



Klingenbergstraße 26 D-32758 Detmold Germany

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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

Version	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 2, 180°, PUSH IN with actuator, Clamping range, max. : 1.5 mm², Box
Order No.	2460150000
Туре	BLF 3.50/02/180QV SN OR BX
GTIN (EAN)	4050118474862
Qty.	264 items
Product data	IEC: 320 V / 17.5 A / 0.14 - 1.5 mm ² UL: 300 V / 10 A / AWG 26 - AWG 16
Packaging	Вох





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Technical data

Approvals

Approvals	c FL *us
ROHS	Conform
UL File Number Search	<u>UL Website</u>
Certificate No. (cURus)	E60693

Dimensions and weights

Depth	22.7 mm	Depth (inches)	0.8937 inch
Height	10.95 mm	Height (inches)	0.4311 inch
Width	7 mm	Width (inches)	0.2756 inch
Net weight	5.49 g		

Environmental Product Compliance

Compliant without exemption
No SVHC above 0.1 wt%

System Parameters

Product family	OMNIMATE Signal - series BL/SL 3.50
Type of connection	Field connection
Wire connection method	PUSH IN with actuator
Pitch in mm (P)	3.50 mm
Pitch in inches (P)	0.138 "
Conductor outlet direction	180°
Number of poles	2
L1 in mm	3.50 mm
L1 in inches	0.138 "
Number of rows	1
Pin series quantity	1
Rated cross-section	1.5 mm ²
Touch-safe protection acc. to DIN VDE 57 106	Safe from finger touch
Touch-safe protection acc. to DIN VDE 0470	IP20 plugged/ IP10 unplugged
Protection degree	IP20, when fully mounted
Volume resistance	≤5 mΩ
Can be coded	Yes
Stripping length	8 mm
Stripping length tolerance	min. 0 mm
	max. 1 mm
Screwdriver blade	0.4 x 2.5
Screwdriver blade standard	DIN 5264-A
Plugging cycles	25
Plugging force/pole, max.	6 N
Pulling force/pole, max.	6 N

Material data

Insulating material	PA GF	Colour	orange
Colour chart (similar)	RAL 2000	Insulating material group	II
Comparative Tracking Index (CTI)	≥ 400, ≤ 600	Moisture Level (MSL)	
UL 94 flammability rating	V-0	Contact material	Cu-alloy

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Contact surface	tinned	Storage temperature, min.	-40 °C
Storage temperature, max.	70 °C	Operating temperature, min.	-50 °C
Operating temperature, max.	120 °C	Temperature range, installation, min.	-30 °C
Temperature range, installation, max.	100 °C		

Conductors suitable for connection

n r conductor connection	Type nominal	fine-wired 0.25 mm ²	
conductor connection			
	nominal	0.2E mana?	
		0.25 mm²	
wire end ferrule	Stripping length	nominal	10 mm
		H0,25/12 H	IBL
Cross-section for conductor connection	Туре	fine-wired	
	nominal	0.34 mm ²	
wire end ferrule	Stripping length	nominal	10 mm
	Recommended wire- end ferrule	H0,34/12 TI	K
Cross-section for conductor connection		fine-wired	
		0.5 mm ²	
	Stripping length	nominal	10 mm
	Recommended wire- end ferrule	H0,5/14 OR	1
conductor connection	Туре	fine-wired	
	nominal	0.75 mm ²	
	Stripping length	nominal	10 mm
	Recommended wire- end ferrule	H0,75/14T I	HBL
conductor connection	Туре	fine-wired	
	nominal	1 mm²	
	Stripping length	nominal	10 mm
	Recommended wire- end ferrule	H1,0/14 GE	
conductor connection	nominal	1.5 mm ²	
	r conductor connection r conductor connection r conductor connection eter of the plastic collar sho	end ferrule Type nominal Stripping length Recommended wire- end ferrule r conductor connection nominal	end ferrule Type fine-wired nominal 0.5 mm²





