Connectors

G, GM series
Modular Circular Connectors
Catalogue A20.en
Modular connector system: G and GM Series

Our G and GM Series connectors are of rugged design providing high-performance reliability and maximum safety in harsh environments. Their modular design lets you build the right connector for every application quickly and easily. Sealed to IP54 and IP67 respectively, our G and GM Series circular connectors are dustproof, pressure proof and water protected. They are also resistant to the effects of most acids and alkalis as well as the extremes of temperature.

Metal shells: Series G18, G28, G42, G57

Series G connectors come in 4 shell sizes and a variety of contact arrangements (2 to 48 contacts). The shells made of aluminium die-cast alloy and featuring bayonet or threaded coupling are highly resistant to shock, vibration and the harsh environmental conditions the connector is subjected to.

Thermoplastic shells: Series GM42

Series GM connectors are available in shell size 42 and with contact arrangements of 8 up to 64 contacts. The connectors feature threaded coupling and are sealed to IP67. The shells are made of Polyamide-6. The contact inserts are partly identical with the ones of the G Series, in addition to that, however, there is the option of an insert with 64 contacts.

Features

- Modular design:
  The modular design of the G and GM Series lets you build many different plug and socket configurations to fit your application:
  - Customized and cost-effective realisation of your application.
  - Variety of configurations, e.g. plugs and right-angle plugs, receptacles and cable-connecting receptacles and their flange mount versions

- Interchangeable inserts:
  Contact inserts are completely interchangeable between plug and receptacle shell at any time. Thus the fully insulated female inserts can always be mounted on the live part irrespective of the shell.

- Polarization:
  Male and female inserts feature five different key positions max. which provide fool-proof orientation and polarization of connector components. This allows the unmistakable connection of 5 connectors of similar type but for different voltages to one and the same piece of equipment.

- Materials:
  Contacts:
  - High-quality spring-loaded wiping contacts ensure a low contact resistance that does not deteriorate due to the constant pressure of the springs.
  - Contact finish: galvanically silver plated and passivated contacts. Gold plated contacts on request.
  - Series G: Solder lugs, crimped connections, and screw-type clamping units
  - Series GM: Solder lugs and crimped connections
  - Crimp contacts are removable
  - Series G: High-temperature thermoset
  - Series GM: High-temperature thermoset, thermoplastic

- Inserts:
  - Series G: High-temperature thermoset
  - Series GM: High-temperature thermoset, thermoplastic

- Shells:
  - Series G: Aluminium die-cast alloy, hammer-tone enamelled: noncorrosive, impact resistant, shock-, dust-, and splash-proof
  - Series GM: Polyamide-6, noncorrosive, impact resistant, dustproof and sealed against pressurised water, UL-listed
Applications
G Series connectors are specifically designed for applications where reliability under difficult conditions is paramount. The hammer-toned enamelled aluminium die-cast shell makes the connector resistant to a wide range of stresses as they occur in public transport, mining and metallurgy, the marine, construction site, and power plant equipment industries, as well as the environmental and food and beverage sectors. GM Series connectors are the cost-effective alternative for situations that allow the use of a plastic connector and may benefit from the added degree of protection that comes along with it.

Variants
In this catalogue only stock items are presented. Do you need a variant such as a connector with a different layout? Do not hesitate to contact us! Maybe the connector you are looking for is among our many special designs. If not, we also deliver connectors manufactured to customer requirements. In this case, however, minimum order quantities apply.

Standards
- Electrical and mechanical characteristics of connectors to IEC 60512, IEC 61984
- Degree of protection in compliance with IEC 60529
- Material flammability rating: UL 94-V0

Shell size, contact arrangement

- **Series G18**
  - Shell size G18 reflects the size of the contact insert which has a diameter of 18 mm
  - Contact arrangement: 8 or 12 pole connector without protective earthing contact (PE)

- **Series G28**
  - Shell size G28 reflects the size of the contact insert which has a diameter of 28 mm
  - Contact arrangement: 7 pole connector with PE or 12, 16 and 24 pole connector without PE

- **Series G42**
  - Shell size G42 reflects the size of the contact insert which has a diameter of 42 mm
  - Contact arrangement: 6, 6+2, 8, 10, 12, 14, 20 pole connector with PE or 24 pole connector without PE

- **Series G57**
  - Shell size G57 reflects the size of the contact insert which has a diameter of 57 mm
  - Contact arrangement: 4, 16, 24, 32, 48 pole connector with PE or 4+5 pole connector without PE

- **Series GM42**
  - Shell size GM42 reflects the size of the contact insert which has a diameter of 42 mm
  - Contact arrangement: 6+2, 10, 12, 14, 20 and 64 pole connector with PE
# Specifications

## Series G18

<table>
<thead>
<tr>
<th>Number of contacts</th>
<th>8 pole</th>
<th>12 pole</th>
<th>7 pole + PE</th>
<th>12 pole</th>
<th>16 pole</th>
<th>24 pole</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contact arrangement</strong></td>
<td><img src="image" alt="Diagram" /></td>
<td><img src="image" alt="Diagram" /></td>
<td><img src="image" alt="Diagram" /></td>
<td><img src="image" alt="Diagram" /></td>
<td><img src="image" alt="Diagram" /></td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>Contact identification marked on insert:</td>
<td><img src="image" alt="Diagram" /></td>
<td><img src="image" alt="Diagram" /></td>
<td><img src="image" alt="Diagram" /></td>
<td><img src="image" alt="Diagram" /></td>
<td><img src="image" alt="Diagram" /></td>
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<tr>
<td>Pin insert:</td>
<td><img src="image" alt="Diagram" /></td>
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<td><img src="image" alt="Diagram" /></td>
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<td><img src="image" alt="Diagram" /></td>
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<tr>
<td>Socket insert:</td>
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<td><img src="image" alt="Diagram" /></td>
<td><img src="image" alt="Diagram" /></td>
<td><img src="image" alt="Diagram" /></td>
<td><img src="image" alt="Diagram" /></td>
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<tr>
<td>Rated voltage (IEC 60038)</td>
<td>25 V</td>
<td>25 V</td>
<td>230 V/400 V</td>
<td>42 V</td>
<td>42 V</td>
<td>42 V</td>
</tr>
<tr>
<td>Key positions (polarization)</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td>5</td>
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<td>5</td>
</tr>
<tr>
<td>Contacts</td>
<td>8 pole</td>
<td>12 pole</td>
<td>7 pole + PE</td>
<td>12 pole</td>
<td>16 pole</td>
<td>24 pole</td>
</tr>
<tr>
<td>Maximum rated current of individual contact, see also page 44</td>
<td>8x 16 A</td>
<td>12x 7.5 A</td>
<td>7x 20 A</td>
<td>12x 16 A</td>
<td>16x 16 A</td>
<td>24x 7.5 A</td>
</tr>
<tr>
<td>Outer diameter of contact/Contact type/size (crimp contacts)</td>
<td>Ø 1.58 mm A</td>
<td>Ø 1.58 mm A</td>
<td>Ø 2.3 mm B</td>
<td>Ø 1.58 mm A</td>
<td>Ø 1.58 mm A</td>
<td>Ø 1.58 mm A</td>
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<tr>
<td>PE contact *</td>
<td>Diameter solder contacts</td>
<td>---</td>
<td>---</td>
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<td>---</td>
</tr>
<tr>
<td>Diameter screw-type contacts</td>
<td>---</td>
<td>---</td>
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<tr>
<td>Contact type/size (crimp contacts)</td>
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</tr>
<tr>
<td>Anschlussquerschnitt und Bemessungstrom der Einzelkontakte</td>
<td><strong>Solder contacts:</strong></td>
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<tr>
<td>0.50 mm² /AWG 20</td>
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<td>7.5 A (socket)</td>
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</tr>
<tr>
<td>0.75 mm², 1.00 mm² /AWG 18 .. 17</td>
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<td>---</td>
<td>7.5 A (pin)</td>
<td>---</td>
<td>---</td>
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<tr>
<td>1.50 mm² /AWG 15</td>
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<tr>
<td>2.50 mm² /AWG 13</td>
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<tr>
<td>4 mm² /AWG 11</td>
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<tr>
<td>6 mm² /AWG 9</td>
<td>---</td>
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<td>16 mm² /AWG 5</td>
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<td>35 mm² /AWG 1</td>
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<tr>
<td><strong>Crimp contacts:</strong></td>
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</tr>
<tr>
<td>0.50 mm² /AWG 20</td>
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<td>7.5 A</td>
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<tr>
<td>0.75 mm², 1.00 mm² /AWG 18 .. 17</td>
<td>10 A</td>
<td>10 A</td>
<td>10 A</td>
<td>10 A</td>
<td>10 A</td>
<td>10 A</td>
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<tr>
<td>1.50 mm² /AWG 15</td>
<td>16 A</td>
<td>16 A</td>
<td>16 A</td>
<td>16 A</td>
<td>16 A</td>
<td>16 A</td>
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<tr>
<td>2.50 mm² /AWG 13</td>
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<td>---</td>
<td>27.5 A</td>
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<tr>
<td>4 mm² /AWG 11</td>
<td>---</td>
<td>---</td>
<td>35 A</td>
<td>---</td>
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</tr>
<tr>
<td>6 mm² /AWG 9</td>
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<td>---</td>
<td>35 A</td>
<td>---</td>
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<tr>
<td>Contact resistance (IEC 60512-2)</td>
<td>&lt; 10 mΩ</td>
<td>&lt; 10 mΩ</td>
<td>&lt; 10 mΩ</td>
<td>&lt; 10 mΩ</td>
<td>&lt; 10 mΩ</td>
<td>&lt; 10 mΩ</td>
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<tr>
<td>Insulation resistance (IEC 60512-2)</td>
<td>&gt; 500 MΩ</td>
<td>&gt; 500 MΩ</td>
<td>&gt; 500 MΩ</td>
<td>&gt; 500 MΩ</td>
<td>&gt; 500 MΩ</td>
<td>&gt; 500 MΩ</td>
</tr>
<tr>
<td>Range of operating temperature **</td>
<td>-25°C ... 100°C</td>
<td>-25°C ... 100°C</td>
<td>-25°C ... 100°C</td>
<td>-25°C ... 100°C</td>
<td>-25°C ... 100°C</td>
<td>-25°C ... 100°C</td>
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<tr>
<td>Degree of protection when mated or coupled (IEC 60529)</td>
<td>IP54</td>
<td>IP54</td>
<td>IP54</td>
<td>IP54</td>
<td>IP54</td>
<td>IP54</td>
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<tr>
<td>Test standard (IEC 60668-1)</td>
<td>-25/100/21</td>
<td>-25/100/21</td>
<td>-25/100/21</td>
<td>-25/100/21</td>
<td>-25/100/21</td>
<td>-25/100/21</td>
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<tr>
<td>Mechanical endurance (mating cycles) (IEC 60512-5, test 9a)</td>
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<td>5,000</td>
<td>5,000</td>
<td>5,000</td>
<td>5,000</td>
<td>5,000</td>
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<tr>
<td>Contact retention (crimp contacts)</td>
<td>&gt; 75 N</td>
<td>--- ***</td>
<td>&gt; 75 N</td>
<td>--- ***</td>
<td>&gt; 75 N</td>
<td>--- ***</td>
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<tr>
<td><strong>Materials</strong></td>
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<td></td>
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<td></td>
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<tr>
<td>Shells</td>
<td>Aluminium die-cast alloy</td>
<td>Aluminium die-cast alloy</td>
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<td></td>
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<tr>
<td>Inserts</td>
<td>Polyamide-6 / thermostat</td>
<td>Polyamide-6 / thermostat</td>
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<tr>
<td>Flammability rating</td>
<td>UL 94-V0, neoprene</td>
<td>UL 94-V0, neoprene</td>
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<tr>
<td>Seals</td>
<td>Perbunan, neoprene</td>
<td>Perbunan, neoprene</td>
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<td></td>
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<tr>
<td><strong>Contacts</strong></td>
<td>Solder contacts</td>
<td>Brass</td>
<td>Brass</td>
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<tr>
<td>Crimp contacts</td>
<td>Copper wrought alloy</td>
<td>Copper wrought alloy</td>
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<tr>
<td>Plating:</td>
<td>Solder contacts</td>
<td>Ag</td>
<td>Ag</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crimp contacts</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

