

## OMNIMATE Data - RJ45 modular jack RJ45C5 T1U 2.8N4N TY

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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  $\geq 1500$  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

Type	RJ45C5 T1U 2.8N4N TY
Order No.	<a href="#">1455240000</a>
Version	PCB plug-in connector, RJ45 jacks, Cat. 5 , THT solder connection, 90°, Latch option: top, Shield tabs: none, 30-80 $\mu\text{m}$ Ni / 30- $\mu\text{m}$ Au , LED: No, Number of poles: 8, Tray
GTIN (EAN)	4050118261356
Qty.	140 pc(s).
Packaging	Tray

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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	2.436 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	top	Mounting onto the PCB	THT solder connection
Number 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 modular jack	Protection degree	IP20
Shield surface	nickel-plated	Shield tabs	none
Shielding	Yes	Shielding material	Copper alloy
Solder eyelet hole diameter (D)	0.9 mm	Solder eyelet hole diameter tolerance (D)	± 0.1 mm
Solder pin dimensions	0.40 x 0.30 mm	Solder pin length (l)	3.2 mm
Type of connection	Socket connector	Wiring	8-core

**Electrical properties**

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

**Material data**

Insulating material	PA 66	Colour	black
Colour chart (similar)	RAL 9011	Insulating material group	II
Comparative Tracking Index (CTI)	≥ 500	Insulation strength	> 500 MΩ
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	Tray	VPE length	20 mm
VPE width	180 mm	VPE height	300 mm

**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		

Creation date May 4, 2020 6:41:40 AM CEST

**Data sheet****OMNIMATE Data - RJ45 modular jack  
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**Technical data****Approvals**

Approvals



ROHS

Conform

**Downloads**

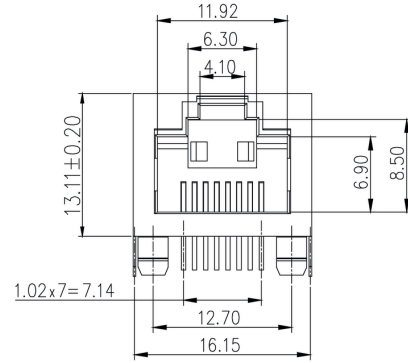
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Engineering Data	<a href="#">STEP</a>
Product Change Notification	<a href="#">PCN</a> <a href="#">PCN</a>
User Documentation	<a href="#">MAN IE GUIDE DE</a> <a href="#">MAN IE GUIDE EN</a>

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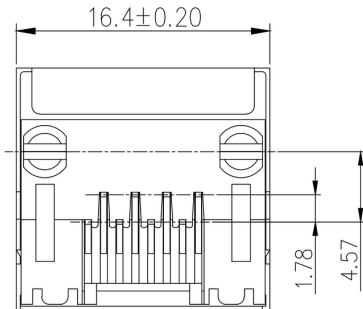
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**Drawings**

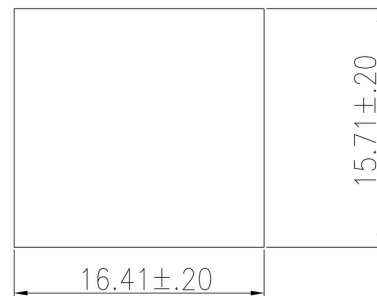
**Dimensioned drawing**



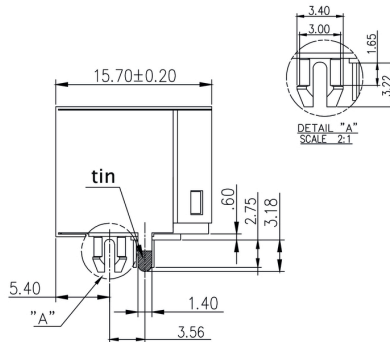
**Dimensioned drawing**



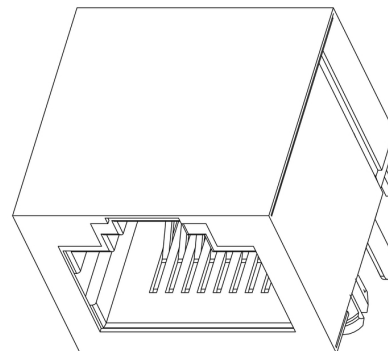
**Dimensioned drawing**



**Dimensioned drawing**



**Drawing**



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**Mating connector (fully pluggable)**
**RJ45 tool-free**


