

**ODU AMC®**



*A perfect alliance.*

## **ODU Advanced Military Connector**



## ODU AMC® – Advanced Military Connector



### Applications

- Defence and security
- PTT and PRR systems
- Ruggedized computers and hand-helds
- Nightvision
- Power supply
- Dismounted soldier
- Unmanned systems
- Land vehicles
- Software defined radios.

### Features

- Low weight
- Compact design
- Easy to handle
- Watertight
- Easy-Clean
- Robust
- MIL approved.

**All shown connectors are according to DIN EN 61984:2009 connectors without breaking capacity (COC).**

All dimensions in mm.  
Most of the pictures are illustrations.  
All data and specifications subject to change without notice.

UL-file E110586

Issue 2013-11

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## Product Description

### ODU AMC®



Since its founding in 1942, ODU has developed and manufactured reliable connector systems for the military and defence sectors. These high-quality, innovative products are produced for the global market. ODU connectors are involved in many different sectors of the defence and military market, e.g. soldier communication systems, various "Soldier of the future" programmes, night vision systems, radio systems, radar systems, sonar systems for nuclear and non-nuclear submarines, weapon systems, portable navigation systems, launcher/rockets, aviation, battleships, armoured vehicles, etc.

ODU connectors are certified to:  
ISO 9001, ISO 13485 : 2003 + AC : 2007, ISO/TS 16949,  
ISO 14001:2009 and furthermore VDE, UL, CSA, VG, MIL.



## ODU AMC® – a Connection You Can Count On

ODU is involved in soldier modernisation programs – worldwide.

In this field connectors must meet a number of rigorous conditions including ease-of-use and reliability under the most extreme conditions. ODU connectors meet and often exceed these by providing a reliable connection under the harshest of conditions. If you are looking for an innovative, robust, secure and reliable connector solution in the military/defence area – ODU is your partner!

To meet all requirements of the future ODU developed the military connector **ODU AMC – Advanced Military Connector**.



Group voice and data radio  
– Good shielding  
– Good data transmission



Right-angled connector



Navigation module  
– Easy-Clean version



Personal computer  
– Small  
– Light  
– Colour coding possible



Soldier control unit  
– Cable to cable connection



Vehicle adaption



## Features ODU AMC® Series

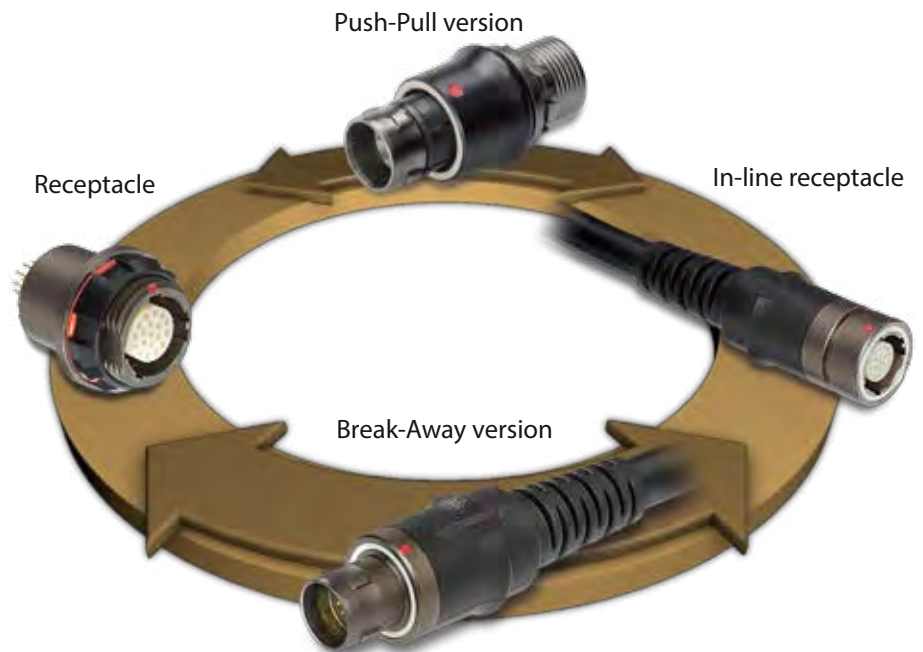


- Push-Pull locking or Break-Away function
- Lightweight, small and easy handling
- Operating temperatures range from  $-51^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$
- Optimized mechanical and colour keying
- Lifetime of  $\geq 5,000$  mating cycles
- Easy handling and blind mateable
- A lot of standard inserts available
- Individual contact configuration: signals, low/high voltage transmission, coax/triax, fiber-optic, compressed air and fluids inserts are possible in one connector
- Easy-Clean version available (see page [35](#))
- System solution inclusive cable assembly and overmolding: everything from one source
- Excellent shielding features ( $360^{\circ}$ )
- Version for hot-plugging available
- Watertight protection class IP 68 and IP 69 K
- Excellent data transmission



## ODU AMC® – Your Flexible Solution

ODU AMC offers flexibility for all system engineers. Push-Pull and Break-Away versions are interoperable with the same receptacle and in-line receptacle. Cables could be changed later on without touching the receptacle (housing). The soldier has an option.



## System Solution

ODU provides all necessary cable assemblies and overmoulding tools.

### Standard solutions



### Application specific solutions





## ODU AMC® – Standard Version with Push-Pull or Break-Away Function

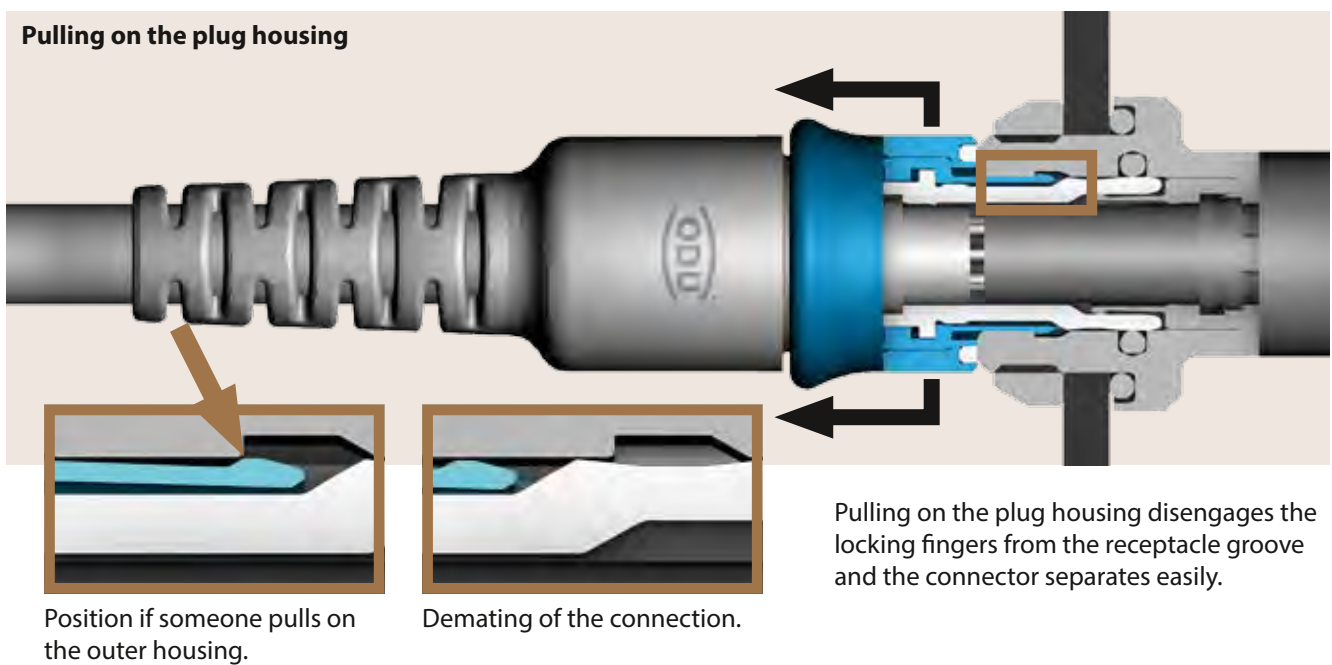
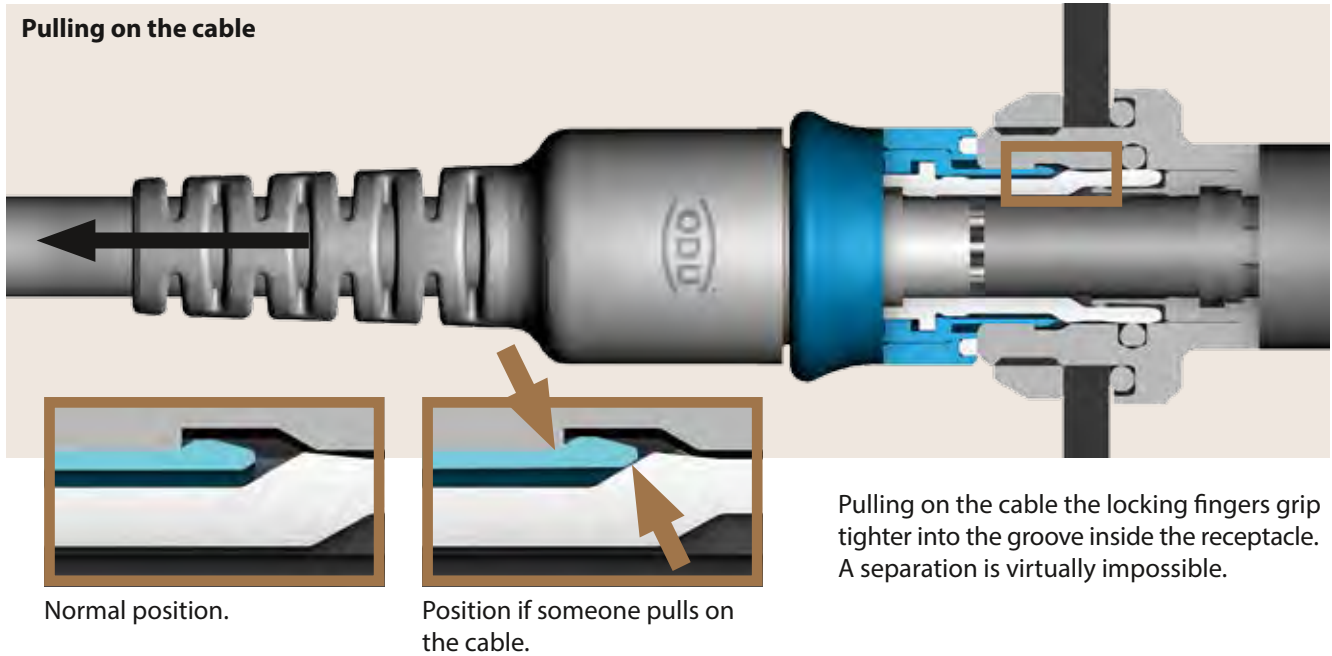


Standard Version



## Push-Pull Locking Principle

Standard Version

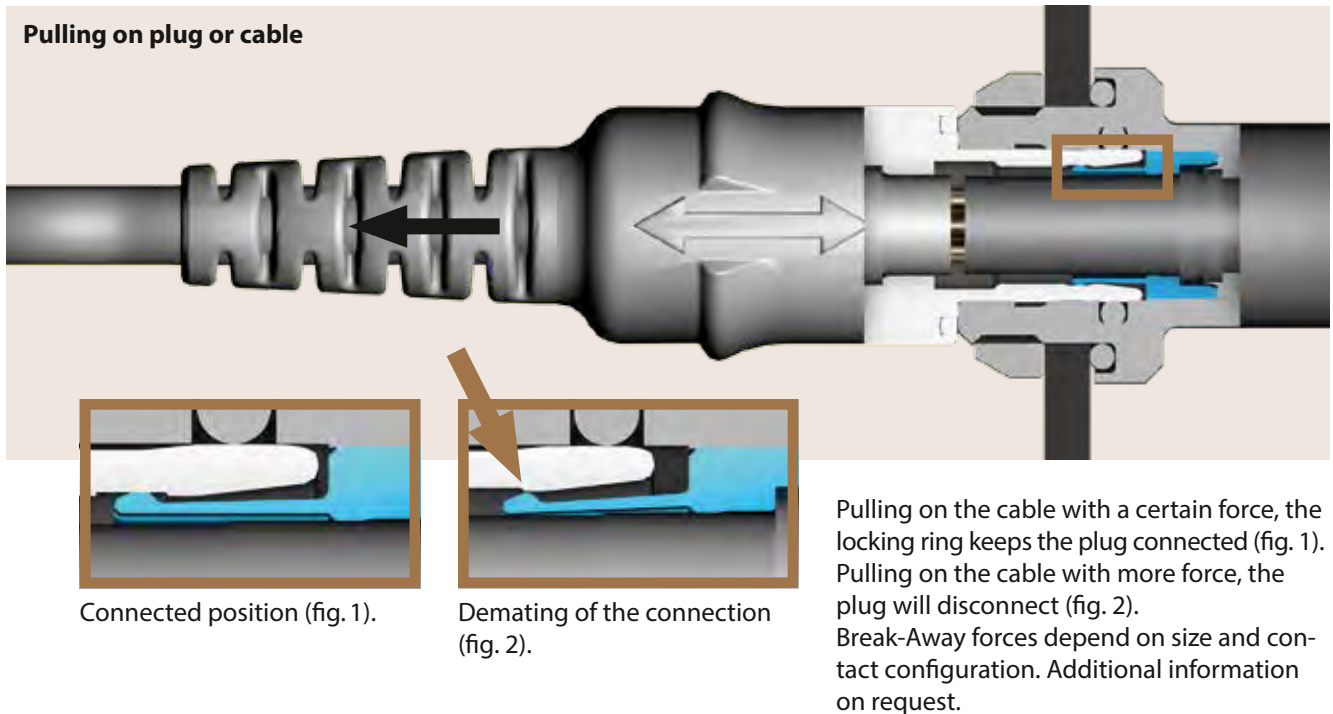


### The advantages of Push-Pull connectors

- Quick and easy mating and demating
- Quick and easy separating
- Easy blind mating in difficult-to-reach places
- Less panel space required
- Definite and secure locking condition



## Break-Away Function



### The advantages of Break-Away function

- Disconnect in a hurry
- Quick and easy mating and demating

Push-Pull Plug

Size

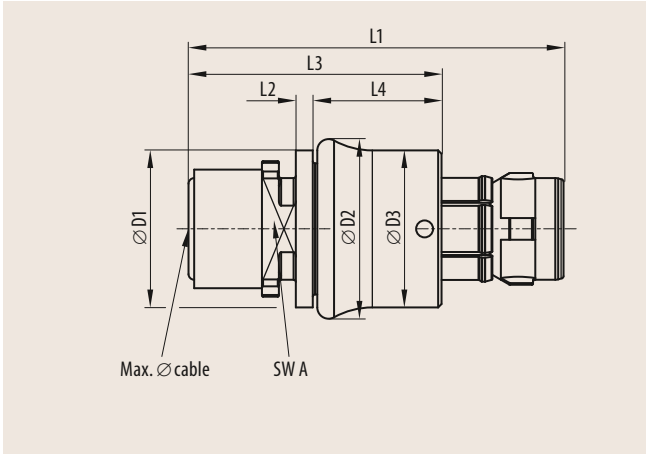
|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| S | 1 |   | Y |   | R | - |   |   |    |    |    |    | 0  | -  | 0  | 0  | 0  | 0  |

|  | Size | Size | Dimensions in mm |     |      |      |      |      |      |      |                            |
|--|------|------|------------------|-----|------|------|------|------|------|------|----------------------------|
|  |      |      | L1               | L2  | L3   | L4   | D1   | D2   | D3   | SW A | Max. Ø cable <sup>1)</sup> |
|  | 0    | 0    | 31.4             | 1.5 | 21.4 | 10.4 | 11.9 | 14.0 | 12.0 | 7    | 5.5                        |
|  | 1    | 1    | 33.2             | 1.5 | 22.4 | 11.4 | 13.9 | 15.9 | 13.9 | 8    | 6.5                        |
|  | A    | 1.5  | 32.7             | 1.5 | 22.7 | 11.7 | 14.5 | 16.5 | 14.5 | 10   | 8.0                        |
|  | 2    | 2    | 35.2             | 1.5 | 23.2 | 12.2 | 17.6 | 19.6 | 17.6 | 12   | 10.0                       |
|  | 3    | 3    | 38.3             | 1.5 | 23.2 | 12.2 | 21.9 | 23.9 | 22.0 | 14   | 11.5                       |
|  | E    | 4.5  | 52.6             | 2.2 | 34.1 | 18.1 | 29.8 | 33.0 | 30.0 | 21   | 17.5                       |

<sup>1)</sup> Based on cable with one braided shield.



- Technical data see [page 58](#)
- Contact configuration see [page 22 – 33](#)
- Cable assembly information see ODU instruction 010.645.001.000.002 (available at [www.odu.de/amc/assembly](http://www.odu.de/amc/assembly)).



Break-Away Plug

Size

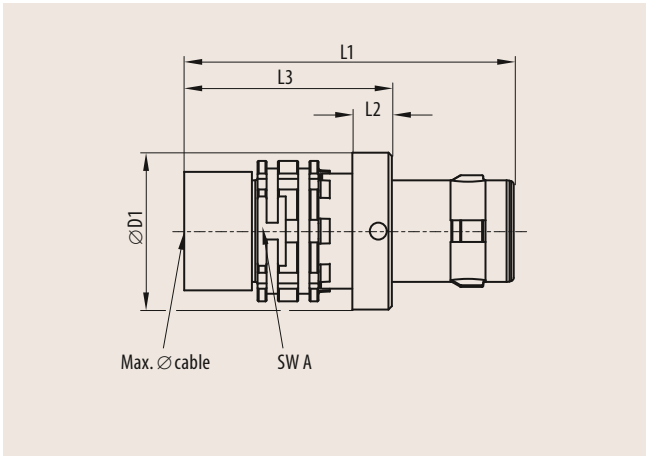
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|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| A | 1 |   | Y |   | R | - |   |   |    |    |    |    | 0  | -  | 0  | 0  | 0  | 0  |

| Size | Dimensions in mm |      |     |      |      |      |                            |
|------|------------------|------|-----|------|------|------|----------------------------|
|      | Size             | L1   | L2  | L3   | D1   | SW A | Max. Ø cable <sup>1)</sup> |
| 0    | 0                | 25.0 | 3.0 | 15.0 | 11.9 | 9    | 5.5                        |
| 1    | 1                | 29.2 | 3.5 | 18.4 | 13.9 | 11   | 6.5                        |
| A    | 1.5              | 28.5 | 3.5 | 18.5 | 15.9 | 12   | 8.0                        |
| 2    | 2                | 31.0 | 4.0 | 19.0 | 17.6 | 14   | 10.0                       |
| 3    | 3                | 37.5 | 4.0 | 22.4 | 21.9 | 18   | 11.5                       |

<sup>1)</sup> Based on cable with one braided shield.



- Technical data see [page 58](#)
- Contact configuration see [page 22 – 31](#)
- Cable assembly information see ODU instruction 010.645.001.000.004 (available at [www.odu.de/amc/assembly](http://www.odu.de/amc/assembly)).



