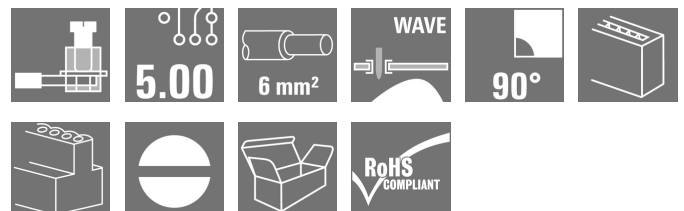


# OMNIMATE Signal - series LL

## LL2N 5.00/16/90 4.5SN ABGR

**Weidmüller Interface GmbH & Co. KG**  
 Klingenbergstraße 16  
 D-32758 Detmold  
 Germany  
 Fon: +49 5231 14-0  
 Fax: +49 5231 14-292083  
[www.weidmueller.com](http://www.weidmueller.com)



Multi-row PCB terminals with proven clamping yoke connections, in 5.00 and 5.08 mm pitch. 90° conductor outlet direction. Suitable for conductor cross-sections up to 6.0 mm<sup>2</sup>.

### General ordering data

|              |                                                                                                                                                                                |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type         | LL2N 5.00/16/90 4.5SN ABGR                                                                                                                                                     |
| Order No.    | <a href="#">1922890000</a>                                                                                                                                                     |
| Version      | Printed circuit board terminals, 5.00 mm, No. of poles: 16, 90°, Solder pin length (l): 4.5 mm, tinned, grey, Screw connection, Clamping range, max. : 6 mm <sup>2</sup> , Box |
| GTIN (EAN)   | 4032248670628                                                                                                                                                                  |
| Qty.         | 20 pc(s).                                                                                                                                                                      |
| Product data | IEC: 500 V / 32.5 A / 0.5 - 6 mm <sup>2</sup><br>UL: 300 V / 20 A / AWG 26 - AWG 12                                                                                            |
| Packaging    | Box                                                                                                                                                                            |

## OMNIMATE Signal - series LL LL2N 5.00/16/90 4.5SN ABGR

**Weidmüller Interface GmbH & Co. KG**  
Klingenbergstraße 16  
D-32758 Detmold  
Germany  
Fon: +49 5231 14-0  
Fax: +49 5231 14-292083  
www.weidmueller.com

## Technical data

### Dimensions and weights

|                          |            |                 |            |
|--------------------------|------------|-----------------|------------|
| Width                    | 38.19 mm   | Width (inches)  | 1.504 inch |
| Height                   | 35.62 mm   | Height (inches) | 1.402 inch |
| Height of lowest version | 31.12 mm   | Depth           | 21.99 mm   |
| Depth (inches)           | 0.866 inch | Net weight      | 31.2 g     |

### System parameters

|                                              |                             |                                            |                       |
|----------------------------------------------|-----------------------------|--------------------------------------------|-----------------------|
| Product family                               | OMNIMATE Signal - series LL | Wire connection method                     | Screw connection      |
| Property, clamping point                     | WireReady                   | Mounting onto the PCB                      | THT solder connection |
| Conductor outlet direction                   | 90°                         | Pitch in mm (P)                            | 5 mm                  |
| Pitch in inches (P)                          | 0.197 inch                  | No. of poles                               | 16                    |
| Fitted by customer                           | Yes                         | Max. adjacent poles per row                | 24                    |
| Solder pin length (l)                        | 4.5 mm                      | Solder pin dimensions                      | 0.75 x 0.9 mm         |
| Solder eyelet hole diameter (D)              | 1.3 mm                      | Solder eyelet hole diameter tolerance (D)+ | 0, 1 mm               |
| Number of solder pins per pole               | 1                           | Screwdriver blade                          | 0.6 x 3.5             |
| Screwdriver blade standard                   | DIN 5264                    | Tightening torque, min.                    | 0.5 Nm                |
| Tightening torque, max.                      | 0.6 Nm                      | Clamping screw                             | M 3                   |
| Stripping length                             | 6 mm                        | L1 in mm                                   | 35 mm                 |
| L1 in inches                                 | 1.379 inch                  | Touch-safe protection acc. to DIN VDE 0470 | IP 20                 |
| Touch-safe protection acc. to DIN VDE 57 106 | Safe from finger touch      |                                            |                       |

