

# 1

## 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

Series G, GM

- **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
  - Inserts:
    - Series G:  
High-temperature thermoset
    - Series GM:  
High-temperature thermoset, thermoplastic
  - Shells:
    - Series G:  
Aluminium die-cast alloy, hammer-tone enameled: noncorrosive, impact resistant, shock-, dust-, and splash-proof
    - Series GM:  
Polyamide-6, noncorrosive, impact resistant, dustproof and sealed against pressurised water, UL-listed

## Applications, Variants, Standards

Series G, GM

### Applications

G Series connectors are specifically designed for applications where reliability under difficult conditions is paramount. The hammer-toned enameled 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 G, GM

- **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



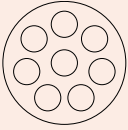
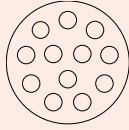
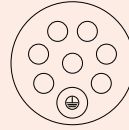
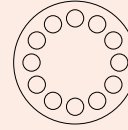
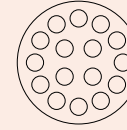
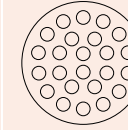
G18, G28 and G42 Series connectors



G57 and GM42 Series connectors

**Specifications**

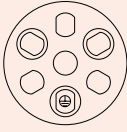
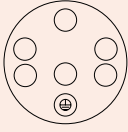
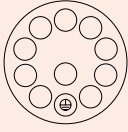
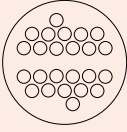
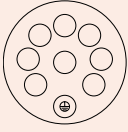
Series G18

Series	G18			G28		
Number of contacts ▶	8 pole	12 pole	7 pole + PE	12 pole	16 pole	24 pole
<b>Contact arrangement</b>						
Contact identification marked on insert: Pin insert: Rear view Socket insert: Front view	<pre> 7 1 2 6 8 3 5 4           </pre>	<pre> 9 1 2 8 10 12 3 7 11 4 6 5           </pre>	<pre> 6 1 5 7 2 4 PE 3           </pre>	<pre> 12 1 2 3 11 10 9 8 7 6 5 4           </pre>	<pre> 12 1 2 11 16 13 3 10 15 14 5 9 8 7 6           </pre>	<pre> 14 1 2 13 22 15 3 12 21 23 16 4 11 20 24 17 5 10 19 18 6 9 8 7           </pre>
Rated voltage (IEC 60038) at pollution degree 3 (IEC 60512)	25 V	25 V	230 V/400 V PE contact	42 V	42 V	42 V
Key positions (polarization)	2	2	5	5	5	5
<b>Contacts</b> Maximum rated current of individual contact, see also page 44	8x 16 A	12x 7.5 A	7 x 20 A	12 x 16 A	16 x 16 A	24 x 7.5 A
Outer diameter of contact/ Contact type/size (crimp contacts)	∅ 1.58 mm A	∅ 1.58 mm ---	∅ 2.3 mm B	∅ 1.58 mm ---	∅ 1.58 mm ---	∅ 1.58 mm ---
<b>PE contact *</b> Diameter solder contacts Diameter screw-type contacts Contact type/size (crimp contacts)	---	---	∅ 3 mm ---	---	---	---
<b>Anschlussquerschnitt und Bemessungsstrom der Einzelkontakte</b> Solder contacts: 0.50 mm <sup>2</sup> /AWG 20 0.75 mm <sup>2</sup> .. 1.00 mm <sup>2</sup> /AWG 18 .. 17 1.50 mm <sup>2</sup> /AWG 15 2.50 mm <sup>2</sup> /AWG 13 4 mm <sup>2</sup> /AWG 11 6 mm <sup>2</sup> /AWG 9 16 mm <sup>2</sup> /AWG 5 35 mm <sup>2</sup> /AWG 1	---	7.5 A (socket) 7.5 A (pin)	---	---	---	7.5 A (socket) 7.5 A (pin)
Crimp contacts: 0.50 mm <sup>2</sup> /AWG 20 0.75 mm <sup>2</sup> .. 1.00 mm <sup>2</sup> /AWG 18 ... 17 1.50 mm <sup>2</sup> /AWG 15 2.50 mm <sup>2</sup> /AWG 13 4 mm <sup>2</sup> /AWG 11 6 mm <sup>2</sup> /AWG 9	---	---	7.5 A 10 A 16 A 27.5 A 35 A 35 A	---	---	---
Contact resistance (IEC 60512-2)	< 10 mΩ			< 10 mΩ		
Insulation resistance (IEC 60512-2)	> 500 MΩ			> 500 MΩ		
Range of operating temperature **	-25° C ... 100° C			-25° C ... 100° C		
Degree of protection when mated or coupled (IEC 60529)	IP54			IP54		
Test standard (IEC 60068-1) (t <sub>min</sub> <sup>°C</sup> /t <sub>max</sub> <sup>°C</sup> /t <sub>testing</sub> time[days])	-25/100/21			-25/100/21		
Mechanical endurance (mating cycles) (IEC 60512-5, test 9a)	5,000			5,000		
Contact retention (crimp contacts)	> 75 N	--- ***	> 75 N	--- ***	--- ***	--- ***
<b>Materials</b> Shells Inserts Flammability rating Seals	Aluminium die-cast alloy Polyamide-6 / thermoset UL 94-V0 Perbunane, neoprene			Aluminium die-cast alloy Polyamide-6 / thermoset UL 94-V0 Perbunane, neoprene		
<b>Contacts</b> Solder contacts Crimp contacts Plating: Solder contacts Crimp contacts	Brass Copper wrought alloy Ag Ag (Au on request)			Brass Copper wrought alloy Ag 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

## Specifications

Series G28

Series	G42 Fortsetzung				G42/GM42
Number of contacts ▶	6 pole + PE	6 pole + PE	8 pole + PE	24 pole	6+2 pole + PE
<b>Contact arrangement</b>					
Contact identification marked on insert: Pin insert: Rear view Socket insert: Front view	5 4 6 1 3 PE 2	9 7 2 6 11 3 PE	8 9 1 7 2 6 11 3 PE	2 5 6 7 8 9 10 11 12 13 14 15 22 23 24 25 26 27 28 29 30 31 32 35	2 3 4 1 9 5 P1 PE P2
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	500 V PE contact
Key positions (polarization)	5	5	5	5	5
<b>Contacts</b> Maximum rated current of individual contact, see also page 44 Outer diameter of contact/ Contact type/size (crimp contacts)	6 x 63 A ∅ 6 mm	6 x 20 A ∅ 3 mm	8 x 20 A ∅ 3 mm	24 x 10 A ∅ 1.58 mm	8 x 25 A ∅ 3 mm H
<b>PE contact *</b> Diameter solder contacts Diameter screw-type contacts Contact type/size (crimp contacts)	∅ 6 mm --- ---	∅ 3 mm --- ---	∅ 3 mm --- ---	--- --- ---	--- --- H
<b>Anschlussquerschnitt und Bemessungsstrom der Einzelkontakte</b> Solder contacts: 0.50 mm <sup>2</sup> /AWG 20 0.75 mm <sup>2</sup> .. 1.00 mm <sup>2</sup> /AWG 18 .. 16 1.50 mm <sup>2</sup> /AWG 14 2.50 mm <sup>2</sup> /AWG 12 4 mm <sup>2</sup> /AWG 10 6 mm <sup>2</sup> /AWG 9 16 mm <sup>2</sup> /AWG 5 35 mm <sup>2</sup> /AWG 1 Crimp contacts: 0.50 mm <sup>2</sup> /AWG 20 0.75 mm <sup>2</sup> .. 1.00 mm <sup>2</sup> /AWG 18 ... 16 1.50 mm <sup>2</sup> /AWG 14 2.50 mm <sup>2</sup> /AWG 12 4 mm <sup>2</sup> /AWG 10 6 mm <sup>2</sup> /AWG 9	--- --- --- --- --- 80 A	--- --- --- --- 35 A ---	--- --- --- 35 A ---	--- --- 16 A --- ---	--- --- --- --- 10 A 16 A 27.5 A 35 A 50 A
Contact resistance (IEC 60512-2)	< 10 mΩ				< 10 mΩ
Insulation resistance (IEC 60512-2)	> 500 MΩ				> 500 MΩ
Range of operating temperature **	-25° C ... 100° C				-25° C ... 100° C
Degree of protection when mated or coupled (IEC 60529)	IP54 / IP67				IP67
Test standard (IEC 60068-1) (t <sub>min</sub> [°C]/t <sub>max</sub> [°C]/t <sub>testing</sub> time[days])	-25/100/21				-25/100/21
Mechanical endurance (mating cycles) (IEC 60512-5, test 9a)	5,000				5,000
Contact retention (crimp contacts)	--- ***	> 75 N	> 75 N	> 75 N	> 40 N
<b>Materials</b> Shells Inserts Flammability rating Seals	Aluminium die-cast alloy Polyamide-6 / thermoset UL 94-V0 Perbunane, neoprene				
<b>Contacts</b> Solder contacts Crimp contacts Plating: Solder contacts Crimp contacts	Brass Copper wrought alloy Ag 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

**Specifications**

Series G42, GM42

Baureihe	G42/GM42				GM42
Number of contacts ▶	10 pole + PE	12 pole + PE	14 pole + PE	20 pole + PE	64 pole + PE
<b>Contact arrangement</b>					
Contact identification marked on insert: Pin insert: Rear view Socket insert: Front view					
Rated voltage (IEC 60038) at pollution degree 3 (IEC 60512)	500 V PE contact	230 V/400 V PE contact	230 V/400 V PE contact	230 V/400 V PE contact	25 V / 3x 230 V/400 V PE contact
Key positions (polarization)	5	5	5	5	5
<b>Contacts</b> 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)	∅ 2.3 mm	∅ 3 mm H	∅ 2.3 mm B	∅ 1.58 mm A	∅ 1.6 mm G
<b>PE contact *</b> Diameter solder contacts Diameter screw-type contacts Contact type/size (crimp contacts)	∅ 3 mm	∅ 3 mm --- H	∅ 3 mm --- H	∅ 3 mm --- H	∅ 1.6 mm --- G
<b>Anschlussquerschnitt und Bemessungsstrom der Einzelkontakte</b> Solder contacts: 0.50 mm <sup>2</sup> /AWG 20 0.75 mm <sup>2</sup> .. 1.00 mm <sup>2</sup> /AWG 18 .. 16 1.50 mm <sup>2</sup> /AWG 14 2.50 mm <sup>2</sup> /AWG 12 4 mm <sup>2</sup> /AWG 10 6 mm <sup>2</sup> /AWG 9 16 mm <sup>2</sup> /AWG 5 35 mm <sup>2</sup> /AWG 1 Crimp contacts: 0.50 mm <sup>2</sup> /AWG 20 0.75 mm <sup>2</sup> .. 1.00 mm <sup>2</sup> /AWG 18 ... 16 1.50 mm <sup>2</sup> /AWG 14 2.50 mm <sup>2</sup> /AWG 12 4 mm <sup>2</sup> /AWG 10 6 mm <sup>2</sup> /AWG 9	--- --- --- 27.5 A --- --- --- ---	--- --- --- 35 A --- --- --- ---	--- --- --- 27.5 A --- --- --- ---	--- --- --- 16 A --- --- --- ---	--- --- --- --- --- --- --- ---
Contact resistance (IEC 60512-2)	< 10 mΩ				< 10 mΩ
Insulation resistance (IEC 60512-2)	> 500 MΩ				> 500 MΩ
Range of operating temperature **	-25° C ... 100° C				-25° C ... 100° C
Degree of protection when mated or coupled (IEC 60529)	IP54 / IP67				IP67
Test standard (IEC 60068-1) (t <sub>min</sub> <sup>°C</sup> /t <sub>max</sub> <sup>°C</sup> /t <sub>testing</sub> time[days])	-25/100/21				-25/100/21
Mechanical endurance (mating cycles) (IEC 60512-5, test 9a)	5,000				500
Contact retention (crimp contacts)	--- ***	> 75 N	> 75 N	> 75 N	> 40 N
<b>Materials</b> Shells Inserts Flammability rating Seals	Aluminium die-cast alloy Polyamide-6 / thermoset UL 94-V0 Perbunane, neoprene				
<b>Contacts</b> Solder contacts Crimp contacts Plating: Solder contacts Crimp contacts	Brass Copper wrought alloy Ag Ag				

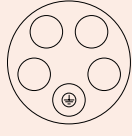
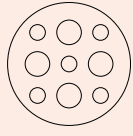
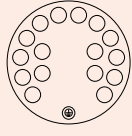
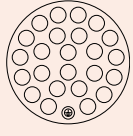
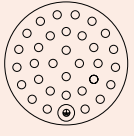
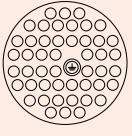
\* PE = Protective conductor terminal

\*\* 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

**Specifications**

Series G57, GM57

Baureihe	G57					
	4 pole + PE	4+5 pole	16 pole + PE	24 pole + PE	32 pole + PE	48 pole + PE
<b>Contact arrangement</b>						
Contact identification marked on insert: Pin insert: Rear view Socket insert: Front view	<pre> 4   1    2 3   PE </pre>	<pre> 8   1   5    4   9   2    7   3   6 </pre>	<pre> 13 14 1 2 12 22 15 3 11 21 16 4 10 20 17 5 9   PE 6 </pre>	<pre> 13 14 1 2 12 22 15 3 11 21 23 16 4 10 20 24 17 5 9   19 18 6 8   PE 7 </pre>	<pre> 15 16 1 2 14 27 28 17 3 13 26 32 18 4 12 25 31 29 19 5 11 24 30 20 6 10 23 22 21 7 9   PE 8 </pre>	<pre> 37 38 39 36 19 20 21 22 40 35 18 5 6 7 8 23 41 34 17 4 11 9 24 42 33 16 3 2 PE 10 25 43 32 15 14 13 12 11 26 44 31 30 29 28 27 45 48 47 46 </pre>
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	230 V/400 V PE contact
Key positions (polarization)	4	4	4	4	4	4
<b>Contacts</b> Maximum rated current of individual contact, see also page 44 Outer diameter of contact/ Contact type/size (crimp contacts)	4 x 100 A ∅ 10 mm	4 x 50 A 5 x 35 A ∅ 8 mm ∅ 3 mm	16 x 20 A ∅ 3 mm	24 x 20 A ∅ 3 mm	32 x 16 A ∅ 1.58 mm A	48 x 7.5 A ∅ 2.3 mm B
<b>PE contact *</b> Diameter solder contacts Diameter screw-type contacts Contact type/size (crimp contacts)	∅ 10 mm --- ---	--- --- ---	∅ 3 mm --- ---	∅ 3 mm --- ---	∅ 3 mm --- H	∅ 3 mm --- H
<b>Anschlussquerschnitt und Bemessungsstrom der Einzelkontakte</b> Solder contacts: 0.50 mm <sup>2</sup> /AWG 20 0.75 mm <sup>2</sup> .. 1.00 mm <sup>2</sup> /AWG 18 .. 16 1.50 mm <sup>2</sup> /AWG 14 2.50 mm <sup>2</sup> /AWG 12 4 mm <sup>2</sup> /AWG 10 6 mm <sup>2</sup> /AWG 9 16 mm <sup>2</sup> /AWG 5 35 mm <sup>2</sup> /AWG 1 Crimp contacts: 0.50 mm <sup>2</sup> /AWG 20 0.75 mm <sup>2</sup> .. 1.00 mm <sup>2</sup> /AWG 18 ... 16 1.50 mm <sup>2</sup> /AWG 14 2.50 mm <sup>2</sup> /AWG 12 4 mm <sup>2</sup> /AWG 10 6 mm <sup>2</sup> /AWG 9	--- --- --- --- 50 A 80 A 110 A	--- --- --- 35 A 50 A --- ---	--- --- --- 35 A --- ---	--- --- --- 35 A --- ---	--- --- 27.5 A --- --- ---	--- --- --- --- --- --- 7.5 A 10 A 16 A 16 A 27.5 A 35 A 35 A
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					
Test standard (IEC 60068-1) (t <sub>min</sub> [°C]/t <sub>max</sub> [°C]/t <sub>testing</sub> time[days])	-25/100/21					
Mechanical endurance (mating cycles) (IEC 60512-5, test 9a)	5,000					
Contact retention (crimp contacts)	--- ***	--- ***	--- ***	--- ***	> 75 N	> 75 N
<b>Materials</b> Shells Inserts Flammability rating Seals	Aluminium die-cast alloy Polyamide-6 / thermoset UL 94-V0 Perbunane, neoprene					
<b>Contacts</b> Solder contacts Crimp contacts Plating:	Brass Copper wrought alloy Ag Ag					

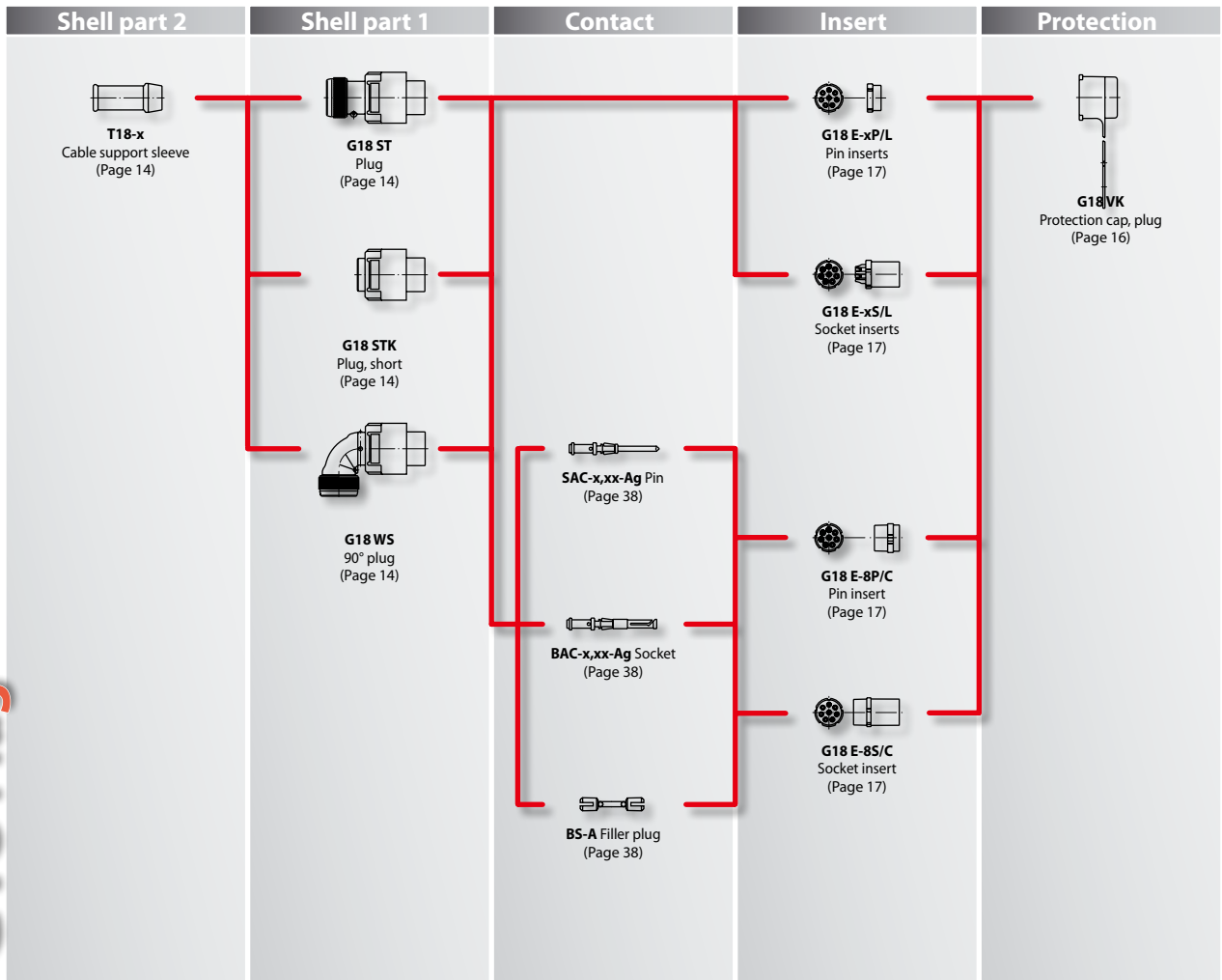
\* PE = Protective conductor terminal

\*\* Operating temperatures exceeding 25° C account for lower rated current values, see derating diagrams on page 39.

