

## LLFS 7.50/12/90V 5.0SN BK BX

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

www.weidmueller.com

### Product image



The sturdy, direct connection for extreme current and voltage requirements in all power electronics applications such as solar inverters, frequency converters, servo-controllers and power supplies.

### General ordering data

Version	Printed circuit board terminals, 7.50 mm, Number of poles: 12, 90°, Solder pin length (l): 5 mm, tinned, black, PUSH IN without actuator, Clamping range, max. : 6 mm <sup>2</sup> , Box
Order No.	<a href="#">2473100000</a>
Type	LLFS 7.50/12/90V 5.0SN BK BX
GTIN (EAN)	4050118658415
Qty.	20 items
Product data	IEC: 1000 V / 41 A / 0.5 - 6 mm <sup>2</sup> UL: 600 V / 37 A / AWG 24 - AWG 8
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	20.05 mm	Depth (inches)	0.7894 inch
Height	30.56 mm	Height (inches)	1.2031 inch
Height of lowest version	25.56 mm	Width	91 mm
Width (inches)	3.5827 inch	Net weight	48.5 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 LL	Wire connection method	PUSH IN without actuator
Mounting onto the PCB	THT solder connection	Conductor outlet direction	90°
Pitch in mm (P)	7.50 mm	Pitch in inches (P)	0.295 "
Number of poles	12	Pin series quantity	1
Fitted by customer	No	Number of rows	1
Solder pin length (l)	5 mm	Solder pin dimensions	d = 1.5 mm
Solder eyelet hole diameter (D)	2 mm	Solder eyelet hole diameter tolerance (D)+	0,1 mm
Number of solder pins per pole	1	Stripping length	12 mm
L1 in mm	82.50 mm	L1 in inches	3.245 "
Touch-safe protection acc. to DIN VDE 0470	IP 20	Touch-safe protection acc. to DIN VDE 57 106	Safe from finger touch
Protection degree	IP20		

## Material data

Insulating material	Wemid (PA)	Colour	black
Colour chart (similar)	RAL 9011	Insulating material group	I
Insulation resistance	≥ 108 Ω	Moisture Level (MSL)	
UL 94 flammability rating	V-0	Contact material	Cu-alloy
Contact surface	tinned	Layer structure of solder connection	4...10 μ Sn matt
Storage temperature, min.	-40 °C	Storage temperature, max.	70 °C
Operating temperature, min.	-40 °C	Operating temperature, max.	120 °C

## Conductors suitable for connection

Clamping range, min.	0.25 mm <sup>2</sup>
Clamping range, max.	6 mm <sup>2</sup>
Solid, min. H05(07) V-U	0.5 mm <sup>2</sup>
Solid, max. H05(07) V-U	6 mm <sup>2</sup>
Flexible, min. H05(07) V-K	0.5 mm <sup>2</sup>
Flexible, max. H05(07) V-K	6 mm <sup>2</sup>
w. plastic collar ferrule, DIN 46228 pt 4,	0.25 mm <sup>2</sup> min.

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w. plastic collar ferrule, DIN 46228 pt 4, 6 mm<sup>2</sup>  
max.

w. wire end ferrule, DIN 46228 pt 1, 0.25 mm<sup>2</sup>  
min.

w. wire end ferrule, DIN 46228 pt 1, 6 mm<sup>2</sup>  
max.

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>
Clampable conductor	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>
Clampable conductor	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>
Clampable conductor	Stripping length	nominal	12 mm
		Recommended wire-end ferrule	<a href="#">H1.5/12</a>
Clampable conductor	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>
Clampable conductor	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>
Clampable conductor	Stripping length	nominal	12 mm
		Recommended wire-end ferrule	<a href="#">H2.5/12</a>
Clampable conductor	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>
Clampable conductor	Stripping length	nominal	14 mm
		Recommended wire-end ferrule	<a href="#">H4.0/20D GR</a>
Clampable conductor	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>
Clampable conductor	Stripping length	nominal	12 mm
		Recommended wire-end ferrule	<a href="#">H6.0/12</a>

