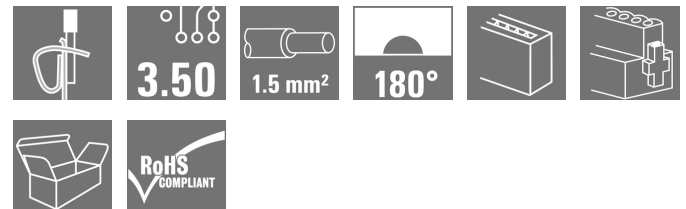


**BLZF 3.50/20/180F AU BK BX PRT****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

[www.weidmueller.com](http://www.weidmueller.com)**Product image**

Similar to illustration

Female connectors with tension clamp system for connecting cables in 3.50 pitch. They provide space for labelling and can be coded.

**General ordering data**

|              |                                                                                                                                      |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Version      | PCB plug-in connector, female plug, 3.50 mm, Number of poles: 20, 180°, Tension-clamp connection, Clamping range, max.: 1.5 mm², Box |
| Order No.    | <a href="#">1394740000</a>                                                                                                           |
| Type         | BLZF 3.50/20/180F AU BK BX PRT                                                                                                       |
| GTIN (EAN)   | 4050118195743                                                                                                                        |
| Qty.         | 20 pc(s).                                                                                                                            |
| Product data | IEC: 320 V / 14.5 A / 0.2 - 1.5 mm²<br>UL: 300 V / 10 A / AWG 26 - AWG 14                                                            |
| Packaging    | Box                                                                                                                                  |

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

|                |            |                 |            |
|----------------|------------|-----------------|------------|
| Depth          | 21.9 mm    | Depth (inches)  | 0.862 inch |
| Height         | 13 mm      | Height (inches) | 0.512 inch |
| Net weight     | 19.74 g    | Width           | 77 mm      |
| Width (inches) | 3.031 inch |                 |            |

**System Parameters**

|                                              |                                     |                   |                                                |
|----------------------------------------------|-------------------------------------|-------------------|------------------------------------------------|
| Product family                               | OMNIMATE Signal - series BL/SL 3.50 |                   |                                                |
| Type of connection                           | Field connection                    |                   |                                                |
| Wire connection method                       | Tension-clamp connection            |                   |                                                |
| Pitch in mm (P)                              | 3.5 mm                              |                   |                                                |
| Pitch in inches (P)                          | 0.138 inch                          |                   |                                                |
| Conductor outlet direction                   | 180°                                |                   |                                                |
| Number of poles                              | 20                                  |                   |                                                |
| L1 in mm                                     | 66.5 mm                             |                   |                                                |
| L1 in inches                                 | 2.618 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                            | ≤5 mΩ                               |                   |                                                |
| Can be coded                                 | Yes                                 |                   |                                                |
| Stripping length                             | 10 mm                               |                   |                                                |
| Tightening torque for screw flange, min.     | 0.15 Nm                             |                   |                                                |
| Tightening torque for screw flange, max.     | 0.2 Nm                              |                   |                                                |
| Screwdriver blade                            | 0.4 x 2.5                           |                   |                                                |
| Screwdriver blade standard                   | DIN 5264-A                          |                   |                                                |
| Plugging cycles                              | ≥ 200                               |                   |                                                |
| Plugging force/pole, max.                    | 7 N                                 |                   |                                                |
| Pulling force/pole, max.                     | 5 N                                 |                   |                                                |
| Tightening torque                            | Torque type                         | Screw flange      |                                                |
|                                              | Usage information                   | Tightening torque | <div>min. 0.15 Nm</div> <div>max. 0.2 Nm</div> |

**Material data**

|                                       |             |                                       |                     |
|---------------------------------------|-------------|---------------------------------------|---------------------|
| Insulating material                   | PBT         | Colour                                | black               |
| Colour chart (similar)                | RAL 9011    | Insulating material group             | IIIa                |
| Comparative Tracking Index (CTI)      | ≥ 200       | Insulation strength                   | ≥ 10 <sup>8</sup> Ω |
| UL 94 flammability rating             | V-0         | Contact material                      | Copper alloy        |
| Contact surface                       | Gold-plated | 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.                    | 0.13 mm <sup>2</sup> |
| Clamping range, max.                    | 1.5 mm <sup>2</sup>  |
| Wire connection cross section AWG, min. | AWG 28               |