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Technical data

Rated da	ta acc	. to	IEC
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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)	14.7 A	Rated current, min. number of poles (Tu=40°C)	17.1 A
Rated current, max. number of poles (Tu=40°C)	13.1 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	Short-time withstand current resistance	1 x 1s with 120 A

Rated data acc. to CSA

Rated voltage (Use group B / CSA)	300 V	Rated voltage (Use group C / CSA)	50 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	Wire cross-section, AWG, min.	AWG 16
Wire cross-section, AWG, max.	AWG 26		

Rated data acc. to UL 1059

Institute (cURus)	CURUS	Certificate No. (cURus)	E60693
Rated voltage (Use group B / UL 1059)	300 V	Rated voltage (Use group C / UL 1059)	50 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 26
Wire cross-section, AWG, max.	AWG 16	Reference to approval values	Specifications are maximum values, details - see approval certificate.

Packing

Packaging	Box	VPE length	155.00 mm
VPE width	64.00 mm	VPE height	38.00 mm

Type tests

Visual and dimensional test	Standard	IEC 60512-1-1:2002-02
	Test	dimensional inspection
	Evaluation	passed
	Standard	IEC 60512-1-2:2002-02
	Test	weight check
	Evaluation	passed
	Standard	IEC 61984:2001-10 section 6.2
	Test	visual examination
	Evaluation	passed
Test: Durability of markings	Standard	IEC 60068-2-70:1995-12 test Xb
	Test	mark of origin, type identification, pitch, type of material, date clock, approval marking UL, approval marking CSA
	Evaluation	passed
	Test	durability
	Evaluation	passed
est: Misengagement (Non-	Standard	IEC 60512-13-5 / 02.06
nterchangeability)	Test	180° turned with coding elements
	Evaluation	passed
	Test	180° turned without coding elements

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	Evaluation	passed
	Test	visual examination
	Evaluation	passed
Test: Clampable cross section	Standard	IEC 60999-1:1999-11 section 9.1, IEC 60947-1:2011-03 section 8.2.4.5.1
	Conductor type	Type of conductor solid 0.14 mm ² and conductor cross-section
		Type of conductor stranded 0.14 mm ² and conductor cross-section
		Type of conductor solid 1.5 mm² and conductor cross-section
		Type of conductor stranded 1.5 mm ² and conductor cross-section
		Type of conductor AWG 26/1 and conductor cross-section
		Type of conductor AWG 26/19 and conductor cross-section
		Type of conductor AWG 16/1 and conductor cross-section
		Type of conductor AWG 16/19 and conductor cross-section
	Evaluation	passed
Test for damage to and accidental loosening of conductors	Standard	IEC 60999-1:1999-11 section 9.4 bzw. section 8.10
	Requirement	0.2 kg
	Conductor type	Type of conductor AWG 26/1 and conductor cross-section
		Type of conductor AWG 26/19 and conductor cross-section
	Evaluation	passed
	Requirement	0.3 kg
	Conductor type	Type of conductor H05V-U0.5 and conductor cross-section
		Type of conductor H05V-K0.5 and conductor cross-section
	Evaluation	passed
	Requirement	0.4 kg
	Conductor type	Type of conductor H07V-U1.5 and conductor cross-section
		Type of conductor H07V-K1.5 and conductor cross-section
		Type of conductor AWG 16/1 and conductor cross-section
		Type of conductor AWG 16/19 and conductor cross-section
	Evaluation	passed
Pull-out test	Standard	IEC 60999-1:1999-11 section 9.5





