

PS 3.50/02/90 3.5SN OR BX

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

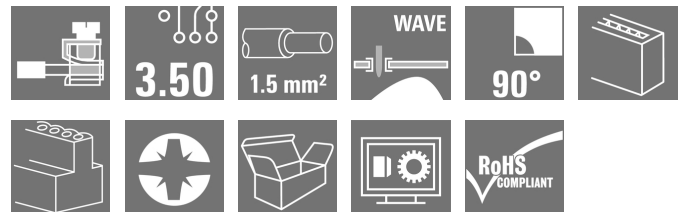
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Product image



Similar to illustration

Very small and compact PCB terminal with leaf spring connection at 3.5 mm pitch, conductor outlet direction 90°. Suitable for conductor cross-sections up to 1.5 mm².



General ordering data

Version	Printed circuit board terminals, 3.50 mm, Number of poles: 2, 90°, Solder pin length (l): 3.5 mm, tinned, orange, Pressure clamp connection, Clamping range, max. : 1.5 mm ² , Box
Order No.	1912320000
Type	PS 3.50/02/90 3.5SN OR BX
GTIN (EAN)	4032248541508
Qty.	100 pc(s).
Product data	IEC: 320 V / 17.5 A / 0.2 - 1.5 mm ² UL: 300 V / 10 A / AWG 28 - AWG 16
Packaging	Box

Creation date February 27, 2023 4:54:39 PM CET

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Technical data

Dimensions and weights

Depth	6.8 mm	Depth (inches)	0.268 inch
Height	11.9 mm	Height (inches)	0.469 inch
Height of lowest version	8.4 mm	Width	7.46 mm
Width (inches)	0.294 inch	Net weight	1.05 g

Temperatures

Operating temperature, min.	-50 °C	Operating temperature, max.	120 °C
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System parameters

Product family	PS	Wire connection method	Pressure clamp connection
Mounting onto the PCB	THT solder connection	Conductor outlet direction	90°
Pitch in mm (P)	3.5 mm	Pitch in inches (P)	0.138 inch
Number of poles	2	Pin series quantity	1
Fitted by customer	Yes	Number of rows	1
Max. adjacent poles per row	24	Solder pin length (l)	3.5 mm
Solder pin dimensions	d = 0.8 mm	Solder eyelet hole diameter (D)	1.3 mm
Solder eyelet hole diameter tolerance (D)+	0,1 mm	Number of solder pins per pole	1
Screwdriver blade	0.4 x 2.5	Screwdriver blade standard	DIN 5264
Tightening torque, min.	0.2 Nm	Tightening torque, max.	0.25 Nm
Clamping screw	M 2	Stripping length	4 mm
L1 in mm	3.5 mm	L1 in inches	0.138 inch
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	orange
Colour chart (similar)	RAL 2000	Insulating material group	I
Comparative Tracking Index (CTI)	≥ 600	UL 94 flammability rating	V-0
Contact material	Copper alloy	Contact surface	tinned
Coating	1-3 µm Ni, 4-6 µm SN	Layer structure of solder connection	1.5...3 µm Ni / 4...6 µm Sn
Storage temperature, min.	-40 °C	Storage temperature, max.	70 °C
Operating temperature, min.	-50 °C	Operating temperature, max.	120 °C
Temperature range, installation, min.	-25 °C	Temperature range, installation, max.	120 °C

Conductors suitable for connection

Clamping range, min.	0.08 mm ²	Clamping range, max.	1.5 mm ²
Wire connection cross section AWG, min.	AWG 28	Wire connection cross section AWG, max.	AWG 16
Solid, min. H05(07) V-U	0.2 mm ²	Solid, max. H05(07) V-U	1.5 mm ²
Flexible, min. H05(07) V-K	0.2 mm ²	Flexible, max. H05(07) V-K	1.5 mm ²
w. plastic collar ferrule, DIN 46228 pt 4, min.	0.25 mm ²	w. plastic collar ferrule, DIN 46228 pt 4, max.	0.75 mm ²
w. wire end ferrule, DIN 46228 pt 1, min.	0.25 mm ²	w. wire end ferrule, DIN 46228 pt 1, max.	0.75 mm ²
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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Catalogue status 18.02.2023 / We reserve the right to make technical changes.

