Series A 3: Connectors with Insulation Displacement Technique

The convenience of the insulation displacement connection can now be utilized with a classic square connector – a 4 pole (3+PE) industrial plug connector of series A. Male and female versions are available in hoods and coupler hoods made of plastic.

**Assembly**

Slide the sleeve nut of the insulation displacement connection onto the stripped conductor. Screw the sleeve nut onto the plug connector – and the round conductor connection is ready.

Lead the cores into the marked core entries and cut off the projecting core ends flush, i.e. so that there is no overhang.

If you need to undo the connection, then just unscrew the sleeve nut.

Thanks to insulation displacement technique it now only takes a few seconds to connect the 4-pole round conductor: Only the sleeve nut has to be slid onto the conductor – since splicing ring, seal and strain relief are included in the sleeve nut.

**Housings of series A 3 - A 16**

Housings of series A 3 - A 16 have the normal single locking system.

**Housings of series A 32**

Housings of series A 32 have the double locking system.

Series A 3 connectors are available both with screw terminals and insulation displacement technique. Series A 4, however, is only available with screw terminals. Housings in plastic, aluminium or zinc die-casting acc. to your requirements.

Snap-on mounting adapters are ideal for mounting into switch cabinets. The clearly arranged swing-type insertion plate allows easy wiring.

Series A 10, A 16 and A 32 are available with screw terminal inserts as well as with crimp-type contact carriers. The crimp contacts snap into the contact carrier and can be removed with removal tool. Please order crimp contacts separately according to required conductor sizes.

The screw terminal inserts are equipped with a wire protection saddle. Saddles save time when mounting crimp-type pin terminals. All Walther contacts have open, captive screws.

**Insulation displacement technique is tested on the basis of:**

- **EN 60 352-4:** solder-free and inaccessible insulation displacement terminal blocks
- **EN 50 262:** entries for cables and conductors
- **DIN EN 60 998-2-3:** equipment for insulation displacement terminal points
- **DIN VDE 0627:** connectors and plug-in socket devices.
Series A

Specifications

**Regulations:** DIN VDE 0627, DIN VDE 0110, DIN EN 61 984

**Approvals:** UR, CSA, MEIE, EZÚ, GOST

**Number of poles:** 3, 4, 5, 10, 16, 32 (2 x 16) + PE

**Electrical Data acc. to DIN EN 61 984:**

<table>
<thead>
<tr>
<th>A3/A4</th>
<th>Rated current</th>
<th>Rated voltage conductor - earth</th>
<th>Rated voltage conductor - conductor</th>
<th>Rated surge</th>
<th>Pollution degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>200 / 400 V</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A5</th>
<th>Rated current</th>
<th>Rated voltage conductor - earth</th>
<th>Rated voltage conductor - conductor</th>
<th>Rated surge</th>
<th>Pollution degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>320/500 V</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A10 / A 16</th>
<th>Rated current</th>
<th>Rated voltage conductor - conductor</th>
<th>Rated surge</th>
<th>Pollution degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 A</td>
<td></td>
<td></td>
<td></td>
<td>250 / 400 V</td>
</tr>
</tbody>
</table>

**Material:** Glass-fibre reinforced polyamide

**Temperature range:** -40 °C up to +125 °C

**Flame class rating acc. to UL 94:** V 0

**Mechanical operating life:** > 500 mating cycles

**Contacts**

- **Material:** copper alloy
- **Surface**:
  - hard silver plated: 3 μm Ag
  - hard gold plated: 2 μm Au
  - over 3 μm Ni
- **Contact resistance:** ≤ 1 m Ω
- **Crimp type terminal mm² (AWG):** 0.5 - 4.0 mm² (20-12 AWG)
- **Screw type terminal mm² (AWG):** 2.5 mm² (14 AWG)
- **A 3 / A 4:**
  - Only screw type mm² (AWG): 1.5 mm² (16 AWG)
- **A 5:**
  - Only crimp type terminal mm² (AWG): 0.5 - 2.5 mm² (20-14 AWG)

**Wire stripping length:**

- A 3 and A 4: 5 mm
- A 5, A 10 and A 16: 7 mm with screw and crimping contacts

**Application hint:**

Heavy duty connectors are electrical devices which under proper use - under load - should not be inserted or separated.

