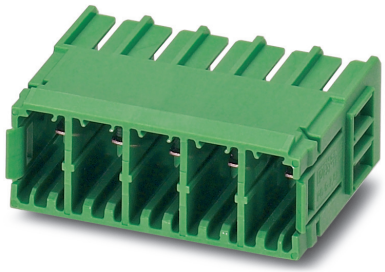
2021-03-18
Product version 03
Document revision 00

# Data sheet

## Order No.: 1720482

## Type: PC 5/ 4-G-7,62

## PCB header



The figure shows a 5-pos. version of the product

## 1 Main features


- No. of pos. 4
- Nominal cross section 6 mm²
- Color green (6021)
- Pitch 7.62 mm
- Mounting type Wave soldering
- Nominal current 41 A
- Nominal voltage 630 V
- Connection direction 0 °
- Type of packaging packed in cardboard

## 2 Your advantages

- Well-known mounting principle allows worldwide use
- Standard header – also suitable for connectors with automatically locking Click and Lock system
- Maximum flexibility when it comes to device design – one header for connectors with different connection technologies

Make sure you always use the latest documentation.
It can be downloaded at: phoenixcontact.net/product/1720482

# 3 Table of contents

## 4 3D model in PDF can be activated (Acrobat Reader only)

# 5 General Technical Data

## 5.1 item properties

| | |
|---|---|
| Order No. | 1720482 |
| Type | PC 5/ 4-G-7,62 |
| Plug-in system | POWER COMBICON 5 |
| Product type | PCB header |
| Type of contact | Male connector |
| Range of articles | PC 5/..-G |
| Pitch | 7.62 mm |
| Number of positions | 4 |
| Number of levels | 1 |
| Number of connections | 4 |
| Number of potentials | 4 |
| Mounting type | Wave soldering |
| Connection direction of the connector to the PCB | 0 ° |
| Pin layout | Linear pinning |
| Solder pins per potential | 3 |
| Type | Standard |

# 6 Mounting

## 6.1 Flange mounting

| | |
|---|---|
| Type of locking | without |
| Mounting flange | without |

# 7 Material properties

## 7.1 Material of metal parts

| | |
|---|---|
| Note | WEEE/RoHS-compliant, whisker-free acc. to IEC 60068-2-82/JEDEC JESD 201 |
| Contact material | Cu alloy |
| Surface contact area | Tin (4 - 8 µm Sn) |
| Soldering area surface | Tin (4 - 8 µm Sn) |
| Surface characteristics | hot-dip tin-plated |

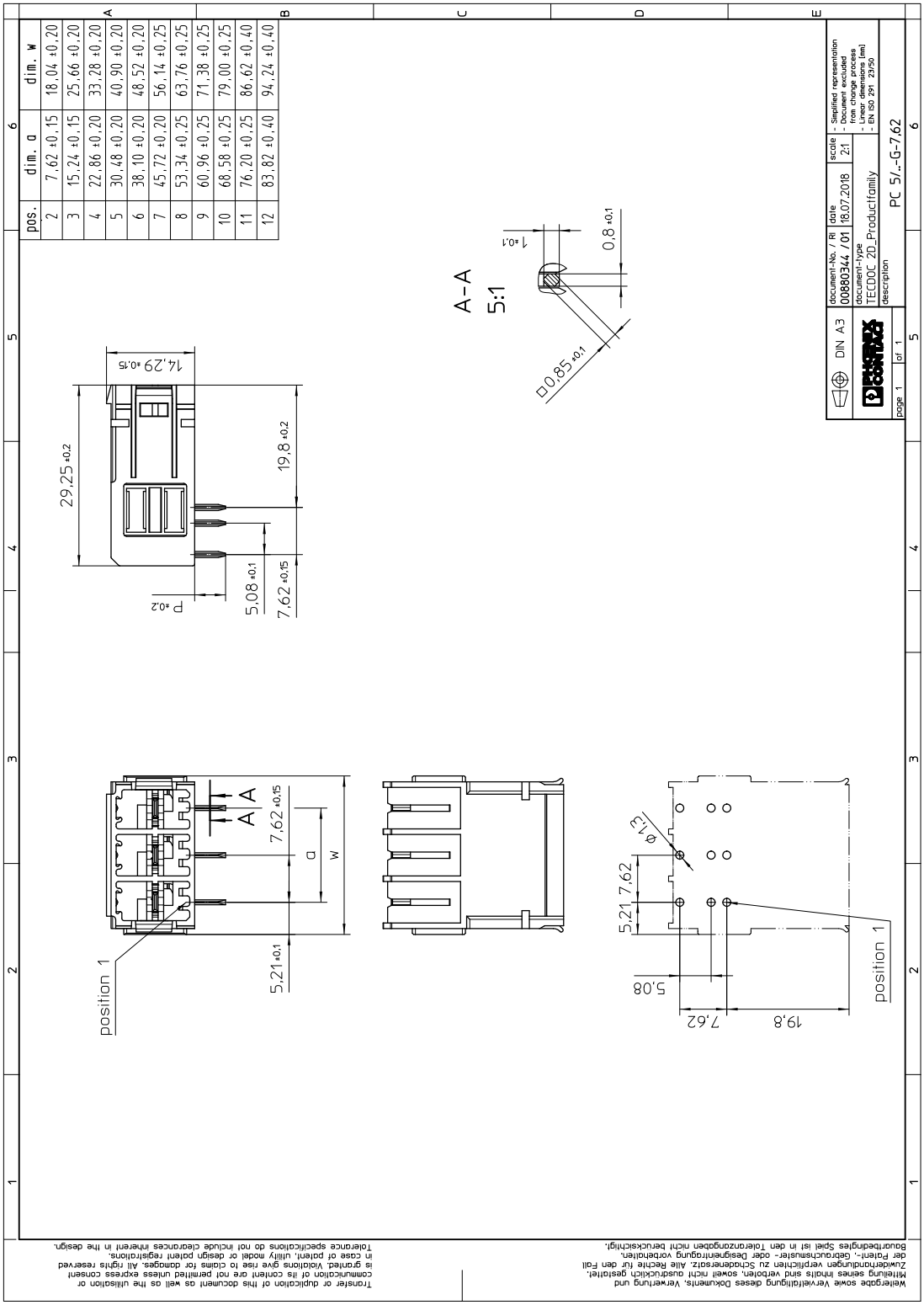
| Insulating material data | Housing |
|---|---|
| Color | green (6021) |
| Insulating material | PA |
| Insulating material group | I |
| CTI according to IEC 60112 | 600 |
| Flammability rating according to UL 94 | V0 |
| Glow wire flammability index GWFI according to EN 60695-2-12 | 850 |
| Glow wire ignition temperature GWIT according to EN 60695-2-13 | 775 |
| Temperature for the ball pressure test according to EN 60695-10-2 | 125 °C |