* PE = Protective conductor terminal  
** Operating temperatures exceeding 25°C account for lower rated current values, see derating diagrams on page 39.  
*** Soldering and screw type contacts are permanently mounted in the insert.
## Specifications

### Series G28

<table>
<thead>
<tr>
<th>Specifications</th>
<th>G42</th>
<th>G42/GM42</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of contacts</strong></td>
<td>6 pole + PE</td>
<td>6 pole + PE</td>
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</tbody>
</table>

#### Contact arrangement

<table>
<thead>
<tr>
<th>Series G28</th>
<th>6 pole + PE</th>
<th>6 pole + PE</th>
<th>8 pole + PE</th>
<th>24 pole</th>
<th>6+2 pole + PE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PE contact</td>
<td>5</td>
<td>8</td>
<td>5</td>
<td>2</td>
<td>1</td>
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<tr>
<td>1</td>
<td>6</td>
<td>9</td>
<td>7</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>6</td>
<td>5</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>11</td>
<td>9</td>
<td>2</td>
<td>11</td>
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<tr>
<td>5</td>
<td>PE</td>
<td>PE</td>
<td>PE</td>
<td>PE</td>
<td>1</td>
</tr>
</tbody>
</table>

#### Rated voltage (IEC 60038)
at pollution degree 3 (IEC 60512)
- 230 V/400 V PE contact
- 230 V/400 V PE contact
- 230 V/400 V PE contact
- 42 V PE contact
- 500 V PE contact

#### Key positions (polarization)
- 5

#### Contacts
- **Maximum rated current of individual contact, see also page 44**
  - 6 x 63 A
  - 6 x 20 A
  - 8 x 20 A
  - 24 x 10 A
  - 8 x 25 A

#### Outer diameter of contact/
Contact type/size (crimp contacts)
- Ø 6 mm
- Ø 3 mm
- Ø 3 mm
- Ø 1.58 mm
- Ø 3 mm H

#### PE contact *
- Diameter solder contacts
  - Ø 6 mm
- Ø 3 mm
- Ø 3 mm

- Diameter screw-type contacts
  - ---

- Contact type/size (crimp contacts)
  - ---

#### Contact resistance (IEC 60512-2)
- < 10 mΩ

#### Insulation resistance (IEC 60512-2)
- > 500 MΩ

#### Range of operating temperature **
- -25°C ... 100°C

#### Degree of protection when mated or coupled (IEC 60529)
- IP54 / IP67

#### Test standard (IEC 60068-1)
- (tmin[°C]/tmax[°C]/ttesting time[days])
  - -25/100/21

#### Mechanical endurance (mating cycles) (IEC 60512-5, test 9a)
- 5,000

#### Contact retention (mating cycles)
- --- *** > 75 N > 75 N > 75 N > 40 N

#### Materials

<table>
<thead>
<tr>
<th>Shells</th>
<th>Inserts</th>
<th>Flammability rating</th>
<th>Seals</th>
</tr>
</thead>
<tbody>
<tr>
<td>---</td>
<td>---</td>
<td>Aluminium die-cast alloy</td>
<td>Perbunan, neoprene</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>Polyamide-6 / thermoset UL 94-V0</td>
<td></td>
</tr>
</tbody>
</table>

**PE = Protective conductor terminal**
**Operating temperatures exceeding 25°C account for lower rated current values, see derating diagrams on page 39.
***Soldering and screw type contacts are permanently mounted in the insert.
## Specifications

### Series G42, GM42

<table>
<thead>
<tr>
<th>Number of contacts</th>
<th>G42/GM42</th>
<th>GM42</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 pole + PE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 pole + PE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14 pole + PE</td>
<td></td>
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<tr>
<td>20 pole + PE</td>
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<td></td>
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<tr>
<td>64 pole + PE</td>
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</table>

### Contact arrangement

- **Contact identification marked on insert:**

<table>
<thead>
<tr>
<th>Pin insertion</th>
<th>Socket insertion</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rear view</strong></td>
<td><strong>Front view</strong></td>
</tr>
</tbody>
</table>

### Rated voltage (IEC 60038)

- **at pollution degree 3 (IEC 60512):**
  - 500 V PE contact
  - 230 V/400 V PE contact

### Key positions (polarization)

<table>
<thead>
<tr>
<th>G42/GM42</th>
<th>GM42</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>S</td>
</tr>
</tbody>
</table>

### Contacts

- **Maximum rated current of individual contact, see also page 44:**
  - 10 x 25 A
  - 12 x 25 A
  - 14 x 16 A
  - 20 x 10 A
  - 64 x 10 A

- **Outer diameter of contact/Contact type/size (crimp contacts):**
  - Ø 2.3 mm
  - Ø 3 mm H
  - Ø 3 mm B
  - Ø 1.58 mm A
  - Ø 1.6 mm G

- **PE contact *:**
  - Diameter solder contacts Ø 3 mm
  - Diameter screw-type contacts H
  - Contact type/size (crimp contacts) H

### Anschlussquerschnitt und Bemessungsstrom der Einzelkontakte

#### Solder contacts:

- 0.50 mm² / AWG 20
- 0.75 mm², 1.00 mm² / AWG 18...16
- 1.50 mm² / AWG 14
- 2.50 mm² / AWG 12
- 4 mm² / AWG 10
- 6 mm² / AWG 9
- 16 mm² / AWG 5
- 35 mm² / AWG 1