The derating diagram (corrected current capacity curve) acc. to DIN IEC 60 512 applies to such current which can - depending on ambient temperature and conductor size - circulate through each contact without exceeding the upper limiting temperature.
### Screw terminal inserts

<table>
<thead>
<tr>
<th>Description</th>
<th>Part No.</th>
<th>EAN-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Female insert</strong></td>
<td>700 103</td>
<td>10</td>
</tr>
<tr>
<td>Screw terminal without wire protection</td>
<td></td>
<td>14</td>
</tr>
<tr>
<td>0.5 - 1.5 mm² (20-16 AWG)</td>
<td></td>
<td>025428</td>
</tr>
<tr>
<td><strong>Male insert</strong></td>
<td>700 203</td>
<td>10</td>
</tr>
<tr>
<td>Screw terminal without wire protection</td>
<td></td>
<td>14</td>
</tr>
<tr>
<td>0.5 - 1.5 mm² (20-16 AWG)</td>
<td></td>
<td>025497</td>
</tr>
</tbody>
</table>

### Contact arrangement

- **Female insert**
- **Male insert**

### Connectors with insulation displacement technique

<table>
<thead>
<tr>
<th>Description</th>
<th>Part No.</th>
<th>EAN-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hood with female insert</strong></td>
<td>700 724</td>
<td>10</td>
</tr>
<tr>
<td>Height 66 mm for single locking system</td>
<td></td>
<td>426812</td>
</tr>
<tr>
<td><strong>Hood with male insert</strong></td>
<td>700 725</td>
<td>25</td>
</tr>
<tr>
<td>Height 66 mm for single locking system</td>
<td></td>
<td>426829</td>
</tr>
<tr>
<td><strong>Coupler hood with female insert</strong></td>
<td>700 726</td>
<td>28</td>
</tr>
<tr>
<td>Height 63 mm with single locking system</td>
<td></td>
<td>426805</td>
</tr>
<tr>
<td><strong>Coupler hood with male insert</strong></td>
<td>700 727</td>
<td>28</td>
</tr>
<tr>
<td>Height 63 mm with single locking system</td>
<td></td>
<td>426799</td>
</tr>
</tbody>
</table>

### Specifications of insulation displacement connectors:

- **General:**
  - Key width of sleeve nut: 19 mm
  - Torque of sleeve nut: 3 Nm
  - Mating cycles: ≥ 500
- **Cables for insulation displacement technique:**
  - Conductor size: 0.75 - 1.5 mm² / 18 - 16 AWG
  - Stranded cable / smallest wire diameter: VDE 0295 class 2 up to 50.2 mm
  - Core insulating material: PVC/PE
  - External cable diameter: 6 - 12 mm
  - Wire diameter (incl. isolation): ≤ 3

- **Mechanical data:**
  - Frequency of connection of cables with equal diameter: 10
- **Material:**
  - Contact material / contact surface: copper alloy / nickel base coat, silver-plated
  - Insulating material / flammability acc. to UL 94: BA / V0
- **Approvals:** UL/CSA

⇒ Matching housings for screw terminal inserts see page 89 - 90
### Screw terminal inserts

**Female insert**  
Screw terminal without wire protection  
0.5 - 1.5 mm² (20-16 AWG)  
Part No. 700 104

**Male insert**  
Screw terminal without wire protection  
0.5 - 1.5 mm² (20-16 AWG)  
Part No. 700 204

### Contact arrangement

#### Series A 4

<table>
<thead>
<tr>
<th>Female insert</th>
<th>Male insert</th>
</tr>
</thead>
<tbody>
<tr>
<td>700 104</td>
<td>10 025435</td>
</tr>
</tbody>
</table>

- View from termination side -

#### Series A 5

<table>
<thead>
<tr>
<th>Female insert</th>
<th>Male insert</th>
</tr>
</thead>
<tbody>
<tr>
<td>700 205</td>
<td>14 517220</td>
</tr>
</tbody>
</table>