In-Line Receptacle

Size

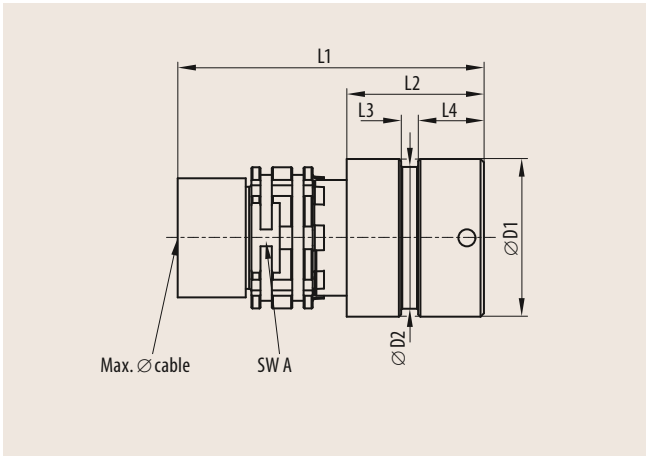
|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| K | 1 |   | Y |   | R | - |   |   |    |    |    |    | 0  | -  | 0  | 0  | 0  | 0  |

|  | Size | Size | Dimensions in mm |      |     |     |      |      |      |                            |
|--|------|------|------------------|------|-----|-----|------|------|------|----------------------------|
|  |      |      | L1               | L2   | L3  | L4  | D1   | D2   | SW A | Max. Ø cable <sup>1)</sup> |
|  | 0    | 0    | 25.0             | 13.0 | 1.5 | 5.8 | 11.9 | 10.5 | 9    | 5.5                        |
|  | 1    | 1    | 27.0             | 12.1 | 1.5 | 5.8 | 13.9 | 12.5 | 11   | 6.5                        |
|  | A    | 1.5  | 27.0             | 12.0 | 1.5 | 5.8 | 15.9 | 14.5 | 12   | 8.0                        |
|  | 2    | 2    | 30.0             | 15.0 | 1.5 | 5.8 | 17.6 | 16.2 | 14   | 10.0                       |
|  | 3    | 3    | 38.0             | 19.5 | 1.5 | 5.8 | 21.9 | 20.8 | 18   | 11.5                       |

<sup>1)</sup> Based on cable with one braided shield.



- Technical data see [page 58](#)
- Contact configuration see [page 22 – 31](#)
- Cable assembly information see ODU instruction 010.645.001.000.003 (available at [www.odu.de/amc/assembly](http://www.odu.de/amc/assembly)).



Receptacle

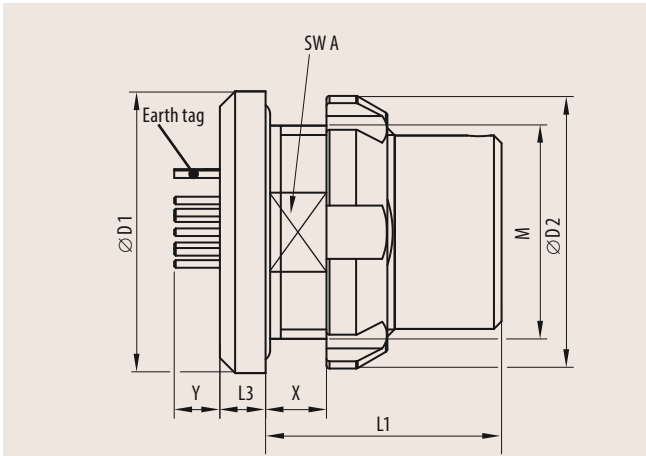
Connector Type

|                |   |                                                                     |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
|----------------|---|---------------------------------------------------------------------|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| 1              | 2 | 3                                                                   | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|                |   |                                                                     | Y |   | R | - |   |   |    |    |    |    | 0  | -  | 0  | 0  | 0  | L  |
| Connector type |   |                                                                     |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
| Type           |   |                                                                     |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
| G              | K | For installation from rear of panel – low profile inside the device |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |

Size

|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|   |   |   | Y |   | R | - |   |   |    |    |    |    | 0  | -  | 0  | 0  | 0  | L  |

| Size | Size | Dimensions<br>in mm |     |                         |           |      |      |      |         | Panel cut out |      |
|------|------|---------------------|-----|-------------------------|-----------|------|------|------|---------|---------------|------|
|      |      | L1                  | L3  | Y                       | X<br>max. | D1   | D2   | SW A | M       | SW            | Ø    |
| 0    | 0    | 13.0                | 2.5 | <a href="#">page 23</a> | 5         | 15.5 | 15.0 | 10   | 11×0.75 | 10.1          | 11.1 |
| 1    | 1    | 15.5                | 3.0 | <a href="#">page 25</a> | 4         | 18.5 | 17.9 | 13   | 14×1    | 13.1          | 14.1 |
| 1.5  | A    | 14.2                | 3.0 | <a href="#">page 27</a> | 4         | 18.9 | 17.9 | 13   | 14×1    | 13.1          | 14.1 |
| 2    | 2    | 17.5                | 3.0 | <a href="#">page 29</a> | 4         | 20.8 | 21.9 | 15   | 16×1    | 15.1          | 16.1 |



- Technical data see [page 58](#)
- Contact configuration and PCB layout [see page 22 – 29](#)
- IP 68, also in unmated condition.

| Nutdriver for slotted nut |                     |              |
|---------------------------|---------------------|--------------|
| Size                      | Number              | Torque in Nm |
| 0                         | 700.098.001.000.000 | 1.0          |
| 1                         | 701.098.002.000.000 | 3.0          |
| 1.5 (A)                   | 701.098.002.000.000 | 3.0          |
| 2                         | 702.098.001.000.000 | 4.0          |



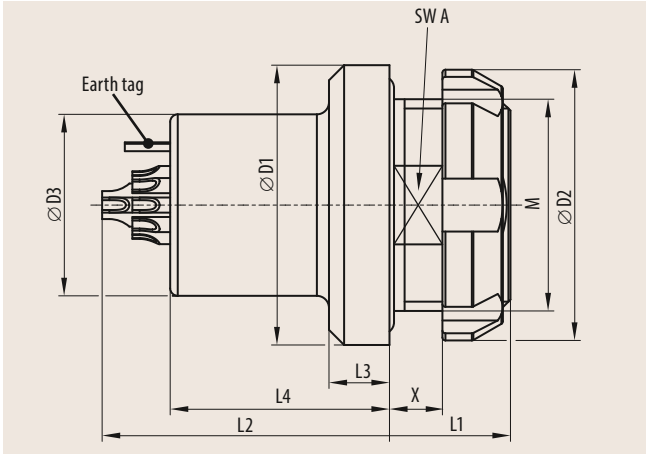
Receptacle

Connector Type

|                |   |                                                                      |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
|----------------|---|----------------------------------------------------------------------|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| 1              | 2 | 3                                                                    | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|                |   |                                                                      | Y |   | R | - |   |   |    |    |    |    | 0  | -  | 0  | 0  | 0  | L  |
| Connector type |   |                                                                      |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
| Type           |   |                                                                      |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
| G 8            |   | For installation from rear of panel – low profile outside the device |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |

Size

|      |   |                  |         |     |      |        |      |      |      |      |         |      |      |    |    |    |    |    |
|------|---|------------------|---------|-----|------|--------|------|------|------|------|---------|------|------|----|----|----|----|----|
| 1    | 2 | 3                | 4       | 5   | 6    | 7      | 8    | 9    | 10   | 11   | 12      | 13   | 14   | 15 | 16 | 17 | 18 | 19 |
|      |   |                  | Y       |     | R    | -      |      |      |      |      |         |      | 0    | -  | 0  | 0  | 0  | L  |
| Size |   |                  |         |     |      |        |      |      |      |      |         |      |      |    |    |    |    |    |
|      |   | Dimensions in mm |         |     |      |        |      |      |      |      |         |      |      |    |    |    |    |    |
|      |   | L1               | L2 max. | L3  | L4   | X max. | D1   | D2   | D3   | SW A | M       | SW   | Ø    |    |    |    |    |    |
| 0    |   | 6.5              | 15.5    | 3.0 | 11.5 | 3.0    | 15.5 | 15.0 | 10.0 | 10   | 11×0.75 | 10.1 | 11.1 |    |    |    |    |    |
| 1    |   | 8.0              | 19.0    | 4.0 | 14.5 | 3.5    | 18.5 | 17.9 | 12.0 | 13   | 14×1    | 13.1 | 14.1 |    |    |    |    |    |
| 1.5  |   | 7.0              | 17.7    | 2.5 | 12.5 | 3.0    | 18.9 | 17.9 | 14.0 | 13   | 14×1    | 13.1 | 14.1 |    |    |    |    |    |
| 2    |   | 8.0              | 21.5    | 4.0 | 15.0 | 3.0    | 20.8 | 21.9 | 14.5 | 15   | 16×1    | 15.1 | 16.1 |    |    |    |    |    |
| 3    |   | 11.0             | 22.5    | 4.0 | 15.5 | 5.5    | 26.0 | 25.0 | 18.0 | 18   | 20×1    | 18.1 | 20.1 |    |    |    |    |    |
| 4.5  |   | 13.0             | 19.0    | 5.0 | 13.0 | 6.5    | 39.0 | 37.5 | 27.0 | 27   | 30×1.5  | 27.1 | 30.1 |    |    |    |    |    |



- Technical data see [page 58](#)
- Contact configuration and PCB layout [see page 22 – 33](#)
- IP 68, also in unmated condition.

| Nutdriver for slotted nut |                     |              |
|---------------------------|---------------------|--------------|
| Size                      | part number         | Torque in Nm |
| 0                         | 700.098.001.000.000 | 1.0          |
| 1                         | 701.098.002.000.000 | 3.0          |
| 1.5 (A)                   | 701.098.002.000.000 | 3.0          |
| 2                         | 702.098.001.000.000 | 4.0          |
| 3                         | 703.098.001.000.000 | 5.5          |
| 4.5 (E)                   | 745.645.098.001.000 | 10.0         |

## ODU AMC® Standard Version Details for the Part Number Key



Standard Version



**Keying**  
**Housing Material**  
**Contact Inserts**





Keying Possibilities

|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|   |   |   | Y |   | R | - |   |   |    |    |    |    |    | 0  | -  | 0  | 0  | 0  |

Housing Material

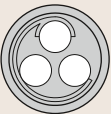
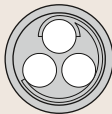
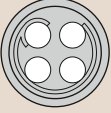
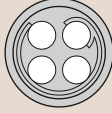
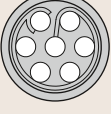
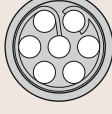
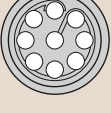
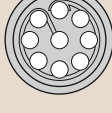
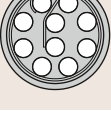
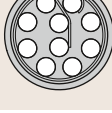
|   |   |   |   |                  |   |                                                    |   |   |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|------------------|---|----------------------------------------------------|---|---|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5                | 6 | 7                                                  | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|   |   |   | Y |                  | R | -                                                  | P |   |    |    |    |    | 0  | -  | 0  | 0  | 0  |    |
|   |   |   |   | Housing material |   |                                                    |   |   |    |    |    |    |    |    |    |    |    |    |
|   |   |   |   |                  | R | Aluminium EN-6023<br>Ruthenium over electroless Ni |   |   |    |    |    |    |    |    |    |    |    |    |

Standard Version

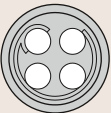
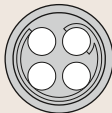
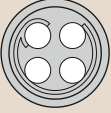
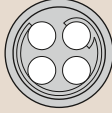
## Contact Configurations

### Size 0

|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|   |   | 0 | Y |   |   | R | - |   |    |    |    |    | 0  | -  | 0  | 0  | 0  |    |

| Size | Insulator | Number of contacts <sup>3)</sup> | Contact diameter<br>mm | Nominal current load per contact <sup>2)</sup><br>A | Test voltage acc. SAE 13441<br>Contact to contact<br>kV | Rated voltage <sup>1)</sup><br>kV | Termination |       | View on the termination side                                                          |                                                                                       |
|------|-----------|----------------------------------|------------------------|-----------------------------------------------------|---------------------------------------------------------|-----------------------------------|-------------|-------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|      |           |                                  |                        |                                                     |                                                         |                                   | Solder      | Print | Male contact side                                                                     | Female contact side                                                                   |
| 0    | P 0       | 3                                | 0.9                    | 10                                                  | 1.200                                                   | 0.400                             | ●           | ●     |    |    |
| 0    | P 0       | 4                                | 0.7                    | 7                                                   | 0.900                                                   | 0.300                             | ●           | ●     |   |   |
| 0    | P 0       | 7                                | 0.5                    | 5                                                   | 0.900                                                   | 0.300                             | ●           | ●     |  |  |
| 0    | P 0       | 9                                | 0.5                    | 5                                                   | 0.600                                                   | 0.200                             | ●           | ●     |  |  |
| 0    | P 1       | 0                                | 0.5                    | 5                                                   | 0.600                                                   | 0.200                             | ●           | ●     |  |  |

#### High-speed inserts:

|   |                                                                                                                               |     |   |     |   |       |       |   |   |                                                                                       |                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------|-----|---|-----|---|-------|-------|---|---|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 0 | <br>Ethernet® Type CAT 5<br>up to 100 Mbit | P 0 | 4 | 0.7 | 7 | 0.900 | 0.300 | ● | ● |  |  |
| 0 | <br>USB 2.0 <sup>5)</sup>                  | P U | 4 | 0.7 | 7 | 0.900 | 0.300 | ● | ● |  |  |

<sup>1)</sup> Maximal operating voltage at sea level up to 2.000 m acc. to SAE 13441. More information see [page 67](#).

<sup>2)</sup> Derating factor see [page 66](#).

<sup>3)</sup> Other contact configurations on request.

<sup>4)</sup> Acc. IEC 11801 :2010. Additional information on request.

<sup>5)</sup> Acc. USB spec. rev. 2.0:2000. Additional information on request.

PCB Layout for Print Contacts  
Size 0

Contact type

|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|   |   | 0 | Y |   | R | - |   |   |    |    |    |    | 0  | -  | 0  | 0  | 0  |    |

| Termination | Contact type <sup>1)</sup> | Contact type <sup>1)</sup> | Available connector type |    |
|-------------|----------------------------|----------------------------|--------------------------|----|
| Solder      | Socket                     | W                          | G8                       | K1 |
|             | Pin                        | X                          | S1                       | A1 |
| Print       | Socket                     | U                          | G8                       | GK |

<sup>1)</sup> Other termination or reverse gender on request.

Contact diameter / Termination cross section

|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|   |   | 0 | Y |   | R | - |   |   |    |    |    |    | 0  | -  | 0  | 0  | 0  |    |

Solder contacts<sup>2)</sup>

|  | Contact diameter |  | Contact diameter | Term. cross section | Termination cross section |                 | Termination diameter |
|--|------------------|--|------------------|---------------------|---------------------------|-----------------|----------------------|
|  |                  |  |                  |                     | AWG                       | mm <sup>2</sup> |                      |
|  | mm               |  | C                | D                   | 26                        | 0.15            |                      |
|  | 0.5              |  | F                | G                   | 22                        | 0.38            |                      |
|  | 0.7              |  | J                | G                   | 22                        | 0.38            |                      |
|  | 0.9              |  |                  |                     |                           |                 |                      |

Print contacts

|  |     |   |   |  |  |     |
|--|-----|---|---|--|--|-----|
|  | 0.5 | C | 0 |  |  | 0.5 |
|  | 0.7 | F | 0 |  |  | 0.5 |
|  | 0.9 | J | 0 |  |  | 0.7 |

<sup>2)</sup> Other cross sections on request.

|                                |  | Fig. 1<br>G8  | Fig. 2<br>GK  |
|--------------------------------|--|---------------|---------------|
|                                |  | Pin X<br>(mm) | Pin Y<br>(mm) |
| 3 pos.                         |  | 3.5           | 3.5           |
| Standard and high-speed 4 pos. |  | 3.5           | 3.5           |
| 7 pos.                         |  | 3.5           | 3.3           |
| 9 pos.                         |  | 3.5           | 3.1           |
| 10 pos.                        |  | 3.5           | 3.1           |

Fig. 1: Length earth tag and pin G8

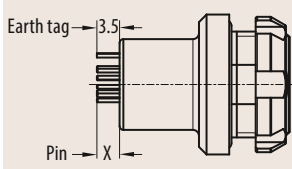
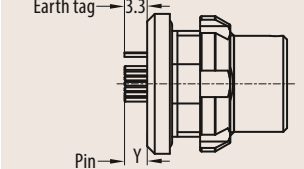


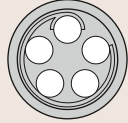
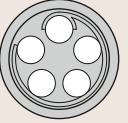
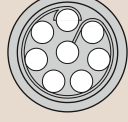
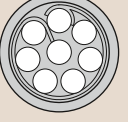
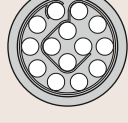
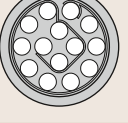
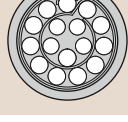
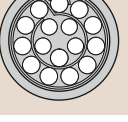
Fig. 2: Length earth tag and pin GK



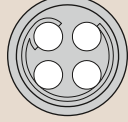
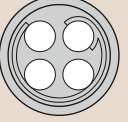
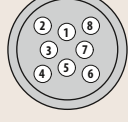
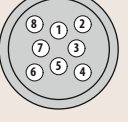


## Contact Configurations Size 1

|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|   |   | 1 | Y |   | R | - |   |   |    |    |    |    | 0  | -  | 0  | 0  | 0  |    |

| Size | Insulator | Number of contacts <sup>3)</sup> | Contact diameter<br>in mm | Nominal<br>current load<br>per contact <sup>2)</sup><br>A | Test voltage<br>acc. SAE 13441<br>Contact to contact<br>kV | Rated<br>voltage <sup>1)</sup><br>kV | Termination |       | View on the<br>termination side                                                       |                                                                                       |
|------|-----------|----------------------------------|---------------------------|-----------------------------------------------------------|------------------------------------------------------------|--------------------------------------|-------------|-------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|      |           |                                  |                           |                                                           |                                                            |                                      | Solder      | Print | Male<br>contact side                                                                  | Female<br>contact side                                                                |
| 1    | P         | 0 5                              | 0.9                       | 10                                                        | 1.350                                                      | 0.450                                | ●           | ●     |    |    |
| 1    | P         | 0 8                              | 0.7                       | 7                                                         | 1.000                                                      | 0.333                                | ●           | ●     |   |   |
| 1    | P         | 1 4                              | 0.5                       | 5                                                         | 0.900                                                      | 0.300                                | ●           | ●     |  |  |
| 1    | P         | 1 6                              | 0.5                       | 5                                                         | 0.900                                                      | 0.300                                | ●           | ●     |  |  |

### High-speed inserts:

|   |                                                                                                                               |   |     |     |    |       |       |   |   |                                                                                       |                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------|---|-----|-----|----|-------|-------|---|---|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 1 | <br>Ethernet® Type CAT 5<br>up to 100 Mbit | P | 0 4 | 0.9 | 10 | 1.500 | 0.500 | ● | ● |  |  |
| 1 | <br>Ethernet® Type CAT 5<br>up to 1 Gbit   | P | D 8 | 0.5 | 5  | 1.000 | 0.333 | ● | ● |  |  |

<sup>1</sup> Maximal operating voltage at sea level up to 2.000 m acc. to SAE 13441. More information see [page 67](#).

<sup>2</sup> Derating factor see [page 66](#).

<sup>3</sup> Other contact configurations on request.

<sup>4</sup> Acc. IEC 11801 :2010. Additional information on request.