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

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## Technical data

### Rated data acc. to IEC

tested acc. to standard	In accordance with IEC 60947-7-1	Rated current, min. number of poles (Tu=20°C)	41 A
Rated current, max. number of poles (Tu=20°C)	34 A	Rated current, min. number of poles (Tu=40°C)	37 A
Rated current, max. number of poles (Tu=40°C)	29 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	1000 V
Rated impulse voltage for surge voltage class/ pollution degree II/2	8 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		

### 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)	37 A
Rated current (Use group C / CSA)	37 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)	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)	37 A
Rated current (Use group C / UL 1059)	37 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	220.00 mm
VPE width	215.00 mm	VPE height	48.00 mm

### Type tests

Test: Durability of markings	Standard	IEC 60947-7-4 section 7.1.4 / 08.13	
	Test	mark of origin, type identification, type of material, pitch, durability, stripping length	
	Evaluation	available	
Test: Clampable cross section	Standard	IEC 60999-1 section 7 and 9.1 / 11.99, IEC 60947-1 section 8.2.4.5.1 / 03.11	
	Conductor type	Type of conductor and conductor cross-section	solid 0.5 mm <sup>2</sup>
		Type of conductor and conductor cross-section	stranded 0.5 mm <sup>2</sup>
		Type of conductor and conductor cross-section	solid 6 mm <sup>2</sup>
		Type of conductor and conductor cross-section	stranded 6 mm <sup>2</sup>
		Type of conductor and conductor cross-section	AWG 24/19

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		Type of conductor and conductor cross-section	AWG 24/1	
		Type of conductor and conductor cross-section	AWG 10/1	
		Type of conductor and conductor cross-section	AWG 10/19	
		Type of conductor and conductor cross-section	H07V-K10	
	Evaluation	passed		
Test for damage to and accidental loosening of conductors	Standard	IEC 60999-1 section 9.4 / 11.99, IEC 60999-1 section 9.5 / 11.99		
	Requirement	0.3 kg		
	Conductor type	Type of conductor and conductor cross-section	H05V-K0.5	
		Type of conductor and conductor cross-section	H05V-U0.5	
	Evaluation	passed		
	Requirement	0,4 kg		
	Conductor type	Type of conductor and conductor cross-section	H07V-K1	
		Type of conductor and conductor cross-section	H07V-U1	
	Evaluation	passed		
	Requirement	0.7 kg		
	Conductor type	Type of conductor and conductor cross-section	H07V-K2.5	
		Type of conductor and conductor cross-section	H07V-U2.5	
	Evaluation	passed		
	Requirement	0.9 kg		
	Conductor type	Type of conductor and conductor cross-section	H07V-K4	
Type of conductor and conductor cross-section		H07V-U4.0		
Evaluation	passed			
Requirement	1.4 kg			
Conductor type	Type of conductor and conductor cross-section	H07V-K6		
	Type of conductor and conductor cross-section	H07V-U6		
Evaluation	passed			
Standard	DIN EN 60999-1 section 9.5 / 12.00			
Requirement	≥20 N			
Conductor type	Type of conductor and conductor cross-section	H05V-K0.5		
	Type of conductor and conductor cross-section	H05V-U0.5		

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**Technical data**

Evaluation	passed	
Requirement	≥50 N	
Conductor type	Type of conductor and conductor cross-section	H07V-K2.5
	Type of conductor and conductor cross-section	H07V-U2.5
Evaluation	passed	
Requirement	≥60 N	
Conductor type	Type of conductor and conductor cross-section	H07V-K4
	Type of conductor and conductor cross-section	H07V-U4.0
Evaluation	passed	
Requirement	≥80 N	
Conductor type	Type of conductor and conductor cross-section	H07V-K6
	Type of conductor and conductor cross-section	H07V-U6
Evaluation	passed	
Requirement	≥35 N	
Conductor type	Type of conductor and conductor cross-section	H07V-K1
	Type of conductor and conductor cross-section	H07V-U1
Evaluation	passed	

**Important note**

IPC conformity      Conformity: The products are developed, manufactured and delivered according international recognized standards and norms and comply with the assured properties in the data sheet resp. fulfill decorative properties in accordance with IPC-A-610 "Class 2". Further claims on the products can be evaluated on request.

