OMNIMATE Signal - series BL/SL 3.50
SL-SMT 3.50/18/135F 3.2SN BK BX

Weidmüller Interface GmbH & Co. KG
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Product image

Similar to illustration

High-temperature-resistant male header, 3.50 mm pitch.

- **Plugging direction parallel (90°), straight 180° or angled (135°) to PCB**
- **Housing variants: closed side (G), screw flange (F), solder flange (LF) or snap-on solder flange (RF)**
- **Optimised for the SMT process**
- **Pin length 3.2 mm universal for all soldering methods**
- **Pin length 1.5 mm optimised for reflow soldering methods**
- **Packed either in a box (BX) or tape-on-reel (RL)**
- **Male header can be coded**

General ordering data

Type	SL-SMT 3.50/18/135F 3.2SN BK BX
Order No.	1003680000
Version	PCB plug-in connector, male header, Flange, THT/ THR solder connection, 3.50 mm, Number of poles: 18, 135°, Solder pin length (I): 3.2 mm, tinned, black, Box
GTIN (EAN)	4032248700301
Qty.	24 pc(s).
Product data	IEC: 320 V / 15 A UL: 300 V / 10 A
Packaging	Box

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Technical data

Dimensions and weights

Width	70 mm	Width (inches)	2.756 inch
Height	16.2 mm	Height (inches)	0.638 inch
Height of lowest version	13 mm	Depth	13.2 mm
Depth (inches)	0.52 inch	Net weight	5.86 g

System specifications

Product family	OMNIMATE Signal - series BL/SL 3.50
Type of connection	Board connection
Mounting onto the PCB	THT/THR solder connection
Pitch in mm (P)	3.5 mm
Pitch in inches (P)	0.138 inch
Outgoing elbow	135°
Number of poles	18
Number of solder pins per pole	1
Solder pin length (l)	3.2 mm
Tolerance of solder pin position	± 0.20 mm
Solder pin dimensions	d = 1.2 mm, Octagonal
Solder eyelet hole diameter (D)	1.3 mm
Solder eyelet hole diameter tolerance (D)	+ 0,1 mm
Outside diameter of solder pad	2.3 mm
Template aperture diameter	2.1 mm
L1 in mm	59.5 mm
L1 in inches	2.343 inch
Number of rows	1
Pin series quantity	1
Volume resistance	≤ 5mΩ
Plugging cycles	25
Plugging force/pole, max.	10 N
Pulling force/pole, max.	8 N
Tightening torque	Torque type: PCB, Screw flange Usage information: Tightening torque: min. 0.15 Nm; max. 0.2 Nm Recommended screw: Part number: PTSC KA 2.2X4.5 WN1412

Material data

Insulating material	LCP GF	Colour	black
Colour chart (similar)	RAL 9011	Insulating material group	IIIa
Comparative Tracking Index (CTI)	≥ 175	Insulation strength	≥ 10^8 Ω
Moisture Level (MSL)	1	UL 94 flammability rating	V-0
GWIT	930 °C	GWFI	960 °C
Contact material	CuSn	Contact surface	tinned
Layer structure of solder connection	2-4 µm Ni / 5-8 µm Sn glossy	Layer structure of plug contact	2-4 µm Ni / 5-8 µm Sn glossy
Storage temperature, min.	-25 °C	Storage temperature, max.	50 °C
Max. relative humidity during storage	70 %	Operating temperature, min.	-50 °C
Operating temperature, max.	100 °C	Temperature range, installation, min.	-30 °C
Temperature range, installation, max.	100 °C		

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Technical data

Rated data acc. to IEC

tested acc. to standard	IEC 60664-1, IEC 61984	Rated current, min. number of poles (Tu=20°C)	15 A
Rated current, max. number of poles (Tu=20°C)	12 A	Rated current, min. number of poles (Tu=40°C)	13 A
Rated current, max. number of poles (Tu=40°C)	10 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

Rated voltage (Use group B / CSA)	300 V	Rated voltage (Use group D / CSA)	300 V
Rated current (Use group B / CSA)	10 A	Rated current (Use group D / CSA)	10 A

Rated data acc. to UL 1059

Institute (UR)		Certificate No. (UR)	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
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

Packing

Packaging	Box	VPE length	0
VPE width	0	VPE height	0

Classifications

ETIM 6.0	EC002637	ETIM 7.0	EC002637
eClass 9.0	27-44-04-02	eClass 9.1	27-44-04-02
eClass 10.0	27-44-04-02	UNSPSC	30-21-18-01

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Technical data

Notes

Notes	• Gold-plated contact surfaces on request • Rated current related to rated cross-section & min. No. of poles. • Diameter of solder eyelet D = 1.4+0.1mm • Solder eyelet diameter D = 1.5 + 0.1 mm, from 9 poles • 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.
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.

