

**B2L 3.50/10/180QV5 SN BK BX****Weidmüller Interfaces GmbH & Co. KG**

Postfach 3030

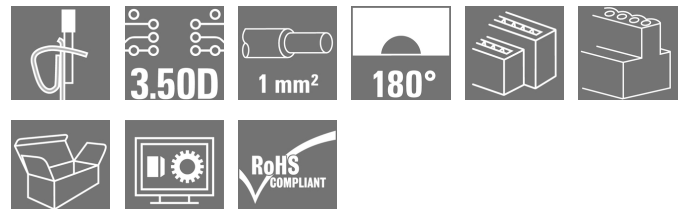
32760 Detmold

Tel. +49 5231 14-0

Fax. +49 5231 14-2083

info@weidmueller.com

www.weidmueller.com

**Product image**

Similar to illustration

Female connector with integral cross-connection and clear printing for uninterrupted relaying of potential at full current-carrying capacity with the maximum cable cross-section. The cross-connection is positioned vertically between the poles of rows directly on top of each other. Conductor connection with tension clamp system with straight outlet and 3.5 mm pitch. Flange and release lever available. Packed in cardboard box.

**General ordering data**

|              |                                                                                                                                     |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Version      | PCB plug-in connector, female plug, 3.50 mm, Number of poles: 10, 180°, Tension-clamp connection, Clamping range, max. : 1 mm², Box |
| Order No.    | <a href="#">1944610000</a>                                                                                                          |
| Type         | B2L 3.50/10/180QV5 SN BK BX                                                                                                         |
| GTIN (EAN)   | 4032248619542                                                                                                                       |
| Qty.         | 102 pc(s).                                                                                                                          |
| Product data | IEC: 200 V / 10.6 A / 0.2 - 1 mm²<br>UL: 150 V / 7 A / AWG 28 - AWG 18                                                              |
| Packaging    | Box                                                                                                                                 |

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**Technical data****Dimensions and weights**

|            |         |                 |            |
|------------|---------|-----------------|------------|
| Depth      | 20.6 mm | Depth (inches)  | 0.811 inch |
| Height     | 15.7 mm | Height (inches) | 0.618 inch |
| Width      | 17.5 mm | Width (inches)  | 0.689 inch |
| Net weight | 5.12 g  |                 |            |

**System Parameters**

|                                              |                                               |                                            |                   |
|----------------------------------------------|-----------------------------------------------|--------------------------------------------|-------------------|
| Product family                               | OMNIMATE Signal - series B2L/S2L 3.50 - 2-row | Type of connection                         | Field connection  |
| Wire connection method                       | Tension-clamp connection                      | Pitch in mm (P)                            | 3.5 mm            |
| Pitch in inches (P)                          | 0.138 inch                                    | Conductor outlet direction                 | 180°              |
| Number of poles                              | 10                                            | L1 in mm                                   | 14 mm             |
| L1 in inches                                 | 0.551 inch                                    | Number of rows                             | 1                 |
| Pin series quantity                          | 2                                             | Rated cross-section                        | 1 mm <sup>2</sup> |
| Touch-safe protection acc. to DIN VDE 57 106 | Safe from finger touch                        | Touch-safe protection acc. to DIN VDE 0470 | IP 20             |
| Can be coded                                 | Yes                                           | Stripping length                           | 7 mm              |
| Screwdriver blade                            | 0.4 x 2.5                                     | Screwdriver blade standard                 | DIN 5264          |
| Plugging cycles                              | 25                                            | Plugging force/pole, max.                  | 5 N               |
| Pulling force/pole, max.                     | 4 N                                           |                                            |                   |

**Material data**

|                                       |              |                                       |        |
|---------------------------------------|--------------|---------------------------------------|--------|
| Insulating material                   | PBT          | Colour                                | black  |
| Colour chart (similar)                | RAL 9011     | Insulating material group             | IIIa   |
| Comparative Tracking Index (CTI)      | ≥ 200        | UL 94 flammability rating             | V-0    |
| Contact material                      | Copper alloy | Contact surface                       | tinned |
| Storage temperature, min.             | -40 °C       | Storage temperature, max.             | 70 °C  |
| Operating temperature, min.           | -50 °C       | Operating temperature, max.           | 100 °C |
| Temperature range, installation, min. | -30 °C       | Temperature range, installation, max. | 100 °C |

