

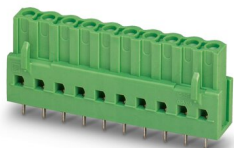
ICV 2,5/ 2-G-5,08 - PCB header



1785942

<https://www.phoenixcontact.com/us/products/1785942>

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PCB headers, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Socket, number of potentials: 2, number of rows: 1, number of positions: 2, number of connections: 2, product range: ICV 2,5/-G, pitch: 5.08 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.6 mm, number of solder pins per potential: 2, plug-in system: COMBICON MSTB 2,5, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: packed in cardboard

Your advantages

- Maximum flexibility when it comes to device design – one header for connectors with different connection technologies
- Easy PCB replacement thanks to plug-in modules
- Well-known mounting principle allows worldwide use
- Inverted header with socket contacts for touch-proof device outputs or PCB/PCB connections

Commercial Data

| | |
|--------------------------------------|---------------------|
| Item number | 1785942 |
| Packing unit | 1 pc |
| Minimum order quantity | 50 pc |
| Sales Key | AA03 |
| Product Key | AACSAG |
| Catalog Page | Page 333 (C-1-2013) |
| GTIN | 4017918042097 |
| Weight per Piece (including packing) | 3.565 g |
| Weight per Piece (excluding packing) | 1.515 g |
| Customs tariff number | 85366930 |
| Country of origin | DE |

Technical Data

Product properties

| | |
|---------------------------|-----------------------|
| Type | Inverted |
| Product line | COMBICON Connectors M |
| Product type | PCB headers |
| Product family | ICV 2,5/...-G |
| Number of positions | 2 |
| Pitch | 5.08 mm |
| Number of connections | 2 |
| Number of rows | 1 |
| Mounting flange | without |
| Number of potentials | 2 |
| Pin layout | Linear pinning |
| Solder pins per potential | 2 |

Electrical properties

| | |
|-----------------------------|--------|
| Nominal current I_N | 12 A |
| Nominal voltage U_N | 320 V |
| Degree of pollution | 3 |
| Contact resistance | 1.5 mΩ |
| Rated voltage (III/3) | 320 V |
| Rated surge voltage (III/3) | 4 kV |
| Rated voltage (III/2) | 320 V |
| Rated surge voltage (III/2) | 4 kV |
| Rated voltage (II/2) | 630 V |
| Rated surge voltage (II/2) | 4 kV |

Mounting

| | |
|---------------|----------------|
| Mounting type | Wave soldering |
| Pin layout | Linear pinning |

Material specifications

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 | hot-dip tin-plated |
| Metal surface contact area (top layer) | Tin (4 - 8 μm Sn) |
| Metal surface soldering area (top layer) | Tin (4 - 8 μm Sn) |

Material data - housing

| | |
|---------------------|--------------|
| Color (Housing) | green (6021) |
| Insulating material | PA |

ICV 2,5/ 2-G-5,08 - PCB header

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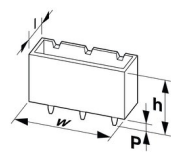
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| | |
|---|--------|
| Insulating material group | I |
| CTI according to IEC 60112 | 600 |
| Flammability rating according to UL 94 | V0 |
| Glow wire flammability index GWFI according to EN 60695-2-12 | 850 |
| Glow wire ignition temperature GWIT according to EN 60695-2-13 | 775 |
| Temperature for the ball pressure test according to EN 60695-10-2 | 125 °C |

Notes

| | |
|--------------------|--|
| Notes on operation | In accordance with IEC 61984, COMBICON connectors have no switching power (COC). During designated use, they must not be plugged in or disconnected when carrying voltage or under load. |
|--------------------|--|

Dimensions

| | |
|-----------------------|---|
| Dimensional drawing |  |
| Pitch | 5.08 mm |
| Width [w] | 12.16 mm |
| Height [h] | 22.4 mm |
| Length [l] | 10.2 mm |
| Installed height | 18.9 mm |
| Solder pin length [P] | 3.6 mm |
| Pin dimensions | 0.47 x 1.15 mm |

| | |
|---------------|---------|
| PCB design | |
| Pin spacing | 5.08 mm |
| Hole diameter | 1.4 mm |

Mechanical tests

Test for conductor damage and slackening

| | |
|---------------|---------------------|
| Specification | IEC 60999-1:1999-11 |
| Result | Test passed |

Repeated connection and disconnection

| | |
|---------------|---------------------|
| Specification | IEC 60999-1:1999-11 |
| Result | Test passed |

Pull-out test

| | |
|---|-----------------------------|
| Specification | IEC 60999-1:1999-11 |
| Conductor cross section/conductor type/tractive force setpoint/actual value | 0.2 mm² / solid / > 10 N |
| | 0.2 mm² / flexible / > 10 N |
| | 2.5 mm² / solid / > 50 N |