Approvals

Approvals	
ROHS	Conform

Downloads

Approval/Certificate/Document of Conformity	Declaration of the Manufacturer
Brochure/Catalogue	FL DRIVES EN MB SMT EN FL DRIVES DE MB DEVICE MANUF. EN CAT 2 PORTFOLIOGUIDE EN FL BUILDING SAFETY EN FL APPL LED LIGHTING EN FL INDUSTR.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
Engineering Data	EPLAN, WSCAD
Engineering Data	STEP
White paper surface mount technology	Download Whitepaper

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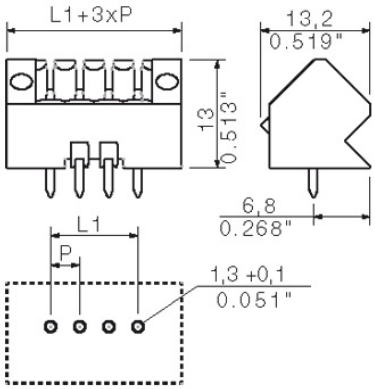
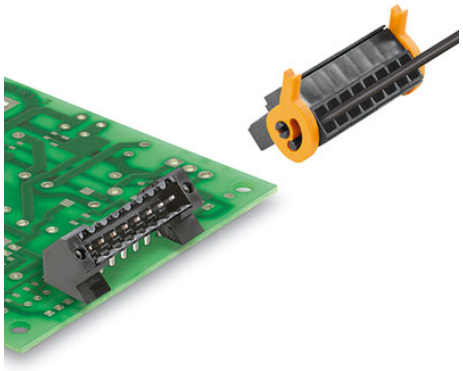
Drawings

Dimensional drawing



Example of use



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Mating connector (conditionally pluggable)

BL 3.50/180LH

Female connectors with clamping yoke screw system for connecting conductors at 3.50 mm pitch. They provide space for labelling and can be coded.

General ordering data

Type	BL 3.50/18/180LH SN OR ...	Version	Product data	Packaging
Order No.	1687810000	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 18,	IEC: 320 V / 17 A / 0.2 - 1.5 mm²	Box
GTIN (EAN)	4008190853365	180°, Clamping yoke connection, Clamping range, max. : 1.5 mm²,	UL: 300 V / 10 A / AWG 28 - AWG 14	
Qty.	24 pc(s).	Box		
Type	BL 3.50/18/180LH SN DKG ...	Version	Product data	Packaging
Order No.	1752880000	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 18,	IEC: 320 V / 17 A / 0.2 - 1.5 mm²	Box
GTIN (EAN)	4032248007493	180°, Clamping yoke connection, Clamping range, max. : 1.5 mm²,	UL: 300 V / 10 A / AWG 28 - AWG 14	
Qty.	20 pc(s).	Box		
Type	BL 3.50/18/180LH SN BK ...	Version	Product data	Packaging
Order No.	1688040000	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 18,	IEC: 320 V / 17 A / 0.2 - 1.5 mm²	Box
GTIN (EAN)	4008190853594	180°, Clamping yoke connection, Clamping range, max. : 1.5 mm²,	UL: 300 V / 10 A / AWG 28 - AWG 14	
Qty.	24 pc(s).	Box		

BL 3.50/180F

Female connectors with clamping yoke screw system for connecting conductors at 3.50 mm pitch. They provide space for labelling and can be coded.