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Technical data

Requirement	≥10 N	
Conductor type	Type of conductor AWG 26/1 and conductor cross-section	
	Type of conductor AWG 26/19 and conductor cross-section	
Evaluation	passed	
Requirement	≥20 N	
Conductor type	Type of conductor H05V-U0.5 and conductor cross-section	
	Type of conductor H05V-K0.5 and conductor cross-section	
Evaluation	passed	
Requirement	≥40 N	
Conductor type	Type of conductor H07V-U1.5 and conductor cross-section	
	Type of conductor H07V-K1.5 and conductor cross-section	
	Type of conductor AWG 16/1 and conductor cross-section	
	Type of conductor AWG 16/19 and conductor cross-section	
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
- Gold-plated contact surfaces 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.
- 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
- \bullet Long term storage of the product with average temperature of 50 °C and maximum humidity 70%, 36 months

Classifications

ETIM 6.0	EC002638	ETIM 7.0	EC002638
ETIM 8.0	EC002638	ETIM 9.0	EC002638
ETIM 10.0	EC002638	ECLASS 9.0	27-44-03-09
ECLASS 9.1	27-44-03-09	ECLASS 10.0	27-44-03-09
ECLASS 11.0	27-46-02-02	ECLASS 12.0	27-46-02-02
ECLASS 13.0	27-46-02-02	ECLASS 14.0	27-46-02-02
ECLASS 15.0	27-46-02-02		

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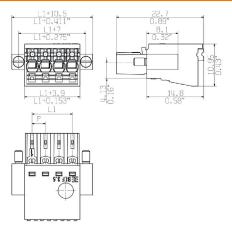
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Drawings

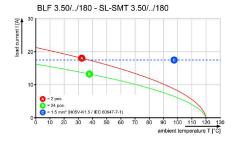
Product image



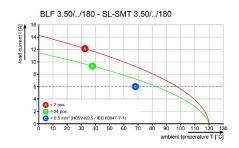
Dimensional drawing



Derating curve



Derating curve



Product benefits



Solid PUSH IN contactSafe and durable





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BLF 3.50/02/180QV SN OR BX

Accessories

Cross-connections









The distribution or multiplication of a potential to adjoining terminal blocks is realized via a cross-connection. Additional wiring effort can be easily avoided. Even if the poles are broken out, contact reliability in the terminal blocks is still ensured. Our portfolio offers pluggable and screwable cross-connection systems for modular terminal blocks.

General ordering data

-	701/4 511/00 5 /0 05	
Туре	ZQV 1.5N/R3.5/2 GE	Version
Order No.	<u>1754210000</u>	Accessories, Cross-connector, 17.5 A
GTIN (EAN)	4032248027422	
Qty.	50 ST	
Туре	ZQV 1.5N/R3.5/3 GE	Version
Order No.	<u>1754220000</u>	Accessories, Cross-connector, 17.5 A
GTIN (EAN)	4032248065608	
Qty.	50 ST	
Туре	ZQV 1.5N/R3.5/4 GE	Version
Order No.	<u>1754230000</u>	Accessories, Cross-connector, 17.5 A
GTIN (EAN)	4032248103874	
Qty.	20 ST	



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Counterpart

SL 3.50/180



Pin headers for wave soldering in 3.50 mm pitch

- Plugging direction is parallel (90°), straight 180° or angled (135°) to the PCB
- Housing variant: screw flange (F)
- Packed in a cardboard box (BX)
- Pin header can be coded

General ordering data

 Type
 SL 3.50/02/180 3.2SN OR...
 Version

 Order No.
 1604770000
 PCB plug-in connector, male header, open side, THT solder

 GTIN (EAN)
 4008190054182
 connection, 3.50 mm, Number of poles: 2, 180°, Solder pin length (I):

 Qty.
 100 ST
 3.2 mm, tinned, orange, Box

SL 3.50/180G



Pin headers for wave soldering in 3.50 mm pitch

- Plugging direction is parallel (90°), straight 180° or angled (135°) to the PCB
- Housing variant: screw flange (F)
- Packed in a cardboard box (BX)
- Pin header can be coded