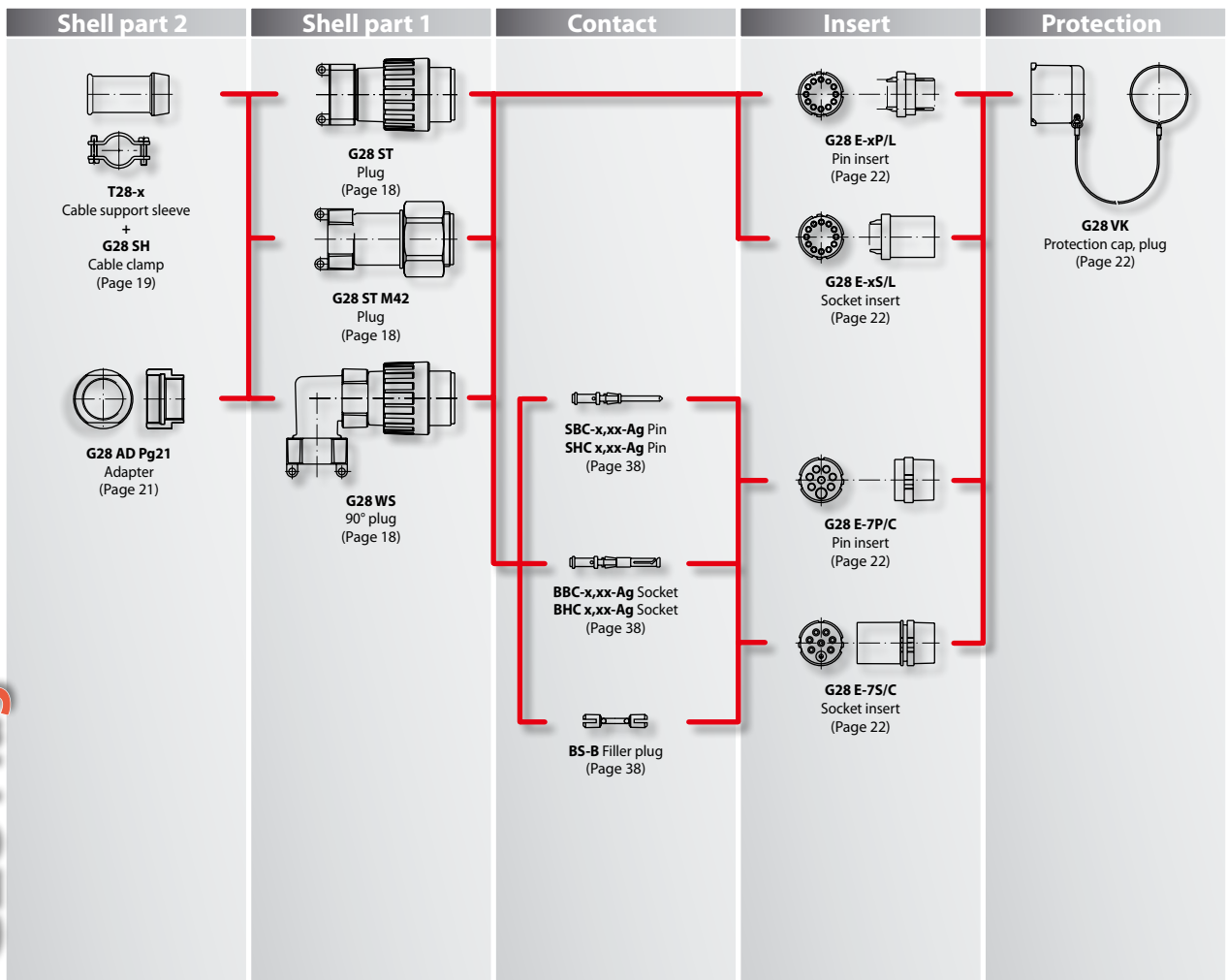
\*\*\* Soldering and screw type contacts are permanently mounted in the insert



**G18 Plug**



**G28 Plug**

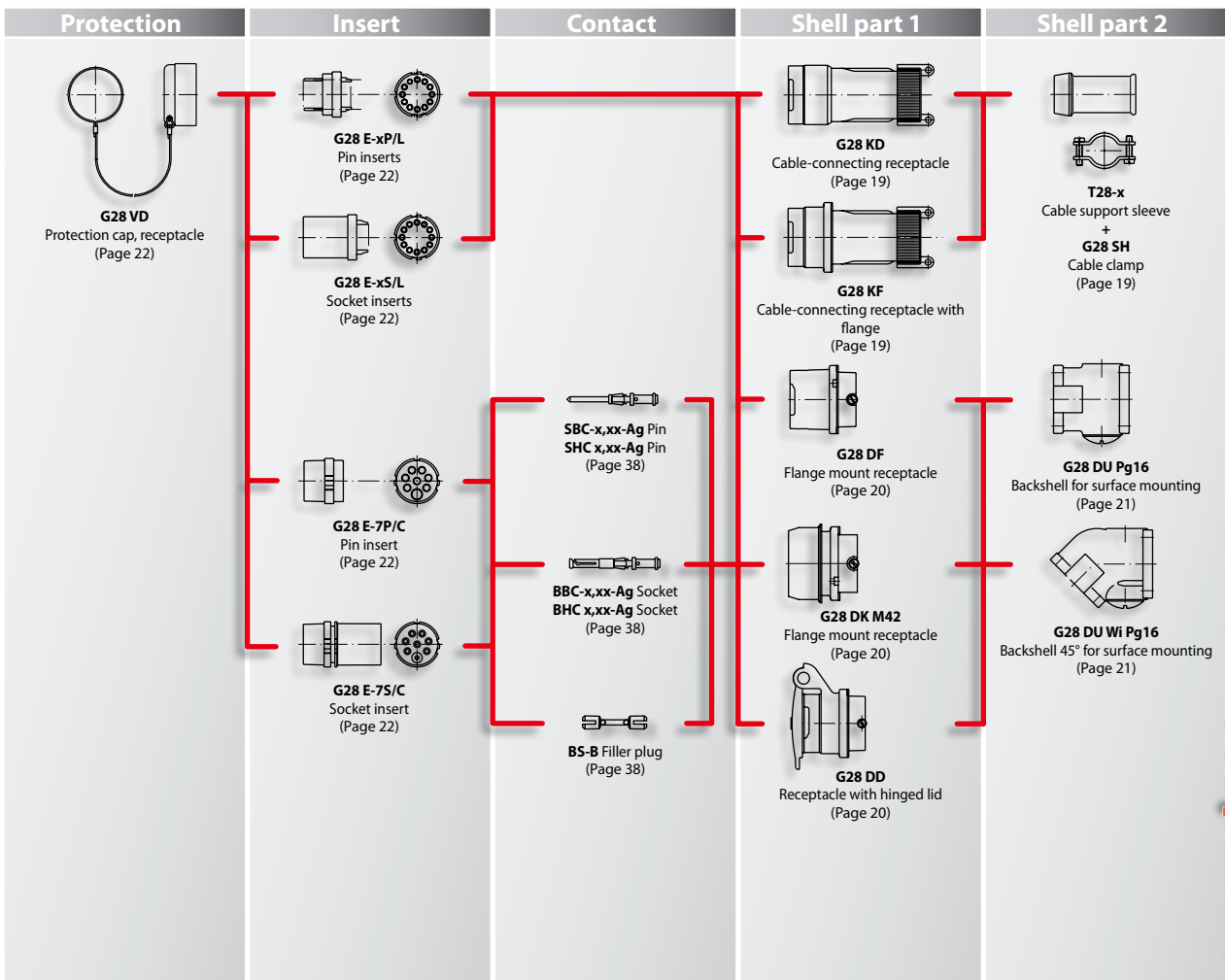
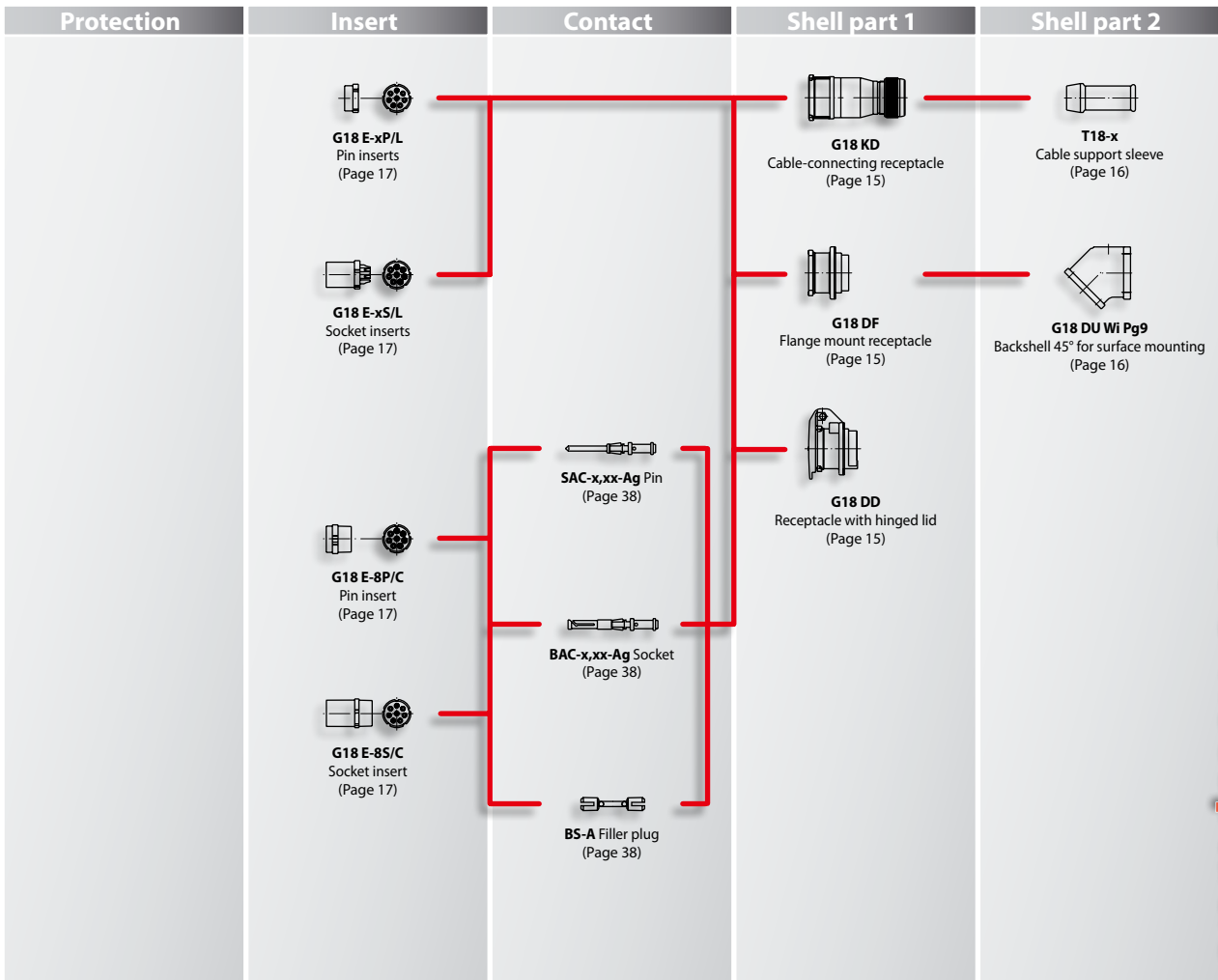




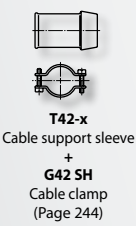

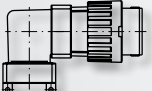

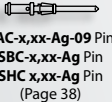
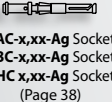


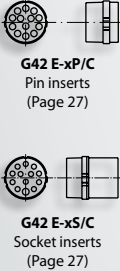




**G18 Receptacle**

**G28 Receptacle**

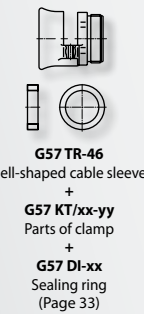

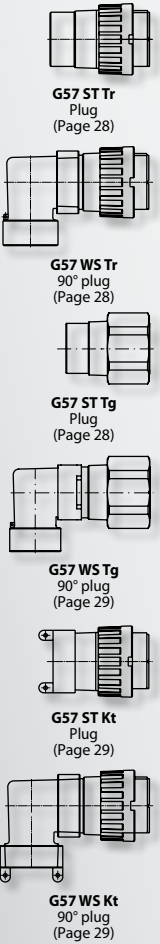
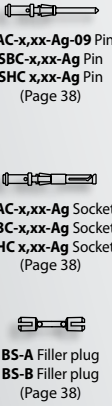