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| | |
|--|---|
| | 2.5 mm ² / flexible / > 50 N |
|--|---|

Insertion and withdrawal forces

| | |
|-------------------------------------|-------------|
| Result | Test passed |
| No. of cycles | 25 |
| Insertion strength per pos. approx. | 8 N |
| Withdraw strength per pos. approx. | 6 N |

Contact holder in insert

| | |
|---|------------------------|
| Specification | IEC 60512-15-1:2008-05 |
| Contact holder in insert Requirements >20 N | Test passed |

Resistance of inscriptions

| | |
|---------------|------------------------|
| Specification | IEC 60068-2-70:1995-12 |
| Result | Test passed |

Polarization and coding

| | |
|---------------|------------------------|
| Specification | IEC 60512-13-5:2006-02 |
| Result | Test passed |

Visual inspection

| | |
|---------------|-----------------------|
| Specification | IEC 60512-1-1:2002-02 |
| Result | Test passed |

Dimension check

| | |
|---------------|-----------------------|
| Specification | IEC 60512-1-2:2002-02 |
| Result | Test passed |

Electrical tests

Thermal test | Test group C

| | |
|----------------------------|-----------------------|
| Specification | IEC 60512-5-1:2002-02 |
| Tested number of positions | 16 |

Insulation resistance

| | |
|--|-----------------------|
| Specification | IEC 60512-3-1:2002-02 |
| Insulation resistance, neighboring positions | > 5 MΩ |

Air clearances and creepage distances |

| | |
|--|---------------------|
| Specification | IEC 60664-1:2007-04 |
| Insulating material group | I |
| Comparative tracking index (IEC 60112) | CTI 600 |
| Rated insulation voltage (III/3) | 320 V |
| Rated surge voltage (III/3) | 4 kV |
| minimum clearance value - non-homogenous field (III/3) | 3 mm |
| minimum creepage distance (III/3) | 4 mm |
| Rated insulation voltage (III/2) | 320 V |

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| | |
|--|--------|
| Rated surge voltage (III/2) | 4 kV |
| minimum clearance value - non-homogenous field (III/2) | 3 mm |
| minimum creepage distance (III/2) | 3 mm |
| Rated insulation voltage (II/2) | 630 V |
| Rated surge voltage (II/2) | 4 kV |
| minimum clearance value - non-homogenous field (II/2) | 3 mm |
| minimum creepage distance (II/2) | 3.2 mm |

Environmental and real-life conditions

Vibration test

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

Durability test

| | |
|--|-----------------------|
| Specification | IEC 60512-9-1:2010-03 |
| Impulse withstand voltage at sea level | 4.8 kV |
| Contact resistance R_1 | 1.5 mΩ |
| Contact resistance R_2 | 1.5 mΩ |
| Insertion/withdrawal cycles | 25 |
| Insulation resistance, neighboring positions | > 5 MΩ |

Climatic test

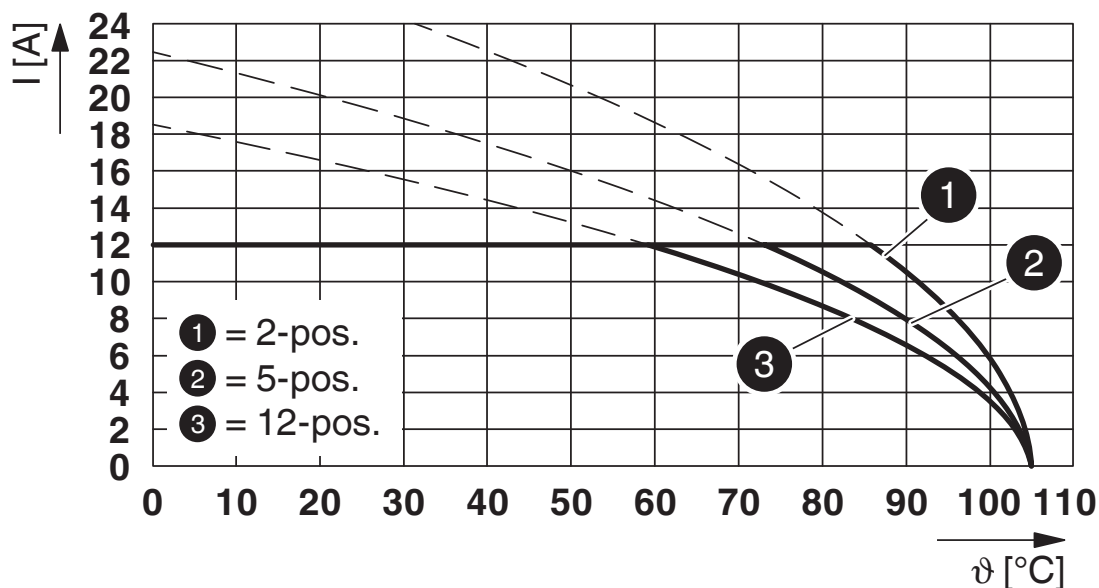
| | |
|-----------------------------------|---|
| Specification | ISO 6988:1985-02 |
| Corrosive stress | 0.2 dm ³ SO ₂ on 300 dm ³ /40 °C/1 cycle |
| Thermal stress | 100 °C/168 h |
| Power-frequency withstand voltage | 2.21 kV |