#### Crimp contacts:

- 0.50 mm² / AWG 20
- 0.75 mm², 1.00 mm² / AWG 18...16
- 1.50 mm² / AWG 14
- 2.50 mm² / AWG 12
- 4 mm² / AWG 10
- 6 mm² / AWG 9

- **Contact resistance (IEC 60512-2):**
  - < 10 mΩ

- **Insulation resistance (IEC 60512-2):**
  - > 500 MΩ

- **Range of operating temperature:**
  - -25°C...100°C

- **Degree of protection when mated or coupled (IEC 60529):**
  - IP54 / IP67

- **Test standard (IEC 60686-1):**
  - -25/100/21

- **Mechanical endurance (mating cycles) (IEC 60512-5, test 9a):**
  - 5,000

- **Contact retention (crimp contacts):**
  - ---

### Materials

- **Shells:** Aluminium die-cast alloy
- **Inserts:** Polyamide-6 / thermostet
- **Flammability rating:** UL 94-V0
- **Seals:** Perbunan, neoprene

### Contacts

- **Solder contacts:**
  - **Brass**
  - **Copper wrought alloy**
- **Crimp contacts:**
  - **Ag**
  - **Ag**

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* PE = Protective conductor terminal
** Operating temperatures exceeding 25°C account for lower rated current values, see derating diagrams on page 39.
*** Soldering and screw type contacts are permanently mounted in the insert.
## Specifications

### Contact arrangement

<table>
<thead>
<tr>
<th>Baureihe</th>
<th>G57</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of contacts</td>
<td>4 pole + PE</td>
</tr>
</tbody>
</table>

### Contact identification marked on insert:
- Pin insert: Rear view
- Socket insert: Front view

### Rated voltage (IEC 60038)
- 230 V/400 V
- PE

### UL 94-V0

### Rated voltage (IEC 60068-1)
- tmin [°C] / tmax [°C] / testing time [days] -25/100/21

### Test standard (IEC 60529)

### Degree of protection when mated or coupled

### Range of operating temperature
- -25° C ... 100° C

### Insulation resistance (IEC 60512-2)
- > 500 MΩ

### Contact resistance (IEC 60512-2)
- < 10 mΩ

### Degree of protection when mated or coupled (IEC 60529)
- IP54

### Test standard (IEC 60608-1)
- t_{ref} [°C] / t_{max} [°C] / t_{testing time} [days] -25/100/21

### Mechanical endurance (mating cycles)
- 5,000

### Contact retention (crimp contacts)
- > 75 N

### Materials
- Shells: Aluminium die-cast alloy
- Inserts: Polyamide-6 / thermoset UL 94-V0
- Flammability rating: Perbunan, neoprene

### Contacts
- Solder contacts: Brass
- Crimp contacts: Copper wrought alloy
- Plating:
  - Solder contacts: Ag
  - Crimp contacts: Ag

---

* PE = Protective conductor terminal
** Operating temperatures exceeding 25° C account for lower rated current values, see derating diagrams on page 39.
*** Soldering and screw type contacts are permanently mounted in the insert
<table>
<thead>
<tr>
<th>Shell part 2</th>
<th>Shell part 1</th>
<th>Contact</th>
<th>Insert</th>
<th>Protection</th>
</tr>
</thead>
</table>
| **G18 Plug**
| T18-x Cable support sleeve (Page 14) | G18 ST Plug (Page 14) | G18 STK Plug, short (Page 14) | G18 E-xP/L Pin inserts (Page 17) | G18 VK Protection cap, plug (Page 16) |
| G18 WS 90° plug (Page 14) | SBC-x,xx-Ag Pin (Page 38) | BAC-x,xx-Ag Socket (Page 38) | BS-B Filler plug (Page 38) |
| **G28 Plug**
| T28-x Cable support sleeve + G28 SM Cable clamp (Page 19) | G28 ST Plug (Page 18) | G28 ST M42 Plug (Page 18) | G28 E-xP/L Pin insert (Page 22) | G28 VK Protection cap, plug (Page 21) |
| G28 WS 90° plug (Page 18) | SBC-x,xx-Ag Pin | BHC-x,xx-Ag Socket (Page 38) | BS-B Filler plug (Page 38) |
| G28 AD Pg21 Adapter (Page 21) | G28 E-xS/L Socket insert (Page 22) | G28 E-8P/C Pin insert (Page 22) | G28 E-7P/C Pin insert (Page 22) |
### G57 Plug

<table>
<thead>
<tr>
<th>Shell part 2</th>
<th>Shell part 1</th>
<th>Contact</th>
<th>Insert</th>
<th>Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>T42 x Cable support sleeve 1</td>
<td>G42 ST Plug (Page 23)</td>
<td>SAC_x.xx-Ag-09 Pin</td>
<td>G42 E-xP/L Socket</td>
<td>G42 VK Protection cap, plug</td>
</tr>
<tr>
<td>+ G42 SH Cable clamp (Page 244)</td>
<td>G42 W5 90° plug (Page 23)</td>
<td>SBC_x.xx-Ag Pin</td>
<td>G42 E-xS/L Socket</td>
<td>G42 VK Protection cap, plug</td>
</tr>
<tr>
<td></td>
<td>G42 W5 Tg 90° plug (Page 23)</td>
<td>SHC_x.xx-Ag Pin</td>
<td>G42 E-xPC Pin</td>
<td>G42 VK Protection cap, plug</td>
</tr>
<tr>
<td></td>
<td>G42 ST Tr Plug (Page 28)</td>
<td>BAC_x.xx-Ag Socket</td>
<td>G42 E-xS/C Socket</td>
<td>G42 QK Protection cap, plug</td>
</tr>
<tr>
<td></td>
<td>G42 ST Tg Plug (Page 28)</td>
<td>BBC_x.xx-Ag Socket</td>
<td></td>
<td>G42 QK Protection cap, plug</td>
</tr>
<tr>
<td></td>
<td>G42 ST Ki Plug (Page 29)</td>
<td>BHC_x.xx-Ag Socket</td>
<td></td>
<td>G42 QK Protection cap, plug</td>
</tr>
<tr>
<td></td>
<td>G42 WS Tg 90° plug (Page 23)</td>
<td>SAC_x.xx-Ag-09 Pin</td>
<td>BS-A Filler plug</td>
<td>BS A Filler plug</td>
</tr>
<tr>
<td></td>
<td>G42 WS Kt 90° plug (Page 25)</td>
<td>SBC_x.xx-Ag Pin</td>
<td>BS-B Filler plug</td>
<td>BS-B Filler plug</td>
</tr>
<tr>
<td></td>
<td>G42 E-xP/C Pin inserts</td>
<td>SHC_x.xx-Ag Pin</td>
<td>G42 E-xS/C Socket</td>
<td></td>
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<tr>
<td></td>
<td>G42 E-xS/L Socket inserts</td>
<td>BAC_x.xx-Ag Socket</td>
<td>G42 E-xPC Pin</td>
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</tr>
<tr>
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<td>G42 E-xPC Pin</td>
<td>BBC_x.xx-Ag Socket</td>
<td></td>
<td>G42 QK Rubber cap, plug</td>
</tr>
<tr>
<td></td>
<td>G42 E-xS/C Socket</td>
<td>BHC_x.xx-Ag Socket</td>
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<td>G42 QK Rubber cap, plug</td>
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### G52 Plug