General ordering data

Type	BL 3.50/18/180F SN DKGN ...	Version	Product data	Packaging
Order No.	1621290000	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 18,	IEC: 320 V / 17 A / 0.2 - 1.5 mm²	Box
GTIN (EAN)	4008190170912	180°, Clamping yoke connection, Clamping range, max. : 1.5 mm²,	UL: 300 V / 10 A / AWG 28 - AWG 14	
Qty.	20 pc(s).	Box		
Type	BL 3.50/18/180F SN OR BX	Version	Product data	Packaging
Order No.	1620770000	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 18,	IEC: 320 V / 17 A / 0.2 - 1.5 mm²	Box
GTIN (EAN)	4008190163075	180°, Clamping yoke connection, Clamping range, max. : 1.5 mm²,	UL: 300 V / 10 A / AWG 28 - AWG 14	
Qty.	24 pc(s).	Box		
Type	BL 3.50/18/180F SN BK BX	Version	Product data	Packaging
Order No.	1620850000	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 18,	IEC: 320 V / 17 A / 0.2 - 1.5 mm²	Box
GTIN (EAN)	4008190164621	180°, Clamping yoke connection, Clamping range, max. : 1.5 mm²,	UL: 300 V / 10 A / AWG 28 - AWG 14	
Qty.	24 pc(s).	Box		

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Mating connector (conditionally pluggable)

Type	BL 3.50/18/180F SN GY BX	Version	Product data	Packaging
Order No.	1621080000	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 18,	IEC: 320 V / 17 A / 0.2 - 1.5 mm²	Box
GTIN (EAN)	4008190168247	180°, Clamping yoke connection, Clamping range, max. : 1.5 mm²,	UL: 300 V / 10 A / AWG 28 - AWG 14	
Qty.	20 pc(s).	Box		

BL 3.50/90F

Female connectors with clamping yoke screw system for connecting conductors at 3.50 mm pitch. They provide space for labelling and can be coded.

General ordering data

Type	BL 3.50/18/90F SN OR BX	Version	Product data	Packaging
Order No.	1639170000	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 18,	IEC: 320 V / 12 A / 0.2 - 1.5 mm²	Box
GTIN (EAN)	4008190276713	90°, Clamping yoke connection, Clamping range, max. : 1.5 mm², Box	UL: 300 V / 8 A / AWG 28 - AWG 14	
Qty.	24 pc(s).			

Type	BL 3.50/18/90F SN BK BX	Version	Product data	Packaging
Order No.	1639400000	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 18,	IEC: 320 V / 12 A / 0.2 - 1.5 mm²	Box
GTIN (EAN)	4008190276942	90°, Clamping yoke connection, Clamping range, max. : 1.5 mm², Box	UL: 300 V / 8 A / AWG 28 - AWG 14	
Qty.	24 pc(s).			

BL 3.50/270F

Female connectors with clamping yoke screw system for connecting conductors at 3.50 mm pitch. They provide space for labelling and can be coded.

General ordering data

Type	BL 3.50/18/270F SN BK BX	Version	Product data	Packaging
Order No.	1640320000	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 18,	IEC: 320 V / 12 A / 0.2 - 1.5 mm²	Box
GTIN (EAN)	4008190277901	270°, Clamping yoke connection, Clamping range, max. : 1.5 mm²,	UL: 300 V / 8 A / AWG 28 - AWG 14	
Qty.	24 pc(s).	Box		

Type	BL 3.50/18/270F SN OR BX	Version	Product data	Packaging
Order No.	1640090000	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 18,	IEC: 320 V / 12 A / 0.2 - 1.5 mm²	Box
GTIN (EAN)	4008190277642	270°, Clamping yoke connection, Clamping range, max. : 1.5 mm²,	UL: 300 V / 8 A / AWG 28 - AWG 14	
Qty.	24 pc(s).	Box		

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Mating connector (fully pluggable)

BL 3.50/90

Female connectors with clamping yoke screw system for connecting conductors at 3.50 mm pitch. They provide space for labelling and can be coded.