### Crimp contact carriers

**Contact carrier for sleeve contacts**  
Part No. 700 105  
- Please order crimp contacts separately -

**Contact carrier for pin contacts**  
Part No. 700 205  
- Please order crimp contacts separately -

**Coding pin**  
Part No. 700 734

### Contacts for A5 inserts

<table>
<thead>
<tr>
<th>Type</th>
<th>Number of grooves</th>
<th>Conductor size and reference to the number of n-grooves:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sleeve contact</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(copper alloy)</td>
<td>710 504</td>
<td>710 842</td>
</tr>
<tr>
<td>crimp-type</td>
<td>710 500</td>
<td>710 843</td>
</tr>
<tr>
<td>solid, drilled</td>
<td>710 501</td>
<td>710 844</td>
</tr>
<tr>
<td></td>
<td>710 502</td>
<td>710 845</td>
</tr>
</tbody>
</table>

| **Pin contact**  |                  |                                                          |
| (copper alloy)   | 710 514           | 710 847                                                  |
| crimp-type       | 710 510           | 710 848                                                  |
| solid, drilled   | 710 511           | 710 849                                                  |
|                  | 710 512           | 710 850                                                  |

⇒ Matching housings see page 89 - 90
## Screw terminal inserts

**Female insert**
- screw terminal with wire protection
- 0.5 - 2.5 mm² (20-14 AWG)

### Part No.
- 700 110

**Male insert**
- screw terminal with wire protection
- 0.5 - 2.5 mm² (20-14 AWG)

### Part No.
- 700 210

## Crimp contact carriers

**Contact carrier**
- for sleeve contacts

### Part No.
- 700 310

- Please order crimp contacts separately

**Contact carrier**
- for pin contacts

### Part No.
- 700 410

- Please order crimp contacts separately

## Contact arrangement

- Panel cut out
- View from termination side

## Contacts

### Sleeve contacts
- **silver-plated**
  - crimp-type: 710 504, 710 500, 710 501, 710 502, 710 503
  - solid, drilled: 710 842, 710 843, 710 844, 710 845, 710 846

- **gold-plated**
  - crimp-type: 710 504, 710 500, 710 501, 710 502, 710 503
  - solid, drilled: 710 842, 710 843, 710 844, 710 845, 710 846

<table>
<thead>
<tr>
<th>Number of grooves</th>
<th>Conductor size and reference to the number of n-grooves:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0.5 mm², 20 AWG, 160, 027583</td>
</tr>
<tr>
<td>1</td>
<td>0.75 - 1 mm², 1.5 mm², 16 AWG, 18 AWG, 171, 027545</td>
</tr>
<tr>
<td>2</td>
<td>1.5 mm², 16 AWG, 173, 027552</td>
</tr>
<tr>
<td>3</td>
<td>2.5 mm², 14 AWG, 168, 027569</td>
</tr>
<tr>
<td>4</td>
<td>4.0 mm², 12 AWG, 163, 027576</td>
</tr>
</tbody>
</table>

### Pin contacts
- **silver-plated**
  - crimp-type: 710 514, 710 510, 710 511, 710 512, 710 513
  - solid, drilled: 710 847, 710 848, 710 849, 710 850, 710 851

- **gold-plated**
  - crimp-type: 710 514, 710 510, 710 511, 710 512, 710 513
  - solid, drilled: 710 847, 710 848, 710 849, 710 850, 710 851

<table>
<thead>
<tr>
<th>Number of grooves</th>
<th>Conductor size and reference to the number of n-grooves:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0.5 mm², 20 AWG, 130, 027637</td>
</tr>
<tr>
<td>1</td>
<td>0.75 - 1 mm², 1.5 mm², 16 AWG, 18 AWG, 124, 027590</td>
</tr>
<tr>
<td>2</td>
<td>1.5 mm², 16 AWG, 128, 027606</td>
</tr>
<tr>
<td>3</td>
<td>2.5 mm², 14 AWG, 129, 027613</td>
</tr>
<tr>
<td>4</td>
<td>4.0 mm², 12 AWG, 125, 027620</td>
</tr>
</tbody>
</table>