RJ45 plug-in connector (tool-less) according to IEC 60603-7-51 for wire outer diameters up to 1.6 mm

**RJ45 tool-free**
**General ordering data**

Type	IE-PS-RJ45-FH-BK	Version
Order No.	<a href="#">196360000</a>	RJ45 IDC plug, Cat.6<sub>A</sub> / Class E<sub>A</sub> (ISO/
GTIN (EAN)	4032248645725	IEC 11801 2010), 8-core, 4-core, EIA/TIA T568 A, EIA/TIA T568 B,
Qty.	10 pc(s).	PROFINET
Type	IE-PS-RJ45-FH-BK-B	Version
Order No.	<a href="#">113205000</a>	RJ45 IDC plug, Cat.6 <sub>A</sub> / Class E <sub>A</sub> (ISO/IEC 11801 2010), 8-core, EIA/
GTIN (EAN)	4032248912148	TIA T568 B
Qty.	10 pc(s).	
Type	IE-PS-RJ45-FH-BK-A	Version
Order No.	<a href="#">113204000</a>	RJ45 IDC plug, Cat.6 <sub>A</sub> / Class E <sub>A</sub> (ISO/IEC 11801 2010), 8-core, EIA/
GTIN (EAN)	4032248912155	TIA T568 A
Qty.	10 pc(s).	
Type	IE-PS-RJ45-FH-BK-P	Version
Order No.	<a href="#">113206000</a>	RJ45 IDC plug, Cat.5 (ISO/IEC 11801), 4-core, PROFINET
GTIN (EAN)	4032248912162	
Qty.	10 pc(s).	

**RJ45 crimp**

RJ45 crimp plug-in connector according to IEC 60603-7-51 for wire outer diameters up to 1.05 mm


**RJ45 crimp**
**General ordering data**

Type	IE-P70	Version
Order No.	<a href="#">881312000</a>	RJ45 plug-in connector, with kink protection; 6.2 - 7.1 mm, Cat.6 <sub>A</sub> /
GTIN (EAN)	4032248512874	Class E <sub>A</sub> (ISO/IEC 11801 2010), IP20
Qty.	10 pc(s).	
Type	IE-PS-RJ45-TH-BK-P	Version
Order No.	<a href="#">258498000</a>	RJ45 crimp plug, with kink protection; 6.5 - 7.5 mm, Cat.6 <sub>A</sub> / Class E <sub>A</sub>
GTIN (EAN)	4050118593556	(ISO/IEC 11801 2010)
Qty.	10 pc(s).	

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**Mating connector (fully pluggable)**

Type	IE-P63	Version
Order No.	<a href="#">8813110000</a>	RJ45 plug-in connector, with kink protection; 5.5 - 6.2 mm, Cat.6 <sub>A</sub> /
GTIN (EAN)	4032248512867	Class E <sub>A</sub> (ISO/IEC 11801 2010), IP20
Qty.	10 pc(s).	
Type	IE-PM-RJ45-TH	Version
Order No.	<a href="#">1963580000</a>	RJ45 crimp plug, Plug without bending protection sleeve, Cat.6 <sub>A</sub> /
GTIN (EAN)	4032248645688	Class E <sub>A</sub> (ISO/IEC 11801 2010)
Qty.	100 pc(s).	
Type	IE-P	Version
Order No.	<a href="#">8813100000</a>	RJ45 plug-in connector, without kink protection; 5.5 - 7.1 mm, Cat.6 <sub>A</sub>
GTIN (EAN)	4032248512850	/ Class E <sub>A</sub> (ISO/IEC 11801 2010), IP20
Qty.	100 pc(s).	
Type	IE-PS-RJ45-TH-BK	Version
Order No.	<a href="#">1963590000</a>	RJ45 crimp plug, Plug with bending protection sleeve in black, Cat.6 <sub>A</sub>
GTIN (EAN)	4032248645695	/ Class E <sub>A</sub> (ISO/IEC 11801 2010)
Qty.	10 pc(s).	

