

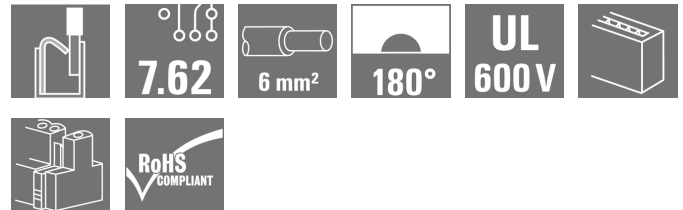
**BVF 7.62HP/04/180MF2 SN BK BX LRP****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

**Product image**

180° female header with PUSH IN connection technology for field wiring in 6 mm<sup>2</sup> with 7.62 pitch.

Meets the requirements as per UL1059 600 V class C and IEC 61800-5-1. Ideal touch-safe solution for the power output.

The self-locking (optionally also screwable) middle flange reduces the space requirements by one pitch width in comparison with conventional solutions.

Variants: without flange, external flange, middle flange with detent fastening and optionally additional screw mount.

**General ordering data**

|              |                                                                                                                                 |
|--------------|---------------------------------------------------------------------------------------------------------------------------------|
| Version      | PCB plug-in connector, female plug, 7.62 mm, Number of poles: 4, 180°, PUSH IN, Clamping range, max. : 10 mm <sup>2</sup> , Box |
| Order No.    | <a href="#">2590210000</a>                                                                                                      |
| Type         | BVF 7.62HP/04/180MF2 SN BK BX LRP                                                                                               |
| GTIN (EAN)   | 4050118598513                                                                                                                   |
| Qty.         | 40 pc(s).                                                                                                                       |
| Product data | IEC: 1000 V / 57 A / 0.5 - 10 mm <sup>2</sup><br>UL: 600 V / 39 A / AWG 24 - AWG 8                                              |
| Packaging    | Box                                                                                                                             |

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

|            |          |                 |            |
|------------|----------|-----------------|------------|
| Depth      | 47.7 mm  | Depth (inches)  | 1.878 inch |
| Height     | 22.9 mm  | Height (inches) | 0.902 inch |
| Net weight | 24.227 g |                 |            |

**System Parameters**

|                                            |                                      |                                              |                        |
|--------------------------------------------|--------------------------------------|----------------------------------------------|------------------------|
| Product family                             | OMNIMATE Power - series BV/SV 7.62HP | Type of connection                           | Field connection       |
| Wire connection method                     | PUSH IN                              | Pitch in mm (P)                              | 7.62 mm                |
| Pitch in inches (P)                        | 0.3 inch                             | Conductor outlet direction                   | 180°                   |
| Number of poles                            | 4                                    | L1 in mm                                     | 30.48 mm               |
| L1 in inches                               | 1.2 inch                             | Pin series quantity                          | 1                      |
| Rated cross-section                        | 6 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                            | 4.50 mΩ                |
| Can be coded                               | Yes                                  | Stripping length                             | 12 mm                  |
| Screwdriver blade                          | 0.6 x 3.5                            | Plugging cycles                              | 25                     |
| Plugging force/pole, max.                  | 17 N                                 | Pulling force/pole, max.                     | 15 N                   |

**Material data**

|                                       |                    |                                       |                     |
|---------------------------------------|--------------------|---------------------------------------|---------------------|
| Insulating material                   | PA GF              | Colour                                | black               |
| Colour chart (similar)                | RAL 9011           | Insulating material group             | II                  |
| Comparative Tracking Index (CTI)      | ≥ 500              | Insulation strength                   | ≥ 10 <sup>8</sup> Ω |
| UL 94 flammability rating             | V-0                | Contact material                      | Copper alloy        |
| Layer structure of plug contact       | 6...8 µm Sn glossy | Storage temperature, min.             | -40 °C              |
| Storage temperature, max.             | 70 °C              | Operating temperature, min.           | -50 °C              |
| Operating temperature, max.           | 125 °C             | Temperature range, installation, min. | -25 °C              |
| Temperature range, installation, max. | 125 °C             |                                       |                     |

