

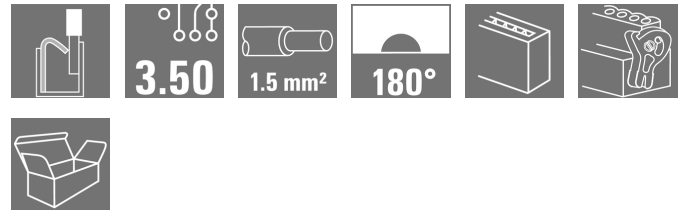
**BLF 3.50/10/180LR SN OR BX****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

**Product image**

similar to illustration

Connect efficiently - in a small space: female header with spring connection (PUSH IN) as a plug-in connection level; used together with male headers in 3.50 mm pitch.

**General ordering data**

|              |                                                                                                                                        |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Version      | PCB plug-in connector, female plug, 3.50 mm, Number of poles: 10, 180°, PUSH IN, Spring connection, Clamping range, max.: 1.5 mm², Box |
| Order No.    | <a href="#">2459760000</a>                                                                                                             |
| Type         | BLF 3.50/10/180LR SN OR BX                                                                                                             |
| GTIN (EAN)   | 4050118475173                                                                                                                          |
| Qty.         | 42 pc(s).                                                                                                                              |
| Product data | IEC: 320 V / 17.5 A / 0.14 - 1.5 mm²<br>UL: 300 V / AWG 26 - AWG 16                                                                    |
| Packaging    | Box                                                                                                                                    |

Creation date March 27, 2021 12:59:33 AM CET

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## Technical data

## Dimensions and weights

|                |           |                 |            |
|----------------|-----------|-----------------|------------|
| Depth          | 30.05 mm  | Depth (inches)  | 1.183 inch |
| Height         | 15.08 mm  | Height (inches) | 0.594 inch |
| Net weight     | 9.762 g   | Width           | 41.9 mm    |
| Width (inches) | 1.65 inch |                 |            |

## System Parameters

|                                              |                                     |      |  |
|----------------------------------------------|-------------------------------------|------|--|
| Product family                               | OMNIMATE Signal - series BL/SL 3.50 |      |  |
| Type of connection                           | Field connection                    |      |  |
| Wire connection method                       | PUSH IN, Spring connection          |      |  |
| Pitch in mm (P)                              | 3.5 mm                              |      |  |
| Pitch in inches (P)                          | 0.138 inch                          |      |  |
| Conductor outlet direction                   | 180°                                |      |  |
| Number of poles                              | 10                                  |      |  |
| L1 in mm                                     | 31.5 mm                             |      |  |
| L1 in inches                                 | 1.24 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                             | 8 mm                                |      |  |
| Stripping length tolerance                   | min.                                | 0 mm |  |
|                                              | max.                                | 1 mm |  |
| Screwdriver blade                            | 0.4 x 2.5                           |      |  |
| Screwdriver blade standard                   | DIN 5264-A                          |      |  |
| Plugging cycles                              | 25                                  |      |  |
| Plugging force/pole, max.                    | 6 N                                 |      |  |
| Pulling force/pole, max.                     | 6 N                                 |      |  |

## Material data

|                                       |              |                                       |                   |
|---------------------------------------|--------------|---------------------------------------|-------------------|
| Insulating material                   | PA GF        | Colour                                | orange            |
| Colour chart (similar)                | RAL 2000     | Insulating material group             | II                |
| Comparative Tracking Index (CTI)      | ≥ 400, ≤ 600 | Insulation strength                   | 10 <sup>6</sup> Ω |
| UL 94 flammability rating             | V-0          | Contact material                      | Copper alloy      |
| Contact surface                       | tinned       | Storage temperature, min.             | -40 °C            |
| Storage temperature, max.             | 70 °C        | Operating temperature, min.           | -50 °C            |
| Operating temperature, max.           | 120 °C       | Temperature range, installation, min. | -30 °C            |
| Temperature range, installation, max. | 100 °C       |                                       |                   |

## Conductors suitable for connection

|                                         |                      |
|-----------------------------------------|----------------------|
| Clamping range, min.                    | 0.14 mm <sup>2</sup> |
| Clamping range, max.                    | 1.5 mm <sup>2</sup>  |
| Wire connection cross section AWG, min. | AWG 26               |
| Wire connection cross section AWG, max. | AWG 16               |
| Solid, min. H05(07) V-U                 | 0.14 mm <sup>2</sup> |
| Solid, max. H05(07) V-U                 | 1.5 mm <sup>2</sup>  |

