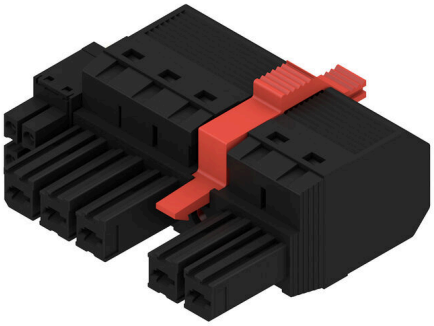
Data sheet

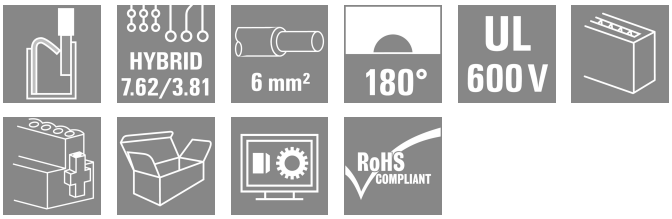
BVF 7.62HP/05/180MF3 BCF/04R SN BK BX

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: 5, 180°, PUSH IN with actuator, PUSH IN without actuator, Clamping range, max. : 10 mm², Box
Order No.	1157220000
Type	BVF 7.62HP/05/180MF3 BCF/04R SN BK BX
GTIN (EAN)	4032248944866
Qty.	25 items
Product data	IEC: 1000 V / 38 A / 0.5 - 10 mm² UL: 600 V / 35 A / AWG 24 - AWG 8
Packaging	Box

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Technical data

Approvals

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

Dimensions and weights

Net weight	34.04 g

Environmental Product Compliance

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

System Parameters

Product family	OMNIMATE Power - series BV/SV 7.62HP	Type of connection	Field connection
Wire connection method	PUSH IN with actuator, PUSH IN without actuator	Pitch in mm (P)	7.62 mm
Pitch in inches (P)	0.300 "	Conductor outlet direction	180°
Number of poles	5	L1 in mm	38.10 mm
L1 in inches	1.500 "	L2 in mm	3.81 mm
L2 in inch	0.150 "	Number of rows	1
Pin series quantity	1	Rated cross-section	6 mm²
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	Moisture Level (MSL)	
UL 94 flammability rating	V-0	Contact material	Cu-alloy
Contact surface	tinned	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 mm²
Clamping range, max.	10 mm²
Solid, min. H05(07) V-U	0.5 mm²
Solid, max. H05(07) V-U	10 mm²
Stranded, max. H07V-R	10 mm²
Flexible, min. H05(07) V-K	0.5 mm²
Flexible, max. H05(07) V-K	10 mm²

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Technical data

w. plastic collar ferrule, DIN 46228 pt 4, min.	1.5 mm²		
w. plastic collar ferrule, DIN 46228 pt 4, max.	6 mm²		
w. wire end ferrule, DIN 46228 pt 1, min.	1.5 mm²		
w. wire end ferrule, DIN 46228 pt 1, max.	10 mm²		
Clampable conductor	Cross-section for conductor connection	Type	fine-wired
		nominal	0.5 mm²
	wire end ferrule	Stripping length	nominal 14 mm
		Recommended wire-end ferrule	H0,5/18 OR
	Cross-section for conductor connection	Type	fine-wired
		nominal	1 mm²
	wire end ferrule	Stripping length	nominal 15 mm
		Recommended wire-end ferrule	H1,0/18 GE
	Cross-section for conductor connection	Type	fine-wired
		nominal	1.5 mm²
	wire end ferrule	Stripping length	nominal 15 mm
		Recommended wire-end ferrule	H1,5/18D SW
		Stripping length	nominal 12 mm
		Recommended wire-end ferrule	H1,5/12
	Cross-section for conductor connection	Type	fine-wired
		nominal	0.75 mm²
	wire end ferrule	Stripping length	nominal 14 mm
		Recommended wire-end ferrule	H0,75/18 W
	Cross-section for conductor connection	Type	fine-wired
		nominal	2.5 mm²
	wire end ferrule	Stripping length	nominal 14 mm
		Recommended wire-end ferrule	H2,5/19D BL
		Stripping length	nominal 12 mm
		Recommended wire-end ferrule	H2,5/12
	Cross-section for conductor connection	Type	fine-wired
		nominal	4 mm²
	wire end ferrule	Stripping length	nominal 12 mm
		Recommended wire-end ferrule	H4,0/12
		Stripping length	nominal 14 mm
		Recommended wire-end ferrule	H4,0/20D GR
	Cross-section for conductor connection	Type	fine-wired
		nominal	6 mm²
	wire end ferrule	Stripping length	nominal 14 mm
		Recommended wire-end ferrule	H6,0/20 SW
		Stripping length	nominal 12 mm
		Recommended wire-end ferrule	H6,0/12
	Cross-section for conductor connection	Type	fine-wired
		nominal	10 mm²
	wire end ferrule	Stripping length	nominal 12 mm
		Recommended wire-end ferrule	H10,0/12

