

HV M5/1 - High-current connector



3049107

<https://www.phoenixcontact.com/pc/products/3049107>

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High-current connector, nom. voltage: 1000 V, nominal current: 76 A, number of connections: 1, connection method: Bolt connection, Rated cross section: 16 mm², mounting type: NS 35/7,5, NS 35/15, color: gray

Your advantages

- Comprehensive, supplementary accessories
- For connecting up to four conductors

Commercial data

Item number	3049107
Packing unit	25 pc
Minimum order quantity	25 pc
Product key	BE4211
Catalog page	Page 396 (C-1-2019)
GTIN	4046356184014
Weight per piece (including packing)	25.878 g
Weight per piece (excluding packing)	18.276 g
Customs tariff number	85369010
Country of origin	CN

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Technical data

Product properties

Product type	Bolt connection terminal block
Product family	HV
Pitch	13 mm
Number of connections	1
Number of rows	1
Potentials	1

Insulation characteristics

Overvoltage category	III
Degree of pollution	3

Electrical properties

Rated surge voltage	8 kV
Maximum power dissipation for nominal condition	2.43 W

Connection data

Number of connections per level	1
Nominal cross section	16 mm ²
Stripping length	The stripping length depends on the specification provided by the cable lug manufacturer.
Connection in acc. with standard	IEC 60947-7-1
Nominal current	76 A
Maximum load current	76 A (with 16 mm ² conductor cross section)
Nominal voltage	1000 V
Nominal cross section	16 mm ²

Cable lug connection DIN 46234:1980-03

Connection in acc. with standard	DIN 46234:1980-03
Cross section	0.5 mm ² ... 16 mm ²
Cross section range AWG	20 ... 6 (converted acc. to IEC)
Hole diameter	5.3 mm
Width	11 mm
Bolt length	22.5 mm
Bolt diameter	5 mm
Screw thread	M5
Tightening torque	2 ... 4 Nm
Connection in acc. with standard	DIN 46235:1983-07
Cross section	6 mm ² ... 10 mm ²
Cross section range AWG	10 ... 8 (converted acc. to IEC)
Hole diameter	5.3 mm
Width	9 mm
Bolt length	22.5 mm

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3049107

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Bolt diameter	5 mm
Screw thread	M5
Tightening torque	2 ... 4 Nm
Connection in acc. with standard	DIN 46237:1970-07
Cross section	1 mm ² ... 6 mm ²
Cross section range AWG	20 ... 10 (converted acc. to IEC)
Hole diameter	5.3 mm
Width	10 mm
Bolt length	22.5 mm
Bolt diameter	5 mm
Screw thread	M5
Tightening torque	2 ... 4 Nm

Dimensions

Width	13 mm
End cover width	2 mm
Height	64 mm
Depth	56.1 mm
Depth on NS 35/7,5	56.8 mm
Depth on NS 35/15	64.3 mm
Bolt length	22.5 mm
Pitch	13 mm

Material specifications

Color	gray (RAL 7042)
Flammability rating according to UL 94	V0
Insulating material group	I
Insulating material	PA
Static insulating material application in cold	-60 °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
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 ≤ 45 K
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Result	Test passed
Short-time withstand current 16 mm ²	1.92 kA
Result	Test passed

Power-frequency withstand voltage

Test voltage setpoint	2.2 kV
Result	Test passed

Mechanical properties

Mechanical data

Open side panel	No
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Mechanical tests

Mechanical strength

Result	Test passed
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Attachment on the carrier

DIN rail/fixing support	NS 35
Test force setpoint	5 N
Result	Test passed

Environmental and real-life conditions

Needle-flame test

Time of exposure	30 s
Result	Test passed

Oscillation/broadband noise

Specification	DIN EN 50155 (VDE 0115-200):2018-05
Spectrum	Service 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

Shocks

Specification	DIN EN 50155 (VDE 0115-200):2018-05
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.)

Ambient conditions

Ambient temperature (operation)	-60 °C ... 110 °C (Operating temperature range incl. self-heating;
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	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
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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Approvals

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 **CSA**
Approval ID: 13631

 **cUL Recognized**
Approval ID: FILE E 60425

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
Use group C				
	1000 V	76 A	-	-

 **EAC**
Approval ID: RU C-DE.BL08.B.00540

 **CSA**
Approval ID: 13631

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Classifications

ECLASS

ECLASS-11.0	27141120
ECLASS-13.0	27250101

ETIM

ETIM 9.0	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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