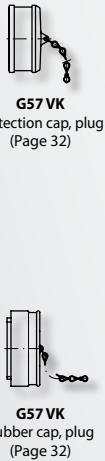
**OVERVIEW**

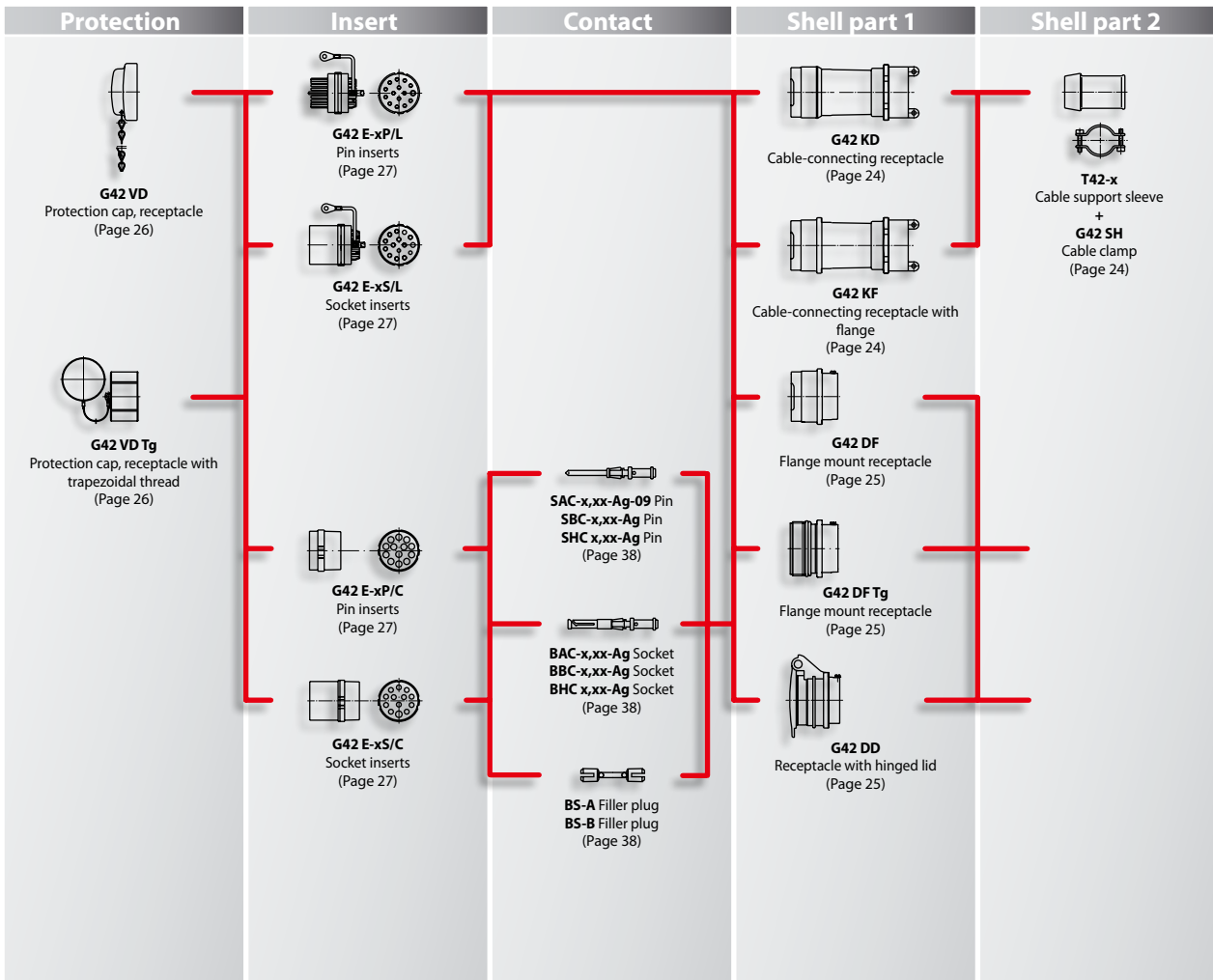


**G42 Plug**

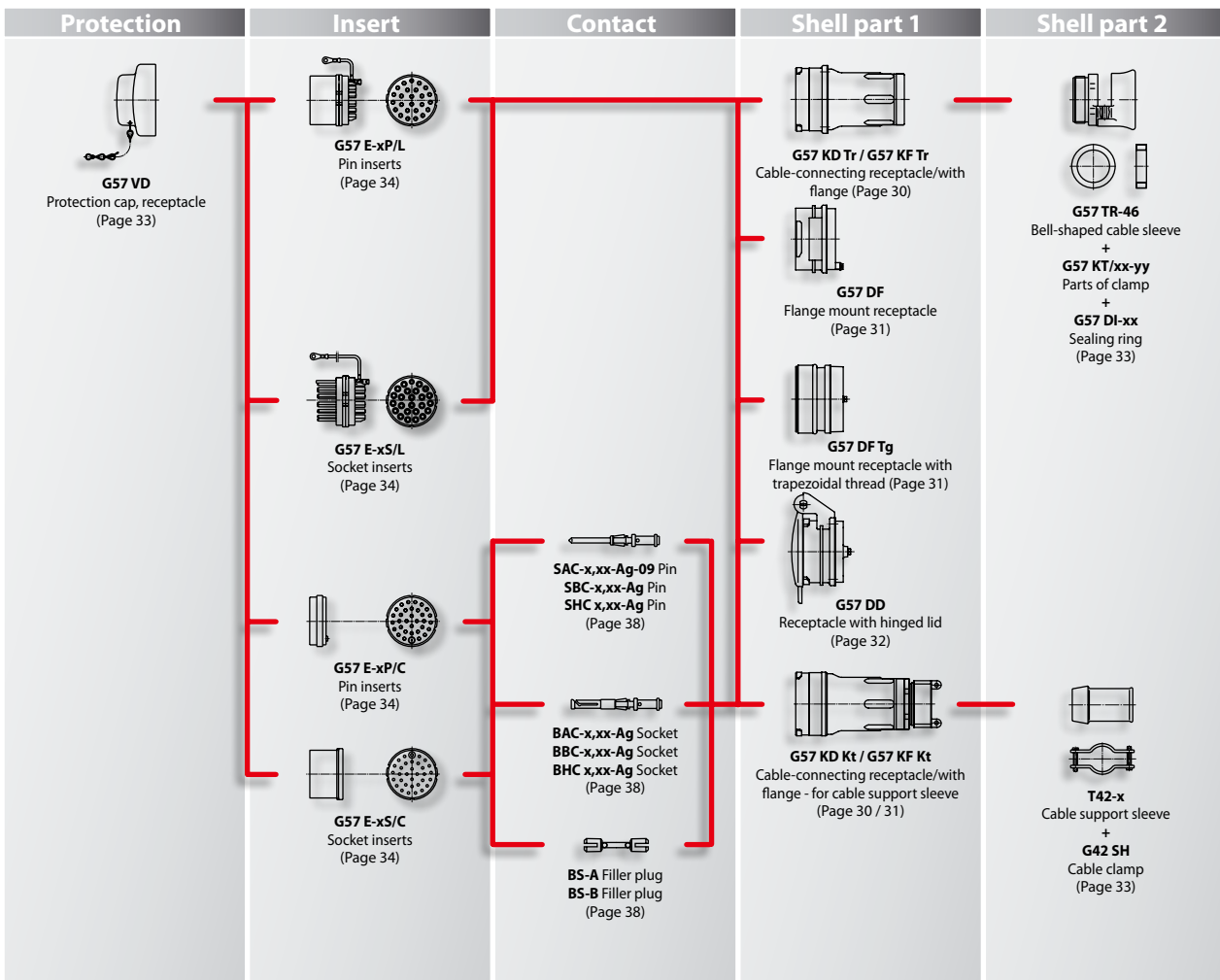
Shell part 2	Shell part 1	Contact	Insert	Protection
 <p><b>T42-x</b> Cable support sleeve + <b>G42 SH</b> Cable clamp (Page 244)</p>	 <p><b>G42 ST</b> Plug (Page 23)</p>  <p><b>G42 WS</b> 90° plug (Page 23)</p>  <p><b>G42 WS Tg</b> 90° plug (Page 23)</p>	 <p><b>SAC-x,xx-Ag-09</b> Pin <b>SBC-x,xx-Ag</b> Pin <b>SHC x,xx-Ag</b> Pin (Page 38)</p>  <p><b>BAC-x,xx-Ag</b> Socket <b>BBC-x,xx-Ag</b> Socket <b>BHC x,xx-Ag</b> Socket (Page 38)</p>  <p><b>BS-A</b> Filler plug <b>BS-B</b> Filler plug (Page 38)</p>	 <p><b>G42 E-xP/L</b> Pin inserts (Page 27)</p>  <p><b>G42 E-xP/C</b> Pin inserts (Page 27)</p>  <p><b>G42 E-xS/C</b> Socket inserts (Page 27)</p>	 <p><b>G42 VK</b> Protection cap, plug (Page 26)</p>  <p><b>G42 VK Ke</b> Protection cap, plug (Page 26)</p>  <p><b>G42 GK</b> Protection cap, plug (Page 26)</p>

**G57 Plug**

Shell part 2	Shell part 1	Contact	Insert	Protection
 <p><b>G57 TR-46</b> Bell-shaped cable sleeve + <b>G57 KT/xx-yy</b> Parts of clamp + <b>G57 DI-xx</b> Sealing ring (Page 33)</p>  <p><b>T42-x</b> Cable support sleeve + <b>G57 SH</b> Cable clamp (Page 33)</p>	 <p><b>G57 ST Tr</b> Plug (Page 28)</p> <p><b>G57 WS Tr</b> 90° plug (Page 28)</p> <p><b>G57 ST Tg</b> Plug (Page 28)</p> <p><b>G57 WS Tg</b> 90° plug (Page 29)</p> <p><b>G57 ST Kt</b> Plug (Page 29)</p> <p><b>G57 WS Kt</b> 90° plug (Page 29)</p>	 <p><b>SAC-x,xx-Ag-09</b> Pin <b>SBC-x,xx-Ag</b> Pin <b>SHC x,xx-Ag</b> Pin (Page 38)</p> <p><b>BAC-x,xx-Ag</b> Socket <b>BBC-x,xx-Ag</b> Socket <b>BHC x,xx-Ag</b> Socket (Page 38)</p> <p><b>BS-A</b> Filler plug <b>BS-B</b> Filler plug (Page 38)</p>	 <p><b>G57 E-xP/L</b> Pin inserts (Page 34)</p> <p><b>G57 E-xS/L</b> Socket inserts (Page 34)</p> <p><b>G57 E-xP/C</b> Pin inserts (Page 34)</p> <p><b>G57 E-xS/C</b> Socket inserts (Page 34)</p>	 <p><b>G57 VK</b> Protection cap, plug (Page 32)</p> <p><b>G57 VK</b> Rubber cap, plug (Page 32)</p>

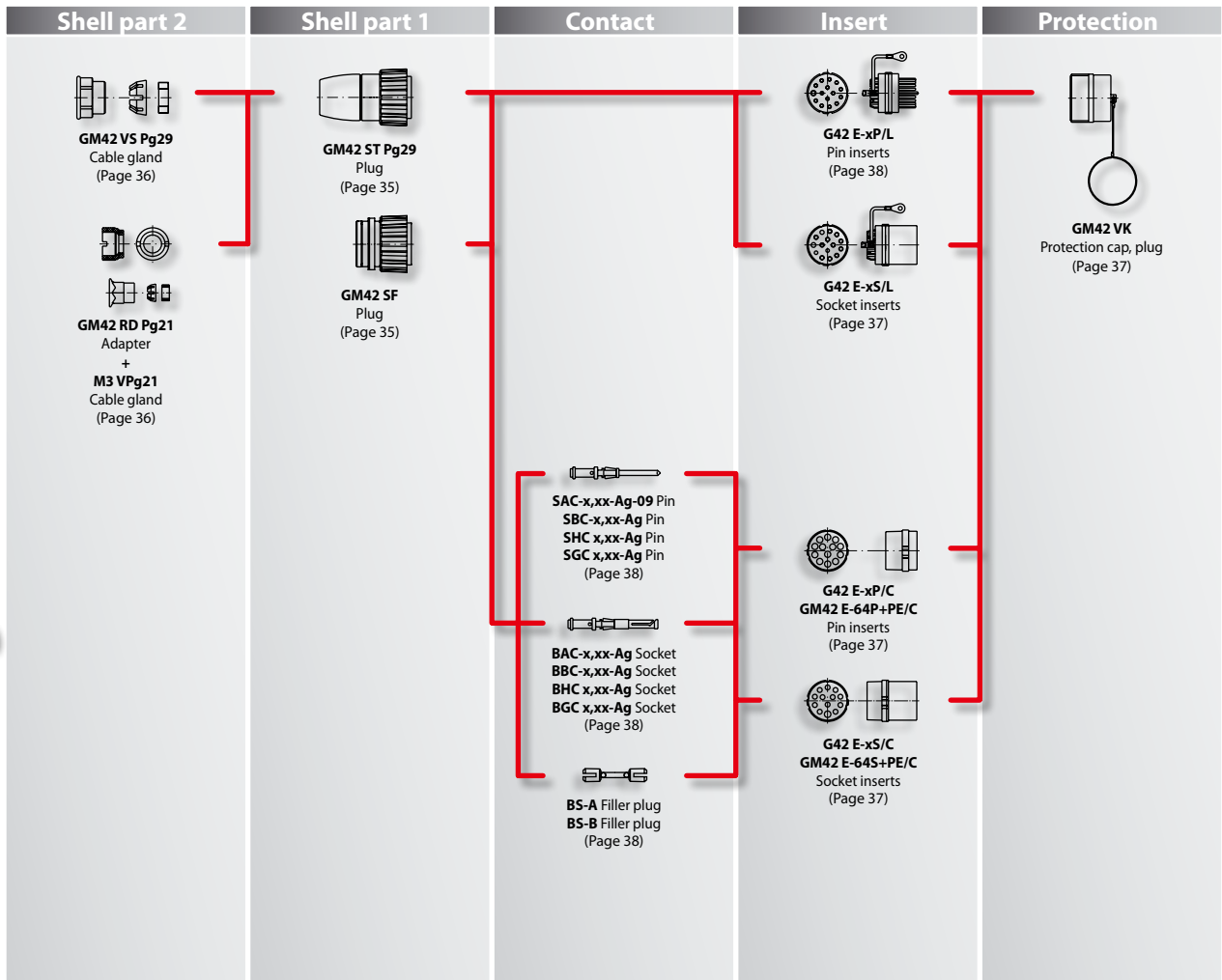


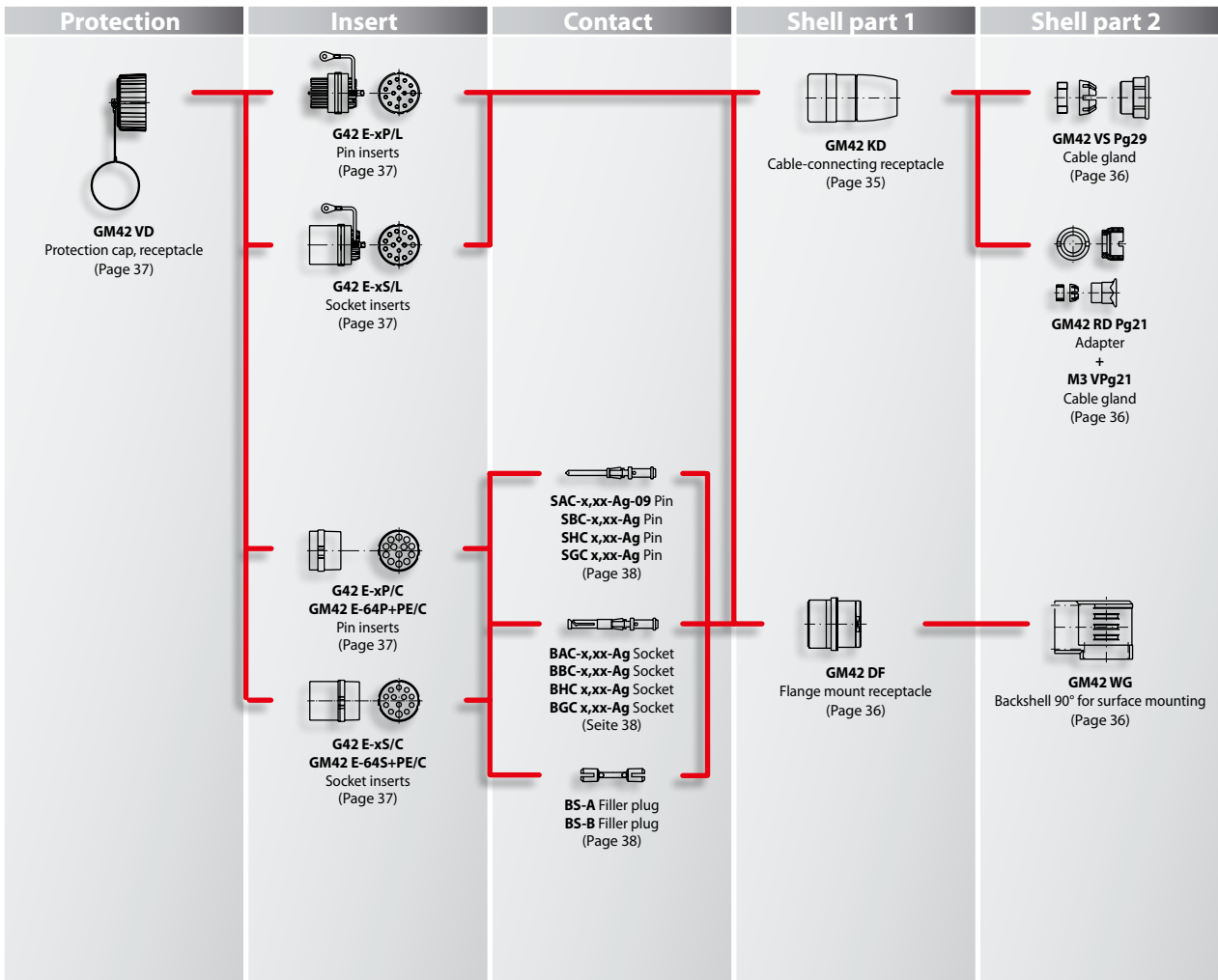
**G42 Receptacle**



**G57 Receptacle**

**GM42 Plug**





**GM42 Receptacle**

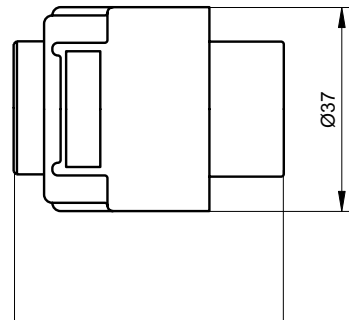
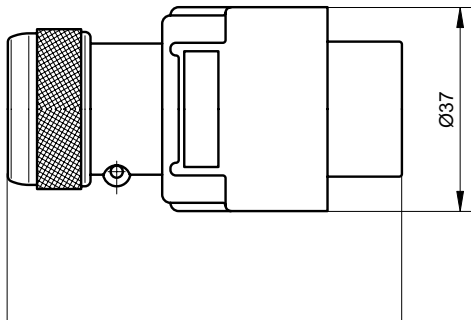
**G18 ST Plug**

Series G18

**G18 ST Plug**

**G18 STK Plug short**

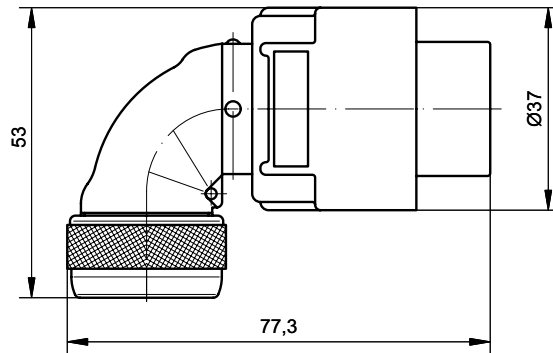
Shell part 1



**G18 WS 90° plug**

Series G18

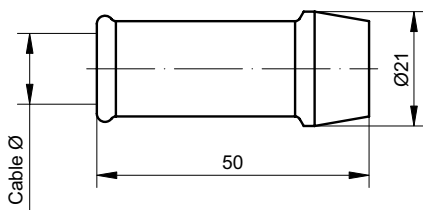
Shell part 1



**T18-X Cable support sleeve**

Series G18

Shell part 2



Ordering code	Cable diameter [mm]
T18-7,5	7.5
T18-8,5	8.5
T18-11,5	11.5
T18-14,5	14.5

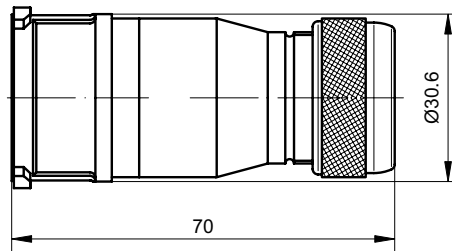
**Note:**

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

**G18 KD Cable-connecting receptacle**

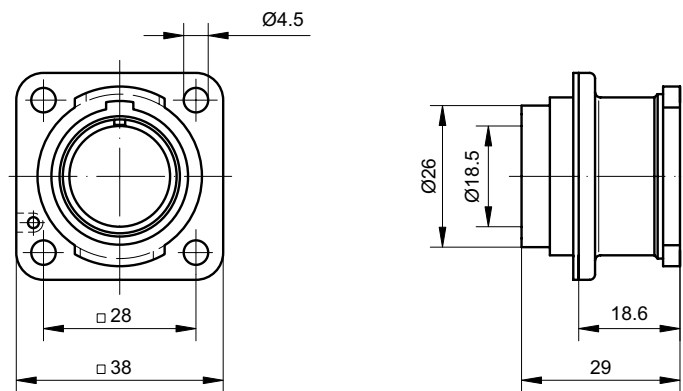
Series G18

Shell part 1


**G18 DF Flange mount receptacle**

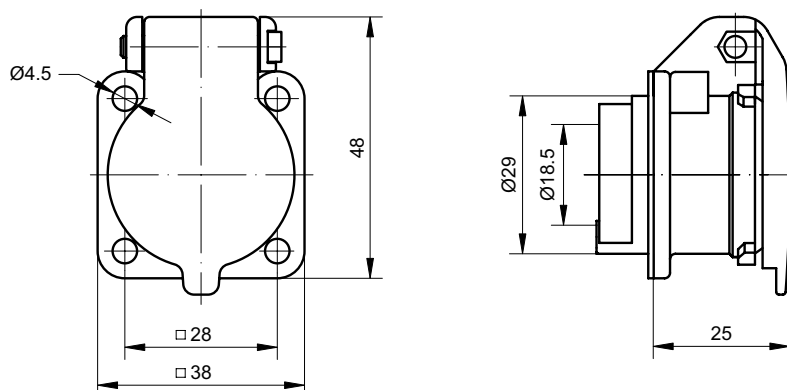
Series G18

Shell part 1


**G18 DD Receptacle with hinged lid**

Series G18

Shell part 1

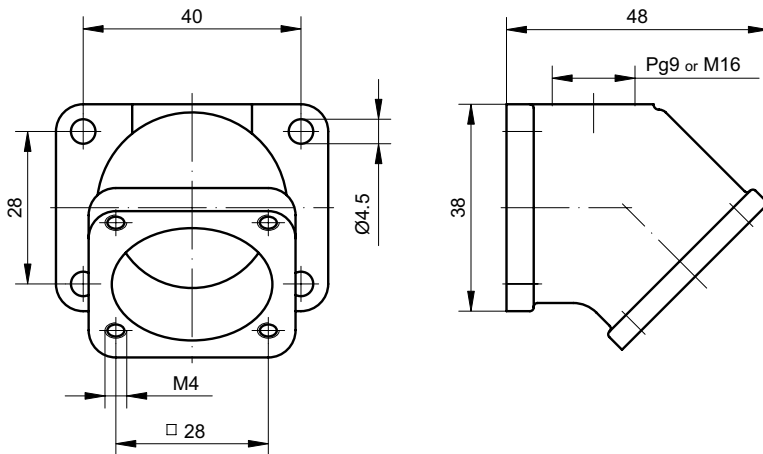




**G18 DU Wi Pg9** Backshell 45° for surface mounting

Series G18

Shell part 2



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.