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Rated data acc. to IEC

tested acc. to standard	IEC 60664-1, IEC 61984	Rated current, min. number of poles (Tu=20°C)	17.5 A
Rated current, max. number of poles (Tu=20°C)	17.5 A	Rated current, min. number of poles (Tu=40°C)	17.5 A
Rated current, max. number of poles (Tu=40°C)	17.5 A	Rated voltage for surge voltage class / pollution degree II/2	320 V
Rated voltage for surge voltage class / pollution degree III/2	160 V	Rated voltage for surge voltage class / pollution degree III/3	160 V
Rated impulse voltage for surge voltage class/ pollution degree II/2	2.5 kV	Rated impulse voltage for surge voltage class/ pollution degree III/2	2.5 kV
Rated impulse voltage for surge voltage class/ contamination degree III/3	2.5 kV		

Rated data acc. to CSA

Institute (CSA)		Certificate No. (CSA)	200039-1815154
Rated voltage (Use group B / CSA)	300 V	Rated current (Use group B / CSA)	10 A
Wire cross-section, AWG, min.	AWG 28	Wire cross-section, AWG, max.	AWG 16
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

Rated data acc. to UL 1059

Institute (cURus)		Certificate No. (cURus)	E60693
Rated voltage (Use group B / UL 1059)	300 V	Rated voltage (Use group D / UL 1059)	300 V
Rated current (Use group B / UL 1059)	10 A	Rated current (Use group D / UL 1059)	10 A
Wire cross-section, AWG, min.	AWG 28	Wire cross-section, AWG, max.	AWG 16
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

Packing

Packaging	Box	VPE length	99 mm
VPE width	91 mm	VPE height	38 mm

Type tests

Test: Durability of markings	Test	mark of origin, type identification, type of material, approval marking UL, approval marking CSA, pitch
	Evaluation	available
	Test	durability
	Evaluation	passed

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Test: Clampable cross section	Standard	DIN EN 60999-1 section 7 and 9.1 / 12.00, DIN EN 60947-1 section 8.2.4.5.1 / 12.02	
	Conductor type	Type of conductor and conductor cross-section	solid 0.08 mm ²
		Type of conductor and conductor cross-section	stranded 0.08 mm ²
		Type of conductor and conductor cross-section	solid 1.5 mm ²
		Type of conductor and conductor cross-section	stranded 1.5 mm ²
		Type of conductor and conductor cross-section	AWG 28/1
		Type of conductor and conductor cross-section	AWG 28/19
		Type of conductor and conductor cross-section	AWG 16/1
		Type of conductor and conductor cross-section	AWG 16/19
Evaluation	passed		
Test for damage to and accidental loosening of conductors	Standard	DIN EN 60999-1 section 9.4 / 12.00	
	Requirement	0.2 kg	
	Conductor type	Type of conductor and conductor cross-section	stranded 0.25 mm ²
		Type of conductor and conductor cross-section	AWG 28/1
		Type of conductor and conductor cross-section	AWG 28/19
	Evaluation	passed	
	Requirement	0.3 kg	
	Conductor type	Type of conductor and conductor cross-section	solid 0.5 mm ²
	Evaluation	passed	
	Requirement	0.4 kg	
Conductor type	Type of conductor and conductor cross-section	solid 1.5 mm ²	
	Type of conductor and conductor cross-section	stranded 1.5 mm ²	
	Type of conductor and conductor cross-section	AWG 16/1	
	Type of conductor and conductor cross-section	AWG 16/19	
Evaluation	passed		

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Technical data

Pull-out test	Standard	DIN EN 60999-1 section 9.5 / 12.00		
	Requirement	≥10 N		
	Conductor type	Type of conductor and conductor cross-section	AWG 28/1	
		Type of conductor and conductor cross-section	AWG 28/19	
	Evaluation	passed		
	Requirement	≥20 N		
	Conductor type	Type of conductor and conductor cross-section	H05V-U0.5	
		Type of conductor and conductor cross-section	H05V-K0.5	
	Evaluation	passed		
	Requirement	≥40 N		
	Conductor type	Type of conductor and conductor cross-section	H07V-U1.5	
		Type of conductor and conductor cross-section	H07V-K1.5	
		Type of conductor and conductor cross-section	AWG 16/1	
		Type of conductor and conductor cross-section	AWG 16/19	
	Evaluation	passed		