Ambient conditions

| | |
|---|---|
| Ambient temperature (operation) | -40 °C ... 100 °C (dependent on the derating curve) |
| Ambient temperature (storage/transport) | -40 °C ... 70 °C |
| Relative humidity (storage/transport) | 30 % ... 70 % |
| Ambient temperature (assembly) | -5 °C ... 100 °C |

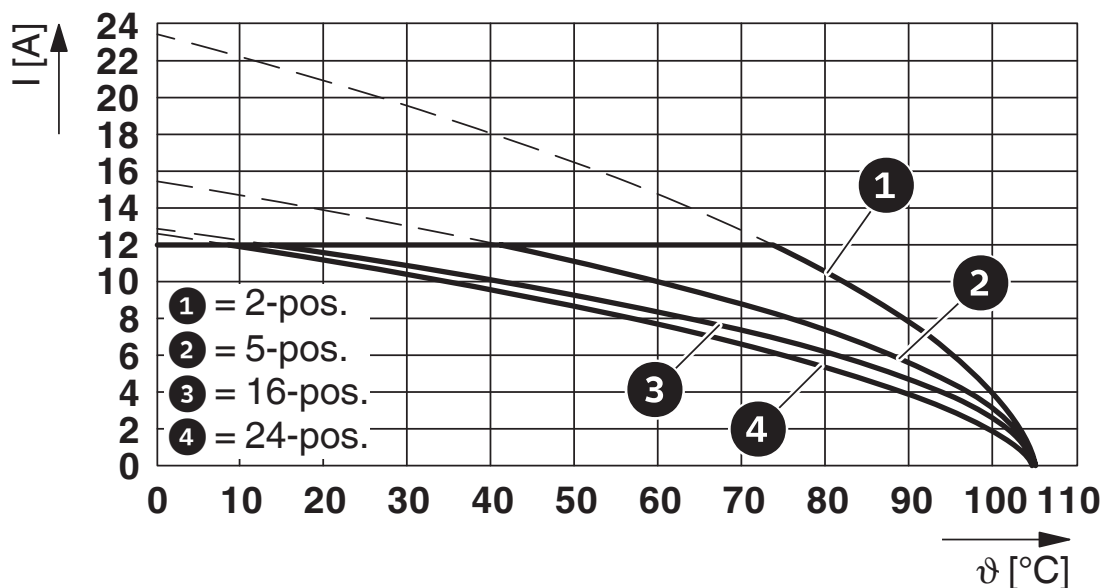
Drawings

Diagram

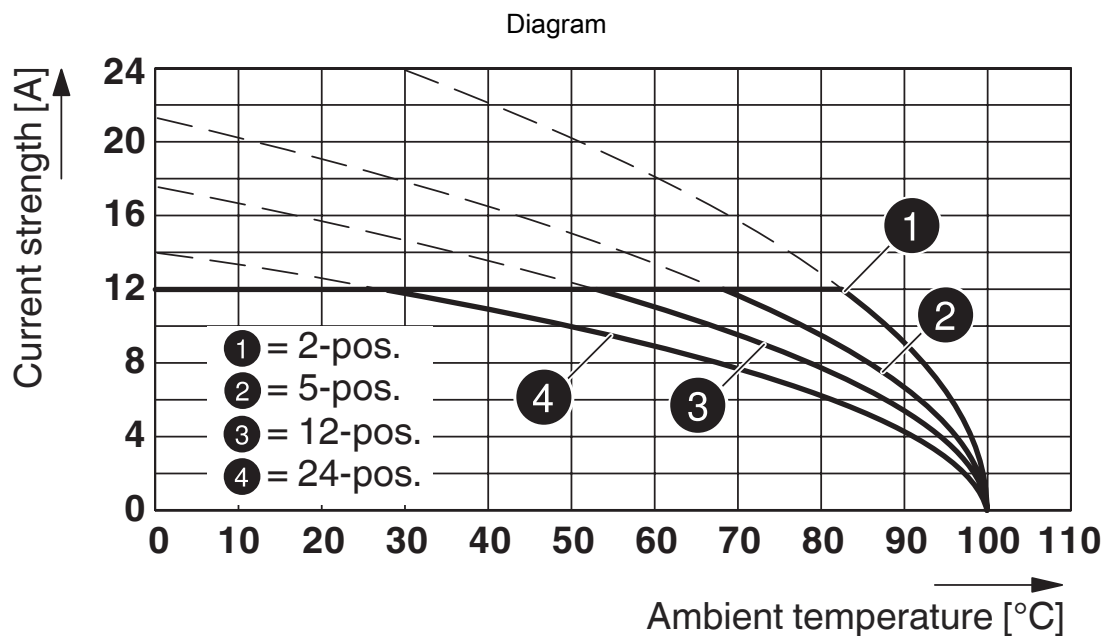


Type: ICV 2,5/...-G-5,08 with CC 2,5/...-G-5,08 P...THR

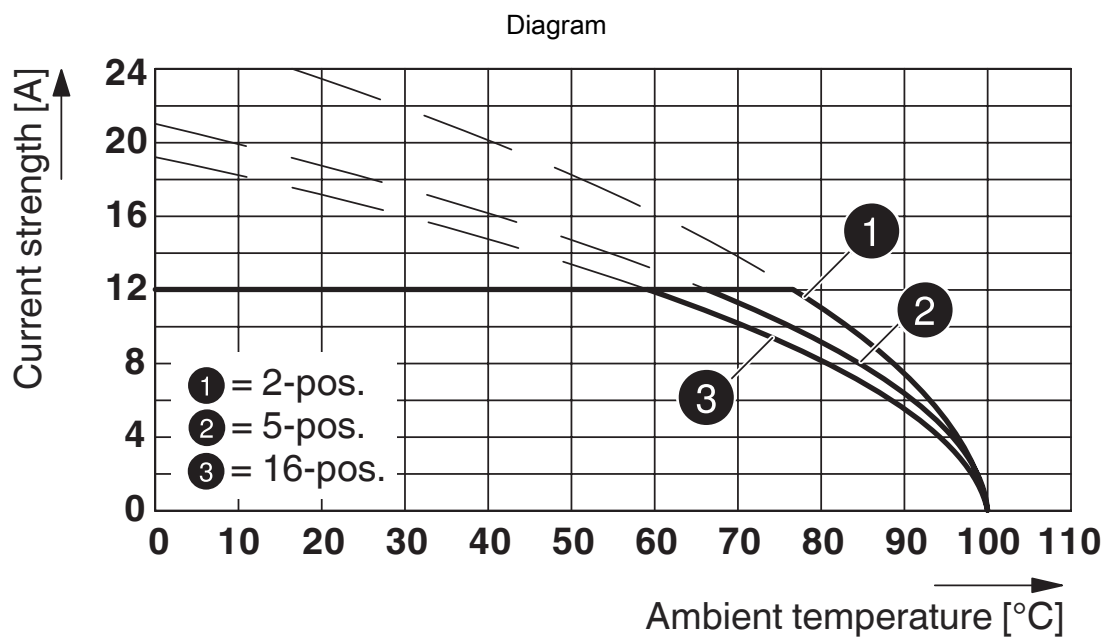
Diagram



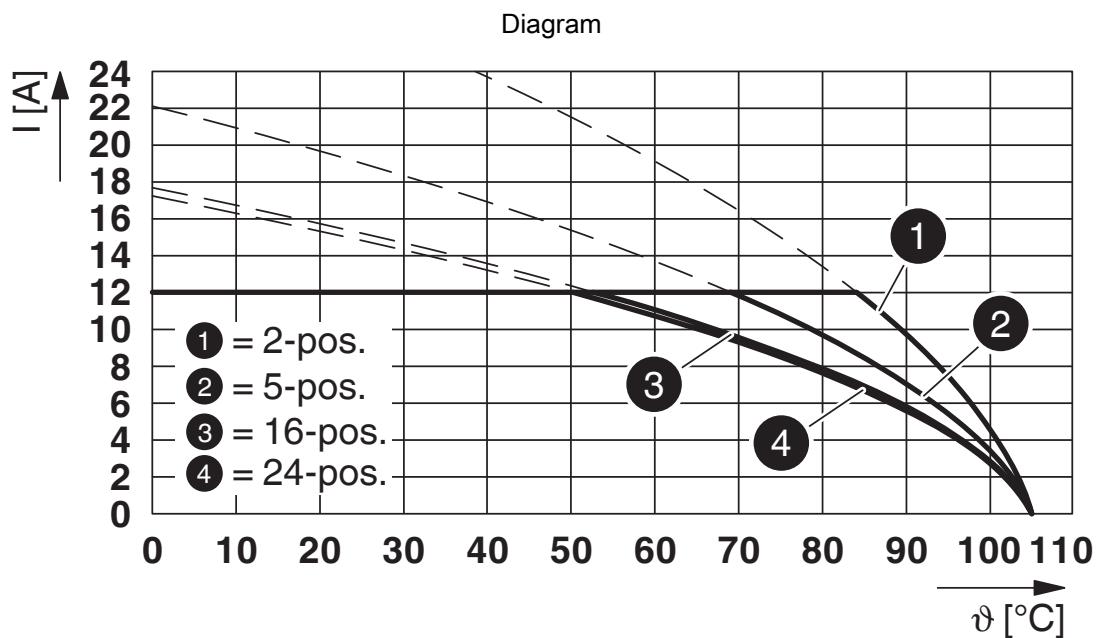
Type: ICV 2,5/...-G-5,08 with MSTBV 2,5/...-G-5,08



