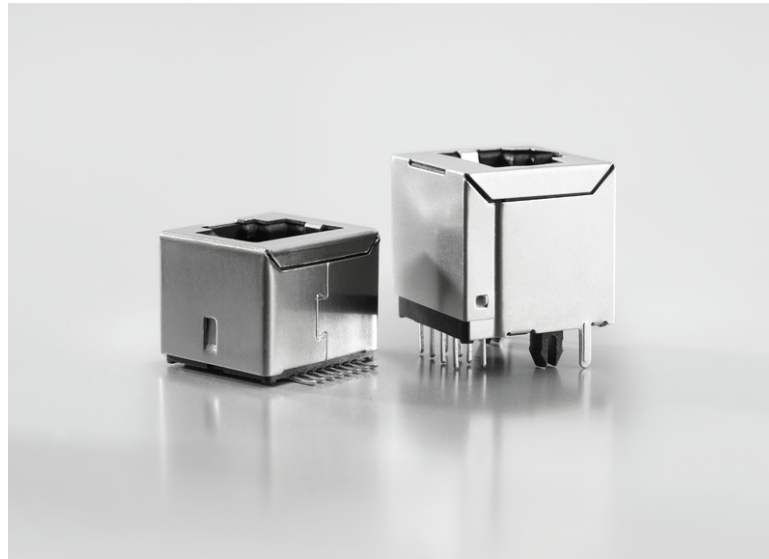
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Drawings

Product benefits



Suitable for all soldering processes
 SMT, THT or THR

Code	Value	Description
RJ45	G1	RJ45G1
R	1	1 Port
U	3.2	3.2 mm Solder Pin length
E	4	4 Contact surface thickness
4	GY/GY	Green-Yellow/Green-Yellow LED
TY	TY	Tray in box (manual assembly)
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 Soldering process: Wave or Reflow soldering
	S	Surface Mount Technology - SMT Soldering process: Reflow soldering
	T	Through Hole Technology - THT 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+

Legend

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.

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