

## RJ45C5 R1V 3.2N4G/Y TY

**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  $\geq 1500$  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 0.3mm stand-off ensures a perfect soldering result

### General ordering data

Version	PCB plug-in connector, RJ45 jacks, Cat. 5 , THT/THR solder connection, 180°, Shield tabs: none, 30...80 $\mu\text{m}$ Ni / $\geq 30$ $\mu\text{m}$ Au , LED: Yes, green, yellow, Number of poles: 8, Tray
Order No.	<a href="#">2516380000</a>
Type	RJ45C5 R1V 3.2N4G/Y TY
GTIN (EAN)	4050118529944
Qty.	120 pc(s).
Packaging	Tray

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

Depth	16.7 mm	Depth (inches)	0.657 inch
Height	20 mm	Height (inches)	0.787 inch
Height of lowest version	16.5 mm	Net weight	3.417 g
Width	16 mm	Width (inches)	0.63 inch

**System specifications**

Category	Cat. 5	
Colour of left LED	green	
Colour of right LED	yellow	
LED	Yes	
Mounting onto the PCB	THT/THR solder connection	
Number of poles	8	
Number of solder pins per pole	1	
Outgoing elbow	180°	
Performance-Category	Cat. 5	
Pitch in inches (P)	0.05 inch	
Pitch in mm (P)	1.27 mm	
Product family	OMNIMATE Data - RJ45 modular jack	
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	
Solder pin length tolerance	Lower tolerance with prefix (reveals minimum)	-0.5
	Upper tolerance with prefix (reveals maximum)	+0.5
	Tolerance, unit	mm
Soldering process	Reflow soldering, Manual soldering, Wave soldering	
Type of connection	Socket connector	
Wiring	8-core	

**Electrical properties**

Dielectric strength, contact / contact	1500 V DC	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	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

Creation date March 29, 2021 6:25:14 PM CEST

Catalogue status 12.03.2021 / We reserve the right to make technical changes.

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## Technical data

### Packing

Packaging	Tray	VPE length	0 m
VPE width	0 m	VPE height	0 m

### Classifications

ETIM 6.0	EC002637	ETIM 7.0	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

### Approvals

Approvals



ROHS	Conform
UL File Number Search	E471884

### Downloads

Engineering Data	<a href="#">STEP</a>
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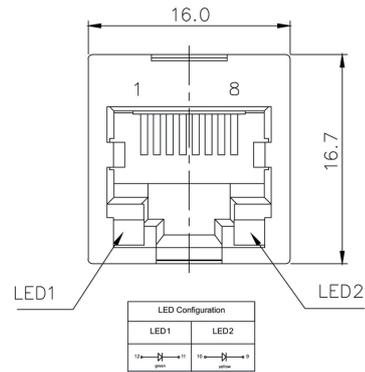
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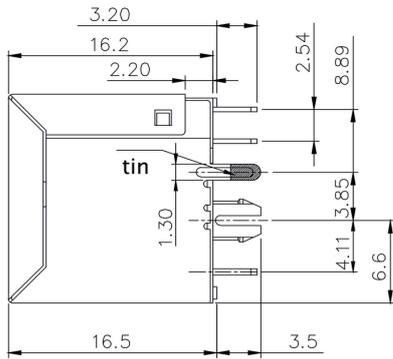
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**Drawings**

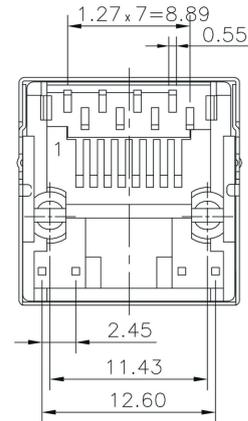
**Dimensioned drawing**



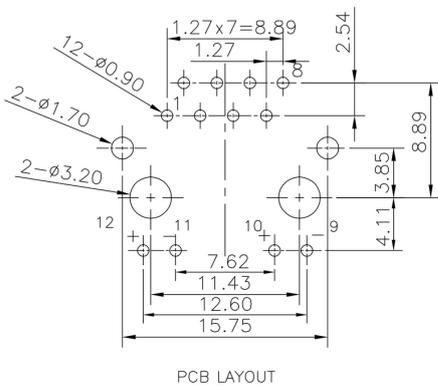
**Dimensioned drawing**



**Dimensioned drawing**



**PCB design**



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Drawings

Code	Value	Description
RJ45	G1	RJ45G1
R1	R	R1R
U	U	U
3.2	3.2	3.2
E4	E	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>S</b>	Surface Mount Technology - SMT
	<b>T</b>	Soldering process: Reflow soldering
	<b>T</b>	Through Hole Technology - THT
	<b>T</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+

Legend

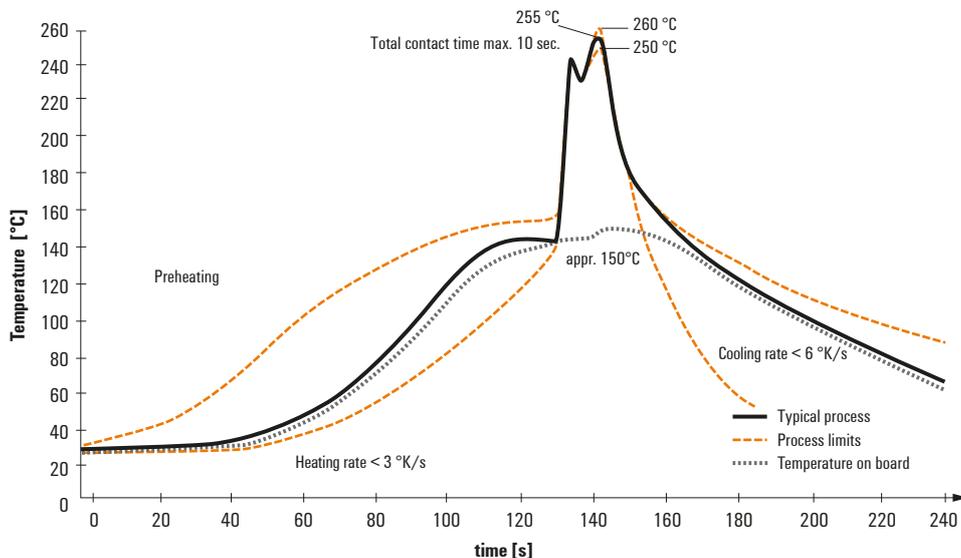
## Recommended wave soldering profiles

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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.

## 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  $\leq +3K/s$ . 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  $\geq -6K/s$  solder is cured. Board and components cool down while avoiding cold cracks.