

OMNIMATE Power BV / SV 7.62HP Hybrid – for power, signals and EMC Three functions in one!



The OMNIMATE Power Hybrid connector provides developers and users with the perfect three-in-one solution.

The hybrid motor connector can simultaneously connect power, signals and a pluggable EMC shield. This allows you to save space on the circuit board, on the outside of the housing and in the electrical cabinet. The self-locking one-handed interlock mechanism requires only one plugging step and thus speeds up installation and maintenance procedures. It is easy to handle and interlocks automatically – even in difficult installation positions. The unique shielding shape with 30° cable entry enable a space savings of up to 10 cm between rows.

F

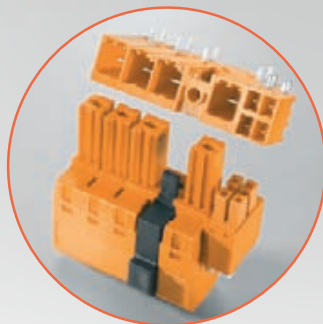
Unique safety

Safe, EMC-compliant shield connection for any application situation and with no risk of error.



Unique integration

Three-in-one solution: pluggable shield support, integrated signal contacts, and one-handed security flange.



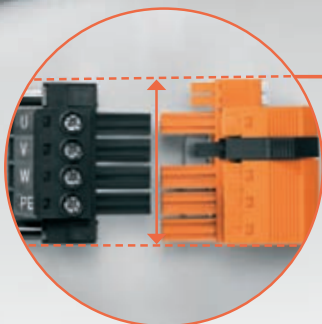
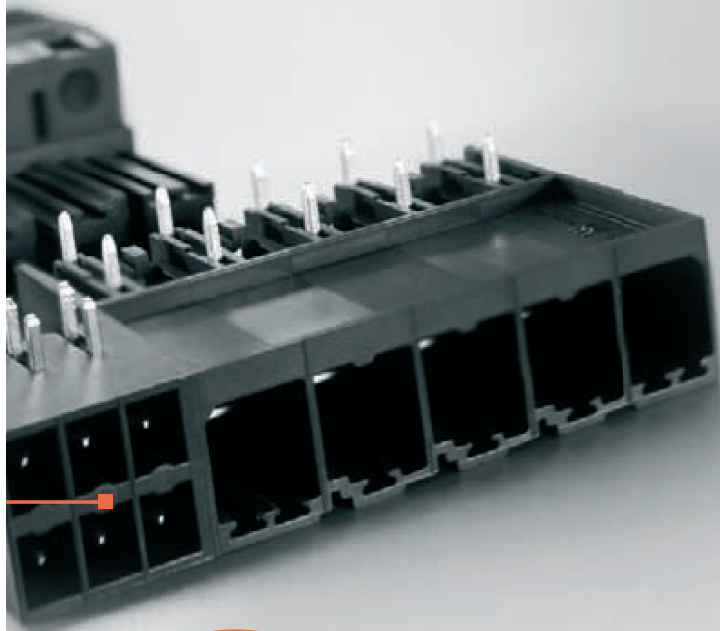
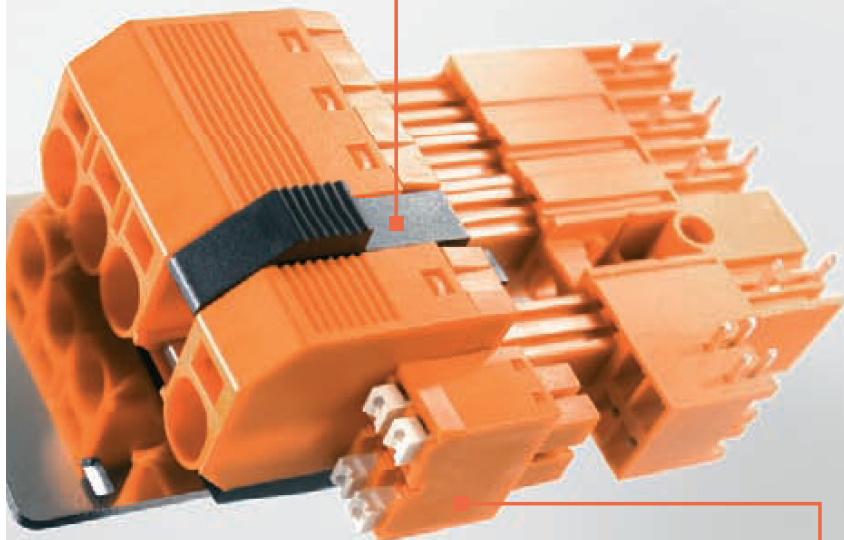
Unique component density

More space available on the PCB providing for denser component assemblies, and more space available on the housing wall because of true-to-pitch integration of the signal contacts – while maintaining the same width!