### Material data

|                                       |            |                                       |                            |
|---------------------------------------|------------|---------------------------------------|----------------------------|
| Insulating material                   | Wemid (PA) | Colour code                           | grey                       |
| Colour chart (similar)                | RAL 7035   | Insulating material group             | I                          |
| CTI                                   | ≥ 600      | Insulation strength                   | ≥ 10 <sup>8</sup> Ω        |
| UL 94 flammability rating             | V-0        | GWIT                                  | 960 °C                     |
| GWFI                                  | 960 °C     | Contact material                      | Copper alloy               |
| Contact surface                       | tinned     | Coating                               | 4-6 µm SN                  |
| Tinning type                          | matt       | Layer structure of solder connection  | 2-4 µm Ni / 4-6 µm Sn matt |
| Storage temperature, min.             | -25 °C     | Storage temperature, max.             | 55 °C                      |
| Max. relative humidity during storage | 80 %       | Operating temperature, min.           | -50 °C                     |
| Operating temperature, max.           | 120 °C     | Temperature range, installation, min. | -25 °C                     |
| Temperature range, installation, max. | 120 °C     |                                       |                            |

### Conductors suitable for connection

|                                                                     |                      |
|---------------------------------------------------------------------|----------------------|
| Clamping range, min.                                                | 0.08 mm <sup>2</sup> |
| Clamping range, max.                                                | 6 mm <sup>2</sup>    |
| Wire connection cross section AWG, min.                             | AWG 26               |
| Wire connection cross section AWG, max.                             | AWG 12               |
| Solid, min. H05(07) V-U                                             | 0.5 mm <sup>2</sup>  |
| Solid, max. H05(07) V-U                                             | 6 mm <sup>2</sup>    |
| Flexible, min. H05(07) V-K                                          | 0.5 mm <sup>2</sup>  |
| Flexible, max. H05(07) V-K                                          | 4 mm <sup>2</sup>    |
| w. plastic collar ferrule, DIN 46228 pt 4, 0.5 mm <sup>2</sup> min. |                      |
| w. plastic collar ferrule, DIN 46228 pt 4, 2.5 mm <sup>2</sup> max. |                      |
| w. wire end ferrule, DIN 46228 pt 1, min 0.5 mm <sup>2</sup>        |                      |

Creation date May 13, 2019 12:50:08 PM CEST

**OMNIMATE Signal - series LL**  
**LL2N 5.00/16/90 4.5SN ABGR**

**Weidmüller Interface GmbH & Co. KG**  
 Klingenbergstraße 16  
 D-32758 Detmold  
 Germany  
 Fon: +49 5231 14-0  
 Fax: +49 5231 14-292083  
 www.weidmueller.com

**Technical data**

w. wire end ferrule, DIN 46228 pt 1, max. 2.5 mm<sup>2</sup>

Plug gauge in accordance with EN 60999 a x b; ø 2.8 mm x 2.4 mm; 3.0 mm

|                     |                                        |                  |                      |      |
|---------------------|----------------------------------------|------------------|----------------------|------|
| Clampable conductor | Cross-section for conductor connection | Type             | fine-wired           |      |
|                     |                                        | nominal          | 0.5 mm <sup>2</sup>  |      |
|                     | AEH                                    | Stripping length | nominal              | 8 mm |
|                     |                                        | Stripping length | nominal              | 6 mm |
|                     | Cross-section for conductor connection | Type             | fine-wired           |      |
|                     |                                        | nominal          | 0.75 mm <sup>2</sup> |      |
|                     | AEH                                    | Stripping length | nominal              | 8 mm |
|                     |                                        | Stripping length | nominal              | 6 mm |
|                     | Cross-section for conductor connection | Type             | fine-wired           |      |
|                     |                                        | nominal          | 1 mm <sup>2</sup>    |      |
|                     | AEH                                    | Stripping length | nominal              | 8 mm |
|                     |                                        | Stripping length | nominal              | 6 mm |

Max. clamping range 6 mm<sup>2</sup>

**Rated data acc. to IEC**

tested acc. to standard

IEC 60664-1, IEC 61984

Rated current, max. no. of poles (Tu=20°C)

26 A

Rated current, max. no. of poles (Tu=40°C)

22 A

Rated voltage for surge voltage class / pollution degree III/2

320 V

Rated impulse voltage for surge voltage class/ pollution degree II/2

4 kV

Rated impulse voltage for surge voltage class/ contamination degree III/3

4 kV

Rated current, min. no. of poles (Tu=20°C)

