

# ZFKDSA 4-7,5- 3 - PCB terminal block

1991891

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Printed circuit board terminal, nominal current: 32 A, rated voltage (III/2): 630 V, nominal cross section: 4 mm<sup>2</sup>, number of potentials: 3, number of rows: 1, number of positions per row: 3, product range: ZFKDS(A) 4, pitch: 7.5 mm, connection method: Spring-cage connection, mounting: Wave soldering, conductor/PCB connection direction: 45 °, color: green, Pin layout: Linear pinning, Solder pin [P]: 4.6 mm, number of solder pins per potential: 2, type of packaging: packed in cardboard

## Your advantages

- Defined contact force ensures that contact remains stable over the long term
- Clamping space opened by means of fixed screwdriver enables convenient conductor connection
- Separate bridge shaft for easily connecting multiple positions to jumpers
- Quick and convenient testing using integrated test option

## Commercial data

Item number	1991891
Packing unit	50 pc
Minimum order quantity	50 pc
Sales key	AA14
Product key	AANMAA
GTIN	4017918976859
Weight per piece (including packing)	14.07 g
Weight per piece (excluding packing)	13.529 g
Customs tariff number	85369010
Country of origin	PL

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## Technical data

### Product properties

Product type	Printed circuit board terminal
Product family	ZFKDS(A) 4
Product line	COMBICON Terminals L
Type	PC terminal block can be aligned
Number of positions	3
Pitch	7.5 mm
Number of connections	3
Number of rows	1
Number of potentials	3
Pin layout	Linear pinning
Solder pins per potential	2

### Electrical properties

#### Properties

Nominal current $I_N$	32 A
Nominal voltage $U_N$	630 V
Rated voltage (III/3)	500 V
Rated surge voltage (III/3)	6 kV
Rated voltage (III/2)	630 V
Rated surge voltage (III/2)	6 kV
Rated voltage (II/2)	1000 V
Rated surge voltage (II/2)	6 kV

### Connection data

#### Connection technology

Type	PC terminal block can be aligned
Nominal cross section	4 mm <sup>2</sup>

#### Conductor connection

Connection method	Spring-cage connection
Conductor cross-section rigid	0.2 mm <sup>2</sup> ... 6 mm <sup>2</sup>
Conductor cross-section flexible	0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Conductor cross-section AWG	24 ... 10
Conductor cross-section, flexible, with ferrule, without plastic sleeve	0.25 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Conductor cross-section, flexible, with ferrule, with plastic sleeve	0.25 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Stripping length	10 mm

### Mounting

Mounting type	Wave soldering
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Pin layout	Linear pinning
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## 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	Tin-plated
Metal surface terminal point (top layer)	Tin (10 µm - 16 µm Sn)
Metal surface soldering area (top layer)	Tin (10 µm - 16 µm Sn)

### 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

Color (Actuating element)	green (6021)
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## Dimensions

Dimensional drawing	
Pitch	7.5 mm
Width [w]	24 mm
Height [h]	27.6 mm
Length [l]	29 mm
Installed height	23 mm
Solder pin length [P]	4.6 mm
Pin dimensions	1 x 1.4 mm

### PCB design

Hole diameter	1.8 mm
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## Mechanical tests

### Connection test

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Specification	IEC 60998-2-2:1991-10
Result	Test passed

## Test for conductor damage and slackening

Specification	IEC 60998-2-2:1991-10
Result	Test passed

## Pull-out test

Specification	IEC 60998-2-2:1991-10
Conductor cross-section/conductor type/tractive force setpoint/actual value	0.2 mm <sup>2</sup> / solid / > 10 N
	0.2 mm <sup>2</sup> / flexible / > 10 N
	6 mm <sup>2</sup> / solid / > 80 N
	4 mm <sup>2</sup> / flexible / > 60 N

## Electrical tests

### Temperature-rise test

Specification	IEC 60998-2-1:1990-04
Requirement temperature-rise test	Increase in temperature ≤ 45 K

### Insulation resistance

Specification	IEC 60998-2-2:1991-10
Insulation resistance, neighboring positions	10 <sup>9</sup> Ω

### Air clearances and creepage distances |

Insulating material group	I
Rated insulation voltage (III/3)	500 V
Rated surge voltage (III/3)	6 kV
Rated insulation voltage (III/2)	630 V
Rated surge voltage (III/2)	6 kV
Rated insulation voltage (II/2)	1000 V
Rated surge voltage (II/2)	6 kV

## Environmental and real-life conditions

### Vibration test

Specification	IEC 60068-2-6:1995-03
Frequency	10 - 150 - 10 Hz
Sweep speed	1 octave/min
Amplitude	0.35 mm (10 Hz ... 60.1 Hz)
Acceleration	5g (60.1 Hz ... 150 Hz)
Test duration per axis	2.5 h
Test directions	X-, Y- and Z-axis

### Glow-wire test

Specification	IEC 60998-2-2:1991-10
Temperature	850 °C

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Time of exposure	5 s
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## Ambient conditions

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

## Packaging specifications

Type of packaging	packed in cardboard
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## Drawings

Diagram



Type: ZFKDS 4-7,5 and ZFKDSA 4-9

Test following DIN EN 60512-5-2:2003-01

Reduction factor = 1

No. of positions: 5

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## Approvals

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 <b>cULus Recognized</b> Approval ID: E60425-19941111				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
B	300 V	30 A	24 - 10	-
C	150 V	30 A	24 - 10	-
D	300 V	10 A	24 - 10	-

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## Classifications

### ECLASS

ECLASS-13.0	27460101
ECLASS-15.0	27460101

### ETIM

ETIM 10.0	EC002643
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### UNSPSC

UNSPSC 21.0	39121400
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
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### China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

### EU REACH SVHC

REACH candidate substance (CAS No.)	No substance above 0.1 wt%
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### EF3.1 Climate Change

CO2e kg	0.113 kg CO2e
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