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|                                                                      |                                                                                                                                                                        |                              |                               |  |
|----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-------------------------------|--|
| Flexible, min. H05(07) V-K                                           | 0.14 mm <sup>2</sup>                                                                                                                                                   |                              |                               |  |
| Flexible, max. H05(07) V-K                                           | 1.5 mm <sup>2</sup>                                                                                                                                                    |                              |                               |  |
| w. plastic collar ferrule, DIN 46228 pt 4, 0.25 mm <sup>2</sup> min. |                                                                                                                                                                        |                              |                               |  |
| w. plastic collar ferrule, DIN 46228 pt 4, 1 mm <sup>2</sup> max.    |                                                                                                                                                                        |                              |                               |  |
| w. wire end ferrule, DIN 46228 pt 1, 0.25 mm <sup>2</sup> min.       |                                                                                                                                                                        |                              |                               |  |
| w. wire end ferrule, DIN 46228 pt 1, 1 mm <sup>2</sup> max.          |                                                                                                                                                                        |                              |                               |  |
| 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                      | 0.25 mm <sup>2</sup>          |  |
|                                                                      | wire end ferrule                                                                                                                                                       | Stripping length             | nominal 10 mm                 |  |
|                                                                      |                                                                                                                                                                        | Recommended wire-end ferrule | <a href="#">H0.25/12 HBL</a>  |  |
|                                                                      | Cross-section for conductor connection                                                                                                                                 | Type                         | fine-wired                    |  |
|                                                                      |                                                                                                                                                                        | nominal                      | 0.34 mm <sup>2</sup>          |  |
|                                                                      | wire end ferrule                                                                                                                                                       | Stripping length             | nominal 10 mm                 |  |
|                                                                      |                                                                                                                                                                        | Recommended wire-end ferrule | <a href="#">H0.34/12 TK</a>   |  |
|                                                                      | Cross-section for conductor connection                                                                                                                                 | Type                         | fine-wired                    |  |
|                                                                      |                                                                                                                                                                        | nominal                      | 0.5 mm <sup>2</sup>           |  |
|                                                                      | wire end ferrule                                                                                                                                                       | Stripping length             | nominal 10 mm                 |  |
|                                                                      |                                                                                                                                                                        | Recommended wire-end ferrule | <a href="#">H0.5/14 OR</a>    |  |
|                                                                      | Cross-section for conductor connection                                                                                                                                 | Type                         | fine-wired                    |  |
|                                                                      |                                                                                                                                                                        | nominal                      | 0.75 mm <sup>2</sup>          |  |
|                                                                      | wire end ferrule                                                                                                                                                       | Stripping length             | nominal 10 mm                 |  |
|                                                                      |                                                                                                                                                                        | Recommended wire-end ferrule | <a href="#">H0.75/14T HBL</a> |  |
|                                                                      | Cross-section for conductor connection                                                                                                                                 | Type                         | fine-wired                    |  |
|                                                                      |                                                                                                                                                                        | nominal                      | 1 mm <sup>2</sup>             |  |
|                                                                      | wire end ferrule                                                                                                                                                       | Stripping length             | nominal 10 mm                 |  |
|                                                                      |                                                                                                                                                                        | Recommended wire-end ferrule | <a href="#">H1.0/14 GE</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. |                              |                               |  |

## Rated data acc. to IEC

|                                                                           |                        |                                                                       |                   |
|---------------------------------------------------------------------------|------------------------|-----------------------------------------------------------------------|-------------------|
| tested acc. to standard                                                   | IEC 60664-1, IEC 61984 | Rated current, min. number of poles (Tu=20°C)                         | 17.5 A            |
| Rated current, max. number of poles (Tu=20°C)                             | 14.7 A                 | Rated current, min. number of poles (Tu=40°C)                         | 17.1 A            |
| Rated current, max. number of poles (Tu=40°C)                             | 13.1 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                               | 1 x 1s with 120 A |

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## Technical data

## 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 D / CSA) | 10 A   |
| Wire cross-section, AWG, max.     | AWG 16 |

|                                   |        |
|-----------------------------------|--------|
| Rated voltage (Use group C / CSA) | 50 V   |
| Rated current (Use group B / CSA) | 10 A   |
| Wire cross-section, AWG, min.     | AWG 26 |

## Rated data acc. to UL 1059

Institute (cURus)



Certificate No. (cURus)

E60693

Rated voltage (Use group B / UL 1059) 300 V

Rated voltage (Use group D / UL 1059) 300 V

Wire cross-section, AWG, min. AWG 26

Reference to approval values

Specifications are maximum values, details - see approval certificate.