**straight**

RJ45 plug-in connector (no tools required) according to IEC 60603-7-51 for core diameters from 0.85 to 1.6 mm and AWG 22-27.

**General ordering data**

Type	IE-PS-RJ45-FH-180-A-1.6	Version
Order No.	<a href="#">1992820000</a>	RJ45 plug with piercing contacts, straight, Cat.6 <sub>A</sub> / Class E <sub>A</sub> (ISO/IEC
GTIN (EAN)	4050118377897	11801 2010), EIA/TIA T568 A
Qty.	1 pc(s).	
Type	IE-PS-RJ45-FH-180-P-1.6	Version
Order No.	<a href="#">1992840000</a>	RJ45 plug with piercing contacts, straight, Cat.5 (ISO/IEC 11801),
GTIN (EAN)	4050118378023	PROFINET
Qty.	10 pc(s).	
Type	IE-PS-RJ45-FH-180-B-1.6	Version
Order No.	<a href="#">1992830000</a>	RJ45 plug with piercing contacts, straight, Cat.6 <sub>A</sub> / Class E <sub>A</sub> (ISO/IEC
GTIN (EAN)	4050118377972	11801 2010), EIA/TIA T568 B
Qty.	1 pc(s).	
Type	IE-PS-RJ45-FH-180-A-1.1	Version
Order No.	<a href="#">1992850000</a>	RJ45 plug with piercing contacts, straight, Cat.6 <sub>A</sub> / Class E <sub>A</sub> (ISO/IEC
GTIN (EAN)	4050118378115	11801 2010), EIA/TIA T568 A
Qty.	1 pc(s).	
Type	IE-PS-RJ45-FH-180-B-1.1	Version
Order No.	<a href="#">1992860000</a>	RJ45 plug with piercing contacts, straight, Cat.6 <sub>A</sub> / Class E <sub>A</sub> (ISO/IEC
GTIN (EAN)	4050118378108	11801 2010), EIA/TIA T568 B
Qty.	1 pc(s).	

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**Mating connector (fully pluggable)**
**angled with cable glant**

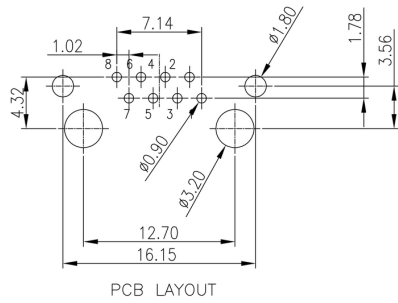

RJ45 plug-in connector (no tools required) according to IEC 60603-7-51 for core diameters from 0.85 to 1.6 mm and AWG 22-27.

**General ordering data**

Type	IE-PS-RJ45-FH-90-P-1.6	Version
Order No.	<a href="#">1518100000</a>	RJ45 plug with piercing contacts, angled, 4x90°, Cat.5 (ISO/IEC 11801), PROFINET
GTIN (EAN)	4050118325232	
Qty.	10 pc(s).	
Type	IE-PS-RJ45-FH-90-A-1.6	Version
Order No.	<a href="#">1992870000</a>	RJ45 plug with piercing contacts, angled, 4x90°, Cat.6 <sub>A</sub> / Class E <sub>A</sub>
GTIN (EAN)	4050118378054	(ISO/IEC 11801 2010), EIA/TIA T568 A
Qty.	1 pc(s).	
Type	IE-PS-RJ45-FH-90-B-1.6	Version
Order No.	<a href="#">1992890000</a>	RJ45 plug with piercing contacts, angled, 4x90°, Cat.6 <sub>A</sub> / Class E <sub>A</sub>
GTIN (EAN)	4050118378122	(ISO/IEC 11801 2010), EIA/TIA T568 B
Qty.	1 pc(s).	
Type	IE-PS-RJ45-FH-90-B-1.1	Version
Order No.	<a href="#">1518090000</a>	RJ45 plug with piercing contacts, angled, 4x90°, Cat.6 <sub>A</sub> / Class E <sub>A</sub>
GTIN (EAN)	4050118325300	(ISO/IEC 11801 2010), EIA/TIA T568 B
Qty.	1 pc(s).	
Type	IE-PS-RJ45-FH-90-A-1.1	Version
Order No.	<a href="#">1518080000</a>	RJ45 plug with piercing contacts, angled, 4x90°, Cat.6 <sub>A</sub> / Class E <sub>A</sub>
GTIN (EAN)	4050118324969	(ISO/IEC 11801 2010), EIA/TIA T568 A
Qty.	10 pc(s).	

