

## RJ45G1 R12D 3.2E4YG/YG RL

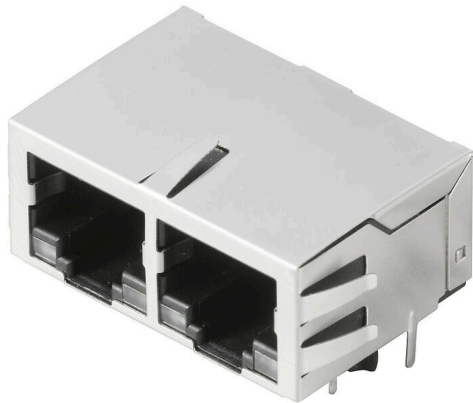
Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

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Germany

www.weidmueller.com



RJ45 transmitter sockets (magnetics) for gigabit applications (1000 base-T) with integrated compensation actively counteracts inductive and capacitive couplings and saves space on the PCB.

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
- Transmission rates of up to 1 Gbps
- 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
- Compliance with IEEE 802.3 requirements (1000Base-T, 1 Gbps, IEEE 802.3ab or 100Base-Tx, 100 Mbps, IEEE 802.3u) Properties and advantages:
- Extended temperature range of  $-40$  °C to  $+85$  °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    | OMNIMATE Data - RJ45 transformer jack, PCB plug-in connector, THT/THR solder connection, 90°, bottom, 6 tabs, Yes, Plugging cycles: 750, Number of poles: 8, PA 9T, 30...80 $\mu\text{m}$ Ni / $\geq 30$ $\mu\text{m}$ Au, Tape |
| Order No.  | <a href="#">2036510000</a>  |
| Type       | RJ45G1 R12D 3.2E4YG/YG RL   |
| GTIN (EAN) | 4050118408409   |
| Qty.       | 180 items   |
| Packaging  | Tape  |

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## Technical data

### Approvals

Approvals



ROHS Conform

UL File Number Search [UL Website](#)

Certificate No. (cURus) E471884

### Dimensions and weights

|                          |             |                 |             |
|--------------------------|-------------|-----------------|-------------|
| Depth                    | 21.5 mm     | Depth (inches)  | 0.8465 inch |
| Height                   | 16.9 mm     | Height (inches) | 0.6654 inch |
| Height of lowest version | 13.6 mm     | Width           | 31.2 mm     |
| Width (inches)           | 1.2283 inch | Net weight      | 7.67 g      |

### Environmental Product Compliance

RoHS Compliance Status Compliant without exemption

REACH SVHC No SVHC above 0.1 wt%

### System specifications

|  |              |                                  |  |
|--|--------------|----------------------------------|--|
| Number of poles                                    | 8            | LED                              | Yes  |
| Solder pin length (l)                              | 3.2 mm       | Mounting onto the PCB            | THT/THR solder connection                          |
| Pitch in inches (P)                                | 0.050 "      | Shielding material               | Brass  |
| Shielding  | Yes          | Side termination, characteristic | Solder flange                                      |
| Solder eyelet hole diameter tolerance (D) ± 0.1 mm |              | Transmission rate                | 1000 Mbps  |
| Number of solder pins per pole                     | 1            | Type of connection               | Solder connection                                  |
| Solder eyelet hole diameter (D)                    | 0.9 mm       | Product family                   | OMNIMATE Data - RJ45 transformer jack              |
| Pitch in mm (P)                                    | 1.27 mm      | Protection degree                | IP20   |
| Plugging cycles                                    | 750          | Wiring                           | 10-wire  |
| Outgoing elbow                                     | 90°          | Forward current                  | 20 mA  |
| Forward voltage, max.                              | 2.5 V        | Shield surface                   | nickel-plated                                      |
| Colour of right LED                                | Green/yellow | Shield tabs                      | 6 tabs   |
| Performance-Category                               | 1000 Mbps    | Soldering process                | Reflow soldering, Manual soldering, Wave soldering |
| Latch option                                       | bottom       | Solder pin dimensions            | 0.40 x 0.30 mm, LED pins = 0.50 x 0.50 mm          |
| Tolerance of solder pin position                   | ± 0.1 mm     | Forward voltage, min.            | 1.8 V  |
| Colour of left LED                                 | Green/yellow |                                  |  |

### Electrical properties

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

### Standards

Connector standard IEC 60603-7

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**Technical data**

**Material data**

|                                  |                   |                                 |                            |
|----------------------------------|-------------------|---------------------------------|----------------------------|
| Insulating material              | PA 9T             | Colour                          | black                      |
| Colour chart (similar)           | RAL 9011          | Insulating material group       | II                         |
| Comparative Tracking Index (CTI) | ≥ 500             | Insulation resistance           | ≥ 500 MΩ                   |
| Moisture Level (MSL)             | 1                 | UL 94 flammability rating       | V-0                        |
| Contact base material            | Phosphorus bronze | Contact material                | Cu-alloy                   |
| 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         | 360.00 mm         |
| VPE width                | 352.00 mm | VPE height         | 132.00 mm         |
| Tape reel diameter ∅ (A) | 330 mm    | Surface resistance | Rs = 109 - 1012 Ω |

**Important note**

Notes

**Classifications**

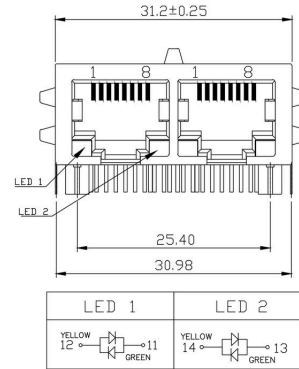
|             |             |             |             |
|-------------|-------------|-------------|-------------|
| ETIM 8.0    | EC002637    | ETIM 9.0    | EC002637    |
| ETIM 10.0   | EC002637    | ECLASS 14.0 | 27-46-02-01 |
| ECLASS 15.0 | 27-46-02-01 |             |             |