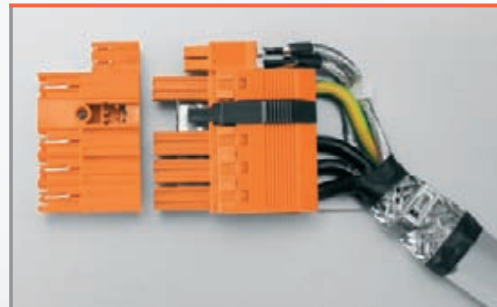


Unique interaction

Plug & Work with intuitive handling: featuring tool-free one-handed operation with automatic snap-in and also “blind” plugging of power, signals and shielding simultaneously.

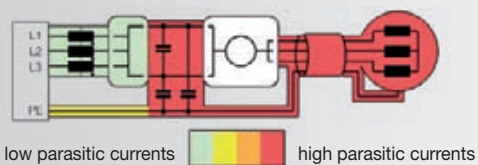
**Unique innovation**

Integrating functions, optimising processes, and reducing complexity: The conventional 2 outer flanges have simply been replaced by 1 middle flange, 4 signal contacts and 1 pluggable shield support.

EMC in theory and in the real world

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The motor feedback (signal feedback from temperature/encoder) in hybrid, shield-within-shield motor cables is usually made from over-sized power contacts or from disconnected I/O connectors. It also normally requires two separate shield connections. During installation and repairs (replacement), it is possible that the shield terminals could be incorrectly connected, left disconnected or lost. With conventional shielding, it can be quite difficult to tighten the flange screws when the connection is located at a difficult to reach location. So this step is often neglected in the real world.

Reliably avoiding interferences**Topology of parasitic currents**

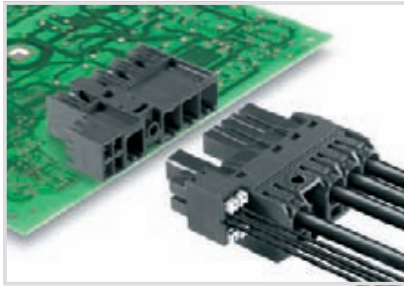
Source: Fraunhofer IZM

As a result, malfunctions can then be caused by the coupling of electromagnetic fields within the sensitive electronics. The pluggable, hybrid shield support features a special EMC spring-contact strip which ensures that the shield connection to the housing is permanent, vibration-proof and covers a large surface area. It allows the shielding braid from the power and signal wires to be connected separately – and enables this to be done automatically in one step so that it is not dependent on the user.

Connectors in 7.62 mm pitch

Series BV/SV 7.62 – connects up to 6 mm²

SV 7.62HP/..90 & SC 3.81



Hybrid-header in 90° outlet direction with power and signal contacts. Meets the enhanced requirements of IEC 61800-5-1 for 3 mm touch safety in 400 V TNC (S) networks and enables UL approval for 600 V in accordance with UL508 / UL840. The middle flange interlocks automatically. It decreases the space required by one pole when compared to other solutions.

- Available with a middle flange (MF).

Product data

IEC: 1000 V / 41 A
UL: 300 V / 35 A

For additional articles and information, refer to catalog.weidmueller.com

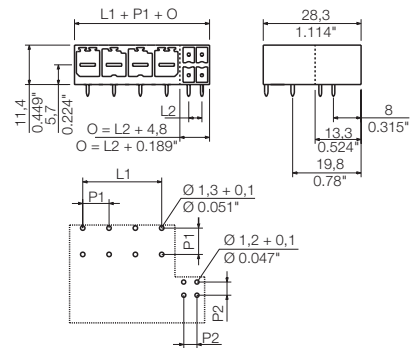
Note:

- Technical specifications refer to the power contacts
- Technical specifications of signal contacts: 50V / 5A
- Rated current related to rated cross-section and min. No. of poles.
- Specifications of diagram: P1=7.62 mm; P2=3.81 mm
- 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.

