FRONT 2,5-H/SA 5-EX - PCB terminal block

1701159

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PCB terminal block, nominal current: 21 A, nominal cross section: 2.5 mm^2, number of potentials: 1, number of rows: 1, number of positions per row: 1, product range: FRONT 2,5-H-EX, pitch: 5 mm, connection method: Front screw connection, screw head form: L Slotted, mounting: Wave soldering, conductor/PCB connection direction: 0 °, color: green, Pin layout: Linear pinning, Solder pin [P]: 3.5 mm, number of solder pins per potential: 2, type of packaging: packed in cardboard. The article can be aligned to create different nos. of positions!

Your advantages

- Well-known connection principle allows worldwide use
- Low temperature rise, thanks to maximum contact force
- Satisfies the more stringent safety requirements of “Ex e” protection according to IEC 60079-7 for potentially explosive areas
- Operation and conductor connection from one direction enable integration into front of device
- Two solder pins reduce the mechanical strain on the soldering spots
- The latching on the side enables various numbers of positions to be combined
- Allows connection of two conductors

Commercial data

Item number	1701159
Packing unit	50 pc
Minimum order quantity	50 pc
Sales key	AA13
Product key	AAMFDA
Catalog page	Page 158 (C-1-2013)
GTIN	4017918022990
Weight per piece (including packing)	3.56 g
Weight per piece (excluding packing)	3.32 g
Customs tariff number	85369010
Country of origin	PL

Technical data

Product properties

Product type	Printed circuit board terminal
Product family	FRONT 2,5-H-EX
Product line	COMBICON Terminals M
Type	PC terminal block can be aligned
Number of positions	1
Pitch	5 mm
Number of connections	1
Number of rows	1
Number of potentials	1
Pin layout	Linear pinning
Solder pins per potential	2

Electrical properties

Nominal current I_N	21 A
Nominal voltage U_N	176 V
Rated current / conductor cross section	21 A/2.5 mm²
Degree of pollution	3
Rated voltage (III/3)	176 V

Ex data

Ex approval

Identification	0344 Ⓔx II 2GD / Ex eb IIC Gb
EU-type examination certificate	KEMA 00ATEX2053 U
IECEx certificate	IECEx KEM 07.0023 U

Connection data

Connection technology

Type	PC terminal block can be aligned
Nominal cross section	2.5 mm²

Conductor connection

Connection method	Front screw connection
Conductor cross section rigid	0.2 mm² ... 2.5 mm²
Conductor cross section flexible	0.2 mm² ... 2.5 mm²
Conductor cross section AWG	24 ... 14
2 conductors with same cross section, solid	0.2 mm² ... 0.75 mm²
2 conductors with same cross section, flexible	0.2 mm² ... 0.75 mm²
Stripping length	9 mm
Tightening torque	0.4 Nm ... 0.5 Nm

Mounting

Mounting type	Wave soldering
Pin layout	Linear pinning
Drive form screw head	Slotted (L)

Material specifications

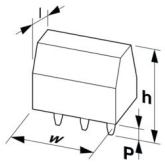
Material data - contact

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 (5 - 7 µm Sn)
Metal surface soldering area (top layer)	Tin (5 - 7 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

Dimensions

Dimensional drawing	
Pitch	5 mm
Width [w]	7.5 mm
Height [h]	21.8 mm
Length [l]	19.5 mm
Installed height	18.3 mm
Solder pin length [P]	3.5 mm
Pin dimensions	0.8 x 0.8 mm

PCB design

Pin spacing	5 mm
Hole diameter	1.2 mm

Mechanical tests

Test for conductor damage and slackening

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 / flexible / > 50 N
	2.5 mm² / solid / > 50 N

Electrical tests

Temperature-rise test

Specification	IEC 60947-7-4:2013-08
Requirement temperature-rise test	The sum of ambient temperature and temperature rise of the PCB terminal block shall not exceed the upper limiting temperature.

Short-time withstand current

Specification	IEC 60947-7-4:2013-08

Insulation resistance

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

Air clearances and creepage distances |

Insulating material group	I
Comparative tracking index (IEC 60112)	CTI 600
Rated insulation voltage (III/3)	176 V
minimum clearance value - non-homogenous field (III/3)	3 mm
minimum creepage distance (III/3)	3.2 mm
minimum clearance value - non-homogenous field (III/2)	3 mm
minimum creepage distance (III/2)	3 mm
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)
Acceleration	5g (60.1 Hz ... 150 Hz)

Test duration per axis	2.5 h

Glow-wire test

Specification	IEC 60695-2-10:2013-04
Temperature	850 °C
Time of exposure	5 s

Aging

Specification	IEC 60947-7-4:2013-08

Ambient conditions

Ambient temperature (operation)	-40 °C ... 100 °C (Depending on the current carrying capacity/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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