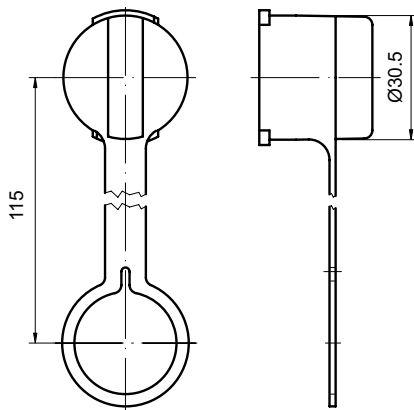
The flange mounted receptacle and 45° backshell are sealed to IP54..

**G18 VK** Protection cap for plugs

Series G18

**G18 VK** Protection cap for plugs

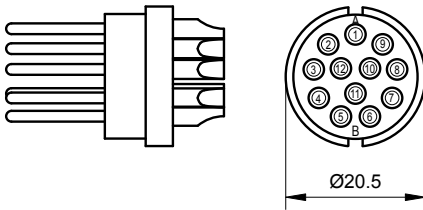
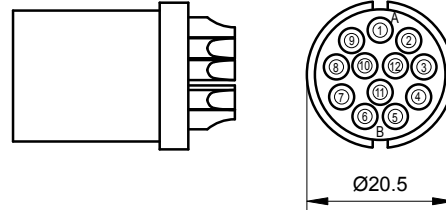
Protection

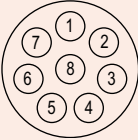
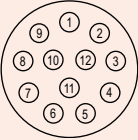


**G18 E-8P/12P** Pin inserts 8/12 pole  
**G18 E-8S/12S** Socket inserts 8/12 pole

Series G18

Inserts

Pin insert **G18 E-12P/L**Socket insert **G18 E-12S/L**

Connector type	G18 Series	
	8 pole	12 pole
Number of contacts	8 pole	12 pole
<b>Contact arrangement</b>		
Contact identification marked on insert:		
Pin insert: Rear view Socket insert: Front view		
<b>Ordering code</b>		
Pin inserts - solder contacts	---	<b>G18 E-12P/L</b>
Socket inserts - solder contacts	---	<b>G18 E-12S/L</b>
Pin inserts - crimp contacts	<b>G18 E-8P/C*</b>	---
Socket inserts - crimp contacts	<b>G18 E-8S/C*</b>	---
<b>Rated voltage</b> (IEC 60038) at pollution degree 3 (IEC 60512)	25 V	25 V
<b>Key positions (polarization)</b>	2	2
<b>Contacts **</b>		
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	---

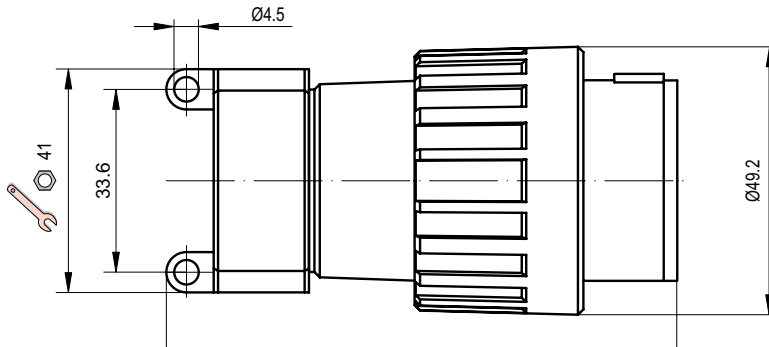
\* If implemented accordingly, the 8 pole insert for crimp contacts is intermateable with the 3 pole and 4 pole insert for solder contacts

\*\* 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**

Series G28

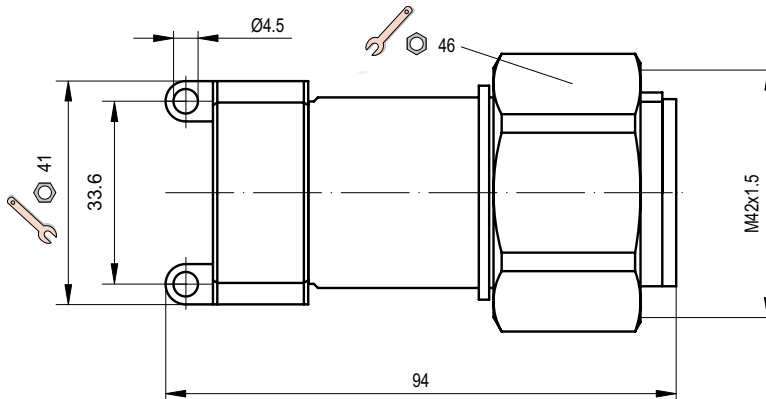
Shell part 1



**G28 ST M42 Plug with thread M42x1.5**

Series G28

Shell part 1

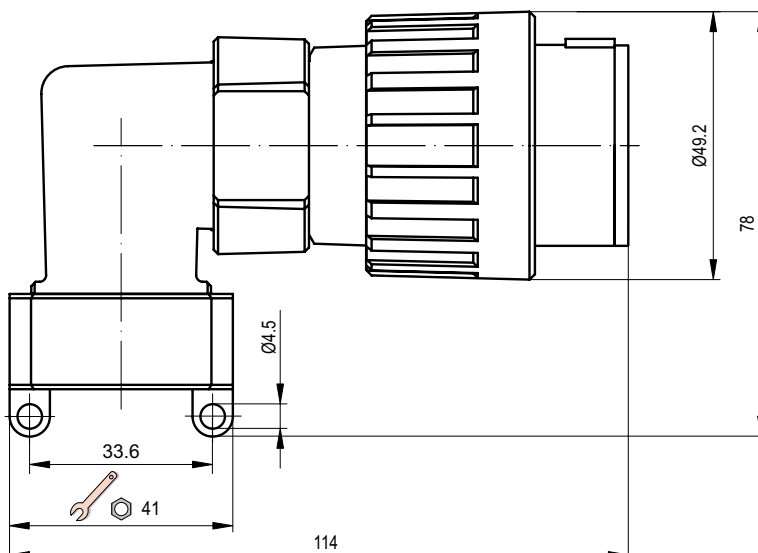


**Note:**  
This plug can only be used with the corresponding receptacle **G28 DK M42**. The mated connector is sealed to **IP67**.

**G28 WS 90° plug**

Series G28

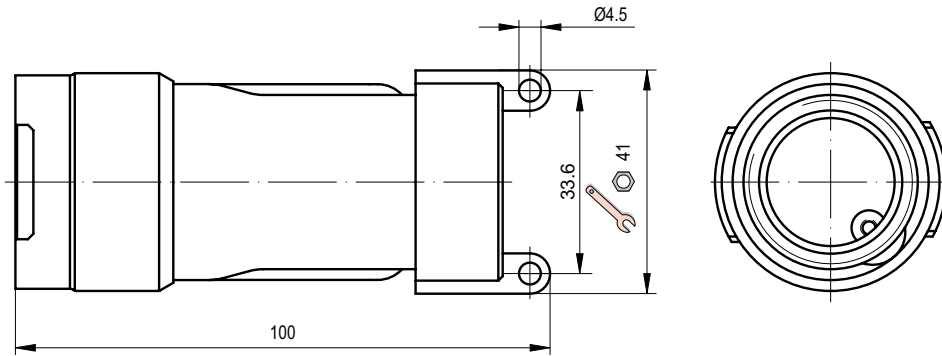
Shell part 1



**G28 KD** Cable-connecting receptacle

Series G28

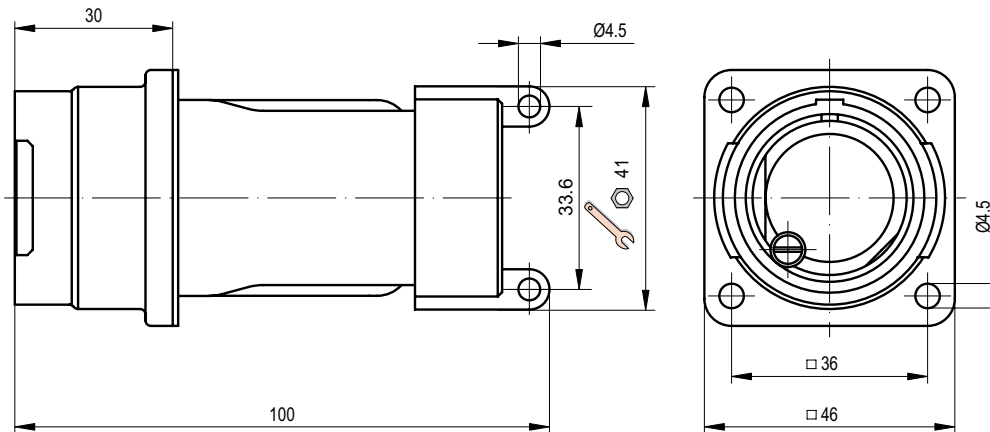
Shell part 1



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

Series G28

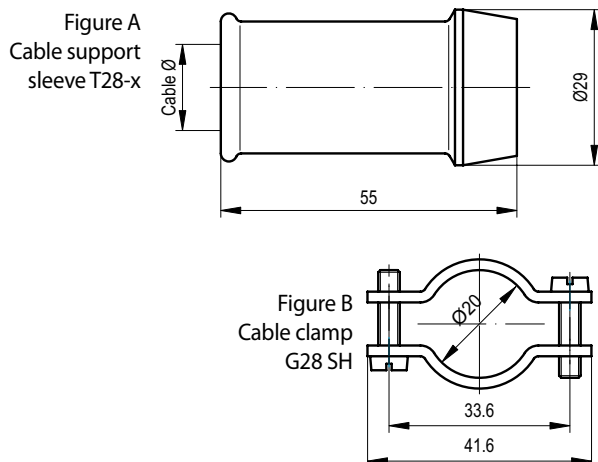
Shell part 1



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

Series G28

Shell part 2



Ordering code	Cable diameter [mm]	Figure
T28-10/13	10 ... 13	Fig. A
T28-13/16	13 ... 16	Fig. A
T28-16/18,5	16 ... 18,5	Fig. A
T28-18,5/20,5	18,5 ... 20,5	Fig. A
T28-20,5/22	20,5 ... 22	Fig. A
G28 SH	20	Fig. B

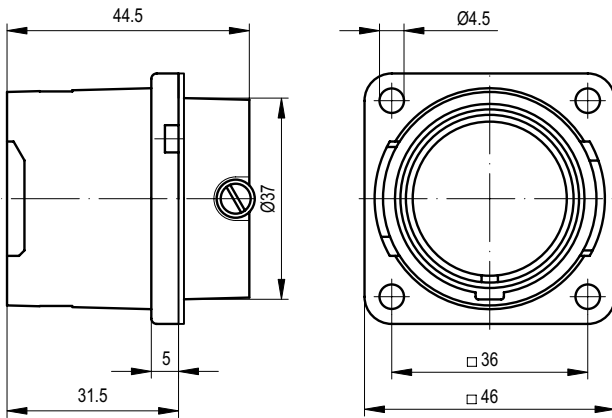
**Note:**

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

Series G28

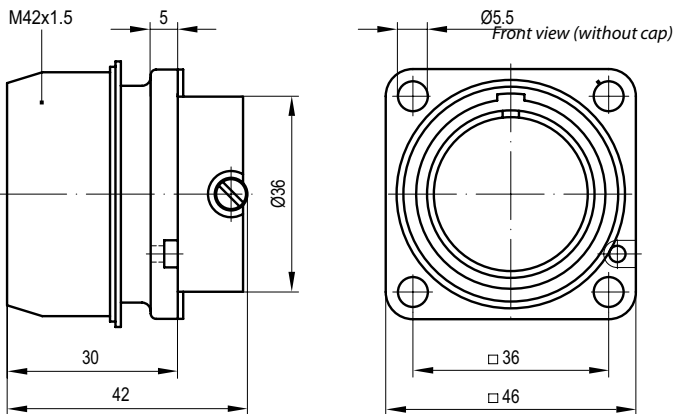
Shell part 1



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

Series G28

Shell part 1

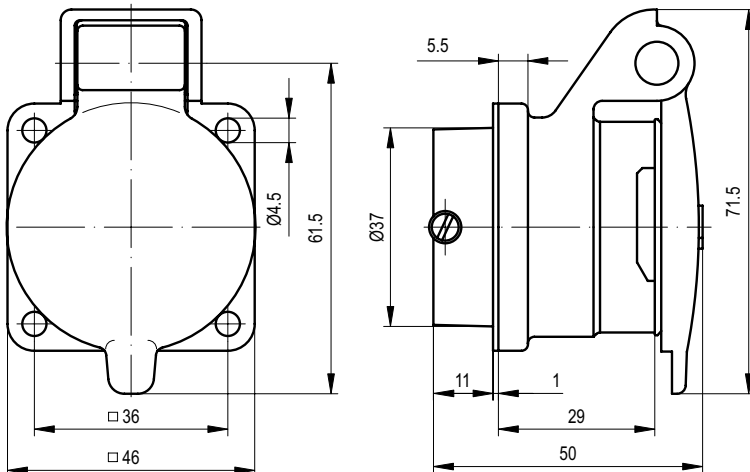


**Note:** This receptacle can only be used with the corresponding plug **G28 ST M42** or **G28 WS M42**. The mated connector is sealed to **IP67**.

**G28 DD** Receptacle with hinged lid

Series G28

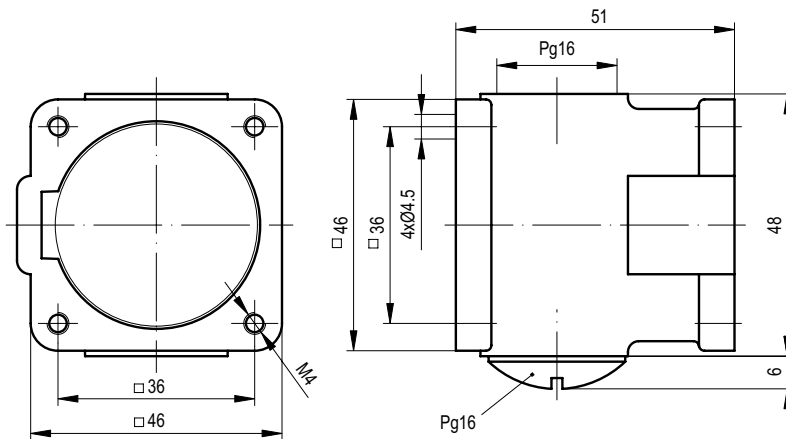
Shell part 1



**G28 DU Pg16** Backshell for surface mounting

Series G28

Shell part 2

**Note:**

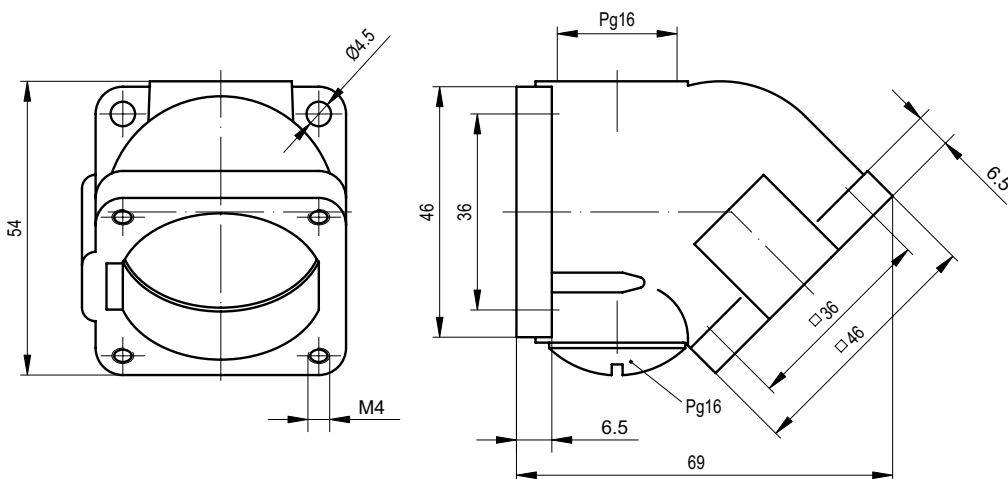
Backshells for surface mounting come in handy when there is not enough space for the receptacle to be panel mounted. The knockout entry of the backshell allows to enter a cable from the side in front of the panel and wire the rear of the receptacle. Backshells with two cable entries can also be used 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.

