

## High Current Connectors - HV M12/1 - 3049505

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High Current Connectors, nom. voltage: 1000 V, nominal current: 269 A, connection method: Bolt connection, number of connections: 1, cross section: 6 mm<sup>2</sup> - 120 mm<sup>2</sup>, width: 32 mm, height: 74.6 mm, color: gray, mounting type: NS 35/7,5, NS 35/15

### Your advantages

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

### Key Commercial Data

Packing unit	1 pc
Minimum order quantity	10 pc
GTIN	 4 046356 184090
GTIN	4046356184090
Weight per Piece (excluding packing)	106.650 g
Custom tariff number	85369010
Country of origin	China

### Technical data

#### General

Number of levels	1
Number of connections	1
Nominal cross section	120 mm <sup>2</sup>
Color	gray
Insulating material	PA
Flammability rating according to UL 94	V0
Rated surge voltage	8 kV

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## Technical data

### General

Degree of pollution	3
Overvoltage category	III
Insulating material group	I
Maximum power dissipation for nominal condition	8.68 W
Connection in acc. with standard	IEC 60947-7-1
Nominal current $I_N$	269 A
Maximum load current	269 A
Nominal voltage $U_N$	1000 V
Open side panel	No
Result of surge voltage test	Test passed
Surge voltage test setpoint	9.8 kV
Result of power-frequency withstand voltage test	Test passed
Power frequency withstand voltage setpoint	2.2 kV
Result of the test for mechanical stability of terminal points (5 x conductor connection)	Test passed
Result of tight fit on support	Test passed
Tight fit on carrier	NS 35
Setpoint	15 N
Result of voltage-drop test	Test passed
Requirements, voltage drop	$\leq 3.2$ mV
Result of temperature-rise test	Test passed
Short circuit stability result	Test passed
Conductor cross section short circuit testing	120 mm <sup>2</sup>
Short-time current	14.4 kA
Result of thermal test	Test passed
Proof of thermal characteristics (needle flame) effective duration	30 s
Oscillation, broadband noise test result	Test passed
Test specification, oscillation, broadband noise	DIN EN 50155 (VDE 0115-200):2018-05
Test spectrum	Service life test category 1, class B, body mounted
Test frequency	$f_1 = 5$ Hz to $f_2 = 150$ Hz
ASD level	0.964 (m/s <sup>2</sup> ) <sup>2</sup> /Hz
Test duration per axis	5 h
Test directions	X-, Y- and Z-axis
Shock test result	Test passed
Test specification, shock test	DIN EN 50155 (VDE 0115-200):2018-05
Shock form	Half-sine
Acceleration	5g

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## Technical data

### General

Shock duration	30 ms
Number of shocks per direction	3
Test directions	X-, Y- and Z-axis (pos. and neg.)
Relative insulation material temperature index (Elec., UL 746 B)	130 °C
Temperature index of insulation material (DIN EN 60216-1 (VDE 0304-21))	130 °C
Static insulating material application in cold	-60 °C
Behavior in fire for rail vehicles (DIN 5510-2)	Test passed
Flame test method (DIN EN 60695-11-10)	V0
Oxygen index (DIN EN ISO 4589-2)	>32 %
NF F16-101, NF F10-102 Class I	2
NF F16-101, NF F10-102 Class F	2
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
Calorimetric heat release NFPA 130 (ASTM E 1354)	28 MJ/kg
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

### Dimensions

Length	64 mm
Width	32 mm
Height	74.6 mm
Height NS 35/7,5	74.6 mm
Height NS 35/15	83.5 mm
Bolt length	41 mm

### Connection data

Connection method	Bolt connection
Conductor cross section solid min.	6 mm <sup>2</sup>
Conductor cross section solid max.	120 mm <sup>2</sup>
Conductor cross section flexible min.	6 mm <sup>2</sup>
Conductor cross section flexible max.	120 mm <sup>2</sup>
Conductor cross section flexible, with ferrule with plastic sleeve min.	6 mm <sup>2</sup>
Conductor cross section flexible, with ferrule with plastic sleeve max.	120 mm <sup>2</sup>
Cable lug connection according to standard	DIN 46234
Min. cross section for cable lug connection	6 mm <sup>2</sup>

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## Technical data

### Connection data

Max. cross section for cable lug connection	120 mm <sup>2</sup>
Bolt length	40.5 mm
Bolt diameter	12 mm
Tightening torque, min	14 Nm
Tightening torque max	31 Nm
Cable lug connection according to standard	DIN 46235
Min. cross section for cable lug connection	10 mm <sup>2</sup>
Max. cross section for cable lug connection	95 mm <sup>2</sup>
Bolt length	40.5 mm
Bolt diameter	12 mm
Tightening torque, min	14 Nm
Tightening torque max	31 Nm
Cable lug connection according to standard	DIN 46237
Bolt length	40.5 mm
Bolt diameter	12 mm
Tightening torque, min	14 Nm
Tightening torque max	31 Nm
Screw thread	M12
Tightening torque, min	14 Nm
Tightening torque max	31 Nm

### Standards and Regulations

Connection in acc. with standard	CSA
	IEC 60947-7-1
Flammability rating according to UL 94	V0
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

### Environmental Product Compliance

China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

## Classifications

eCl@ss

eCl@ss 4.0	27141100
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## Classifications

