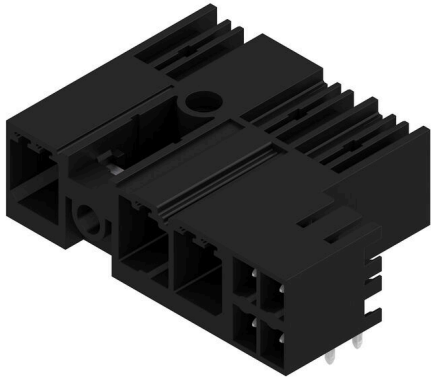


## SV 7.62HP/03/90MSF2 SC/04R SN BK BX

**Weidmüller Interface GmbH & Co. KG**  
 Klingenbergstraße 26  
 D-32758 Detmold  
 Germany

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

### Product image



Combined 90° male header with power and signal contacts in PUSH IN connection technology incl. self-locking middle flange interlock and (optional) pluggable shield connection with a 7.62 pitch.

Enables simultaneous connection of power, signals and (optional) EMC shielding. Ideal for connecting servo and asynchronous drives.

Meets the requirements of IEC 61800-5-1 and enables UL approval as per UL840 600 V when combined with female header BVF 7.62HP/...BCF..R...

Without a female header, the mating profile guarantees minimum power-contact touch-safety of >3 mm with 20 N pressure on the test finger.

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

Optionally on request: without flange fastening, with additional screw mount or with soldered flange fastening.

### General ordering data

|              |  |
|--------------|--|
| Version      | PCB plug-in connector, male header, closed side, Middle screw flange, THT solder connection, 7.62 mm, Number of poles: 3, 90°, Solder pin length (l): 3.5 mm, tinned, black, Box |
| Order No.    | <a href="#">1156250000</a>   |
| Type         | SV 7.62HP/03/90MSF2 SC/04R SN BK BX  |
| GTIN (EAN)   | 4032248943104  |
| Qty.         | 48 items   |
| Product data | IEC: 1000 V / 41 A<br>UL: 300 V / 35 A   |
| Packaging    | Box  |

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## Technical data

## Approvals

Approvals



|                         |                            |
|-------------------------|----------------------------|
| ROHS                    | Conform                    |
| UL File Number Search   | <a href="#">UL Website</a> |
| Certificate No. (cURus) | E60693                     |

## Dimensions and weights

|                          |             |                 |             |
|--------------------------|-------------|-----------------|-------------|
| Depth                    | 28.3 mm     | Depth (inches)  | 1.1142 inch |
| Height                   | 14.9 mm     | Height (inches) | 0.5866 inch |
| Height of lowest version | 11.4 mm     | Width           | 39.07 mm    |
| Width (inches)           | 1.5382 inch | Net weight      | 2 g         |

## Environmental Product Compliance

|                        |                             |
|------------------------|-----------------------------|
| RoHS Compliance Status | Compliant without exemption |
| REACH SVHC             | No SVHC above 0.1 wt%       |

## System specifications

| Product family                             | OMNIMATE Power - series<br>BV/SV 7.62HP | Type of connection                           | Board connection                                     |
|--|---|--|--|
| Mounting onto the PCB                      | THT solder connection                   | Pitch in mm (P)                              | 7.62 mm  |
| Pitch in inches (P)                        | 0.300 "                                 | Outgoing elbow                               | 90°  |
| Number of poles                            | 3                                       | Number of solder pins per pole               | 2  |
| Solder pin length (l)                      | 3.5 mm                                  | Solder pin length tolerance                  | +0.1 / -0.3 mm                                       |
| Solder pin dimensions                      | 0.8 x 1.0 mm                            | Solder eyelet hole diameter (D)              | 1.4 mm   |
| Solder eyelet hole diameter tolerance (D)  | + 0,1 mm                                | L1 in mm                                     | 22.86 mm   |
| L1 in inches                               | 0.900 "                                 | L2 in mm                                     | 3.81 mm  |
| L2 in inch                                 | 0.150 "                                 | Number of rows                               | 1  |
| Pin series quantity                        | 1                                       | Touch-safe protection acc. to DIN VDE 57 106 | safe to back of hand above the printed circuit board |
| Touch-safe protection acc. to DIN VDE 0470 | IP 20                                   | Volume resistance                            | 2.00 mΩ  |
| Can be coded                               | Yes                                     | Tightening torque for screw flange, min.     | 0.2 Nm   |
| Tightening torque for screw flange, max.   | 0.3 Nm                                  | Plugging cycles                              | 25   |
| Plugging force/pole, max.                  | 12 N                                    | Pulling force/pole, max.                     | 7 N  |