**Conductors suitable for connection**

|                                                                     |                     |
|---------------------------------------------------------------------|---------------------|
| Clamping range, min.                                                | 0.5 mm <sup>2</sup> |
| Clamping range, max.                                                | 10 mm <sup>2</sup>  |
| Solid, min. H05(07) V-U                                             | 0.5 mm <sup>2</sup> |
| Solid, max. H05(07) V-U                                             | 10 mm <sup>2</sup>  |
| Stranded, max. H07V-R                                               | 10 mm <sup>2</sup>  |
| Flexible, min. H05(07) V-K                                          | 0.5 mm <sup>2</sup> |
| Flexible, max. H05(07) V-K                                          | 10 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, 6 mm <sup>2</sup> max.   |                     |
| w. wire end ferrule, DIN 46228 pt 1, 0.5 mm <sup>2</sup> min.       |                     |
| w. wire end ferrule, DIN 46228 pt 1, 10 mm <sup>2</sup> max.        |                     |

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## Technical data

|                                        |                                                                                                                                                                        |                              |                             |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-----------------------------|
| Clampable conductor                    | Cross-section for conductor connection                                                                                                                                 | Type                         | fine-wired                  |
|                                        |                                                                                                                                                                        | nominal                      | 0.5 mm <sup>2</sup>         |
| wire end ferrule                       |                                                                                                                                                                        | Stripping length             | nominal 14 mm               |
|                                        |                                                                                                                                                                        | Recommended wire-end ferrule | <a href="#">H0.5/12 OR</a>  |
| Cross-section for conductor connection |                                                                                                                                                                        | Type                         | fine-wired                  |
|                                        |                                                                                                                                                                        | nominal                      | 0.75 mm <sup>2</sup>        |
| wire end ferrule                       |                                                                                                                                                                        | Stripping length             | nominal 14 mm               |
|                                        |                                                                                                                                                                        | Recommended wire-end ferrule | <a href="#">H0.75/18 W</a>  |
| Cross-section for conductor connection |                                                                                                                                                                        | Type                         | fine-wired                  |
|                                        |                                                                                                                                                                        | nominal                      | 1 mm <sup>2</sup>           |
| wire end ferrule                       |                                                                                                                                                                        | Stripping length             | nominal 15 mm               |
|                                        |                                                                                                                                                                        | Recommended wire-end ferrule | <a href="#">H1.0/18 GE</a>  |
| Cross-section for conductor connection |                                                                                                                                                                        | Type                         | fine-wired                  |
|                                        |                                                                                                                                                                        | nominal                      | 1.5 mm <sup>2</sup>         |
| wire end ferrule                       |                                                                                                                                                                        | Stripping length             | nominal 12 mm               |
|                                        |                                                                                                                                                                        | Recommended wire-end ferrule | <a href="#">H1.5/12</a>     |
|                                        |                                                                                                                                                                        | Stripping length             | nominal 15 mm               |
|                                        |                                                                                                                                                                        | Recommended wire-end ferrule | <a href="#">H1.5/18D SW</a> |
| Cross-section for conductor connection |                                                                                                                                                                        | Type                         | fine-wired                  |
|                                        |                                                                                                                                                                        | nominal                      | 2.5 mm <sup>2</sup>         |
| wire end ferrule                       |                                                                                                                                                                        | Stripping length             | nominal 12 mm               |
|                                        |                                                                                                                                                                        | Recommended wire-end ferrule | <a href="#">H2.5/12</a>     |
|                                        |                                                                                                                                                                        | Stripping length             | nominal 14 mm               |
|                                        |                                                                                                                                                                        | Recommended wire-end ferrule | <a href="#">H2.5/19D BL</a> |
| Cross-section for conductor connection |                                                                                                                                                                        | Type                         | fine-wired                  |
|                                        |                                                                                                                                                                        | nominal                      | 4 mm <sup>2</sup>           |
| wire end ferrule                       |                                                                                                                                                                        | Stripping length             | nominal 12 mm               |
|                                        |                                                                                                                                                                        | Recommended wire-end ferrule | <a href="#">H4.0/12</a>     |
|                                        |                                                                                                                                                                        | Stripping length             | nominal 14 mm               |
|                                        |                                                                                                                                                                        | Recommended wire-end ferrule | <a href="#">H4.0/20D GR</a> |
| Cross-section for conductor connection |                                                                                                                                                                        | Type                         | fine-wired                  |
|                                        |                                                                                                                                                                        | nominal                      | 6 mm <sup>2</sup>           |
| wire end ferrule                       |                                                                                                                                                                        | Stripping length             | nominal 12 mm               |
|                                        |                                                                                                                                                                        | Recommended wire-end ferrule | <a href="#">H6.0/12</a>     |
|                                        |                                                                                                                                                                        | Stripping length             | nominal 14 mm               |
|                                        |                                                                                                                                                                        | Recommended wire-end ferrule | <a href="#">H6.0/20 SW</a>  |
| Cross-section for conductor connection |                                                                                                                                                                        | Type                         | fine-wired                  |
|                                        |                                                                                                                                                                        | nominal                      | 10 mm <sup>2</sup>          |
| wire end ferrule                       |                                                                                                                                                                        | Stripping length             | nominal 12 mm               |
|                                        |                                                                                                                                                                        | Recommended wire-end ferrule | <a href="#">H10.0/12</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, max. number of poles  
(Tu=20°C)

