

# HV M12/1 - High-current connector

3049505

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



Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



High-current connector, nom. voltage: 1000 V, nominal current: 269 A, number of connections: 1, connection method: Bolt connection, Rated cross section: 120 mm<sup>2</sup>, 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

# HV M12/1 - High-current connector

3049505

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



## 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 <sup>2</sup>
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 <sup>2</sup> conductor cross section)
Nominal voltage	1000 V
Nominal cross section	120 mm <sup>2</sup>

### Cable lug connection DIN 46234:1980-03

Connection in acc. with standard	DIN 46234:1980-03
Cross section	10 mm <sup>2</sup> ... 120 mm <sup>2</sup>
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 <sup>2</sup> ... 95 mm <sup>2</sup>
Cross section range AWG	(converted acc. to IEC)
Hole diameter	13 mm
Width	32 mm
Bolt diameter	12 mm
Screw thread	M12

# HV M12/1 - High-current connector



3049505

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

Tightening torque	14 ... 31 Nm
-------------------	--------------

## 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 <sup>2</sup>	14.4 kA
Result	Test passed

### Power-frequency withstand voltage

Test voltage setpoint	2.2 kV
Result	Test passed

## Mechanical properties

### Mechanical data

# HV M12/1 - High-current connector

3049505

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



Open side panel

No

## Mechanical tests

### Mechanical strength

Result	Test passed
--------	-------------

### 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

# HV M12/1 - High-current connector

3049505

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



Connection in acc. with standard

IEC 60947-7-1

## Mounting

Mounting type

NS 35/7,5

NS 35/15

# HV M12/1 - High-current connector



3049505

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

## Approvals

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



**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	269 A	-	-



**EAC**

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



**CSA**

Approval ID: 13631

# HV M12/1 - High-current connector

3049505

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



## Classifications

### ECLASS

ECLASS-11.0	27141120
ECLASS-13.0	27250101

### ETIM

ETIM 9.0	EC000897
----------	----------

### UNSPSC

UNSPSC 21.0	39121400
-------------	----------

# HV M12/1 - High-current connector

3049505

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



## 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%
-------------------------------------	----------------------------

# HV M12/1 - High-current connector

3049505

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



## Accessories

Note: Applying some accessories below might limit this product.

### HV M12/1-VS 2 - Connection element

3049631

<https://www.phoenixcontact.com/us/products/3049631>

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



Max. current carrying capacity: 269 A

---

### HV M12/1-VS 3 - Connection element

3049644

<https://www.phoenixcontact.com/us/products/3049644>

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



Max. current carrying capacity: 269 A

---

# HV M12/1 - High-current connector

3049505

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



## HV M12/2-TP - Separating plate

3049709

<https://www.phoenixcontact.com/us/products/3049709>

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



---

## HV M10/1-AP - Cover profile

3049495

<https://www.phoenixcontact.com/us/products/3049495>

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



# HV M12/1 - High-current connector



3049505

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

## 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 mm<sup>2</sup>, cross section: 0.5 mm<sup>2</sup> - 10 mm<sup>2</sup>, 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



# HV M12/1 - High-current connector



3049505

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

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

# HV M12/1 - High-current connector

3049505

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



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

---

# HV M12/1 - High-current connector



3049505

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

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

# HV M12/1 - High-current connector



3049505

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

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

# HV M12/1 - High-current connector



3049505

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

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



# HV M12/1 - High-current connector



3049505

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

## 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

# HV M12/1 - High-current connector



3049505

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

## 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



# HV M12/1 - High-current connector



3049505

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

## UCT-TM 12 - Marker for terminal blocks

0829144

<https://www.phoenixcontact.com/us/products/0829144>

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



# HV M12/1 - High-current connector



3049505

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

## 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



# HV M12/1 - High-current connector



3049505

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

## 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



---

Phoenix Contact 2024 © - all rights reserved

<https://www.phoenixcontact.com>

Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)