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<tr>
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<th>Shell part 1</th>
<th>Contact</th>
<th>Insert</th>
<th>Protection</th>
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</thead>
<tbody>
<tr>
<td>T42 x Cable support sleeve 1</td>
<td>G57 ST Tr Plug (Page 28)</td>
<td>SAC_x.xx-Ag-09 Pin</td>
<td>G57 E-xP/L Pin</td>
<td>G57 VK Protection cap, plug</td>
</tr>
<tr>
<td>+ G57 SH Cable clamp (Page 244)</td>
<td>G57 WS Tr 90° plug (Page 28)</td>
<td>SBC_x.xx-Ag Pin</td>
<td>G57 E-xS/L Socket</td>
<td>G57 VK Protection cap, plug</td>
</tr>
<tr>
<td></td>
<td>G57 ST Tg Plug (Page 28)</td>
<td>SHC_x.xx-Ag Pin</td>
<td>G57 E-xPC Pin</td>
<td>G57 VK Protection cap, plug</td>
</tr>
<tr>
<td></td>
<td>G57 ST Ki Plug (Page 29)</td>
<td>BAC_x.xx-Ag Socket</td>
<td>G57 E-xS/C Socket</td>
<td>G57 VK Rubber cap, plug</td>
</tr>
<tr>
<td></td>
<td>G57 WS Tg 90° plug (Page 25)</td>
<td>BBC_x.xx-Ag Socket</td>
<td></td>
<td>G57 VK Rubber cap, plug</td>
</tr>
<tr>
<td></td>
<td>G57 WS Ki 90° plug (Page 26)</td>
<td>BHC_x.xx-Ag Socket</td>
<td></td>
<td>G57 VK Rubber cap, plug</td>
</tr>
<tr>
<td></td>
<td>G57 ST Tg Plug (Page 28)</td>
<td>SAC_x.xx-Ag-09 Pin</td>
<td>BS-A Filler plug</td>
<td>BS A Filler plug</td>
</tr>
<tr>
<td></td>
<td>G57 ST Ki Plug (Page 29)</td>
<td>SBC_x.xx-Ag Pin</td>
<td>BS-B Filler plug</td>
<td>BS-B Filler plug</td>
</tr>
<tr>
<td></td>
<td>G57 WS Tg 90° plug (Page 25)</td>
<td>SHC_x.xx-Ag Pin</td>
<td>G57 E-xS/C Socket</td>
<td></td>
</tr>
<tr>
<td></td>
<td>G57 WS Ki 90° plug (Page 26)</td>
<td>BAC_x.xx-Ag Socket</td>
<td>G57 E-xPC Pin</td>
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</tr>
<tr>
<td></td>
<td>G57 ST Ki Plug (Page 29)</td>
<td>BBC_x.xx-Ag Socket</td>
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<td>G57 E-xPC Pin</td>
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<tr>
<td></td>
<td>G57 ST Tg Plug (Page 28)</td>
<td>BHC_x.xx-Ag Socket</td>
<td></td>
<td>G57 E-xPC Pin</td>
</tr>
<tr>
<td></td>
<td>G57 ST Ki Plug (Page 29)</td>
<td>BS-A Filler plug</td>
<td>G57 E-xS/C Socket</td>
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</tr>
<tr>
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<td>G57 WS Tg 90° plug (Page 25)</td>
<td>BS-B Filler plug</td>
<td>G57 E-xPC Pin</td>
<td></td>
</tr>
<tr>
<td></td>
<td>G57 WS Ki 90° plug (Page 26)</td>
<td>BS-A Filler plug</td>
<td></td>
<td>G57 E-xPC Pin</td>
</tr>
<tr>
<td></td>
<td>G57 ST Tg Plug (Page 28)</td>
<td>BS-B Filler plug</td>
<td></td>
<td>G57 E-xPC Pin</td>
</tr>
<tr>
<td></td>
<td>G57 ST Ki Plug (Page 29)</td>
<td>BS-A Filler plug</td>
<td></td>
<td>G57 E-xPC Pin</td>
</tr>
<tr>
<td></td>
<td>G57 WS Tg 90° plug (Page 25)</td>
<td>BS-B Filler plug</td>
<td></td>
<td>G57 E-xPC Pin</td>
</tr>
</tbody>
</table>
### G42 Receptacle

**Protection**
- G42 VD: Protection cap, receptacle (Page 26)
  - G42 VD Tg: Protection cap, receptacle with trapezoidal thread (Page 26)

**Insert**
- G42 E-xPL: Pin inserts (Page 27)
- G42 E-xSL: Socket inserts (Page 27)
- G42 E-xPC: Pin inserts (Page 27)
- G42 E-xSC: Socket inserts (Page 27)

**Contact**
- G42 KD: Cable-connecting receptacle (Page 24)
- G42 KF: Cable-connecting receptacle with flange (Page 24)
- G42 DF: Flange mount receptacle (Page 25)
- G42 DF Tg: Flange mount receptacle with trapezoidal thread (Page 25)
- G42 DD: Receptacle with hinged lid (Page 25)
- G42 TR-46: Bell-shaped cable sleeve
- G57 TR-46: Bell-shaped cable sleeve

**Shell part 1**
- SAC-x.xx-Ag-09 Pin
- BAC-x.xx-Ag Socket
- BS-A Filler plug
- G57 KD Tr / G57 KF Tr: Cable-connecting receptacle with flange (Page 30)
- G57 DF: Flange mount receptacle (Page 31)
- G57 DD: Receptacle with hinged lid (Page 32)
- G42 KD: Cable-connecting receptacle (Page 24)
- G42 KF: Cable-connecting receptacle with flange (Page 24)
- G42 DF: Flange mount receptacle (Page 25)
- G42 DD: Receptacle with hinged lid (Page 25)
- G42 SH: Cable clamp (Page 33)

**Shell part 2**
- G42 E-xP/L: Pin inserts (Page 27)
- G42 E-xS/L: Socket inserts (Page 27)
- G42 E-xP/C: Pin inserts (Page 27)
- G42 E-xS/C: Socket inserts (Page 27)

### G57 Receptacle

**Protection**
- G57 VD: Protection cap, receptacle (Page 33)
  - G57 E-xPL: Pin inserts (Page 34)
  - G57 E-xSL: Socket inserts (Page 34)
  - G57 E-xPC: Pin inserts (Page 34)
  - G57 E-xSC: Socket inserts (Page 34)

**Insert**
- G57 E-xPL: Pin inserts (Page 34)
- G57 E-xSL: Socket inserts (Page 34)
- G57 E-xPC: Pin inserts (Page 34)
- G57 E-xSC: Socket inserts (Page 34)

**Contact**
- G57 KD Tr / G57 KF Tr: Cable-connecting receptacle with flange (Page 30)
- G57 DF: Flange mount receptacle (Page 31)
- G57 DD: Receptacle with hinged lid (Page 32)
- G57 KD Kt / G57 KF Kt: Cable-connecting receptacle with flange (Page 30)

**Shell part 1**
- SAC-x.xx-Ag-09 Pin
- BAC-x.xx-Ag Socket
- BS-A Filler plug
- G57 KD Tr / G57 KF Tr: Cable-connecting receptacle with flange (Page 30)
- G57 DF: Flange mount receptacle (Page 31)
- G57 DD: Receptacle with hinged lid (Page 32)
- G42 SH: Cable clamp (Page 33)

**Shell part 2**
- G42 VD: Protection cap, receptacle (Page 26)
  - G42 VD Tg: Protection cap, receptacle with trapezoidal thread (Page 26)
  - G42 E-xPL: Pin inserts (Page 27)
  - G42 E-xSL: Socket inserts (Page 27)
  - G42 E-xPC: Pin inserts (Page 27)
  - G42 E-xSC: Socket inserts (Page 27)
  - SAC-x.xx-Ag-09 Pin
  - BAC-x.xx-Ag Socket
  - BS-A Filler plug
  - G57 KD Tr / G57 KF Tr: Cable-connecting receptacle with flange (Page 30)
  - G57 DF: Flange mount receptacle (Page 31)
  - G57 DD: Receptacle with hinged lid (Page 32)
<table>
<thead>
<tr>
<th>Protection</th>
<th>Insert</th>
<th>Contact</th>
<th>Shell part 1</th>
<th>Shell part 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>GM42 VD Protection cap, receptacle (Page 37)</td>
<td>G42 E-xp/L Pin inserts (Page 37)</td>
<td>S4C-x,Ag-09 Pin</td>
<td>GM42 KD Cable-connecting receptacle (Page 37)</td>
<td>GM42 V5 Pg29 Cable gland (Page 37)</td>
</tr>
<tr>
<td>G42 E-xp/L Pin inserts (Page 37)</td>
<td>G42 E-xS/L Socket inserts (Page 37)</td>
<td>SBC-x,Ag Pin</td>
<td>GM42 VS Pg29 Cable gland (Page 36)</td>
<td>GM42 KD Pg21 Adapter + M3 VPg21 Cable gland (Page 36)</td>
</tr>
<tr>
<td>G42 E-xS/C Socket inserts (Page 37)</td>
<td>GM42 E-64S+PE/C Pin inserts (Page 37)</td>
<td>SGC-x,Ag Pin</td>
<td>GM42 RD Pg21 Cable gland (Page 36)</td>
<td>GM42 WD Backshell 90° for surface mounting (Page 36)</td>
</tr>
<tr>
<td>SAC-x,Ag-09 Pin</td>
<td>BAC-x,Ag Socket</td>
<td>BS-A Filler plug</td>
<td>BS-B Filler plug (Page 38)</td>
<td>BS-A Filler plug</td>
</tr>
</tbody>
</table>
G18 ST Plug

G18 ST Plug

G18 STK Plug short

G18 WS 90° plug

G18 WS 90° plug

T18-X Cable support sleeve

T18-X Cable support sleeve

Note:
The cable support sleeve is for use with the plugs G18 ST, G18 STK, and G18 WS as well as the receptacle G18 KD.

