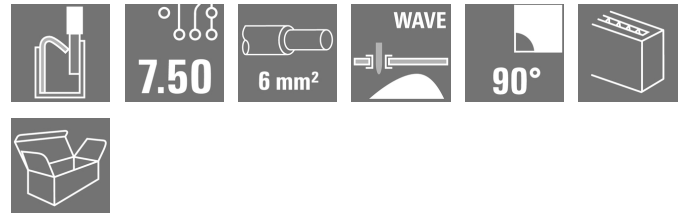


LLF 7.50/05/90V 5.0SN BK BX SO**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

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: 5, 90°, Solder pin length (l): 5 mm, tinned, black, PUSH IN with actuator, Clamping range, max. : 6 mm², Box
Order No.	2891930000
Type	LLF 7.50/05/90V 5.0SN BK BX SO
GTIN (EAN)	4064675881506
Qty.	50 pc(s).
Product data	IEC: 1000 V / 41 A / 0.5 - 6 mm² UL: 600 V / 35 A / AWG 24 - AWG 8
Packaging	Box

Creation date June 5, 2024 4:00:15 AM CEST

LLF 7.50/05/90V 5.0SN BK BX SO

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Technical data

Dimensions and weights

Depth	22.07 mm	Depth (inches)	0.869 inch
Height	36.55 mm	Height (inches)	1.439 inch
Height of lowest version	31.55 mm	Width	38.5 mm
Width (inches)	1.516 inch	Net weight	0.404 g

System parameters

Product family	OMNIMATE Power - series LL	Wire connection method	PUSH IN with actuator
Mounting onto the PCB	THT solder connection	Conductor outlet direction	90°
Pitch in mm (P)	7.5 mm	Pitch in inches (P)	0.295 "
Number of poles	5	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
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
UL 94 flammability rating	V-0	Contact material	Cu-alloy
Contact surface	tinned	Layer structure of solder connection	4...10 µm 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 ²
Clamping range, max.	6 mm ²
Solid, min. H05(07) V-U	0.5 mm ²
Solid, max. H05(07) V-U	6 mm ²
Stranded, min. H07V-R	0.5 mm ²
Flexible, min. H05(07) V-K	0.5 mm ²
Flexible, max. H05(07) V-K	6 mm ²
w. plastic collar ferrule, DIN 46228 pt 4, 0.25 mm ² min.	
w. plastic collar ferrule, DIN 46228 pt 4, 6 mm ² max.	
w. wire end ferrule, DIN 46228 pt 1, 0.25 mm ² min.	
w. wire end ferrule, DIN 46228 pt 1, 6 mm ² max.	

LLF 7.50/05/90V 5.0SN BK BX SO

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Technical data

Clampable conductor	Cross-section for conductor connection	Type	fine-wired	
		nominal	0.5 mm ²	
	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 mm ²	
	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 mm ²	
	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 mm ²	
	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 mm ²	
	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 mm ²	
	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 mm ²	
	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	
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)			

LLF 7.50/05/90V 5.0SN BK BX SO

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

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)	35 A	Rated current, min. number of poles (Tu=40°C)	41 A
Rated current, max. number of poles (Tu=40°C)	30 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	1,000 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)	35 A
Rated current (Use group C / CSA)	35 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

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

Packing

Packaging	Box	VPE length	349 mm
VPE width	139 mm	VPE height	30 mm

Type tests

Test: Durability of markings	Test	mark of origin, type identification, type of material, pitch, durability
	Evaluation	available

LLF 7.50/05/90V 5.0SN BK BX SO**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com**Technical data**

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 ²
		Type of conductor and conductor cross-section	stranded 0.5 mm ²
		Type of conductor and conductor cross-section	solid 6 mm ²
		Type of conductor and conductor cross-section	stranded 6 mm ²
		Type of conductor and conductor cross-section	AWG 24/19
		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		

LLF 7.50/05/90V 5.0SN BK BX SO

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Technical data

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 H05V-K0.5 conductor cross-section Type of conductor and H05V-U0.5 conductor cross-section
Evaluation	passed
Requirement	0.7 kg
Conductor type	Type of conductor and H07V-K2.5 conductor cross-section Type of conductor and H07V-U2.5 conductor cross-section
Evaluation	passed
Requirement	0.9 kg
Conductor type	Type of conductor and H07V-K4 conductor cross-section Type of conductor and H07V-U4.0 conductor cross-section
Evaluation	passed
Requirement	1.4 kg
Conductor type	Type of conductor and H07V-K6 conductor cross-section Type of conductor and H07V-U6 conductor cross-section
Evaluation	passed

LLF 7.50/05/90V 5.0SN BK BX SO

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Technical data

Pull-out test	Standard	DIN EN 60999-1 section 9.5 / 12.00	
	Requirement	≥20 N	
	Conductor type	Type of conductor and H05V-K0.5 conductor cross-section	
		Type of conductor and H05V-U0.5 conductor cross-section	
	Evaluation	passed	
	Requirement	≥50 N	
	Conductor type	Type of conductor and H07V-K2.5 conductor cross-section	
		Type of conductor and H07V-U2.5 conductor cross-section	
	Evaluation	passed	
	Requirement	≥60 N	
	Conductor type	Type of conductor and H07V-K4 conductor cross-section	
		Type of conductor and H07V-U4.0 conductor cross-section	
	Evaluation	passed	
	Requirement	≥80 N	
	Conductor type	Type of conductor and H07V-K6 conductor cross-section	
		Type of conductor and H07V-U6 conductor cross-section	
	Evaluation	passed	

