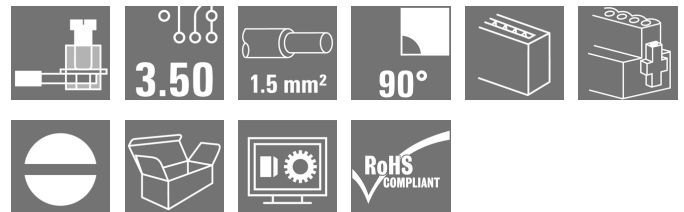


## OMNIMATE Signal - series BL/SL 3.50 BL 3.50/24/90F SN DKGN BX

**Weidmüller Interface GmbH & Co. KG**  
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### Product image



Similar to illustration

Female connectors with clamping yoke screw system for connecting conductors at 3.50 mm pitch. They provide space for labelling and can be coded.

### General ordering data

|              |  |
|--------------|--|
| Type         | BL 3.50/24/90F SN DKGN BX  |
| Order No.    | <a href="#">1772980000</a>   |
| Version      | PCB plug-in connector, female plug, 3.50 mm, Number of poles: 24, 90°, Clamping yoke connection, Clamping range, max. : 1.5 mm², Box |
| GTIN (EAN)   | 4032248136650  |
| Qty.         | 18 pc(s).  |
| Product data | IEC: 320 V / 12 A / 0.2 - 1.5 mm²<br>UL: 300 V / 8 A / AWG 28 - AWG 14   |
| Packaging    | Box  |

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

|            |          |                 |            |
|------------|----------|-----------------|------------|
| Width      | 91 mm    | Width (inches)  | 3.583 inch |
| Height     | 12 mm    | Height (inches) | 0.472 inch |
| Depth      | 22.45 mm | Depth (inches)  | 0.884 inch |
| Net weight | 24.45 g  |                 |            |

**System Parameters**

|  |                                     |  |                     |
|--|-------------------------------------|--|---------------------|
| Product family                               | OMNIMATE Signal - series BL/SL 3.50 | Type of connection                         | Field connection    |
| Wire connection method                       | Clamping yoke connection            | Pitch in mm (P)                            | 3.5 mm              |
| Pitch in inches (P)                          | 0.138 inch                          | Conductor outlet direction                 | 90°                 |
| Number of poles                              | 24                                  | L1 in mm                                   | 80.5 mm             |
| L1 in inches                                 | 3.169 inch                          | Number of rows                             | 1                   |
| Pin series quantity                          | 1                                   | Rated cross-section                        | 1.5 mm <sup>2</sup> |
| Touch-safe protection acc. to DIN VDE 57 106 | Safe from finger touch              | Touch-safe protection acc. to DIN VDE 0470 | IP 20               |
| Volume resistance                            | ≤ 5mΩ                               | Can be coded                               | Yes                 |
| Stripping length                             | 6 mm                                | Tightening torque for screw flange, min.   | 0.15 Nm             |
| Tightening torque for screw flange, max.     | 0.2 Nm                              | Tightening torque, min.                    | 0.2 Nm              |
| Tightening torque, max.                      | 0.25 Nm                             | Clamping screw                             | M 2                 |
| Screwdriver blade                            | 0.4 x 2.5                           | Screwdriver blade standard                 | DIN 5264            |
| Plugging cycles                              | 25                                  | Plugging force/pole, max.                  | 7 N                 |
| Pulling force/pole, max.                     | 5 N                                 |  |                     |

**Material data**

|                                       |                            |                                       |                     |
|---------------------------------------|----------------------------|---------------------------------------|---------------------|
| Insulating material                   | PBT                        | Colour                                | Signal green        |
| Colour chart (similar)                | RAL 6032                   | Insulating material group             | IIIa                |
| Comparative Tracking Index (CTI)      | ≥ 200                      | Insulation strength                   | ≥ 10 <sup>8</sup> Ω |
| UL 94 flammability rating             | V-0                        | GWFI                                  | 960 °C              |
| Contact material                      | Copper alloy               | Contact surface                       | tinned              |
| Layer structure of plug contact       | 4...8 μm Sn hot-dip tinned | Storage temperature, min.             | -40 °C              |
| Storage temperature, max.             | 70 °C                      | Operating temperature, min.           | -50 °C              |
| Operating temperature, max.           | 100 °C                     | Temperature range, installation, min. | -30 °C              |
| Temperature range, installation, max. | 100 °C                     |                                       |                     |