⇒ Matching housings see page 93 - 94
# Screw terminal inserts

### Female insert
- **Screw terminal**
- **With wire protection**
- 0.5 - 2.5 mm² (20-14 AWG)
- **Part No:** 700 116

### Male insert
- **Screw terminal**
- **With wire protection**
- 0.5 - 2.5 mm² (20-14 AWG)
- **Part No:** 700 216

# Crimp contact carriers

## Contact carrier
- **For sleeve contacts**
- **Part No:** 700 316
- **- Please order crimp contacts separately -**

## Contact carrier
- **For pin contacts**
- **Part No:** 700 416
- **- Please order crimp contacts separately -**

# Contact arrangement

**Panel cut out**

**View from termination side**

- **Female insert**
- **Male insert**

# Contacts

## Sleeve contacts
- **Crimp-type**
- **Solid, drilled**
- **Weight per 100**
- **Part No:**
  - 710 504
  - 710 500
  - 710 501
  - 710 502
  - 710 503
- **Conductor size and reference to the number of n-grooves:**
  - 0.5 mm²
  - 0.75 - 1 mm²
  - 1.5 mm²
  - 2.5 mm²
  - 4.0 mm²
  - 20 AWG
  - 18 AWG
  - 16 AWG
  - 14 AWG
  - 12 AWG

## Pin contacts
- **Crimp-type**
- **Solid, drilled**
- **Weight per 100**
- **Part No:**
  - 710 514
  - 710 510
  - 710 511
  - 710 512
  - 710 513
- **Conductor size and reference to the number of n-grooves:**
  - 0.5 mm²
  - 0.75 - 1 mm²
  - 1.5 mm²
  - 2.5 mm²
  - 4.0 mm²
  - 20 AWG
  - 18 AWG
  - 16 AWG
  - 14 AWG
  - 12 AWG

**Matching housings see page 97 - 98**
**Screw terminal inserts**

**Female inserts**
- screw terminal
  - with wire protection 1 - 16: Part No. 700 116
  - 0.5 - 2.5 mm² (20-14 AWG)
  - with wire protection 17 - 32: Part No. 700 132
  - 0.5 - 2.5 mm² (20-14 AWG)

**Male inserts**
- screw terminal
  - with wire protection 1 - 16: Part No. 700 216
  - 0.5 - 2.5 mm² (20-14 AWG)
  - with wire protection 17 - 32: Part No. 700 232
  - 0.5 - 2.5 mm² (20-14 AWG)

**Crimp contact carriers**

**Contact carriers**
- for sleeve contacts 1 - 16: Part No. 700 316
- for sleeve contacts 17 - 32: Part No. 700 332

- Please order crimp contacts separately -

**Contact carriers**
- for pin contacts 1 - 16: Part No. 700 416
- for pin contacts 17 - 32: Part No. 700 432

- Please order crimp contacts separately -

**Contact arrangement**

**Contacts**

**Sleeve contacts**
- crimp-type
  - silver-plated: 710 504
  - gold-plated: 710 842
- solid, drilled
  - weight per 100
    - 710 500: 710 843
    - 710 501: 710 844
    - 710 502: 710 845
    - 710 503: 710 846

Number of grooves = \( n \) to the number of n-grooves:
- 0: 0.5 mm² 20 AWG 100 027583
- 1: 0.75 - 1 mm² 18 AWG 100 027545
- 2: 1.5 mm² 16 AWG 100 027552
- 3: 2.5 mm² 14 AWG 100 027569
- 0: 4.0 mm² 12 AWG 100 027576

**Pin contacts**
- crimp-type
  - silver-plated: 710 514
  - gold-plated: 710 847
- solid, drilled
  - weight per 100
    - 710 510: 710 848
    - 710 511: 710 849
    - 710 512: 710 850
    - 710 513: 710 851

Number of grooves = \( n \) to the number of n-grooves:
- 0: 0.5 mm² 20 AWG 100 027637
- 1: 0.75 - 1 mm² 18 AWG 100 027690
- 2: 1.5 mm² 16 AWG 100 027606
- 3: 2.5 mm² 14 AWG 100 027613
- 0: 4.0 mm² 12 AWG 100 027620

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Matching housings see page 101 - 103