# 8 Dimensions

## 8.1 Dimensions for the product

| | |
|---|---|
| Length | 29.25 mm |
| Width | 33.28 mm |
| Height (without solder pin) | 14.29 mm |
| Total height | 19.29 mm |
| Solder pin [P] | 5 mm |

# 9 Series drawing



# 10 Product notes

## 10.1 General information

| | |
|---|---|
| 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. |

# 11 Application

# 12 Packaging information

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

## 12.1 Temperature limit values

| | |
|---|---|
| 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) |

# 13 Mechanical tests

## 13.1 Visual examination

| | |
|---|---|
| Specification | IEC 61984:2008-10 |
| Visual examination | Test passed |
| Specification | IEC 60512-1-1:2002-02 |

## 13.2 Dimensional test

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

## 13.3 Resistance of marking

| | |
|---|---|
| Resistance of marking | Test passed |
| Specification | IEC 60068-2-70:1995-12 |

## 13.4 Polarization and coding

| | |
|---|---|
| Polarization and coding | Test passed |
| Specification | IEC 60512-13-5:2006-02 |
| Test force | 20 N |

## 13.5 Contact retention in insert

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

## 14 Insertion and withdrawal forces

| | |
|---|---|
| Insertion and withdrawal force | Test passed |
| Specification | IEC 60512-13-2:2006-02 |
| No. of cycles | 50 |
| Insertion strength per pos. approx. | 8 N |
| Withdraw strength per pos. approx. | 6 N |

# 15 Electrical tests

| | |
|---|---|
| Rated current / conductor cross section | 41 A / 6 mm² |
| Rated insulation voltage (III/2) | 630 V |
| Rated surge voltage (III/2) | 6 kV |
| Contact resistance | 0.8 mΩ |
| Degree of pollution | 2 |

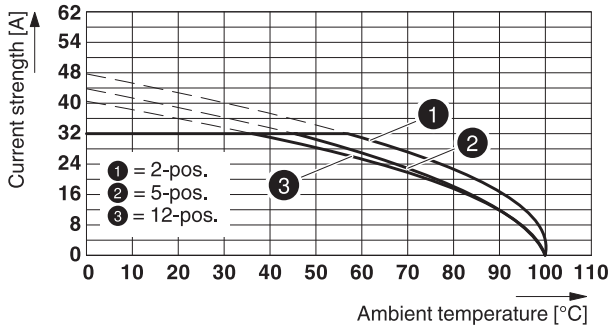
## 15.1 Air and creepage distances

| | | | |
|---|---|---|---|
| Component | PCB header | | |
| Specification | IEC 60664-1:2007-04 | | |
| Mains type | unearthed mains | | |
| Insulating material group | I | | |
| Comparative tracking index (IEC 60112:2003-01) | CTI 600 | | |
| Rated insulation voltage | 630 V | 630 V | 1000 V |
| Rated surge voltage | 6 kV | 6 kV | 6 kV |
| Degree of pollution | 3 | 2 | 2 |
| Overvoltage category | III | III | II |
| Minimum clearance case A (inhomogeneous field) | 5.5 mm | 5.5 mm | 5.5 mm |
| Minimum value of the creepage path requirement in acc. with table | 8 mm | 5.5 mm | 5.5 mm |