**G28 DU Wi Pg16** Backshell 45° for surface mounting

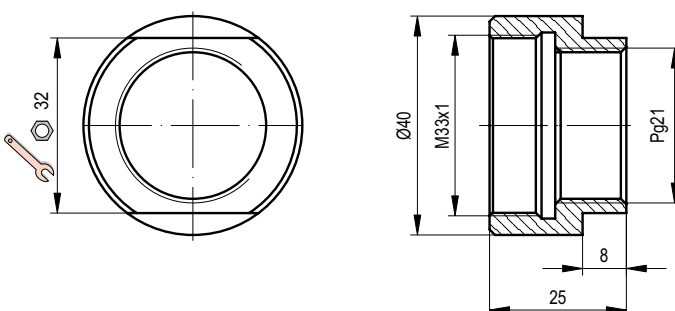
Series G28

Shell part 2


**G28 AD Pg21** Adapter

Series G28

Shell part 2

**Note:**

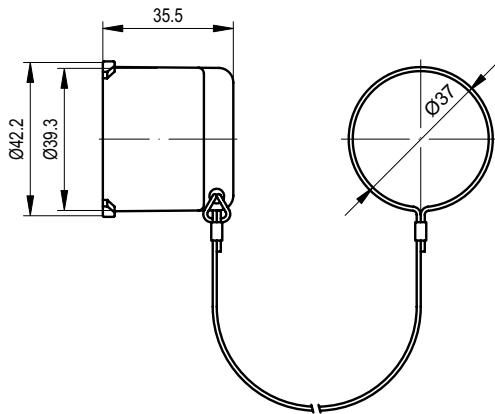
The adapter for size Pg21 cable glands is for use with the following plugs:

- G28 ST, G28 ST M42
- G28 WS, G28 WS M42

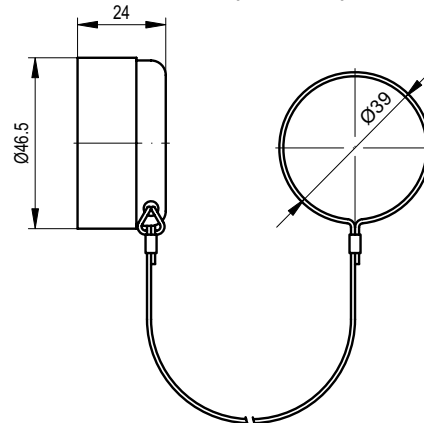
**G28 VK, G28 VD** Protection caps

Series G28

**G28 VK** Protection cap for plugs



**G28 VD** Protection cap for receptacles

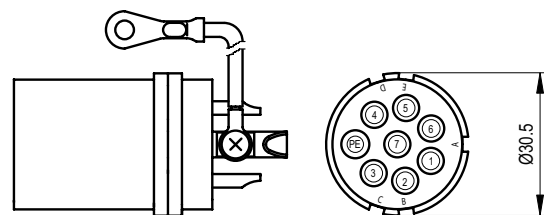
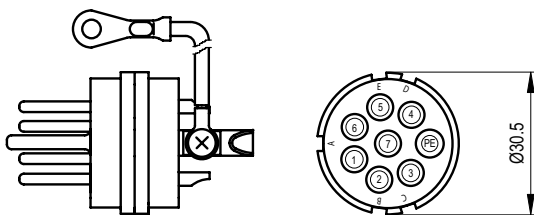


Protection

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

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

Series G28



Inserts

Pin insert **G28 E-7P/L**

Socket insert **G28 E-7S/L**

Connector type	G28 Series			
	7 pole + PE	12 pole	16 pole	24 pole
Number of contacts	7 pole + PE	12 pole	16 pole	24 pole
<b>Contact arrangement</b> Contact identification marked on insert:				
Pin insert: Rear view Socket insert: Front view				
<b>Ordering code</b>				
Pin inserts, solder contacts	---	<b>G28 E-12P/L</b>	<b>G28 E-16P/L</b>	<b>G28 E-24P/L</b>
Socket inserts, solder contacts	---	<b>G28 E-12S/L</b>	<b>G28 E-16S/L</b>	<b>G28 E-24S/L</b>
Pin inserts, crimp contacts	<b>G28 E-7P+PE/C*</b>	---	---	---
Socket inserts, crimp contacts	<b>G28 E-7S+PE/C*</b>	---	---	---
<b>Rated voltage</b> (IEC 60038) at pollution degree 3 (IEC 60512)	230 V / 400 V PE contact	42V	42V	42V
<b>Key positions (polarization)</b>	5	5	5	5
<b>Contacts **</b>				
Max. rated current of individual contact	7x 20 A	12x 16 A	16x 16 A	24x 7.5 A
Outer diameter of contact	Ø 2.3 mm	Ø 1.58 mm	Ø 1.58 mm	Ø 1.58 mm
Contact type/size (crimp contacts)	Typ B	---	---	---
<b>PE contact ***</b>				
Diameter solder contacts	Ø 3 mm	---	---	---
Contact type/size (crimp contacts)	Typ H	---	---	---
Diameter screw-type contacts	---	---	---	---

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

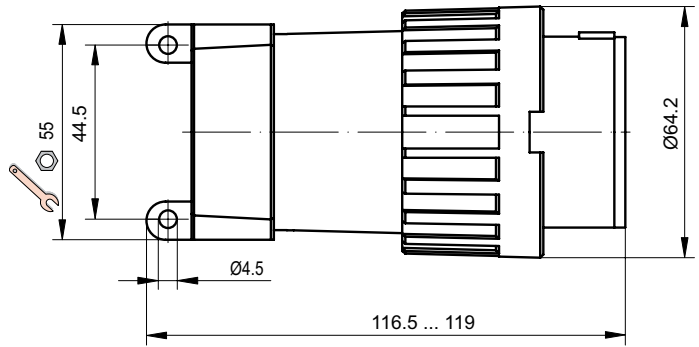
\*\* For detailed information on individual contacts see page 38

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



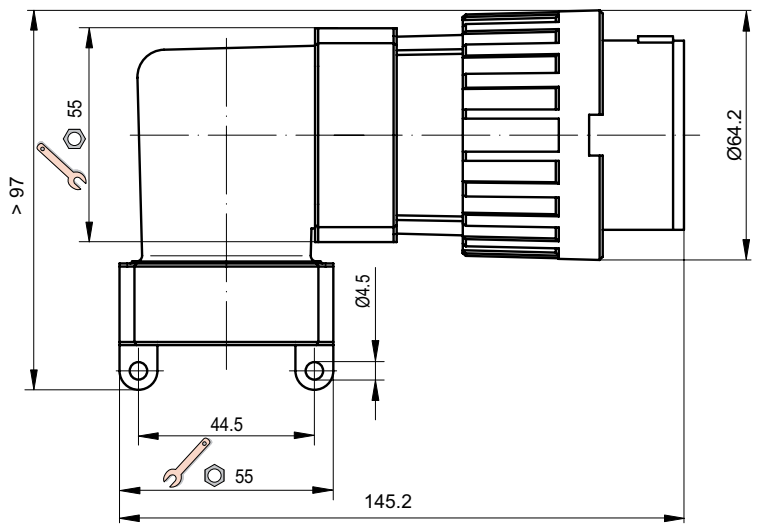
**G42 ST Plug** Series G42

Shell part 1



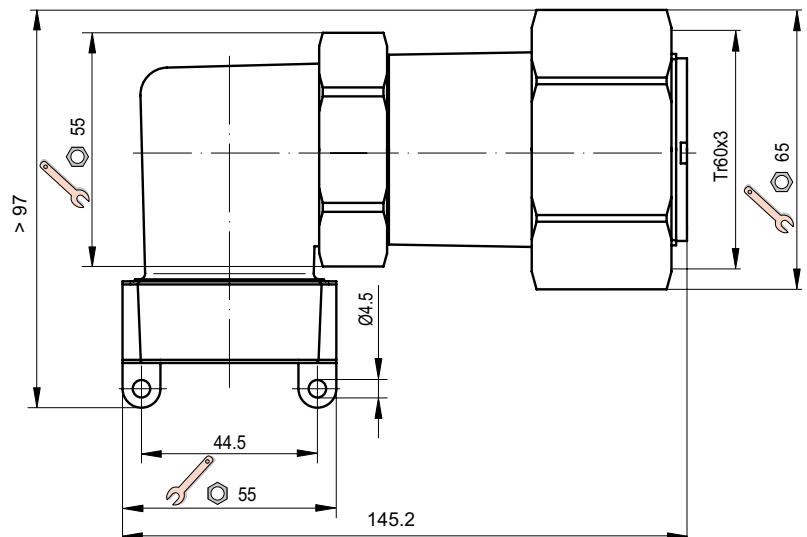
**G42 WS 90° plug** Series G42

Shell part 1



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

Shell part 1



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

**T42-x, G42 SH** Cable support sleeve, Cable clamp

Series G42

Figure A  
Cable support  
sleeve T42-x

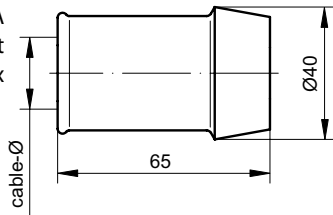
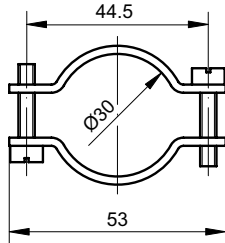


Figure B  
Cable clamp  
G42 SH



Shell part 2

Ordering code	Cable diameter [mm]	Figure
T42-14/18	14 ... 18	Fig. A
T42-18/22	18 ... 22	Fig. A
T42-22/26,5	22 ... 26.5	Fig. A
T42-26,5/31	26.5 ... 31	Fig. A
G42 SH	30	Fig. B

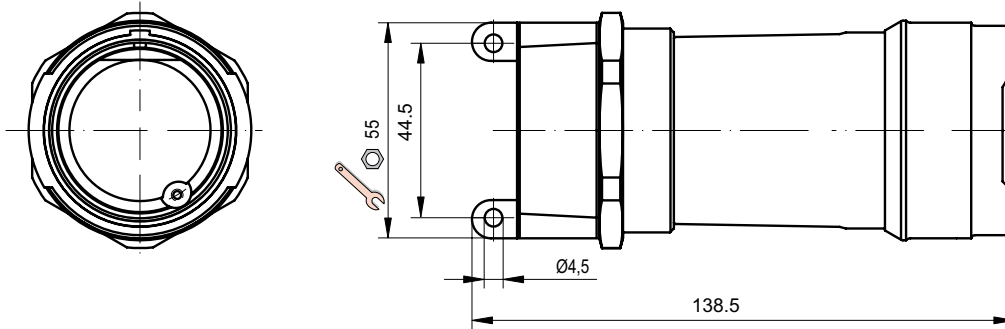
**Note:**

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

Series G42

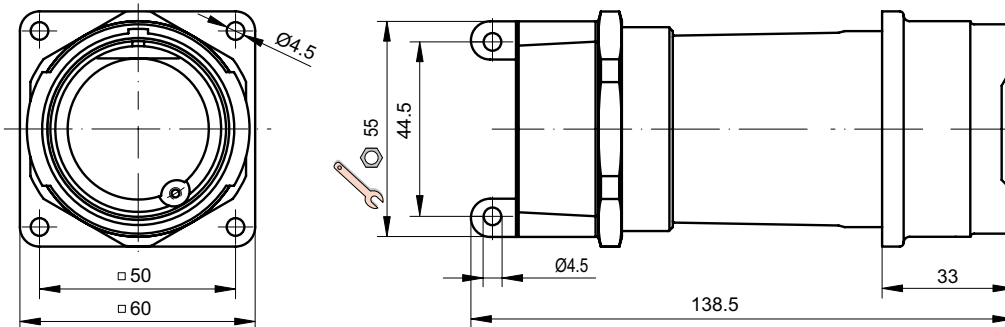
Shell part 1



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

Series G42

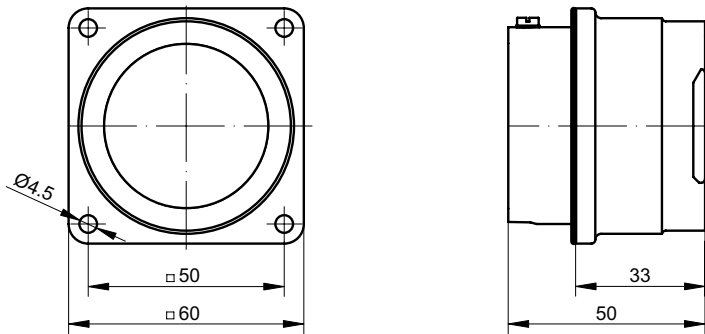
Shell part 1



**G42 DF** Flange mount receptacle

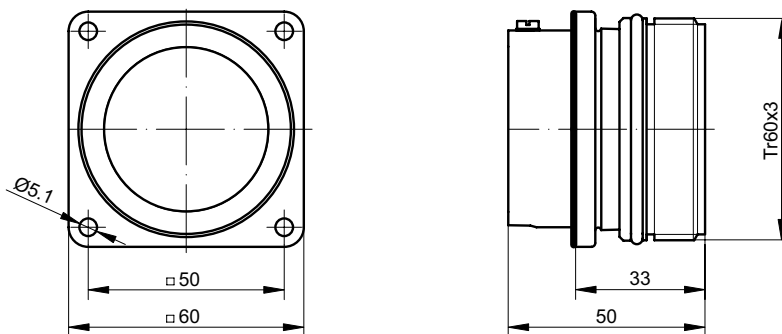
Series G42

Shell part 1


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

Series G42

Shell part 1

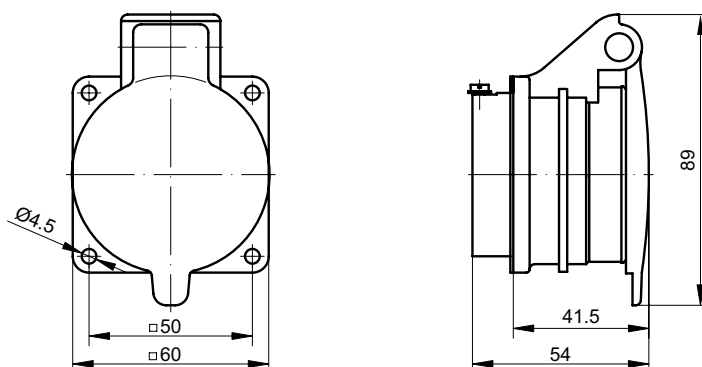


**Note:**  
 This receptacle can only be used with the corresponding plug **G42 WS Tg**. The mated connector is sealed to **IP67**.

**G42 DD** Receptacle with hinged lid

Series G42

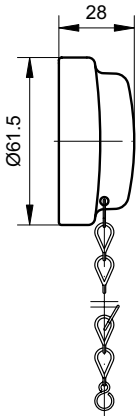
Shell part 1



**G42 VD, G42 VD Tg** Protection caps for receptacles

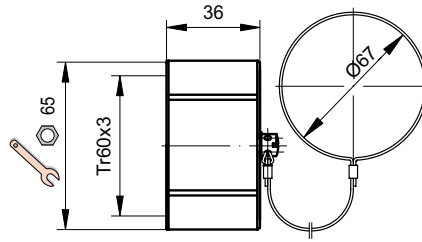
Series G42

**G42 VD** Protection cap for receptacles



**G42 VD Tg** Protection cap for receptacles with trapezoidal thread

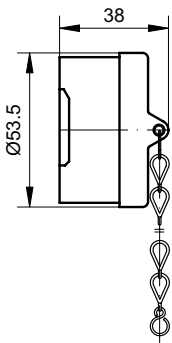
Protection



**G42 VK Ke, G42 VK** Protection caps for plugs

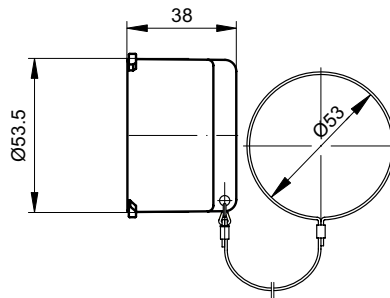
Series G42

**G42 VK Ke** Protection cap with chain for plugs



**G42 VK** Protection cap for plugs

Protection

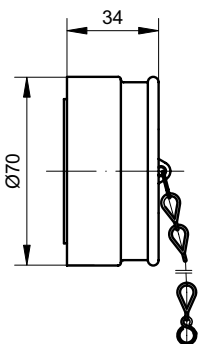


**G42 GK** Rubber cap for plugs

Series G42

**G42 GK** Rubber cap for plugs

Protection

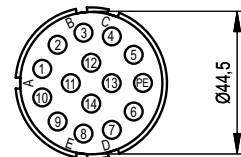
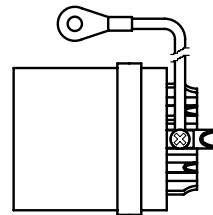
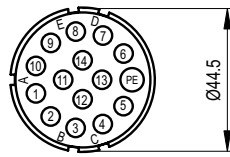
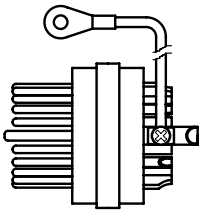


**G42 Pin inserts** 6+PE/6+2+PE/8+PE/10+PE/12+PE/ 14+PE/ 20+PE/24 pole

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

Series G42

Inserts

Pin insert **G42 E-14P+PE/L**Socket insert **G42 E-14S+PE/L**

Connector type	G42 Series				
Number of contacts	6 pole + PE	6 pole + PE	6+2 pole + PE	8 pole + PE	10 pole + PE
<b>Contact arrangement</b> Contact identification marked on insert:  Pin insert: Rear view Socket insert: Front view					
<b>Ordering code</b> Pin inserts, solder contacts Socket inserts, solder contacts Pin inserts, crimp contacts Socket inserts, crimp contacts	<b>G42 E-6P+PE/L-2</b> <b>G42 E-6S+PE/L-2</b>	<b>G42 E-6P+PE/L</b> <b>G42 E-6S+PE/L</b>	--- ---	<b>G42 E-8P+PE/L</b> <b>G42 E-8S+PE/L</b>	<b>G42 E-10P+PE/L</b> <b>G42 E-10S+PE/L</b>
<b>Rated voltage</b> (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
<b>Key positions (polarization)</b>	5	5	5	5	5
<b>Contacts **</b> Max. rated current of individual contact Outer diameter of contact Contact type/size (crimp contacts)	6x 63 A Ø 6 mm ---	6x 20 A Ø 3 mm ---	8x 25 A Ø 3 mm Type H	8x 20 A Ø 3 mm ---	10x 25 A Ø 2.3 mm ---
<b>PE contact ***</b> Diameter solder contacts Contact type/size (crimp contacts)	Ø 6 mm ---	Ø 3 mm ---	--- Type H	Ø 3 mm ---	Ø 3 mm ---

Connector type	G42 Series			
Number of contacts	12 pole + PE	14 pole + PE	20 pole + PE	24 pole
<b>Contact arrangement</b> Contact identification marked on insert:  Pin insert: Rear view Socket insert: Front view				
<b>Ordering code</b> Pin inserts, solder contacts Socket inserts, solder contacts Pin inserts, crimp contacts Socket inserts, crimp contacts	<b>G42 E-12P+PE/L</b> <b>G42 E-12S+PE/L</b> <b>G42 E-12P+PE/C</b> <b>G42 E-12S+PE/C</b>	<b>G42 E-14P+PE/L</b> <b>G42 E-14S+PE/L</b> <b>G42 E-14P+PE/C*</b> <b>G42 E-14S+PE/C*</b>	<b>G42 E-20P+PE/L</b> <b>G42 E-20S+PE/L</b> <b>G42 E-20P+PE/C</b> <b>G42 E-20S+PE/C</b>	<b>G42 E-24P/L</b> <b>G42 E-24S/L</b> --- ---
<b>Rated voltage</b> (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
<b>Key positions (polarization)</b>	5	5	5	5
<b>Contacts **</b> Max. rated current of individual contact Outer diameter of contact Contact type/size (crimp contacts)	12x 25 A Ø 3 mm Typ H	14x 16 A Ø 2.3 mm Typ B	20x 10 A Ø 1.58 mm Typ A	24x 10 A Ø 1.58 mm ---
<b>PE contact ***</b> Diameter solder contacts Contact type/size (crimp contacts)	Ø 3 mm Type H	Ø 3 mm Type H	Ø 3 mm Type H	--- ---

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

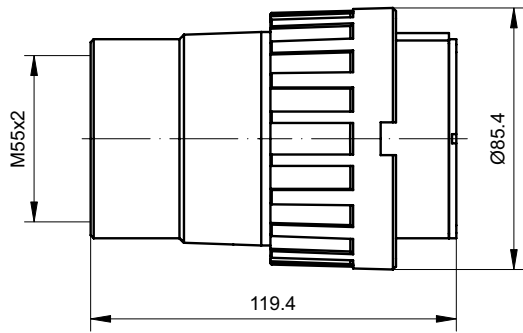
\*\* For detailed information on individual contacts see page 38