**Conductors suitable for connection**

|   |                      |
|---|----------------------|
| Clamping range, min.  | 0.08 mm <sup>2</sup> |
| Clamping range, max.  | 1.5 mm <sup>2</sup>  |
| Wire connection cross section AWG, min.                             | AWG 28               |
| Wire connection cross section AWG, max.                             | AWG 14               |
| Solid, min. H05(07) V-U   | 0.2 mm <sup>2</sup>  |
| Solid, max. H05(07) V-U   | 1.5 mm <sup>2</sup>  |
| Flexible, min. H05(07) V-K  | 0.2 mm <sup>2</sup>  |
| Flexible, max. H05(07) V-K  | 1.5 mm <sup>2</sup>  |
| w. plastic collar ferrule, DIN 46228 pt 4, 0.2 mm <sup>2</sup> min. |                      |
| w. plastic collar ferrule, DIN 46228 pt 4, 1.5 mm <sup>2</sup> max. |                      |
| w. wire end ferrule, DIN 46228 pt 1, min.                           | 0.2 mm <sup>2</sup>  |
| w. wire end ferrule, DIN 46228 pt 1, max.                           | 1.5 mm <sup>2</sup>  |

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**Technical data**

Plug gauge in accordance with EN 60999 a x b; ø 2.4 mm x 1.5 mm

| Clampable conductor                    | Cross-section for conductor connection | Type                         | fine-wired                   |
|--|--|------------------------------|------------------------------|
|  |  | nominal                      | 0.5 mm <sup>2</sup>          |
| wire end ferrule                       | Stripping length                       | nominal                      | 8 mm                         |
|  |  | Recommended wire-end ferrule | <a href="#">H0.5/12 OR</a>   |
|  |  | nominal                      | 6 mm                         |
|  |  | Recommended wire-end ferrule | <a href="#">H0.5/6</a>       |
| Cross-section for conductor connection | Type                                   | fine-wired                   |                              |
|  | nominal                                | 0.75 mm <sup>2</sup>         |                              |
| wire end ferrule                       | Stripping length                       | nominal                      | 8 mm                         |
|  |  | Recommended wire-end ferrule | <a href="#">H0.75/12 W</a>   |
|  |  | nominal                      | 6 mm                         |
|  |  | Recommended wire-end ferrule | <a href="#">H0.75/6</a>      |
| Cross-section for conductor connection | Type                                   | fine-wired                   |                              |
|  | nominal                                | 1 mm <sup>2</sup>            |                              |
| wire end ferrule                       | Stripping length                       | nominal                      | 8 mm                         |
|  |  | Recommended wire-end ferrule | <a href="#">H1.0/12 GE</a>   |
|  |  | nominal                      | 6 mm                         |
|  |  | Recommended wire-end ferrule | <a href="#">H1.0/6</a>       |
| Cross-section for conductor connection | Type                                   | fine-wired                   |                              |
|  | nominal                                | 0.25 mm <sup>2</sup>         |                              |
| wire end ferrule                       | Stripping length                       | nominal                      | 8 mm                         |
|  |  | Recommended wire-end ferrule | <a href="#">H0.25/10 HBL</a> |
|  |  | nominal                      | 5 mm                         |
|  |  | Recommended wire-end ferrule | <a href="#">H0.25/5</a>      |
| Cross-section for conductor connection | Type                                   | fine-wired                   |                              |
|  | nominal                                | 0.34 mm <sup>2</sup>         |                              |
| wire end ferrule                       | Stripping length                       | nominal                      | 8 mm                         |
|  | Recommended wire-end ferrule           | <a href="#">H0.34/10 TK</a>  |                              |

Reference text The outside diameter of the plastic collar should not be larger than the pitch (P). Length of ferrules is to be chosen depending on the product and the rated voltage.