<table>
<thead>
<tr>
<th>Ordering code</th>
<th>Cable diameter [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>T18-7,5</td>
<td>7.5</td>
</tr>
<tr>
<td>T18-8,5</td>
<td>8.5</td>
</tr>
<tr>
<td>T18-11,5</td>
<td>11.5</td>
</tr>
<tr>
<td>T18-14,5</td>
<td>14.5</td>
</tr>
</tbody>
</table>
**G18 KD Cable-connecting receptacle**

Art.-Bez.: G18 KD Kabeldose

Shell part 1

Reduced scale diagrams / dimensions in mm

**G18 DF Flange mount receptacle**

Art.-Bez.: G18 DF Flange mount receptacle

Shell part 1

Reduced scale diagrams / dimensions in mm

**G18 DD Receptacle with hinged lid**

Art.-Bez.: G18 DD Dose mit Klappdeckel

Shell part 1

Reduced scale diagrams / dimensions in mm

Series G18
**G18 DU Wi Pg9**  Backshell 45° for surface mounting

**G18 VK**  Protection cap for plugs

---

**Ordering code** | **Thread**
---|---
G18 DU Wi Pg9 | Pg size Pg9

**Note:**
45° backshells for surface mounting come in handy when there is not enough space for the receptacle to be panel mounted. The knockout entry of the backshell allows to enter a cable from the side in front of the panel and wire the rear of the receptacle. The flange mounted receptacle and 45° backshell are sealed to IP54.

---

Reduced scale diagrams / dimensions in mm
**Connector type**

<table>
<thead>
<tr>
<th>G18 Series</th>
<th>8 pole</th>
<th>12 pole</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of contacts</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td>Contact arrangement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contact identification marked on insert:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pin insert: Rear view</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Socket insert: Front view</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Ordering code**

| Pin inserts - solder contacts | --- | G18 E-12P/L |
| Socket inserts - solder contacts | --- | G18 E-12S/L |
| Pin inserts - crimp contacts | G18 E-8P/C* | --- |
| Socket inserts - crimp contacts | G18 E-8S/C* | --- |

**Rated voltage (IEC 60038)**

- at pollution degree 3 (IEC 60512)
  - 25 V
  - 25 V

**Key positions (polarization)**

| 2 | 2 |

**Contacts**

| Maximum rated current of individual contact | 8x 16 A | 12x 7.5 A |
| Outer diameter of contact | ø 1.58 mm | ø 1.58 mm |
| Contact type/size (crimp contacts) | Type A | --- |

* If implemented accordingly, the 8 pole insert for crimp contacts is intermateable with the 3 pole and 4 pole insert for solder contacts.

** For detailed information on individual contacts see page 38. Note that as pin contacts the 4 mm longer ones, viz. SAC-1.00-Ag-09 or SAC-1.50-Ag-09, are here required.
G28 ST Plug

Shell part 1

G28 ST M42 Plug with thread M42x1.5

Note:
This plug can only be used with the corresponding receptacle G28 DK M42. The mated connector is sealed to IP67.

G28 WS 90° plug

Shell part 1
**G28 KD** Cable-connecting receptacle

Shell part 1

**G28 KF** Cable-connecting receptacle with flange

Shell part 1

**T28-x, G28 SH** Cable support sleeve, Cable clamp

Shell part 2

<table>
<thead>
<tr>
<th>Ordering code</th>
<th>Cable diameter (mm)</th>
<th>Figure</th>
</tr>
</thead>
<tbody>
<tr>
<td>T28-10/13</td>
<td>10 ... 13</td>
<td>Fig. A</td>
</tr>
<tr>
<td>T28-13/16</td>
<td>13 ... 16</td>
<td>Fig. A</td>
</tr>
<tr>
<td>T28-16/18,5</td>
<td>16 ... 18,5</td>
<td>Fig. A</td>
</tr>
<tr>
<td>T28-18,5/20,5</td>
<td>18,5 ... 20,5</td>
<td>Fig. A</td>
</tr>
<tr>
<td>T28-20,5/22</td>
<td>20,5 ... 22</td>
<td>Fig. A</td>
</tr>
<tr>
<td>G28 SH</td>
<td>20</td>
<td>Fig. B</td>
</tr>
</tbody>
</table>

Note:
Cable support sleeve and cable clamp are for use with the plugs G28 ST, G28 ST M42, G28 WS and G28 WS M42 as well as the receptacles G28 KD and G28 KF.
**G28 DF** Flange mount receptacle

Shell part 1

**G28 DK M42** Flange mount receptacle with thread M42x1.5 and protection cap

Shell part 1

*Note:* This receptacle can only be used with the corresponding plug G28 ST M42 or G28 WS M42. The mated connector is sealed to IP67.

**G28 DD** Receptacle with hinged lid

Shell part 1
Note:
Backshells for surface mounting come in handy when there is not enough space for the receptacle to be panel mounted. The knockout entry of the backshell allows to enter a cable from the side in front of the panel and wire the rear of the receptacle. Backshells with two cable entries can also be used as surface mounted junction boxes.
The knockout entries are designed for steel conduit thread/Pg termination and high-strength cable glands. The flange mounted receptacle and backshell are sealed to IP54.

Note: The adapter for size Pg21 cable glands is for use with the following plugs:
- G28 ST, G28 ST M42
- G28 WS, G28 WS M42
### G28 VK, G28 VD Protection caps

**G28 VK** Protection cap for plugs

**G28 VD** Protection cap for receptacles

### G28 Pin insert 7+PE/12/16/24 pole

### G28 Socket insert 7+PE/12/16/24 pole

<table>
<thead>
<tr>
<th>Connector type</th>
<th>G28 Series</th>
</tr>
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<tbody>
<tr>
<td>Number of contacts</td>
<td>7 pole + PE</td>
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<tr>
<td><strong>Contact arrangement</strong></td>
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</tr>
<tr>
<td>Contact identification marked on insert: Pin insert: Rear view</td>
<td></td>
</tr>
<tr>
<td>Socket insert: Front view</td>
<td></td>
</tr>
<tr>
<td><strong>Ordering code</strong></td>
<td></td>
</tr>
<tr>
<td>Pin inserts, solder contacts</td>
<td></td>
</tr>
<tr>
<td>Socket inserts, solder contacts</td>
<td></td>
</tr>
<tr>
<td>Pin inserts, crimp contacts</td>
<td></td>
</tr>
<tr>
<td>Socket inserts, crimp contacts</td>
<td></td>
</tr>
<tr>
<td><strong>Rated voltage</strong> (IEC 60038)</td>
<td>230 V / 400 V PE contact</td>
</tr>
<tr>
<td>at pollution degree 3 (IEC 60512)</td>
<td></td>
</tr>
<tr>
<td><strong>Key positions (polarization)</strong></td>
<td>5</td>
</tr>
<tr>
<td><strong>Contacts</strong> <strong>Max. rated current of individual contact</strong></td>
<td>7x 20 A</td>
</tr>
<tr>
<td>Outer diameter of contact</td>
<td>Ø 2.3 mm</td>
</tr>
<tr>
<td>Contact type/size (crimp contacts)</td>
<td>Typ B</td>
</tr>
<tr>
<td><strong>PE contact</strong> <strong>Diameter solder contacts</strong></td>
<td>Ø 3 mm</td>
</tr>
<tr>
<td>Contact type/size (crimp contacts)</td>
<td>Typ H</td>
</tr>
<tr>
<td>Diameter screw-type contacts</td>
<td>---</td>
</tr>
</tbody>
</table>

* If implemented accordingly, the 7 pole insert for crimp contacts is intermateable with the previous 2…6 pole inserts for solder contacts

** For detailed information on individual contacts see page 38

*** PE = Protective conductor terminal, for details about PE contacts refer to page 38

Red scale diagrams / dimensions in mm
**G42 ST** Plug

Shell part 1

---

**G42 WS** 90° plug

Shell part 1

---

**G42 WS Tg** 90° plug with trapezoidal thread

Shell part 1

---

**Note:**
This plug can only be used with the corresponding receptacle G42 DF Tg. The mated connector is sealed to IP67.

*Reduced scale diagrams / dimensions in mm*
**T42-x, G42 SH**  Cable support sleeve, Cable clamp  

Shell part 2

<table>
<thead>
<tr>
<th>Ordering code</th>
<th>Cable diameter [mm]</th>
<th>Figure</th>
</tr>
</thead>
<tbody>
<tr>
<td>T42-14/18</td>
<td>14 … 18</td>
<td>Fig. A</td>
</tr>
<tr>
<td>T42-18/22</td>
<td>18 … 22</td>
<td>Fig. A</td>
</tr>
<tr>
<td>T42-22/26,5</td>
<td>22 … 26,5</td>
<td>Fig. A</td>
</tr>
<tr>
<td>T42-26,5/31</td>
<td>26,5 … 31</td>
<td>Fig. A</td>
</tr>
<tr>
<td>G42 SH</td>
<td>30</td>
<td>Fig. B</td>
</tr>
</tbody>
</table>

**Note:**  
Cable support sleeve and cable clamp are for use with the plugs G42 ST, G42 WS and G42 WS Tg as well as the receptacles G42 KD, G42 KF and also G57 KD Kt and G57 KF Kt.

**G42 KD**  Cable-connecting receptacle  

Shell part 1

**G42 KF**  Cable-connecting receptacle with flange  

Shell part 1
**G42 DF Flange mount receptacle**

**G42 DF Tg Flange mount receptacle with trapezoidal thread**

**G42 DD Receptacle with hinged lid**

*Note:*
This receptacle can only be used with the corresponding plug G42 WS Tg. The mated connector is sealed to IP67.