- Notes
- Additional variants on request
  - Rated current related to rated cross-section & min. No. of poles.
  - Wire end ferrule without plastic collar to DIN 46228/1
  - Wire end ferrule with plastic collar to DIN 46228/4
  - P on drawing = pitch
  - 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.
  - The test point can only be used as potential-pickup point.
  - The single-position PCB terminal block can be used for voltages up to 1500 V (DC) and 1000 V (AC). The relevant device standard and the appropriate required clearances and creepage distances should be observed in the application
  - Long term storage of the product with average temperature of 50 °C and maximum humidity 70%, 36 months

**Classifications**

ETIM 8.0	EC002643	ETIM 9.0	EC002643
ETIM 10.0	EC002643	ECLASS 14.0	27-46-01-01
ECLASS 15.0	27-46-01-01		

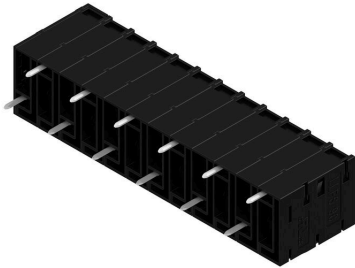
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Drawings

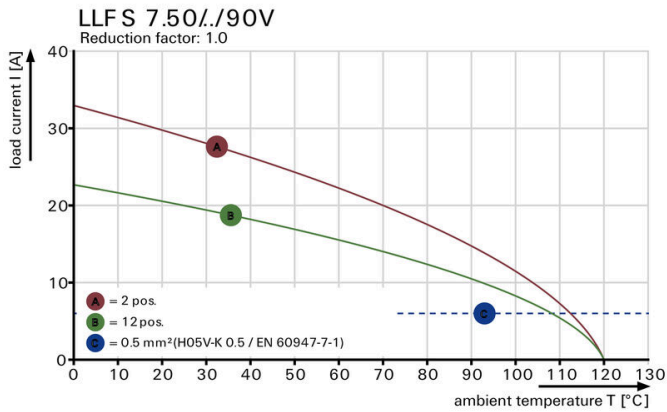
Product image



Dimensional drawing



Derating curve



Derating curve



Product benefits



Power up to UL 600 V offset solder pins

Product benefits



Tool-free wiring Top contact security

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## Accessories

## Slotted screwdriver



VDE insulated slot-head screwdriver, SDI DIN 7437, ISO 2380/2, drive output acc. to DIN 5264, ISO 2380/1.  
 SoftFinish grip

## General ordering data

Type	SDIS 0.5X3.0X100	Version	
Order No.	<a href="#">9008380000</a>	Screwdriver, Screwdriver	
GTIN (EAN)	4032248056347		
Qty.	1 ST		
Type	SDS 0.5X3.0X80	Version	
Order No.	<a href="#">9008320000</a>	Screwdriver, Screwdriver	
GTIN (EAN)	4032248056262		
Qty.	1 ST		

## Additional accessories



No task is too small when creating the perfect solution. Connections form just one part of the overall process. Small details are often the key to the perfect solution in applications where potentials are tested, grouped or even isolated.

A system is not a system without small but essential details:

- Test plugs ensure reliable pick-up from diagnostic sockets

In tandem with the manufacturing process and application.

## General ordering data

Type	PS 2.0 MC	Version	
Order No.	<a href="#">0310000000</a>	PCB plug-in connector, Accessories, Test plug, red, Number of poles:	
GTIN (EAN)	4008190000059	1	
Qty.	20 ST		

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## Accessories

### Tools



- Stripping tools with automatic self-adjustment
- For flexible and solid conductors
- Ideally suitable for mechanical and plant engineering, railway and rail traffic, wind energy, robot technology, explosion protection as well as marine, offshore and ship building sectors
- Stripping length adjustable via end stop
- Automatic opening of clamping jaws after stripping
- No fanning-out of individual conductors
- Adjustable to diverse insulation thicknesses
- Double-insulated cables in two process steps without special adjustment
- No play in self-adjusting cutting unit
- Long service life
- Optimised ergonomic design

### General ordering data

Type	STRIPAX	Version	
Order No.	<a href="#">9005000000</a>	Tools, Stripping and cutting tool	
GTIN (EAN)	4008190072506		
Qty.	1 ST		