

HV M12/1 - High-current connector



3049505

<https://www.phoenixcontact.com/us/products/3049505>

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High-current connector, nom. voltage: 1000 V, nominal current: 269 A, number of connections: 1, connection method: Bolt connection, Rated cross section: 120 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	3049505
Packing unit	10 pc
Minimum order quantity	10 pc
Sales key	BE42
Product key	BE4211
Catalog page	Page 397 (C-1-2019)
GTIN	4046356184090
Weight per piece (including packing)	122.35 g
Weight per piece (excluding packing)	98.27 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	34 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	8.68 W

Connection data

Number of connections per level	1
Nominal cross section	120 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	269 A
Maximum load current	269 A (with 120 mm ² conductor cross section)
Nominal voltage	1000 V
Nominal cross section	120 mm ²

Cable lug connection DIN 46234:1980-03

Connection in acc. with standard	DIN 46234:1980-03
Cross section	10 mm ² ... 120 mm ²
Cross section range AWG	(converted acc. to IEC)
Hole diameter	13 mm
Width	24 mm
Bolt diameter	12 mm
Screw thread	M12
Tightening torque	14 ... 31 Nm
Connection in acc. with standard	DIN 46235:1983-07
Cross section	25 mm ² ... 95 mm ²
Cross section range AWG	(converted acc. to IEC)
Hole diameter	13 mm
Width	32 mm
Bolt diameter	12 mm
Screw thread	M12

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Tightening torque	14 ... 31 Nm
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Dimensions

Width	32 mm
End cover width	2 mm
Height	64 mm
Depth	74.6 mm
Depth on NS 35/7,5	75.3 mm
Depth on NS 35/15	82.8 mm
Bolt length	41 mm
Pitch	34 mm

Material specifications

Color	gray
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

Test voltage setpoint	9.8 kV
Result	Test passed

Temperature-rise test

Requirement temperature-rise test	Increase in temperature ≤ 45 K
Result	Test passed
Short-time withstand current 120 mm ²	14.4 kA
Result	Test passed

Power-frequency withstand voltage

Test voltage setpoint	2.2 kV
Result	Test passed

Mechanical properties

Mechanical data

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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	15 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 1, class B, body mounted
Frequency	$f_1 = 5 \text{ Hz}$ to $f_2 = 150 \text{ Hz}$
ASD level	$0.964 \text{ (m/s}^2\text{)}^2\text{/Hz}$
Acceleration	5.72g
Test duration per axis	5 h
Test directions	X-, Y- and Z-axis
Result	Test passed

Shocks

Specification	DIN EN 50155 (VDE 0115-200):2018-05
Pulse shape	Half-sine
Acceleration	5g
Shock duration	30 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, no longer than 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

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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

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/3049505>




CSA
Approval ID: 13631

Use group C	<div><div>cUL Recognized Approval ID: FILE E 60425</div></div>			
	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
	1000 V	269 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
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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Accessories

i Note: Applying some accessories below might limit this product.

HV M12/1-VS 2 - Connection element

3049631

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Connection element, depth: 4 mm, width: 25 mm, height: 62 mm, number of positions: 2, color: silver

i Max. current carrying capacity: 269 A

HV M12/1-VS 3 - Connection element

3049644

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Connection element, depth: 4 mm, width: 25 mm, height: 96 mm, number of positions: 3, color: silver

i Max. current carrying capacity: 269 A

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HV M12/2-TP - Separating plate

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Separating plate, width: 2 mm, height: 156 mm, color: gray



HV M10/1-AP - Cover profile

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Cover profile, for single-bolt terminal block M10, depth: 6.5 mm, width: 32 mm, height: 156 mm, color: gray



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AGK PT 4X6/M12 - Pick-off terminal block

1017454

<https://www.phoenixcontact.com/us/products/1017454>



Pick-off terminal block, nom. voltage: 1000 V, nominal current: 41 A, number of connections: 5, connection method: Push-in connection, 1 level, Rated cross section: 6 mm², cross section: 0.5 mm² - 10 mm², Bolt connection, 1 level, mounting type: on base element, color: gray

AP-BTO 5,5/14 - Cover profile

3281151

<https://www.phoenixcontact.com/us/products/3281151>

Cover profile, material: PC, color: transparent



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NS 35/ 7,5 PERF 2000MM - DIN rail perforated

0801733

<https://www.phoenixcontact.com/us/products/0801733>



DIN rail perforated, Pack of 25 (50 m), acc. to EN 60715, material: Steel, galvanized, passivated with a thick layer, Standard profile, color: silver

NS 35/ 7,5 UNPERF 2000MM - DIN rail, unperforated

0801681

<https://www.phoenixcontact.com/us/products/0801681>



DIN rail, unperforated, Pack of 25 (50 m), acc. to EN 60715, material: Steel, galvanized, passivated with a thick layer, Standard profile, color: silver

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NS 35/ 7,5 WH PERF 2000MM - DIN rail perforated