SV 7.62HP/..90 SC/..R



Dimensioned drawing



Technical data

In compliance with IEC 60664-1 / IEC 61984

Clamping range, max.	mm ²		
Solid core H05(07) V-U	mm²		
Stranded H07 V-R			
Flexible H05(07) V-K	mm ²		
Flexible with ferrule	mm ²		
Ferrule with plastic collar	mm ²		
Stripping length	mm		
Screwdriver blade	mm		
According to norm			
Tightening torque range	Nm		
Rated current, max.	A	41	41
At ambient temperature	20°C		40°C
For conductor cross-section	mm ²		
Overvoltage category		III	III II
Pollution severity		3	2 2
Rated voltage	V	630	630 1000
Rated impulse voltage	kV	6	6 6
UL / CUL (Use Group)		B	C D
Rated voltage	V	300	300 600
Rated current	A	35	35 5
AWG conductor	AWG	-	
CSA (Use Group)		B	C D
Rated voltage	V	300	300 600
Rated current	A	35	35 5
AWG conductor	AWG	-	
General data			
Type of insulation material		PA GF	
Flammability class UL 94		V-0	
Contact base material		Copper alloy	
Material of contact surface		tinned	
Pin dimensions = d	mm	0.8 x 1.0	
Solder eyelet Ø = D	mm	1.3	
Solder eyelet Ø tolerance	mm	+ 0,1	

Accessories

Note: Refer to the Accessories chapter for additional accessories.

Coding		Order No.
	BV/SV 7.62HP KO	1937590000

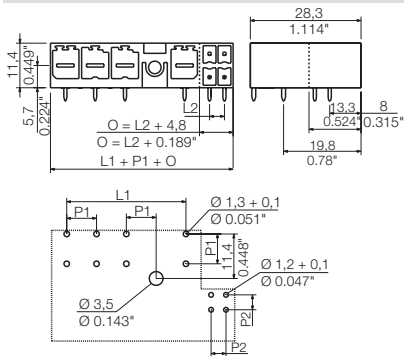
Ordering data

Solder pin length		3.5 mm	
Colour		black	
Pitch		7.62 mm	
Pol.	L1	(inch)	L2 (inch) Qty. Order No.
2 / 4	7.62	0.300	3.81 0.150 78 1089840000
2 / 6	7.62	0.300	7.62 0.300 72 1089920000
2 / 8	7.62	0.300	11.43 0.450 60 1157040000
3 / 4	15.24	0.600	3.81 0.150 60 1090040000
3 / 6	15.24	0.600	7.62 0.300 54 1090120000
3 / 8	15.24	0.600	11.43 0.450 48 1157050000
4 / 4	22.86	0.900	3.81 0.150 48 1090280000
4 / 6	22.86	0.900	7.62 0.300 42 1090360000
4 / 8	22.86	0.900	11.43 0.450 42 1157380000
5 / 4	30.48	1.200	3.81 0.150 36 1090520000
5 / 6	30.48	1.200	7.62 0.300 36 1090590000
5 / 8	30.48	1.200	11.43 0.450 36 1157080000