Max. clamping range 1.5 mm<sup>2</sup>

**Rated data acc. to IEC**

|   |                        |   |                   |
|---|------------------------|---|-------------------|
| tested acc. to standard   | IEC 60664-1, IEC 61984 | Rated current, min. number of poles (Tu=20°C)                         | 12 A              |
| Rated current, max. number of poles (Tu=20°C)                             | 10 A                   | Rated current, min. number of poles (Tu=40°C)                         | 10 A              |
| Rated current, max. number of poles (Tu=40°C)                             | 8 A                    | Rated voltage for surge voltage class / pollution degree II/2         | 320 V             |
| Rated voltage for surge voltage class / pollution degree III/2            | 160 V                  | Rated voltage for surge voltage class / pollution degree III/3        | 160 V             |
| Rated impulse voltage for surge voltage class/ pollution degree II/2      | 2.5 kV                 | Rated impulse voltage for surge voltage class/ pollution degree III/2 | 2.5 kV            |
| Rated impulse voltage for surge voltage class/ contamination degree III/3 | 2.5 kV                 | Short-time withstand current resistance                               | 3 x 1s with 100 A |

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**Technical data**
**Rated data acc. to CSA**

Institute (CSA)



Certificate No. (CSA)

154685-1318353

|                                   |  |
|-----------------------------------|--|
| Rated voltage (Use group B / CSA) | 300 V  |
| Rated current (Use group B / CSA) | 10 A   |
| Wire cross-section, AWG, min.     | AWG 28   |
| 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 14 |

**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) | 8 A  |
| Wire cross-section, AWG, min.         | AWG 28   |
| 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) | 8 A    |
| Wire cross-section, AWG, max.         | AWG 14 |

**Packing**

|           |        |            |        |
|-----------|--------|------------|--------|
| Packaging | Box    | VPE length | 62 mm  |
| VPE width | 100 mm | VPE height | 110 mm |

**Type tests**

|  |            |  |
|--|------------|--|
| Test: Durability of markings                 | Standard   | DIN EN 61984 section 7.3.2 / 09.02 taking pattern from DIN EN 60068-2-70 / 07.96   |
|  | Test       | mark of origin, type identification, approval marking SEV, approval marking CSA    |
|  | Evaluation | available  |
|  | Test       | durability   |
|  | Evaluation | passed   |
| Test: Misengagement (Non-interchangeability) | Standard   | DIN EN 61984 section 6.3 and 6.9.1 / 09.02, DIN IEC 60512 part 7 section 5 / 05.94 |
|  | Test       | 180° turned with coding elements   |
|  | Evaluation | passed   |

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**Technical data**

|   |   |  |                                     |
|---|---|--|-------------------------------------|
| Test: Clampable cross section                             | Standard                                      | DIN EN 60999-1 section 7 and 9.1 / 12.00, DIN EN 60947-1 section 8.2.4.5.1 / 12.99 |                                     |
|   | Conductor type                                | Type of conductor and conductor cross-section                                      | solid 0.2 mm <sup>2</sup>           |
|   |   | Type of conductor and conductor cross-section                                      | stranded 0.2 mm <sup>2</sup>        |
|   |   | Type of conductor and conductor cross-section                                      | solid 1.5 mm <sup>2</sup>           |
|   |   | Type of conductor and conductor cross-section                                      | stranded 1.5 mm <sup>2</sup>        |
|   |   | Type of conductor and conductor cross-section                                      | AWG 28/1                            |
|   |   | Type of conductor and conductor cross-section                                      | AWG 28/19                           |
|   |   | Type of conductor and conductor cross-section                                      | AWG 16/1                            |
|   |   | Type of conductor and conductor cross-section                                      | AWG 16/19                           |
| Evaluation  | passed  |  |                                     |
| Test for damage to and accidental loosening of conductors | Standard                                      | DIN EN 60999-1 section 9.4 / 12.00   |                                     |
|   | Requirement                                   | 0.2 kg   |                                     |
|   | Conductor type                                | Type of conductor and conductor cross-section                                      | AWG 28/1                            |
|   |   | Type of conductor and conductor cross-section                                      | AWG 28/19                           |
|   | Evaluation                                    | passed   |                                     |
|   | Requirement                                   | 0.3 kg   |                                     |
|   | Conductor type                                | Type of conductor and conductor cross-section                                      | 2 × AWG 24/1                        |
|   |   | Type of conductor and conductor cross-section                                      | 2 × AWG 24/19 with wire end ferrule |
|   | Evaluation                                    | passed   |                                     |
|   | Requirement                                   | 0.4 kg   |                                     |
| Conductor type  | Type of conductor and conductor cross-section | solid 1.5 mm <sup>2</sup>  |                                     |
|   | Type of conductor and conductor cross-section | stranded 1.5 mm <sup>2</sup>   |                                     |
|   | Type of conductor and conductor cross-section | AWG 16/7   |                                     |
| Evaluation  | passed  |  |                                     |