1204119

<https://www.phoenixcontact.com/us/products/1204119>



DIN rail perforated, Pack of 25 (50 m), acc. to EN 60715, material: Steel, Galvanized, white passivated, Standard profile, color: silver

NS 35/ 7,5 WH UNPERF 2000MM-VPE 10 - DIN rail, unperforated

1204122

<https://www.phoenixcontact.com/us/products/1204122>



DIN rail, unperforated, Pack of 10 (20 m), acc. to EN 60715, material: Steel, Galvanized, white passivated, Standard profile, color: silver

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NS 35/ 7,5 AL UNPERF 2000MM - DIN rail, unperforated

0801704

<https://www.phoenixcontact.com/us/products/0801704>



DIN rail, unperforated, Pack of 25 (50 m), acc. to EN 60715, material: Aluminum, uncoated, Standard profile, color: silver

NS 35/ 7,5 ZN PERF 2000MM - DIN rail perforated

1206421

<https://www.phoenixcontact.com/us/products/1206421>



DIN rail perforated, Pack of 25 (50 m), acc. to EN 60715, material: Steel, galvanized, Standard profile, color: silver

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NS 35/ 7,5 ZN UNPERF 2000MM - DIN rail, unperforated

1206434

<https://www.phoenixcontact.com/us/products/1206434>



DIN rail, unperforated, Pack of 25 (50 m), acc. to EN 60715, material: Steel, galvanized, Standard profile, color: silver

NS 35/ 7,5 CU UNPERF 2000MM-VPE 10 - DIN rail, unperforated

0801762

<https://www.phoenixcontact.com/us/products/0801762>



DIN rail, unperforated, Pack of 10 (20 m), acc. to EN 60715, material: Copper, uncoated, Standard profile, color: copper-colored

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NS 35/ 7,5 CAP - End cap

1206560

<https://www.phoenixcontact.com/us/products/1206560>

DIN rail end piece, for DIN rail NS 35/7.5



ZB 12:UNPRINTED - Zack marker strip

0812120

<https://www.phoenixcontact.com/us/products/0812120>



Zack marker strip, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snapped, for terminal block width: 12.2 mm, lettering field size: 12 x 10.5 mm, Number of individual labels: 5

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ZB 12 CUS - Zack marker strip

0824942

<https://www.phoenixcontact.com/us/products/0824942>



Zack marker strip, can be ordered: Strip, white, labeled according to customer specifications, mounting type: snap into tall marker groove, for terminal block width: 12.2 mm, lettering field size: 10.5 x 12.15 mm, Number of individual labels: 5

ZB 12,LGS:L1-N,PE - Zack marker strip

0812146

<https://www.phoenixcontact.com/us/products/0812146>



Zack marker strip, Strip, white, labeled, printed horizontally: L1, L2, L3, N, PE, mounting type: snapped, for terminal block width: 12.2 mm, lettering field size: 10.5 x 12.15 mm, Number of individual labels: 5

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UC-TM 12 - Marker for terminal blocks

0819194

<https://www.phoenixcontact.com/us/products/0819194>



Marker for terminal blocks, Sheet, white, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: snapped, for terminal block width: 12 mm, lettering field size: 11.45 x 10.5 mm, Number of individual labels: 40

UC-TM 12 CUS - Marker for terminal blocks

0824613

<https://www.phoenixcontact.com/us/products/0824613>



Marker for terminal blocks, can be ordered: by sheet, white, labeled according to customer specifications, mounting type: snap into tall marker groove, for terminal block width: 12 mm, lettering field size: 11.45 x 10.5 mm, Number of individual labels: 40

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UCT-TM 12 - Marker for terminal blocks

0829144

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Marker for terminal blocks, Sheet, white, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: snapped, for terminal block width: 12 mm, lettering field size: 10.8 x 9.6 mm, Number of individual labels: 30

UCT-TM 12 CUS - Marker for terminal blocks

0829630

<https://www.phoenixcontact.com/us/products/0829630>



Marker for terminal blocks, can be ordered: by sheet, white, labeled according to customer specifications, mounting type: snap into tall marker groove, for terminal block width: 12 mm, lettering field size: 10.8 x 9.6 mm, Number of individual labels: 30

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E/AL-NS 35 - End bracket

1201662

<https://www.phoenixcontact.com/us/products/1201662>



End clamp, for end support of UKH 50 to UKH 240, is pushed onto DIN rail NS 35 and fixed with 2 screws, width: 10 mm, color: aluminum

WS-4K - Warning label

1004584

<https://www.phoenixcontact.com/us/products/1004584>



Adhesive warning plate, self-adhesive, black print: lightning flash with mixed version - "Vorsicht Spannung - Attention Danger" size of label: 13 x 23.5 mm

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WS-2K - Warning label

1004513

<https://www.phoenixcontact.com/us/products/1004513>

Adhesive warning plate, self-adhesive, black print: lightning flash with mixed version - "Vorsicht Spannung - Attention Danger" size of label: 32 x 26 mm



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