SV 7.62HP/.../90MF. SC/..R



Dimensioned drawing



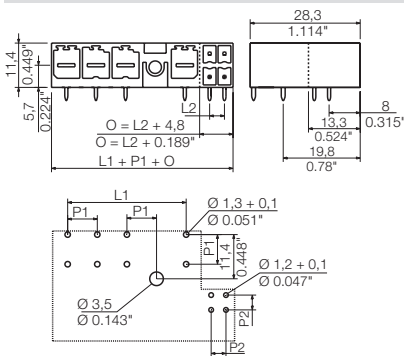
Ordering data

Solder pin length						3.5 mm
Colour						black
Pitch 7.62 mm						
Pol.	L1	(inch)	L2	(inch)	Qty.	Order No.
2 / 4	7.62	0.300	3.81	0.150	60	1089370000
2 / 6	7.62	0.300	7.62	0.300	54	1089410000
2 / 8	7.62	0.300	11.43	0.450	48	1156820000
3 / 4	15.24	0.600	3.81	0.150	48	1156230000
3 / 4	15.24	0.600	3.81	0.150	48	1089660000
3 / 6	15.24	0.600	7.62	0.300	42	1156240000
3 / 6	15.24	0.600	7.62	0.300	42	1089730000
3 / 8	15.24	0.600	11.43	0.450	42	1156840000
3 / 8	15.24	0.600	11.43	0.450	42	1156850000
4 / 4	22.86	0.900	3.81	0.150	36	1090130000
4 / 6	22.86	0.900	7.62	0.300	36	1090210000
4 / 8	22.86	0.900	11.43	0.450	36	1156890000
5 / 4	30.48	1.200	3.81	0.150	30	1156910000
5 / 4	30.48	1.200	3.81	0.150	30	1090600000
5 / 6	30.48	1.200	7.62	0.300	30	1156930000
5 / 6	30.48	1.200	7.62	0.300	30	1090670000
5 / 8	30.48	1.200	11.43	0.450	30	1156950000
5 / 8	30.48	1.200	11.43	0.450	30	1156980000

SV 7.62HP/.../90MSF. SC/..R



Dimensioned drawing



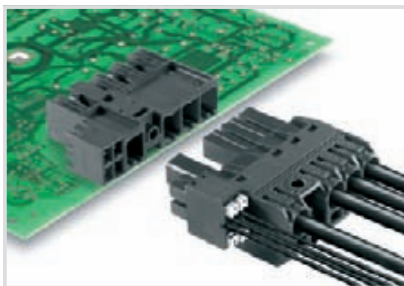
Ordering data

Solder pin length						3.5 mm
Colour						black
Pitch 7.62 mm						
Pol.	L1	(inch)	L2	(inch)	Qty.	Order No.
2 / 4	7.62	0.300	3.81	0.150	60	1089510000
2 / 6	7.62	0.300	7.62	0.300	54	1089570000
2 / 8	7.62	0.300	11.43	0.450	48	1156830000
3 / 4	15.24	0.600	3.81	0.150	48	1156250000
3 / 4	15.24	0.600	3.81	0.150	48	1089890000
3 / 6	15.24	0.600	7.62	0.300	42	1156270000
3 / 6	15.24	0.600	7.62	0.300	42	1089970000
3 / 8	15.24	0.600	11.43	0.450	42	1156870000
3 / 8	15.24	0.600	11.43	0.450	42	1156880000
4 / 4	22.86	0.900	3.81	0.150	36	1090370000
4 / 6	22.86	0.900	7.62	0.300	36	1090450000
4 / 8	22.86	0.900	11.43	0.450	36	1156900000
5 / 4	30.48	1.200	3.81	0.150	30	1157000000
5 / 4	30.48	1.200	3.81	0.150	30	1090830000
5 / 6	30.48	1.200	7.62	0.300	30	1157010000
5 / 6	30.48	1.200	7.62	0.300	30	1090900000
5 / 8	30.48	1.200	11.43	0.450	30	1157020000
5 / 8	30.48	1.200	11.43	0.450	30	1157030000

Connectors in 7.62 mm pitch

Series BV/SV 7.62 – connects up to 6 mm²

SV 7.62HP../270 & SC 3.81



Hybrid male header in 270° outlet direction with power and signal contacts. Meets the enhanced requirements of IEC 61800-5-1 for 3 mm touch safety in 400 V TNC (S) networks and enables UL approval for 600 V in line with UL508 / UL840. The middle flange interlocks automatically. It decreases the space required by one pole when compared to other solutions.

- Available with a middle flange (MF).

Product data

IEC: 1000 V / 41 A
UL: 300 V / 35 A

For additional articles and information, refer to catalog.weidmueller.com

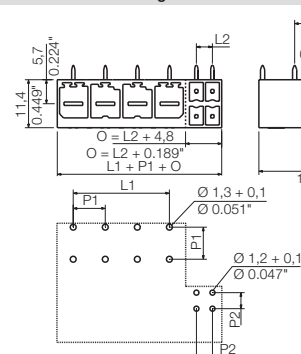
Note:

- Technical specifications refer to the power contacts
- Technical specifications of signal contacts: 50V / 5A
- Rated current related to rated cross-section and min. No. of poles.
- Specifications of diagram: P1=7.62 mm; P2=3.81 mm
- 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.