32.5 A

Rated current, min. no. of poles (Tu=40°C)

27.5 A

Rated voltage for surge voltage class / pollution degree II/2

500 V

Rated voltage for surge voltage class / pollution degree III/3

250 V

Rated impulse voltage for surge voltage class/ pollution degree III/2

4 kV

Short-time withstand current resistance

3 x 1s with 120 A

**Rated data acc. to CSA**

Institute (CSA)



Certificate No. (CSA)

200039-1202191

Rated voltage (Use group B / CSA)

300 V

Rated current (Use group B / CSA)

20 A

Wire cross-section, AWG, min.

AWG 26

Reference to approval values

Specifications are maximum values, details - see approval certificate.

Rated voltage (Use group D / CSA)

300 V

Rated current (Use group D / CSA)

10 A

Wire cross-section, AWG, max.

AWG 12

**Rated data acc. to UL 1059**

Institute (UR)



Certificate No. (UR)

E60693

Rated voltage (Use group B / UL 1059)

300 V

Rated current (Use group B / UL 1059)

20 A

Wire cross-section, AWG, min.

AWG 26

Reference to approval values

Specifications are maximum values, details - see approval certificate.

Rated voltage (Use group D / UL 1059)

300 V

Rated current (Use group D / UL 1059)

10 A

Wire cross-section, AWG, max.

AWG 12

## OMNIMATE Signal - series LL LL2N 5.00/16/90 4.5SN ABGR

**Weidmüller Interface GmbH & Co. KG**  
Klingenbergstraße 16  
D-32758 Detmold  
Germany  
Fon: +49 5231 14-0  
Fax: +49 5231 14-292083  
www.weidmueller.com

## Technical data

### Packing

|           |        |            |        |
|-----------|--------|------------|--------|
| Packaging | Box    | VPE length | 60 mm  |
| VPE width | 105 mm | VPE height | 125 mm |

### Classifications

|            |             |            |             |
|------------|-------------|------------|-------------|
| ETIM 3.0   | EC001284    | ETIM 4.0   | EC002643    |
| ETIM 5.0   | EC002643    | ETIM 6.0   | EC002643    |
| eClass 6.2 | 27-26-11-01 | eClass 7.1 | 27-44-04-01 |
| eClass 8.1 | 27-44-04-01 | eClass 9.0 | 27-44-04-01 |
| eClass 9.1 | 27-44-04-01 |            |             |

### Notes

#### Notes

|                |                                                                                                                                                                                                                                                                                                                            |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IPC conformity | Conformity: The products are developed, manufactured and delivered according international recognized standards and norms and comply with the assured properties in the data sheet resp. fulfill decorative properties in accordance with IPC-A-610 "Class 2". Further claims on the products can be evaluated on request. |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Approvals

#### Approvals



|      |         |
|------|---------|
| ROHS | Conform |
|------|---------|

### Downloads

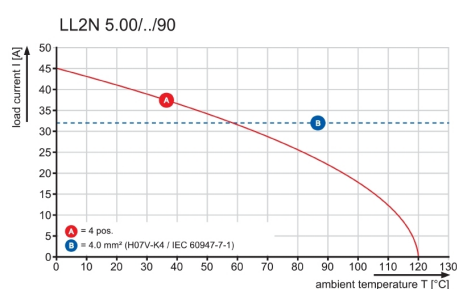
|                    |                                                              |
|--------------------|--------------------------------------------------------------|
| Brochure/Catalogue | <a href="#">FL DRIVES EN</a><br><a href="#">FL DRIVES DE</a> |
| Engineering Data   | <a href="#">STEP</a>                                         |

## OMNIMATE Signal - series LL LL2N 5.00/16/90 4.5SN ABGR

**Weidmüller Interface GmbH & Co. KG**  
Klingenbergstraße 16  
D-32758 Detmold  
Germany  
Fon: +49 5231 14-0  
Fax: +49 5231 14-292083  
[www.weidmueller.com](http://www.weidmueller.com)

# Drawings

## Graph



## Recommended wave soldering profiles

**Weidmüller Interface GmbH & Co. KG**  
Klingenbergstraße 16  
D-32758 Detmold  
Germany  
Fon: +49 5231 14-0  
Fax: +49 5231 14-292083  
[www.weidmueller.com](http://www.weidmueller.com)

### 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.