General ordering data

Type	BL 3.50/18/90 SN OR BX	Version	Product data	Packaging
Order No.	1638710000	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 18,	IEC: 320 V / 12 A / 0.2 - 1.5 mm²	Box
GTIN (EAN)	4008190276263	90°, Clamping yoke connection, Clamping range, max. : 1.5 mm², Box	UL: 300 V / 8 A / AWG 28 - AWG 14	
Qty.	24 pc(s).			
Type	BL 3.50/18/90 SN BK BX	Version	Product data	Packaging
Order No.	1638940000	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 18,	IEC: 320 V / 12 A / 0.2 - 1.5 mm²	Box
GTIN (EAN)	4008190276485	90°, Clamping yoke connection, Clamping range, max. : 1.5 mm², Box	UL: 300 V / 8 A / AWG 28 - AWG 14	
Qty.	24 pc(s).			

BLF 3.50/180LH

Connect efficiently - in a small space: female header with spring connection (PUSH IN) as a plug-in connection level; used together with male headers in 3.50 mm pitch.

General ordering data

Type	BLF 3.50/18/180LH SN OR ...	Version	Product data	Packaging
Order No.	2460110000	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 18,	IEC: 320 V / 17.5 A / 0.14 - 1.5 mm²	Box
GTIN (EAN)	4050118475524	180°, PUSH IN, Spring connection, Clamping range, max. : 1.5 mm²,	UL: 300 V / AWG 26 - AWG 16	
Qty.	24 pc(s).	Box		
Type	BLF 3.50/18/180LH SN BK ...	Version	Product data	Packaging
Order No.	2538170000	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 18,	IEC: 320 V / 17.5 A / 0.14 - 1.5 mm²	Box
GTIN (EAN)	4050118549898	180°, PUSH IN, Spring connection, Clamping range, max. : 1.5 mm²,	UL: 300 V / AWG 26 - AWG 16	
Qty.	24 pc(s).	Box		

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Mating connector (fully pluggable)

BL 3.50/270

Female connectors with clamping yoke screw system for connecting conductors at 3.50 mm pitch. They provide space for labelling and can be coded.

General ordering data

Type	BL 3.50/18/270 SN BK BX	Version	Product data	Packaging
Order No.	1639860000	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 18,	IEC: 320 V / 12 A / 0.2 - 1.5 mm²	Box
GTIN (EAN)	4008190277413	270°, Clamping yoke connection, Clamping range, max. : 1.5 mm²,	UL: 300 V / 8 A / AWG 28 - AWG 14	
Qty.	20 pc(s).	Box		
Type	BL 3.50/18/270 SN OR BX	Version	Product data	Packaging
Order No.	1639630000	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 18,	IEC: 320 V / 12 A / 0.2 - 1.5 mm²	Box
GTIN (EAN)	4008190277185	270°, Clamping yoke connection, Clamping range, max. : 1.5 mm²,	UL: 300 V / 8 A / AWG 28 - AWG 14	
Qty.	24 pc(s).	Box		

BLF 3.50/180F

Connect efficiently - in a small space: female header with spring connection (PUSH IN) as a plug-in connection level; used together with male headers in 3.50 mm pitch.

General ordering data

Type	BLF 3.50/18/180F SN BK ...	Version	Product data	Packaging
Order No.	2537990000	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 18,	IEC: 320 V / 17.5 A / 0.14 - 1.5 mm²	Box
GTIN (EAN)	4050118549744	180°, PUSH IN, Spring connection, Clamping range, max. : 1.5 mm²,	UL: 300 V / AWG 26 - AWG 16	
Qty.	24 pc(s).	Box		

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Mating connector (fully pluggable)

BL 3.50/180

Female connectors with clamping yoke screw system for connecting conductors at 3.50 mm pitch. They provide space for labelling and can be coded.