**Conductors suitable for connection**

|                                                 |                      |
|-------------------------------------------------|----------------------|
| Clamping range, min.                            | 0.08 mm <sup>2</sup> |
| Clamping range, max.                            | 1 mm <sup>2</sup>    |
| Wire connection cross section AWG, min.         | AWG 28               |
| Wire connection cross section AWG, max.         | AWG 18               |
| Solid, min. H05(07) V-U                         | 0.2 mm <sup>2</sup>  |
| Solid, max. H05(07) V-U                         | 1 mm <sup>2</sup>    |
| Flexible, min. H05(07) V-K                      | 0.2 mm <sup>2</sup>  |
| Flexible, max. H05(07) V-K                      | 1 mm <sup>2</sup>    |
| w. plastic collar ferrule, DIN 46228 pt 4, min. | 0.14 mm <sup>2</sup> |
| w. plastic collar ferrule, DIN 46228 pt 4, max. | 0.34 mm <sup>2</sup> |
| w. wire end ferrule, DIN 46228 pt 1, min.       | 0.14 mm <sup>2</sup> |
| w. wire end ferrule, DIN 46228 pt 1, max.       | 0.34 mm <sup>2</sup> |

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**Technical data**

|                     |                                                                                                                                                                        |                              |                                |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|--------------------------------|
| Clampable conductor | Cross-section for conductor connection                                                                                                                                 | Type                         | fine-wired                     |
|                     | nominal                                                                                                                                                                | nominal                      | 0.014 mm <sup>2</sup>          |
|                     | wire end ferrule                                                                                                                                                       | Stripping length             | nominal 10 mm                  |
|                     |                                                                                                                                                                        | Recommended wire end ferrule | <a href="#">H0,14/12 GR SV</a> |
|                     | Cross-section for conductor connection                                                                                                                                 | Type                         | fine-wired                     |
|                     | nominal                                                                                                                                                                | nominal                      | 0.25 mm <sup>2</sup>           |
|                     | wire end ferrule                                                                                                                                                       | Stripping length             | nominal 10 mm                  |
|                     |                                                                                                                                                                        | Recommended wire end ferrule | <a href="#">H0,25/12 HBL</a>   |
| Reference text      | The outside diameter of the plastic collar should not be larger than the pitch (P). Length of ferrules is to be chosen depending on the product and the rated voltage. |                              |                                |

**Rated data acc. to IEC**

|                                                                           |                        |                                                                       |                  |
|---------------------------------------------------------------------------|------------------------|-----------------------------------------------------------------------|------------------|
| tested acc. to standard                                                   | IEC 60664-1, IEC 61984 | Rated current, min. number of poles (Tu=20°C)                         | 10.6 A           |
| Rated current, max. number of poles (Tu=20°C)                             | 8.2 A                  | Rated current, min. number of poles (Tu=40°C)                         | 9.1 A            |
| Rated current, max. number of poles (Tu=40°C)                             | 7 A                    | Rated voltage for surge voltage class / pollution degree II/2         | 200 V            |
| Rated voltage for surge voltage class / pollution degree III/2            | 160 V                  | Rated voltage for surge voltage class / pollution degree III/3        | 80 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 | 1.5 kV                 | Short-time withstand current resistance                               | 3 x 1s with 77 A |

**Rated data acc. to CSA**

|                                   |                                                                                     |                                   |                |
|-----------------------------------|-------------------------------------------------------------------------------------|-----------------------------------|----------------|
| Institute (CSA)                   |  | Certificate No. (CSA)             | 200039-1488444 |
| Rated voltage (Use group B / CSA) | 300 V                                                                               | Rated current (Use group B / CSA) | 7 A            |
| Wire cross-section, AWG, min.     | AWG 28                                                                              | Wire cross-section, AWG, max.     | AWG 18         |
| Reference to approval values      | Specifications are maximum values, details - see approval certificate.              |                                   |                |

**Packing**

|           |        |            |        |
|-----------|--------|------------|--------|
| Packaging | Box    | VPE length | 346 mm |
| VPE width | 136 mm | VPE height | 31 mm  |

**Type tests**

|                              |            |                                                                                  |
|------------------------------|------------|----------------------------------------------------------------------------------|
| Test: Durability of markings | Standard   | DIN EN 61984 section 7.3.2 / 09.02 taking pattern from DIN EN 60068-2-70 / 07.96 |
|                              | Test       | mark of origin, type identification, rated cross-section, type of material       |
|                              | Evaluation | available                                                                        |
|                              | Test       | durability                                                                       |
|                              | Evaluation | passed                                                                           |