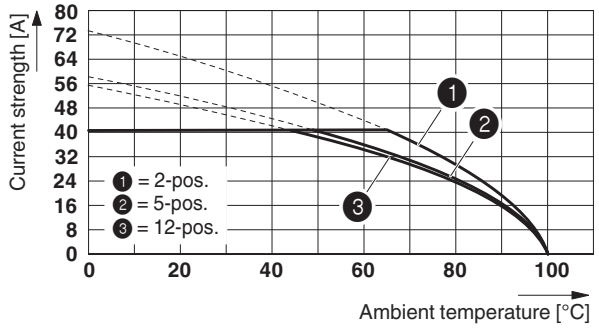
# 16 Current carrying capacity/derating curves

| | |
|---|---|
| Specification | IEC 61984:2008-10 |
| Note | Representation based on IEC 60512-5-2:2002-02 |
| Note | For number of positions, see diagram |
| Reduction factor | 0.8 |
| Conductor cross section | 6 mm² |

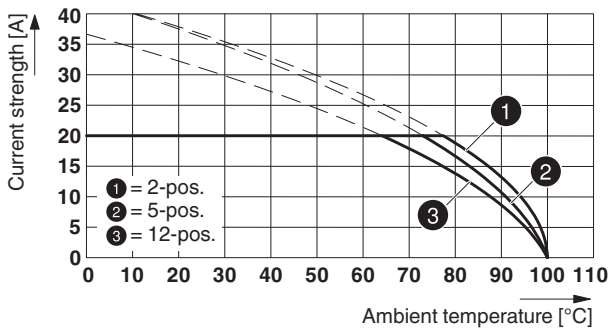
**Derating curve for: SPC 5/...-ST-7,62 with PC 5/...-G-7,62**




**Derating curve for: PC 5/...-ST1-7,62 with PC 5/...-G-7,62**
**Conductor cross section: 10 mm²**

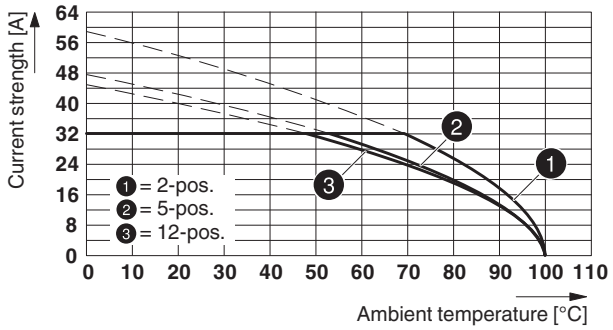



**Type: PC 4/...-ST-7,62 with PC 5/...-G-7,62**



## 1720482 PC 5/ 4-G-7,62

**Type: TSPC 5/...-ST-7,62 with PC 5/...-G-7,62**



# 17 Environmental and durability tests

## 17.1 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 |
| Test directions | X-, Y- and Z-axis |
| Note | The connected conductor loops were guided to the test sample at a distance of approx. 10 cm. |

## 17.2 Insulation resistance

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

# 18 Approvals / Certificates

| EAC |
|---|

| cULus Recognized | Voltage [V] | Current [A] | Cross section [AWG] | Cross section [mm²] |
|---|---|---|---|---|
| **Usegroup B** | | | | |
| | 300 V | 41 A | - | - |
| **Usegroup C** | | | | |
| | 150 V | 41 A | - | - |
| **Usegroup F** | | | | |
| | 600 V | 41 A | - | - |
| **Usegroup D** | | | | |
| | 300 V | 10 A | - | - |

## 19 Commercial Data

| | |
|---|---|
| Order No. | 1720482 |
| Type | PC 5/ 4-G-7,62 |
| Pieces per package | 50 |
| Net weight | 7.503 g |
| GTIN | 4046356113670 |
| | Information that applies locally, see link on page 1 |
| | Information that applies locally, see link on page 1 |