General ordering data

Type	BL 3.50/18/180 SN GY BX	Version	Product data	Packaging
Order No.	1620610000	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 18,	IEC: 320 V / 17 A / 0.2 - 1.5 mm²	Box
GTIN (EAN)	4008190159795	180°, Clamping yoke connection, Clamping range, max. : 1.5 mm²,	UL: 300 V / 10 A / AWG 28 - AWG 14	
Qty.	20 pc(s).	Box		
Type	BL 3.50/18/180 SN OR BX	Version	Product data	Packaging
Order No.	1620300000	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 18,	IEC: 320 V / 17 A / 0.2 - 1.5 mm²	Box
GTIN (EAN)	4008190154172	180°, Clamping yoke connection, Clamping range, max. : 1.5 mm²,	UL: 300 V / 10 A / AWG 28 - AWG 14	
Qty.	24 pc(s).	Box		
Type	BL 3.50/18/180 SN DKGN ...	Version	Product data	Packaging
Order No.	1620690000	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 18,	IEC: 320 V / 17 A / 0.2 - 1.5 mm²	Box
GTIN (EAN)	4008190160630	180°, Clamping yoke connection, Clamping range, max. : 1.5 mm²,	UL: 300 V / 10 A / AWG 28 - AWG 14	
Qty.	24 pc(s).	Box		
Type	BL 3.50/18/180 SN BK BX	Version	Product data	Packaging
Order No.	1620380000	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 18,	IEC: 320 V / 17 A / 0.2 - 1.5 mm²	Box
GTIN (EAN)	4008190155766	180°, Clamping yoke connection, Clamping range, max. : 1.5 mm²,	UL: 300 V / 10 A / AWG 28 - AWG 14	
Qty.	24 pc(s).	Box		

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Accessories

Coding elements

Only connects what is supposed to be connected: the right connection at the right place.
Coding elements and locking devices clearly assign connecting elements during the manufacturing process and operation
The coding elements and locking devices are inserted prior to assembly or during the cable assembly phase.
The Weidmüller alternative: configure online using the variant configurator to precode prior to delivery.
Incorrect assembly on the circuit board and incorrect plugging of connecting elements is no longer possible.
The advantage: no troubleshooting during manufacture and no operational errors by the user.

General ordering data

Type	BL SL 3.5 KO OR	Version	Product data	Packaging
Order No.	1693430000	PCB plug-in connector, Accessories, Coding element, orange, Number		Box
GTIN (EAN)	4008190867447	of poles: 1		
Qty.	100 pc(s).			

Type	BL SL 3.5 KO SW	Version	Product data	Packaging
Order No.	1610100000	PCB plug-in connector, Accessories, Coding element, black, Number		Box
GTIN (EAN)	4008190187637	of poles: 1		
Qty.	100 pc(s).			

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

DIE DEUTSCHE VERSION IST VERBINDLICH
THE GERMAN VERSION IS BINDING

Technical Data

Rev.

Material data		
Insulation material type		LCP
Insulation material colors		black
Insulation material flammability class	UL94	V-0
Insulation resistance	MOhm	>0.5x10 ^{6}
Contact base material		CuSn
Contact plating (mating end)		see order sheet
Contact plating (solder end)		see order sheet

System characteristic values	together with conterpart	BL 3.5	
Pitch **P**	mm/inch	3.5/0.138	
Number of rows		1	
Dielectric strength (r.m.s withstand voltage)	kV	>2.2	
Mechanical operating cycles	acc.to IEC512	25	
Plug in force (max.)	N/Pole	10	1)
Pull out force (max.)	N/Pole	10	1)
Through resistance (typical)	m Ohm	4.5	
Operating temperatur range	°C	-20..100	2)
Degree of protection acc. to VDE 0106 (plugged/unplugged)		finger safe/back of hands	
Degree of protection acc. to DIN EN 60529(plugged/unplugged)		IP20/IP10	
Solder pin length **L**	mm/inch	3.2/0.126	
PCB hole diameter **D** (wave soldering)	mm/inch	1.3+0.1/0.51+0.004	3)
PCB hole diameter **D** (reflow soldering)	mm/inch	n.a.	4)
Resistance to soldering heat acc. to DIN IEC 60512-6	°C/sec	-	5)
Resistance to soldering heat acc. to EN 61760-1	°C/sec	290/30	6)
Solderability classification acc. to EN 61760-1		class A	
Solder connection type		Reflow	
Solder pin diameter **d** (max.)	mm/inch	1.2/0.047	

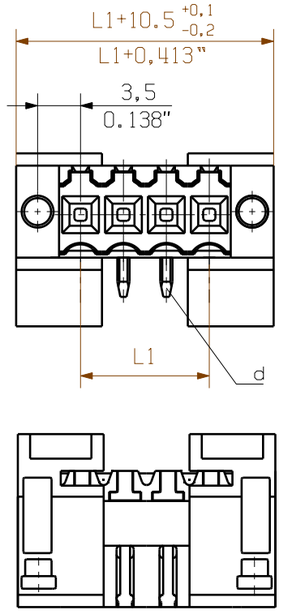
Application notes		
Coding possibility	yes/no	yes (accessory)
Joinable without loss of pitch	yes/no	no
Manual assembly of modules	yes/no	no
Max. number of poles	n	24