General ordering data

Туре	SL 3.50/02/180G 3.2SN O	Version
Order No.	<u>1604470000</u>	PCB plug-in connector, male header, closed side, THT solder
GTIN (EAN)	4008190137526	connection, 3.50 mm, Number of poles: 2, 180°, Solder pin length (I):
Qty.	100 ST	3.2 mm, tinned, orange, Box

SL 3.50/90



Pin headers for wave soldering in 3.50 mm pitch

- Plugging direction is parallel (90°), straight 180° or angled (135°) to the PCB
- Housing variant: screw flange (F)
- Packed in a cardboard box (BX)
- Pin header can be coded

General ordering data

Туре	SL 3.50/02/90 3.2SN OR	Version	
Order No.	<u>1597210000</u>	PCB plug-in connector, male header, open side, THT solder	
GTIN (EAN)	4008190175320	connection, 3.50 mm, Number of poles: 2, 90°, Solder pin length (I):	
Qty.	100 ST	3.2 mm, tinned, orange, Box	

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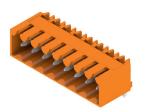
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Counterpart

SL 3.50/90G



Pin headers for wave soldering in 3.50 mm pitch

- Plugging direction is parallel (90°), straight 180° or angled (135°) to the PCB
- Housing variant: screw flange (F)
- Packed in a cardboard box (BX)
- Pin header can be coded

General ordering data

Туре	SL 3.50/02/90G 3.2SN BK	Version
Order No.	<u>1683240000</u>	PCB plug-in connector, male header, closed side, THT solder
GTIN (EAN)	4008190475352	connection, 3.50 mm, Number of poles: 2, 90°, Solder pin length (I):
Qty.	100 ST	3.2 mm, tinned, black, Box
Type	SL 3.50/02/90G 3.2SN OR	Version
Type Order No.	SL 3.50/02/90G 3.2SN OR 1605070000	Version PCB plug-in connector, male header, closed side, THT solder
	, ,	

SLD 3.50/90



Two-tier pin header for wave soldering in 3.50 mm pitch. The connector is available in open, closed and flange versions. The male connectors provide space for labelling and can be coded. Packed in a cardboard box.

General ordering data

Туре	SLD 3.50/04/90 3.2SN OR	Version
Order No.	1633350000	PCB plug-in connector, male header, open side, THT solder
GTIN (EAN)	4008190257804	connection, 3.50 mm, Number of poles: 4, 90°, Solder pin length (I):
Qty.	50 ST	3.2 mm, tinned, orange, Box

SLD 3.50/90G



Two-tier pin header for wave soldering in 3.50 mm pitch. The connector is available in open, closed and flange versions. The male connectors provide space for labelling and can be coded. Packed in a cardboard box.

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Counterpart

General ordering data

 Type
 SLD 3.50/04/90G 3.2SN 0...
 Version

 Order No.
 1633580000
 PCB plug-in connector, male header, closed side, THT solder

 GTIN (EAN)
 4008190258030
 connection, 3.50 mm, Number of poles: 4, 90°, Solder pin length (I):

Qty. 50 ST 3.2 mm, tinned, orange, Box

SLD 3.50V/180G



Double-level, staggered pin header for wave soldering at 3.50 mm pitch. They are available in closed and flanged versions. The male connectors provide space for labelling and can be coded.

General ordering data

 Type
 SLD 3.50V/04/180G 3.2SN...
 Version

 Order No.
 1641110000
 PCB plug-in connector, male header, closed side, THT solder

 GTIN (EAN)
 4008190279516
 connection, 3.50 mm, Number of poles: 4, 180°, Solder pin length (I):

 Qty.
 50 ST
 3.2 mm, tinned, orange, Box

SLD 3.50V/90G



Double-level, staggered pin header for wave soldering at 3.50 mm pitch. They are available in closed and flanged versions. The male connectors provide space for labelling and can be coded.

