

# Feed-through header - MCV 1,5/12-GF-3,5 - 1843321

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PCB headers, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm<sup>2</sup>, number of positions: 12, pitch: 3.5 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.4 mm



The figure shows a 10-position version of the product

## Your advantages

- Well-known mounting principle allows worldwide use
- Screwable flange for superior mechanical stability
- Vertical connection enables multi-row arrangement on the PCB
- Maximum flexibility when it comes to device design – one header for connectors with different connection technologies



## Key Commercial Data

|              |               |
|--------------|---------------|
| Packing unit | 50 pc         |
| GTIN         |               |
| GTIN         | 4017918112516 |

## Technical data

### Item properties

|                           |                     |
|---------------------------|---------------------|
| Brief article description | Feed-through header |
| Plug-in system            | MINI COMBICON       |
| Type of contact           | Male connector      |
| Range of articles         | MCV 1,5/...-GF      |
| Pitch                     | 3.5 mm              |
| Number of positions       | 12                  |
| Mounting type             | Wave soldering      |
| Pin layout                | Linear pinning      |
| Locking                   | Threaded flange     |
| Number of levels          | 1                   |
| Number of connections     | 12                  |

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## Technical data

### Item properties

|                      |    |
|----------------------|----|
| Number of potentials | 12 |
|----------------------|----|

### Electrical parameters

|                             |        |
|-----------------------------|--------|
| Nominal current             | 8 A    |
| Nom. voltage                | 160 V  |
| Rated voltage               | 160 V  |
| Rated voltage (III/2)       | 160 V  |
| Rated voltage (II/2)        | 250 V  |
| Rated surge voltage (III/3) | 2.5 kV |
| Rated surge voltage (III/2) | 2.5 kV |
| Rated surge voltage (II/2)  | 2.5 kV |

### Material data - contact

|   |   |
|---|---|
| Note  | WEEE/RoHS-compliant, free of whiskers according to IEC 60068-2-82/ JEDEC JESD 201 |
| Contact material                            | Cu alloy  |
| Surface characteristics                     | Tin-plated  |
| Metal surface contact area (top layer)      | Tin (3 - 5 µm Sn)   |
| Metal surface contact area (middle layer)   | Nickel (1 - 3 µm Ni),   |
| Metal surface soldering area (top layer)    | Tin (3 - 5 µm Sn)   |
| Metal surface soldering area (middle layer) | Nickel (1 - 3 µm Ni)  |

### Material data - housing

|  |              |
|--|--------------|
| Housing color                          | green (6021) |
| Insulating material                    | PBT          |
| Insulating material group              | IIIa         |
| CTI according to IEC 60112             | 225          |
| Flammability rating according to UL 94 | V0           |

### Dimensions for the product

|                             |              |
|-----------------------------|--------------|
| Length [ l ]                | 7.25 mm      |
| Width [ w ]                 | 52.3 mm      |
| Height [ h ]                | 12.6 mm      |
| Pitch                       | 3.5 mm       |
| Height (without solder pin) | 9.2 mm       |
| Solder pin [P]              | 3.4 mm       |
| Pin dimensions              | 0.8 x 0.8 mm |

### Dimensions for PCB design

|               |        |
|---------------|--------|
| Hole diameter | 1.2 mm |
|---------------|--------|

### Packaging information

|                    |                     |
|--------------------|---------------------|
| Type of packaging  | packed in cardboard |
| Pieces per package | 50                  |

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## Technical data

### Packaging information

|                            |      |
|----------------------------|------|
| Denomination packing units | Pcs. |
|----------------------------|------|

### Ambient conditions

|   |   |
|---|---|
| Ambient temperature (storage/transport) | -40 °C ... 70 °C                                    |
| Ambient temperature (assembly)          | -5 °C ... 100 °C                                    |
| Ambient temperature (operation)         | -40 °C ... 100 °C (dependent on the derating curve) |

### Air clearances and creepage distances

|   |                     |
|---|---------------------|
| Clearances and creepage distances               | IEC 60664-1:2007-04 |
| Specification                                   | IEC 60664-1:2007-04 |
| Minimum clearance - inhomogeneous field (III/3) | 1.5 mm              |
| Minimum clearance - inhomogeneous field (III/2) | 1.5 mm              |
| Minimum clearance - inhomogeneous field (II/2)  | 1.5 mm              |
| Minimum creepage distance value (III/3)         | 2.5 mm              |
| Minimum creepage distance value (III/2)         | 1.6 mm              |
| Minimum creepage distance value (II/2)          | 2.5 mm              |