SV 7.62HP../270 SC../R



Dimensioned drawing



Technical data

In compliance with IEC 60664-1 / IEC 61984

Clamping range, max.	mm ²		
Solid core H05(07) V-U	mm²		
Stranded H07 V-R			
Flexible H05(07) V-K	mm ²		
Flexible with ferrule	mm ²		
Ferrule with plastic collar	mm ²		
Stripping length	mm		
Screwdriver blade	mm		
According to norm			
Tightening torque range	Nm		
Rated current, max.	A	41	41
At ambient temperature	20°C		40°C
For conductor cross-section	mm ²		
Overvoltage category		III	III II
Pollution severity		3	2 2
Rated voltage	V	630	630 1000
Rated impulse voltage	kV	6	6 6
UL / CUL (Use Group)		B	C D
Rated voltage	V	300	300 600
Rated current	A	35	35 5
AWG conductor	AWG	-	
CSA (Use Group)		B	C D
Rated voltage	V	300	300 600
Rated current	A	35	35 5
AWG conductor	AWG	-	
General data			
Type of insulation material		PA GF	
Flammability class UL 94		V-0	
Contact base material		Copper alloy	
Material of contact surface		tinned	
Pin dimensions = d	mm	0.8 x 1.0	
Solder eyelet Ø = D	mm	1.3	
Solder eyelet Ø tolerance	mm	+ 0,1	

Accessories

Note: Refer to the Accessories chapter for additional accessories.

Coding		Order No.
	BV/SV 7.62HP KO	1937590000
		

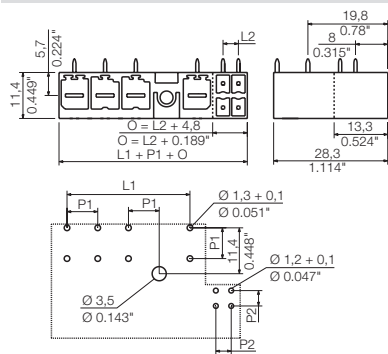
Ordering data

Solder pin length						3.5 mm
Colour						black
Pitch						7.62 mm
Pol.	L1	(inch)	L2	(inch)	Qty.	Order No.
2 / 4	7.62	0.300	3.81	0.150	78	1090770000
2 / 6	7.62	0.300	7.62	0.300	72	1090850000
2 / 8	7.62	0.300	11.43	0.450	60	1156920000
3 / 4	15.24	0.600	3.81	0.150	60	1090950000
3 / 6	15.24	0.600	7.62	0.300	54	1091010000
3 / 8	15.24	0.600	11.43	0.450	48	1156940000
4 / 4	22.86	0.900	3.81	0.150	48	1091120000
4 / 6	22.86	0.900	7.62	0.300	42	1091160000
4 / 8	22.86	0.900	11.43	0.450	42	1156970000
5 / 4	30.48	1.200	3.81	0.150	36	1091240000
5 / 6	30.48	1.200	7.62	0.300	36	1091260000
5 / 8	30.48	1.200	11.43	0.450	36	1156990000