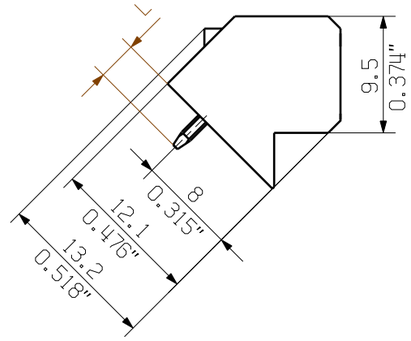
IEC 664-1 / VDE0110 (4.97) rated data					
Rated cross section acc. to EN 60999	mm^2	n.a.			
Rated current @ 20°C ambient (together with)	A	16.8 (BL3.5)			7)
Rated current @ 40°C ambient (together with)	A	14.4 (BL3.5)			7)
Overvoltage category / Pollution degree		**III/3**	**III/2**	**II/2**	
Rated voltage	V	160	160	250	
Rated impulse voltage	kV	2.5	2.5	2.5	

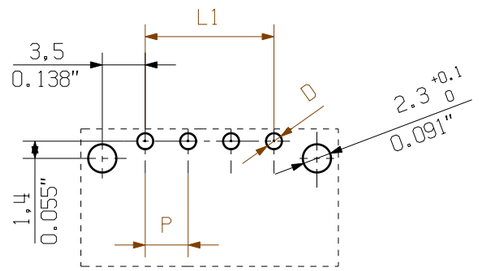
UL 1059 rated data — File No.: E60693		B	C	D
Rated voltage	V	300	-	300
Rated current	A	10	-	10
AWG wire range (field wiring / factory wiring)		n.a.		

CSA C22.2 rated data — File No.: LR12400		B	C	D
Rated voltage		300	-	300
Rated current		10	-	10
AWG wire range (field wiring / factory wiring)		n.a.		

Packaging	cardbox
Downloads	www.weidmueller.de..







LAYOUT FINISHED HOLES

n	L1 [mm]	L1 [Inch]
24	80,50	3,169
23	77,00	3,031
22	73,50	2,894
21	70,00	2,756
20	66,50	2,618
19	63,00	2,480
18	59,50	2,343
17	56,00	2,205
16	52,50	2,067
15	49,00	1,929
14	45,50	1,791
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

STIFTLAENGE L	TOLERANZ
3,2	0,1
	-0,3

1) Without locking latches
2) Sum of ambient temperature and temperature rise
3) Recommendation for manual assembly
4) Recommendation for automatic assembly
5) Recommendation for wave soldering
6) Recommendation for reflow soldering
7) Referred to rated cross section and minimum pole number

n.a. = not applicable

Subject to technical changes

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

Weidmüller connectors are tested to the DIN VDE 0627 standard, and are valid for its field of application. Provided that the connectors are used to the intended purpose, all requirements with respect to the occuring of electrical, mechanical, thermic and corrosive stress will be satisfied.

SHOWN: SL3.5/4/135F

RoHS COMPLIANT

METRIC TOLERANCES:
X. = ±0.3
X.X = ±0.1
X.XX = ±0.05

39056/5
07.07.08 HELIS_MA 01
MODIFICATION

CAT.NO.: .

Weidmüller

C 42538 01
DRAWING NO. ISSUE NO.
SHEET 02 OF 03 SHEETS

	DATE	NAME
DRAWN	04.07.2008	HELIS_MA
RESPONSIBLE		HERTEL_S
CHECKED	07.07.2008	HECKERT_M
APPROVED		HECKERT_M

SCALE: 2/1
SUPERSEDES: .