51 A

Rated current, max. number of poles  
(Tu=40°C)

45 A

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

1,000 V

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

6 kV

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

8 kV

Rated current, min. number of poles  
(Tu=20°C)

57 A

Rated current, min. number of poles  
(Tu=40°C)

57 A

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

1,000 V

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

800 V

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

8 kV

Short-time withstand current resistance

3 x 1s with 420 A

## Rated data acc. to CSA

Rated voltage (Use group B / CSA)

600 V

Rated voltage (Use group D / CSA)

600 V

Rated current (Use group C / CSA)

33 A

Wire cross-section, AWG, min.

AWG 24

Rated voltage (Use group C / CSA)

600 V

Rated current (Use group B / CSA)

33 A

Rated current (Use group D / CSA)

5 A

Wire cross-section, AWG, max.

AWG 8

## Rated data acc. to UL 1059

Rated voltage (Use group B / UL 1059)

600 V

Rated voltage (Use group D / UL 1059)

600 V

Rated current (Use group C / UL 1059)

39 A

Wire cross-section, AWG, min.

AWG 24

Rated voltage (Use group C / UL 1059)

600 V

Rated current (Use group B / UL 1059)

39 A

Rated current (Use group D / UL 1059)

5 A

Wire cross-section, AWG, max.

AWG 8

## Packing

Packaging

Box

VPE length

338 mm

VPE width

130 mm

VPE height

54 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, pitch

Evaluation

available

Test

durability

Evaluation

passed

Test: Misengagement (Non-  
interchangeability)

Standard

DIN EN 61984 section 6.3 and 6.9.1 / 09.02,  
DIN EN 60512-13-5 / 11.08

Test

180° turned with coding elements

Evaluation

passed

Test

180° turned without 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 / 04.08 |                              |
|                                                           | Conductor type | Type of conductor and conductor cross-section                                      | solid 0.5 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 6 mm <sup>2</sup>      |
|                                                           |                | Type of conductor and conductor cross-section                                      | stranded 6 mm <sup>2</sup>   |
|                                                           |                | Type of conductor and conductor cross-section                                      | AWG 24/1                     |
|                                                           |                | Type of conductor and conductor cross-section                                      | AWG 24/19                    |
|                                                           |                | Type of conductor and conductor cross-section                                      | AWG 14/1                     |
|                                                           |                | Type of conductor and conductor cross-section                                      | AWG 14/19                    |
|                                                           | Evaluation     | passed                                                                             |                              |
| Test for damage to and accidental loosening of conductors | Standard       | DIN EN 60999-1 section 9.4 / 12.00                                                 |                              |
|                                                           | 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                    |
|                                                           |                | Type of conductor and conductor cross-section                                      | AWG 20/1                     |
|                                                           |                | Type of conductor and conductor cross-section                                      | AWG 20/19                    |
|                                                           | Evaluation     | passed                                                                             |                              |
|                                                           | Requirement    | 1.4 kg                                                                             |                              |
|                                                           | Conductor type | Type of conductor and conductor cross-section                                      | H07V-U6                      |
|                                                           |                | Type of conductor and conductor cross-section                                      | H07V-K6                      |
|                                                           |                | Type of conductor and conductor cross-section                                      | AWG 10/1                     |
|                                                           |                | Type of conductor and conductor cross-section                                      | AWG 10/19                    |
|                                                           | Evaluation     | passed                                                                             |                              |