SV 7.62HP/.../270MF. SC/..R



Dimensioned drawing



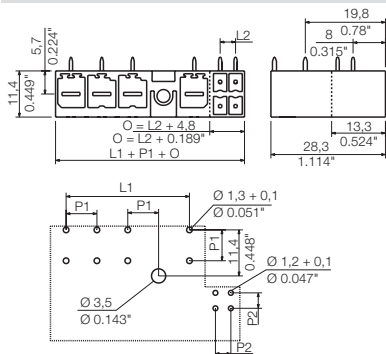
Ordering data

Solder pin length		3.5 mm	
Colour		black	
Pitch		7.62 mm	
Pol.	L1 (inch)	L2 (inch)	Order No.
2 / 4	7.62 0.300	3.81 0.150	60 1089260000
2 / 6	7.62 0.300	7.62 0.300	54 1089280000
2 / 8	7.62 0.300	11.43 0.450	48 1156120000
3 / 4	15.24 0.600	3.81 0.150	48 1156140000
3 / 4	15.24 0.600	3.81 0.150	48 1089440000
3 / 6	15.24 0.600	7.62 0.300	42 1156150000
3 / 6	15.24 0.600	7.62 0.300	42 1089490000
3 / 8	15.24 0.600	11.43 0.450	42 1156170000
3 / 8	15.24 0.600	11.43 0.450	42 1156180000
4 / 4	22.86 0.900	3.81 0.150	36 1089820000
4 / 6	22.86 0.900	7.62 0.300	36 1089910000
4 / 8	22.86 0.900	11.43 0.450	36 1156280000
5 / 4	30.48 1.200	3.81 0.150	30 1156300000
5 / 4	30.48 1.200	3.81 0.150	30 1090300000
5 / 6	30.48 1.200	7.62 0.300	30 1156310000
5 / 6	30.48 1.200	7.62 0.300	30 1090380000
5 / 8	30.48 1.200	11.43 0.450	30 1156320000
5 / 8	30.48 1.200	11.43 0.450	30 1156340000

SV 7.62HP/.../270MSF. SC/..R



Dimensioned drawing



Ordering data

Solder pin length		3.5 mm	
Colour		black	
Pitch		7.62 mm	
Pol.	L1 (inch)	L2 (inch)	Order No.
2 / 4	7.62 0.300	3.81 0.150	60 1089340000
2 / 6	7.62 0.300	7.62 0.300	54 1089380000
2 / 8	7.62 0.300	11.43 0.450	48 1156130000
3 / 4	15.24 0.600	3.81 0.150	48 1156190000
3 / 4	15.24 0.600	3.81 0.150	48 1089610000
3 / 6	15.24 0.600	7.62 0.300	42 1156200000
3 / 6	15.24 0.600	7.62 0.300	42 1089670000
3 / 8	15.24 0.600	11.43 0.450	42 1156210000
3 / 8	15.24 0.600	11.43 0.450	42 1156220000
4 / 4	22.86 0.900	3.81 0.150	36 1090060000
4 / 6	22.86 0.900	7.62 0.300	36 1090140000
4 / 8	22.86 0.900	11.43 0.450	36 1156290000
5 / 4	30.48 1.200	3.81 0.150	30 1156370000
5 / 4	30.48 1.200	3.81 0.150	30 1090540000
5 / 6	30.48 1.200	7.62 0.300	30 1156390000
5 / 6	30.48 1.200	7.62 0.300	30 1090610000
5 / 8	30.48 1.200	11.43 0.450	30 1156410000
5 / 8	30.48 1.200	11.43 0.450	30 1156430000

The pluggable shield connection establishes a large contact area on the device housing and does not need to be screwed on separately.

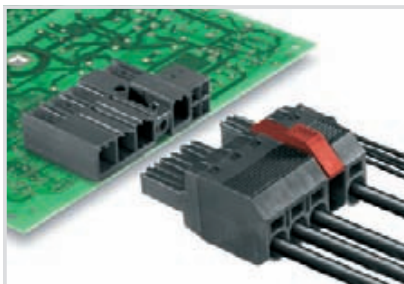
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Figure 10 is a graph showing the relationship between load current I_L (A) on the y-axis and ambient temperature T_{amb} (°C) on the x-axis for the 100 W LED module. The y-axis ranges from 0 to 45 A, and the x-axis ranges from 0 to 130 °C. A red curve represents the maximum allowable load current, which decreases as temperature increases. Two operating points are marked: a red circle at approximately 38 A and 38°C, and a blue circle at approximately 41 A and 85°C. A horizontal dashed blue line is drawn at $I_L = 40$ A.

Connectors in 7.62 mm pitch
Series BV/SV 7.62 – connects up to 6 mm²

BVF 7.62HP/.. /180MSF & BCF 3.81



Hybrid female plug with power and signal contacts with PUSH IN connection system. Allows power, signals and shield to be plugged in simultaneously. It is perfect for connecting servo-drives and asynchronous drives. Meets the requirements of UL1059 for 600 V Use Group C. The mating profile ensures touch-safety of > 3 mm in accordance with IEC 61800-5-1. The self-fastening middle flange reduces the space requirements by one pole.

The pluggable shield connection establishes a large contact area on the device housing and does not need to be screwed on separately.