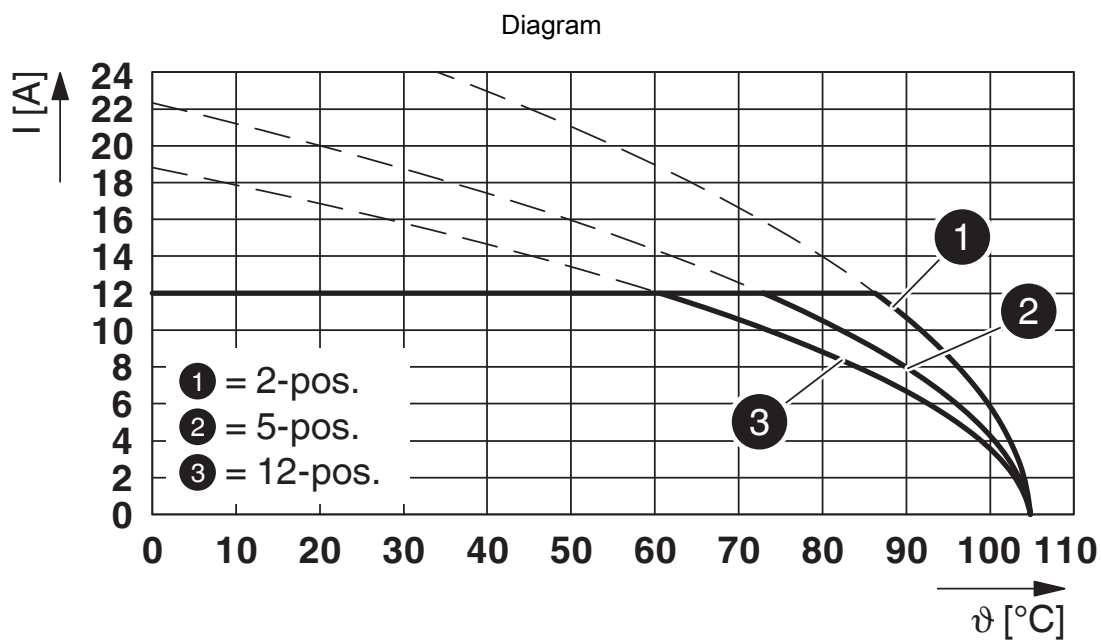
Type: ICV 2,5/...-G-5,08 with MSTBA 2,5/...-G-5,08



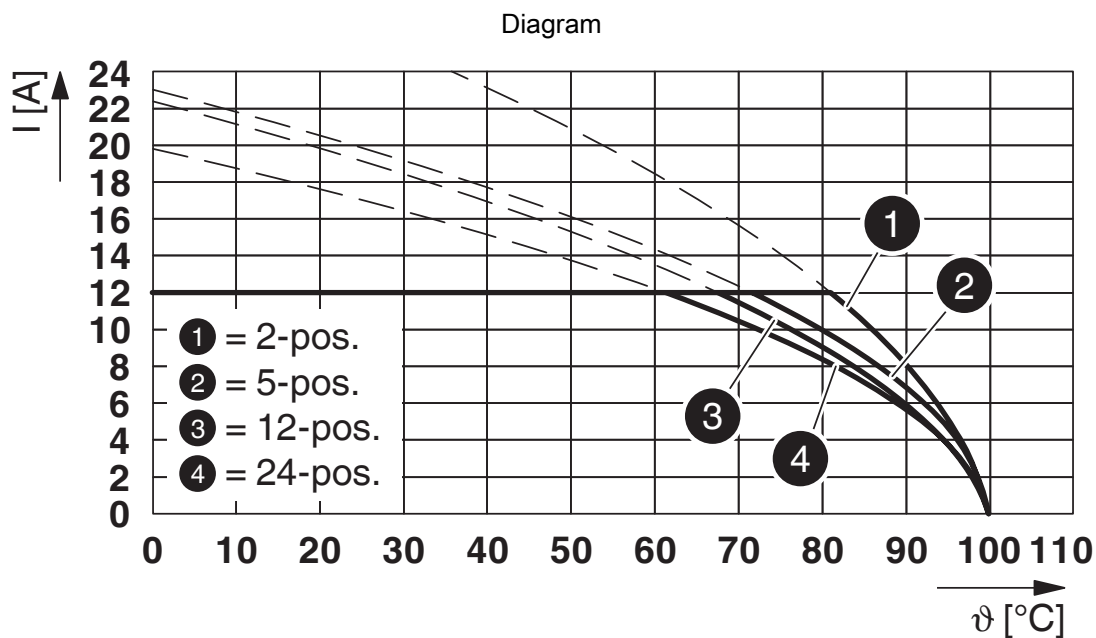
Type: FKIC 2,5/...-ST-5,08 with ICV 2,5/...-G-5,08