Reduced scale diagrams / dimensions in mm
G42 VD, G42 VD Tg Protection caps for receptacles

G42 VD Protection cap for receptacles

G42 VD Tg Protection cap for receptacles with trapezoidal thread

G42 VK Ke, G42 VK Protection caps for plugs

G42 VK Ke Protection cap with chain for plugs

G42 VK Protection cap for plugs

G42 GK Rubber cap for plugs

G42 GK Rubber cap for plugs

Protection

Reduced scale diagrams / dimensions in mm
### G42 Pin inserts
6+PE/6+2+PE/8+PE/10+PE/12+PE/ 14+PE/ 20+PE/24 pole

### G42 Socket inserts
6+PE/6+2+PE/8+PE/10+PE/12+PE/ 14+PE/ 20+PE/24 pole

**Inserts**

#### Connector type
<table>
<thead>
<tr>
<th>Number of contacts</th>
<th>G42 Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 pole + PE</td>
<td>6 pole + PE</td>
</tr>
<tr>
<td>6+2 pole + PE</td>
<td>8 pole + PE</td>
</tr>
<tr>
<td>10 pole + PE</td>
<td></td>
</tr>
</tbody>
</table>

#### Contact arrangement
Contact identification marked on insert:
Pin insert: Rear view
Socket insert: Front view

#### Ordering code
**Pin inserts, solder contacts**
- G42 E-6P+PE/L
- G42 E-6S+PE/L
**Socket inserts, solder contacts**
- ---
**Pin inserts, crimp contacts**
- ---
**Socket inserts, crimp contacts**
- ---

#### Rated voltage
- (IEC 60038) at pollution degree 3 (IEC 60512)
- 230 V / 400 V PE contact
- 230 V / 400 V PE contact
- 500 V PE contact
- 230 V / 400 V PE contact
- 500 V PE contact

#### Key positions (polarization)
- 5

#### Contacts **
- Max. rated current of individual contact
  - Outer diameter of contact
  - Contact type/size (crimp contacts)
- PE contact ***
  - Diameter solder contacts
  - Contact type/size (crimp contacts)

#### PE contact
Type: G42 E-14S+PE/L

---

### Connector type
<table>
<thead>
<tr>
<th>Number of contacts</th>
<th>G42 Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 pole + PE</td>
<td>14 pole + PE</td>
</tr>
<tr>
<td>20 pole + PE</td>
<td>24 pole</td>
</tr>
</tbody>
</table>

#### Contact arrangement
Contact identification marked on insert:
Pin insert: Rear view
Socket insert: Front view

#### Ordering code
**Pin inserts, solder contacts**
- G42 E-12P+PE/L
- G42 E-12S+PE/L
**Socket inserts, solder contacts**
- G42 E-12P+PE/C
- G42 E-12S+PE/C
**Pin inserts, crimp contacts**
- G42 E-12P+PE/C
- G42 E-12S+PE/C
**Socket inserts, crimp contacts**
- ---

#### Rated voltage
- (IEC 60038) at pollution degree 3 (IEC 60512)
- 230 V / 400 V PE contact
- 230 V / 400 V PE contact
- 230 V / 400 V PE contact
- 42 V

#### Key positions (polarization)
- 5

#### Contacts **
- Max. rated current of individual contact
  - Outer diameter of contact
  - Contact type/size (crimp contacts)
- PE contact ***
  - Diameter solder contacts
  - Contact type/size (crimp contacts)

#### PE contact
Type: G42 E-24P/L

---

* If implemented accordingly, the 14 pole insert for crimp contacts is intermateable with the 10 pole insert for solder contacts

** For detailed information on individual contacts see page 38

*** PE = Protective conductor terminal, for details about PE contacts refer to page 38

---

Reduced scale diagrams / dimensions in mm
**G57 ST Tr** Plug

Shell part 1

**G57 ST Tg** Plug with trapezoidal thread

Shell part 1

**G57 WS Tr** 90° plug

Shell part 1

*Note:* This plug can only be used with the corresponding receptacle G57 DF Tg. The mated connector is sealed to IP67.

Reduced scale diagrams / dimensions in mm
**G57 WS Tg** 90° plug with trapezoidal thread

Note: This plug can only be used with the corresponding receptacle G57 DF Tg. The mated connector is sealed to IP67.

---

**G57 ST Kt** Plug

---

**G57 WS Kt** 90° plug
G57 KD Tr Cable-connecting receptacle for bell-shaped cable sleeve

Shell part 1

G57 KD Kt Cable-connecting receptacle for cable support sleeve

Shell part 1

Note: Use cable clamp G42 SH and cable support sleeve T42 x with this type of connector.

G57 KF Tr Cable-connecting receptacle with flange for bell-shaped cable sleeve

Shell part 1

Reduced scale diagrams / dimensions in mm
**G57 KF Kt** Cable-connecting receptacle with flange for cable support sleeve

Shell part 1

Note: Use cable clamp G42 SH and cable support sleeve T42-x with this type of connector.

**G57 DF** Flange mount receptacle

Shell part 1

**G57 DF Tg** Flange mount receptacle with trapezoidal thread

Shell part 1

Note: This receptacle can only be used with the corresponding plug G57 ST Tg. The mated connector is sealed to IP67.
**G57 DD** Receptacle with hinged lid

Shell part 1

---

**G57 VK** Protection cap

**G57 VK** Protection cap for plugs

Protection

---

**G57 GK** Rubber cap for plugs

**G57 GK** Rubber cap for plugs

Protection

---

*Reduced scale diagrams / dimensions in mm*
**G57 GD** Protection cap for receptacles

**G57 VD** Protection cap for receptacles

**G57 Tr-46 + G57 KT/xx-yy + G57 DI-xx** Bell-shaped cable sleeve

**G57 SH + T42-x** Cable clamp + cable support sleeve

---

**Reduced scale diagrams / dimensions in mm**

---

**Note:**
- The bell-shaped cable sleeve and its accessories are for use with the plugs G57 ST Tr, G57 ST Tg, G57 WS Tr, and G57 WS Tg as well as the receptacles G57 KD Tr and G57 KF Tr.
- Cable support sleeve and cable clamp are for use with the plugs G57 ST Kt and G57 WS Kt. For the receptacles G57 KD Kt and G57 KF Kt use cable clamp G42 SH along with the cable support sleeve T42-x (see page 27).
**G57 Pin inserts** 4+PE/4+5/16+PE/24+PE/32+PE/48+PE pole
**G57 Socket inserts** 4+PE/4+5/16+PE/24+PE/32+PE/48+PE pole

Series G57

Pin insert **G57 E-24P+PE/L**

Socket insert **G57 E-24S+PE/L**

---

**Connector type**

<table>
<thead>
<tr>
<th>Number of contacts</th>
<th>4 pole + PE</th>
<th>4 + 5 pole</th>
<th>16 pole + PE</th>
<th>24 pole + PE</th>
<th>32 pole + PE</th>
<th>48 pole + PE</th>
</tr>
</thead>
</table>

**Contact arrangement**

Contact identification marked on insert:

- Pin insert: Rear view
- Socket insert: Front view

**Ordering code**

- Pin inserts, solder contacts
- Socket inserts, solder contacts
- Pin inserts, crimp contacts
- Socket inserts, crimp contacts

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

**Rated voltage** (IEC 60038)

- at pollution degree 3 (IEC 60512)

| 230 V / 400 V PE contact | 25 V | 230 V / 400 V PE contact | 230 V / 400 V PE contact | 230 V / 400 V PE contact |

**Key positions (polarization)**

| 4 | 5 | 5 | 5 | 5 | 5 |

**Contacts**

- Max. rated current of individual contact
- Outer diameter of contact
- Contact type/size (crimp contacts)

- 4x 100 A
- Ø 10 mm
- ---

- 4x 50 A
- Ø 8 mm Ø 3 mm
- ---

- 5x 35 A
- Ø 3 mm
- ---

- 16x 20 A
- Ø 3 mm
- ---

- 24x 20 A
- 32x 16 A
- 48x 7.5 A
- Ø 1.58 mm
- Type A
- 48x 7.5 A
- Ø 2.3 mm
- Type B
- 48x 7.5 A
- Ø 3 mm
- Type H
- 48x 7.5 A
- Ø 3 mm
- Type H

**PE contact**

- Diameter solder contacts
- Contact type/size (crimp contacts)

- Ø 10 mm
- ---

- ---
- ---

* For detailed information on individual contacts see page 38
** PE = Protective conductor terminal, for details about PE contacts refer to page 38
GM42 ST Pg29 Plug