Classifications

ETIM 6.0	EC002643	ETIM 7.0	EC002643
ETIM 8.0	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

Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
SCIP	92756f44-b3ae-437b-8a77-8ecb45fe4af6

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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"> 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 The data given under CSA relates to a cUL approval - E60693 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. It is necessary to hold the insulating body of the one or two pole terminal when tightening the screw Long term storage of the product with average temperature of 50 °C and average humidity 70%, 36 months

Approvals

Approvals



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

Downloads

Approval/Certificate/Document of Conformity	Declaration of the Manufacturer
Engineering Data	CAD data – STEP
Engineering Data	WSCAD
Catalogues	Catalogues in PDF-format
Brochures	FL DRIVES EN FL ANALO.SIGN.CONV. EN MB DEVICE MANUF. EN FL DRIVES DE FL BUILDING SAFETY EN FL APPL LED LIGHTING EN FLIndustr.CONTROLS EN FL MACHINE SAFETY EN FL HEATING ELECTR EN FL APPL_INVERTER EN FL_BASE_STATION EN FL ELEVATOR EN FL POWER SUPPLY EN FL 72H SAMPLE SER EN PO OMNIMATE EN PO OMNIMATE EN

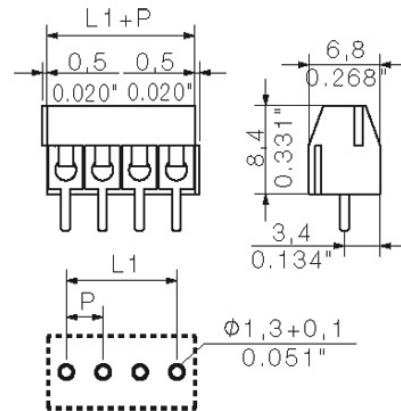
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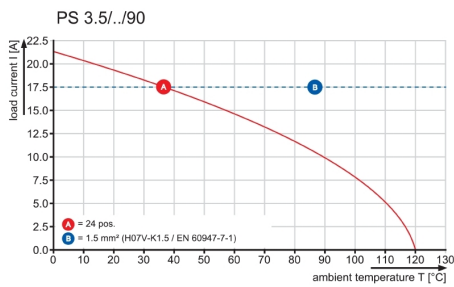
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Drawings

Dimensional drawing



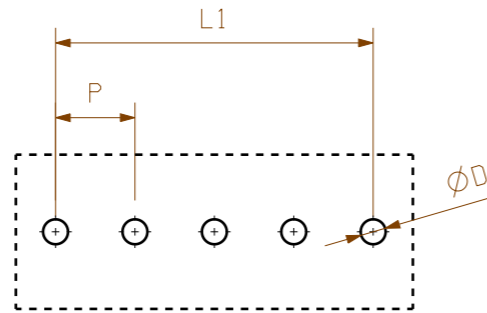
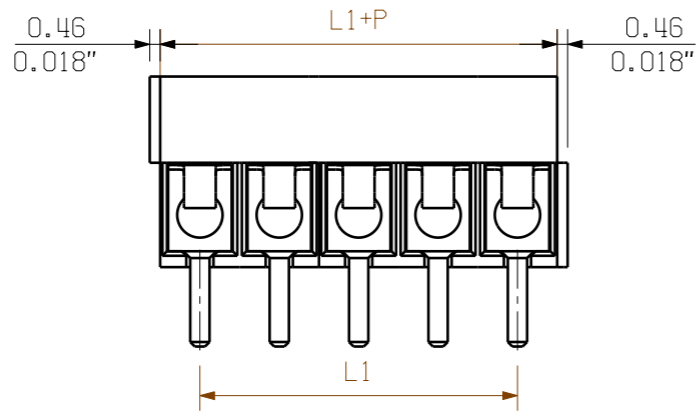
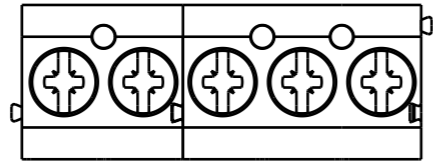
Graph