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DIN EN 61984 section 6.3 and 6.9.1 / 09.02,  
DIN IEC 60512-7 section 5 / 05.94info@weidmueller.com  
180° turned without coding elementspassed  
www.weidmueller.com

visual examination

passed

**Technical data**

Test: Misengagement (Non-interchangeability)

Standard

Test

Evaluation

Test

Evaluation

Test: Clampable cross section

Standard

Conductor type

Type of conductor and conductor cross-section  
solid 0.2 mm<sup>2</sup>Type of conductor and conductor cross-section  
stranded 0.2 mm<sup>2</sup>Type of conductor and conductor cross-section  
solid 1.0 mm<sup>2</sup>Type of conductor and conductor cross-section  
stranded 1.0 mm<sup>2</sup>Type of conductor and conductor cross-section  
AWG 28/1Type of conductor and conductor cross-section  
AWG 28/19Type of conductor and conductor cross-section  
AWG 18/1Type of conductor and conductor cross-section  
AWG 18/19

Evaluation

passed

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**Technical data**

Test for damage to and accidental loosening of conductors

|                                                           |                |                                               |                              |
|-----------------------------------------------------------|----------------|-----------------------------------------------|------------------------------|
| Test for damage to and accidental loosening of conductors | Standard       | DIN EN 60999-1 section 9.4 / 12.00            |                              |
|                                                           | Requirement    | 0.2 kg info@weidmueller.com                   |                              |
|                                                           | 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    | 0.3 kg                                        |                              |
|                                                           | 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> |
|                                                           | Evaluation     | passed                                        |                              |
|                                                           | Requirement    | 0.4 kg                                        |                              |
|                                                           | Conductor type | Type of conductor and conductor cross-section | solid 1.0 mm <sup>2</sup>    |
|                                                           |                | Type of conductor and conductor cross-section | stranded 1.0 mm <sup>2</sup> |
|                                                           |                | Type of conductor and conductor cross-section | AWG 18/1                     |
|                                                           |                | Type of conductor and conductor cross-section | AWG 18/19                    |
|                                                           | Evaluation     | passed                                        |                              |
| Pull-out test                                             | Standard       | DIN EN 60999-1 section 9.4 / 12.00            |                              |
|                                                           | Requirement    | ≥5 N                                          |                              |
|                                                           | Conductor type | Type of conductor and conductor cross-section | AWG 28/1                     |
|                                                           |                | Type of conductor and conductor cross-section | AWG 28/19                    |
|                                                           | 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                    |
|                                                           | Requirement    | ≥35 N                                         |                              |
|                                                           | Conductor type | Type of conductor and conductor cross-section | H05V-U1                      |
|                                                           |                | Type of conductor and conductor cross-section | H05V-K1                      |
|                                                           |                | Type of conductor and conductor cross-section | AWG 18/1                     |
|                                                           |                | Type of conductor and conductor cross-section | AWG 18/19                    |

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**Technical data****Classifications**

|             |             |             |             |
|-------------|-------------|-------------|-------------|
| ETIM 6.0    | EC002638    | ETIM 7.0    | EC002638    |
| ETIM 8.0    | 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 |

**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 with plastic collar to DIN 46228/4
  - Wire end ferrule without plastic collar to DIN 46228/1
  - P on drawing = pitch
  - We recommend crimp shape A for wire-end ferrules with crimping tool PZ 6/5 (order no. 9011460000) for the larger wire cross-sections.
  - 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.
  - 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. (UR)  | E60693     |

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[info@weidmueller.com](mailto:info@weidmueller.com)[www.weidmueller.com](http://www.weidmueller.com)**Technical data****Downloads**Approval/Certificate/Document of  
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[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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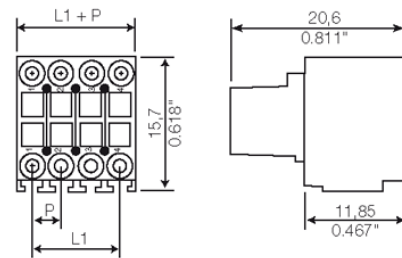
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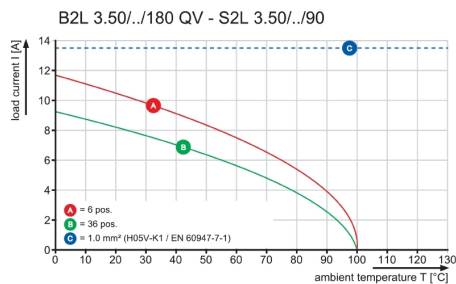
Fax. +49 5231 14-2083