Shell part 1

GM42 SF Flange plug

Shell part 1

GM42 KD Cable-connecting receptacle

Shell part 1

Reduced scale diagrams / dimensions in mm
GM42 DF  Flange mount receptacle

GM42 VS Pg29  Cable gland for cables Ø 18 ... 24 mm
GM42 RD Pg21 + M3 VPg21  Adapter + cable gland for cables Ø 14 ... 18 mm

GM42 WG  Backshell 90°

---

<table>
<thead>
<tr>
<th>Cable Ø</th>
<th>Adapter</th>
<th>Cable gland</th>
<th>L1</th>
<th>L2</th>
<th>L3</th>
<th>L4</th>
</tr>
</thead>
<tbody>
<tr>
<td>14 ... 18</td>
<td>GM42 RD Pg21</td>
<td>M3 VPg21</td>
<td>16</td>
<td>28.5</td>
<td>Pg21</td>
<td>30</td>
</tr>
<tr>
<td>18 ... 24</td>
<td>---</td>
<td>GM42 VS Pg29</td>
<td>18</td>
<td>32.5</td>
<td>Pg29</td>
<td>41</td>
</tr>
</tbody>
</table>

Reduced scale diagrams / dimensions in mm
GM42 VK, GM42 VD Protection caps

GM42 VK Protection cap for plugs

GM42 VD Protection cap for receptacles

G42 Pin inserts 6+2+PE/10+PE/12+PE/14+PE/20+PE/64+PE pole
G42 Socket inserts 6+2+PE/10+PE/12+PE/14+PE/20+PE/64+PE pole

Inserts

Pin insert G42 E-20P+PE/L

Socket insert G42 E-20S+PE/L

<table>
<thead>
<tr>
<th>Connector type</th>
<th>GM42 Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of contacts</td>
<td>6+2 pole + PE</td>
</tr>
<tr>
<td>Contact arrangement</td>
<td>Contact identification marked on insert:</td>
</tr>
<tr>
<td>Pin insert: Rear view</td>
<td>Front view</td>
</tr>
<tr>
<td>Ordering code</td>
<td>Pin inserts, solder contacts</td>
</tr>
<tr>
<td></td>
<td>G42 E-6+2P+PE/C</td>
</tr>
<tr>
<td></td>
<td>G42 E-6+2S+PE/C</td>
</tr>
<tr>
<td></td>
<td>G42 E-10P+PE/L</td>
</tr>
<tr>
<td></td>
<td>G42 E-10S+PE/L</td>
</tr>
<tr>
<td></td>
<td>G42 E-12P+PE/L</td>
</tr>
<tr>
<td></td>
<td>G42 E-12S+PE/L</td>
</tr>
<tr>
<td></td>
<td>G42 E-14P+PE/L</td>
</tr>
<tr>
<td></td>
<td>G42 E-14S+PE/L</td>
</tr>
<tr>
<td></td>
<td>G42 E-14P+PE/C</td>
</tr>
<tr>
<td></td>
<td>G42 E-14S+PE/C</td>
</tr>
<tr>
<td></td>
<td>G42 E-20P+PE/L</td>
</tr>
<tr>
<td></td>
<td>G42 E-20S+PE/L</td>
</tr>
<tr>
<td></td>
<td>G42 E-20P+PE/C</td>
</tr>
<tr>
<td></td>
<td>G42 E-20S+PE/C</td>
</tr>
<tr>
<td></td>
<td>GM42 E-64P+PE/C</td>
</tr>
<tr>
<td></td>
<td>GM42 E-64S+PE/C</td>
</tr>
<tr>
<td>Rated voltage (IEC 60038) at pollution degree 3 (IEC 60512)</td>
<td>500 V PE contact</td>
</tr>
<tr>
<td>Key positions (polarization)</td>
<td>5</td>
</tr>
<tr>
<td>Contacts **</td>
<td>Max. rated current of individual contact</td>
</tr>
<tr>
<td></td>
<td>8x 25 A</td>
</tr>
<tr>
<td></td>
<td>Ø 3 mm</td>
</tr>
<tr>
<td></td>
<td>Type H</td>
</tr>
<tr>
<td>Outer diameter of contact</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10x 25 A</td>
</tr>
<tr>
<td></td>
<td>Ø 2.3 mm</td>
</tr>
<tr>
<td></td>
<td>Type H</td>
</tr>
<tr>
<td>Contact type/size (crimp contacts)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>12x 25 A</td>
</tr>
<tr>
<td></td>
<td>Ø 3 mm</td>
</tr>
<tr>
<td></td>
<td>Type H</td>
</tr>
<tr>
<td>PE contact ***</td>
<td>Diameter solder contacts</td>
</tr>
<tr>
<td></td>
<td>14x 16 A</td>
</tr>
<tr>
<td></td>
<td>Ø 2.3 mm</td>
</tr>
<tr>
<td></td>
<td>Type B</td>
</tr>
<tr>
<td></td>
<td>20x 10 A</td>
</tr>
<tr>
<td></td>
<td>Ø 1.38 mm</td>
</tr>
<tr>
<td></td>
<td>Type A</td>
</tr>
<tr>
<td></td>
<td>GM42 E-64P+PE/C</td>
</tr>
<tr>
<td></td>
<td>GM42 E-64S+PE/C</td>
</tr>
<tr>
<td></td>
<td>GM42 E-64P+PE/C</td>
</tr>
<tr>
<td></td>
<td>GM42 E-64S+PE/C</td>
</tr>
</tbody>
</table>

* If implemented accordingly, the 14 pole insert for crimp contacts is intermateable with the 10 pole insert for solder contacts
** For detailed information on individual contacts see page 38
*** PE = Protective conductor terminal, for details about PE contacts refer to page 38

Reduced scale diagrams / dimensions in mm
Contacts  Crimp contacts (pin/socket) and filler plugs

Ordering code, contacts

- **Contacts SGC-x, BGC-x, BS-A** Crimp contacts (Pin/Socket) and Filler plug:

  Pin contact
  - Ordering code L1 Identification Wire gauge
  - SAC-0,50-Ag 28.6 No groove Ø3
  - SAC-1,00-Ag 28.6 1 groove Ø3
  - SAC-1,50-Ag 28.6 2 grooves Ø3
  - SAC-2,50-Ag 28.6 3 grooves Ø3
  - SAC-1,50-Ag-09 32.6 1 groove Ø3
  - SAC-1,50-Ag-09 32.6 2 grooves Ø3

  Socket contact
  - Ordering code L2 Identification Wire gauge
  - SAC-0,50-Ag 28.6 No groove Ø3
  - SAC-1,00-Ag 28.6 1 groove Ø3
  - SAC-1,50-Ag 28.6 2 grooves Ø3
  - SAC-2,50-Ag 28.6 3 grooves Ø3

- **Contacts SBC-x, BBC-x, BS-B** Crimp contacts (Pin/Socket) and Filler plug:

  Pin contact
  - Ordering code L1 Identification Wire gauge
  - SBC-0,50-Ag 40.4 No groove Ø3
  - SBC-1,00-Ag 40.4 1 groove Ø3
  - SBC-1,50-Ag 40.4 2 grooves Ø3
  - SBC-2,50-Ag 39.0 3 grooves Ø3
  - SBC-4,00-Ag 39.0 1 wide groove Ø3
  - SBC-6,00-Ag 39.0 2 wide grooves Ø3

  Socket contact
  - Ordering code L2 Identification Wire gauge
  - BBC-0,50-Ag 35.6 No groove Ø3
  - BBC-1,00-Ag 37.0 1 groove Ø3
  - BBC-1,50-Ag 37.0 2 grooves Ø3
  - BBC-2,50-Ag 35.6 3 grooves Ø3
  - BBC-4,00-Ag 35.6 1 wide groove Ø3
  - BBC-6,00-Ag 35.6 2 wide grooves Ø3

- **Contacts SHC-x, BHC-x** Crimp contacts (Pin/Socket):

  Pin contact
  - Ordering code L1 Identification Wire gauge
  - SHC-1,00-Ag 43.6 1 groove Ø3
  - SHC-1,50-Ag 43.6 2 grooves Ø3
  - SHC-2,50-Ag 39.0 3 grooves Ø3
  - SHC-4,00-Ag 46.6 1 wide groove Ø3
  - SHC-6,00-Ag 46.6 2 wide grooves Ø3

  Socket contact
  - Ordering code L2 Identification Wire gauge
  - BHC-1,00-Ag 42.4 1 groove Ø3
  - BHC-1,50-Ag 42.4 2 grooves Ø3
  - BHC-2,50-Ag 42.4 3 grooves Ø3
  - BHC-4,00-Ag 45.4 1 wide groove Ø3
  - BHC-6,00-Ag 45.4 2 wide grooves Ø3

- **Contacts SNG-x, BNG-x** Crimp contacts (Pin/Socket):

  Pin contact
  - Ordering code L1 Identification Wire gauge
  - SNG-0,37-Ag 25.0 --- Ø1
  - SNG-0,50-Ag 25.0 --- Ø1
  - SNG-1,00-Ag 25.0 --- Ø1
  - SNG-1,50-Ag 25.0 --- Ø1
  - SNG-2,50-Ag 25.0 --- Ø1

  Socket contact
  - Ordering code L2 Identification Wire gauge
  - BNG-0,37-Ag 21.6 --- Ø1
  - BNG-0,50-Ag 21.6 --- Ø1
  - BNG-1,00-Ag 21.6 --- Ø1
  - BNG-1,50-Ag 21.6 --- Ø1
  - BNG-2,50-Ag 21.6 --- Ø1

Termination

- **Filler plug (BS-A)**: Unimplemented contact cavities can be fitted with filler plugs.