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**Technical data**

|   |                |   |                                     |  |
|---|----------------|---|-------------------------------------|--|
| Pull-out test                                 | Standard       | DIN EN 60999-1 section 9.5 / 12.00            |                                     |  |
|   | Requirement    | ≥5 N  |                                     |  |
|   | Conductor type | Type of conductor and conductor cross-section | AWG 28/1                            |  |
|   |                | Type of conductor and conductor cross-section | AWG 28/19                           |  |
|   | Evaluation     | passed  |                                     |  |
|   | Requirement    | ≥10 N   |                                     |  |
|   | Conductor type | Type of conductor and conductor cross-section | 2 × AWG 24/1                        |  |
|   |                | Type of conductor and conductor cross-section | 2 × AWG 24/19 with wire end ferrule |  |
|   | Evaluation     | passed  |                                     |  |
|   | Requirement    | ≥40 N   |                                     |  |
|   | Conductor type | Type of conductor and conductor cross-section | H05V-U1.5                           |  |
|   |                | Type of conductor and conductor cross-section | H05V-K1.5                           |  |
| Type of conductor and conductor cross-section |                | AWG 16/7                                      |                                     |  |
| Evaluation                                    | passed         |   |                                     |  |

**Classifications**

|             |             |            |             |
|-------------|-------------|------------|-------------|
| ETIM 6.0    | EC002638    | ETIM 7.0   | EC002638    |
| eClass 9.0  | 27-44-03-09 | eClass 9.1 | 27-44-03-09 |
| eClass 10.0 | 27-44-03-09 | UNSPSC     | 30-21-18-10 |

**Notes**

|       |   |
|-------|---|
| Notes | <ul style="list-style-type: none"> <li>• Additional colours on request</li> <li>• Gold-plated contact surfaces on request</li> <li>• Rated current related to rated cross-section &amp; min. No. of poles.</li> <li>• Max. outer diameter of the conductor: 2.9 mm</li> <li>• Wire end ferrule without plastic collar to DIN 46228/1</li> <li>• Wire end ferrule with plastic collar to DIN 46228/4</li> <li>• P on drawing = pitch</li> <li>• Rated data refer only to the component itself. Clearance and creepage distances to other components are to be designed in accordance with the relevant application standards.</li> <li>• Long term storage of the product with average temperature of 50 °C and average humidity 70%, 36 months</li> </ul> |
|-------|---|

|                |  |
|----------------|--|
| 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. |
|----------------|--|

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**Data sheet**

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**Technical data**

**Approvals**

Approvals



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Approval/Certificate/Document of  
Conformity

[Declaration of the Manufacturer](#)

Brochure/Catalogue

- [FL DRIVES EN](#)
- [MB DEVICE MANUF. EN](#)
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- [FL BUILDING SAFETY EN](#)
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Engineering Data

[STEP](#)

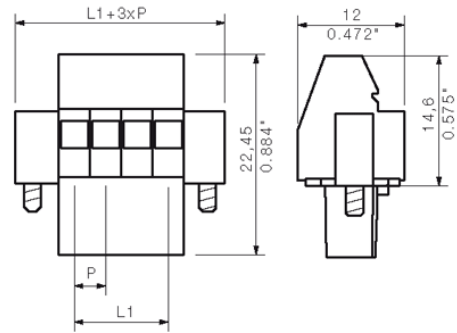
**Data sheet**

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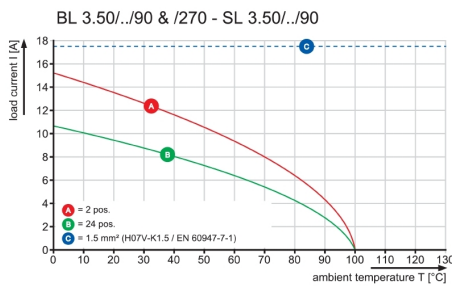
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**Drawings**

**Dimensional drawing**



**Graph**



**Graph**