Type: ICV 2,5/...-G-5,08 with MSTB 2,5/...-G-5,08

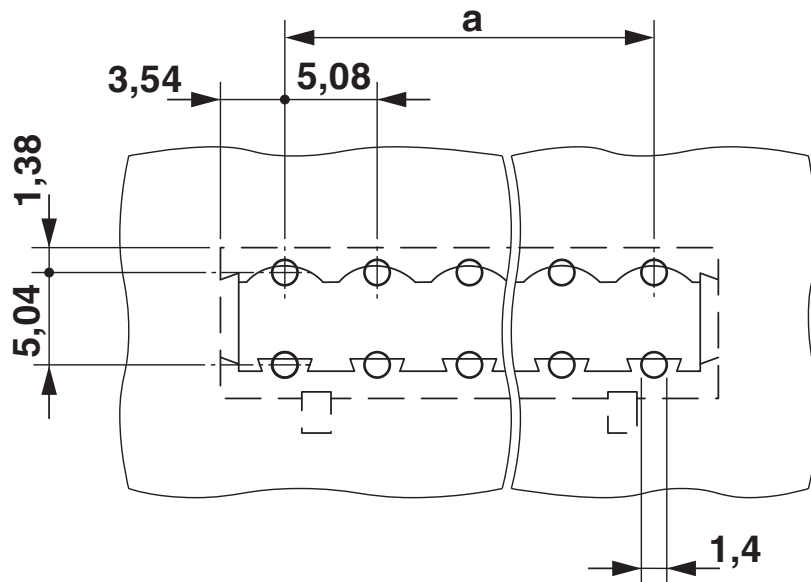


Type: ICV 2,5/...-G-5,08 with CCV 2,5/...-G-5,08 P...THR

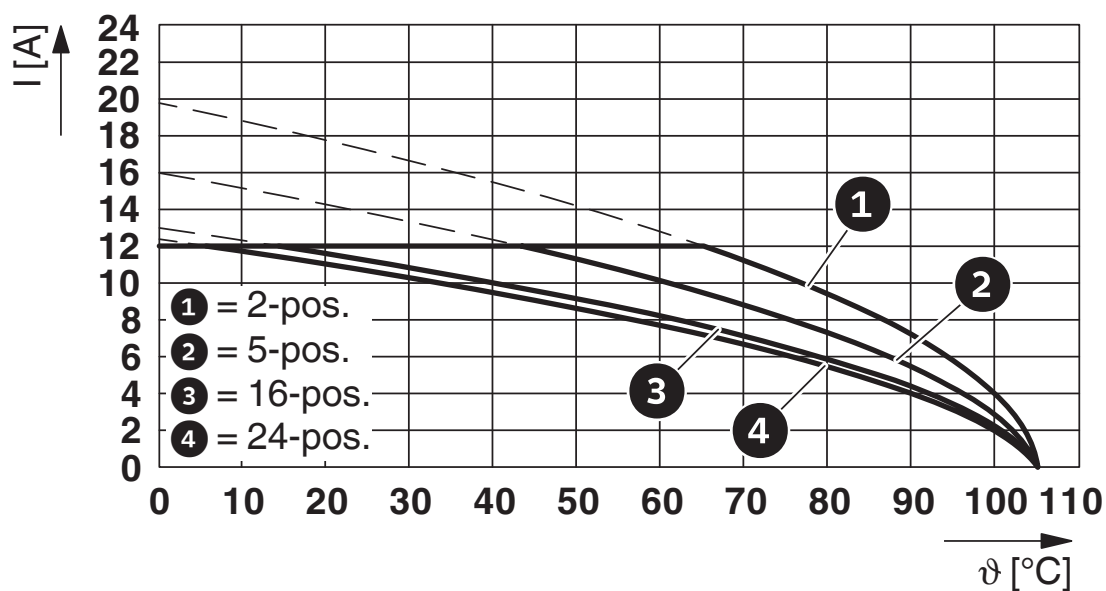


Type: IC 2,5/...-ST-5,08 with ICV 2,5/...-G-5,08

Drilling plan/solder pad geometry

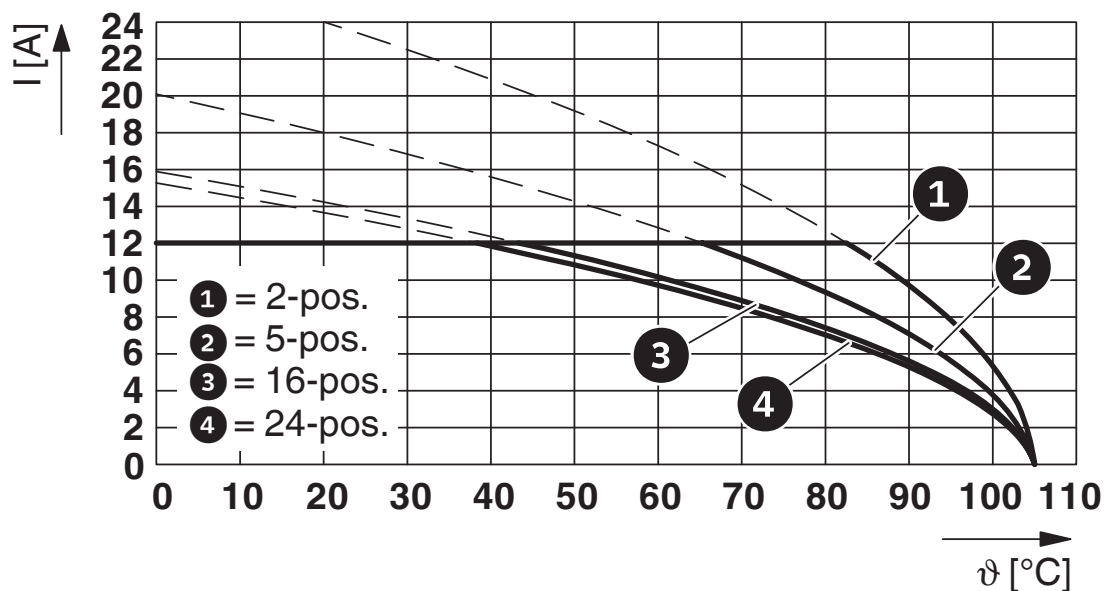


Diagram



Type: ICV 2,5/...-G-5,08 with MSTBVA 2,5/...-G-5,08

Diagram



Type: ICV 2,5/...-G-5,08 with MSTBW 2,5/...-G-5,08

ICV 2,5/ 2-G-5,08 - PCB header





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Approvals


To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1785942>

|  CSA Approval ID: 13631 | | | | |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal Voltage U_N | Nominal Current I_N | Cross Section AWG | Cross Section mm^2 |
| Use group B | 300 V | 10 A | - | - |
| Use group D | 300 V | 10 A | - | - |

|  IECEE CB Scheme Approval ID: DE1-60988-B1B2 | | | | |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal Voltage U_N | Nominal Current I_N | Cross Section AWG | Cross Section mm^2 |
| | 250 V | 12 A | - | - |

|  EAC Approval ID: B.01687 | | | | |
|--|--|--|--|--|
|--|--|--|--|--|

|  cULus Recognized Approval ID: E60425-19931014 | | | | |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal Voltage U_N | Nominal Current I_N | Cross Section AWG | Cross Section mm^2 |
| Use group B | 250 V | 12 A | - | - |
| Use group D | 300 V | 10 A | - | - |

|  VDE Zeichengenehmigung Approval ID: 40050648 | | | | |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal Voltage U_N | Nominal Current I_N | Cross Section AWG | Cross Section mm^2 |
| | 250 V | 12 A | - | - |

ICV 2,5/ 2-G-5,08 - PCB header



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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-11.0 | 27460201 |
| ECLASS-12.0 | 27460201 |
| ECLASS-13.0 | 27460201 |

ETIM

| | |
|----------|----------|
| ETIM 8.0 | EC002637 |
|----------|----------|

UNSPSC

| | |
|-------------|----------|
| UNSPSC 21.0 | 39121400 |
|-------------|----------|

ICV 2,5/ 2-G-5,08 - PCB header



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Environmental Product Compliance

| | |
|------------|---|
| China RoHS | Environmentally friendly use period: unlimited = EFUP-e |
| | No hazardous substances above threshold values |

ICV 2,5/ 2-G-5,08 - PCB header



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Accessories

MPS-MT - Test plugs

0201744

<https://www.phoenixcontact.com/us/products/0201744>



Test plugs, with solder connection up to 1 mm² conductor cross section, number of positions: 1, color: gray