## Material data

|                                       |                                |                                       |                                |
|---------------------------------------|--------------------------------|---------------------------------------|--------------------------------|
| Insulating material                   | PA GF                          | Colour                                | black                          |
| Colour chart (similar)                | RAL 9011                       | Insulating material group             | I                              |
| Comparative Tracking Index (CTI)      | ≥ 600                          | Moisture Level (MSL)                  |                                |
| UL 94 flammability rating             | V-0                            | Contact material                      | Cu-alloy                       |
| Contact surface                       | tinned                         | Layer structure of solder connection  | 1...3 μm Ni / 4...6 μm Sn matt |
| Layer structure of plug contact       | 1...3 μm Ni / 4...6 μm Sn matt | Storage temperature, min.             | -40 °C                         |
| Storage temperature, max.             | 70 °C                          | Operating temperature, min.           | -50 °C                         |
| Operating temperature, max.           | 130 °C                         | Temperature range, installation, min. | -25 °C                         |
| Temperature range, installation, max. | 130 °C                         |                                       |                                |

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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)                         | 41 A              |
| Rated current, max. number of poles (Tu=20°C)                             | 41 A                   | Rated current, min. number of poles (Tu=40°C)                         | 41 A              |
| Rated current, max. number of poles (Tu=40°C)                             | 41 A                   | Rated voltage for surge voltage class / pollution degree II/2         | 1000 V            |
| Rated voltage for surge voltage class / pollution degree III/2            | 630 V                  | Rated voltage for surge voltage class / pollution degree III/3        | 630 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 | 6 kV              |
| Rated impulse voltage for surge voltage class/ contamination degree III/3 | 6 kV                   | Short-time withstand current resistance                               | 3 x 1s with 420 A |

**Rated data acc. to CSA**

|                                   |  |                                   |                 |
|-----------------------------------|--|-----------------------------------|-----------------|
| Institute (CSA)                   | CSA  | Certificate No. (CSA)             | 200039-112 1690 |
| Rated voltage (Use group B / CSA) | 300 V  | Rated voltage (Use group C / CSA) | 300 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             |
| Reference to approval values      | Specifications are maximum values, details - see approval certificate. |                                   |                 |

**Rated data acc. to UL 1059**

|                                       |  |                                       |        |
|---------------------------------------|--|---------------------------------------|--------|
| Institute (cURus)                     | CURUS  | Certificate No. (cURus)               | E60693 |
| Rated voltage (Use group B / UL 1059) | 300 V  | Rated voltage (Use group C / UL 1059) | 300 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) | 33 A   | Rated current (Use group D / UL 1059) | 5 A    |
| Creepage distance, min.               | 9.6 mm   | Clearance distance, min.              | 6.9 mm |
| Reference to approval values          | Specifications are maximum values, details - see approval certificate. |                                       |        |

**Packing**

|           |           |            |           |
|-----------|-----------|------------|-----------|
| Packaging | Box       | VPE length | 349.00 mm |
| VPE width | 139.00 mm | VPE height | 41.00 mm  |

**Technical data - hybrid**

|   |                       |              |
|---|-----------------------|--------------|
| Pitch in mm (hybrid)                    | nominal               | 3.81 mm      |
|   | Hybrid component      | Signal       |
| Pitch in mm (Signal)                    | 3.81 mm               |              |
| Pitch in inch (hybrid)                  | nominal               | 0.15 "       |
|   | Hybrid component      | Signal       |
| Pitch in inches (Signal)                | 0.15 "                |              |
| Pole count (hybrid)                     | nominal               | 4            |
|   | Hybrid component      | Signal       |
| Number of poles (Signal)                | 4                     |              |
| Number of solder pins per pole (hybrid) | Hybrid component      | Signal       |
|   | nominal               | 1            |
| Number of solder pins per pole (Signal) | 1                     |              |
| Solder pin dimensions (hybrid)          | Solder pin dimensions | 0.8 x 0.8 mm |
|   | Hybrid component      | Signal       |
| Solder pin dimensions (Signal)          | 0.8 x 0.8 mm          |              |