### Mechanical tests (A)

|  |             |
|--|-------------|
| Test specification                           | IEC 61984   |
| Insertion strength per pos. approx.          | 6 N         |
| Withdraw strength per pos. approx.           | 5 N         |
| Polarization when inserted requirement >20 N | Test passed |
| Contact holder in insert requirements >20 N  | Test passed |

### Durability tests (B)

|  |                     |
|--|---------------------|
| Specification                                | IEC 60512-5:1992-08 |
| Contact resistance R <sub>1</sub>            | 1.8 mΩ              |
| Insertion/withdrawal cycles                  | 25                  |
| Contact resistance R <sub>2</sub>            | 2.2 mΩ              |
| Impulse withstand voltage at sea level       | 2.95 kV             |
| Power-frequency withstand voltage            | 1.39 kV             |
| Insulation resistance, neighboring positions | 10 <sup>12</sup> Ω  |

### Thermal tests (C)

|   |                       |
|---|-----------------------|
| Specification                                   | IEC 60512-5-1:2002-02 |
| Number of positions                             | 20                    |
| Conductor cross section                         | 1.5 mm <sup>2</sup>   |
| Test current                                    | 8 A DC                |
| Upper limiting temperature requirements <100 °C | Test passed           |

### Climatic tests (D)

|                |                  |
|----------------|------------------|
| Specification  | ISO 6988:1985-02 |
| Cold stress    | -40 °C/2 h       |
| Thermal stress | 100 °C/168 h     |

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### Technical data

#### Climatic tests (D)

|  |   |
|--|---|
| Corrosive stress                       | 0.2 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> /40 °C/1 cycle |
| Impulse withstand voltage at sea level | 2.95 kV   |
| Power-frequency withstand voltage      | 1.39 kV   |

#### Environmental and durability tests (E)

|                                       |                                     |
|---------------------------------------|-------------------------------------|
| Specification                         | IEC 61984:2008-10                   |
| Result, degree of protection, IP code | Finger safety with IP20 test finger |

#### Vibration test

|                        |                        |
|------------------------|------------------------|
| Specification          | IEC 60068-2-6:2007-12  |
| Result                 | Test passed            |
| Frequency              | 10 - 150 - 10 Hz       |
| Sweep speed            | 1 octave/min           |
| Amplitude              | 0.35 mm (10 - 60.1 Hz) |
| Acceleration           | 5 g (60.1 - 150 Hz)    |
| Test duration per axis | 2.5 h                  |

#### Standards and Regulations

|  |        |
|--|--------|
| Connection in acc. with standard       | EN-VDE |
|  | CSA    |
| Flammability rating according to UL 94 | V0     |