PCB Layout for Print Contacts  
Size 1

Contact type

|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|   | 1 | Y |   | R | - |   |   |   |    |    |    |    | 0  | -  | 0  | 0  | 0  |    |

| Termination | Contact type <sup>1)</sup> | Contact type <sup>1)</sup> | Available connector type |    |
|-------------|----------------------------|----------------------------|--------------------------|----|
| Solder      | Socket                     | W                          | G8                       | K1 |
|             | Pin                        | X                          | S1                       | A1 |
| Print       | Socket                     | U                          | G8                       | GK |

<sup>1)</sup> Other termination or reverse gender on request.

Contact diameter / Termination cross section

|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|   | 1 | Y |   | R | - |   |   |   |    |    |    |    | 0  | -  | 0  | 0  | 0  |    |

Solder contacts<sup>2)</sup>

|  | Contact diameter |  | Contact diameter | Term. cross section | Termination cross section |                 | Termination diameter |
|--|------------------|--|------------------|---------------------|---------------------------|-----------------|----------------------|
|  |                  |  |                  |                     | AWG                       | mm <sup>2</sup> |                      |
|  | mm               |  | C                | D                   | 26                        | 0.15            |                      |
|  | 0.5              |  | F                | G                   | 22                        | 0.38            |                      |
|  | 0.7              |  | J                | G                   | 22                        | 0.38            |                      |
|  | 0.9              |  |                  |                     |                           |                 |                      |

Print contacts

|  |     |   |   |  |  |     |
|--|-----|---|---|--|--|-----|
|  | 0.5 | C | 0 |  |  | 0.5 |
|  | 0.7 | F | 0 |  |  | 0.5 |
|  | 0.9 | J | 0 |  |  | 0.7 |

<sup>2)</sup> Other cross sections on request.

Fig. 1: Length earth tag and pin G8

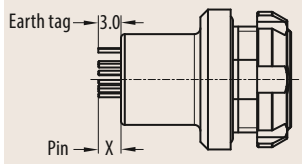
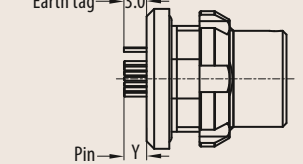


Fig. 2: Length earth tag and pin GK

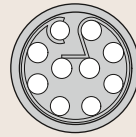
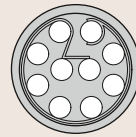
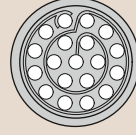
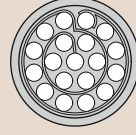
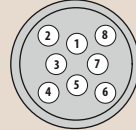
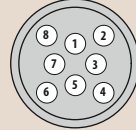


|                   |  | Fig. 1<br>G8  | Fig. 2<br>GK  |
|-------------------|--|---------------|---------------|
|                   |  | Pin X<br>(mm) | Pin Y<br>(mm) |
| 5 pos.            |  | 3.5           | 3.0           |
| 8 pos.            |  | 3.5           | 3.0           |
| 14 pos.           |  | 3.0           | 3.0           |
| 16 pos.           |  | 3.0           | 3.0           |
| High-speed 4 pos. |  | 3.5           | 3.0           |
| High-speed 8 pos. |  | 3.5           | 3.0           |

Standard Version

## Contact Configurations

### Size 1.5

|                   |   |      |                                                                                     |   |   |           |                                  |   |    |        |       |                        |                                                     |                                                      |                                   |                   |                     |                                                                                       |                                                                                       |
|-------------------|---|------|-------------------------------------------------------------------------------------|---|---|-----------|----------------------------------|---|----|--------|-------|------------------------|-----------------------------------------------------|------------------------------------------------------|-----------------------------------|-------------------|---------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 1                 | 2 | 3    | 4                                                                                   | 5 | 6 | 7         | 8                                | 9 | 10 | 11     | 12    | 13                     | 14                                                  | 15                                                   | 16                                | 17                | 18                  | 19                                                                                    |                                                                                       |
|                   |   | A    | Y                                                                                   |   | R | -         |                                  |   |    |        |       |                        | 0                                                   | -                                                    | 0                                 | 0                 | 0                   |                                                                                       |                                                                                       |
|                   |   | Size |                                                                                     |   |   | Insulator | Number of contacts <sup>3)</sup> |   |    |        |       | Contact diameter<br>mm | Nominal current load per contact <sup>2)</sup><br>A | Test voltage acc. SAE 13441<br>Contact to contact kV | Rated voltage <sup>1)</sup><br>kV | Termination       |                     | View on the termination side                                                          |                                                                                       |
|                   |   |      |                                                                                     |   |   |           |                                  |   |    | Solder | Print |                        |                                                     |                                                      |                                   | Male contact side | Female contact side |                                                                                       |                                                                                       |
|                   |   | A    |                                                                                     |   |   | P         | 1                                | 0 |    |        |       | 0.7                    | 7                                                   | 1.200                                                | 0.400                             | ●                 | ●                   |    |    |
|                   |   | A    |                                                                                     |   |   | P         | 1                                | 9 |    |        |       | 0.5                    | 5                                                   | 1.000                                                | 0.333                             | ●                 | ●                   |   |   |
| High-speed insert |   |      |                                                                                     |   |   |           |                                  |   |    |        |       |                        |                                                     |                                                      |                                   |                   |                     |                                                                                       |                                                                                       |
|                   |   | A    |  |   |   | P         | D                                | 8 |    |        |       | 0.7                    | 7                                                   | 1.200                                                | 0.400                             | ●                 | ●                   |  |  |
|                   |   |      | Ethernet® Type CAT 5 up to 1 Gbit                                                   |   |   |           |                                  |   |    |        |       |                        |                                                     |                                                      |                                   |                   |                     |                                                                                       |                                                                                       |

<sup>1)</sup> Maximal operating voltage at sea level up to 2.000 m acc. to SAE 13441. More information see [page 67](#).

<sup>2)</sup> Derating factor see [page 66](#).

<sup>3)</sup> Other contact configurations on request.

<sup>4)</sup> Acc. IEC 11801 :2010. Additional information on request.

PCB Layout for Print Contacts  
Size 1.5

Contact type

|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|   |   | A | Y |   | R | - |   |   |    |    |    |    | 0  | -  | 0  | 0  | 0  |    |

Termination

Contact type<sup>1)</sup>

Contact type<sup>1)</sup>

Available connector type

|        |        |   |    |    |  |
|--------|--------|---|----|----|--|
| Solder | Socket | W | G8 | K1 |  |
|        | Pin    | X | S1 | A1 |  |
| Print  | Socket | U | G8 | GK |  |

<sup>1)</sup> Other termination or reverse gender on request.

Contact diameter / Termination cross section

|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|   |   | A | Y |   | R | - |   |   |    |    |    |    | 0  | -  | 0  | 0  | 0  |    |

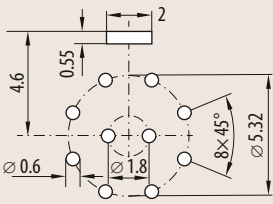
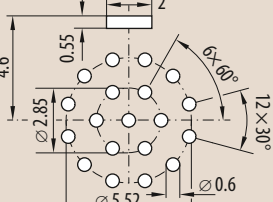
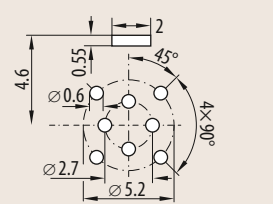
Solder contacts<sup>2)</sup>

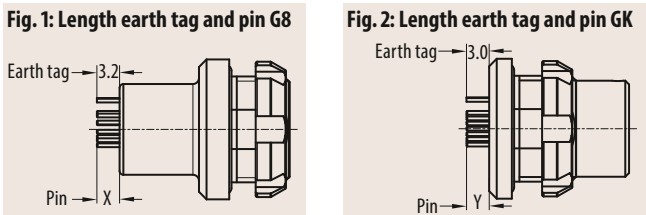
Print contacts

| Contact diameter | Contact diameter | Contact diameter | Term. cross section | Term. cross section | Termination cross section | Termination cross section | Termination diameter |
|------------------|------------------|------------------|---------------------|---------------------|---------------------------|---------------------------|----------------------|
|                  | mm               |                  |                     |                     | AWG                       | mm <sup>2</sup>           | mm                   |
|                  | 0.5              | C                | D                   |                     | 26                        | 0.15                      |                      |
|                  | 0.7              | F                | G                   |                     | 22                        | 0.38                      |                      |

|  |     |   |   |  |  |  |     |
|--|-----|---|---|--|--|--|-----|
|  | 0.5 | C | 0 |  |  |  | 0.5 |
|  | 0.7 | F | 0 |  |  |  | 0.5 |

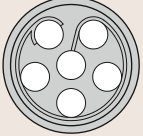
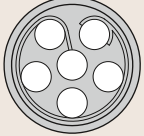
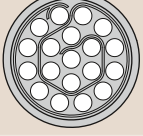
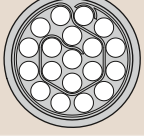
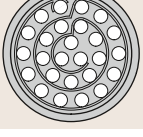
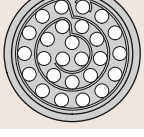
<sup>2)</sup> Other cross sections on request.

|                   |                                                                                      |               |               |
|-------------------|--------------------------------------------------------------------------------------|---------------|---------------|
|                   |                                                                                      | Fig. 1<br>G8  | Fig. 2<br>GK  |
|                   |                                                                                      | Pin X<br>(mm) | Pin Y<br>(mm) |
| 10 pos.           |    | 3.2           | 3.0           |
| 19 pos.           |   | 3.2           | 3.0           |
| High-speed 8 pos. |  | 3.2           | 3.0           |

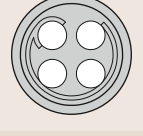
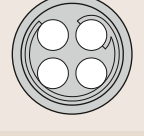
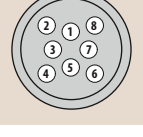
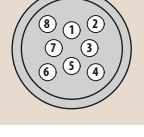


## Contact Configurations Size 2

|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|   |   | 2 | Y |   |   | R | - |   |    |    |    |    | 0  | -  | 0  | 0  | 0  |    |

| Size | Insulator | Number of contacts <sup>3)</sup> | Contact diameter | Nominal current load per contact <sup>2)</sup> | Test voltage acc. SAE 13441 | Rated voltage <sup>1)</sup> | Termination |       | View on the termination side                                                          |                                                                                       |
|------|-----------|----------------------------------|------------------|------------------------------------------------|-----------------------------|-----------------------------|-------------|-------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|      |           |                                  | mm               | A                                              | Contact to contact kV       | kV                          | Solder      | Print | Male contact side                                                                     | Female contact side                                                                   |
| 2    | P 0       | 6                                | 1.3              | 14                                             | 1.500                       | 0.500                       | ●           | ●     |    |    |
| 2    | P 1       | 9                                | 0.7              | 7                                              | 1.000                       | 0.333                       | ●           | ●     |   |   |
| 2    | P 2       | 6                                | 0.5              | 5                                              | 0.900                       | 0.300                       | ●           | ●     |  |  |

### High-speed inserts:

|   |                                                                                                                                                        |       |     |    |       |       |   |   |                                                                                       |                                                                                       |
|---|--------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----|----|-------|-------|---|---|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 2 | <br>Ethernet® Type CAT6 <sub>A</sub><br>up to 100 Mbit              | P 0 4 | 1.3 | 14 | 2.400 | 0.800 | ● | ● |  |  |
| 2 | <br>Ethernet® Type CAT6 <sub>A</sub><br>up to 10 Gbit <sup>4)</sup> | P D 8 | 0.9 | 10 | 1.500 | 0.500 | ● | ● |  |  |

<sup>1)</sup> Maximal operating voltage at sea level up to 2.000 m acc. to SAE 13441. More information see [page 67](#).

<sup>2)</sup> Derating factor see [page 66](#).

<sup>3)</sup> Other contact configurations on request.

<sup>4)</sup> Acc. IEC 11801 :2010. Additional information on request.

PCB Layout for Print Contacts  
Size 2

Contact type

|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|   | 2 | Y |   | R | - |   |   |   |    |    |    |    | 0  | -  | 0  | 0  | 0  |    |

| Termination | Contact type <sup>1)</sup> | Contact type <sup>1)</sup> | Available connector type |    |
|-------------|----------------------------|----------------------------|--------------------------|----|
| Solder      | Socket                     | W                          | G8                       | K1 |
|             | Pin                        | X                          | S1                       | A1 |
| Print       | Socket                     | U                          | G8                       | GK |

<sup>1)</sup> Other termination or reverse gender on request.

Contact diameter / Termination cross section

|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|   | 2 | Y |   | R | - |   |   |   |    |    |    |    | 0  | -  | 0  | 0  | 0  |    |

Solder contacts<sup>2)</sup>

|  | Contact diameter |  | Contact diameter | Term. cross section | Termination cross section |                 | Termination diameter |
|--|------------------|--|------------------|---------------------|---------------------------|-----------------|----------------------|
|  |                  |  |                  |                     | AWG                       | mm <sup>2</sup> |                      |
|  | mm               |  | C                | D                   | 26                        | 0.15            |                      |
|  | 0.5              |  | F                | G                   | 22                        | 0.38            |                      |
|  | 0.7              |  | J                | G                   | 22                        | 0.38            |                      |
|  | 0.9              |  | P                | H                   | 20                        | 0.50            |                      |
|  | 1.3              |  |                  |                     |                           |                 |                      |

Print contacts

|  |     |  |   |   |  |  |     |
|--|-----|--|---|---|--|--|-----|
|  | 0.5 |  | C | 0 |  |  | 0.5 |
|  | 0.7 |  | F | 0 |  |  | 0.5 |
|  | 0.9 |  | J | 0 |  |  | 0.7 |
|  | 1.3 |  | P | 0 |  |  | 0.7 |

<sup>2)</sup> Other cross sections on request.

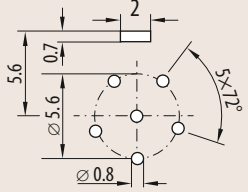
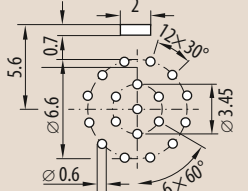
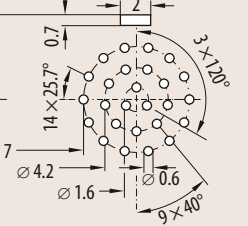
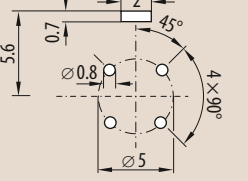
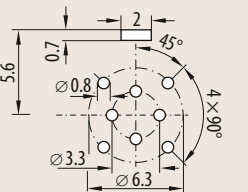
|                   |                                                                                      | Fig. 1<br>G8  | Fig. 2<br>GK  |
|-------------------|--------------------------------------------------------------------------------------|---------------|---------------|
|                   |                                                                                      | Pin X<br>(mm) | Pin Y<br>(mm) |
| 6 pos.            |    | 4.5           | 3.0           |
| 19 pos.           |   | 5.5           | 3.0           |
| 26 pos.           |  | 5.5           | 3.0           |
| High-speed 4 pos. |  | 4.5           | 3.0           |
| High-speed 8 pos. |  | 5.0           | 3.5           |

Fig. 1: Length earth tag and pin G8

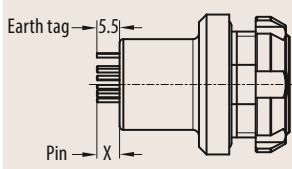
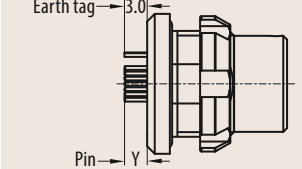


Fig. 2: Length earth tag and pin GK





## Contact Configurations Size 3

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
|   |   | 3 | Y |   | R | - |   |   |    |    |    |    | 0  | -  | 0  | 0  | 0  |    |

| Size | Insulator | Number of contacts <sup>3)</sup> | Contact diameter | Nominal current load per contact <sup>2)</sup> | Test voltage acc. SAE 13441 | Rated voltage <sup>1)</sup> | Termination |       | View on the termination side |                     |
|------|-----------|----------------------------------|------------------|------------------------------------------------|-----------------------------|-----------------------------|-------------|-------|------------------------------|---------------------|
|      |           |                                  | mm               | A                                              | Contact to contact kV       | kV                          | Solder      | Print | Male contact side            | Female contact side |
| 3    | P         | 0 4                              | 2.0              | 22                                             | 1.650                       | 0.550                       | ●           | ●     |                              |                     |
| 3    | P         | 1 8                              | 0.9              | 10                                             | 1.350                       | 0.450                       | ●           | ●     |                              |                     |
| 3    | P         | 2 6                              | 0.7              | 7                                              | 1.000                       | 0.333                       | ●           | ●     |                              |                     |
| 3    | P         | 3 7                              | 0.5              | 5                                              | 0.900                       | 0.300                       | ●           | ●     |                              |                     |

<sup>1</sup> Maximal operating voltage at sea level up to 2.000 m acc. to SAE 13441. More information see [page 67](#).

<sup>2</sup> Derating factor see [page 66](#).

<sup>3</sup> Other contact configurations on request.

PCB Layout for Print Contacts  
Size 3

Contact type

|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|   |   | 3 | Y |   | R | - | P |   |    |    |    |    | 0  | -  | 0  | 0  | 0  |    |

| Termination | Contact type <sup>1)</sup> | Contact type <sup>1)</sup> | Available connector type |    |
|-------------|----------------------------|----------------------------|--------------------------|----|
| Solder      | Socket                     | W                          | G8                       | K1 |
|             | Pin                        | X                          | S1                       | A1 |
| Print       | Socket                     | U                          | G8                       |    |

<sup>1</sup> Other termination or reverse gender on request.

Contact diameter / Termination cross section

|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|   |   | 3 | Y |   | R | - |   |   |    |    |    |    | 0  | -  | 0  | 0  | 0  |    |

Solder contacts<sup>2)</sup>

|  | Contact diameter |  | Contact diameter | Term. cross section | Termination cross section |                 | Termination diameter |
|--|------------------|--|------------------|---------------------|---------------------------|-----------------|----------------------|
|  | mm               |  |                  |                     | AWG                       | mm <sup>2</sup> |                      |
|  | 0.5              |  | C                | D                   | 26                        | 0.15            |                      |
|  | 0.7              |  | F                | G                   | 22                        | 0.38            |                      |
|  | 0.9              |  | J                | G                   | 22                        | 0.38            |                      |
|  | 2.0              |  | T                | S                   | 12                        | 2.5             |                      |

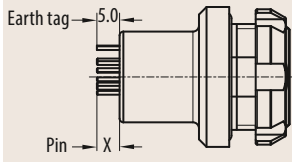
Print contacts

|  |     |  |   |   |  |  |     |
|--|-----|--|---|---|--|--|-----|
|  | 0.5 |  | C | 0 |  |  | 0.5 |
|  | 0.7 |  | F | 0 |  |  | 0.5 |
|  | 0.9 |  | J | 0 |  |  | 0.7 |
|  | 2.0 |  | T | 0 |  |  | 0.7 |

<sup>2</sup> Other cross sections on request.

|         |  | Fig. 1<br>G8     |
|---------|--|------------------|
|         |  | Pin<br>X<br>(mm) |
| 4 pos.  |  | 5.0              |
| 18 pos. |  | 4.5              |
| 26 pos. |  | 4.5              |
| 37 pos. |  | 4.5              |

Fig. 1: Length earth tag and pin G8



Contact Configurations  
Size 4.5

|   |   |      |   |   |   |           |                                  |   |                  |    |                                                |    |                             |    |                             |    |             |       |                              |                     |                                                                                     |                                                                                     |
|---|---|------|---|---|---|-----------|----------------------------------|---|------------------|----|------------------------------------------------|----|-----------------------------|----|-----------------------------|----|-------------|-------|------------------------------|---------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 1 | 2 | 3    | 4 | 5 | 6 | 7         | 8                                | 9 | 10               | 11 | 12                                             | 13 | 14                          | 15 | 16                          | 17 | 18          | 19    |                              |                     |                                                                                     |                                                                                     |
|   |   | E    | Y |   |   | R         | -                                |   |                  |    |                                                |    | 0                           | -  | 0                           | 0  | 0           |       |                              |                     |                                                                                     |                                                                                     |
|   |   | Size |   |   |   | Insulator | Number of contacts <sup>3)</sup> |   | Contact diameter |    | Nominal current load per contact <sup>2)</sup> |    | Test voltage acc. SAE 13441 |    | Rated voltage <sup>1)</sup> |    | Termination |       | View on the termination side |                     |                                                                                     |                                                                                     |
|   |   |      |   |   |   |           |                                  |   | mm               |    | A                                              |    | Contact to contact kV       |    | kV                          |    | Solder      | Print | Male contact side            | Female contact side |                                                                                     |                                                                                     |
|   |   | E    |   |   |   | P         | 5                                | 5 | 0.7              |    | 7                                              |    | 1.000                       |    | 0.333                       |    | ●           |       | ●                            |                     |  |  |

<sup>1</sup> Maximal operating voltage at sea level up to 2.000 m acc. to SAE 13441. More information see [page 67](#).