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**Drawings****PCB design**



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Drawings

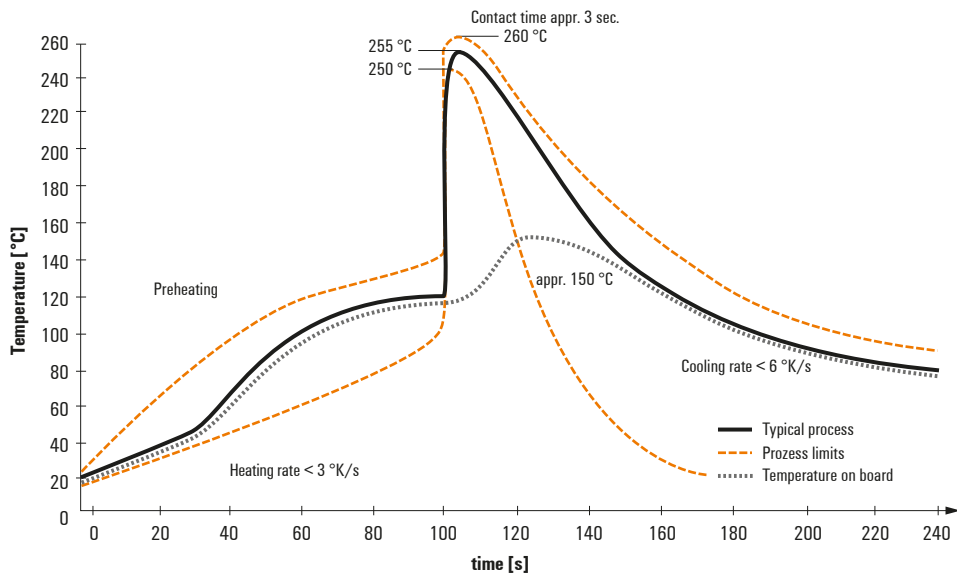
Legend

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
<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+

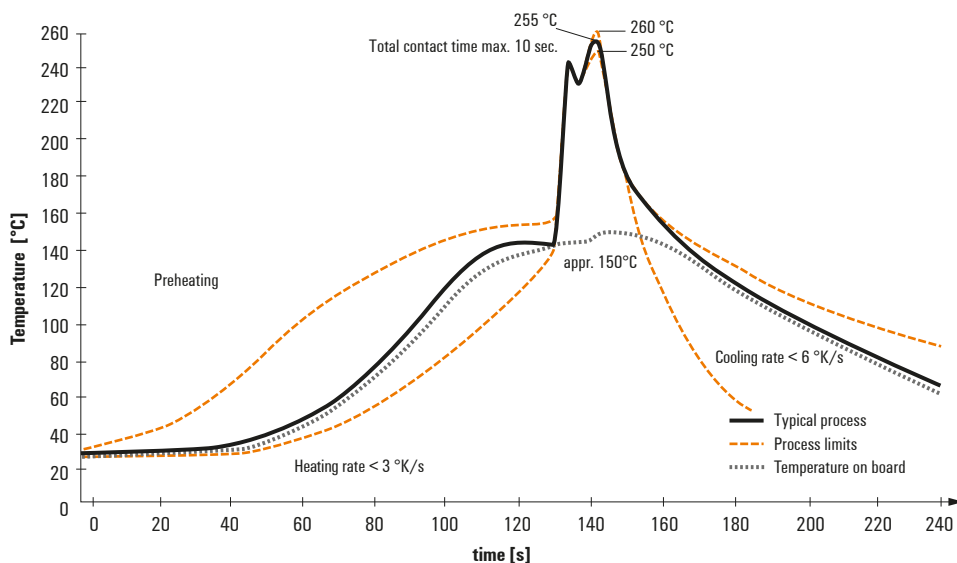
## Recommended wave soldering profiles

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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.