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|               |                |                                               |           |
|---------------|----------------|-----------------------------------------------|-----------|
| Pull-out test | Standard       | DIN EN 60999-1 section 9.5 / 12.00            |           |
|               | 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 |
|               |                | Type of conductor and conductor cross-section | AWG 20/1  |
|               |                | Type of conductor and conductor cross-section | AWG 20/19 |
|               | Evaluation     | passed                                        |           |
|               | Requirement    | ≥80 N                                         |           |
|               | Conductor type | Type of conductor and conductor cross-section | H07V-U6   |
|               |                | Type of conductor and conductor cross-section | H07V-K6   |
|               |                | Type of conductor and conductor cross-section | AWG 10/1  |
|               |                | Type of conductor and conductor cross-section | AWG 10/19 |
|               | Evaluation     | passed                                        |           |

**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>• Wire end ferrule with plastic collar to DIN 46228/4</li> <li>• Wire end ferrule without plastic collar to DIN 46228/1</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>• MFX and MSFX: X= Position of the middle flange e.g. MF2, MSF3</li> <li>• Long term storage of the product with average temperature of 50 °C and average humidity 70%, 36 months</li> </ul> |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Approvals**

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

**Downloads**

|                    |                                                |
|--------------------|------------------------------------------------|
| User Documentation | <a href="#">QR-Code product handling video</a> |
| Brochure/Catalogue | <a href="#">Catalogues in PDF-format</a>       |

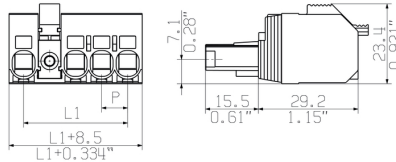
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## Drawings

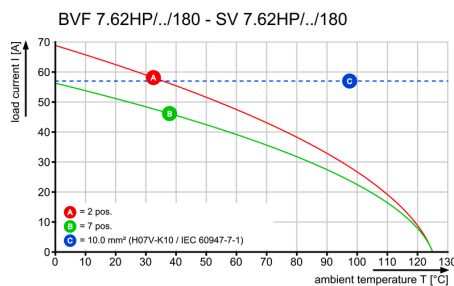
### Dimensional drawing



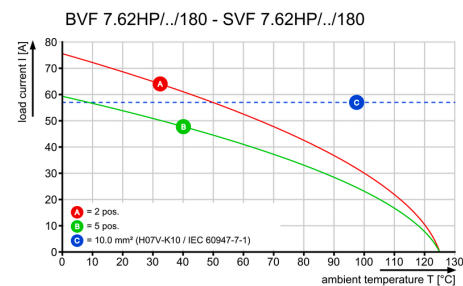
### Connection diagram

|             |                            |   |   |   |   |   |   |   |
|-------------|----------------------------|---|---|---|---|---|---|---|
| 6           | M(S)F6                     | o | o | o | o | o | X | o |
| 6           | M(S)F5                     | o | o | o | o | X | o | o |
| 6           | M(S)F4                     | o | o | o | X | o | o | o |
| 6           | M(S)F3                     | o | o | X | o | o | o | o |
| 6           | M(S)F2                     | o | X | o | o | o | o | o |
| 5           | M(S)F5                     | o | o | o | o | X | o | o |
| 5           | M(S)F4                     | o | o | o | X | o | o | o |
| 5           | M(S)F3                     | o | o | X | o | o | o | o |
| 5           | M(S)F2                     | o | X | o | o | o | o | o |
| 4           | M(S)F4                     | o | o | o | X | o | o | o |
| 4           | M(S)F3                     | o | o | X | o | o | o | o |
| 4           | M(S)F2                     | o | X | o | o | o | o | o |
| 3           | M(S)F3                     | o | o | X | o | o | o | o |
| 3           | M(S)F2                     | o | X | o | o | o | o | o |
| 2           | M(S)F2                     | o | X | o | o | o | o | o |
| NO OF POLES | X = MIDDLE FLANGE POSITION | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

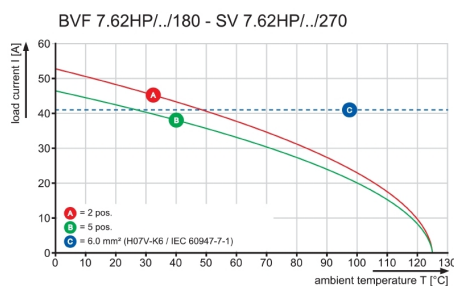
### Graph



### Graph



### Graph



### Product benefits



Installation without tools  
Outlet direction: 90° und 180°