<sup>2</sup> Derating factor see [page 66](#).

<sup>3</sup> Other contact configurations on request.

PCB Layout for Print Contacts  
Size 4.5

Contact type

|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|   |   | E | Y |   |   | R | - | P |    |    |    |    | 0  | -  | 0  | 0  | 0  |    |

| Termination | Contact type <sup>1)</sup> | Contact type <sup>1)</sup> | Available connector type |  |
|-------------|----------------------------|----------------------------|--------------------------|--|
| Solder      | Socket                     | W                          | G8                       |  |
|             | Pin                        | X                          | S1                       |  |
| Print       | Socket                     | U                          | G8                       |  |

<sup>1)</sup> Other termination or reverse gender on request.

Contact diameter / Termination cross section

|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|   |   | E | Y |   |   | R | - |   |    |    |    |    | 0  | -  | 0  | 0  | 0  |    |

Solder contacts<sup>2)</sup>

|  | Contact diameter |  | Contact diameter | Term. cross section | Termination cross section | Termination diameter |    |
|--|------------------|--|------------------|---------------------|---------------------------|----------------------|----|
|  | mm               |  |                  |                     | AWG                       | mm <sup>2</sup>      | mm |
|  | 0.7              |  | F                | G                   | 22                        | 0.38                 |    |

Print contacts

|  |     |  |  |   |   |  |  |     |
|--|-----|--|--|---|---|--|--|-----|
|  | 0.7 |  |  | F | 0 |  |  | 0.5 |
|--|-----|--|--|---|---|--|--|-----|

<sup>2)</sup> Other cross sections on request.

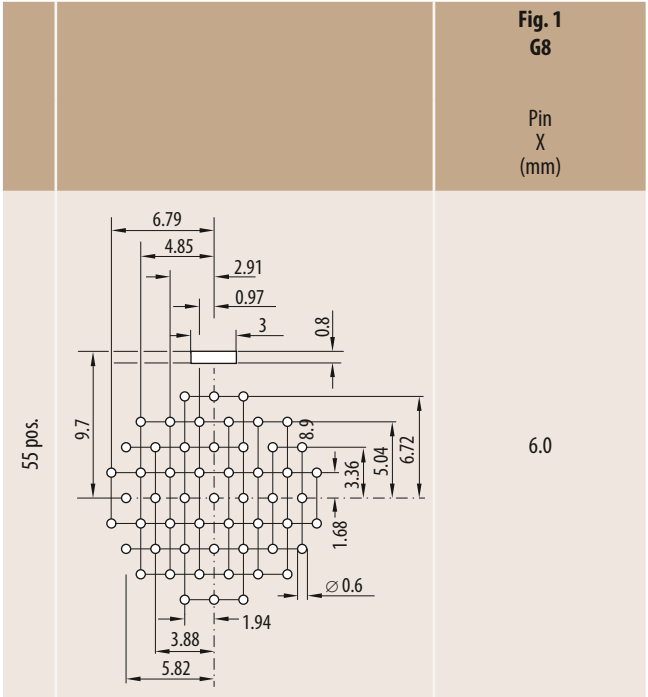
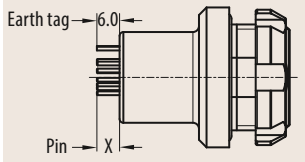


Fig. 1: Length earth tag and pin G8





## ODU AMC® Easy-Clean



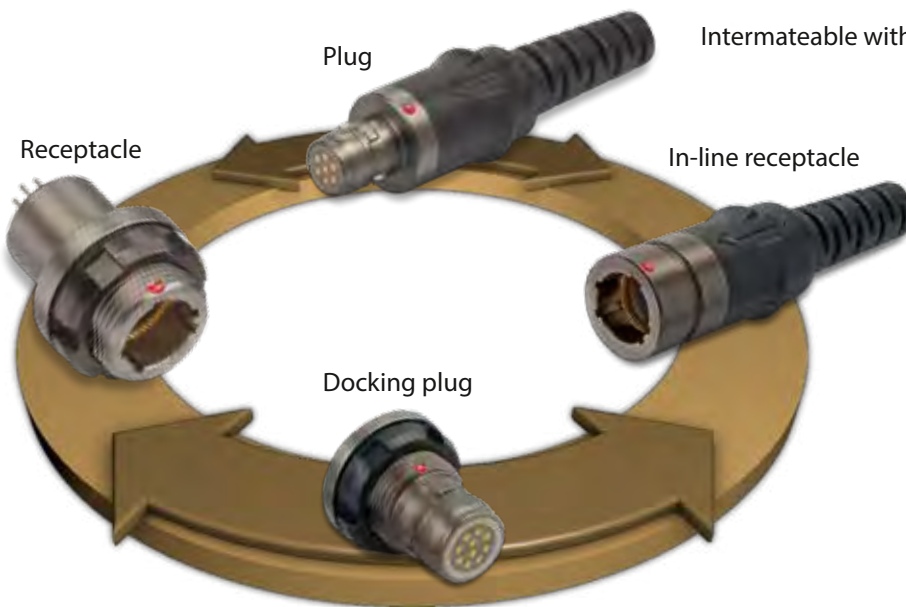
## ODU AMC® – Easy-Clean Version



Easy-Clean version – fast and easy cleaning of the connection in the field.

Size 0 7 positions  
Size 1 10/16 positions  
Size 1.5 19 positions

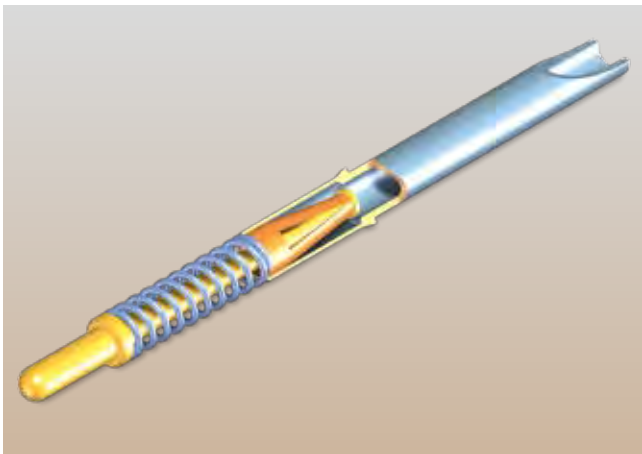
All solder and print termination.



Intermateable with receptacle and in-line receptacle.



Cable to cable connection available.



The contacts within the Easy-Clean version are patented spring loaded contacts made by a company of Switzerland.



Break-Away Plug

Size

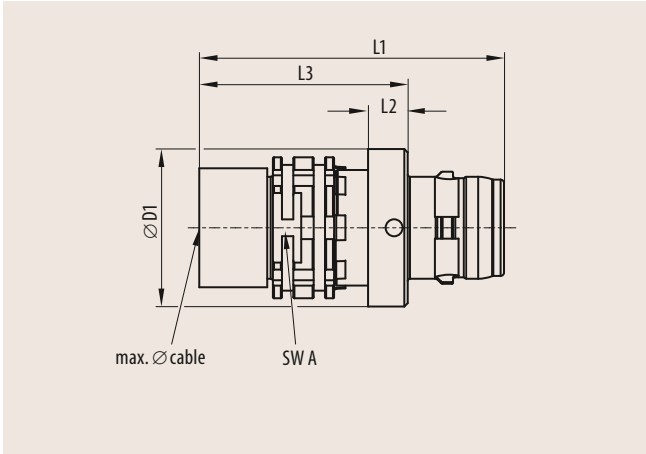
|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| A | 1 |   | Y |   | R | - |   |   |    |    |    |    | 0  | -  | R  | 0  | 0  | 0  |

|      |      | Dimensions in mm |     |      |      |      |                            |
|------|------|------------------|-----|------|------|------|----------------------------|
| Size | Size | L1               | L2  | L3   | D1   | SW A | Max. Ø cable <sup>1)</sup> |
| 0    | 0    | 23.5             | 3.0 | 15.0 | 11.9 | 9    | 5.5                        |
| 1    | 1    | 26.9             | 3.5 | 18.4 | 13.9 | 11   | 6.5                        |
| 1.5  | A    | 27.5             | 3.5 | 18.5 | 15.9 | 12   | 8.0                        |

<sup>1)</sup> Based on cable with one braided shield.



- Technical data see [page 60](#)
- Contact configuration see [page 46 – 51](#)
- Cable assembly information see ODU instruction 010.645.001.000.004 (available at [www.odu.de/amc/assembly](http://www.odu.de/amc/assembly)).



In-Line Receptacle

Size

|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| K | 1 |   | Y |   | R | - |   |   |    |    |    |    | 0  | -  | R  | 0  | 0  | 0  |

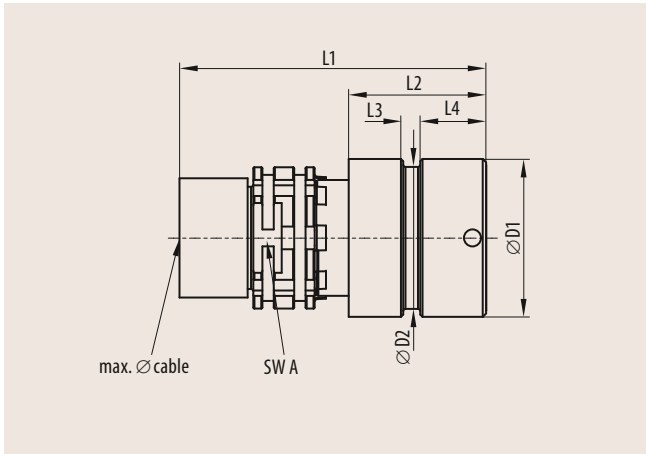
|      |      | Dimensions in mm |      |     |     |      |      |      |                            |
|------|------|------------------|------|-----|-----|------|------|------|----------------------------|
| Size | Size | L1               | L2   | L3  | L4  | D1   | D2   | SW A | Max. Ø cable <sup>1)</sup> |
| 0    | 0    | 25.0             | 13.0 | 1.5 | 5.8 | 11.9 | 10.5 | 9    | 5.5                        |
| 1    | 1    | 27.0             | 12.1 | 1.5 | 5.8 | 13.9 | 12.5 | 11   | 6.5                        |
| 1.5  | A    | 27.0             | 12.0 | 1.5 | 5.8 | 15.9 | 14.5 | 12   | 8.0                        |

<sup>1</sup> Based on cable with one braided shield.

Easy-Clean



- Technical data see [page 60](#)
- Contact configuration see [page 46 – 51](#)
- Cable assembly information see ODU instruction 010.645.001.000.003 (available at [www.odu.de/amc/assembly](http://www.odu.de/amc/assembly)).



Receptacle

Connector type / style

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

Y

R

-

0

-

R

0

0

L

Connector type

Style

G

K

For installation from rear of panel – low profile inside the device

Size

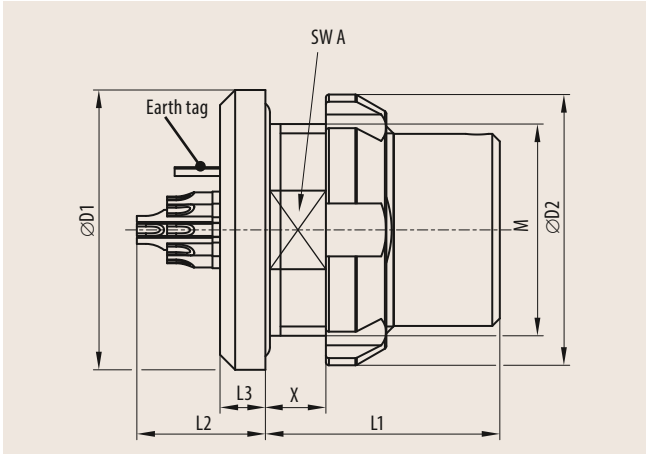
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
|   |   |   | Y |   | R | — |   |   |    |    |    |    | 0  | —  | R  | 0  | 0  | L  |

| Size | Size | Dimensions<br>in mm |            |     |           |      |      |      |         | Panel cut out |      |
|------|------|---------------------|------------|-----|-----------|------|------|------|---------|---------------|------|
|      |      | L1                  | L2<br>max. | L3  | X<br>max. | D1   | D2   | SW A | M       | SW            | Ø    |
| 0    | 0    | 15.5                | 7.3        | 2.5 | 7.0       | 15.5 | 15.0 | 10   | 11×0.75 | 10.1          | 11.1 |
| 1    | 1    | 15.5                | 7.4        | 3.0 | 4.0       | 18.5 | 17.9 | 13   | 14×1    | 13.1          | 14.1 |
| 1.5  | A    | 16.5                | 8.2        | 3.0 | 5.5       | 18.9 | 17.9 | 13   | 14×0.75 | 13.1          | 14.1 |

Diagram showing a circular panel cutout with diameter  $\varnothing$  and square width SW. The dimensions are specified with tolerances:  $\varnothing^{+0.1}$  and  $SW^{+0.1}$ .



- Technical data see [page 60](#)
- Contact configuration and PCB layout see [page 46 – 51](#)
- IP 68, also in unmated condition.



| Nutdriver for slotted nut |                     |              |
|---------------------------|---------------------|--------------|
| Size                      | part number         | Torque in Nm |
| 0                         | 700.098.001.000.000 | 1.0          |
| 1                         | 701.098.002.000.000 | 3.0          |
| 1.5 (A)                   | 701.098.002.000.000 | 3.0          |

Receptacle

Connector type / style

12345678910111213141516171819

YR-OROOL

Connector type

Style

G8

For installation from rear of panel – low profile outside the device

Size

12345678910111213141516171819

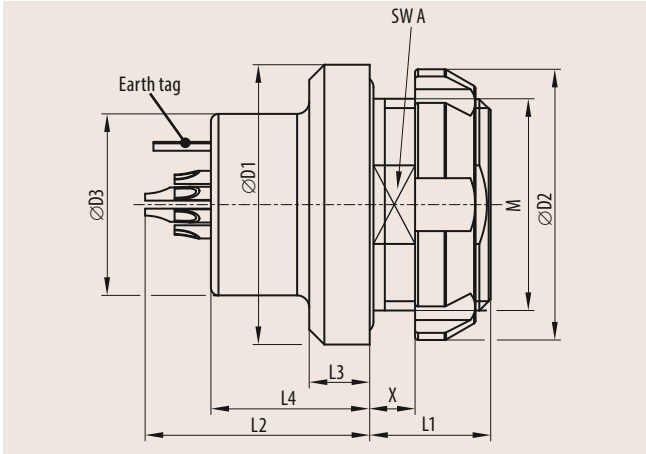
YR-OROOL

| Size | Size | Dimensions in mm |         |     |      |        |      |      |      |      |         | Panel cut out |      |
|------|------|------------------|---------|-----|------|--------|------|------|------|------|---------|---------------|------|
|      |      | L1               | L2 max. | L3  | L4   | X max. | D1   | D2   | D3   | SW A | M       | SW            | Ø    |
| 0    | 0    | 6.5              | 16.3    | 3.0 | 11.5 | 3.0    | 15.5 | 15.0 | 10.0 | 10   | 11×0.75 | 10.1          | 11.1 |
| 1    | 1    | 8.0              | 14.9    | 4.0 | 10.5 | 3.5    | 18.5 | 17.9 | 12.0 | 13   | 14×1    | 13.1          | 14.1 |
| 1.5  | A    | 7.0              | 17.7    | 2.5 | 12.5 | 3.0    | 18.9 | 17.9 | 14.0 | 13   | 14×0.75 | 13.1          | 14.1 |





- Technical data see [page 60](#)
- Contact configuration and PCB layout see [page 46 – 51](#)
- IP 68, also in unmated condition.



| Nutdriver for slotted nut |                     |              |
|---------------------------|---------------------|--------------|
| Size                      | part number         | Torque in Nm |
| 0                         | 700.098.001.000.000 | 1.0          |
| 1                         | 701.098.002.000.000 | 3.0          |
| 1.5 (A)                   | 701.098.002.000.000 | 3.0          |

Docking Plug

Connector type / style

|                |   |       |   |              |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
|----------------|---|-------|---|--------------|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| 1              | 2 | 3     | 4 | 5            | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|                |   |       | Y |              | R | - |   |   |    |    |    |    | 0  | -  | R  | 0  | 0  | L  |
| Connector type |   | Style |   |              |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
| G              |   | W     |   | Docking plug |   |   |   |   |    |    |    |    |    |    |    |    |    |    |

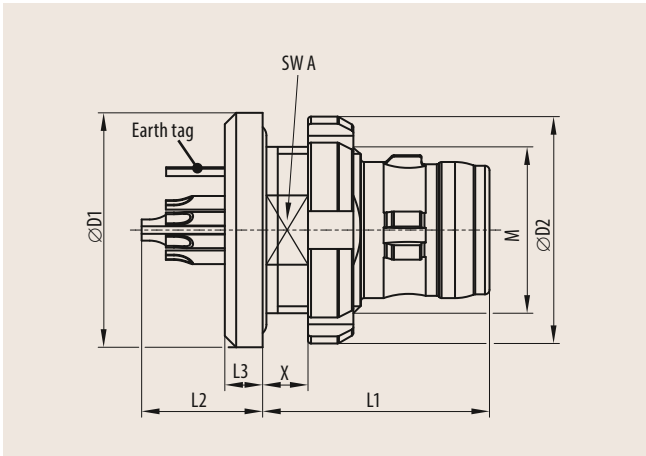
Size

|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|   |   |   | Y |   | R | – |   |   |    |    |    |    | 0  | –  | R  | 0  | 0  | L  |

| Size | Size | Dimensions<br>in mm |     |     |           |      |      |      |         | Panel cut out |      |
|------|------|---------------------|-----|-----|-----------|------|------|------|---------|---------------|------|
|      |      | L1                  | L2  | L3  | X<br>max. | D1   | D2   | SW A | M       | SW            | Ø    |
| 0    | 0    | 15.0                | 6.4 | 2.5 | 3.0       | 13.2 | 12.8 | 9.2  | 10×0.5  | 9.3           | 10.1 |
| 1    | 1    | 15.0                | 8.0 | 2.5 | 3.5       | 15.5 | 15.0 | 10.0 | 11×0.75 | 10.1          | 11.1 |
| 1.5  | A    | 16.5                | 9.7 | 4.0 | 3.5       | 17.5 | 17.9 | 13.0 | 14×0.75 | 13.1          | 14.1 |