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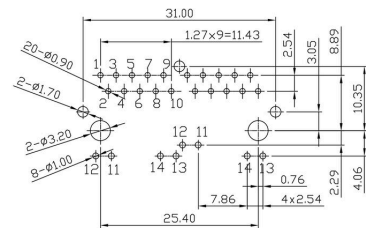
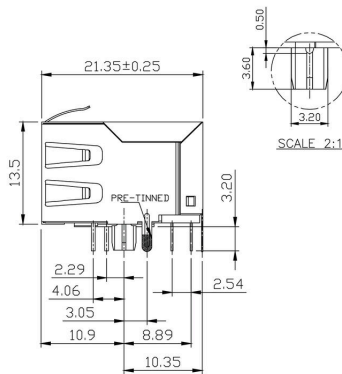
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Drawings

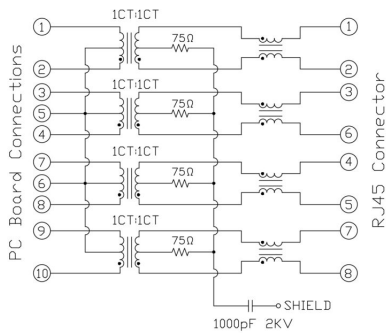
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PCB design



Wiring diagram



**RJ45G1 R12D 3.2E4YG/YG RL**

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Drawings

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

Type codes

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## Counterpart

### RJ45 crimp

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



### General ordering data

|            |                            |  |
|------------|----------------------------|--|
| Type       | IE-P                       | Version  |
| Order No.  | <a href="#">8813100000</a> | RJ45 plug-in connector, without kink protection; 5.5 - 7.1 mm,       |
| GTIN (EAN) | 4032248512850              | Cat.6A / Class EA (ISO/IEC 11801 2010), IP20                         |
| Qty.       | 100 ST                     |  |
| Type       | IE-P63                     | Version  |
| Order No.  | <a href="#">8813110000</a> | RJ45 plug-in connector, with kink protection; 5.5 - 6.2 mm, Cat.6A / |
| GTIN (EAN) | 4032248512867              | Class EA (ISO/IEC 11801 2010), IP20                                  |
| Qty.       | 10 ST                      |  |
| Type       | IE-P70                     | Version  |
| Order No.  | <a href="#">8813120000</a> | RJ45 plug-in connector, with kink protection; 6.2 - 7.1 mm, Cat.6A / |
| GTIN (EAN) | 4032248512874              | Class EA (ISO/IEC 11801 2010), IP20                                  |
| Qty.       | 10 ST                      |  |
| Type       | IE-PM-RJ45-TH              | Version  |
| Order No.  | <a href="#">1963580000</a> | RJ45 crimp plug, Plug without bending protection sleeve, Cat.6A /    |
| GTIN (EAN) | 4032248645688              | Class EA (ISO/IEC 11801 2010)  |
| Qty.       | 100 ST                     |  |
| Type       | IE-PS-RJ45-TH-BK           | Version  |
| Order No.  | <a href="#">1963590000</a> | RJ45 crimp plug, Plug with bending protection sleeve in black,       |
| GTIN (EAN) | 4032248645695              | Cat.6A / Class EA (ISO/IEC 11801 2010)                               |
| Qty.       | 10 ST                      |  |
| Type       | IE-PS-RJ45-TH-BK-P         | Version  |
| Order No.  | <a href="#">2584980000</a> | RJ45 crimp plug, with kink protection; 6.5 - 7.5 mm, Cat.5 (ISO/IEC  |
| GTIN (EAN) | 4050118593556              | 11801)   |
| Qty.       | 10 ST                      |  |

### straight

RJ45 plug-in connector (no tools required) according to IEC 60603-7-51.



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## Counterpart

### General ordering data

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

### angled with cable gland

RJ45 plug-in connector (no tools required) according to IEC 60603-7-51.



### General ordering data

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

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## Counterpart

|            |                            |  |
|------------|----------------------------|--|
| 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.       | 1 ST                       |  |

## RJ45 tool-free



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

## General ordering data

|            |                            |   |
|------------|----------------------------|---|
| Type       | IE-PS-RJ45-FH-BK           | Version   |
| Order No.  | <a href="#">1963600000</a> | RJ45 IDC plug, Cat.6A / Class EA (ISO/IEC 11801 2010), 8-core, 4-core, EIA/TIA T568 A, EIA/TIA T568 B, PROFINET |
| GTIN (EAN) | 4032248645725              |   |
| Qty.       | 10 ST                      |   |
| Type       | IE-PS-RJ45-FH-BK-A         | Version   |
| Order No.  | <a href="#">1132040000</a> | RJ45 IDC plug, Cat.6A / Class EA (ISO/IEC 11801 2010), 8-core, EIA/TIA T568 A                                   |
| GTIN (EAN) | 4032248912155              |   |
| Qty.       | 10 ST                      |   |
| Type       | IE-PS-RJ45-FH-BK-B         | Version   |
| Order No.  | <a href="#">1132050000</a> | RJ45 IDC plug, Cat.6A / Class EA (ISO/IEC 11801 2010), 8-core, EIA/TIA T568 B                                   |
| GTIN (EAN) | 4032248912148              |   |
| Qty.       | 10 ST                      |   |
| Type       | IE-PS-RJ45-FH-BK-P         | Version   |
| Order No.  | <a href="#">1132060000</a> | RJ45 IDC plug, Cat.5 (ISO/IEC 11801), 4-core, PROFINET  |
| GTIN (EAN) | 4032248912162              |   |
| Qty.       | 10 ST                      |   |