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**Technical data**

|                                                 |                                                                                                                                                                        |                              |                            |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|----------------------------|
| Wire connection cross section AWG, max.         | AWG 16                                                                                                                                                                 |                              |                            |
| 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, min. | 0.2 mm <sup>2</sup>                                                                                                                                                    |                              |                            |
| w. plastic collar ferrule, DIN 46228 pt 4, max. | 1 mm <sup>2</sup>                                                                                                                                                      |                              |                            |
| 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>                                                                                                                                                    |                              |                            |
| Outer diameter of insulation, max.              | 2.9 mm                                                                                                                                                                 |                              |                            |
| 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 12 mm              |
|                                                 |                                                                                                                                                                        | Recommended wire-end ferrule | <a href="#">H0.5/16 OR</a> |
|                                                 |                                                                                                                                                                        | Stripping length             | nominal 10 mm              |
|                                                 |                                                                                                                                                                        | Recommended wire-end ferrule | <a href="#">H0.5/10</a>    |
|                                                 | Cross-section for conductor connection                                                                                                                                 | Type                         | fine-wired                 |
|                                                 |                                                                                                                                                                        | nominal                      | 0.75 mm <sup>2</sup>       |
|                                                 | wire end ferrule                                                                                                                                                       | Stripping length             | nominal 12 mm              |
|                                                 |                                                                                                                                                                        | Recommended wire-end ferrule | <a href="#">H0.75/16 W</a> |
|                                                 |                                                                                                                                                                        | Stripping length             | nominal 10 mm              |
|                                                 |                                                                                                                                                                        | Recommended wire-end ferrule | <a href="#">H0.75/10</a>   |
|                                                 | Cross-section for conductor connection                                                                                                                                 | Type                         | fine-wired                 |
|                                                 |                                                                                                                                                                        | nominal                      | 1 mm <sup>2</sup>          |
|                                                 | wire end ferrule                                                                                                                                                       | Stripping length             | nominal 12 mm              |
|                                                 |                                                                                                                                                                        | Recommended wire-end ferrule | <a href="#">H1.0/16D R</a> |
|                                                 |                                                                                                                                                                        | Stripping length             | nominal 10 mm              |
|                                                 |                                                                                                                                                                        | Recommended wire-end ferrule | <a href="#">H1.0/10</a>    |
|                                                 | Cross-section for conductor connection                                                                                                                                 | Type                         | fine-wired                 |
|                                                 |                                                                                                                                                                        | nominal                      | 1.5 mm <sup>2</sup>        |
|                                                 | wire end ferrule                                                                                                                                                       | Stripping length             | nominal 10 mm              |
|                                                 |                                                                                                                                                                        | Recommended wire-end ferrule | <a href="#">H1.5/10</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. |                              |                            |

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**Technical data****Rated data acc. to IEC**

|                                                                           |                        |                                                                       |                   |
|---------------------------------------------------------------------------|------------------------|-----------------------------------------------------------------------|-------------------|
| tested acc. to standard                                                   | IEC 60664-1, IEC 61984 | Rated current, min. number of poles (Tu=20°C)                         | 14.5 A            |
| Rated current, max. number of poles (Tu=20°C)                             | 10 A                   | Rated current, min. number of poles (Tu=40°C)                         | 12 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 |

**Rated data acc. to CSA**

|                                   |        |                                   |        |
|-----------------------------------|--------|-----------------------------------|--------|
| Rated voltage (Use group B / CSA) | 300 V  | Rated voltage (Use group D / CSA) | 300 V  |
| Rated current (Use group B / CSA) | 10 A   | Rated current (Use group D / CSA) | 10 A   |
| Wire cross-section, AWG, min.     | AWG 26 | 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 voltage (Use group D / UL 1059) | 300 V  |
| Rated current (Use group B / UL 1059) | 10 A                                                                                | Rated current (Use group D / UL 1059) | 10 A   |
| Wire cross-section, AWG, min.         | AWG 26                                                                              | Wire cross-section, AWG, max.         | AWG 14 |
| Reference to approval values          | Specifications are maximum values, details - see approval certificate.              |                                       |        |

