

**BVF 7.62HP/04/180MSF3 BCF/04R SN BK BX****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

**Product image**

180° female plug with energy and signal contacts in PUSH IN wire connection in 7.62 pitch.  
Fulfils the IEC 61800-5-1 requirement and for the energy contact UL 1059 ClassC 600 V.

The self-locking middle flange with automatic interlock reduces the space requirements by one pitch width in comparison with conventional solutions. Optionally also available with additional mounting screw.

**General ordering data**

|              |  |
|--------------|--|
| Version      | PCB plug-in connector, female plug, 7.62 mm, Number of poles: 4, 180°, PUSH IN with actuator, PUSH IN without actuator, Clamping range, max. : 10 mm², Box |
| Order No.    | <a href="#">2628630000</a>   |
| Type         | BVF 7.62HP/04/180MSF3 BCF/04R SN BK BX   |
| GTIN (EAN)   | 4050118632644  |
| Qty.         | 36 pc(s).  |
| Product data | IEC: 1000 V / 38 A / 0.5 - 10 mm²<br>UL: 600 V / 35 A / AWG 24 - AWG 8   |
| Packaging    | Box  |

Creation date July 27, 2024 7:43:20 PM CEST

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

|            |          |
|------------|----------|
| Net weight | 27.672 g |
|------------|----------|

**System Parameters**

| Product family                                  |  | Type of connection                         |  |
|---|--|--|--|
| OMNIMATE Power - series BV/SV 7.62HP            |  | Field connection                           |  |
| Wire connection method                          |  | Pitch in mm (P)                            |  |
| PUSH IN with actuator, PUSH IN without actuator |  | 7.62 mm                                    |  |
| Pitch in inches (P)                             |  | Conductor outlet direction                 |  |
| 0.3 "   |  | 180°                                       |  |
| Number of poles                                 |  | L1 in mm                                   |  |
| 4   |  | 30.48 mm                                   |  |
| L1 in inches                                    |  | L2 in mm                                   |  |
| 1.2 "   |  | 3.81 mm                                    |  |
| L2 in inch                                      |  | Number of rows                             |  |
| 0.15 "  |  | 1  |  |
| Pin series quantity                             |  | Rated cross-section                        |  |
| 1   |  | 6 mm <sup>2</sup>                          |  |
| Touch-safe protection acc. to DIN VDE 57 106    |  | Touch-safe protection acc. to DIN VDE 0470 |  |
| Safe from finger touch                          |  | IP 20                                      |  |
| Volume resistance                               |  | Can be coded                               |  |
| 4.50 mΩ   |  | Yes  |  |
| Stripping length                                |  | Tightening torque for screw flange, min.   |  |
| 12 mm   |  | 0.2 Nm                                     |  |
| Tightening torque for screw flange, max.        |  | Screwdriver blade                          |  |
| 0.3 Nm  |  | 0.6 x 3.5                                  |  |
| Plugging cycles                                 |  | Plugging force/pole, max.                  |  |
| 25  |  | 17 N                                       |  |
| Pulling force/pole, max.                        |  |  |  |
| 15 N  |  |  |  |

**Material data**

| Insulating material                   |  | Colour                                |  |
|---------------------------------------|--|---------------------------------------|--|
| PA GF                                 |  | black                                 |  |
| Colour chart (similar)                |  | Insulating material group             |  |
| RAL 9011                              |  | II                                    |  |
| Comparative Tracking Index (CTI)      |  | UL 94 flammability rating             |  |
| ≥ 500                                 |  | V-0                                   |  |
| Contact material                      |  | Contact surface                       |  |
| Cu-alloy                              |  | tinned                                |  |
| Layer structure of plug contact       |  | Storage temperature, min.             |  |
| 6...8 µm Sn glossy                    |  | -40 °C                                |  |
| Storage temperature, max.             |  | Operating temperature, min.           |  |
| 70 °C                                 |  | -50 °C                                |  |
| Operating temperature, max.           |  | Temperature range, installation, min. |  |
| 125 °C                                |  | -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, 1.5 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, min.                           |  | 1.5 mm <sup>2</sup> |
| w. wire end ferrule, DIN 46228 pt 1, max.                           |  | 10 mm <sup>2</sup>  |