- Technical data see [page 60](#)
- Contact configuration and PCB layout see [page 46 – 51](#)
- IP 68, also in unmated condition.



| Nutdriver for slotted nut |                     |              |
|---------------------------|---------------------|--------------|
| Size                      | part number         | Torque in Nm |
| 0                         | 700.098.005.000.000 | 0.8          |
| 1                         | 700.098.001.000.000 | 1.0          |
| 1.5 (A)                   | 701.098.002.000.000 | 3.0          |



## ODU AMC® Easy-Clean Details for the Part Number Key



**Keying**  
**Housing Material**  
**Contact Inserts**



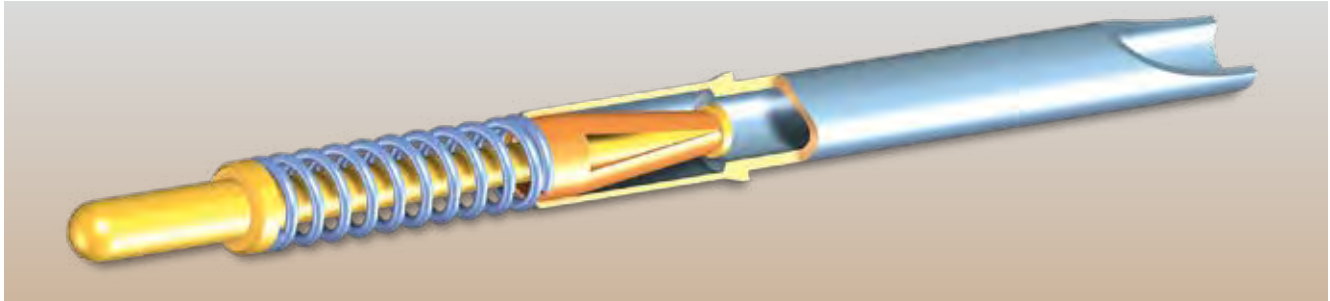
Keying Possibilities

|                                                 |  |  |  |        |                                                                                     |   |  |                                                                                     |  |  |             |  |   |   |   |   |   |  |
|-------------------------------------------------|--|--|--|--------|-------------------------------------------------------------------------------------|---|--|-------------------------------------------------------------------------------------|--|--|-------------|--|---|---|---|---|---|--|
| 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 |  |  |  |        |                                                                                     |   |  |                                                                                     |  |  |             |  |   |   |   |   |   |  |
|                                                 |  |  |  | Y      | R                                                                                   | - |  |                                                                                     |  |  |             |  | 0 | - | R | 0 | 0 |  |
|                                                 |  |  |  | ↑      |                                                                                     |   |  |                                                                                     |  |  |             |  |   |   |   |   |   |  |
|                                                 |  |  |  | Keying | Plug front view                                                                     |   |  | Colour keying                                                                       |  |  |             |  |   |   |   |   |   |  |
| Standard                                        |  |  |  | A      |    |   |  |    |  |  | Light brown |  |   |   |   |   |   |  |
|                                                 |  |  |  | B      |   |   |  |   |  |  | Red         |  |   |   |   |   |   |  |
|                                                 |  |  |  | C      |  |   |  |  |  |  | Blue        |  |   |   |   |   |   |  |
|                                                 |  |  |  | D      |  |   |  |  |  |  | Green       |  |   |   |   |   |   |  |

Housing Material

|                                                 |  |  |  |                  |                                                    |   |   |  |  |  |  |  |   |   |   |   |   |  |
|-------------------------------------------------|--|--|--|------------------|----------------------------------------------------|---|---|--|--|--|--|--|---|---|---|---|---|--|
| 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 |  |  |  |                  |                                                    |   |   |  |  |  |  |  |   |   |   |   |   |  |
|                                                 |  |  |  | Y                | R                                                  | - | P |  |  |  |  |  | 0 | - | R | 0 | 0 |  |
|                                                 |  |  |  | ↑                |                                                    |   |   |  |  |  |  |  |   |   |   |   |   |  |
|                                                 |  |  |  | Housing material |                                                    |   |   |  |  |  |  |  |   |   |   |   |   |  |
|                                                 |  |  |  | R                | Aluminium EN-6023<br>Ruthenium over electroless Ni |   |   |  |  |  |  |  |   |   |   |   |   |  |

## Spring Loaded Contacts



### Environmental

Operating temperature range:  
– stainless steel      – 51° C to +125° C

### Materials (RoHS 2011/65/EC)

|        |                            |
|--------|----------------------------|
| Piston | Gold plated machined brass |
| Barrel | Tin plated machined brass  |
| Spring | Stainless steel            |
| Clip   | Gold plated BeCu C17200    |

### Mechanical

|                               |               |
|-------------------------------|---------------|
| Min. diameter                 | 0.8 mm        |
| Min. initial height           | 9 mm          |
| Travel / height ratio         | max. 0.15     |
| Max. travel (stroke)          | 1.5 mm        |
| Min. initial spring force     | 0.2 N         |
| Mechanical life <sup>1)</sup> | 40,000 cycles |

### Electrical

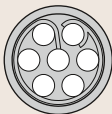
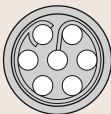
|                                      |                      |
|--------------------------------------|----------------------|
| Contact resistance <sup>2)</sup>     | max. 20 mOhm         |
| Max. operating current <sup>3)</sup> | 2 A cont. / 4 A peak |

<sup>1)</sup> Tested at nominal stroke with perpendicular pad connector area.

<sup>2)</sup> Static measurement in halfway position of piston travel.

<sup>3)</sup> Above max. current values are for single contacts in free air and for 10° C temperature rise. Values are indicative and may be affected by contact force, static or dynamic applications, shocks or vibrations.

Contact Configurations  
Size 0

|   |   |      |   |   |   |   |           |                                  |    |    |    |    |                  |                                                |                             |                             |             |       |                                                                                     |                                                                                     |
|---|---|------|---|---|---|---|-----------|----------------------------------|----|----|----|----|------------------|------------------------------------------------|-----------------------------|-----------------------------|-------------|-------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 1 | 2 | 3    | 4 | 5 | 6 | 7 | 8         | 9                                | 10 | 11 | 12 | 13 | 14               | 15                                             | 16                          | 17                          | 18          | 19    |                                                                                     |                                                                                     |
|   |   | 0    | Y |   | R | - |           |                                  |    |    |    |    | 0                | -                                              | R                           | 0                           | 0           |       |                                                                                     |                                                                                     |
|   |   | ↑    |   |   |   |   | ↑         | ↑                                | ↑  |    |    |    |                  |                                                |                             |                             |             |       |                                                                                     |                                                                                     |
|   |   | Size |   |   |   |   | Insulator | Number of contacts <sup>3)</sup> |    |    |    |    | Contact diameter | Nominal current load per contact <sup>2)</sup> | Test voltage acc. SAE 13441 | Rated voltage <sup>1)</sup> | Termination |       | View on the termination side                                                        |                                                                                     |
|   |   |      |   |   |   |   |           |                                  |    |    |    |    | mm               | A                                              | Contact to contact kV       | kV                          | Solder      | Print | Pogo-pin contact side                                                               | Flat contact side                                                                   |
|   |   | 0    |   |   |   |   | P         | 0                                | 7  |    |    |    | 0.6              | 2                                              | 0.600                       | 0.200                       | ●           | ●     |  |  |

<sup>1</sup> Maximal operating voltage at sea level up to 2.000 m acc. to SAE 13441. More information see [page 67](#).

<sup>2</sup> Derating factor see [page 67](#).

<sup>3</sup> Other contact configurations on request.

PCB Layout for Print Contacts  
Size 0

Contact type

|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|   |   | 0 | Y |   | R | - | P |   |    |    |    |    | 0  | -  | R  | 0  | 0  |    |

| Termination | Contact type        | Contact type | Available connector type |    |    |
|-------------|---------------------|--------------|--------------------------|----|----|
| Solder      | Flat contact        | W            | A1                       | GW |    |
|             | Spring load contact | X            | G8                       | GK | K1 |
| Print       | Flat contact        | U            | GW                       |    |    |
|             | Spring load contact | V            | G8                       | GK |    |

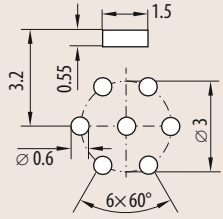
|        |                                                                                    | Fig. 1<br>G8     | Fig. 2<br>GK     | Fig. 3<br>GW     |
|--------|------------------------------------------------------------------------------------|------------------|------------------|------------------|
|        |                                                                                    | Pin<br>X<br>(mm) | Pin<br>X<br>(mm) | Pin<br>X<br>(mm) |
| 7 pos. |  | 4.3              | 4.3              | 3.0              |

Fig. 1: Length earth tag and pin G8

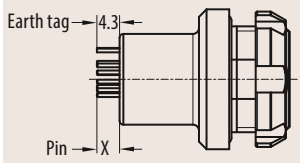
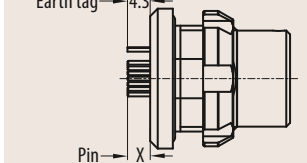


Fig. 2: Length earth tag and pin GK



Contact diameter / termination cross section

|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|   |   | 0 | Y |   | R | - | P |   |    |    |    |    | 0  | -  | R  | 0  | 0  |    |

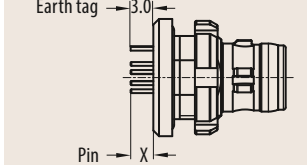
Solder contacts

|  | Contact diameter |  | Contact diameter |   | Term. cross section |                 | Termination cross section |                 | Termination diameter |
|--|------------------|--|------------------|---|---------------------|-----------------|---------------------------|-----------------|----------------------|
|  | mm               |  | mm               |   | mm                  | mm <sup>2</sup> | mm <sup>2</sup>           | mm <sup>2</sup> |                      |
|  | 0.6              |  | D                | D |                     | 26              | 0.15                      |                 |                      |

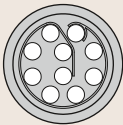
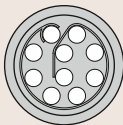
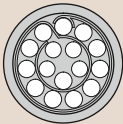
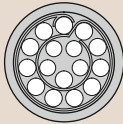
Print contacts

|  |     |  |   |   |  |  |  |  |     |
|--|-----|--|---|---|--|--|--|--|-----|
|  | 0.6 |  | D | 0 |  |  |  |  | 0.5 |
|--|-----|--|---|---|--|--|--|--|-----|

Fig. 3: Length earth tag and pin GW



Contact Configurations  
Size 1

|   |   |      |   |   |   |   |           |                                  |    |    |    |    |                        |                                                     |                                                      |                                   |                               |    |                                                                                      |                                                                                      |
|---|---|------|---|---|---|---|-----------|----------------------------------|----|----|----|----|------------------------|-----------------------------------------------------|------------------------------------------------------|-----------------------------------|-------------------------------|----|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 1 | 2 | 3    | 4 | 5 | 6 | 7 | 8         | 9                                | 10 | 11 | 12 | 13 | 14                     | 15                                                  | 16                                                   | 17                                | 18                            | 19 |                                                                                      |                                                                                      |
|   |   | 1    | Y |   | R | - |           |                                  |    |    |    |    | 0                      | -                                                   | R                                                    | 0                                 | 0                             |    |                                                                                      |                                                                                      |
|   |   | ↑    |   |   |   |   | ↑         | ↑                                | ↑  |    |    |    |                        |                                                     |                                                      |                                   |                               |    |                                                                                      |                                                                                      |
|   |   | Size |   |   |   |   | Insulator | Number of contacts <sup>3)</sup> |    |    |    |    | Contact diameter<br>mm | Nominal current load per contact <sup>2)</sup><br>A | Test voltage acc. SAE 13441<br>Contact to contact kV | Rated voltage <sup>1)</sup><br>kV | Termination<br>Solder   Print |    | View on the termination side<br>Pogo-pin contact side   Flat contact side            |                                                                                      |
|   |   | 1    |   |   |   |   | P         | 1                                | 0  |    |    |    | 0.6                    | 2                                                   | 0.600                                                | 0.200                             | ●                             | ●  |   |   |
|   |   | 1    |   |   |   |   | P         | 1                                | 6  |    |    |    | 0.6                    | 2                                                   | 0.600                                                | 0.200                             | ●                             | ●  |  |  |

<sup>1</sup> Maximal operating voltage at sea level up to 2.000 m acc. to SAE 13441. More information see [page 67](#).

<sup>2</sup> Derating factor see [page 66](#).

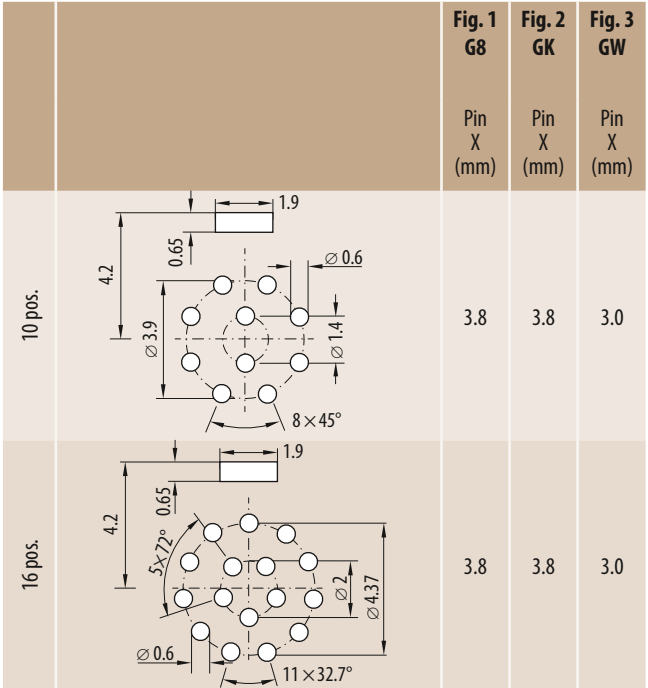
<sup>3</sup> Other contact configurations on request.

# PCB Layout for Print Contacts Size 1

## Contact type

|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|   |   | 1 | Y |   | R | - | P |   |    |    |    |    | 0  | -  | R  | 0  | 0  |    |

| Termination | Contact type        | Contact type | Available connector type |    |    |
|-------------|---------------------|--------------|--------------------------|----|----|
| Solder      | Flat contact        | W            | A1                       | GW |    |
|             | Spring load contact | X            | G8                       | GK | K1 |
| Print       | Flat contact        | U            | GW                       |    |    |
|             | Spring load contact | V            | G8                       | GK |    |



## Contact diameter / termination cross section

|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|   |   | 1 | Y |   | R | - | P |   |    |    |    |    | 0  | -  | R  | 0  | 0  |    |

### Solder contacts

|  | Contact diameter |  | Contact diameter |   | Term. cross section |      | Termination diameter |    |
|--|------------------|--|------------------|---|---------------------|------|----------------------|----|
|  | mm               |  | mm               |   | AWG                 | mm²  | mm                   | mm |
|  | 0.6              |  | D                | D | 26                  | 0.15 |                      |    |

### Print contacts

|  |     |  |   |   |  |  |  |     |
|--|-----|--|---|---|--|--|--|-----|
|  | 0.6 |  | D | 0 |  |  |  | 0.5 |
|--|-----|--|---|---|--|--|--|-----|

Fig. 1: Length earth tag and pin G8

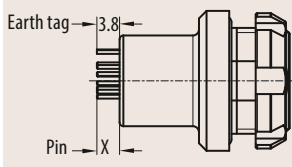


Fig. 2: Length earth tag and pin GK

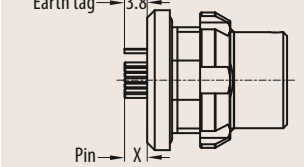
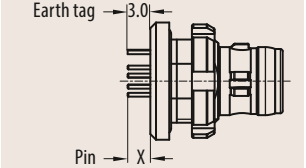
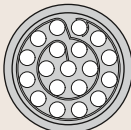
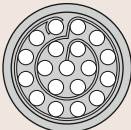


Fig. 3: Length earth tag and pin GW



Contact Configurations

Size 1.5

|   |   |      |   |   |   |           |                                  |   |     |                  |    |                                                |                             |                             |             |                                                                                     |                                                                                     |    |
|---|---|------|---|---|---|-----------|----------------------------------|---|-----|------------------|----|------------------------------------------------|-----------------------------|-----------------------------|-------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----|
| 1 | 2 | 3    | 4 | 5 | 6 | 7         | 8                                | 9 | 10  | 11               | 12 | 13                                             | 14                          | 15                          | 16          | 17                                                                                  | 18                                                                                  | 19 |
|   |   | A    | Y |   | R | -         |                                  |   |     |                  |    |                                                | 0                           | -                           | R           | 0                                                                                   | 0                                                                                   |    |
|   |   | Size |   |   |   | Insulator | Number of contacts <sup>3)</sup> |   |     | Contact diameter |    | Nominal current load per contact <sup>2)</sup> | Test voltage acc. SAE 13441 | Rated voltage <sup>1)</sup> | Termination |                                                                                     | View on the termination side                                                        |    |
|   |   |      |   |   |   |           |                                  |   |     | mm               | A  | Contact to contact kV                          | kV                          | Solder                      | Print       | Pogo-pin contact side                                                               | Flat contact side                                                                   |    |
|   |   | A    |   |   |   | P         | 1                                | 9 | 0.6 |                  | 2  | 0.600                                          | 0.200                       | ●                           | ●           |  |  |    |

<sup>1)</sup> Maximal operating voltage at sea level up to 2.000 m acc. to SAE 13441. More information see [page 67](#).

<sup>2)</sup> Derating factor see [page 66](#).

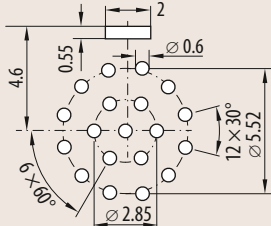
<sup>3)</sup> Other contact configurations on request.