**Packing**

|           |       |            |       |
|-----------|-------|------------|-------|
| Packaging | Box   | VPE length | 88 mm |
| VPE width | 82 mm | VPE height | 78 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, rated voltage, rated cross-section, pitch, type of material, approval marking SEV, approval marking CSA |
|                              | Evaluation | available                                                                                                                                    |
|                              | Test       | approval marking UL                                                                                                                          |
|                              | Evaluation | on packaging label                                                                                                                           |
|                              | Test       | durability                                                                                                                                   |
|                              | 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 0.5 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                                      | solid 0.2 mm <sup>2</sup>    |
|                                                           |                | 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                                      | stranded 0.5 mm <sup>2</sup> |
|                                                           |                |                                                                                    |                              |
|                                                           | 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 16/1                     |
|                                                           |                | Type of conductor and conductor cross-section                                      | AWG 16/19                    |
|                                                           | 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 | H05V-U0.2 |
|               |                |                                               |           |
|               | Evaluation     | passed                                        |           |
|               | Requirement    | ≥20 N                                         |           |
|               | Conductor type | Type of conductor and conductor cross-section | H05V-U0.5 |
|               |                |                                               |           |
|               | 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 16/1  |
|               |                | Type of conductor and conductor cross-section | AWG 16/19 |
|               | 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 | ECLASS 11.0 | 27-46-02-02 |

**Important note**

|                |                                                                                                                                                                                                                                                                                                                            |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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. |
| Notes          | <ul style="list-style-type: none"> <li>Long term storage of the product with average temperature of 50 °C and average humidity 70%, 36 months</li> </ul>                                                                                                                                                                   |

**Approvals**

Approvals



|                       |         |
|-----------------------|---------|
| ROHS                  | Conform |
| UL File Number Search | E60693  |

**Downloads**

|                    |                                          |
|--------------------|------------------------------------------|
| Brochure/Catalogue | <a href="#">Catalogues in PDF-format</a> |
|--------------------|------------------------------------------|

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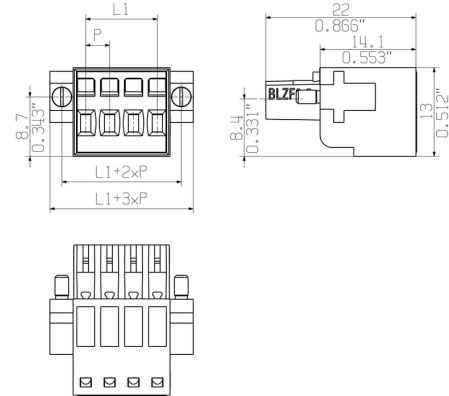
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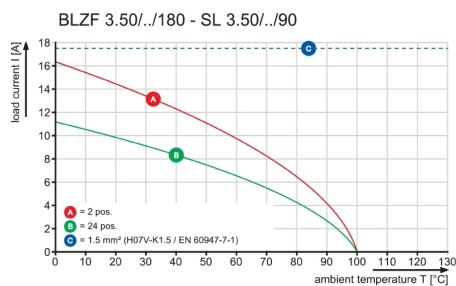
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# Drawings

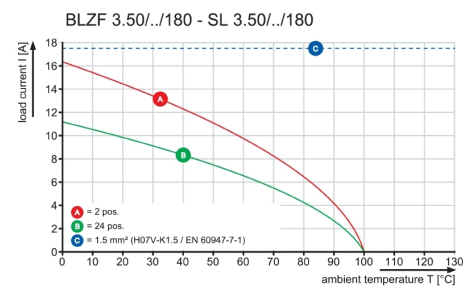
## Dimensional drawing



## Graph



## Graph



## Graph