General ordering data

Туре	SLD 3.50V/04/90G 3.2SN	Version
Order No.	<u>1642240000</u>	PCB plug-in connector, male header, closed side, THT solder
GTIN (EAN)	4008190280758	connection, 3.50 mm, Number of poles: 4, 90°, Solder pin length (I):
Qty.	50 ST	3.2 mm, tinned, orange, Box



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Counterpart

SL-SMT 3.5/180G Box



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

Туре	SL-SMT 3.50/02/180G 1.5	Version
Order No.	<u>1752982001</u>	PCB plug-in connector, male header, closed side, THT/THR solder
GTIN (EAN)	4032248130887	connection, 3.50 mm, Number of poles: 2, 180°, Solder pin length (I):
Qty.	100 ST	1.5 mm, tinned, black, Box
Туре	SL-SMT 3.50/02/180G 3.2	Version
Order No.	1842320000	PCB plug-in connector, male header, closed side, THT/THR solder
GTIN (EAN)	4032248353668	connection, 3.50 mm, Number of poles: 2, 180°, Solder pin length (I):

SL-SMT 3.5/180G Tape



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

Туре	SL-SMT 3.50/02/180G 1.5	Version
Order No.	<u>1752984002</u>	PCB plug-in connector, male header, closed side, THT/THR solder
GTIN (EAN)	4032248193097	connection, 3.50 mm, Number of poles: 2, 180°, Solder pin length (I):
Qty.	265 ST	1.5 mm, tinned, black, Tape



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Counterpart

SL-SMT 3.5/90G Box



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

Туре	SL-SMT 3.50/02/90G 1.5S	Version
Order No.	<u>1761542001</u>	PCB plug-in connector, male header, closed side, THT/THR solder
GTIN (EAN)	4032248132034	connection, 3.50 mm, Number of poles: 2, 90°, Solder pin length (I):
Qty.	100 ST	1.5 mm, tinned, black, Box

SL-SMT 3.5/90G Tape



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

Туре	SL-SMT 3.50/02/90G 3.2A	Version
Order No.	<u>1507710000</u>	PCB plug-in connector, male header, closed side, THT/THR solder
GTIN (EAN)	4050118316483	connection, 3.50 mm, Number of poles: 2, 90°, Solder pin length (I):
Qty.	385 ST	3.2 mm, tinned, black, Tape

SL-SMT 3.5/90G Box



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

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- 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





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Counterpart

General ordering data

Туре	SL-SMT 3.50/02/90G 3.2S	Version
Order No.	<u>1841630000</u>	PCB plug-in connector, male header, closed side, THT/THR solder
GTIN (EAN)	4032248352784	connection, 3.50 mm, Number of poles: 2, 90°, Solder pin length (I):
Qty.	100 ST	3.2 mm, tinned, black, Box

SL-SMT 3.5/90G Tape



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

Туре	SL-SMT 3.50/02/90G 1.5S	Version
Order No.	<u>1761544002</u>	PCB plug-in connector, male header, closed side, THT/THR solder
GTIN (EAN)	4032248193325	connection, 3.50 mm, Number of poles: 2, 90°, Solder pin length (I):
Qty.	385 ST	1.5 mm, tinned, black, Tape
Туре	SL-SMT 3.50/02/90G 1.5S	Version
Order No.	2016130000	PCB plug-in connector, male header, closed side, THT/THR solder
GTIN (EAN)	4050118400090	connection, 3.50 mm, Number of poles: 2, 90°, Solder pin length (I):
Qty.	385 ST	1.5 mm, tinned, black, Tape
Туре	SL-SMT 3.50/02/90G 3.2S	Version
Order No.	1045030000	PCB plug-in connector, male header, closed side, THT/THR solder
GTIN (EAN)	4032248777655	connection, 3.50 mm, Number of poles: 2, 90°, Solder pin length (I):
Qty.	385 ST	3.2 mm, tinned, black, Tape