Classifications

ETIM 6.0	EC002643	ETIM 7.0	EC002643
ETIM 8.0	EC002643	ETIM 9.0	EC002643
ECLASS 9.0	27-44-04-01	ECLASS 9.1	27-44-04-01
ECLASS 10.0	27-44-04-01	ECLASS 11.0	27-46-01-01
ECLASS 12.0	27-46-01-01	ECLASS 13.0	27-46-01-01

LLF 7.50/05/90V 5.0SN BK BX SO

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

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"> • 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

Downloads

Engineering Data	CAD data – STEP
Product Change Notification	20220603 Change OMNIMATE® Power LLF 7.5090 20220603 Technische Änderung OMNIMATE® Power LLF 7.5090
User Documentation	Assembly instruction Montageanleitung LLF LUF EN DE
Catalogues	Catalogues in PDF-format

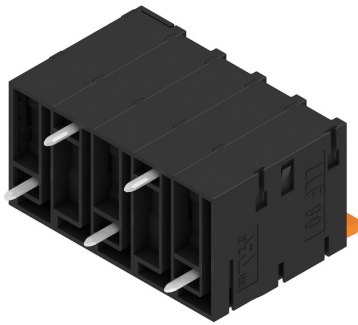
LLF 7.50/05/90V 5.0SN BK BX SO

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

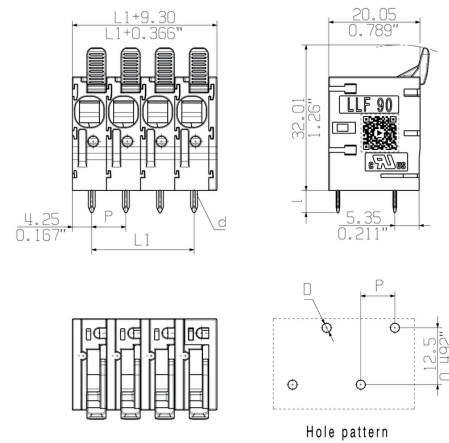
www.weidmueller.com

Drawings

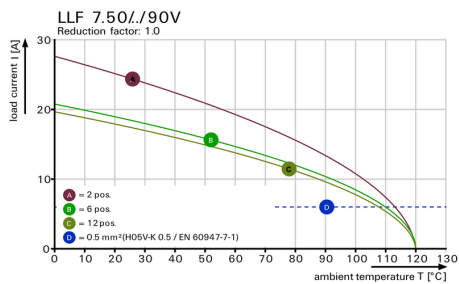
Product image



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

LLF 7.50/05/90V 5.0SN BK BX SO

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Accessories

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:

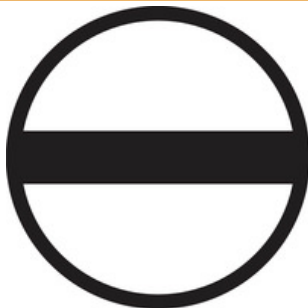
- Test plugs ensure reliable pick-up from diagnostic sockets

In tandem with the manufacturing process and application.

General ordering data

Type	PS 2.0 MC	Version	Product data	Packaging
Order No.	0310000000	PCB plug-in connector, Accessories, Test plug, red, Number of poles: 1		Box
GTIN (EAN)	4008190000059			
Qty.	20 pc(s).			

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.	9008380000	Screwdriver, Screwdriver
GTIN (EAN)	4032248056347	
Qty.	1 pc(s).	

LLF 7.50/05/90V 5.0SN BK BX SO

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

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.	9005000000	Tools, Stripping and cutting tool
GTIN (EAN)	4008190072506	
Qty.	1 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 0.5X3.0X80	Version
Order No.	9008320000	Screwdriver, Screwdriver
GTIN (EAN)	4032248056262	
Qty.	1 pc(s).	

Recommended wave soldering profiles

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 16
D-32758 Detmold
Germany
Fon: +49 5231 14-0
Fax: +49 5231 14-292083
www.weidmueller.com

Single Wave:



Double Wave:



Wave soldering profiles

Wired connection elements should be processed in accordance with the DIN EN 61760-1 standard. We have included two recommendations for practical wave soldering profiles, with which Weidmüller PCB terminals and connectors are qualified.

When choosing a suitable profile for your application, the following factors also need to be considered:

- PCB thickness
- Proportion of Cu in the layers
- Single/double-sided assembly
- Product range
- Heating and cooling rates

The single and double wave profiles each indicate the recommended operating range, including the maximum soldering temperature of 260°C. In practice, the maximum soldering temperature is quite often well below the above maximum profile.

We reserve the right to make technical changes.