SL SMT 3.5/../135F
STIFTLEISTE
PIN HEADER

PRODUCT FILE: SL-SMT 3.5 7312

WEITERGABE SOWIE VERVIELFAELTIGUNG 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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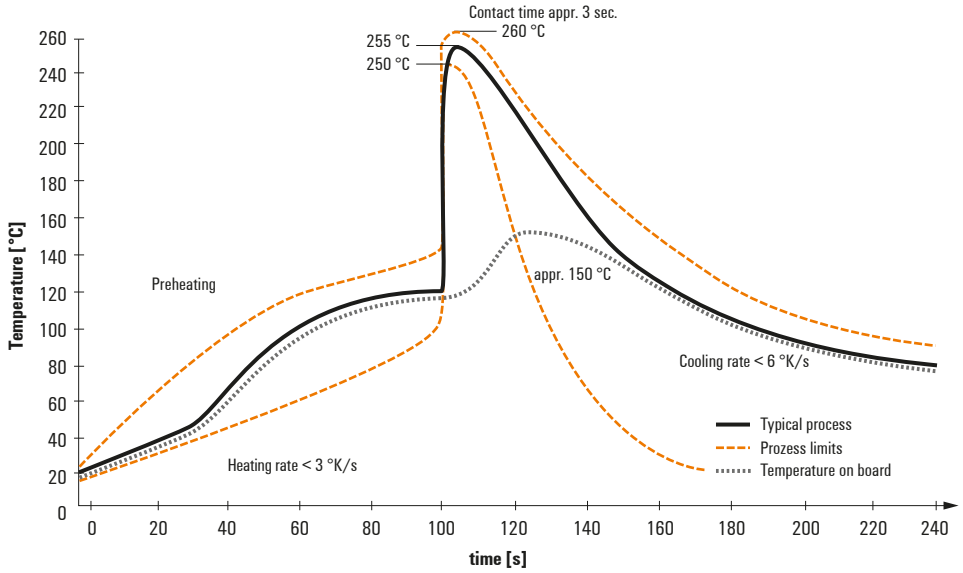
Wave Solder Profile