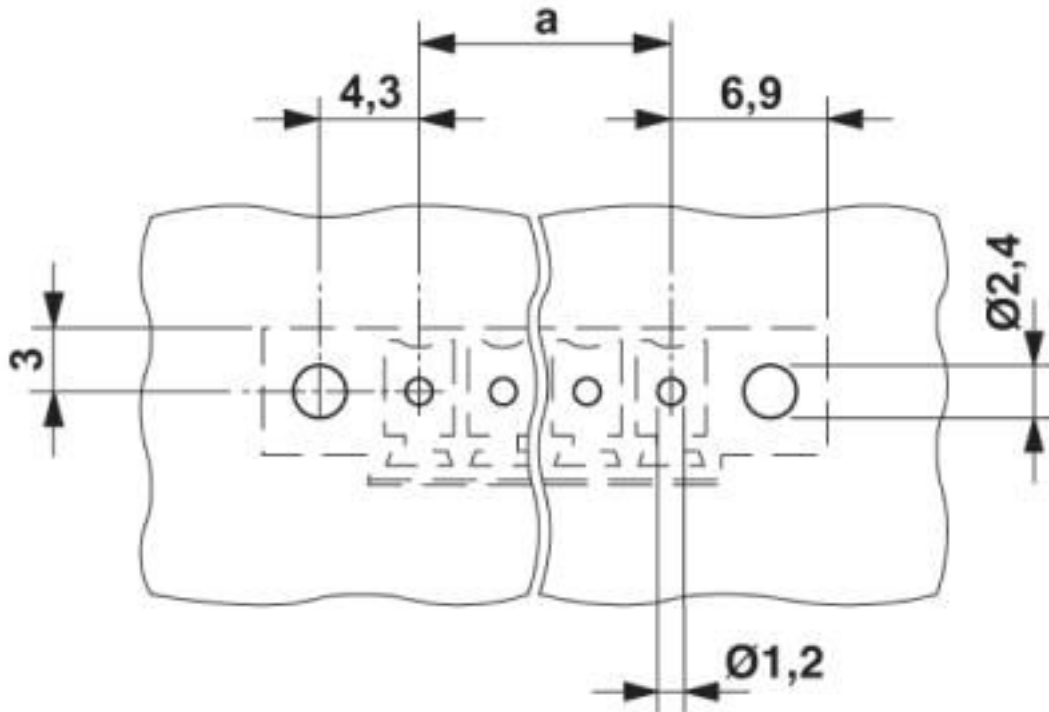
#### Environmental Product Compliance

|            |   |
|------------|---|
| REACH SVHC | Lead 7439-92-1  |
| China RoHS | Environmentally Friendly Use Period = 50 years  |
|            | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