# PCB Layout for Print Contacts Size 1.5

## Contact type

|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|   |   | A | Y |   | R | - | P |   |    |    |    |    | O  | -  | R  | O  | O  |    |

| Termination | Contact type        | Contact type | Available connector type |    |    |
|-------------|---------------------|--------------|--------------------------|----|----|
| Solder      | Flat contact        | W            | A1                       | GW |    |
|             | Spring load contact | X            | G8                       | GK | K1 |
| Print       | Flat contact        | U            | GW                       |    |    |
|             | Spring load contact | V            | G8                       | GK |    |

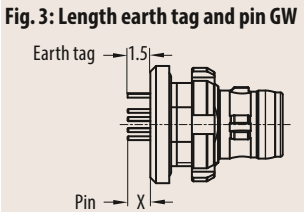
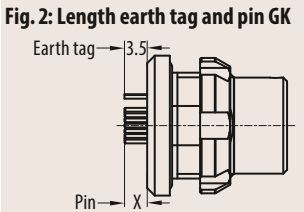
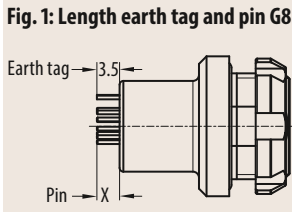
|         |                                                                                    | Fig. 1<br>G8     | Fig. 2<br>GK     | Fig. 3<br>GW     |
|---------|------------------------------------------------------------------------------------|------------------|------------------|------------------|
|         |                                                                                    | Pin<br>X<br>(mm) | Pin<br>X<br>(mm) | Pin<br>X<br>(mm) |
| 19 pos. |  | 3.5              | 3.5              | 1.5              |

## Contact diameter / termination cross section

|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|   |   | A | Y |   | R | - | P |   |    |    |    |    | O  | -  | R  | O  | O  |    |

| Solder contacts |  |  | Contact diameter |  | Term. cross section |                 | Termination cross section |      | Termination diameter |
|-----------------|--|--|------------------|--|---------------------|-----------------|---------------------------|------|----------------------|
|                 |  |  | mm               |  | AWG                 | mm <sup>2</sup> |                           |      | mm                   |
|                 |  |  | 0.6              |  | D                   | D               | 26                        | 0.15 |                      |

| Print contacts |  |  | Contact diameter |  | Term. cross section |                 | Termination cross section |  | Termination diameter |
|----------------|--|--|------------------|--|---------------------|-----------------|---------------------------|--|----------------------|
|                |  |  | mm               |  | AWG                 | mm <sup>2</sup> |                           |  | mm                   |
|                |  |  | 0.6              |  | D                   | O               |                           |  | 0.5                  |







## Accessories

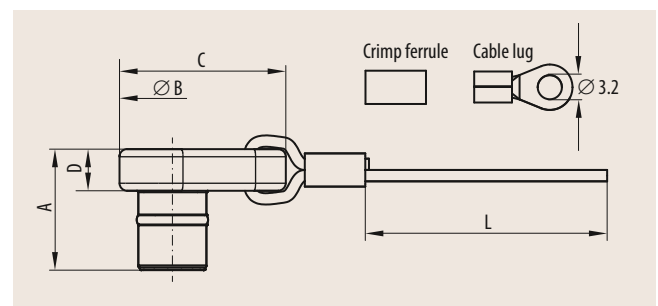


## Protective Caps for Standard and Easy-Clean Version

### For receptacles G8

| Size | Part number         | Dimensions in mm |      |      |     |     |
|------|---------------------|------------------|------|------|-----|-----|
|      |                     | A                | B    | C    | D   | L   |
| 0    | 700.645.097.002.945 | 15.5             | 12.0 | 20.0 | 5.5 | 200 |
| 1    | 701.645.097.002.945 | 16.0             | 14.0 | 22.0 | 5.5 | 200 |
| 1.5  | 715.645.097.002.945 | 15.3             | 15.0 | 23.0 | 5.5 | 200 |
| 2    | 702.645.097.002.945 | 17.5             | 17.0 | 25.0 | 5.5 | 200 |
| 3    | 703.645.097.002.945 | 20.5             | 20.0 | 28.0 | 5.5 | 200 |
| 4.5  | 745.645.097.002.945 | 24.0             | 30.0 | 40.0 | 5.5 | 200 |

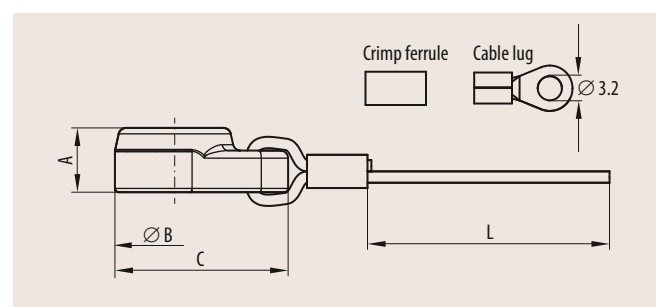
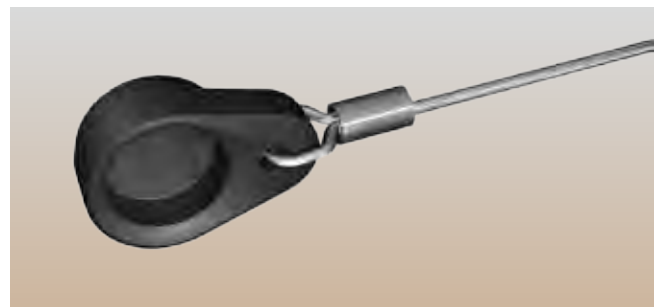
Crimp ferrule and lug are included.



### For receptacles GK

| Size | Part number         | Dimensions in mm |      |      |     |
|------|---------------------|------------------|------|------|-----|
|      |                     | A                | B    | C    | L   |
| 0    | 700.645.097.003.945 | 8.0              | 14.0 | 21.0 | 200 |
| 1    | 701.645.097.003.945 | 8.5              | 16.0 | 23.0 | 200 |
| 1.5  | 701.645.097.003.945 | 8.5              | 16.0 | 23.0 | 200 |
| 2    | 715.645.097.003.945 | 11.5             | 19.5 | 25.8 | 200 |
| 3    | 702.645.097.003.945 | 12.0             | 20.6 | 29.3 | 200 |

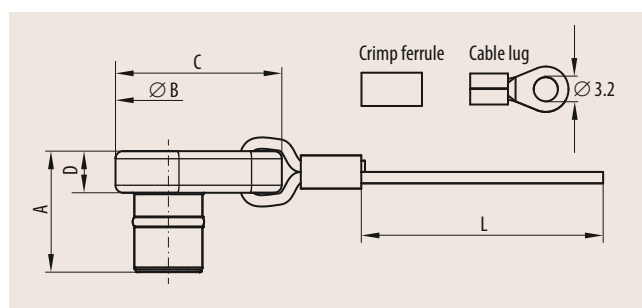
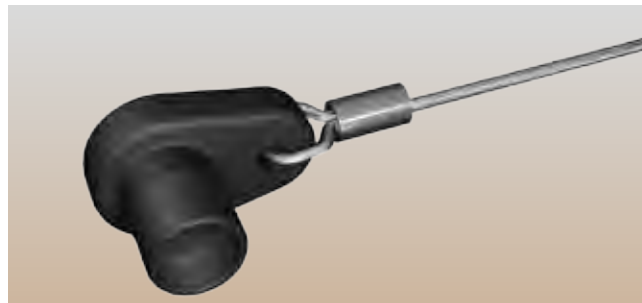
Crimp ferrule and lug are included.



### For in-line receptacles

| Size | Part number         | Dimensions in mm |      |      |     |     |
|------|---------------------|------------------|------|------|-----|-----|
|      |                     | A                | B    | C    | D   | L   |
| 0    | 700.645.097.002.945 | 15.5             | 12.0 | 20.0 | 5.5 | 200 |
| 1    | 701.645.097.002.945 | 16.0             | 14.0 | 22.0 | 5.5 | 200 |
| 3    | 703.645.097.002.945 | 20.5             | 20.0 | 28.0 | 5.5 | 200 |

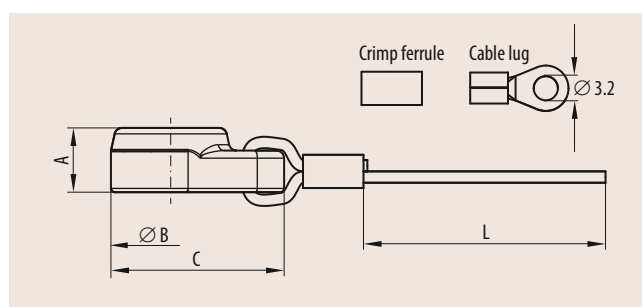
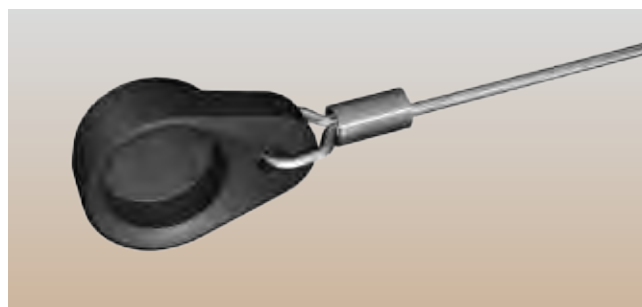
Crimp ferrule and lug are included.



### For in-line receptacles

| Size | Part number         | Dimensions in mm |      |      |     |
|------|---------------------|------------------|------|------|-----|
|      |                     | A                | B    | C    | L   |
| 1.5  | 715.645.097.003.945 | 11.5             | 19.5 | 25.8 | 200 |
| 2    | 702.645.097.003.945 | 12.0             | 20.6 | 29.3 | 200 |

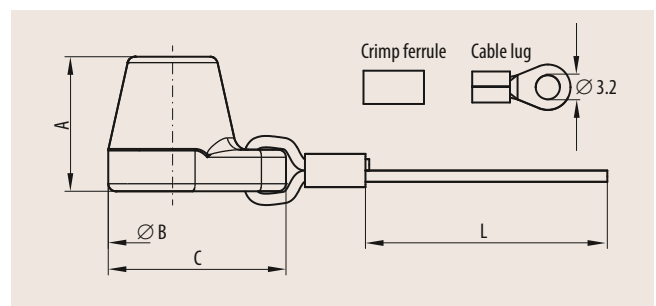
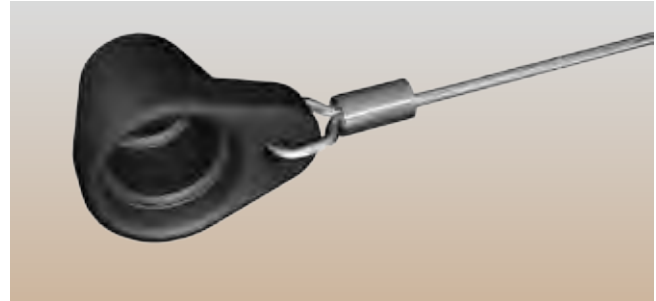
Crimp ferrule and lug are included.



### For plugs – Push-Pull plug and Break-Away plug S1 and A1

| Size | Part number         | Dimensions in mm |      |      |     |
|------|---------------------|------------------|------|------|-----|
|      |                     | A                | B    | C    | L   |
| 0    | 700.645.097.001.945 | 16.5             | 15.0 | 21.5 | 200 |
| 1    | 701.645.097.001.945 | 17.8             | 17.0 | 23.5 | 200 |
| 1.5  | 715.645.097.001.945 | 17.0             | 18.0 | 24.0 | 200 |
| 2    | 702.645.097.001.945 | 19.5             | 21.0 | 28.0 | 200 |
| 3    | 703.645.097.001.945 | 22.6             | 25.0 | 32.5 | 200 |
| 4.5  | 745.645.097.001.945 | 27.5             | 33.5 | 42.0 | 200 |

Crimp ferrule and lug are included.



### Environmental and electrical characteristics

| Type                    | Performance       | Standard           |
|-------------------------|-------------------|--------------------|
| Tightness               | IP 67             | IEC 60529          |
| Operating temperature   | −51° C to +125° C | IEC 60512-6-11 i+j |
| Shielding effectiveness | > 55 dB           | VG 95214-11        |

### Material

| Part               | Material            | Flammability        |
|--------------------|---------------------|---------------------|
| Cap                | Conductive silicone | UL94 (V1)           |
| Lanyard            | Aramid              | UL94 (V0)           |
| Crimp ferrule, lug | Brass, copper       |                     |
| Shrinktube         | FPO (RNF-100)       | ASTM D 876 (30 sec) |

Assembly information including tools see ODU instruction 010.645.001.000.005 (available at [odu.de/amc/assembly](http://odu.de/amc/assembly)).

## Technical Information



## Technical Data ODU AMC® – Standard

### Environmental and testing

| Type                                  | Performance                                   | Standard                                                     |
|---------------------------------------|-----------------------------------------------|--------------------------------------------------------------|
| Tightness                             | IP 68<br>IP 69 K                              | IEC 60529 / MIL-STD-810F 512.4/5<br>DIN 40050-9              |
| Sand and dust                         | Blowing sand and<br>dust, settling dust       | MIL-STD-810F 510.4/5 Procedure I / II<br>DIN 40050-9 / IP6kx |
| Operating<br>temperature              | –51°C up to<br>+125°C                         | IEC 60512-6-11 i+j                                           |
| Thermal shock                         | –65°C up to<br>+150°C                         | EIA 364-32-E<br>IEC 60068-2-14                               |
| Humidity cyclic                       | 85 % up to 95 %,<br>28 up to 71°C             | MIL-STD-1344A Method 1002.2 Type III<br>IEC 60068-2-38       |
| Low pressure (rapid<br>decompression) | 59.1 kPa to<br>18.8 kPa                       | AECTP 300, 312 Procedure III<br>(STANAG 4370)                |
| Low pressure                          | 57.2 kPa<br>–55°C                             | MIL-STD-810F 500.4/5<br>IEC 60068-2-40                       |
| Icing                                 | Rime ice<br>6 mm                              | MIL-STD-810F 521.2/3                                         |
| Corrosion<br>resistance               | 96 h salt mist,<br>5 % salt solution,<br>35°C | EIA-364-26B STANAG 4370,<br>AECTP 300-309                    |
| Mould growth                          | European fungus                               | MIL-STD-810F 509.4/5<br>IEC 60068-2-10                       |
| Solar radiation                       |                                               | 60068-2-5                                                    |
| Chemical<br>endurance                 | Several substances <sup>1)</sup>              | ISO 16750-5                                                  |

<sup>1)</sup>Substances listed at ODU datasheet 009.410.021.000.000

Fig. 1  
Measurement  
points

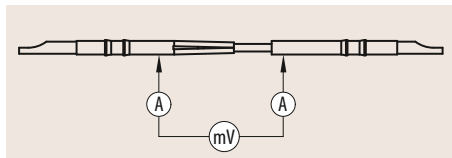
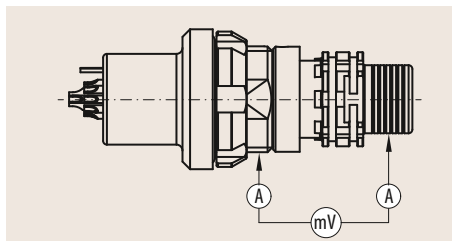


Fig. 2  
Measurement  
points



### Mechanical data

| Type                    | Performance                                                             | Standard                               |
|-------------------------|-------------------------------------------------------------------------|----------------------------------------|
| Mechanical<br>endurance | 5,000 mating cycles                                                     | IEC 60512-5-9-a<br>EIA-364-09          |
| Vibration               |                                                                         | MIL-STD 1344 Method 2005<br>EIA-364-28 |
| Shock                   | 300 g amplitude,<br>half sine pulse of 3 ms,<br>no discontinuity > 1 us | MIL-STD 1344 Method 2004<br>EIA-364-27 |

### Electrical data

| Type                                                    | Performance                                                                                                                            | Standard      |
|---------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|---------------|
| Contact resistance (fig. 1)<br>over 5,000 mating cycles | Contact diameter / resistance<br>Ø 0.5 mm < 5 mOhm<br>Ø 0.7 mm < 4 mOhm<br>Ø 0.9 mm < 4 mOhm<br>Ø 1.3 mm < 3 mOhm<br>Ø 2.0 mm < 3 mOhm | IEC 60512-2-1 |
| Shell resistance (fig. 2)                               | < 5 mOhm                                                                                                                               | IEC 60512-2-1 |
| Insulation resistance                                   | > 100 MOhm                                                                                                                             | IEC 60512-3-1 |
| Shielding effectiveness <sup>2)</sup>                   | > 65 dB                                                                                                                                | VG 95214-11   |

<sup>2)</sup> A11Y, GK1Y connector pair



## Material and surface treatments

|                                                       | Material              | Standard        |        | Surface                                   | Standard     | Flammability    |
|-------------------------------------------------------|-----------------------|-----------------|--------|-------------------------------------------|--------------|-----------------|
|                                                       |                       | EU              | US     |                                           |              |                 |
| Housing (conductive parts)                            | Aluminium AlMgSiSn1Bi | EN-AW 6023      |        | Ruthenium over electroless nickel         |              |                 |
| Housing / nut<br>(non conductive parts)               | Aluminium AlMgSiSn1Bi | EN-AW 6023      |        | Black anodized (hardcoat)                 |              |                 |
| Backshell<br>(Push-Pull plug)                         | Aluminium AlMgSiSn1Bi | EN-AW 6023      |        | Ruthenium over electroless nickel         |              |                 |
| Backshell (Break-Away plug<br>and in-line receptacle) | Aluminium AlMgSiSn1Bi | EN-AW 6023      |        | Electroless nickel                        | SAE-AMS2404  |                 |
| EMI-locking ring                                      | CuBe2                 | CW102C (2.1248) |        | Electrodeposited nickel                   |              |                 |
| Crimp sleeve                                          | CuZn38Pb1.5           | CW608N (2.0371) | C35300 | Electrodeposited nickel                   |              |                 |
| Colour ring                                           | PSU                   |                 |        |                                           |              | UL94 (V0)       |
| Insulator                                             | PEEK                  |                 |        |                                           |              | UL94 (V0)       |
| Pin contact                                           | Copper alloy          | CW614N (2.0401) | C38500 | 1.25 µm gold over electrodeposited nickel | MIL-G-45204D |                 |
| Socket contact                                        | Copper alloy          | CW614N (2.0401) | C38500 | 1.25 µm gold over electrodeposited nickel | MIL-G-45204D |                 |
| O-rings                                               | FVMQ (floursilikon)   |                 |        |                                           |              |                 |
| Potting                                               | potting compound      |                 |        |                                           |              | UL94 (V0)       |
| Overmolding material                                  | TPU                   |                 |        |                                           |              | UL94 (HB)       |
| Shrink boots                                          | Polyester-elastomeer  |                 |        |                                           |              | acc to. VG95343 |



## Technical Data ODU AMC® – Easy-Clean

### Environmental and testing

| Type                                  | Performance                                    | Standard                                                         |
|---------------------------------------|------------------------------------------------|------------------------------------------------------------------|
| Tightness                             | IP 68<br>IP 69 K                               | IEC 60529 / MIL-STD-810F 512.4/5<br>DIN 40050-9                  |
| Sand and dust                         | Blowing sand and<br>dust, settling dust        | MIL-STD-810F 510.4/5 Procedure I / II<br>DIN 40050-9 / IP 6kx    |
| Operating<br>temperature              | –51° C up to<br>+125° C                        | IEC 60512-6-11 i+j                                               |
| Thermal shock                         | –65° C up to<br>+150° C                        | EIA 364-32-E<br>IEC 60068-2-14                                   |
| Humidity cyclic                       | 85% up to 95 %<br>28 up to 71° C               | MIL-STD-1344A Method 1002.2 Type III<br>IEC 60068-2-38           |
| Low pressure (rapid<br>decompression) | 59.1 kPa to<br>18.8 kPa                        | AECTP 300, 312 Procedure III<br>(STANAG 4370)                    |
| Low pressure                          | 57.2 kPa<br>–55° C                             | MIL-STD-810F 500.4/5<br>IEC 60068-2-40                           |
| Icing                                 | Rime ice<br>6 mm                               | MIL-STD-810F 521.2/3                                             |
| Corrosion resistance                  | 96 h salt mist,<br>5 % salt solution,<br>35° C | EIA-364-26B, STANAG 4370,<br>AECTP 300-309, MIL-STD-810F 509.4/5 |
| Mould growth                          | European fungus                                | IEC 60068-2-10                                                   |
| Solar radiation                       |                                                | 60068-2-5                                                        |
| Chemical endurance                    | Several substances <sup>1)</sup>               | ISO 16750-5                                                      |

<sup>1)</sup> Substances listed at ODU datasheet 009.410.021.000.000

### Mechanical data

| Type                    | Performance                                                             | Standard                               |
|-------------------------|-------------------------------------------------------------------------|----------------------------------------|
| Mechanical<br>endurance | 5,000 mating cycles <sup>2)</sup>                                       | IEC 60512-5-9-a<br>EIA-364-09          |
| Vibration               |                                                                         | MIL-STD 1344 Method 2005<br>EIA-364-28 |
| Shock                   | 300 g amplitude,<br>half sine pulse of 3 ms,<br>no discontinuity > 1 us | MIL-STD 1344 Method 2004<br>EIA-364-27 |

### Electrical data

| Type                                                                  | Performance                                                  | Standard      |
|-----------------------------------------------------------------------|--------------------------------------------------------------|---------------|
| Contact resistance (fig. 1)<br>over 5,000 mating cycles <sup>2)</sup> | Contact diameter / resistance<br>Ø 0.6 mm pogo pin < 20 mOhm | IEC 60512-2-1 |
| Shell resistance (fig. 2)                                             | < 10 mOhm                                                    | IEC 60512-2-1 |
| Insulation resistance                                                 | > 100 MOhm                                                   | IEC 60512-3-1 |

<sup>2)</sup> 5,000 mating cycles, dependent on the specific application.