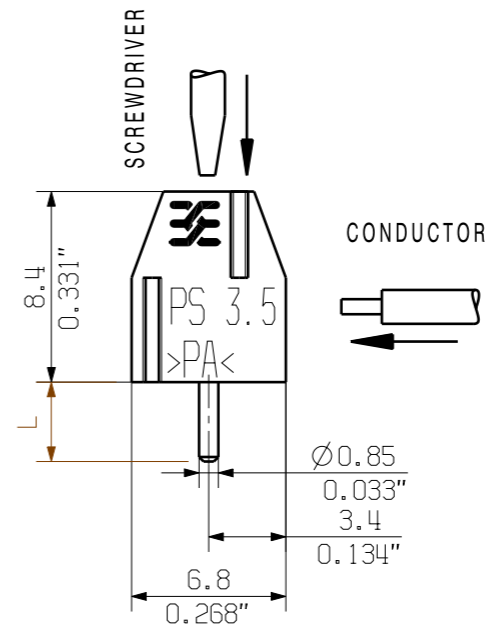
MASSE OHNE TOLERANZ SIND KEINE PRUEFMASSE
 DIMS. WITHOUT TOLERANCE ARE NOT CONTROL DIMS.

DIE DEUTSCHE VERSION IST VERBINDLICH
 THE GERMAN VERSION IS BINDING

06



PCB LAYOUT



STIFTLÄNGE L PIN LENGTH L	TOLERANZ TOLERANCE
3.5	0.2 -0.2

KUNDENZEICHNUNG
 CUSTOMER DRAWING

16	52.50	2.068
15	49.00	1.930
14	45.50	1.792
13	42.00	1.654
12	38.50	1.516
11	35.00	1.378
10	31.50	1.240
9	28.00	1.102
8	24.50	0.965
7	21.00	0.827
6	17.50	0.689
5	14.00	0.551
4	10.50	0.413
3	7.00	0.276
2	3.50	0.138
N	L1 [mm]	L1 [inch]

For the mounting of PCBs, it should be noted that the rated data stated here relates only to the PCB components alone.
 The necessary creepage and clearance paths must be observed in connection with the respective applicant in accordance to IEC 664 / VDE 0110.
 The current-carrying capacity and pitch tolerance is to be determined according to DIN IEC 326 part 3 very fine.

Weidmüller PCB components are tested to the DIN EN 61984 standard, and are valid for its field of application.
 Provided that the components are used to the intended purpose, all requirements with respect to the occurring of electrical, mechanical, thermic and corrosive stress will be satisfied.

GENERAL TOLERANCE: DIN ISO 2768-m		CAT.NO.:	
RoHS COMPLIANT	MAX. NRN./NOS.	85497/5 08.01.16 MA_J 01	C 41693 06
MODIFICATION		DRAWING NO. ISSUE NO. SHEET 01 OF 01 SHEETS	
SCALE: 3/1 SUPERSEDES:	DATE 12.04.2005	NAME HE_J	PS 3.5/.../90 ... LEITERPLATTENKLEMME PCB TERMINAL
	RESPONSIBLE MA_J	CHECKED 08.01.2016 ZHOU_N	
	APPROVED XU_S	PRODUCT FILE: PS 3.5	
		7061	

WEITERGABE SOWIE VERVIELFÄLTIGUNG DIESES DOKUMENTS, VERWERTUNG UND MITTEILUNG SEINES INHALTS SIND VERBOTEN, SOWEIT NICHT AUSDRUECKLICH GESTATTET.
 ZUWIDERHANDLUNGEN VERPFLICHTEN ZU SCHADENERSATZ. ALLE RECHTE FUER DEN FALL DER PATENT-, GEBRAUCHSMUSTER- ODER GESCHMACKSMUSTEREINTRAGUNG VORBEHALTEN.
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Recommended wave soldering profiles

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 Fax: +49 5231 14-292083
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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.