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Technical data

Reference text	The outside diameter of the plastic collar should not be larger than the pitch (P), Length of ferrules is to be chosen depending on the product and the rated voltage.

Rated data acc. to IEC

tested acc. to standard	IEC 60664-1, IEC 61984	Rated current, min. number of poles (Tu=20°C)	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	1000 V
Rated voltage for surge voltage class / pollution degree III/2	1000 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
Creepage distance, min.	12.7 mm	Clearance, min.	10.4 mm

Rated data acc. to CSA

Institute (CSA)	CSA	Certificate No. (CSA)	200039-1121690
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
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)	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	352.00 mm
VPE width	135.00 mm	VPE height	61.00 mm

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	0.150 "	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

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Technical data

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 mm²	Clamping range, rated connection (Signal)	0.2...1.5 mm²
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 mm²	solid, H05(07) V-U (Signal)	0.14...1.5 mm²
flexible, H05(07) V-K (Power)	0.5...6 mm²	flexible, H05(07) V-K (Signal)	0.14...1.5 mm²
with wire-end ferrule with collar (Power)	0.5...6 mm²	with wire-end ferrule with collar, DIN 46 228/4 (Signal)	0.25...1.5 mm²
with wire-end ferrule according to DIN 46 228/1 (Power)	0.5...6 mm²	with wire-end ferrule according to DIN 46 228/1 (Signal)	0.25...1.5 mm²

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	• Technical specifications refer to the power contacts • Technical data of signal contacts: 50V / 5A, stripping length 8mm • Additional variants on request • Rated current related to rated cross-section & min. No. of poles. • Wire end ferrule with plastic collar to DIN 46228/4 • Wire end ferrule without plastic collar to DIN 46228/1 • 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. • 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 • Long term storage of the product with average temperature of 50 °C and maximum humidity 70%, 36 months

Classifications

ETIM 8.0	EC002638	ETIM 9.0	EC002638
ETIM 10.0	EC002638	ECLASS 14.0	27-46-03-02
ECLASS 15.0	27-46-03-02		

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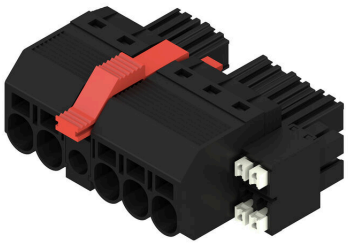
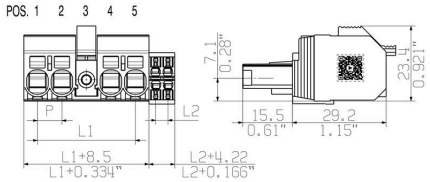
Drawings

Product image



Dimensional drawing



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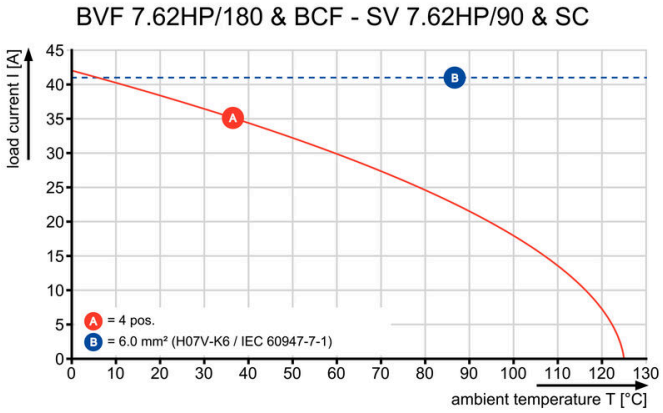