Fig. 1  
Measurement  
points

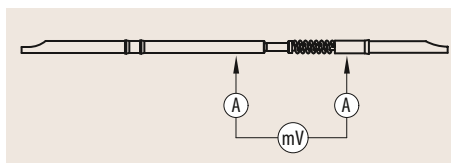
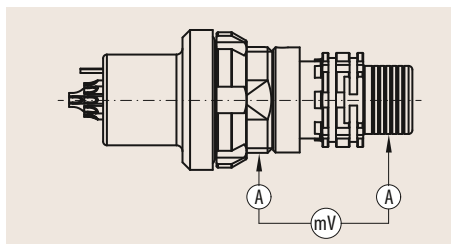


Fig. 2  
Measurement  
points



## Material and surface treatments

|                            | Material                   | Standard        |        | Surface                                               | Standard     | Flammability    |
|----------------------------|----------------------------|-----------------|--------|-------------------------------------------------------|--------------|-----------------|
|                            |                            | EU              | US     |                                                       |              |                 |
| Housing (conductive parts) | Aluminium AlMgSiSn1Bi      | EN-AW 6023      |        | Ruthenium over electroless nickel                     |              |                 |
| Nut                        | Aluminium AlMgSiSn1Bi      | EN-AW 6023      |        | Black anodized (hardcoat)                             |              |                 |
| Backshell                  | Aluminium AlMgSiSn1Bi      | EN-AW 6023      |        | Electroless nickel                                    | SAE-AMS2404  |                 |
| EMI-locking ring           | Stainless steel            | CW102C (2.1248) |        | Electrodeposited gold                                 |              |                 |
| Crimp sleeve               | CuZn38Pb1.5                | CW608N (2.0371) | C35300 | Electrodeposited nickel                               |              |                 |
| Colour ring                | PSU                        |                 |        |                                                       |              | UL94 (V0)       |
| Insulator                  | PEEK / PBT / PCT           |                 |        |                                                       |              | UL94 (V0)       |
| Pin contact (pogo-pin)     | Copper alloy, CuBe, steel, |                 |        | 1.25 µm gold over electrodeposited nickel (on piston) | MIL-G-45204D |                 |
| Socket contact             | Copper alloy               | CW614N (2.0401) | C38500 | 1.25 µm gold over electrodeposited nickel             | MIL-G-45204D |                 |
| O-rings                    | FVMQ (floursilikon)        |                 |        |                                                       |              |                 |
| Potting                    | potting compound           |                 |        |                                                       |              | UL94 (V0)       |
| Overmolding material       | TPU                        |                 |        |                                                       |              | UL94 (HB)       |
| Shrink boots               | Polyester-elastomeer       |                 |        |                                                       |              | Acc. to VG95343 |

## Insulation Groups / Nominal Voltage / Test Voltage

### Insulation groups in acc. with DIN VDE 0110 T1/2.79

Groups of connectors based on ambient and operating conditions.

Example: A connector used in a shop environment falls into group B. (Laboratory environment would fall into Group A).

#### Insulation group A0:

For low power equipment in climate-controlled and dry rooms with only minimal heat rise when subjected to short circuit conditions.

#### Insulation group A:

For equipment operated in climate-controlled and dry rooms.

#### Insulation group B:

For equipment operated in living quarters, offices, and other commercial environments. Also for clean machine shops, laboratories, test stands, and medical environments.

#### Insulation group C:

Equipment primarily operated in industrial, commercial, and agricultural establishments. Non climate-controlled warehouses, workshops, boiler rooms and manufacturing floors.

#### Insulation group D:

Equipment operated on vehicles subjected to dirt, brake dust, and splash water or snow. Unprotected by housing.

### Determination of nominal voltage from test voltage in accordance with VDE 0627

The following explains how to derive the nominal voltage from the test voltage (for practical purposes nominal voltage, rated voltage and reference voltage are the same.) The **operating voltage** must be less than the **nominal voltage**.

Example:

The selected connector has a test voltage of 1,000 VAC and will be operated in a clean mechanical shop environment (insulation group B). According to the table 3 below, the connector has a nominal voltage of 150 VDC (the example shows both printed in bold).

Notice: According to MIL-STD-1344, Method 3001 higher test voltages are acceptable (see next page).

Table 3 from DIN VDE 0627

| Reference voltage / nominal voltage |              | Test voltage in Volt (AC 50 Hz) |       |              |       |       |
|-------------------------------------|--------------|---------------------------------|-------|--------------|-------|-------|
| in Volt (DC)                        | in Volt (AC) | Insulation group                |       |              |       |       |
|                                     |              | A0                              | A     | B            | C     | D     |
| 15                                  | 12           | 375                             | 500   | 750          | 875   | 1,250 |
| 36                                  | 30           | 500                             | 500   | 750          | 1,000 | 1,500 |
| 75                                  | 60           | 500                             | 625   | 875          | 1,000 | 1,500 |
| <b>150</b>                          | 125          | 625                             | 750   | <b>1,000</b> | 1,250 | 1,750 |
| 300                                 | 250          | 750                             | 875   | 1,250        | 1,750 | 2,250 |
| 450                                 | 380          | 875                             | 1,000 | 1,750        | 2,250 | 3,000 |
| 600                                 | 500          | 1,000                           | 1,250 | 2,000        | 2,750 | 3,500 |
| 800                                 | 660          | 1,250                           | 1,750 | 2,500        | 3,500 | 4,000 |
| 900                                 | 750          | 1,500                           | 1,750 | 2,750        | 3,500 | 4,500 |
| 1,200                               | 1,000        | 1,750                           | 2,250 | 3,500        | 4,500 | 5,500 |

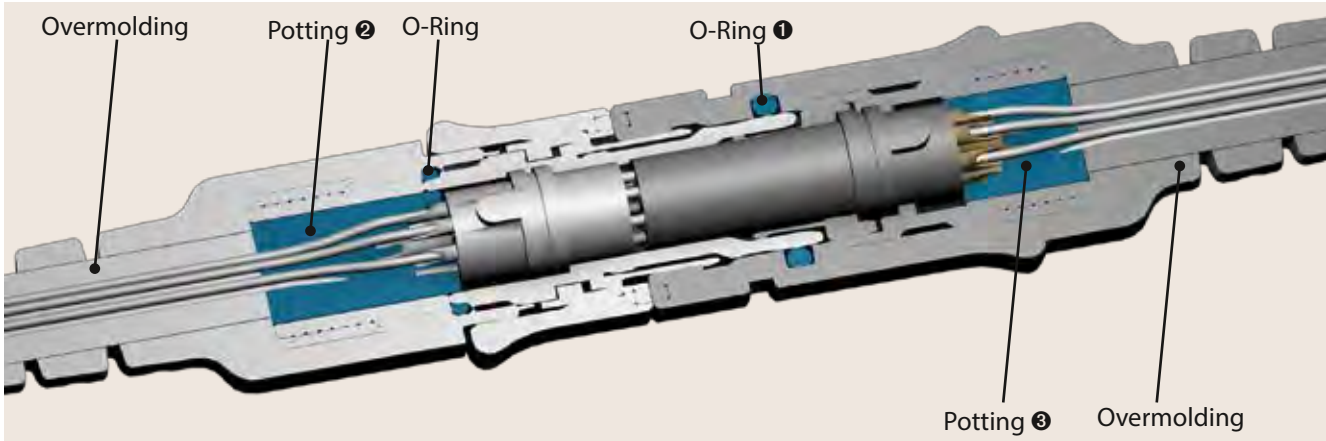
## International Protection (IP) Classes in Accordance with DIN EN 60 529 (or IEC 529 /VDE 0470 T1, respectively)

| Code letters<br>(International Protection) |                                                |                                                                                     |                                                                                                                               | First code number<br>(Protection against solid foreign bodies) |                                               |                                                                                       |                                                                                            | Second code number<br>(Protection against water) |                                               |                                                                                       |                                                                                            |
|--------------------------------------------|------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|-----------------------------------------------|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|--------------------------------------------------|-----------------------------------------------|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| IP                                         |                                                |                                                                                     |                                                                                                                               | 6                                                              |                                               |                                                                                       |                                                                                            | 5                                                |                                               |                                                                                       |                                                                                            |
| Code number                                | Extent of protection                           |                                                                                     |                                                                                                                               | Code number                                                    | Extent of protection                          |                                                                                       |                                                                                            | Code number                                      | Extent of protection                          |                                                                                       |                                                                                            |
| 0                                          | No protection                                  |    | No protection against contact, no protection against solid foreign bodies                                                     | 0                                                              | No protection against water                   |    | No protection against water                                                                | 0                                                | No protection against water                   |    | No protection against water                                                                |
| 1                                          | Protection against large foreign bodies        |    | Protection against large-surface contact with the back of the hand, protection against foreign bodies $\geq 50$ mm            | 1                                                              | Protection against dripping water             |    | Protection against vertically falling water drops                                          | 1                                                | Protection against dripping water             |    | Protection against vertically falling water drops                                          |
| 2                                          | Protection against medium-sized foreign bodies |   | Protection against contact with the fingers, protection against foreign bodies $\geq 12$ mm                                   | 2                                                              | Protection against dripping water when tilted |   | Protection against falling water drops when tilted (any angle up to 15° from the vertical) | 2                                                | Protection against dripping water when tilted |   | Protection against falling water drops when tilted (any angle up to 15° from the vertical) |
| 3                                          | Protection against small foreign bodies        |  | Protection against contact with tools, wires, or the like with $\geq 2.5$ mm, protection against foreign bodies $\geq 2.5$ mm | 3                                                              | Protected against spraying water              |  | Protection against water spraying at any angle up to 60° from the vertical                 | 3                                                | Protected against spraying water              |  | Protection against water spraying at any angle up to 60° from the vertical                 |
| 4                                          | Protection against granular foreign bodies     |  | The same as 3, except $\geq 1$ mm                                                                                             | 4                                                              | Protection against splashing water            |  | Protection against splashing water from all directions                                     | 4                                                | Protection against splashing water            |  | Protection against splashing water from all directions                                     |
| 5                                          | Protection against dust deposits               |  | Protection against contact, protection against harmful dust deposit in the interior                                           | 5                                                              | Protection against water jet                  |  | Protection against water jet (nozzle) from any angle                                       | 5                                                | Protection against water jet                  |  | Protection against water jet (nozzle) from any angle                                       |
| 6                                          | Protection against dust ingress                |  | Protection against foreign bodies $\geq 1$ mm, protection against dust ingress                                                | 6                                                              | Protection against powerful water jet         |  | Protection against powerful water jet from any angle                                       | 6                                                | Protection against powerful water jet         |  | Protection against powerful water jet from any angle                                       |
|                                            |                                                |                                                                                     |                                                                                                                               |                                                                |                                               |                                                                                       |                                                                                            | 7                                                | Protection against immersion                  |  | Protection against water ingress during temporary immersion                                |
|                                            |                                                |                                                                                     |                                                                                                                               |                                                                |                                               |                                                                                       |                                                                                            | 8                                                | Protection against continuous immersion       |  | Protection against pressurized water during continuous immersion                           |
|                                            |                                                |                                                                                     |                                                                                                                               |                                                                |                                               |                                                                                       |                                                                                            | 9k <sup>1</sup>                                  | Protection against high pressure              |  | Protection against water from high-pressure/ steam jet cleaners.                           |

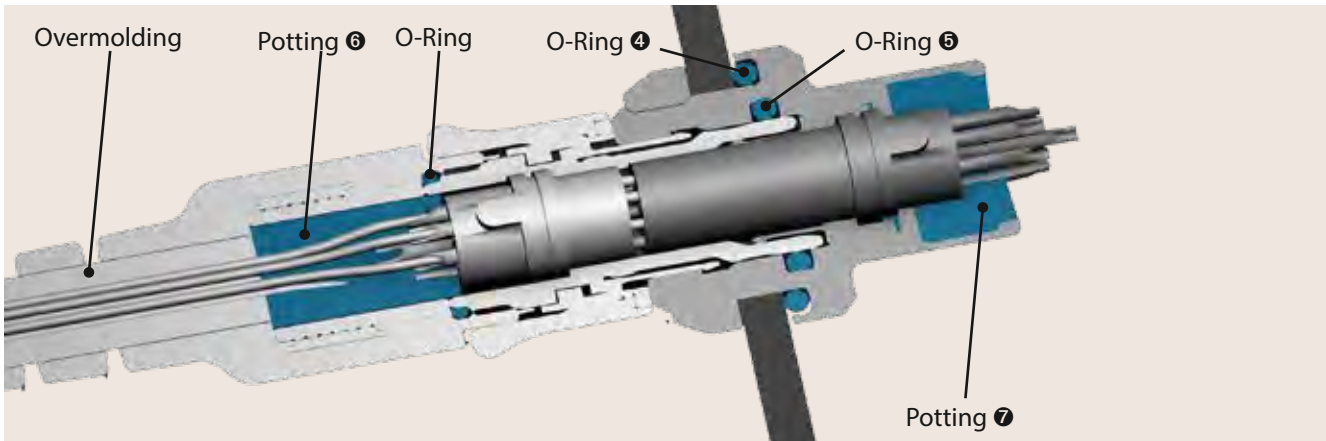
<sup>1</sup> IP x9k is not included in EN 60529 or IEC 60529, but is included in DIN 40 050-9.

Watertightness of the Series AMC®

Plug and in-line receptacle connection (case 1)



Plug and receptacle connection (case 2)



In mated condition the contacts are protected (in cases 1 and 2).  
In unmated condition the contacts can be protected using a protective cover (see [page 54 – 55](#)). The cover must be removed before mating the plug with the receptacle.

Protection against water through following seals

| Termination area        | Mated |          | Unmated |          |
|-------------------------|-------|----------|---------|----------|
|                         | Yes   | Position | No      | Position |
| Cable – Cable (Case 1)  | Yes   | 1 2 3    | No      |          |
| Device – Cable (Case 2) | Yes   | 4 5 6 7  | Yes     | 4 7      |

## Conversions AWG – Cross Section (AWG = American Wire Gauge)

The AWG system describes the cross section of a wire using a gauge number for every 26% increase in conductor cross section. With larger wire diameters, the AWG gauge numbers decrease; as the wire sizes increase, the AWG gauge numbers decrease. **This is only valid for solid conductors.**

Most wires are made with **stranded conductors**. Compared to solid conductors stranded wires offer higher durability, higher flexibility and better performance under bending and vibration.

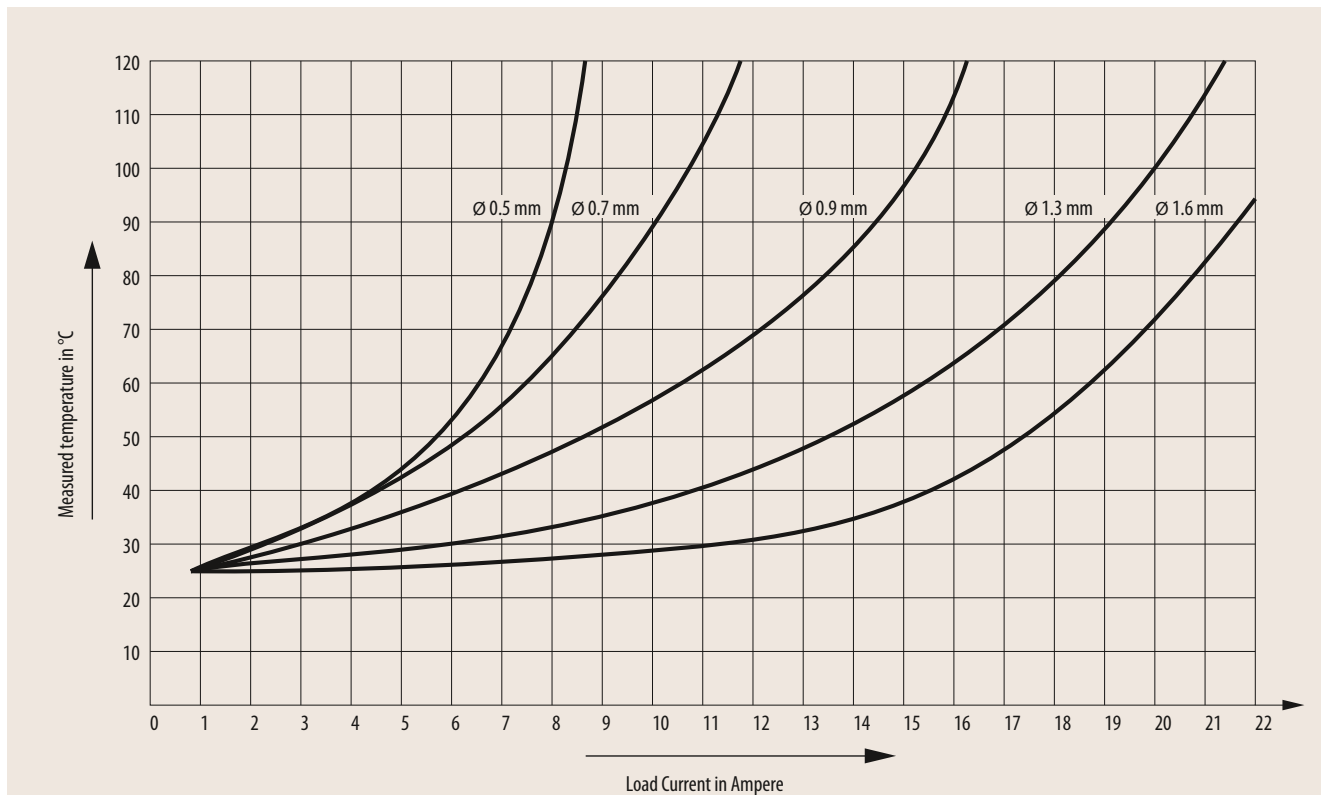
Stranded wires are made from wires with smaller gauge sizes (higher AWG gauge number). The AWG gauge number of the stranded wire is equal to that of a solid conductor of the same size wire. The cross section of the stranded conductor is the sum of cross sections of the single conductors. For example, a AWG-20 stranded wire of 7 AWG-28 conductors has a cross section of 0.563 mm<sup>2</sup>; an AWG-20 stranded wire with 19 AWG-32 conductors has a cross section of 0.616 mm<sup>2</sup>.