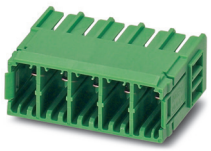
## 20 corresponding plugs

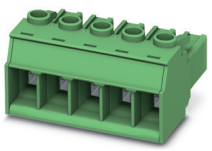
| Order No. | Type |
|---|---|
| 1728471 | TSPC 5/ 4-ST-7,62 |
| 1777749 | PC 5/ 4-ST1-7,62 |
| 1996032 | SPC 5/ 4-ST-7,62 |
| 1765434 | TSPC 5/ 4-STCL-7,62 |
| 1718504 | SPC 5/ 4-STCL-7,62 |
| 1778081 | PC 5/ 4-STCL1-7,62 |
| 1708404 | IPC 5/ 4-G-7,62 |
| 1708624 | IPC 5/ 4-GU-7,62 |
| 1708844 | IPCV 5/ 4-G-7,62 |

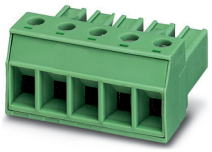
## 21 Accessories

| Description | Order No. | Type |
|---|---|---|
| Coding profile, for plugging into the coding ribs of the plug at a later date, insulating material, color: Red | 1701967 | CP-PC RD |
| | 1968387 | POWERCOMBICON PCB-SHIELD |
| | 0804549 | SK 7,62/3,8:FORTL.ZAHLEN |
| | 0825128 | SK 3,8 REEL P7,62 WH CUS |
| | 0803906 | SK U/3,8 WH:UNBEDRUCKT |
| | 0805218 | SK 3,8 WH:REEL |

## 22 Combination tests







| PC 5/..-G | SPC 5/..-ST | PC 5/..-ST1 | PC 4/..-ST | TSPC 5/..-ST |
|---|---|---|---|---|
| IEC 61984 | IEC 61984 | IEC 61984 | IEC 61984 | IEC 61984 |
| **Mechanical tests (A)** | | | | |
| Insertion/withdrawal force per position | approx. 8 N / 6 N | approx. 8 N / 6.5 N | approx. 18 N / 11 N | approx. 6 N / 5 N |
| Polarization when inserted<br>Requirement >20 N | Test passed | Test passed | Test passed | Test passed |
| Contact holder in insert<br>Requirements >20 N | Test passed | Test passed | Test passed | Test passed |
| **Durability tests (B)** | | | | |
| Contact resistance $R_1$ 1st level | 0.8 mΩ | 0.4 mΩ | 0.5 mΩ | 0.6 mΩ |
| Contact resistance $R_1$ 2nd level | | | | |
| Insertion/withdrawal cycles | 50 | 50 | 25 | 50 |
| Contact resistance $R_2$ | 0.8 mΩ | 0.5 mΩ | 0.5 mΩ | 0.7 mΩ |
| Rated impulse voltage at sea level<br>Voltage waveform ≥ (1.2/50 µs) | 7.3 kV | 7.3 kV | 7.3 kV | 7.3 kV |
| Power-frequency withstand voltage<br>Voltage waveform ≥ (50/60 Hz) | 3.31 kV | 3.31 kV | 3.31 kV | 3.31 kV |
| **Thermal tests (C)** | | | | |
| Tested number of positions | 12 | 12 | 12 | 12 |
| Tested conductor cross section | 6 mm² | 10 mm² | 4 mm² | 6 mm² |
| Test current | 32 A DC | 41 A | 20 A | 32 A |
| Upper limiting temperature<br>Requirements < 100°C | Test passed | Test passed | Test passed | Test passed |
| **Climatic tests (D)** | | | | |
| Test sequence 1: low temperature storage | -40 °C/2 h | -40 °C/2 h | -40 °C/2 h | -40 °C/2 h |
| Test sequence 2: heat storage | 100 °C/168 h | 100 °C/168 h | 100 °C/168 h | 100 °C/168 h |
| Test sequence 3: noxious gas storage (ISO 6988) | 0.2 dm³ $SO_2$ on 300 dm³/ 40 °C/1 cycle | 0.2 dm³ $SO_2$ on 300 dm³/ 40 °C/1 cycle | 0.2 dm³ $SO_2$ on 300 dm³/ 40 °C/1 cycle | 0.2 dm³ $SO_2$ on 300 dm³/ 40 °C/1 cycle |
| Rated impulse voltage at sea level<br>Voltage waveform ≥ (1.2/50 µs) | 7.3 kV | 7.3 kV | 7.3 kV | 7.3 kV |
| Power-frequency withstand voltage<br>Voltage waveform ≥ (50/60 Hz) | 3.31 kV | 3.31 kV | 3.31 kV | 3.31 kV |
| **Environmental and endurance tests (E)** | | | | |
| Specification | IEC 61984:2008-10 | IEC 61984:2008-10 | IEC 61984:2008-10 | IEC 61984:2008-10 |
| Degree of protection | Finger safety with IP20 test finger | Back of hand safety with IP10 access probe | Finger safety with IP20 test finger | Back of hand safety with IP10 access probe |