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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="#">H0.5/18 OR</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 15 mm               |
|  |  | Recommended wire-end ferrule | <a href="#">H1.5/18D SW</a> |
|  |  | Stripping length             | nominal 12 mm               |
|  |  | Recommended wire-end ferrule | <a href="#">H1.5/12</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                      | 2.5 mm <sup>2</sup>         |
| wire end ferrule                       |  | Stripping length             | nominal 14 mm               |
|  |  | Recommended wire-end ferrule | <a href="#">H2.5/19D BL</a> |
|  |  | Stripping length             | nominal 12 mm               |
|  |  | Recommended wire-end ferrule | <a href="#">H2.5/12</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 14 mm               |
|  |  | Recommended wire-end ferrule | <a href="#">H6.0/20 SW</a>  |
|  |  | Stripping length             | nominal 12 mm               |
|  |  | Recommended wire-end ferrule | <a href="#">H6.0/12</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, min. number of poles (Tu=20°C)                         | 38 A              |
| Rated current, max. number of poles (Tu=20°C)                             | 38 A                   | Rated current, min. number of poles (Tu=40°C)                         | 34 A              |
| Rated current, max. number of poles (Tu=40°C)                             | 34 A                   | Rated voltage for surge voltage class / pollution degree II/2         | 1,000 V           |
| Rated voltage for surge voltage class / pollution degree III/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 II/2      | 6 kV                   | Rated impulse voltage for surge voltage class/ pollution degree III/2 | 8 kV              |
| Rated impulse voltage for surge voltage class/ contamination degree III/3 | 8 kV                   | Short-time withstand current resistance                               | 3 x 1s with 420 A |
| Clearance, min.   | 10.4 mm                | Creepage distance, min.   | 12.7 mm           |

## Rated data acc. to CSA

|                                   |        |                                   |       |
|-----------------------------------|--------|-----------------------------------|-------|
| Rated voltage (Use group B / CSA) | 600 V  | Rated voltage (Use group C / CSA) | 600 V |
| Rated voltage (Use group D / CSA) | 600 V  | Rated current (Use group B / CSA) | 33 A  |
| Rated current (Use group C / CSA) | 33 A   | Rated current (Use group D / CSA) | 5 A   |
| Wire cross-section, AWG, min.     | AWG 24 | Wire cross-section, AWG, max.     | AWG 8 |

## Rated data acc. to UL 1059

|                                       |   |                                       |        |
|---------------------------------------|---|---------------------------------------|--------|
| Institute (cURus)                     |  | Certificate No. (cURus)               | E60693 |
| Rated voltage (Use group B / UL 1059) | 600 V   | Rated voltage (Use group C / UL 1059) | 600 V  |
| Rated voltage (Use group D / UL 1059) | 600 V   | Rated current (Use group B / UL 1059) | 35 A   |
| Rated current (Use group C / UL 1059) | 35 A  | Rated current (Use group D / UL 1059) | 5 A    |
| Wire cross-section, AWG, min.         | AWG 24  | Wire cross-section, AWG, max.         | AWG 8  |
| Reference to approval values          | Specifications are maximum values, details - see approval certificate.              |                                       |        |

## Packing

|           |        |            |        |
|-----------|--------|------------|--------|
| Packaging | Box    | VPE length | 338 mm |
| VPE width | 130 mm | VPE height | 54 mm  |

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**Technical data****Technical data - hybrid**

|   |                     |   |                  |
|---|---------------------|---|------------------|
| Pitch in mm (Signal)  | 3.81 mm             | Pitch in inches (Signal)  | 0.15 inch        |
| Number of poles (Signal)  | 4                   | L2 in mm  | 3.81 mm          |
| L2 in inch  | 0.15 "              | Number of rows (Signal)   | 2                |
| Contact material (Signal)   | CuMg                | Contact surface (Signal)  | tinned           |
| Layer structure of the plug contact (Signal)  | 1-3 µ Ni / 4-8 µ Sn | Rated voltage for overvoltage class/pollution severity level II/2 (Signal)          | 400 V            |
| Rated voltage for overvoltage class/pollution severity level III/2 (Signal)         | 320 V               | Rated voltage for overvoltage class/pollution severity level III/3 (Signal)         | 200 V            |
| Rated impulse voltage for overvoltage class/pollution severity level II/2 (Signal)  | 4 kV                | Rated impulse voltage for overvoltage class/pollution severity level III/2 (Signal) | 4 kV             |
| Rated impulse voltage for overvoltage class/pollution severity level III/3 (Signal) | 4 kV                | Short-time withstand current resistance (Signal)                                    | 3 x 1s with 80 A |
| Rated voltage (Use group B / CSA) (Signal)  | 300 V               | Rated voltage (Use group C / CSA) (Signal)  | 50 V             |
| Rated voltage (Use group D / CSA) (Signal)  | 300 V               | Rated current (Use group B / CSA) (Signal)  | 9 A              |
| Rated current (Use group C / CSA) (Signal)  | 9 A                 | Rated current (Use group D / CSA) (Signal)  | 9 A              |
| Wire connection cross-section AWG (Signal)  | AWG 24...AWG 16     | Rated voltage (Use group B / UL 1059] (Signal)                                      | 300 V            |
| Rated voltage (Use group C / UL 1059] (Signal)                                      | 50 V                | Rated voltage (Use group D / UL 1059] (Signal)                                      | 300 V            |
| Rated current (Use group B / UL 1059] (Signal)                                      | 5 A                 | Rated current (Use group C / UL 1059] (Signal)                                      | 5 A              |
| Rated current (Use group D / UL 1059] (Signal)                                      | 5 A                 | Connector cross-section (Signal)  | AWG 26...AWG 16  |