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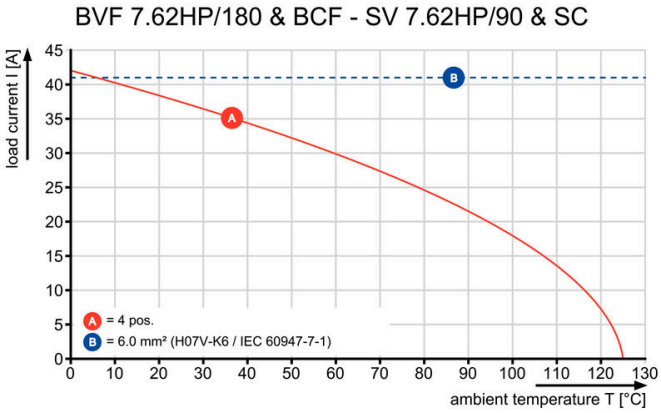
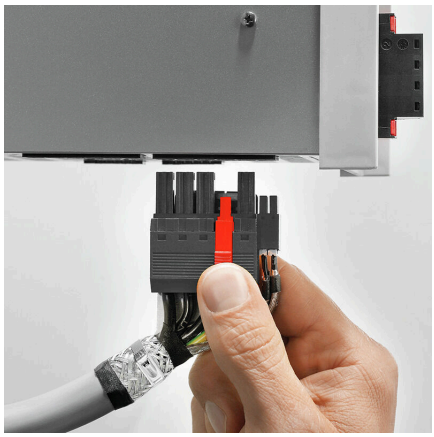


Product benefits



Single-handed operationAutomatic latching

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Accessories

Coding elements

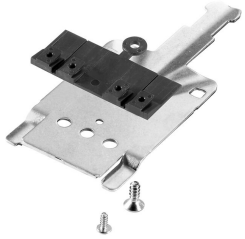
The pluggable connections for power electronics - optimised for modern drive technologies, e.g. motor starters, frequency converters and servo-controllers. OMNIMATE Power sets the new standard – with increased safety and innovative solutions such as the pluggable shield, integrated signal contacts and one-handed operation.
The three product lines offer you further advantages:
- Application-oriented scalability: from the compact 4 mm² connector for 29 A (IEC) or 20 A (UL) up to the sturdy 16 mm² 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 product configurator.

General ordering data

Type	BV/SV 7.62HP KO	Version
Order No.	1937590000	PCB plug-in connector, Accessories, Coding element, black, Number
GTIN (EAN)	4032248608881	of poles: 1
Qty.	50 ST	

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:
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- 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 product configurator.

General ordering data

Type	BVF 7.62HP SH150 4-6 KIT	Version
Order No.	1118480000	PCB plug-in connector, Accessories, For a shield connection, black,
GTIN (EAN)	4032248899449	Number of poles: 0
Qty.	25 ST	
Type	BVF 7.62HP SH180 4-6 KIT	Version
Order No.	1118470000	PCB plug-in connector, Accessories, For a shield connection, black,
GTIN (EAN)	4032248899456	Number of poles: 0
Qty.	25 ST	

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Accessories

Type	BVF 7.62HP SH210 4-6 KIT	Version
Order No.	1118490000	PCB plug-in connector, Accessories, For a shield connection, black,
GTIN (EAN)	4032248899302	Number of poles: 0
Qty.	25 ST	

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.	9009020000	Screwdriver, Screwdriver
GTIN (EAN)	4032248266883	
Qty.	1 ST	

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.	9011460000	Pressing tool, Crimping tool for wire-end ferrules, 0.25mm², 6mm²,
GTIN (EAN)	4008190165352	Trapezoidal indentation crimp
Qty.	1 ST	

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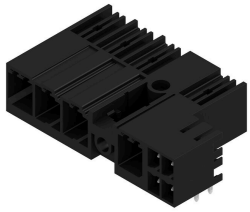
Counterpart

SV 7.62HP / SC 3.81 90MSF

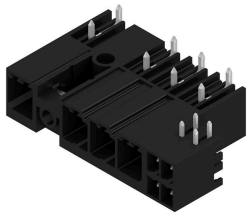


Combined 90° male header with power and signal contacts in PUSH IN connection technology incl. self-locking middle flange interlock and (optional) pluggable shield connection with a 7.62 pitch.
Enables simultaneous connection of power, signals and (optional) EMC shielding. Ideal for connecting servo 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

