

## High Current Connectors - HV M10/2 - 3049563

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High Current Connectors, connection method: Bolt connection, number of connections: 2, width: 32 mm, height: 73.5 mm, color: gray, mounting type: NS 35/7,5, NS 35/15

### Why buy this product

- ✓ Two different partition plates can be used for the range of single and double-bolt terminal blocks
- ✓ Comprehensive range of accessories for safe and user-friendly wiring of conductors up to 120 mm<sup>2</sup>
- ✓ 2 and 3-pos. connection rails can be used for potential distribution
- ✓ Spring washers are used to prevent hexagonal nuts from loosening
- ✓ Secure connection of up to 4 conductors with cable lugs according to DIN 46234, 46235, and 46237 in a small amount of space
- ✓ The feed-through window provided in the partition plates can be easily removed for mounting the connection rails

### Key Commercial Data

Packing unit	10 STK
GTIN	 4 046356 310314
GTIN	4046356310314
Weight per Piece (excluding packing)	222.230 g
Weight per piece (including packing)	222.230 g
Custom tariff number	39269097
Country of origin	Germany

### Technical data

#### General

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

# High Current Connectors - HV M10/2 - 3049563

## Technical data

### General

Rated surge voltage	8 kV
Degree of pollution	3
Overtoltage 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	10 s
Oscillation, broadband noise test result	Test passed
Test specification, oscillation, broadband noise	DIN EN 50155 (VDE 0115-200):2008-03
Test spectrum	Service life test category 1, class B, body mounted
Test frequency	$f_1 = 5$ Hz to $f_2 = 150$ Hz
ASD level	0.02 g <sup>2</sup> /Hz
Acceleration	0,8 g
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):2008-03
Shock form	Half-sine
Acceleration	5 g
Shock duration	30 ms
Number of shocks per direction	3

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## Technical data

### General

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))	125 °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)	27,5 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	67 mm
Width	32 mm
Height	73.5 mm
Height NS 35/7,5	76 mm
Height NS 35/15	83.5 mm
Bolt length	26 mm

### Connection data

Connection method	Bolt connection
Conductor cross section flexible min.	6 mm <sup>2</sup>
Conductor cross section flexible 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>
Max. cross section for cable lug connection	120 mm <sup>2</sup>
Bolt length	26 mm
Bolt diameter	10 mm
Tightening torque, min	10 Nm
Tightening torque max	20 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	26 mm

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## Technical data

### Connection data

Bolt diameter	10 mm
Tightening torque, min	10 Nm
Tightening torque max	20 Nm
Cable lug connection according to standard	DIN 46237
Max. cross section for cable lug connection	6 mm <sup>2</sup>
Bolt length	26 mm
Bolt diameter	10 mm
Tightening torque, min	10 Nm
Tightening torque max	20 Nm
Screw thread	M10
Tightening torque, min	10 Nm
Tightening torque max	20 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 HL 1 - HL 3 HL 1 - HL 3 HL 1 - HL 3
Fire protection for rail vehicles (DIN EN 45545-2) R23	HL 1 - HL 3 HL 1 - HL 3 HL 1 - HL 3 HL 1 - HL 3
Fire protection for rail vehicles (DIN EN 45545-2) R24	HL 1 - HL 3 HL 1 - HL 3 HL 1 - HL 3 HL 1 - HL 3
Fire protection for rail vehicles (DIN EN 45545-2) R26	HL 1 - HL 3 HL 1 - HL 3 HL 1 - HL 3 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"

## Drawings

### Circuit diagram



## Classifications

### eCl@ss

eCl@ss 4.0	27141120
eCl@ss 4.1	27141120
eCl@ss 5.0	27141120
eCl@ss 5.1	27141120
eCl@ss 6.0	27141120
eCl@ss 7.0	27141120
eCl@ss 8.0	27141120

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## Classifications

### eCl@ss

eCl@ss 9.0	27141120
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### ETIM

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

### UNSPSC

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

## Approvals


### Approvals


#### Approvals

CSA / CSAus / EAC / cCSAus

#### Ex Approvals

### Approval details

CSA		245029
mm <sup>2</sup> /AWG/kcmil	00	
Nominal current I <sub>N</sub>	225 A	
Nominal voltage U <sub>N</sub>	1000 V	

CSAus		245029
mm <sup>2</sup> /AWG/kcmil	00	

# High Current Connectors - HV M10/2 - 3049563

## Approvals

Nominal current I <sub>N</sub>	225 A
Nominal voltage U <sub>N</sub>	1000 V

EAC		EAC-Zulassung
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cCSAus		<a href="http://www.csagroup.org/us/en/services/testing-and-certification/certified-product-listing">http://www.csagroup.org/us/en/services/testing-and-certification/certified-product-listing</a>
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## Accessories

### Accessories

#### Bridge

Connection element - HV M10/1-VS 2 - 3049466



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

Connection element - HV M10/1-VS 3 - 3049479



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

### 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

## High Current Connectors - HV M10/2 - 3049563

### Accessories

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



DIN rail, material: steel galvanized and passivated with a thick layer, perforated, height 7.5 mm, width 35 mm, length: 2000 mm

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



DIN rail, material: Steel, unperforated, height 7.5 mm, width 35 mm, length: 2 m

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



DIN rail 35 mm (NS 35)

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



DIN rail 35 mm (NS 35)

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

DIN rail, unperforated, Width: 35 mm, Height: 7.5 mm, Length: 2000 mm, Color: silver

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



DIN rail, material: Galvanized, perforated, height 7.5 mm, width 35 mm, length: 2 m

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## High Current Connectors - HV M10/2 - 3049563

### Accessories

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



DIN rail, material: Galvanized, unperforated, height 7.5 mm, width 35 mm, length: 2 m

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



DIN rail, material: Copper, unperforated, height 7.5 mm, width 35 mm, length: 2 m

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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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## High Current Connectors - HV M10/2 - 3049563

### Accessories

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: 10.5 x 12.15 mm

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Marker for terminal blocks - ZB 12,LGS:L1-N,PE - 0812146



Marker for terminal blocks, 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: 10.5 x 12.15 mm

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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: 11.45 x 10.5 mm

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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: 10.8 x 9.6 mm

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Partition plate

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### Accessories

Separating plate - HV M12/2-TP - 3049709



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

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### Terminal marking

Zack marker strip - ZB 12:UNPRINTED - 0812120



Zack marker strip, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, Mounting type: snap into tall marker groove, for terminal block width: 12.2 mm, Lettering field: 12 x 10.5 mm

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Marker for terminal blocks - UC-TM 12 - 0819194



Marker for terminal blocks, Sheet, white, unlabeled, can be labeled with: BLUEMARK CLED, BLUEMARK LED, CMS-P1-PLOTTER, PLOTMARK, Mounting type: snap into tall marker groove, for terminal block width: 12 mm, Lettering field: 11.45 x 10.5 mm

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Marker for terminal blocks - UCT-TM 12 - 0829144



Marker for terminal blocks, Sheet, white, unlabeled, can be labeled with: THERMOMARK PRIME, THERMOMARK CARD, BLUEMARK CLED, BLUEMARK LED, TOPMARK LASER, Mounting type: snap into tall marker groove, for terminal block width: 12 mm, Lettering field: 10.8 x 9.6 mm