### eCl@ss

eCl@ss 4.1	27141100
eCl@ss 5.0	27141100
eCl@ss 5.1	27141100
eCl@ss 6.0	27141100
eCl@ss 7.0	27141120
eCl@ss 8.0	27141120
eCl@ss 9.0	27141120

### ETIM

ETIM 2.0	EC000897
ETIM 3.0	EC000897
ETIM 4.0	EC000897
ETIM 5.0	EC000897
ETIM 6.0	EC000897
ETIM 7.0	EC000897

### UNSPSC

UNSPSC 6.01	30211811
UNSPSC 7.0901	39121410
UNSPSC 11	39121410
UNSPSC 12.01	39121410
UNSPSC 13.2	39121410

## Approvals

### Approvals

Approvals

EAC / UL Recognized / cUL Recognized / CSA / cULus Recognized

Ex Approvals

### Approval details

EAC		RU C- DE.A*30.B.01742
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# High Current Connectors - HV M12/1 - 3049505

## Approvals

UL Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 60425
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cUL Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 60425
		C	
Nominal voltage UN		1000 V	
Nominal current IN		269 A	

CSA		<a href="http://www.csagroup.org/services-industries/product-listing/">http://www.csagroup.org/services-industries/product-listing/</a>	158887
		C	
Nominal voltage UN		1000 V	
Nominal current IN		269 A	

cULus Recognized			
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## Accessories

### Accessories

### Bridge

Connection element - HV M12/1-VS 2 - 3049631



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

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### Accessories

Connection element - HV M12/1-VS 3 - 3049644



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

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### Cover profile

Cover profile - HV M10/1-AP - 3049495

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



### DIN rail

DIN rail perforated - NS 35/ 7,5 PERF 2000MM - 0801733



DIN rail perforated, Standard profile, width: 35 mm, height: 7.5 mm, acc. to EN 60715, material: Steel, galvanized, passivated with a thick layer, length: 2000 mm, color: silver

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DIN rail, unperforated - NS 35/ 7,5 UNPERF 2000MM - 0801681



DIN rail, unperforated, Standard profile, width: 35 mm, height: 7.5 mm, acc. to EN 60715, material: Steel, galvanized, passivated with a thick layer, length: 2000 mm, color: silver

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DIN rail perforated - NS 35/ 7,5 WH PERF 2000MM - 1204119



DIN rail perforated, Standard profile, width: 35 mm, height: 7.5 mm, acc. to EN 60715, material: Steel, Galvanized, white passivated, length: 2000 mm, color: silver

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### Accessories

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DIN rail, unperforated - NS 35/ 7,5 WH UNPERF 2000MM - 1204122



DIN rail, unperforated, Standard profile, width: 35 mm, height: 7.5 mm, acc. to EN 60715, material: Steel, Galvanized, white passivated, length: 2000 mm, color: silver

DIN rail, unperforated - NS 35/ 7,5 AL UNPERF 2000MM - 0801704



DIN rail, unperforated, Standard profile, width: 35 mm, height: 7.5 mm, acc. to EN 60715, material: Aluminum, uncoated, length: 2000 mm, color: silver

DIN rail perforated - NS 35/ 7,5 ZN PERF 2000MM - 1206421



DIN rail perforated, Standard profile, width: 35 mm, height: 7.5 mm, acc. to EN 60715, material: Steel, galvanized, length: 2000 mm, color: silver

DIN rail, unperforated - NS 35/ 7,5 ZN UNPERF 2000MM - 1206434



DIN rail, unperforated, Standard profile, width: 35 mm, height: 7.5 mm, acc. to EN 60715, material: Steel, galvanized, length: 2000 mm, color: silver

DIN rail, unperforated - NS 35/ 7,5 CU UNPERF 2000MM - 0801762



DIN rail, unperforated, Standard profile, width: 35 mm, height: 7.5 mm, acc. to EN 60715, material: Copper, uncoated, length: 2000 mm, color: copper-colored

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### Accessories

End cap - NS 35/ 7,5 CAP - 1206560

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



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### End block

End clamp - E/AL-NS 35 - 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

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### Labeled terminal marker

Warning label - WS-4K - 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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Warning label - WS-2K - 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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Zack marker strip - ZB 12 CUS - 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

## High Current Connectors - HV M12/1 - 3049505

### Accessories

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#### Zack marker strip - ZB 12,LGS:L1-N,PE - 0812146



Zack marker strip, Strip, white, labeled, printed horizontally: L1, L2, L3, N, PE, 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

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#### Marker for terminal blocks - UC-TM 12 CUS - 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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#### Marker for terminal blocks - UCT-TM 12 CUS - 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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#### Partition plate

##### Separating plate - HV M12/2-TP - 3049709



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

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#### Pick-off terminal block

## High Current Connectors - HV M12/1 - 3049505

### Accessories

#### Pick-off terminal block - AGK PT 4X6/M12 - 1017454



Pick-off terminal block, nom. voltage: 1000 V, nominal current: 41 A, connection method: Push-in connection, Bolt connection, number of connections: 5, cross section: 0.5 mm<sup>2</sup> - 10 mm<sup>2</sup>, AWG: 20 - 8, width: 31 mm, height: 32.3 mm, color: gray, mounting type: on base element

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### Terminal marking

#### Zack marker strip - ZB 12:UNPRINTED - 0812120



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

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#### Marker for terminal blocks - UC-TM 12 - 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: 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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#### Marker for terminal blocks - UCT-TM 12 - 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: 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