# Drawings

**Dimensional drawing** [info@weidmueller.com](mailto:info@weidmueller.com)



# Graph



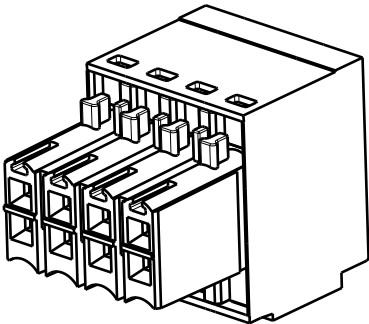
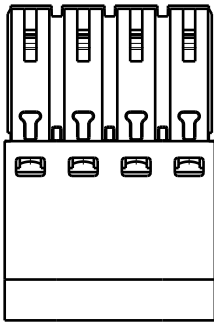
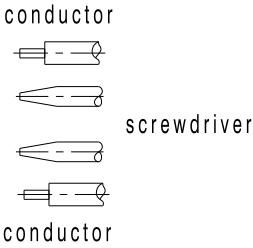
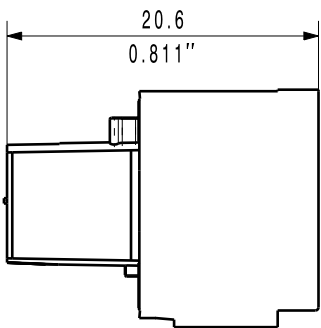
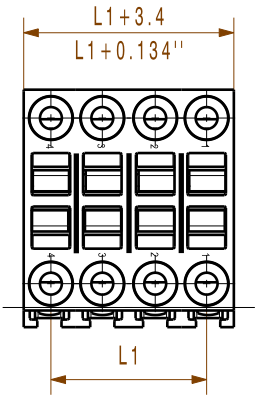


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Dimensions without tolerances are no check dimensions

The English version is binding



|    |          |         |
|----|----------|---------|
| 36 | 2,345    | 59,50   |
| 34 | 2,207    | 56,00   |
| 32 | 2,069    | 52,50   |
| 30 | 1,931    | 49,00   |
| 28 | 1,793    | 45,50   |
| 26 | 1,655    | 42,00   |
| 24 | 1,517    | 38,50   |
| 22 | 1,379    | 35,00   |
| 20 | 1,241    | 31,50   |
| 18 | 1,103    | 28,00   |
| 16 | 0,965    | 24,50   |
| 14 | 0,827    | 21,00   |
| 12 | 0,689    | 17,50   |
| 10 | 0,551    | 14,00   |
| 8  | 0,413    | 10,50   |
| 6  | 0,275    | 7,00    |
| n  | L1[inch] | L1 [mm] |

shown: B2L 3.5/08QV4 BED

For the mounting of PCBs, it should be noted that the rated data given in the catalogue relates only to the connection elements. The necessary 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 occurring of electrical, mechanical, thermic and corrosive stress will be satisfied.

|                                                                                       |                              |            |                                                                                                         |                      |                                                                                                      |          |
|---------------------------------------------------------------------------------------|------------------------------|------------|---------------------------------------------------------------------------------------------------------|----------------------|------------------------------------------------------------------------------------------------------|----------|
| <b>GENERAL TOLERANCE:</b><br><b>DIN ISO 2768-mK</b>                                   |                              |            |                                                                                                         | Cat.no.: .           |                                                                                                      |          |
|  | 87939/5<br>03.05.16 HELIS_MA | 01         | <b>Weidmüller</b>  |                      | <b>3 39691</b>  |          |
|                                                                                       | Modification                 |            |                                                                                                         |                      |                                                                                                      |          |
|  | Date                         | Name       | <b>B2L 3.50/.../...PRT</b><br>BUCHSENLEISTE<br>SOCKET BLOCK                                             |                      |                                                                                                      |          |
|                                                                                       | Drawn                        | 02.07.2007 |                                                                                                         |                      |                                                                                                      | NICKOL_M |
| Responsible                                                                           |                              | AMANN_A    |                                                                                                         |                      |                                                                                                      |          |
| Scale: 2:1                                                                            | Checked                      | 13.05.2016 | HELIS_MA                                                                                                | Product file: B2L QV |                                                                                                      |          |
| Supersedes: .                                                                         | Approved                     |            | HECKERT_M                                                                                               |                      |                                                                                                      |          |