

STTB 1,5 BU - Double-level spring-cage terminal block



3031160

<https://www.phoenixcontact.com/us/products/3031160>

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Double-level spring-cage terminal block, nom. voltage: 500 V, nominal current: 17.5 A, connection method: Spring-cage connection, 1st and 2nd level, Rated cross section: 1.5 mm², cross section: 0.08 mm² - 1.5 mm², mounting type: NS 35/7,5, NS 35/15, color: blue

Your advantages

- Simple wiring of very small, flexible conductors
- Enables one-handed wiring
- No restriction on cross-sections when using conductors with ferrules
- Reliable vibration resistance thanks to spring-loaded contact elements
- High space savings thanks to the compact integration of two separate circuits in a single terminal block
- Full flexibility thanks to the standardized CLIPLINE complete bridging, marking, and testing accessories

Commercial data

Item number	3031160
Packing unit	50 pc
Minimum order quantity	50 pc
Sales key	BE02
Product key	BE2114
GTIN	4017918186715
Weight per piece (including packing)	8.6 g
Weight per piece (excluding packing)	7.905 g
Customs tariff number	85369010
Country of origin	DE

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Technical data

Product properties

Product type	Multi-level terminal block
Product family	ST
Area of application	Railway industry
	Machine building
	Plant engineering
	Process industry
Number of connections	4
Number of rows	2
Potentials	2

Insulation characteristics

Overvoltage category	III
Degree of pollution	3

Electrical properties

Rated surge voltage	6 kV
Maximum power dissipation for nominal condition	0.56 W

Connection data

Number of connections per level	2
Nominal cross section	1.5 mm ²

1st and 2nd level

Connection method	Spring-cage connection
Stripping length	10 mm
Internal cylindrical gage	A1
Connection in acc. with standard	IEC 60947-7-1
Conductor cross-section rigid	0.08 mm ² ... 1.5 mm ²
Cross section AWG	28 ... 16 (converted acc. to IEC)
Conductor cross-section flexible	0.08 mm ² ... 1.5 mm ²
Conductor cross-section, flexible [AWG]	28 ... 16 (converted acc. to IEC)
Conductor cross-section flexible (ferrule without plastic sleeve)	0.14 mm ² ... 1.5 mm ²
Flexible conductor cross-section (ferrule with plastic sleeve)	0.14 mm ² ... 1.5 mm ²
2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve	0.5 mm ²
Nominal cross section	1.5 mm ²
Nominal current	17.5 A
Maximum load current	17.5 A (with 1.5 mm ² conductor cross-section)
Nominal voltage	500 V

Ex data

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Rated data (ATEX/IECEX)

Identification	⊕ II 2 GD Ex eb IIC Gb
Operating temperature range	-60 °C ... 85 °C
Ex-certified accessories	3030459 D-STTB 2,5
	3030747 ATP-STTB 4
	1204504 SZF 0-0,4X2,5
	3022276 CLIPFIX 35-5
	3022218 CLIPFIX 35
List of bridges	Plug-in bridge / FBS 2-4 / 3030116
	Plug-in bridge / FBS 3-4 / 3030129
	Plug-in bridge / FBS 4-4 / 3030132
	Plug-in bridge / FBS 5-4 / 3030145
	Plug-in bridge / FBS 10-4 / 3030158
	Plug-in bridge / FBS 20-4 / 3030352
Bridge data	13.5 A / 1.5 mm ²
Ex temperature increase	40 K (17.3 A/1.5 mm ²)
for bridging with bridge	440 V
- At bridging between non-adjacent terminal blocks	352 V
- At bridging between non-adjacent terminal blocks via PE terminal block	352 V
Rated insulation voltage	400 V
output	(Permanent)

Ex level General

Rated voltage	440 V
Rated current	15.5 A
Maximum load current	15.5 A

Ex connection data General

Nominal cross section	1.5 mm ²
Rated cross section AWG	16
Connection capacity rigid	0.08 mm ² ... 1.5 mm ²
Connection capacity AWG	28 ... 16
Connection capacity flexible	0.08 mm ² ... 1.5 mm ²
Connection capacity AWG	28 ... 16
output	(Permanent)

Ex level Level 1

Contact resistance	1.04 mΩ
output	(Permanent)

Ex level Level 2

Contact resistance	0.96 mΩ
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Dimensions

Width	4.2 mm
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End cover width	2.2 mm
Height	67.5 mm
Depth on NS 35/7,5	47.5 mm
Depth on NS 35/15	55 mm