**Conductors that can be connected - Hybrid**

|   |                          |  |                            |
|---|--------------------------|--|----------------------------|
| Clamping range, rated connection (Power)                | 0.5...10 mm <sup>2</sup> | Clamping range, rated connection (Signal)                | 0.2...1.5 mm <sup>2</sup>  |
| Connector cross-section (Power)                         | AWG 24...AWG 8           | Connector cross-section AWG (Signal)                     | AWG 26...AWG 16            |
| solid, H05(07) V-U (Power)                              | 0.5...10 mm <sup>2</sup> | solid, H05(07) V-U (Signal)                              | 0.14...1.5 mm <sup>2</sup> |
| flexible, H05(07) V-K (Power)                           | 0.5...6 mm <sup>2</sup>  | flexible, H05(07) V-K (Signal)                           | 0.14...1.5 mm <sup>2</sup> |
| with wire-end ferrule with collar (Power)               | 0.5...6 mm <sup>2</sup>  | with wire-end ferrule with collar, DIN 46 228/4 (Signal) | 0.25...1.5 mm <sup>2</sup> |
| with wire-end ferrule according to DIN 46 228/1 (Power) | 0.5...6 mm <sup>2</sup>  | with wire-end ferrule according to DIN 46 228/1 (Signal) | 0.25...1.5 mm <sup>2</sup> |

**Classifications**

|             |             |             |             |
|-------------|-------------|-------------|-------------|
| ETIM 6.0    | EC002638    | ETIM 7.0    | EC002638    |
| ETIM 8.0    | EC002638    | ETIM 9.0    | 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 |
| ECLASS 12.0 | 27-46-03-02 | ECLASS 13.0 | 27-46-03-02 |

**Environmental Product Compliance**

|                        |                             |
|------------------------|-----------------------------|
| REACH SVHC             | /                           |
| RoHS Compliance Status | Compliant without exemption |

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**Technical data****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>• Technical specifications refer to the power contacts</li> <li>• Technical data of signal contacts: 50V / 5A, stripping length 8mm</li> <li>• Additional variants on request</li> <li>• Rated current related to rated cross-section &amp; min. No. of poles.</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>• 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>• In accordance with IEC 61984, OMNIMATE-connectors are connectors without breaking capacity (COC). During designated use, connectors are not allowed to be engaged or disengaged when live or under load</li> <li>• Long term storage of the product with average temperature of 50 °C and maximum humidity 70%, 36 months</li> </ul> |

**Approvals**

Approvals



|                         |            |
|-------------------------|------------|
| ROHS                    | Conform    |
| UL File Number Search   | UL Website |
| Certificate No. (cURus) | E60693     |

**Downloads**

|                             |  |
|-----------------------------|--|
| Engineering Data            | <a href="#">CAD data – STEP</a>  |
| Product Change Notification | <a href="#">20220201 Visual change OMNIMATE® Power PCB terminal blocks and connectors</a><br><a href="#">20220201 Visuelle Änderung OMNIMATE® Power Leiterplattenklemmen und -steckverbinder</a><br><a href="#">20220208 Visual change Temporarily different color for connectors and accessories</a><br><a href="#">20220208 Visuelle Änderung Vorübergehend anderer Farbton für Steckverbinder und Zubehör</a> |
| User Documentation          | <a href="#">QR-Code product handling video</a>   |
| Catalogues                  | <a href="#">Catalogues in PDF-format</a>   |

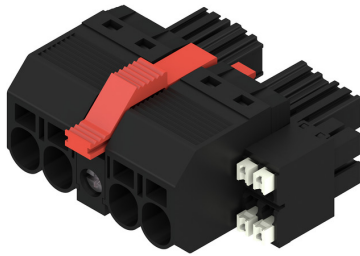
## BVF 7.62HP/04/180MSF3 BCF/04R SN BK BX

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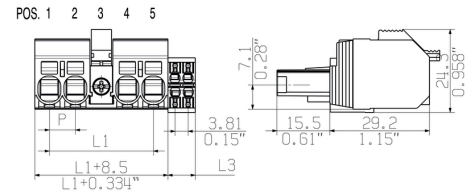
[www.weidmueller.com](http://www.weidmueller.com)