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### Technical data

|  |   |   |       |      |
|--|---|---|-------|------|
| Solder pin dimensions = d tolerance (hybrid)   | Solder pin dimensions = d tolerance       | Lower tolerance with prefix (reveals minimum) | -0,03 |      |
|  |   | Upper tolerance with prefix (reveals maximum) | +0,01 |      |
|  |   | Tolerance, unit                               | mm    |      |
|  | Hybrid component                          | Signal  |       |      |
| Solder pin dimensions = d tolerance (Signal)   | -0,03 / +0,01 mm                          |   |       |      |
| Diameter of solder eyelet (hybrid)   | Hybrid component                          | Signal  |       |      |
|  | nominal                                   | 1.3 mm  |       |      |
| PCB hole diameter (Signal)   | 1.3 mm                                    |   |       |      |
| Tolerance of the diameter of the solder eyelet (hybrid)                              | Hybrid component                          | Signal  |       |      |
|  | Solder eyelet hole diameter tolerance (D) | ± 0.1 mm                                      |       |      |
|  | Solder eyelet hole diameter tolerance (D) | + 0,1 mm                                      |       |      |
| PCB hole diameter tolerance (Signal)   | ± 0.1 mm                                  |   |       |      |
| L2 in mm   | 3.81 mm                                   |   |       |      |
| L2 in inch   | 0.150 "                                   |   |       |      |
| Number of rows (hybrid)  | Hybrid component                          | Signal  |       |      |
| Number of rows (Signal)  | 2   |   |       |      |
| Contact material (hybrid)  | Hybrid component                          | Signal  |       |      |
|  | Contact material                          | CuMg  |       |      |
| Contact material (Signal)  | CuMg                                      |   |       |      |
| Contact surface (hybrid)   | Hybrid component                          | Signal  |       |      |
|  | Contact surface                           | tinned  |       |      |
| Contact surface (Signal)   | tinned                                    |   |       |      |
| Layer structure of the solder connection (hybrid)                                    | Layer structure of the solder connection  | Material                                      | Ni    |      |
|  |   | Layer strength                                | min.  | 1 µm |
|  |   |   | max.  | 3 µm |
|  |   | Material                                      | Sn    |      |
|  |   | Layer strength                                | min.  | 4 µm |
| max.   | 8 µm                                      |   |       |      |
| Hybrid component   | Signal                                    |   |       |      |
| Layer structure of the solder connection (Signal)                                    | 1-3 µm Ni / 4-8 µm Sn                     |   |       |      |
| Layer structure of the plug contact (hybrid)   | Layer structure of the plug contact       | Material                                      | Ni    |      |
|  |   | Layer strength                                | min.  | 1 µm |
|  |   |   | max.  | 3 µm |
|  |   | Material                                      | Sn    |      |
|  |   | Layer strength                                | min.  | 4 µm |
| max.   | 8 µm                                      |   |       |      |
| Hybrid component   | Signal                                    |   |       |      |
| Layer structure of the plug contact (Signal)   | 1-3 µm Ni / 4-8 µm Sn                     |   |       |      |
| Rated voltage for overvoltage class / pollution severity level II/2 (hybrid)         | Hybrid component                          | Signal  |       |      |
|  | nominal                                   | 320 V   |       |      |
| Rated voltage for overvoltage class / pollution severity level II/2 (Signal)         | 320 V                                     |   |       |      |
| Rated voltage for overvoltage class / pollution severity level III/2 (hybrid)        | Hybrid component                          | Signal  |       |      |
|  | nominal                                   | 160 V   |       |      |
| Rated voltage for overvoltage class / pollution severity level III/2 (Signal)        | 160 V                                     |   |       |      |
| Rated voltage for overvoltage class / pollution severity level III/3 (hybrid)        | Hybrid component                          | Signal  |       |      |
|  | nominal                                   | 160 V   |       |      |
| Rated voltage for overvoltage class / pollution severity level III/3 (Signal)        | 160 V                                     |   |       |      |
| Rated impulse voltage for overvoltage class / pollution severity level II/2 (hybrid) | Hybrid component                          | Signal  |       |      |
|  | nominal                                   | 2.5 kV  |       |      |