Product data

IEC: 1000 V / 38 A / 0.5 - 10 mm²
UL: 600 V / 35 A / AWG 24 - 10

For additional articles and information, refer to catalog.weidmueller.com

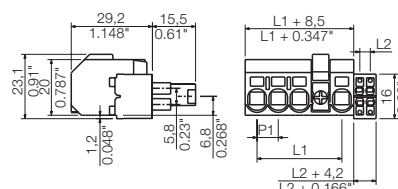
Note:

- Technical specifications refer to the power contacts
- Technical specifications of signal contacts: 50V / 5A
- Additional colours on request
- Rated current related to rated cross-section and min. No. of poles.
- Wire end ferrule without plastic collar to DIN 46228/1
- Wire end ferrule with plastic collar to DIN 46228/4
- 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.

BVF 7.62HP/.. /180MSF. BCF/..R



Dimensioned drawing



Technical data

In compliance with IEC 60664-1 / IEC 61984

Clamping range, max.	mm ²	0.5...10		
Solid core H05(07) V-U	mm²	0.5...10		
Stranded H07 V-R		...10		
Flexible H05(07) V-K	mm ²	0.5...		
Flexible with ferrule	mm ²	1.5...4		
Ferrule with plastic collar	mm ²	1.5...6		
Stripping length	mm	12		
Screwdriver blade	mm	0.8 x 4.5		
According to norm		DIN 5264-A		
Tightening torque range	Nm			
Rated current, max.	A	38	34	
At ambient temperature		20°C	40°C	
For conductor cross-section	mm ²	6		
Overvoltage category		III	II	I
Pollution severity		3	2	2
Rated voltage	V	800	1000	1000
Rated impulse voltage	kV	8	8	6
UL / CUL (Use Group)		B	C	D
Rated voltage	V	600	600	600
Rated current	A	35	35	5
AWG conductor	AWG	24-10		
CSA (Use Group)		B	C	D
Rated voltage	V	600	600	600
Rated current	A	35	35	5
AWG conductor	AWG	24-10		

General data

Type of insulation material	PA GF
Flammability class UL 94	V-0
Contact base material	Copper alloy
Material of contact surface	tinned
Pin dimensions = d	mm
Solder eyelet Ø = D	mm
Solder eyelet Ø tolerance	mm

Accessories

Note: Refer to the Accessories chapter for additional accessories.

Coding	Order No.
 BV/SV 7.62HP KO	1937590000
Shielding	
 BVF 7.62HP SH150 4-6 KIT	1118480000
BVF 7.62HP SH180 4-6 KIT	1118470000
BVF 7.62HP SH210 4-6 KIT	1118490000
Screwdriver	
 SD 0,8x4,5x125	9009020000
Crimping tool	
 PZ 6/5	9011460000

Ordering data

Solder pin length

Colour	black
--------	-------

Pitch 7.62 mm

Pol.	L1	(inch)	L2	(inch)	Qty.	Order No.
2 / 4	7.62	0.300	3.81	0.150	50	1081930000
2 / 6	7.62	0.300	7.62	0.300	45	1082080000
2 / 8	7.62	0.300	11.43	0.450	40	1157100000
3 / 4	15.24	0.600	3.81	0.150	40	1157440000
3 / 4	15.24	0.600	3.81	0.150	40	1082110000
3 / 6	15.24	0.600	7.62	0.300	35	1157450000
3 / 6	15.24	0.600	7.62	0.300	35	1081730000
3 / 8	15.24	0.600	11.43	0.450	30	1157470000
3 / 8	15.24	0.600	11.43	0.450	30	1157190000
4 / 4	22.86	0.900	3.81	0.150	30	1081660000
4 / 6	22.86	0.900	7.62	0.300	30	1081750000
4 / 8	22.86	0.900	11.43	0.450	25	1157210000
5 / 4	30.48	1.200	3.81	0.150	25	1157270000
5 / 6	30.48	1.200	7.62	0.300	25	1157280000
5 / 8	30.48	1.200	11.43	0.450	25	1157300000
5 / 8	30.48	1.200	11.43	0.450	25	1157290000

Representative derating curve

BVF 7.62HP/180 & BCF - SV 7.62HP/90 & SC