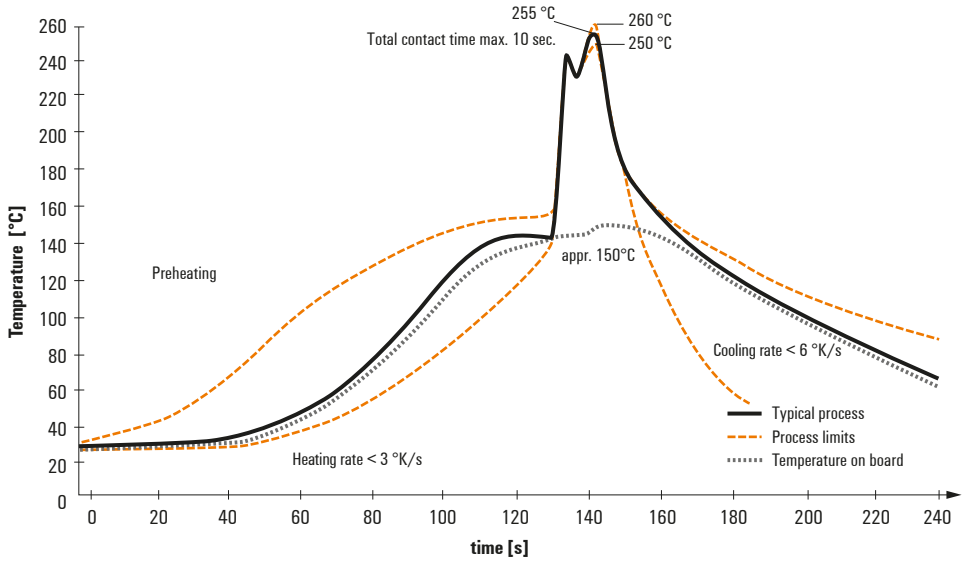
Recommended wave solderding profiles

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

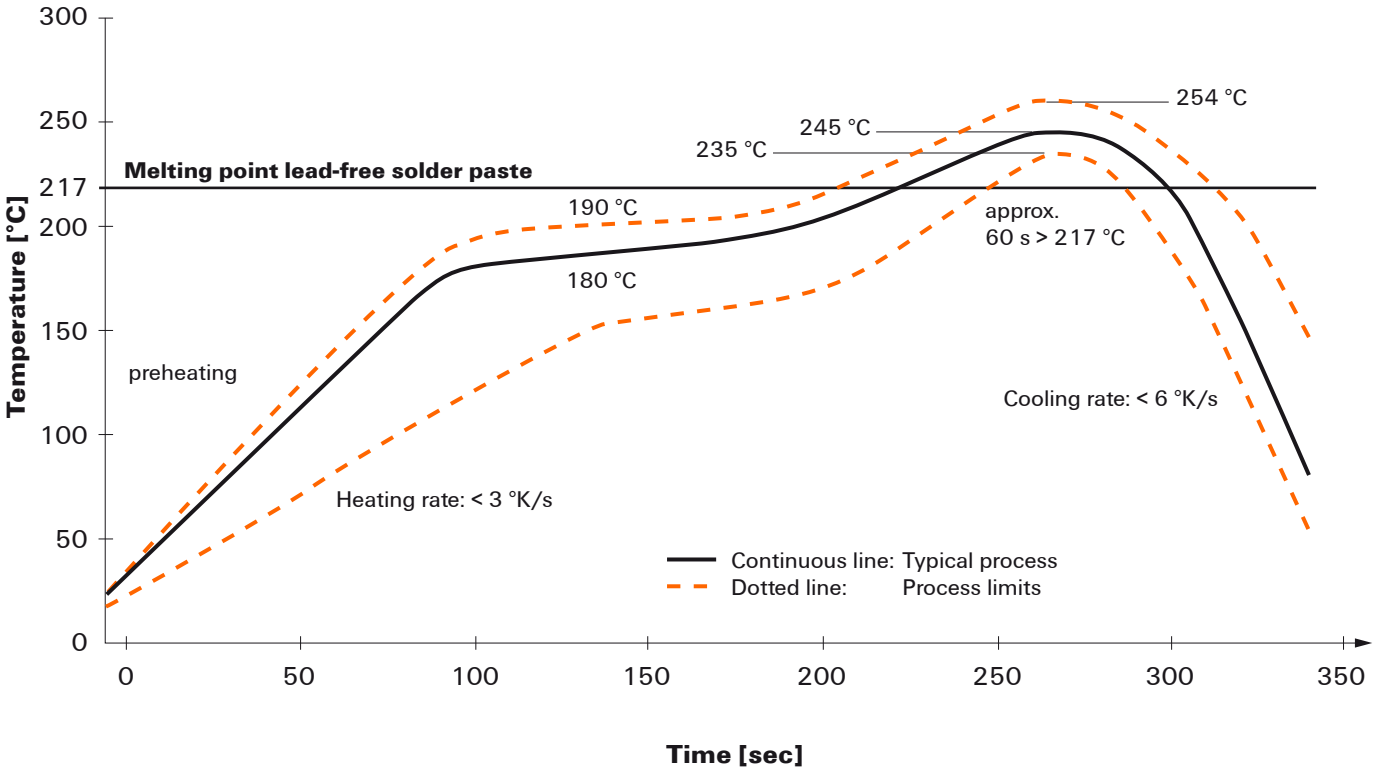
The single and double wave profiles each indicate the recommended operating range, including the maximum soldering temperature of 260°C. In practice, the maximum soldering temperature is quite often well below the above maximum profile.

We reserve the right to make technical changes.

Reflow Solder Profile

Recommended reflow soldering profile

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



Reflow soldering profile

The perfect soldering profile for SMT Surface Mount Technology is one the most exiting question in SMT production. But there are more than one correct answer: The diagram of temperature-on-time is related to processing features of solder paste and to maximum load of components.

We have to consider the following parameters:
- Time for pre heating
- Maximum temperature
- Time above melting point
- Time for cooling
- Maximum heating rate
- Maximum cooling rate

We recommend a typical solder profile with associated process limits. With preheating components and board are prepared smoothly for the solder phase. Heating rate is typically ≤ +3K/s. In parallel the solder paste is ‚activated'. The time above melting point of 217°C the paste gets liquid and components and boards begin to connect. The maximum temperature of 245°C to 254°C should stay between 10 and 40 seconds. In the cooling phase at ≥ -6K/s solder is cured. Board and components cool down while avoiding cold cracks.

We reserve the right to make technical changes.