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|   |   |                  |
|---|---|------------------|
| Rated impulse voltage for overvoltage class/pollution severity level II/2 (Signal)    | 2.5 kV                                  |                  |
| Rated impulse voltage for overvoltage class / pollution severity level III/2 (hybrid) | Hybrid component                        | Signal           |
|   | nominal                                 | 2.5 kV           |
| Rated impulse voltage for overvoltage class/pollution severity level III/2 (Signal)   | 2.5 kV                                  |                  |
| Rated impulse voltage for overvoltage class / pollution severity level III/3 (hybrid) | Hybrid component                        | Signal           |
|   | nominal                                 | 2.5 kV           |
| Rated impulse voltage for overvoltage class/pollution severity level III/3 (Signal)   | 2.5 kV                                  |                  |
| Rated current, number of poles (Tu=40°C) (hybrid)                                     | Hybrid component                        | Signal           |
|   | min.                                    | 12.7 A           |
| Rated current, number of poles (Tu=20°C) (hybrid)                                     | Hybrid component                        | Signal           |
|   | min.                                    | 14.2 A           |
| Short-time withstand current capacity (hybrid)  | Short-time withstand current resistance | 3 x 1s with 80 A |
|   | Hybrid component                        | Signal           |
| Short-time withstand current resistance (Signal)                                      | 3 x 1s with 80 A                        |                  |
| Creepage distance (hybrid)  | Hybrid component                        | Signal           |
|   | min.                                    | 4.38 mm          |
| Clearance distance (hybrid)   | Hybrid component                        | Signal           |
|   | min.                                    | 3.6 mm           |
| Rated voltage (Use group B / CSA) (Hybrid)  | Hybrid component                        | Signal           |
|   | nominal                                 | 300 V            |
| Rated voltage (Use group B / CSA) (Signal)  | 300 V                                   |                  |
| Rated voltage (Use group C / CSA) (Hybrid)  | Hybrid component                        | Signal           |
|   | nominal                                 | 50 V             |
| Rated voltage (Use group C / CSA) (Signal)  | 50 V                                    |                  |
| Rated current (Use group B / CSA) (Hybrid)  | Hybrid component                        | Signal           |
|   | nominal                                 | 9 A              |
| Rated current (Use group B / CSA) (Signal)  | 9 A                                     |                  |
| Rated current (Use group C / CSA) (Hybrid)  | Hybrid component                        | Signal           |
|   | nominal                                 | 9 A              |
| Rated current (Use group C / CSA) (Signal)  | 9 A                                     |                  |
| Rated current (Use group D / CSA) (Hybrid)  | Hybrid component                        | Signal           |
|   | nominal                                 | 9 A              |
| Rated current (Use group D / CSA) (Signal)  | 9 A                                     |                  |
| Rated voltage (Use group B / UL 1059) (Hybrid)  | Hybrid component                        | Signal           |
|   | nominal                                 | 300 V            |
| Rated voltage (Use group B / UL 1059] (Signal)  | 300 V                                   |                  |
| Rated voltage (Use group C / UL 1059) (Hybrid)  | Hybrid component                        | Signal           |
|   | nominal                                 | 50 V             |
| Rated voltage (Use group C / UL 1059] (Signal)  | 50 V                                    |                  |
| Rated voltage (Use group D / UL 1059) (Hybrid)  | Hybrid component                        | Signal           |
| Rated current (Use group B / UL 1059) (Hybrid)  | Hybrid component                        | Signal           |
|   | nominal                                 | 5 A              |
| Rated current (Use group B / UL 1059) (Signal)  | 5 A                                     |                  |

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|   |                  |        |
|---|------------------|--------|
| Rated current (Use group C / UL 1059)<br>(Hybrid) | Hybrid component | Signal |
|   | nominal          | 5 A    |
| Rated current (Use group C / UL 1059)<br>(Signal) | 5 A              |        |
| Rated current (Use group D / UL 1059)<br>(Hybrid) | Hybrid component | Signal |

### 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>• Rated current related to rated cross-section &amp; min. No. of poles.</li> <li>• Specifications of diagram: P1=7.62 mm; P2=3.81 mm</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>• 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> |

### Classifications

|             |             |             |             |
|-------------|-------------|-------------|-------------|
| ETIM 8.0    | EC002637    | ETIM 9.0    | EC002637    |
| ETIM 10.0   | EC002637    | ECLASS 14.0 | 27-46-03-01 |
| ECLASS 15.0 | 27-46-03-01 |             |             |

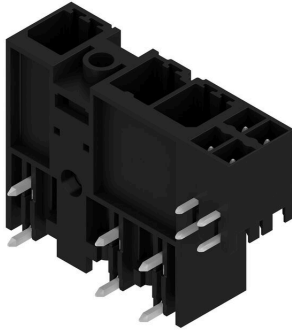
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Drawings

www.weidmueller.com

Product image



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<br>POLES | X = MIDDLE<br>FLANGE<br>POSITION | 1                  | 2 | 3 | 4 | 5 | 6 | 7 |
|                |                                  | POS. 1 2 3 4 5<br> |   |   |   |   |   |   |