

# CDDC 2,5/13-PV-5,0 - Direct connector



1016276

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PCB direct plug, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, number of potentials: 26, number of rows: 2, number of positions: 13, number of connections: 26, product range: CDDC 2,5/..-PV, pitch: 5 mm, connection method: Crimp connection, mounting: SKEDD - Direct plug-in technology, conductor/PCB connection direction: 90 °, plug-in system: SKEDD, locking: Snap-in locking, mounting: Self-locking flange, type of packaging: packed in cardboard

## Your advantages

- SKEDD direct plug-in technology enables flexible positioning on the PCB
- Reduced component and process costs: simple insertion by hand and vibration-resistant connection
- Contacts arranged in a double row enable high packing density in a compact area
- Wide range of applications, thanks to suitability for PCBs with chemically tin-plated or Hot Air Leveling (HAL) surface
- Cost-effective connection of crimped conductors in large quantities
- Tools for manual and automatic crimping available as an option

## Commercial data

Item number	1016276
Packing unit	1 pc
Minimum order quantity	50 pc
Note	Made to order (non-returnable)
Sales key	AA03
Product key	AACDAA
GTIN	4055626497457
Weight per piece (including packing)	7.406 g
Weight per piece (excluding packing)	7.406 g
Customs tariff number	85472000
Country of origin	DE

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## Technical data

### Product properties

Product line	COMBICON Connectors M
Product type	PCB direct plug
Product family	CDDC 2,5/..-PV
Number of positions	13
Pitch	5 mm
Number of connections	26
Number of rows	2
Mounting flange	Self-locking flange
Number of potentials	26

### Electrical properties

Nominal current $I_N$	12 A
Nominal voltage $U_N$	320 V
Degree of pollution	3
Contact resistance	1.4 m $\Omega$
Rated voltage (III/3)	250 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

### Connection data

#### Connection technology

Connector system	SKEDD
Nominal cross section	2.5 mm <sup>2</sup>

#### Interlock

Locking type	Snap-in locking
Mounting flange	Self-locking flange

#### Conductor connection

Connection method	Crimp connection
Connection direction of the conductor to plug-in direction	0 °
Conductor cross section flexible	0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section AWG	26 ... 14

### Mounting

Mounting type	SKEDD - Direct plug-in technology
Connection method	Crimp connection

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## Material specifications

### Material data - housing

Color (Housing)	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

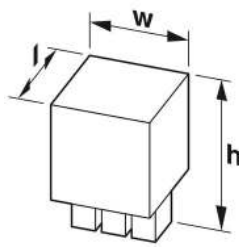
### Material data – actuating element

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

## Notes

Note on the contact	The information on the basic material and the finish properties of the crimp contacts is to be found in the E-Shop in the technical data for the respective crimp contact.
Note on application	All laboratory tests are performed in combination with the crimp contacts specified as accessories.
Note on application	The current depends on the crimp contact and conductor cross section used.
Note on application	The corresponding crimp contacts are to be found in the "Accessories" tab.
Note on application	The crimp contacts may only be processed with approved crimping tools.

## Dimensions

Dimensional drawing	
Pitch	5 mm

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Width [w]	70.8 mm
Height [h]	19.6 mm
Length [l]	13 mm
Installed height	16 mm

## PCB design

Pin spacing	7.00 mm
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## Mechanical tests

### Tensile strength of crimp connections

Result	Test passed
Conductor cross section/conductor type/tractive force setpoint/actual value	0.14 mm <sup>2</sup> / flexible / > 18 N

### Insertion and withdrawal forces

Result	Test passed
No. of cycles	25
Insertion strength per pos. approx.	4 N
Withdraw strength per pos. approx.	3 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

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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)	250 V
Rated surge voltage (III/3)	4 kV
minimum clearance value - non-homogenous field (III/3)	3 mm
minimum creepage distance (III/3)	3.2 mm
Rated insulation voltage (III/2)	320 V
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	50 m/s <sup>2</sup> (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 <sub>1</sub>	1.4 mΩ
Contact resistance R <sub>2</sub>	1.4 mΩ
Insertion/withdrawal cycles	25
Insulation resistance, neighboring positions	> 5 MΩ

### Climatic test

Specification	ISO 6988:1985-02
Corrosive stress	0.2 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> /40 °C/1 cycle
Thermal stress	105 °C/168 h
Power-frequency withstand voltage	2.21 kV

### Shocks

Specification	IEC 60068-2-27:2008-02
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Pulse shape	Semi-sinusoidal
Acceleration	300 m/s <sup>2</sup>
Shock duration	18 ms
Test directions	X-, Y- and Z-axis (pos. and neg.)