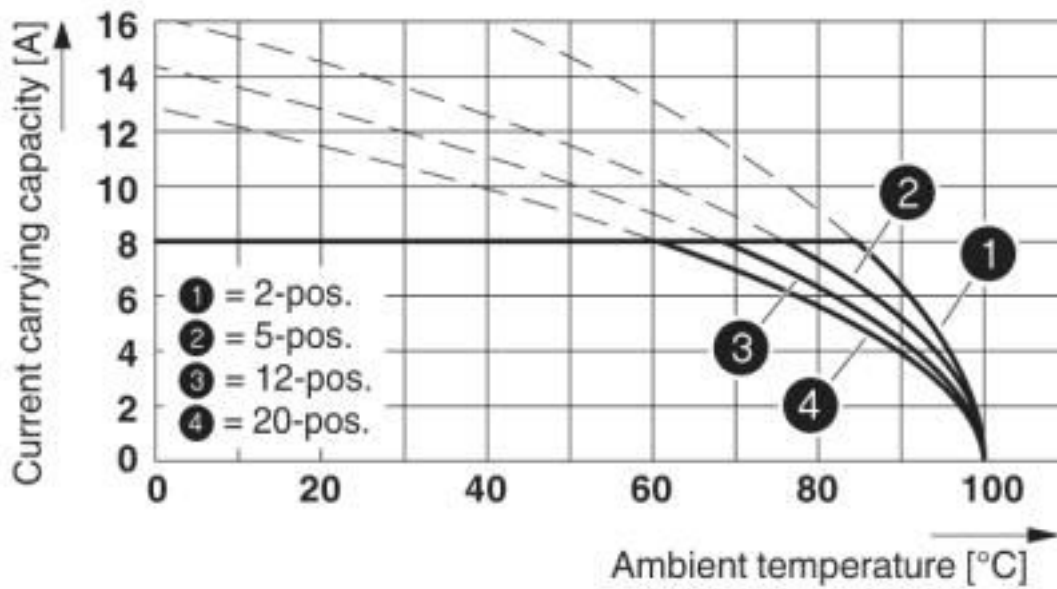
### Drawings

# Feed-through header - MCV 1,5/12-GF-3,5 - 1843321

Drilling diagram

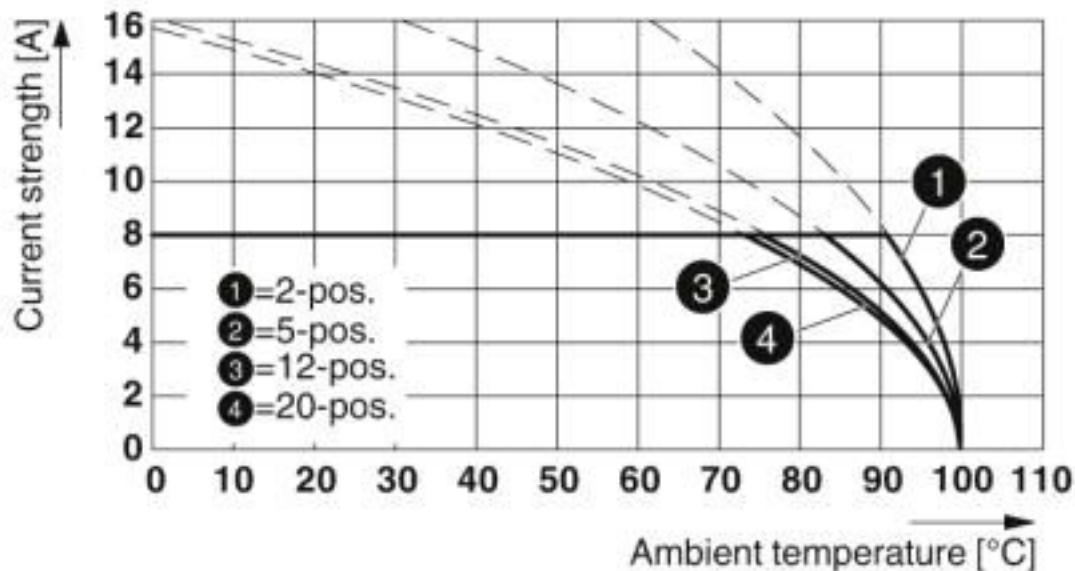


Diagram



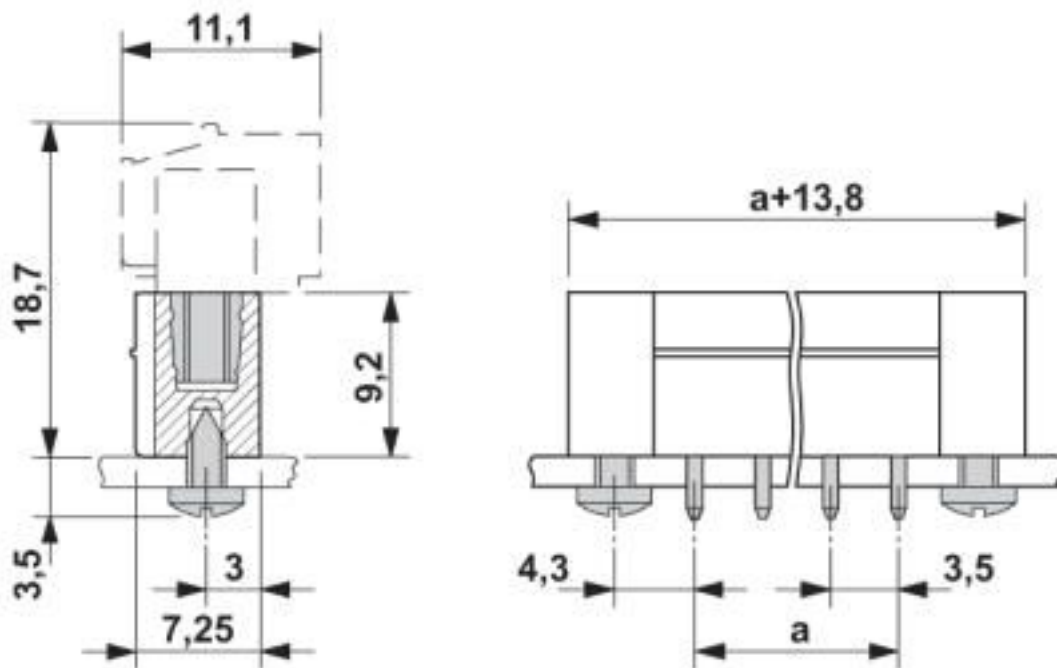
# Feed-through header - MCV 1,5/12-GF-3,5 - 1843321

Diagram



Type: MC 1,5/...-STF-3,5 with MCV 1,5/...-GF-3,5

Dimensional drawing



## Classifications

eCl@ss

|               |          |
|---------------|----------|
| eCl@ss 10.0.1 | 27440402 |
| eCl@ss 4.0    | 27260700 |