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

**G57 ST Tr Plug**

Series G57

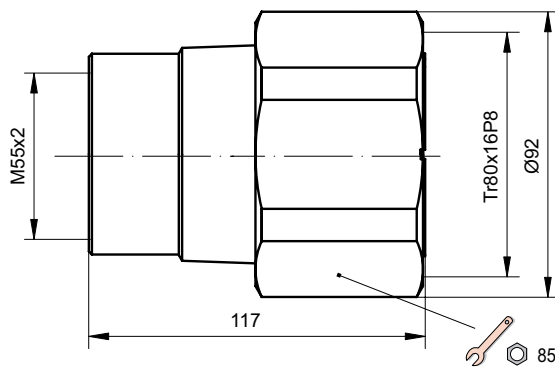
Shell part 1



**G57 ST Tg Plug with trapezoidal thread**

Series G57

Shell part 1



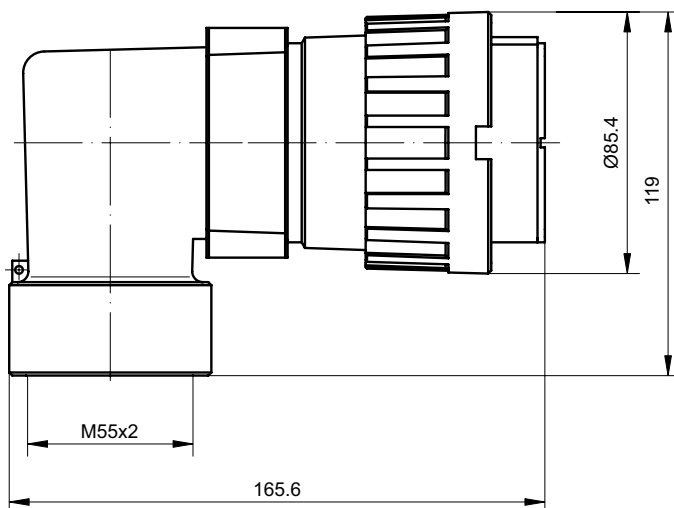
**Note:**

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

**G57 WS Tr 90° plug**

Series G57

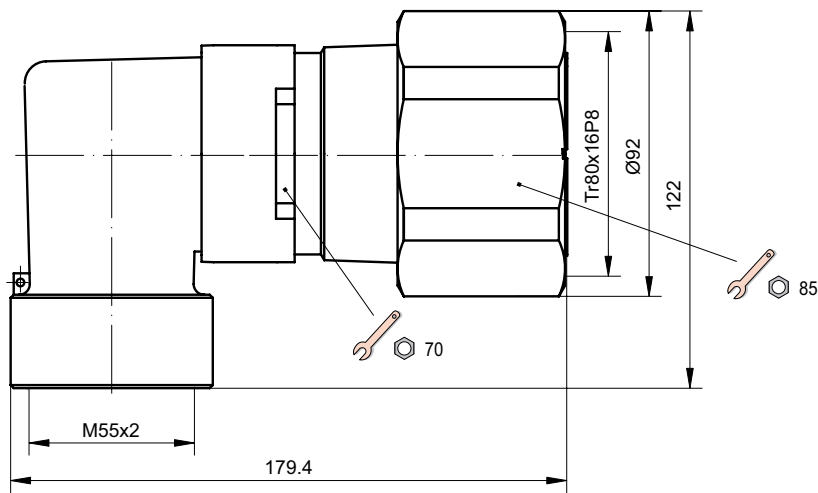
Shell part 1



**G57 WS Tg** 90° plug with trapezoidal thread

Series G57

Shell part 1

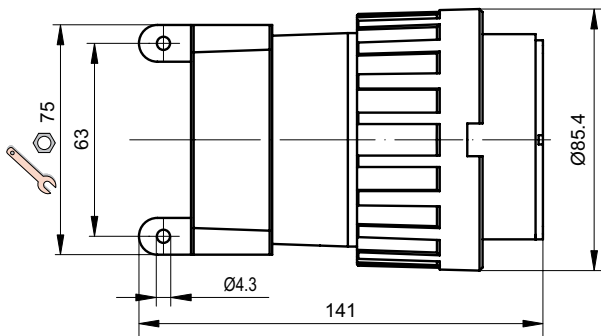


**Note:**  
This plug can only be used with the corresponding receptacle **G57 DF Tg**. The mated connector is sealed to **IP67**.

**G57 ST Kt** Plug

Series G57

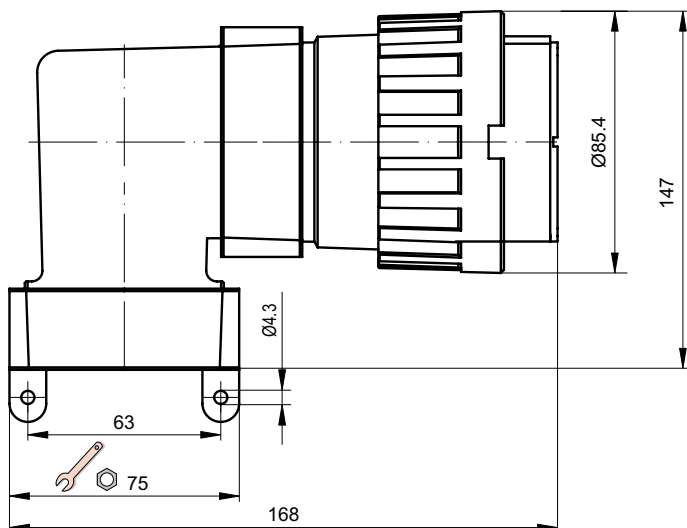
Shell part 1



**G57 WS Kt** 90° plug

Series G57

Shell part 1

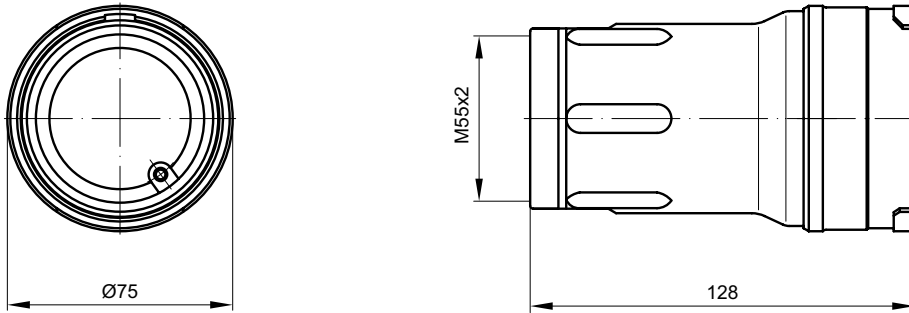




**G57 KD Tr** Cable-connecting receptacle for bell-shaped cable sleeve

Series G57

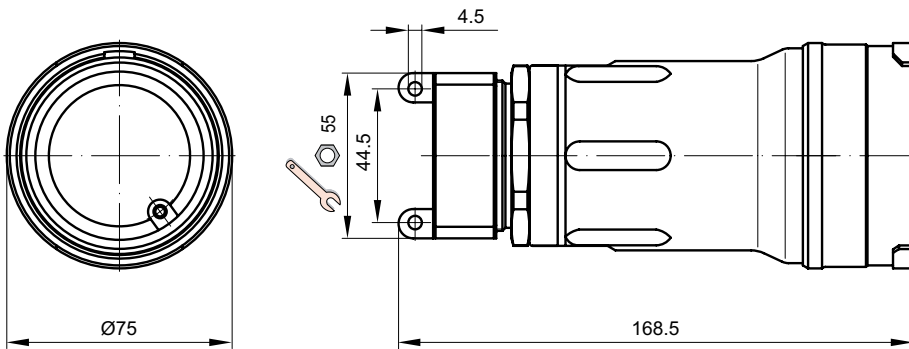
Shell part 1



**G57 KD Kt** Cable-connecting receptacle for cable support sleeve

Series G57

Shell part 1

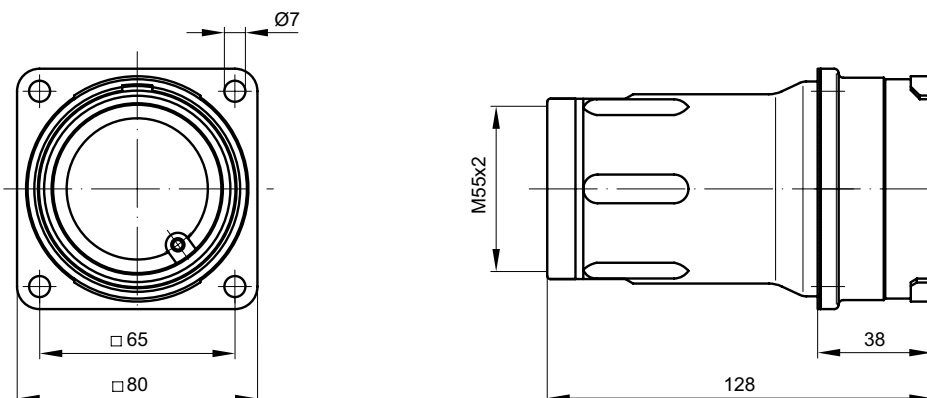


**Note:**  
Use cable clamp G42 SH and cable support sleeve T42-x with this type of connector.

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

Series G57

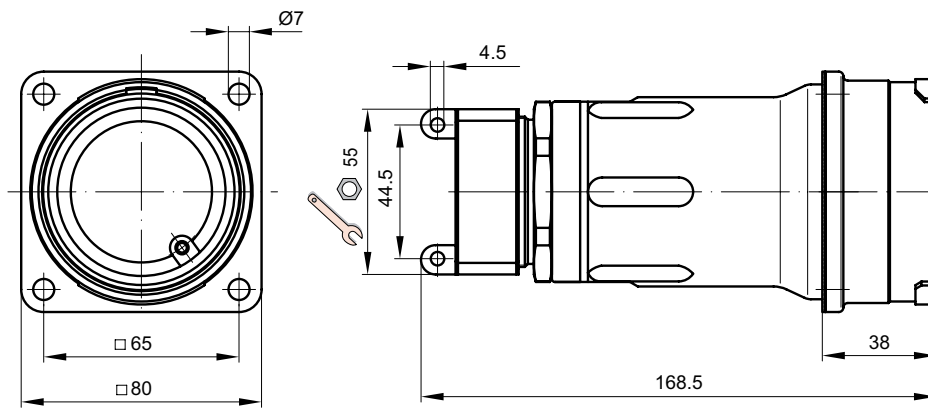
Shell part 1



**G57 KF Kt** Cable-connecting receptacle with flange for cable support sleeve

Series G57

Shell part 1

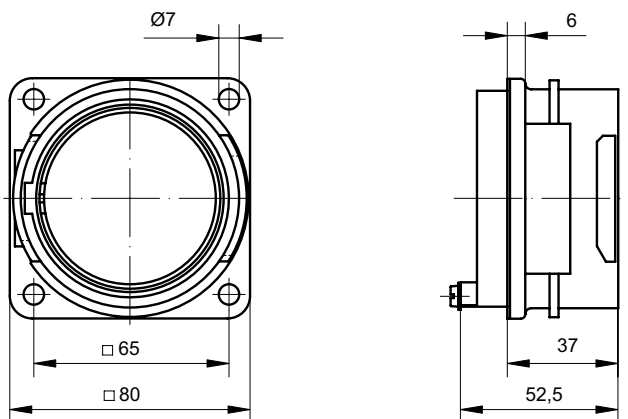


**Note:**  
Use cable clamp **G42 SH** and cable support sleeve **T42-x** with this type of connector.

**G57 DF** Flange mount receptacle

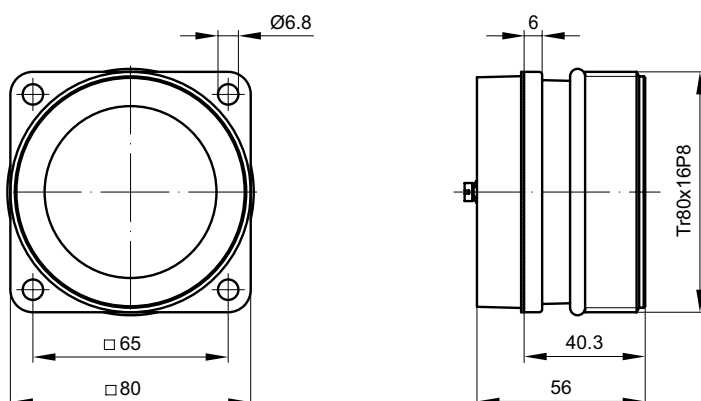
Series G57

Shell part 1


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

Series G57

Shell part 1

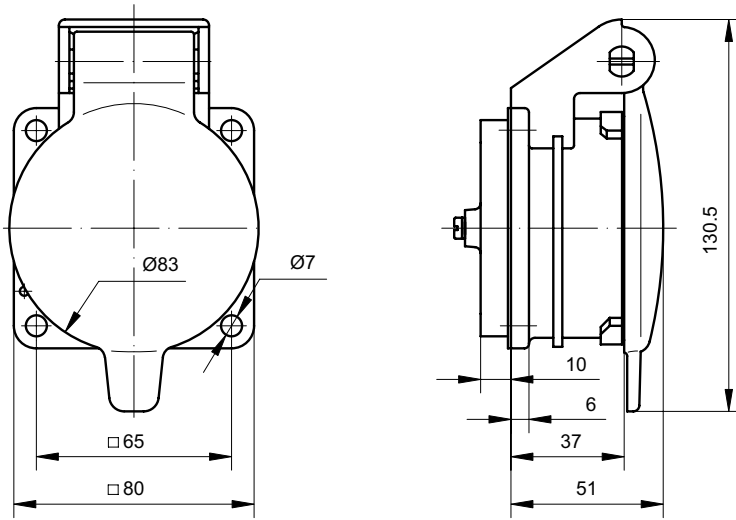


**Note:**  
This receptacle can only be used with the corresponding plug **G57 ST Tg**. The mated connector is sealed to **IP67**.

**G57 DD** Receptacle with hinged lid

Series G57

Shell part 1

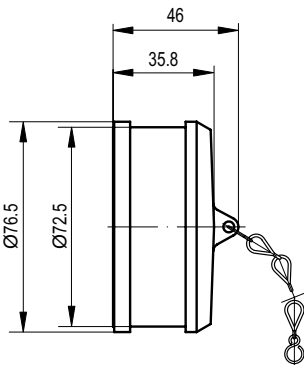


**G57 VK** Protection cap

Series G57

**G57 VK** Protection cap for plugs

Protection

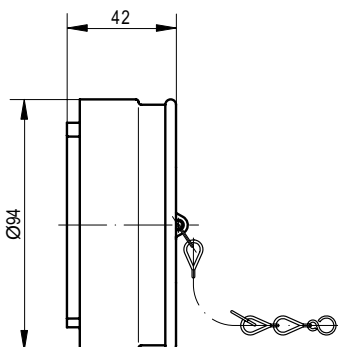


**G57 GK** Rubber cap for plugs

Series G57

**G57 GK** Rubber cap for plugs

Protection

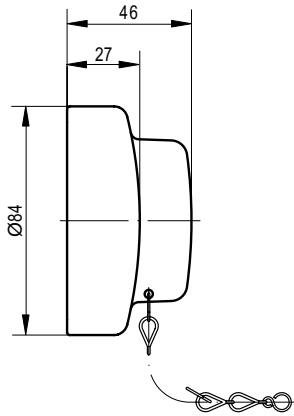


**G57 GD** Protection cap for receptacles

Series G57

**G57 VD** Protection cap for receptacles

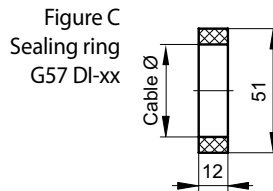
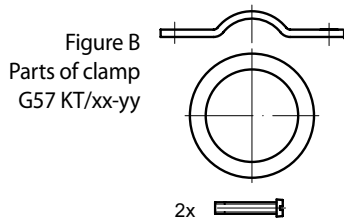
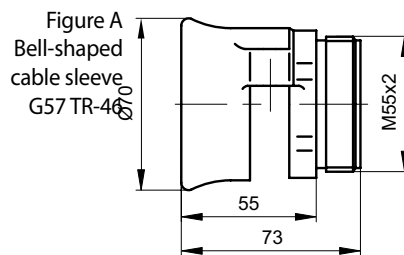
Protection



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

Series G57

Shell part 2



Cable Ø [mm]	Ordering code		
	Figure A Bell-shaped cable sleeve	Figure B Parts of clamp	Figure C Sealing ring
30	G57 TR-46	G57 KT/30-36	G57 DI-30
32			G57 DI-32
34			G57 DI-34
36			G57 DI-36
38	G57 TR-46	G57 KT/38-44	G57 DI-38
40			G57 DI-40
42			G57 DI-42

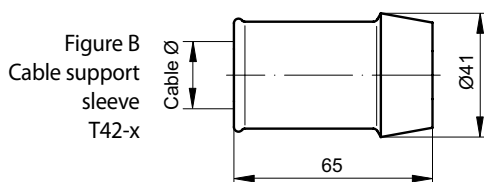
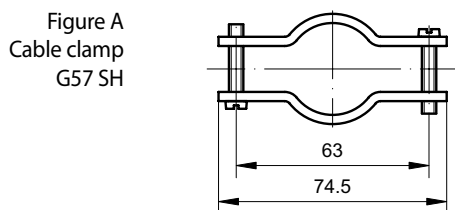
**Note:**

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**.

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

Series G57

Shell part 2



Cable Ø [mm]	Ordering code	
	Figure A Cable clamp	Figure B Cable support sleeve
14 ... 18	G57 SH	T42-14/18
18 ... 22		T42-18/22
22 ... 26.5		T42-22/26,5
26.5 ... 31		T42-26,5/31

**Note:**

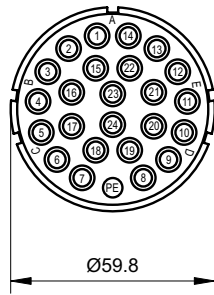
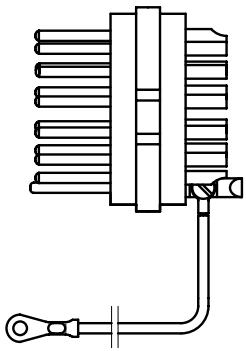
Cable support sleeve and cable clamp are for use with the plugs **G57 ST Kt** and **G57 WS Kt**. For the receptacles **G57 KD Kt** and **G57 KF Kt** use cable clamp **G42 SH** along with the cable support sleeve **T42-x** (see page 27).