Material specifications

Color	blue (RAL 5015)
Flammability rating according to UL 94	V0
Insulating material group	I
Insulating material	PA
Static insulating material application in cold	-60 °C
Temperature index of insulation material (DIN EN 60216-1 (VDE 0304-21))	125 °C
Relative insulation material temperature index (Elec., UL 746 B)	130 °C
Fire protection for rail vehicles (DIN EN 45545-2) R22	HL 1 - HL 3
Fire protection for rail vehicles (DIN EN 45545-2) R23	HL 1 - HL 3
Fire protection for rail vehicles (DIN EN 45545-2) R24	HL 1 - HL 3
Fire protection for rail vehicles (DIN EN 45545-2) R26	HL 1 - HL 3
Calorimetric heat release NFPA 130 (ASTM E 1354)	27,5 MJ/kg
Surface flammability NFPA 130 (ASTM E 162)	passed
Specific optical density of smoke NFPA 130 (ASTM E 662)	passed
Smoke gas toxicity NFPA 130 (SMP 800C)	passed

Electrical tests

Surge voltage test

Result	Test passed
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Temperature-rise test

Requirement temperature-rise test	Increase in temperature \leq 45 K
Result	Test passed
Short-time withstand current 1.5 mm ²	0.18 kA
Result	Test passed

Power-frequency withstand voltage

Test voltage setpoint	1.89 kV
Result	Test passed

Mechanical properties

Mechanical data

Open side panel	Yes
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Mechanical tests

Mechanical strength

Result	Test passed
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Attachment on the carrier

Test force setpoint	1 N
Result	Test passed

Test for conductor damage and slackening

Rotation speed	10 rpm
Revolutions	135
Conductor cross-section/weight	0.08 mm ² / 0.1 kg 1.5 mm ² / 0.4 kg
Result	Test passed

Environmental and real-life conditions

Aging

Temperature cycles	192
Result	Test passed

Needle-flame test

Time of exposure	30 s
Result	Test passed

Oscillation/broadband noise

Specification	DIN EN 50155 (VDE 0115-200):2008-03
Spectrum	Long life test category 2, bogie-mounted
Frequency	$f_1 = 5 \text{ Hz}$ to $f_2 = 250 \text{ Hz}$
ASD level	6.12 (m/s ²) ² /Hz
Acceleration	3.12g
Test duration per axis	5 h
Test directions	X-, Y- and Z-axis
Result	Test passed

Shocks

Specification	DIN EN 50155 (VDE 0115-200):2008-03
Pulse shape	Half-sine
Acceleration	30g
Shock duration	18 ms
Number of shocks per direction	3
Test directions	X-, Y- and Z-axis (pos. and neg.)
Result	Test passed

Ambient conditions

Ambient temperature (operation)	-60 °C ... 110 °C (Operating temperature range incl. self-heating; for max. short-term operating temperature, see RTI Elec.)
Ambient temperature (storage/transport)	-25 °C ... 60 °C (for a short time, not exceeding 24 h, -60 °C to +70 °C)
Ambient temperature (assembly)	-5 °C ... 70 °C
Ambient temperature (actuation)	-5 °C ... 70 °C

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Permissible humidity (operation)	20 % ... 90 %
Permissible humidity (storage/transport)	30 % ... 70 %

Standards and regulations

Connection in acc. with standard	IEC 60947-7-1
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Mounting

Mounting type	NS 35/7,5
	NS 35/15

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Drawings

Circuit diagram



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Approvals


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 CSA Approval ID: 13631				
	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
B	300 V	15 A	26 - 14	-
C	300 V	15 A	26 - 14	-

 IECEE CB Scheme Approval ID: DE1-63027_A1				
	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
keine	500 V	17.5 A	-	0.2 - 1.5

 KR Approval ID: HMB17372-EL002				
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 NK Approval ID: 09 ME 140				
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 VDE Zeichengenehmigung Approval ID: 40009031				
	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
keine	500 V	17.5 A	-	0.2 - 1.5

 cULus Recognized Approval ID: E60425				
	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
B	300 V	15 A	26 - 14	-
C	300 V	15 A	26 - 14	-
D	600 V	5 A	26 - 14	-

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DNV

Approval ID: TAE00001CS



ATEX

Approval ID: KEMA01ATEX2129U

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
keine				
Type examination certificate	440 V	15.5 A	-	0.08 - 1.5



IECEx

Approval ID: IECEx KEM 06.0043U

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
keine				
	440 V	15.5 A	-	0.08 - 1.5



CCC

Approval ID: 2020322313000621



EAC Ex

Approval ID: KZ 7500525010101950

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Classifications

ECLASS

ECLASS-13.0	27250102
ECLASS-15.0	27250102

ETIM

ETIM 10.0	EC000897
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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	0.037 kg CO2e
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Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com