

# HV M8/2 - High-current connector

3049550

<https://www.phoenixcontact.com/us/products/3049550>

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High-current connector, nom. voltage: 1000 V, nominal current: 150 A, number of connections: 2, connection method: Bolt connection, Rated cross section: 50 mm<sup>2</sup>, mounting type: NS 35/7,5, NS 35/15, color: gray

## Your advantages

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

## Commercial data

Item number	3049550
Packing unit	25 pc
Minimum order quantity	25 pc
Sales key	BE42
Product key	BE4212
GTIN	4046356310307
Weight per piece (including packing)	133 g
Weight per piece (excluding packing)	119.412 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	23 mm
Number of connections	2
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	4.73 W

### Connection data

Number of connections per level	2
Nominal cross section	50 mm <sup>2</sup>
Connection method	Bolt connection
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 cross section	50 mm <sup>2</sup>
Nominal current	150 A
Maximum load current	150 A (with 50 mm <sup>2</sup> conductor cross-section)
Nominal voltage	1000 V

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

Connection in acc. with standard	DIN 46234:1980-03
Cross section	2.5 mm <sup>2</sup> ... 50 mm <sup>2</sup>
Cross section range AWG	12 ... 2 (converted acc. to IEC)
Hole diameter	8.4 mm
Width	18 mm
Bolt diameter	8 mm
Screw thread	M8
Tightening torque	6 ... 12 Nm
Connection in acc. with standard	DIN 46235:1983-07
Cross section	16 mm <sup>2</sup> ... 35 mm <sup>2</sup>
Cross section range AWG	6 ... 2 (converted acc. to IEC)
Hole diameter	8.4 mm
Width	20 mm
Bolt diameter	8 mm

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Screw thread	M8
Tightening torque	6 ... 12 Nm
Connection in acc. with standard	DIN 46237:1970-07
Cross section	2.5 mm <sup>2</sup> ... 6 mm <sup>2</sup>
Cross section range AWG	12 ... 8 (converted acc. to IEC)
Hole diameter	8.4 mm
Width	14 mm
Bolt diameter	8 mm
Screw thread	M8
Tightening torque	6 ... 12 Nm

## Dimensions

Width	21 mm
End cover width	2 mm
Height	67 mm
Depth	65.1 mm
Depth on NS 35/7,5	65.8 mm
Depth on NS 35/15	73.3 mm
Bolt length	22 mm
Pitch	23 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

Test voltage setpoint	9.8 kV
Result	Test passed

### Temperature-rise test

Requirement temperature-rise test	Increase in temperature ≤ 45 K
Result	Test passed

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Short-time withstand current 50 mm <sup>2</sup>	6 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	10 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	Long life test category 1, class B, body mounted
Frequency	$f_1 = 5 \text{ Hz}$ to $f_2 = 150 \text{ Hz}$
ASD level	0.964 (m/s <sup>2</sup> )/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

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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, 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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## Drawings

### Circuit diagram



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## Approvals

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 <b>CSA</b> Approval ID: 13631				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
C				
	1000 V	150 A	-	-

 <b>cUL Recognized</b> Approval ID: FILE E 60425				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
C				
	1000 V	150 A	-	-

 <b>EAC</b> Approval ID: RU C-DE.BL08.B.00540				
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## Classifications

### ECLASS

ECLASS-13.0	27250101
ECLASS-15.0	27250101

### ETIM

ETIM 10.0	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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### EF3.1 Climate Change

CO2e kg	1.608 kg CO2e
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