**G57 Pin inserts** 4+PE/4+5/16+PE/24+PE/32+PE/48+PE pole

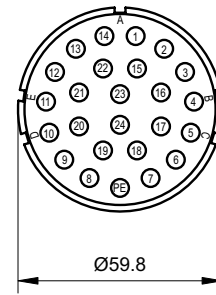
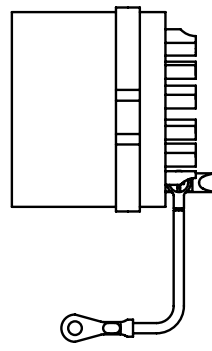
**G57 Socket inserts** 4+PE/4+5/16+PE/24+PE/32+PE/48+PE pole

Series G57

Inserts



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



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

Connector type	G57 Series					
	4 pole + PE	4 + 5 pole	16 pole + PE	24 pole + PE	32 pole + PE	48 pole + PE
<b>Contact arrangement</b> Contact identification marked on insert: Pin insert: Rear view Socket insert: Front view						
<b>Ordering code</b> Pin inserts, solder contacts Socket inserts, solder contacts Pin inserts, crimp contacts Socket inserts, crimp contacts	<b>G57 E-4P+PE/L</b> <b>G57 E-4S+PE/L</b>	<b>G57 E-4P+5/L</b> <b>G57 E-4S+5/L</b>	<b>G57 E-16P+PE/L</b> <b>G57 E-16S+PE/L</b>	<b>G57 E-24P+PE/L</b> <b>G57 E-24S+PE/L</b>	<b>G57 E-32P+PE/L</b> <b>G57 E-32S+PE/L</b> <b>G57 E-32P+PE/C</b> <b>G57 E-32S+PE/C</b>	--- --- <b>G57 E-48P+PE/C</b> <b>G57 E-48S+PE/C</b>
<b>Rated voltage</b> (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	230 V / 400 V PE contact
<b>Key positions (polarization)</b>	4	4	4	4	4	4
<b>Contacts *</b> Max. rated current of individual contact Outer diameter of contact Contact type/size (crimp contacts)	4x 100 A Ø 10 mm ---	4x 50 A 5x 35 A Ø 8 mm Ø 3 mm ---	16x 20 A Ø 3 mm ---	24x 20 A Ø 3 mm ---	32x 16 A Ø 1.58 mm Type A	48x 7.5 A Ø 2.3 mm Type B
<b>PE contact **</b> Diameter solder contacts Contact type/size (crimp contacts)	Ø 10 mm ---	--- ---	Ø 3 mm ---	Ø 3 mm ---	Ø 3 mm Type H	Ø 3 mm Type H

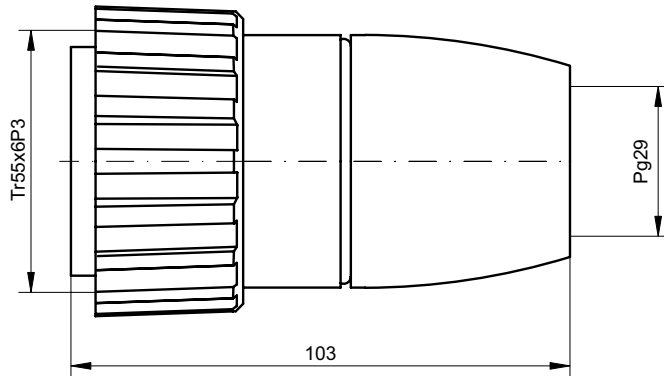
\* For detailed information on individual contacts see page 38

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

**GM42 ST Pg29** Plug

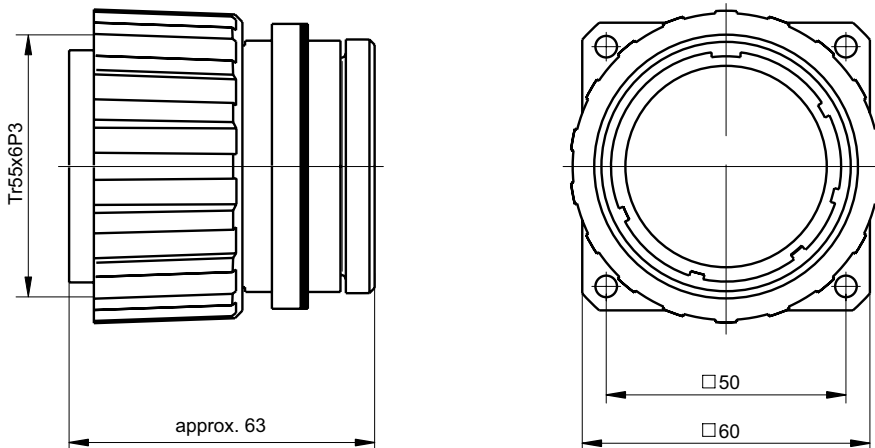
Series GM42

Shell part 1

**GM42 SF** Flange plug

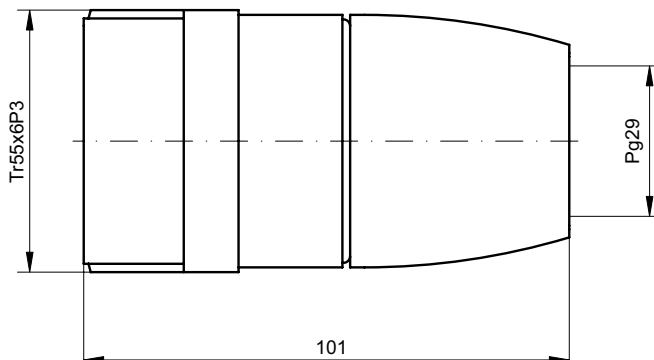
Series GM42

Shell part 1

**GM42 KD** Cable-connecting receptacle

Series GM42

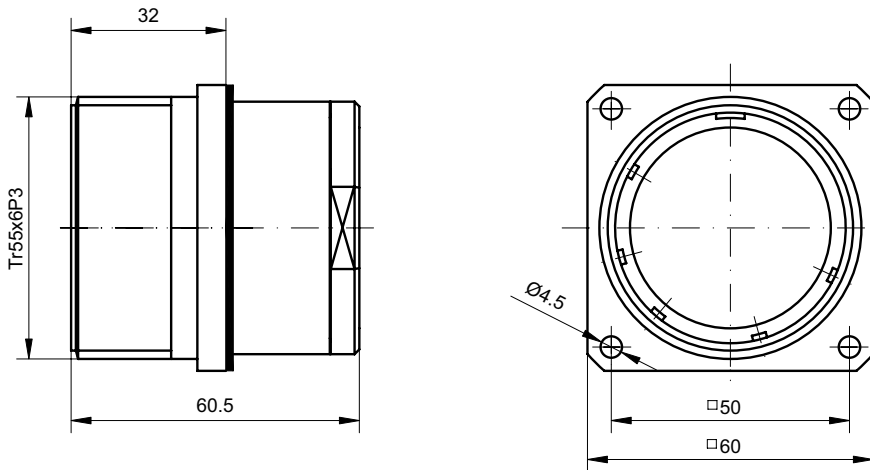
Shell part 1



**GM42 DF** Flange mount receptacle

Series GM42

Shell part 1

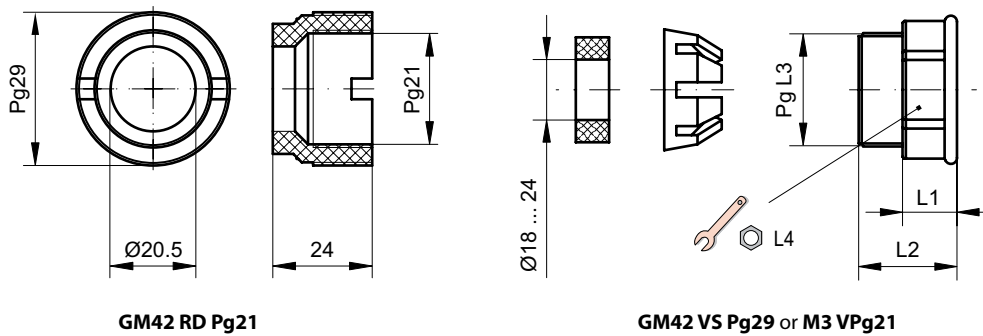


**GM42 VS Pg29** Cable gland for cables Ø 18 ... 24 mm

**GM42 RD Pg21 + M3 VPg21** Adapter + cable gland for cables Ø 14 ... 18 mm

Series GM42

Series part 2

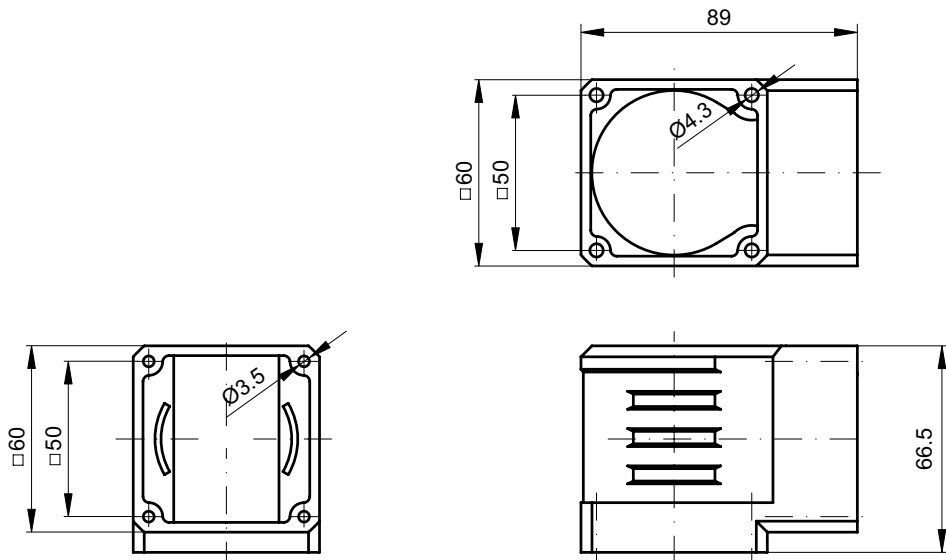


Cable Ø	Adapter	Cable gland	L1	L2	L3	L4
14 ... 18	GM42 RD Pg21	M3 VPg21	16	28.5	Pg21	30
18 ... 24	---	GM42 VS Pg29	18	32.5	Pg29	41

**GM42 WG** Backshell 90°

Series GM42

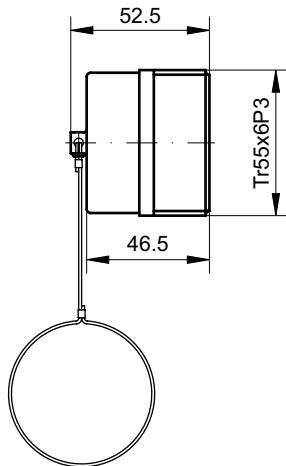
Shell part 2



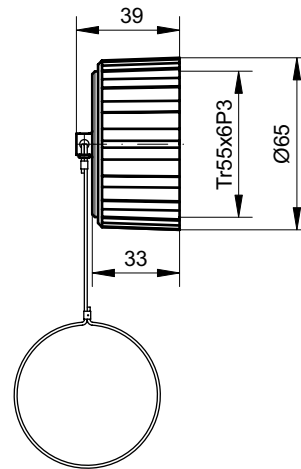


**GM42 VK, GM42 VD** Protection caps

Series GM42

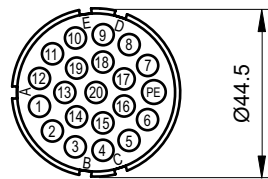
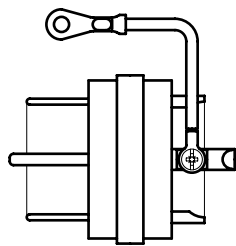
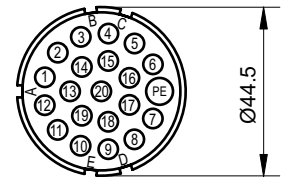
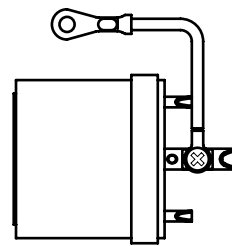
**GM42 VK** Protection cap for plugs

**GM42 VD** Protection cap for receptacles

Protection


**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

Series GM42

Pin insert **G42 E-20P+PE/L**Socket insert **G42 E-20S+PE/L**

Inserts

Connector type	GM42 Series					
	6+2 pole + PE	10 pole + PE	12 pole + PE	14 pole + PE	20 pole + PE	64 pole + PE
<b>Number of contacts</b>	6+2 pole + PE	10 pole + PE	12 pole + PE	14 pole + PE	20 pole + PE	64 pole + PE
<b>Contact arrangement</b> Contact identification marked on insert:  Pin insert: Rear view Socket insert: Front view						
<b>Ordering code</b> Pin inserts, solder contacts Socket inserts, solder contacts Pin inserts, crimp contacts Socket inserts, crimp contacts	--- --- <b>G42 E-6+2P+PE/C</b> <b>G42 E-6+2S+PE/C</b>	--- <b>G42 E-10P+PE/L</b> <b>G42 E-10S+PE/L</b> --- ---	<b>G42 E-12P+PE/L</b> <b>G42 E-12S+PE/L</b> <b>G42 E-12P+PE/C</b> <b>G42 E-12S+PE/C</b>	<b>G42 E-14P+PE/L</b> <b>G42 E-14S+PE/L</b> <b>G42 E-14P+PE/C*</b> <b>G42 E-14S+PE/C*</b>	<b>G42 E-20P+PE/L</b> <b>G42 E-20S+PE/L</b> <b>G42 E-20P+PE/C</b> <b>G42 E-20S+PE/C</b>	--- --- <b>GM42 E-64P+PE/C</b> <b>GM42 E-64S+PE/C</b>
<b>Rated voltage</b> (IEC 60038) at pollution degree 3 (IEC 60512)	500 V PE contact	500 V PE contact	230 V / 400 V PE contact	230 V / 400 V PE contact	230 V / 400 V PE contact	61x 25 V 3x 230 V / 400 V PE contact
<b>Key positions (polarization)</b>	5	5	5	5	5	5
<b>Contacts **</b> Max. rated current of individual contact Outer diameter of contact Contact type/size (crimp contacts)	8x 25 A Ø 3 mm Type H	10x 25 A Ø 2.3 mm ---	12x 25 A Ø 3 mm Type H	14x 16 A Ø 2.3 mm Type B	20x 10 A Ø 1.58 mm Type A	64x 10 A Ø 1.6 mm Type G
<b>PE contact ***</b> Diameter solder contacts Contact type/size (crimp contacts)	--- Type H	Ø 3 mm ---	Ø 3 mm Type H	Ø 3 mm Type H	Ø 3 mm Type H	Ø 1.6 mm Type G

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

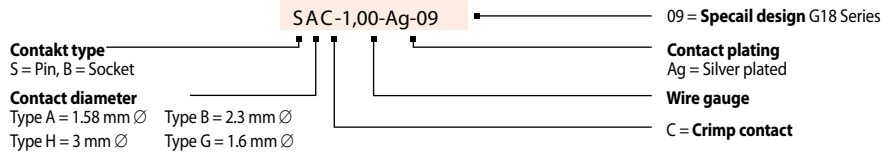
\*\* For detailed information on individual contacts see page 38

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

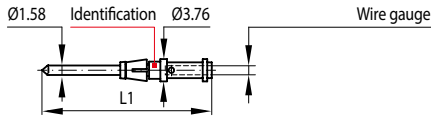
**Contacts** Crimp contacts (pin/socket) and filler plugs

Contacts

● **Ordering code, contacts**

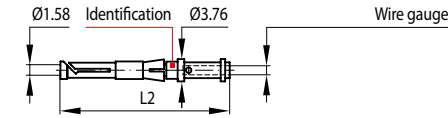


● **Contacts SAC-x, BAC-x, BS-A Crimp contacts (Pin/Socket) and Filler plug:**



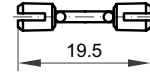
Pin contact

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



Socket contact

Ordering code	L2	Identification
BAC-0,50-Ag	28.6	No groove
BAC-1,00-Ag	28.6	1 groove
BAC-1,50-Ag	28.6	2 grooves
BAC-2,50-Ag	28.6	3 grooves



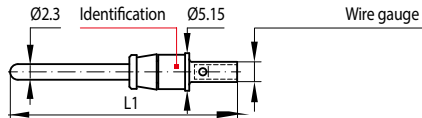
Filler plug:

BS-A: Unimplemented contact cavities can be fitted with filler plugs

Termination

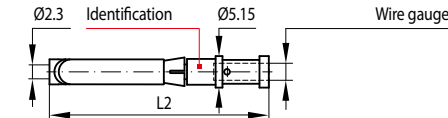
Wire gauge	Rated current
AWG 20	7.5 A
AWG 18 ... 16	10 A
AWG 14	16 A
AWG 12	27.5 A
AWG 18 ... 16	10 A
AWG 14	16 A

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



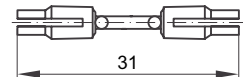
Pin contact

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



Socket contact

Ordering code	L2	Identification
BBC-0,50-Ag	37.0	---
BBC-1,00-Ag	37.0	1
BBC-1,50-Ag	37.0	2
BBC-2,50-Ag	35.6	3
BBC-4,00-Ag	35.6	4
BBC-6,00-Ag	35.6	5



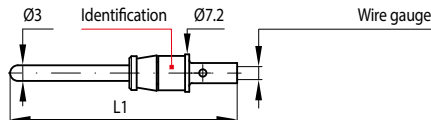
Filler plug:

BS-B: Unimplemented contact cavities can be fitted with filler plugs

Termination

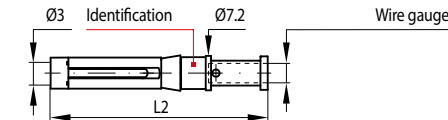
Wire gauge	Rated current
AWG 20	7.5 A
AWG 18 ... 16	10 A
AWG 14	16 A
AWG 12	27.5 A
AWG 10	35 A
AWG 9	35 A

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



Pin contact

Ordering code	L1	Identification
SHC-1,00-Ag	43.6	1 groove
SHC-1,50-Ag	43.6	2 grooves
SHC-2,50-Ag	43.6	3 grooves
SHC-4,00-Ag	46.6	1 wide groove
SHC-6,00-Ag	46.6	2 wide grooves



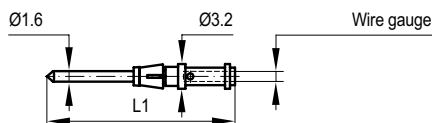
Socket contact

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

Termination

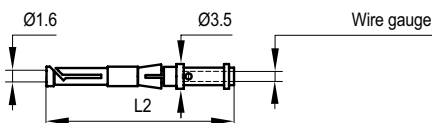
Wire gauge	Rated current
AWG 18 ... 16	10 A
AWG 14	16 A
AWG 12	27.5 A
AWG 10	35 A
AWG 9	35 A

● **Contacts SGC-x, BGC-x Crimp contacts (Pin/Socket):**



Pin contact

Ordering code	L1	Identification
SGC-0,37-Ag	25,0	---
SGC-0,50-Ag	25,0	---
SGC-1,00-Ag	25,0	---
SGC-1,50-Ag	25,0	---
SGC-2,50-Ag	25,0	---



Socket contact

Ordering code	L2	Identification
BGC-0,37-Ag	21,6	---
BGC-0,50-Ag	21,6	---
BGC-1,00-Ag	21,6	---
BGC-1,50-Ag	21,6	---
BGC-2,50-Ag	21,6	---

Termination

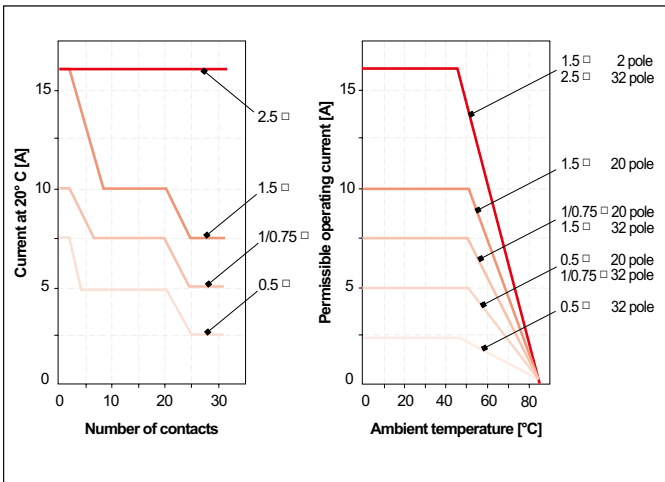
Wire gauge	Rated current
AWG 25 ... 21	5 A
AWG 20	7.5 A
AWG 18 ... 16	10 A
AWG 14	16 A
AWG 12	27.5 A

