

# HV M6/1 - High-current connector



3049204

<https://www.phoenixcontact.com/us/products/3049204>

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BOLT



125 A  
IEC



1000 V  
IEC



High-current connector, nom. voltage: 1000 V, nominal current: 125 A, number of connections: 1, connection method: Bolt connection, Rated cross section: 35 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                          | 3049204       |
| Packing unit                         | 25 pc         |
| Minimum order quantity               | 25 pc         |
| Sales key                            | BE42          |
| Product key                          | BE4211        |
| GTIN                                 | 4046356184038 |
| Weight per piece (including packing) | 34.148 g      |
| Weight per piece (excluding packing) | 20.976 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                 | 18 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 | 4.06 W |

### Connection data

|                                  |                                                                                           |
|----------------------------------|-------------------------------------------------------------------------------------------|
| Number of connections per level  | 1                                                                                         |
| Nominal cross section            | 35 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            | 35 mm <sup>2</sup>                                                                        |
| Nominal current                  | 125 A                                                                                     |
| Maximum load current             | 125 A (with 35 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> ... 35 mm <sup>2</sup> |
| Cross section range AWG          | (converted acc. to IEC)                    |
| Hole diameter                    | 6.5 mm                                     |
| Width                            | 15 mm                                      |
| Bolt length                      | 22.5 mm                                    |
| Bolt diameter                    | 6 mm                                       |
| Screw thread                     | M6                                         |
| Tightening torque                | 3 ... 6 Nm                                 |
| Connection in acc. with standard | DIN 46235:1983-07                          |
| Cross section                    | 6 mm <sup>2</sup> ... 25 mm <sup>2</sup>   |
| Cross section range AWG          | (converted acc. to IEC)                    |
| Hole diameter                    | 6.4 mm                                     |
| Width                            | 14 mm                                      |

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|                                  |                         |
|----------------------------------|-------------------------|
| Bolt length                      | 22.5 mm                 |
| Bolt diameter                    | 6 mm                    |
| Screw thread                     | M6                      |
| Tightening torque                | 3 ... 6 Nm              |
| Connection in acc. with standard | DIN 46237:1970-07       |
| Cross section                    | 2.5 mm² ... 6 mm²       |
| Cross section range AWG          | (converted acc. to IEC) |
| Hole diameter                    | 6.5 mm                  |
| Width                            | 11 mm                   |
| Bolt length                      | 22.5 mm                 |
| Bolt diameter                    | 6 mm                    |
| Screw thread                     | M6                      |
| Tightening torque                | 3 ... 6 Nm              |

## Dimensions

|                    |         |
|--------------------|---------|
| Width              | 16 mm   |
| End cover width    | 2 mm    |
| Height             | 64 mm   |
| Depth              | 56.1 mm |
| Depth on NS 35/7,5 | 56.8 mm |
| Depth on NS 35/15  | 64.3 mm |
| Bolt length        | 22.5 mm |
| Pitch              | 18 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 |
| Short-time withstand current 35 mm² | 4.2 kA      |

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|                                   |             |
|-----------------------------------|-------------|
| Result                            | Test passed |
| Power-frequency withstand voltage |             |
| Test voltage setpoint             | 2.2 kV      |
| Result                            | Test passed |

## Mechanical properties

### Mechanical data

|                 |    |
|-----------------|----|
| Open side panel | No |
|-----------------|----|

## Mechanical tests

### Mechanical strength

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

### 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              | $0.964 \text{ (m/s}^2\text{)}^2\text{/Hz}$       |
| Acceleration           | 5.72g                                            |
| Test duration per axis | 5 h                                              |
| Test directions        | X-, Y- and Z-axis                                |
| Result                 | Test passed                                      |

### Shocks

|                                |                                   |
|--------------------------------|-----------------------------------|
| 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.) |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------|

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|                                          |                                                                           |
|------------------------------------------|---------------------------------------------------------------------------|
| 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 |
|----------------------------------|---------------|

## 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/3049204>

|  <b>cUL Recognized</b><br>Approval ID: FILE E 60425 |                       |                       |                   |                             |
|--------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                      | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| C                                                                                                                                    |                       |                       |                   |                             |
|                                                                                                                                      | 1000 V                | 125 A                 | -                 | -                           |

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

|  <b>CSA</b><br>Approval ID: 13631 |                       |                       |                   |                             |
|--------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                    | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| C                                                                                                                  |                       |                       |                   |                             |
|                                                                                                                    | 1000 V                | 125 A                 | -                 | -                           |

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27250101 |
| ECLASS-15.0 | 27250101 |

### ETIM

|           |          |
|-----------|----------|
| ETIM 10.0 | EC000897 |
|-----------|----------|

### 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% |
|-------------------------------------|----------------------------|

### EF3.1 Climate Change

|         |               |
|---------|---------------|
| CO2e kg | 0.593 kg CO2e |
|---------|---------------|

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