Rated voltage (Use group C / UL 1059) 50 V

Rated current (Use group D / UL 1059) 10 A

Wire cross-section, AWG, max. AWG 16

## Packing

|           |        |            |        |
|-----------|--------|------------|--------|
| Packaging | Box    | VPE length | 350 mm |
| VPE width | 135 mm | VPE height | 40 mm  |

## Type tests

|                                              |            |                                                                                                                     |
|----------------------------------------------|------------|---------------------------------------------------------------------------------------------------------------------|
| Visual and dimensional test                  | Standard   | IEC 60512-1-1:2002-02                                                                                               |
|                                              | Test       | dimensional inspection                                                                                              |
|                                              | Evaluation | passed                                                                                                              |
|                                              | Standard   | IEC 60512-1-2:2002-02                                                                                               |
|                                              | Test       | weight check                                                                                                        |
|                                              | Evaluation | passed                                                                                                              |
|                                              | Standard   | IEC 61984:2001-10 section 6.2                                                                                       |
|                                              | Test       | visual examination                                                                                                  |
| Test: Durability of markings                 | Evaluation | passed                                                                                                              |
|                                              | Standard   | IEC 60068-2-70:1995-12 test Xb                                                                                      |
|                                              | Test       | mark of origin, type identification, pitch, type of material, date clock, approval marking UL, approval marking CSA |
|                                              | Evaluation | available                                                                                                           |
|                                              | Test       | durability                                                                                                          |
| Test: Misengagement (Non-interchangeability) | Evaluation | passed                                                                                                              |
|                                              | Standard   | IEC 60512-13-5:2006-02                                                                                              |
|                                              | Test       | 180° turned with coding elements                                                                                    |
|                                              | Evaluation | passed                                                                                                              |
|                                              | Test       | 180° turned without coding elements                                                                                 |
|                                              | Evaluation | passed                                                                                                              |
|                                              | Test       | visual examination                                                                                                  |
|                                              | Evaluation | passed                                                                                                              |

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|                                                           |                |                                                                        |                               |
|-----------------------------------------------------------|----------------|------------------------------------------------------------------------|-------------------------------|
| Test: Clampable cross section                             | Standard       | IEC 60999-1:1999-11 section 9.1, IEC 60947-1:2011-03 section 8.2.4.5.1 |                               |
|                                                           | Conductor type | Type of conductor and conductor cross-section                          | solid 0.14 mm <sup>2</sup>    |
|                                                           |                | Type of conductor and conductor cross-section                          | stranded 0.14 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 26/1                      |
|                                                           |                | Type of conductor and conductor cross-section                          | AWG 26/19                     |
|                                                           |                | 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       | IEC 60999-1:1999-11 section 9.4 bzw. section 8.10                      |                               |
|                                                           | Requirement    | 0.2 kg                                                                 |                               |
|                                                           | Conductor type | Type of conductor and conductor cross-section                          | AWG 26/1                      |
|                                                           |                | Type of conductor and conductor cross-section                          | AWG 26/19                     |
|                                                           | Evaluation     | passed                                                                 |                               |
|                                                           | Requirement    | 0.3 kg                                                                 |                               |
|                                                           | Conductor type | Type of conductor and conductor cross-section                          | H05V-U0.5                     |
|                                                           |                | Type of conductor and conductor cross-section                          | H05V-K0.5                     |
|                                                           | Evaluation     | passed                                                                 |                               |
|                                                           | Requirement    | 0.4 kg                                                                 |                               |
|                                                           | Conductor type | Type of conductor and conductor cross-section                          | H07V-U1.5                     |
|                                                           |                | Type of conductor and conductor cross-section                          | H07V-K1.5                     |
|                                                           |                | 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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|---------------|----------------|-----------------------------------------------|-----------|
| Pull-out test | Standard       | IEC 60999-1:1999-11 section 9.5               |           |
|               | Requirement    | ≥10 N                                         |           |
|               | Conductor type | Type of conductor and conductor cross-section | AWG 26/1  |
|               |                | Type of conductor and conductor cross-section | AWG 26/19 |
|               | Evaluation     | passed                                        |           |
|               | Requirement    | ≥20 N                                         |           |
|               | Conductor type | Type of conductor and conductor cross-section | H05V-U0.5 |
|               |                | Type of conductor and conductor cross-section | H05V-K0.5 |
|               | Evaluation     | passed                                        |           |
|               | Requirement    | ≥40 N                                         |           |
|               | Conductor type | Type of conductor and conductor cross-section | H07V-U1.5 |
|               |                | Type of conductor and conductor cross-section | H07V-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>• 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>• 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> |

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## Technical data

### Approvals

Approvals



UL File Number Search

E60693

### Downloads

Engineering Data

[STEP](#)

Product Change Notification

[Change of Material LR 3.50 - DE](#)

[Change of Material LR 3.50 - EN](#)

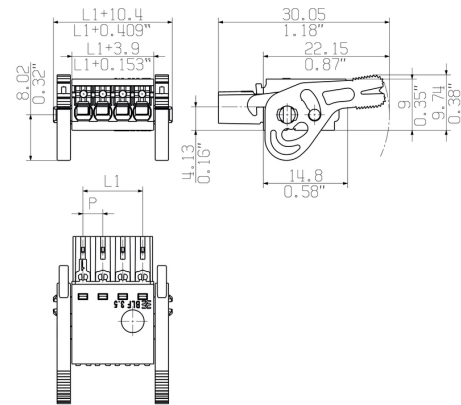
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# Drawings

## Dimensional drawing



## Product benefits



Solid PUSH IN contact  
Safe and durable