- **Filler plug (BS-B)**: Unimplemented contact cavities can be fitted with filler plugs.

Note: PE contacts must be at least of the same AWG size as the main contacts.

Reduced scale diagrams / dimensions in mm
Derating curves

Outer diameter of contact 1.58 mm (pin, front view)
Outer diameter of contact 1.6 mm (pin, front view)

Outer diameter of contact 2.3 mm (pin, front view)

Outer diameter of contact 3 mm (pin, front view)

Outer diameter of contact 6 mm (pin, front view)
Outer diameter of contact 8 mm (pin, front view)

Outer diameter of contact 10 mm (pin, front view)
Assembly instructions G Series

Assembly of plugs:

Place components 6 through 10 on cable in sequence shown. Trim the individual cable conductors to the desired length and strip the insulation to a length of 7 mm (with cables AWG 20 ... 12) and 12 mm respectively (with cables AWG 10 ... 7). Terminate cable conductors to contacts (crimp, solder, screw-type), see ‘Assembly instructions contacts’.

Assembly of contact insert in plug:

Bring earth sleeve 3 into line with the centre of the plug shell 6 and press it in. Fit contact insert 2 / 2a into plug shell. Ensure key position for polarization is correct. Tighten with threaded ring 1 by means of assembly tool 12. Assembly of components for sealing 7, 8 and for strain relief 9 through 11: Before you screw the cable gland 9 to the back of the plug shell (tightening torque approx. 5 Nm) make sure that the connection of the individual conductors is not too tight and the cables are free from stress and strain.

Assembly of receptacles:

Fit contact insert 14 / 14a in receptacle shell. Ensure key position for polarization is correct. Tighten insert with threaded ring 13 by means of assembly tool 12.

Assembly of contact inserts in receptacles:

Reduced scale diagrams / dimensions in mm
Assembly instructions GM Series

Assembly of plugs:
Place components ♂, ♠, ♦ or ♣, ♦, ♠, ♠, ♦, ♠, ♣ on cable in sequence shown. Crimp stripped individual cable conductors to contacts ♦ or ♣. The edge of the insulation where the wire is stripped should abut on the point of crimping. Fit crimped contacts ♦ or ♣ into contact insert ♦ or ♠.

Make sure that clip is locked in place in contact insert. We recommend checking of the established contact. The contact retention test force is 40 N. Fit contact insert ♦ or ♠ into plug shell ♠. Take care that key position for polarization is correct.

Assembly instructions contacts

Crimped connection:

<table>
<thead>
<tr>
<th>Wire gauge</th>
<th>Crimp tool</th>
<th>Extraction tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5 ... 1.5 mm² / AWG 20 ... 14</td>
<td>SBZ Crimp tool</td>
<td>AWZ-A Extraction tool for contacts Type A</td>
</tr>
<tr>
<td>2.5 mm² / AWG 12</td>
<td>SBZ Crimp tool</td>
<td>AWZ-B Extraction tool for contacts Type B</td>
</tr>
<tr>
<td>4.0 ... 6.0 mm² / AWG 10 ... 9</td>
<td>SBZ Crimp tool</td>
<td>AWZ-C/H Extraction tool for contacts Type C/H</td>
</tr>
</tbody>
</table>

For connecting the protective conductor and the PE contact a 100 mm long additional green yellow earth wire is required. Crimp commercial cable lugs ♦ to protective conductor and other end of additional earth wire and fasten both cables with screw ♦ to the earth sleeve ♦ of the plug shell or directly to the receptacle shell ♦.

Fit crimped contacts ♦ or ♣ into contact insert ♦ or ♠ moving from centre to perimeter.

Soldered connections (AWG 20 ... 1):
- Solder contacts are pre-assembled in the factory and cannot be disassembled from the inserts by the user.
- Choose soldering iron and kind of accessories which ensure that only a short time is needed for soldering.
- The intended use of crimp contacts is that of a solderless connection. So do not use them for soldered connections.

Make sure that clip is locked in place in contact insert. We recommend checking of the established contacts. The contact retention test force is 40 N. For a better protection against contact a number of inserts come with a sleeve ♦ which is to be assembled in the shell together with the insert.
**Gxx MS Assembly tools for G18, G28, G42 and G57 Series**

**Ordering code** | **Description**
--- | ---
G18 MS | Assembly tool
G28 MS | Assembly tool
G42 MS | Assembly tool
G42 MS * | Assembly tool, special design
Tightening torque 15 Nm
G57 MS | Assembly tool
G57 MS ** | Assembly tool, special design
Tightening torque 20 Nm

Assembly tool, special design, for the following contact inserts:
* G42 E 35+PE/L-2
G42 E 3P+PE/L-2
G42 E 45+PE/L
G42 E 4P+PE/L
G42 E 65+PE/L-2
G42 E 6P+PE/L-2
** G57 E 35+2+PE/L
G57 E 3P+2+PE/L
G57 E 45+PE/L
G57 E 4P+PE/L

**AWZ-x, EWZ-E Extraction tool, insertion tool**

**AWZ-x** | Extraction tool
--- | ---

**EWZ-E** | Insertion tool

**Ordering code** | **Description**
--- | ---
AWZ-A | Extraction tool for crimp contacts, Type A
AWZ-B | Extraction tool for crimp contacts, Type B
AWZ-C/H | Extraction tool for crimp contacts, Type C and H
AWZ-G | Extraction tool for crimp contacts, Type G

**CWZ-600-1 Crimp tool**

**CWZ-600-1** | Crimp tool
--- | ---

**Ordering code** | **Crimp tool for**
--- | ---
CWZ-600-1 | Contacts SAC-x*, BAC-x*, SBC-x, BBC-x, SCC-x, BCC-x
* Do not use for contacts SAC-2.50-xx, BAC-2.50-xx

Tool frame M22520/1-01 and Turret M22520/1-02 (No fig.) | For contacts SAC-2.50-xx, BAC-2.50-xx only!
Crimp tool and turret from DMC or Buchanan.
Order direct from OEM.
Mounting holes for panel mount receptacles:

- **G18 Series**
  - Ø4.5 or M4
  - 28

- **G28 Series**
  - Ø4.5 or M4
  - 36

- **G42 Series**
  - Ø4.5 or M4
  - 20.5

- **G57 Series**
  - Ø6.5 or M6
  - 28.5

**Mounting instructions:**

- Please refer to the diagrams shown for the dimensions of the mounting holes as required for panel mount and bulkhead receptacles.
- Cutouts for protective conductors of G28 and G42 connectors are only required for panels and bulkheads thicker than 3 mm. With thickness > 12 mm please observe the required clearance and creepage distances.
Electrical Components and Systems for
Railway Engineering and Industrial Applications

Connectors
- Connectors manufactured to industry standards
- Connectors to suit the special requirements of communications engineering (MIL connectors)
- Charging connectors for battery-powered machines and systems
- Connectors for railway engineering, including UIC connectors
- Special connectors to suit customer requirements

Snap-action switches
- Snap-action switches with positive opening operation
- Snap-action switches with self-cleaning contacts
- Enabling switches
- Special switches to suit customer requirements

Contactors
- Single and multi-pole DC contactors
- High-voltage AC/DC contactors
- Contactors for battery powered vehicles and power supplies
- Contactors for railway applications
- Terminal bolts and fuse holders
- DC emergency stop switches
- Special contactors to suit customer requirements

Control devices
- Master controllers and reversers for railway applications
- Toggle switch devices
- Handles and foot switches for railway applications (dead-man equipment)
- Switching elements with high breaking capacity
- Emergency brake handles
- Signal devices

Transportation system equipment
- Power supplies for passenger coaches (electric equipment)
- Battery chargers for locomotives and passenger coaches
- High-voltage equipment for single and multi-phase operation
- Heating devices and heating controls
- Design and engineering services for high-voltage equipment
- Special equipment to suit customer requirements

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Schaltbau GmbH manufactures in compliance with RoHS.
The production facilities of Schaltbau GmbH have been IRIS certified since 2008. Certified to DIN EN ISO 14001 since 2002. For the most recent certificate visit our website. Certified to DIN EN ISO 9001 since 1994. For the most recent certificate visit our website.

We reserve the right to make technical alterations without prior notice. For updated product information visit www.schaltbau-gmbh.de. Issued 05-2020.