RPS - Reducing plug

0201647

<https://www.phoenixcontact.com/us/products/0201647>



Reducing plug, number of positions: 1, color: gray

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CP-MSTB - Coding profile

1734634

<https://www.phoenixcontact.com/us/products/1734634>

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



FLRP/ICV 80 - Mounting material

1808353

<https://www.phoenixcontact.com/us/products/1808353>

Pair of guide rails, is inserted into the groove ICV/...G, height: 86 mm, hole diameter: 3.4 mm



ICV 2,5/ 2-G-5,08 - PCB header

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DFK-MSTBA 2,5/ 2-G-5,08 - Feed-through header

1898839

<https://www.phoenixcontact.com/us/products/1898839>

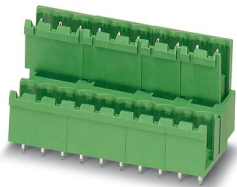


Feed-through header, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Pin, number of potentials: 2, number of rows: 1, number of positions: 2, number of connections: 2, product range: DFK-MSTBA 2,5/..-G, pitch: 5.08 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.2 mm, number of solder pins per potential: 1, plug-in system: COMBICON MSTB 2,5, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: packed in cardboard

MDSTBV 2,5/ 2-G-5,08 - PCB header

1763074

<https://www.phoenixcontact.com/us/products/1763074>



PCB headers, nominal cross section: 2.5 mm², color: green, nominal current: 10 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Pin, number of potentials: 4, number of rows: 2, number of positions: 2, number of connections: 4, product range: MDSTBV 2,5/..-G, pitch: 5.08 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm, number of solder pins per potential: 1, plug-in system: COMBICON MSTB 2,5, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: packed in cardboard, Can be aligned! Mounting flange: Item No. 1836477, 1836480. In combination with MVSTB or FKCV plug components, both an MVSTBW (or FKCVW) and an MVSTBR plug (or FKCVR) must be used. Combination with TMSTBP plug components is not possible!

ICV 2,5/ 2-G-5,08 - PCB header

1785942

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MDSTB 2,5/ 2-G-5,08 - PCB header

1762062

<https://www.phoenixcontact.com/us/products/1762062>



PCB headers, nominal cross section: 2.5 mm², color: green, nominal current: 10 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Pin, number of potentials: 4, number of rows: 2, number of positions: 2, number of connections: 4, product range: MDSTB 2,5/..-G, pitch: 5.08 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.2 mm, number of solder pins per potential: 1, plug-in system: COMBICON MSTB 2,5, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: packed in cardboard, Can be aligned! Mounting flange: Item No. 1736771, 1736768. In combination with MVSTB or FKCV plugs, both an MVSTBW (or FKCVW) and an MVSTBR plug (or FKCVR) must be used. Combination with TMSTBP plugs is not possible!

SMSTBA 2,5/ 2-G-5,08 - PCB header

1767371

<https://www.phoenixcontact.com/us/products/1767371>



PCB headers, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Pin, number of potentials: 2, number of rows: 1, number of positions: 2, number of connections: 2, product range: SMSTBA 2,5/..-G, pitch: 5.08 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm, number of solder pins per potential: 1, plug-in system: COMBICON MSTB 2,5, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: packed in cardboard

ICV 2,5/ 2-G-5,08 - PCB header

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SMSTB 2,5/ 2-G-5,08 - PCB header

1769463

<https://www.phoenixcontact.com/us/products/1769463>



PCB headers, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Pin, number of potentials: 2, number of rows: 1, number of positions: 2, number of connections: 2, product range: SMSTB 2,5/...-G, pitch: 5.08 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm, number of solder pins per potential: 1, plug-in system: COMBICON MSTB 2,5, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: packed in cardboard

ICC 2,5/ 2-STZ-5,08 - PCB connector

1823846

<https://www.phoenixcontact.com/us/products/1823846>



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, type of contact: Pin, number of potentials: 2, number of rows: 1, number of positions: 2, number of connections: 2, product range: ICC 2,5/...-STZ, pitch: 5.08 mm, connection method: Crimp connection, conductor/PCB connection direction: 0 °, locking clip: - without locking clip, plug-in system: COMBICON MSTB 2,5, locking: Snap-in locking, mounting: Engagement nose, type of packaging: packed in cardboard, Corresponding male crimp contacts with current [A] and conductor cross section range [mm²] data: 10A/ICC-MT 0,5-1,0 (3190577); 10A/ICC-MT 0,5-1,0 BA (3190603); 12A/ICC-MT 1,5-2,5 (3190580); 12A/ICC-MT 1,5-2,5 BA (3190593). BA = Bandkontakte

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