Type	SV 7.62HP/05/90MSF3 SC/...	Version
Order No.	1157000000	PCB plug-in connector, male header, closed side, Middle screw flange,
GTIN (EAN)	4032248944149	THT solder connection, 7.62 mm, Number of poles: 5, 90°, Solder pin
Qty.	30 ST	length (l): 3.5 mm, tinned, black, Box

SV 7.62HP / SC 3.81 270MSF



Combined 270° male header with power and signal contacts incl. self-locking middle flange interlock 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

Type	SV 7.62HP/05/270MSF3 SC...	Version
Order No.	1156370000	PCB plug-in connector, male header, closed side, Middle screw flange,
GTIN (EAN)	4032248943067	THT solder connection, 7.62 mm, Number of poles: 5, 270°, Solder
Qty.	30 ST	pin length (l): 3.5 mm, tinned, black, Box

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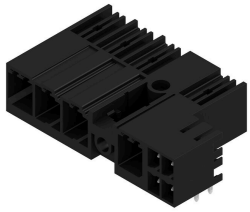
Counterpart

SV 7.62HP / SC 3.81 90MF

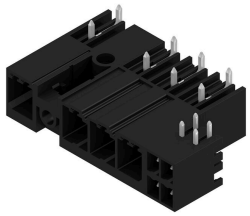


Combined 90° male header with power and signal contacts in PUSH IN connection technology incl. self-locking middle flange interlock and (optional) pluggable shield connection with a 7.62 pitch.
Enables simultaneous connection of power, signals and (optional) EMC shielding. Ideal for connecting servo 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

Type	SV 7.62HP/05/90MF3 SC/0...	Version
Order No.	1156910000	PCB plug-in connector, male header, closed side, Middle flange, THT
GTIN (EAN)	4032248944361	solder connection, 7.62 mm, Number of poles: 5, 90°, Solder pin
Qty.	30 ST	length (l): 3.5 mm, tinned, black, Box

SV 7.62HP / SC 3.81 270MF



Combined 270° male header with power and signal contacts incl. self-locking middle flange interlock 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

Type	SV 7.62HP/05/270MF3 SC/...	Version
Order No.	1156300000	PCB plug-in connector, male header, closed side, Middle flange, THT
GTIN (EAN)	4032248942916	solder connection, 7.62 mm, Number of poles: 5, 270°, Solder pin
Qty.	30 ST	length (l): 3.5 mm, tinned, black, Box

BVF 7.62HP/05/180MF3 BCF/04R SN BK BX

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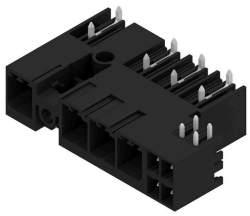
Counterpart

SV-SMT 7.62HP / SC 3.81 270 MF

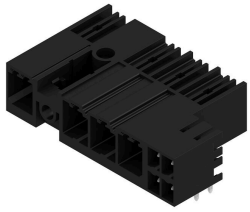


OMNIMATE Power BV / SV 7.62HP Hybrid – for power, signals and EMC
Three functions in one!
The OMNIMATE Power Hybrid connector provides developers and users with the perfect three-in-one solution.
This hybrid motor connector simultaneously unites power, signals and pluggable EMC shield support. Thus you save space on the PCB, on the outer side of the housing, and in the electrical cabinet. The self-snapping 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 and slender 30° wire entry enable a space savings of up to 10 cm between rows.

General ordering data

Type	SV-SMT 7.62HP/05/270MF3...	Version
Order No.	2529480000	PCB plug-in connector, male header, closed side, Middle flange, THT/
GTIN (EAN)	4050118539752	THR solder connection, 7.62 mm, Number of poles: 5, 270°, Solder
Qty.	30 ST	pin length (l): 2.6 mm, tinned, black, Box

SV-SMT 7.62HP / SC 3.81 90 MF



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General ordering data

Type	SV-SMT 7.62HP/05/90MF3 ...	Version
Order No.	2529830000	PCB plug-in connector, male header, closed side, Middle flange, THT/
GTIN (EAN)	4050118540031	THR solder connection, 7.62 mm, Number of poles: 5, 90°, Solder pin
Qty.	30 ST	length (l): 2.6 mm, tinned, black, Box