## Ambient conditions

Ambient temperature (operation)	-55 °C ... 105 °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

## Packaging specifications

Type of packaging	packed in cardboard
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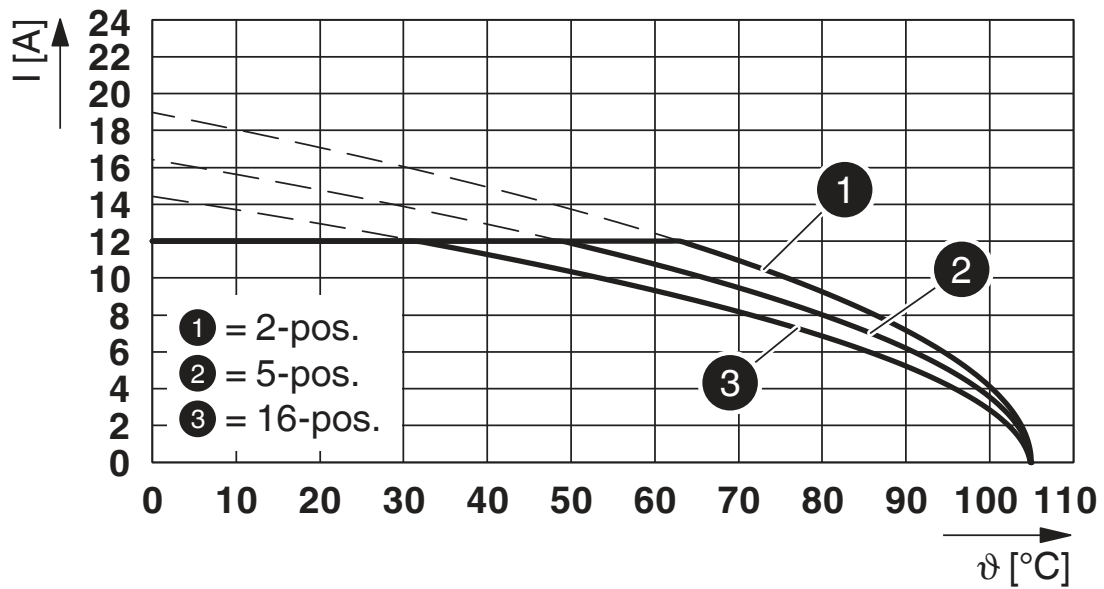


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## Drawings

Diagram



Type: CDDC 2,5/...-PV-5,0

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1016276>

 <b>cULus Recognized</b> Approval ID: E60425-20160718				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
Use group B				
Standard	300 V	12 A	26 - 12	-
Use group D				
Standard	300 V	10 A	26 - 12	-
Alternative 1	150 V	12 A	26 - 12	-

 <b>VDE Zeichengenehmigung</b> Approval ID: 40044617				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
	320 V	12 A	-	0.14 - 2.5

 <b>UL Recognized</b> Approval ID: E60425-20160718				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
Use group F				
	250 V	12 A	16 - 12	-



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## Classifications

### ECLASS

ECLASS-11.0	27460202
ECLASS-12.0	27460202
ECLASS-13.0	27460202

### ETIM

ETIM 8.0	EC002638
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### UNSPSC

UNSPSC 21.0	39121400
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## Environmental product compliance

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

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## Accessories

### CP-PT 1,5 - Coding profile

1985564

<https://www.phoenixcontact.com/us/products/1985564>

Coding profile, inserted into the hole on the plug, made from red insulating material, diameter: 1.35 mm



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### CDC-MP 0,14-0,5 - Crimp contact

1016664

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Crimp contact



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## CDC-MP 0,14-0,5-R - Crimp contact

1016663

<https://www.phoenixcontact.com/us/products/1016663>



Crimp contact

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## CDC-MP 0,5-1,5 - Crimp contact

1016662

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Crimp contact

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## CDC-MP 0,5-1,5-R - Crimp contact

1016661

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Crimp contact

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## CDC-MP 1,5-2,5 - Crimp contact

1016660

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Crimp contact

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## CDC-MP 1,5-2,5-R - Crimp contact

1016659

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Crimp contact

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