# Drawings

## Product image



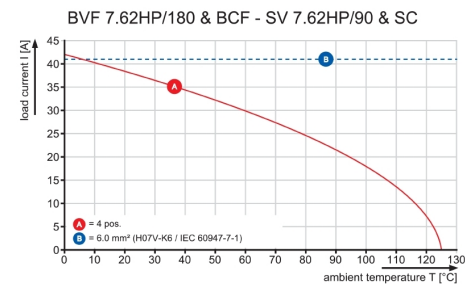
## Dimensional drawing



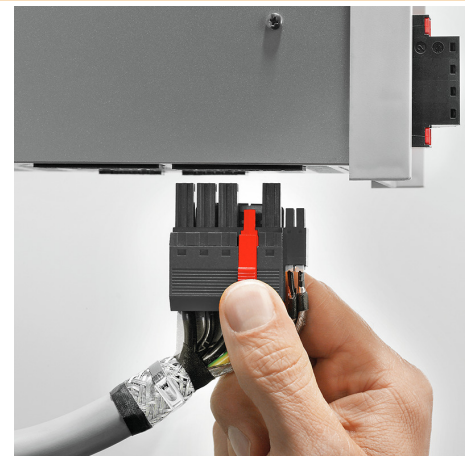
## Graph



## Graph



## Product benefits



Single-handed operation  
Automatic latching

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## Accessories

## Shielding



**The pluggable connections for power electronics - optimised for modern drive technologies, e.g. motor starters, frequency converters and servo-controllers.**

OMNIMATE Power sets the new standard – with increased safety and innovative solutions such as the pluggable shield, integrated signal contacts and one-handed operation.

The three product lines offer you further advantages:

- Application-oriented scalability: from the compact 4 mm<sup>2</sup> connector for 29 A (IEC) or 20 A (UL) up to the sturdy 16 mm<sup>2</sup> connector for 76 A (IEC) or 54 A (UL)
- Unlimited usage up to 1,000 V (IEC) or 600 V (UL)
- A variety of application optimised mounting options

Our Service:

Design your individual connectors simply by using the

## General ordering data

| Type       | BVF 7.62HP SH150 4-6 KIT   | Version   | Product data | Packaging |
|------------|----------------------------|---|--------------|-----------|
| Order No.  | <a href="#">1118480000</a> | PCB plug-in connector, Accessories, For a shield connection, black, |              | Box       |
| GTIN (EAN) | 4032248899449              | Number of poles: 0  |              |           |
| Qty.       | 25 pc(s).                  |   |              |           |
| Type       | BVF 7.62HP SH180 4-6 KIT   | Version   | Product data | Packaging |
| Order No.  | <a href="#">1118470000</a> | PCB plug-in connector, Accessories, For a shield connection, black, |              | Box       |
| GTIN (EAN) | 4032248899456              | Number of poles: 0  |              |           |
| Qty.       | 25 pc(s).                  |   |              |           |
| Type       | BVF 7.62HP SH210 4-6 KIT   | Version   | Product data | Packaging |
| Order No.  | <a href="#">1118490000</a> | PCB plug-in connector, Accessories, For a shield connection, black, |              | Box       |
| GTIN (EAN) | 4032248899302              | Number of poles: 0  |              |           |
| Qty.       | 25 pc(s).                  |   |              |           |

## Slotted screwdriver



Slotted screwdriver with rounded blade SD DIN 5265, ISO 2380/2, output to DIN 5264, ISO 2380/1. ChromTop tip, SoftFinish grip

## General ordering data

| Type       | SDS 0.8X4.5X125            | Version                  |
|------------|----------------------------|--------------------------|
| Order No.  | <a href="#">9009020000</a> | Screwdriver, Screwdriver |
| GTIN (EAN) | 4032248266883              |                          |
| Qty.       | 1 pc(s).                   |                          |



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## Accessories

### Crimping tools



#### Crimping tools for wire end ferrules, with and without plastic collars

- Ratchet guarantees precise crimping
- Release option in the event of incorrect operation

### General ordering data

|            |                            |  |
|------------|----------------------------|--|
| Type       | PZ 6/5                     | Version  |
| Order No.  | <a href="#">9011460000</a> | Pressing tool, Crimping tool for wire-end ferrules, 0.25mm <sup>2</sup> , 6mm <sup>2</sup> , |
| GTIN (EAN) | 4008190165352              | Trapezoidal indentation crimp  |
| Qty.       | 1 pc(s).                   |  |

### Coding elements



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- Unlimited usage up to 1,000 V (IEC) or 600 V (UL)
- A variety of application optimised mounting options

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Design your individual connectors simply by using the

### General ordering data

|            |                            |   |              |           |
|------------|----------------------------|---|--------------|-----------|
| Type       | BV/SV 7.62HP KO            | Version   | Product data | Packaging |
| Order No.  | <a href="#">1937590000</a> | PCB plug-in connector, Accessories, Coding element, black, Number |              | Box       |
| GTIN (EAN) | 4032248608881              | of poles: 1   |              |           |
| Qty.       | 50 pc(s).                  |   |              |           |