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

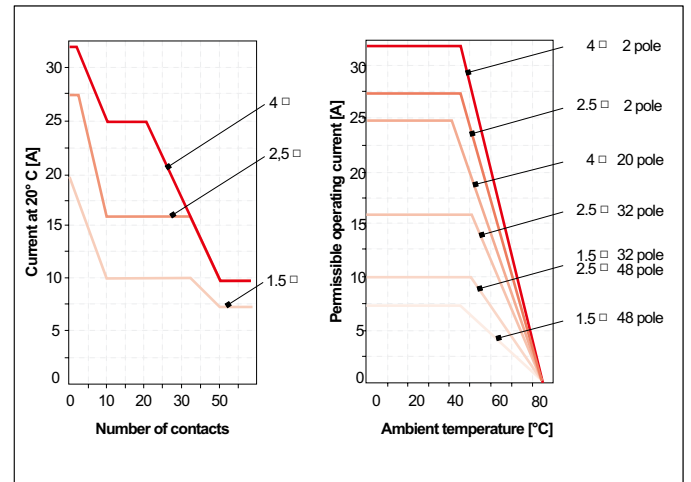
Reduced scale diagrams / dimensions in mm

**Derating curves**

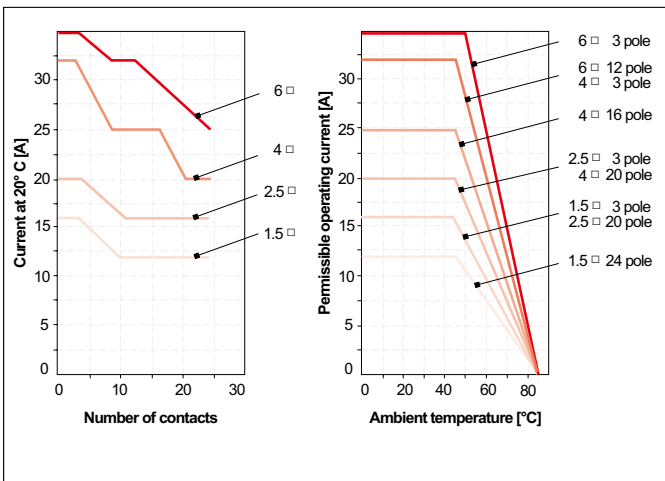
**Outer diameter of contact 1.58 mm (pin, front view)**  
**Outer diameter of contact 1.6 mm (pin, front view)**



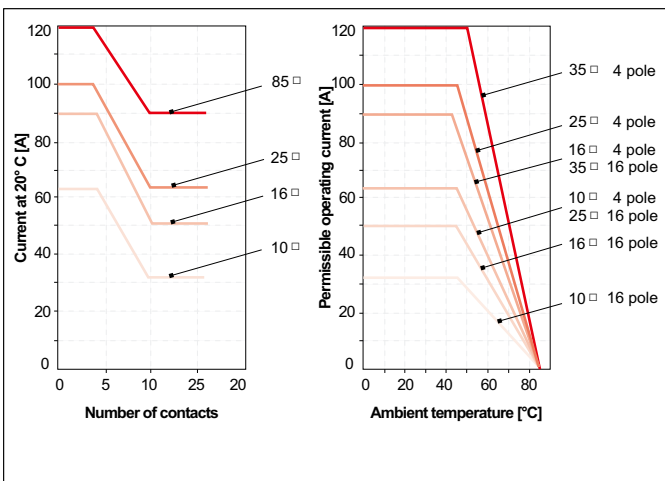
**Outer diameter of contact 2.3 mm (pin, front view)**



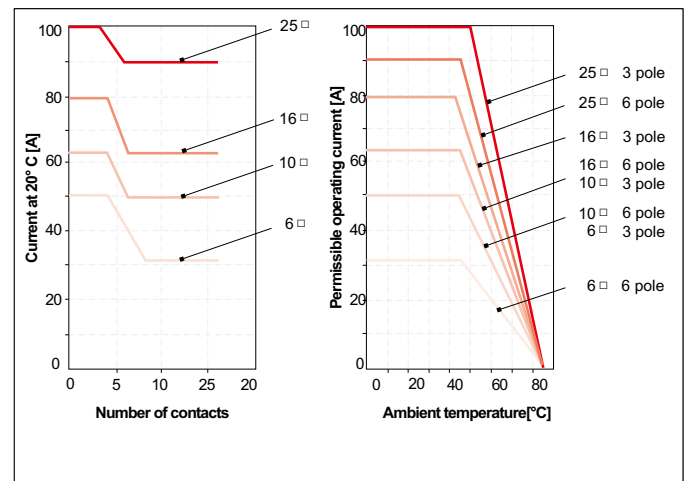
**Outer diameter of contact 3 mm (pin, front view)**



**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)**



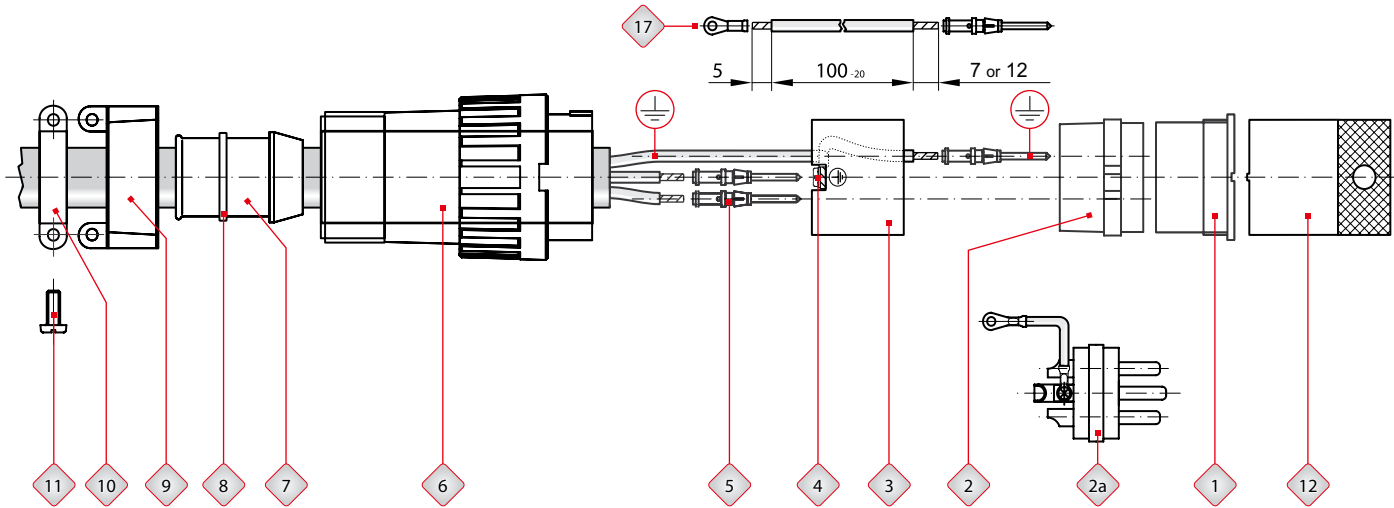
**Assembly instructions G Series**

Series G

**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'!

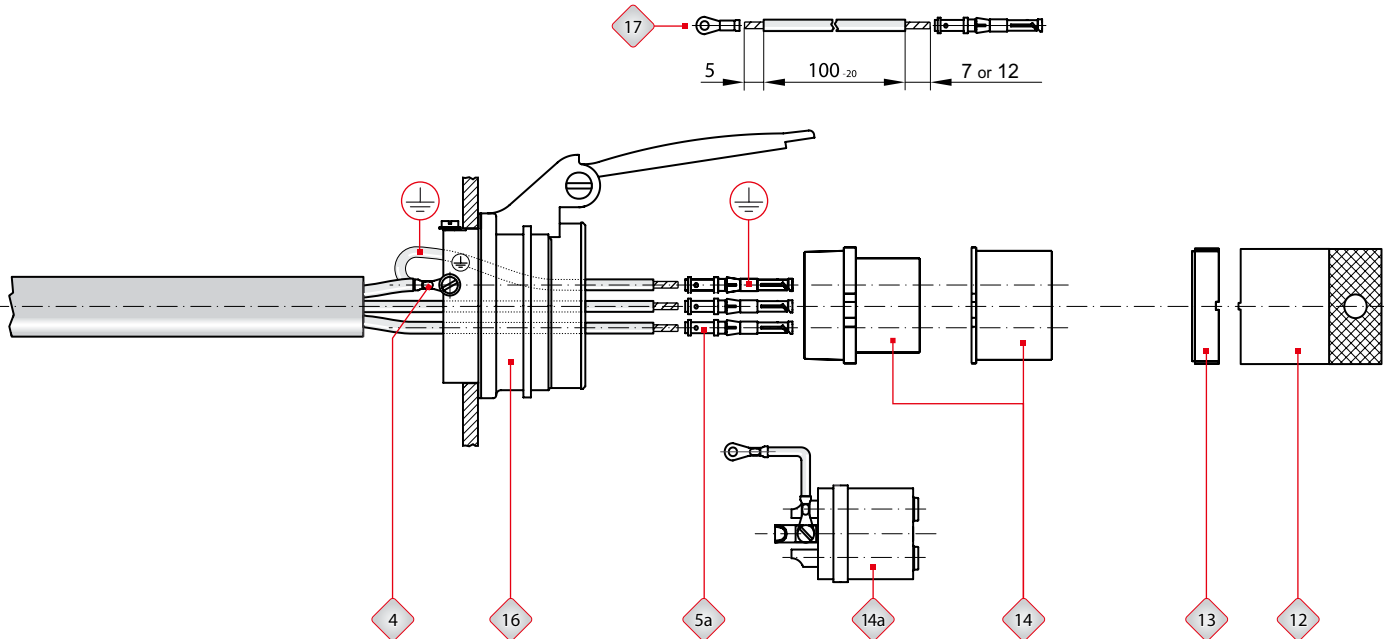


**Assembly of contact insert in plug:**

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:**



**Assembly of contact inserts in 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 instructions GM Series

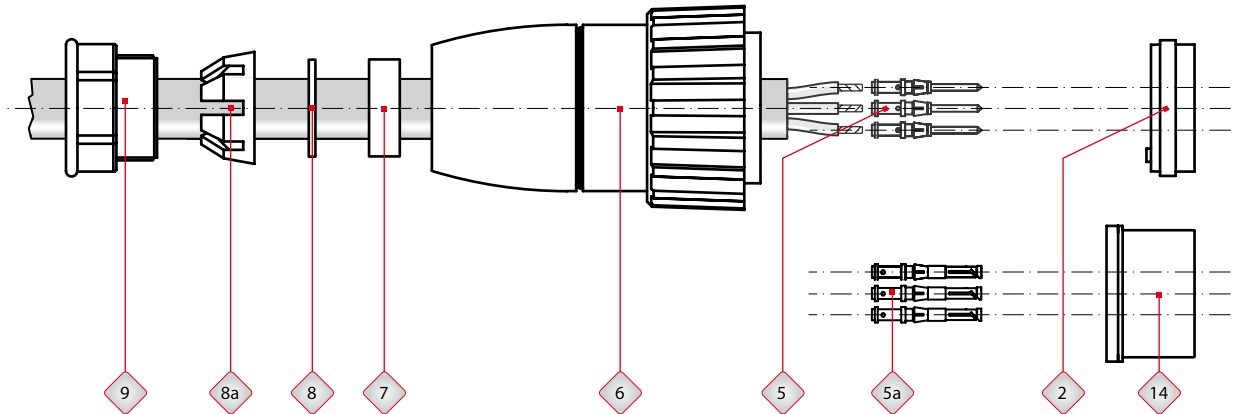
Series GM

### Assembly of plugs:

Place components ⑨, ⑧ or ⑧a, ⑦, ⑥ on cable in sequence shown. Crimp stripped individual cable conductors to contacts ⑤ or ⑤a. The edge of the insulation where the wire is stripped should abut on the point of crimping. Fit crimped contacts ⑤ or ⑤a into contact insert ② or ⑭.

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 ② or ⑭ into plug shell ⑥. Take care that key position for polarization is correct.



## Assembly instructions contacts

Series G/GM

### Crimped connection:

Wire gauge	Crimp tool	Extraction tool
0.5 ... 1.5 mm <sup>2</sup> / AWG 20 ... 14	<b>SBZ</b> Crimp tool	<b>AWZ-A</b> Extraction tool for contacts Type A
2.5 mm <sup>2</sup> / AWG 12	<b>SBZ</b> Crimp tool	<b>AWZ-B</b> Extraction tool for contacts Type B
4.0 ... 6.0 mm <sup>2</sup> / AWG 10 ... 9	<b>SBZ</b> Crimp tool	<b>AWZ-C/H</b> Extraction tool for contacts Type C/H

For connecting the protective conductor and the PE contact a 100 mm long additional green yellow earth wire is required. Crimp commercial cable lugs ⑪ to protective conductor and other end of additional earth wire and fasten both cables with screw ④ to the earth sleeve ③ of the plug shell or directly to the receptacle shell ⑬.

Fit crimped contacts ⑤ or ⑤a into contact insert ② or ⑭ moving from centre to perimeter.

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 ⑭ which is to be assembled in the shell together with the insert.

### Soldered connections (AWG 20 ... 1):

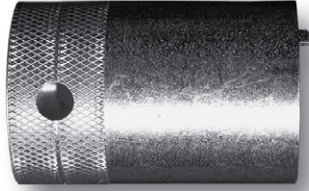
- Solder contacts are pre-assembled in the factory and cannot be disassembled from the inserts by the user.
- Choose soldering iron and kind of accessories which ensure that only a short time is needed for soldering.
- The intended use of crimp contacts is that of a solderless connection. So do not use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

**Gxx MS Assembly tools for G18, G28, G42 and G57 Series**

Series G/GM

**Gxx MS** Assembly tools for assembling pin and socket inserts in plugs and receptacles

Accessories



Ordering code	Description
<b>G18 MS</b>	Assembly tool
<b>G28 MS</b>	Assembly tool
<b>G42 MS</b>	Assembly tool
<b>G42 MS *</b>	Assembly tool, special design Tightening torque 15 Nm
<b>G57 MS</b>	Assembly tool
<b>G57 MS **</b>	Assembly tool, special design Tightening torque 20 Nm

Assembly tool, special design, for the following contact inserts:

- |                   |                    |
|-------------------|--------------------|
| * G42 E-3S+PE/L-2 | ** G57 E-3S+2+PE/L |
| G42 E-3P+PE/L-2   | G57 E-3P+2+PE/L    |
| G42 E-4S+PE/L     | G57 E-4S+PE/L      |
| G42 E-4P+PE/L     | G57 E-4P+PE/L      |
| G42 E-6S+PE/L-2   |                    |
| G42 E-6P+PE/L-2   |                    |

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

Series G/GM

**AWZ-x** Extraction tool

Accessories



Ordering code	Description
<b>AWZ-A</b>	Extraction tool for crimp contacts, Type A
<b>AWZ-B</b>	Extraction tool for crimp contacts, Type B
<b>AWZ-C/H</b>	Extraction tool for crimp contacts, Type C and H
<b>AWZ-G</b>	Extraction tool for crimp contacts, Type G

**EWZ-E** Insertion tool



Ordering code	Description
<b>EWZ-E</b>	Insertion tool for crimp contacts, Type G

**CWZ-600-1 Crimp tool**

Series G/GM

**CWZ-600-1** Crimp tool

Accessories

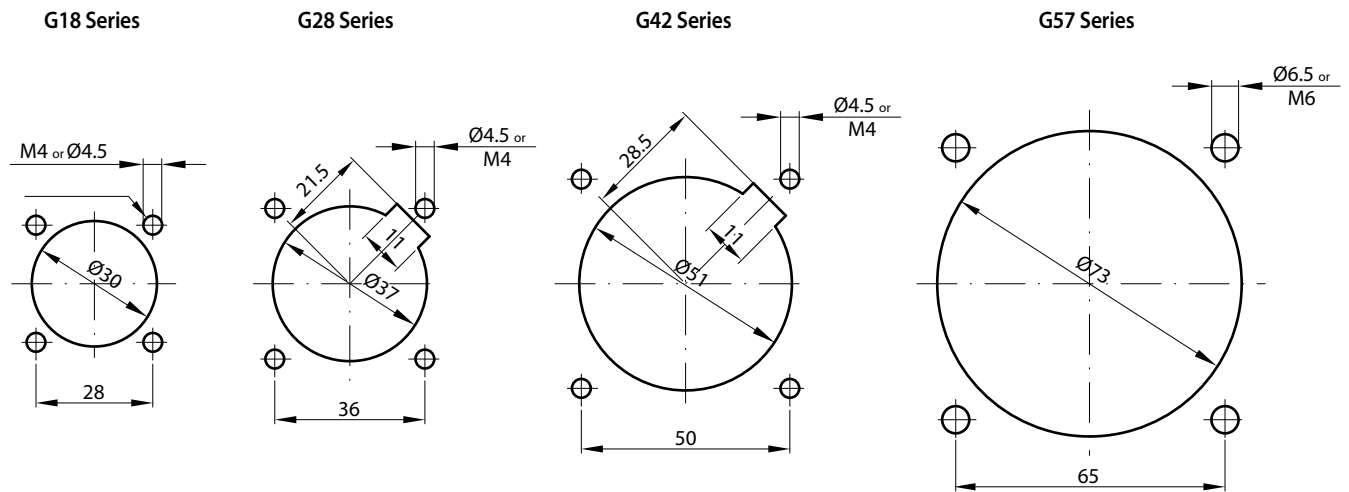


Ordering code	Crimp tool for
<b>CWZ-600-1</b>	Contacts SAC-x*, BAC-x*, SBC-x, BBC-x, SCC-x, BCC-x * Do not use for contacts SAC-2.50-xx, BAC-2.50-xx
<b>Tool frame M22520/1-01 and Turret M22520/1-02 (No fig.)</b>	For contacts SAC-2.50-xx, BAC-2.50-xx only! Crimp tool and turret from DMC or Buchanan. Order direct from OEM.

## Mounting holes

Series G/GM

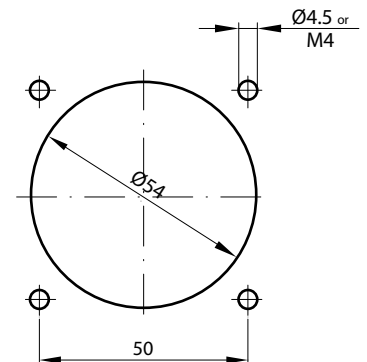
Mounting holes for panel mount receptacles:



### 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.

### GM42 Series



# Schaltbau GmbH

For detailed information on our products and services visit our website – or give us a call!

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with compliments:



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.

## 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
- Snap-action switch made of robust polyetherimide (PEI)
- Snap-action switch with two galvanically isolated contact bridges
- Special switches to suit customer requirements

### Contactors Emergency disconnect switches

- 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 disconnect switches
- Special contactors to suit customer requirements

### Electrics for rolling stock

- Equipment for driver's cab
- Equipment for passenger use
- High-voltage switchgear
- High-voltage heaters
- High-voltage roof equipment
- Equipment for electric brakes
- Design and engineering of train electrics to customer requirements