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## Classifications

### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 4.1 | 27260700 |
| eCl@ss 5.0 | 27260700 |
| eCl@ss 5.1 | 27260700 |
| eCl@ss 6.0 | 27260700 |
| eCl@ss 7.0 | 27440402 |
| eCl@ss 8.0 | 27440402 |
| eCl@ss 9.0 | 27440402 |

### ETIM

|          |          |
|----------|----------|
| ETIM 3.0 | EC001121 |
| ETIM 4.0 | EC002637 |
| ETIM 5.0 | EC002637 |
| ETIM 6.0 | EC002637 |
| ETIM 7.0 | EC002637 |

### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 30211810 |
| UNSPSC 7.0901 | 39121409 |
| UNSPSC 11     | 39121409 |
| UNSPSC 12.01  | 39121409 |
| UNSPSC 13.2   | 39121409 |
| UNSPSC 18.0   | 39121409 |
| UNSPSC 19.0   | 39121409 |
| UNSPSC 20.0   | 39121409 |
| UNSPSC 21.0   | 39121409 |

## Approvals

### Approvals

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#### Approvals

CSA / IECCEB CB Scheme / VDE Gutachten mit Fertigungsüberwachung / EAC / cULus Recognized

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#### Ex Approvals

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### Approval details

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## Approvals

|                    |       |   |       |
|--------------------|-------|---|-------|
| CSA                |       | <a href="http://www.csagroup.org/services-industries/product-listing/">http://www.csagroup.org/services-industries/product-listing/</a> | 13631 |
|                    | B     | D   |       |
| Nominal voltage UN | 300 V | 300 V   |       |
| Nominal current IN | 8 A   | 8 A   |       |

|                    |       |   |                |
|--------------------|-------|---|----------------|
| IECEE CB Scheme    |       | <a href="http://www.iecee.org/">http://www.iecee.org/</a> | DE1-60987-B1B2 |
| Nominal voltage UN | 160 V |   |                |
| Nominal current IN | 8 A   |   |                |

|   |       |   |          |
|---|-------|---|----------|
| VDE Gutachten mit Fertigungsüberwachung |       | <a href="http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx">http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx</a> | 40011723 |
| Nominal voltage UN                      | 160 V |   |          |
| Nominal current IN                      | 8 A   |   |          |

|     |  |  |         |
|-----|--|--|---------|
| EAC |  |  | B.01687 |
|-----|--|--|---------|

|                    |       |   |                 |
|--------------------|-------|---|-----------------|
| cULus Recognized   |       | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | E60425-20110128 |
|                    | B     | D   |                 |
| Nominal voltage UN | 300 V | 300 V   |                 |
| Nominal current IN | 8 A   | 8 A   |                 |

## Accessories

Accessories

Coding element

Coding profile - CP-MSTB - 1734634

Coding profile, is inserted into the slot on the plug or inverted header, red insulating material





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## Accessories

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### Labeled terminal marker

Marker card - SK 3,5/2,8:FORTL.ZAHLEN - 0804073



Marker card, Card, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 99, mounting type: adhesive, for terminal block width: 3.5 mm, lettering field size: 3.5 x 2.8 mm

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### Additional products

Printed-circuit board connector - MC 1,5/12-STF-3,5 - 1847220



PCB connector, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm<sup>2</sup>, number of positions: 12, pitch: 3.5 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin

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Printed-circuit board connector - MCVW 1,5/12-STF-3,5 - 1863107



PCB connector, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm<sup>2</sup>, number of positions: 12, pitch: 3.5 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin

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Printed-circuit board connector - MCVR 1,5/12-STF-3,5 - 1863408



PCB connector, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm<sup>2</sup>, number of positions: 12, pitch: 3.5 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin

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Printed-circuit board connector - FK-MCP 1,5/12-STF-3,5 - 1940198



PCB connector, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm<sup>2</sup>, number of positions: 12, pitch: 3.5 mm, connection method: Push-in spring connection, color: green, contact surface: Tin

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## Feed-through header - MCV 1,5/12-GF-3,5 - 1843321

### Accessories

Printed-circuit board connector - FMC 1,5/12-STF-3,5 - 1966198

PCB connector, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm<sup>2</sup>, number of positions: 12, pitch: 3.5 mm, connection method: Push-in spring connection, color: green, contact surface: Tin



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