Conversion table AWG/mm<sup>2</sup>

| AWG        | Circular wire |             | Cross section mm <sup>2</sup> | Weight kg/km | Max. resistance Ω/km |
|------------|---------------|-------------|-------------------------------|--------------|----------------------|
|            | Diameter Inch | Diameter mm |                               |              |                      |
| 10 (1)     | 0.1020        | 2.5900      | 5.2700                        | 47.000       | 3.45                 |
| 10 (37/26) | 1.1090        | 2.7500      | 4.5300                        | 43.600       | 4.13                 |
| 12 (1)     | 0.0808        | 2.0500      | 3.3100                        | 29.500       | 5.45                 |
| 12 (19/25) | 0.0895        | 2.2500      | 3.0800                        | 28.600       | 6.14                 |
| 12 (37/28) | 0.0858        | 2.1800      | 2.9700                        | 26.300       | 6.36                 |
| 14 (1)     | 0.0641        | 1.6300      | 2.0800                        | 18.500       | 8.79                 |
| 14 (19/27) | 0.0670        | 1.7000      | 1.9400                        | 18.000       | 9.94                 |
| 14 (37/30) | 0.0673        | 1.7100      | 1.8700                        | 17.400       | 10.50                |
| 16 (1)     | 0.0508        | 1.2900      | 1.3100                        | 11.600       | 13.94                |
| 16 (19/29) | 0.0551        | 1.4000      | 1.2300                        | 11.000       | 15.70                |
| 18 (1)     | 0.0403        | 1.0200      | 0.8200                        | 7.320        | 22.18                |
| 18 (19/30) | 0.0480        | 1.2200      | 0.9600                        | 8.840        | 20.40                |
| 20 (1)     | 0.0320        | 0.8130      | 0.5200                        | 4.610        | 35.10                |
| 20 (7/28)  | 0.0366        | 0.9300      | 0.5600                        | 5.150        | 34.10                |
| 20 (19/32) | 0.0384        | 0.9800      | 0.6200                        | 5.450        | 32.00                |
| 22 (1)     | 0.0252        | 0.6400      | 0.3240                        | 2.890        | 57.70                |
| 22 (7/30)  | 0.0288        | 0.7310      | 0.3540                        | 3.240        | 54.80                |
| 22 (19/34) | 0.0307        | 0.7800      | 0.3820                        | 3.410        | 51.80                |
| 24 (1)     | 0.0197        | 0.5000      | 0.1960                        | 1.830        | 91.20                |
| 24 (7/32)  | 0.0230        | 0.5850      | 0.2270                        | 2.080        | 86.00                |
| 24 (19/36) | 0.0252        | 0.6400      | 0.2400                        | 2.160        | 83.30                |
| 26 (1)     | 0.1570        | 0.4000      | 0.1220                        | 1.140        | 147.00               |
| 26 (7/34)  | 0.0189        | 0.4800      | 0.1400                        | 1.290        | 140.00               |
| 26 (19/38) | 0.0192        | 0.4870      | 0.1500                        | 1.400        | 131.00               |
| 28 (1)     | 0.0126        | 0.3200      | 0.0800                        | 0.716        | 231.00               |
| 28 (7/36)  | 0.0150        | 0.3810      | 0.0890                        | 0.813        | 224.00               |
| 28 (19/40) | 0.0151        | 0.3850      | 0.0950                        | 0.931        | 207.00               |
| 30 (1)     | 0.0098        | 0.2500      | 0.0506                        | 0.451        | 374.00               |
| 30 (7/38)  | 0.0115        | 0.2930      | 0.0550                        | 0.519        | 354.00               |
| 30 (19/42) | 0.0123        | 0.3120      | 0.0720                        | 0.622        | 310.00               |
| 32 (1)     | 0.0080        | 0.2030      | 0.0320                        | 0.289        | 561.00               |
| 32 (7/40)  | 0.0094        | 0.2400      | 0.0350                        | 0.340        | 597.10               |
| 32 (19/44) | 0.0100        | 0.2540      | 0.0440                        | 0.356        | 492.00               |
| 34 (1)     | 0.0063        | 0.1600      | 0.0201                        | 0.179        | 951.00               |
| 34 (7/42)  | 0.0083        | 0.2110      | 0.0266                        | 0.113        | 1,491.00             |
| 36 (1)     | 0.0050        | 0.1270      | 0.0127                        | 0.072        | 1,519.00             |
| 36 (7/44)  | 0.0064        | 0.1630      | 0.0161                        | 0.130        | 1,322.00             |
| 38 (1)     | 0.0040        | 0.1000      | 0.0078                        | 0.072        | 2,402.00             |
| 40 (1)     | 0.0031        | 0.0800      | 0.0050                        | 0.043        | 3,878.60             |
| 42 (1)     | 0.0028        | 0.0700      | 0.0038                        | 0.028        | 5,964.00             |
| 44 (1)     | 0.0021        | 0.0540      | 0.0023                        | 0.018        | 8,660.00             |

## Current Load – Contacts

### Nominal single contact current load for pin / slotted socket (nominal diameter 0.5 mm – 1.6 mm)



Upper maximum temperature for standard contacts:  
+ 125°C

Test contact was terminated to largest possible conductor.

Connectors or cables with more than one contact or conductor generate a higher heat than a single contact. Therefore, a **derating factor** must be applied.

For connectors the derating factor is applied according to DIN IEC 60512-3 / VDE 0276-1000. The derating factor is used starting with 5 loaded wires.

#### Derating factor

| Number of loaded wires | Derating factor |
|------------------------|-----------------|
| 5                      | 0.75            |
| 7                      | 0.65            |
| 10                     | 0.55            |
| 14                     | 0.50            |
| 19                     | 0.45            |
| 24                     | 0.40            |

## Operating Voltage acc. to SAE AS 13441-Method 3001.1

The values acc. to SAE AS 13441-method 3001.1 comply with MIL-Std. 1344 – method 3001. The chart values results are acc. to IEC 60512-2.

The inserts have been tested in mated condition and the test voltage was applied to the pin insert.

75 % of the measured break-down voltage is the basic for the further calculation.  $\frac{1}{3}$  of this value is the corresponding operating voltage.

All tests were performed at standard environment conditions (room temperature) and can be applied up to an altitude of 2,000 m. For any deviations one has to consider the reduction factor acc. to the relevant standards.

**Test voltage:**  $\text{Break-down voltage} \times 0.75$   
**Operating voltage:**  $\text{Break-down voltage} \times 0.75 \times 0.33$

### Caution

Electrical appliances: for various applications the safety requirements regarding the operating voltage is even more severe!

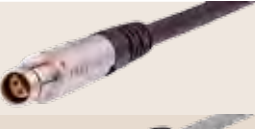
The relevant datas in such cases for the operating voltage are the creepage and clearance distances. For any advise how to chose the proper connector please consult us and indicate the safty standard which your product has to meet.

Suitable safety precautions must be taken in order to ensure that personnel do not come into contact with live conductors during installation and operation. All entries were reviewed with maximum care before this catalogue was printed.

ODU reserves the right to make changes in accordance with the current state of the art without advance notice, and without being obligated to provide replacement deliveries or to continue production of older designs.



## Overview – All Push-Pull Connector Series from ODU

|                  | Push-Pull series                                                                    | Coding         | Sizes | No. of mechanical coding | Diameter plug (mm) | Max. cable Ø (mm) | Max. no. of contacts | Solder | Crimp | Print | IP Protection Class A <sup>1)</sup> | IP Protection Class B <sup>2)</sup> |
|------------------|-------------------------------------------------------------------------------------|----------------|-------|--------------------------|--------------------|-------------------|----------------------|--------|-------|-------|-------------------------------------|-------------------------------------|
| ODU MINI-SNAP L  |    | Pin and groove | 00    | 4                        | 6.5                | 3.5               | 04                   |        |       |       | IP 50                               | up to IP 68                         |
|                  |                                                                                     |                | 0     | 6                        | 9.5                | 5.6               | 10                   |        |       |       |                                     |                                     |
|                  |                                                                                     |                | 1     | 7                        | 12.0               | 7.7               | 16                   | ●      | ●     | ●     |                                     |                                     |
|                  |                                                                                     |                | 2     | 8                        | 15.0               | 9.9               | 26                   |        |       |       |                                     |                                     |
|                  |                                                                                     |                | 3     | 7                        | 18.0               | 11.9              | 30                   |        |       |       |                                     |                                     |
|                  |                                                                                     |                | 4     | 1                        | 25.0               | 16.0              | 40                   |        |       |       |                                     |                                     |
| ODU MINI-SNAP K  |    | Pin and groove | 0     |                          | 11.0               | 5.0               | 10                   |        |       |       | IP 68                               | up to IP 68                         |
|                  |                                                                                     |                | 1     | 4                        | 13.0               | 7.0               | 16                   |        |       |       |                                     |                                     |
|                  |                                                                                     |                | 2     |                          | 16.0               | 9.0               | 26                   | ●      | ●     | ●     |                                     |                                     |
|                  |                                                                                     |                | 3     | 1                        | 19.0               | 10.5              | 30                   |        |       |       |                                     |                                     |
|                  |                                                                                     |                | 4     | 1                        | 25.0               | 14.0              | 40                   |        |       |       |                                     |                                     |
| ODU MINI-SNAP B  |   | Pin and groove | 0     | 6                        | 9.4                | 5.0               | 10                   |        |       |       | IP 68                               | up to IP 68                         |
|                  |                                                                                     |                | 1     | 8                        | 12.0               | 7.0               | 16                   | ●      | ●     | ●     |                                     |                                     |
|                  |                                                                                     |                | 2     | 8                        | 15.0               | 9.0               | 26                   |        |       |       |                                     |                                     |
|                  |                                                                                     |                | 3     | 10                       | 18.0               | 10.5              | 30                   |        |       |       |                                     |                                     |
| ODU MINI-SNAP S  |  | Insulator      | 0     |                          | 9.4                | 5.0               | 04                   |        |       |       | up to IP 68                         | up to IP 68                         |
|                  |                                                                                     |                | 1     | 1                        | 12.0               | 7.0               | 05                   | ●      | ●     |       |                                     |                                     |
|                  |                                                                                     |                | 2     |                          | 15.0               | 9.0               | 10                   |        |       |       |                                     |                                     |
| ODU MINI-SNAP F  |  | Half shell     | 0     | 2                        | 9.4                | 5.0               | 09                   |        |       |       | up to IP 68                         | up to IP 68                         |
|                  |                                                                                     |                | 1     | 2                        | 12.0               | 7.5               | 12                   |        |       |       |                                     |                                     |
|                  |                                                                                     |                | 1.5   | 2                        | 13.0               | 7.5               | 19                   | ●      | ●     | ●     |                                     |                                     |
|                  |                                                                                     |                | 2     | 2                        | 15.0               | 9.5               | 19                   |        |       |       |                                     |                                     |
| ODU AMC          |  | Pin and groove | 3     | 3                        | 18.0               | 11.5              | 27                   |        |       |       | up to IP 69K                        | IP 68                               |
|                  |                                                                                     |                | 0     |                          | 14.0               | 5.5               | 10                   |        |       |       |                                     |                                     |
|                  |                                                                                     |                | 1     |                          | 15.9               | 6.5               | 16                   |        |       |       |                                     |                                     |
|                  |                                                                                     |                | 1.5   | 4                        | 16.5               | 8.0               | 19                   | ●      |       | ●     |                                     |                                     |
|                  |                                                                                     |                | 2     |                          | 19.6               | 10.0              | 26                   |        |       |       |                                     |                                     |
|                  |                                                                                     |                | 3     |                          | 23.9               | 11.5              | 37                   |        |       |       |                                     |                                     |
| ODU MINI-SNAP PC |  | Half shell     | 4     |                          | 33.0               | 17.5              | 55                   |        |       |       | up to IP 67                         | IP 50                               |
|                  |                                                                                     |                | 1     |                          | 12.5               | 6.0               | 14                   |        |       |       |                                     |                                     |
|                  |                                                                                     |                | 2     | 3                        | 15.7               | 9.0               | 19                   | ●      | ●     | ●     |                                     |                                     |
| ODU MEDI-SNAP    |  | Pin and groove | 3     |                          | 18.7               | 10.5              | 27                   |        |       |       | up to IP 64                         | IP 50                               |
|                  |                                                                                     |                | 1     | 6                        | 13.7               | 6.5               | 14                   | ●      | ●     | ●     |                                     |                                     |
|                  |                                                                                     |                | 2     | 1                        | 18.5               | 9.2               | 19                   |        |       |       |                                     |                                     |

<sup>1</sup> IP Protection Class in mated condition.

<sup>2</sup> IP Protection Class in unmated condition to the end device.

## Quality Management

ODU has had a powerful quality management system in place for years. ODU has been successfully certified to ISO 9001 since 1994. In addition, the automotive sector of the company group is certified to ISO TS 16949. The certification process was carried out by the internationally active BVQI (Bureau Veritas Quality International) company.

ODU is also certified according to the medical standard ISO 13485:2003 + AC:2007.

Additional to this ODU is certificated to DIN EN ISO 14001:2009 as well as to different certifications: VDE, UL, UL wiring harness, SCA, VG, MIL.





## Your Partner in Many Application Areas

ODU stands for quality, flexibility and reliability. This is why customers working in many application areas rely on ODU products in markets such as the following:

- Medical
- Industrial
- Measuring and testing
- Military and security
- Energy
- Automotive.



## The Complete ODU Product Range

|                                               |                                                                                     |                                                                                      |                                                                                       |
|-----------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Single contacts<br>(round or flat)            |    |    |    |
| High current<br>connectors                    |    |    |                                                                                       |
| Circular connectors<br>with Push-Pull locking |    |    |    |
| Modular rectangular<br>connectors             |   |   |                                                                                       |
| PCB connectors                                |  |  |                                                                                       |
| Robust connectors                             |  |  |  |
| Disposable Systems                            |  |                                                                                      |                                                                                       |
| Application specific<br>solutions             |  |  |  |
| AMC – Advanced<br>Military Connector          |  |  |  |
| Cable assembly                                |  |  |  |

## Everything from one Source

Each connection needs its individual cable. Make no compromises when it comes to the quality of the complete connection system. ODU gives you the complete system solution from one source, with no intermediary suppliers.

Cable assembly is a very complex subject. It requires equal measures of expertise in the areas of connectors, cables and assembly. ODU meets all these requirements in full.

Our competent assembly team tests the complete system according your specifications. Our assembly service promises you the same quality found in our connectors – without compromises.

### ODU offers you all from one source

- 100 % final inspections
- Production in clean room acc. to EN ISO14644-1 possible
- Automatic processes (cutting, stripping, attaching)

- Extrusion possible with a hot-melt and high pressure/temperature process
- Ultrasound welding
- EMC-compatible assembly
- Application specific labeling
- Widest range of potting possibilities for sealed systems
- Extruded cable crossovers.

### Advantages for the customer

- Modern manufacturing facilities in Mühldorf (Germany), Shanghai (China) and Sibiu (Romania)
- Reliability thanks to our company-wide quality strategy
- Products with durability and functional reliability
- Production according to UL (file: E333666) possible
- Inspections, such as crimp force monitoring, during production.

Assembly instruction you will find on our website:  
[www.odu.de/amc/assembly](http://www.odu.de/amc/assembly)

#### Standard solutions



#### Application specific solutions



## Application Specific Connectors



Innovative, dynamic markets call for innovative connectors.

As an expert for special applications and requirements, we develop forward-looking, appropriate connectors attuned to your needs!

In spite of the global trend toward standardized connectors, there are always applications that call for an application specific solution. We accept this challenge and

develop innovative products for our customers based on our many years of extensive know-how, our creativity and, not least, our high level of vertical integration. Technology access and technology mastery, combined with intensive cooperation with the user, form the basis for achieving success together.

Design-to-cost is joined by design-for-application for the customer's benefit.





## Telefax Inquiry ODU AMC®

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GmbH & Co. KG  
Pregelstr. 11  
84453 Mühldorf a. Inn  
GERMANY

Company: .....  
Name: .....  
Department: .....  
Street: .....  
City: .....  
Phone: ..... Date .....

## ODU AMC® Summary of Technical Requirements

|                                 |                                     |                                       |                                                                                                                         |
|---------------------------------|-------------------------------------|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| 1) Connector application        | .....                               |                                       |                                                                                                                         |
| 2) Environment                  | .....                               |                                       |                                                                                                                         |
| 3) Connector type               | <input type="checkbox"/> Plug       | <input type="checkbox"/> Receptacle   | <input type="checkbox"/> In-line receptacle                                                                             |
| 4) Special version              | .....                               |                                       |                                                                                                                         |
| 5) Style                        | .....                               |                                       |                                                                                                                         |
| 6) Size                         | <input type="checkbox"/> 0          | <input type="checkbox"/> 1            | <input type="checkbox"/> 1.5 (A) <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4.5 (E) |
| 7) Series                       | <input type="checkbox"/> Y Standard | <input type="checkbox"/> Y Easy-Clean |                                                                                                                         |
| 8) Coding                       | .....                               |                                       |                                                                                                                         |
| 9) Number of positions          | .....                               |                                       |                                                                                                                         |
| 10) Termination                 | <input type="checkbox"/> Solder     | <input type="checkbox"/> PCB          |                                                                                                                         |
| 11) Cross section of wire       | ..... mm <sup>2</sup>               | ..... AWG                             |                                                                                                                         |
| Cable diameter                  | ..... mm                            |                                       |                                                                                                                         |
| 12) Operating temperature       | ..... °C max                        | ..... °C min                          |                                                                                                                         |
| 13) Electrical specs:           |                                     |                                       |                                                                                                                         |
| Operating voltage               | ..... V AC                          | ..... V DC                            |                                                                                                                         |
| Operating current               | ..... A (constant)                  | ..... A (short-term)                  | ..... sec.                                                                                                              |
| 14) Chemical resistance against |                                     |                                       |                                                                                                                         |
| 15) Other requirements          |                                     |                                       |                                                                                                                         |
| → Required quantity             | .....                               |                                       |                                                                                                                         |
| → Production quantity           | .....                               |                                       |                                                                                                                         |



## The Part Number Key

| No. | Description                         | Coding                                                                                                                       | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|-----|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
|     |                                     |                                                                                                                              |   |   |   |   |   |   | - |   |   |    |    |    |    |    | -  |    |    |    |    |
| 1   | Type                                | <b>S</b> = Push-Pull plug<br><b>G</b> = Receptacle<br><b>K</b> = In-line receptacle<br><b>A</b> = Break-Away plug            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
| 2   | Style                               | <b>1, 8, K, W</b>                                                                                                            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
| 3   | Size                                | <b>0, 1, A, 2, 3, E</b>                                                                                                      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
| 4   | Series                              | <b>Y = ODU AMC</b>                                                                                                           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
| 5   | Keying (colour and mechanical)      | <b>A – D</b>                                                                                                                 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
| 6   | Material / surface of housing       | <b>R = Ruthenium</b>                                                                                                         |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
| 8   | Material insulator                  |                                                                                                                              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
| 9   | Contact configuration (2 positions) |                                                                                                                              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
| 10  |                                     |                                                                                                                              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
| 11  | Contact type / surface              |                                                                                                                              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
| 12  | Contact diameter                    |                                                                                                                              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
| 13  | Termination cross section           |                                                                                                                              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
| 14  |                                     | <b>0</b>                                                                                                                     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
| 16  | Locking principle                   | <b>0</b> = Standard Version,<br>see page <a href="#">11</a><br><b>R</b> = Easy-Clean Version,<br>see page <a href="#">35</a> |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
| 17  | Cover / nut                         | <b>0</b> = Standard                                                                                                          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
| 18  |                                     | <b>0</b>                                                                                                                     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
| 19  | Receptacle earth tag – GK and G8    | <b>L</b>                                                                                                                     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |

### Example plug

|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| S | 1 | 1 | Y | A | R | - | P | 0 | 8  | X  | F  | G  | 0  | -  | 0  | 0  | 0  | 0  |

- 1 = Plug
- 2 = Style 1
- 3 = Size 1
- 4 = Series Y = ODU AMC
- 5 = Coding A = light brown
- 6 = Ruthenium over Aluminium
- 8 = Peek insulator
- 9, 10 = 8 positions
- 11 = Solder pin
- 12 = Contact diameter 0.7 mm
- 13 = Cross section AWG 22/0.38 mm<sup>2</sup>
- 14 = free (0)
- 16 = Locking Push-Pull
- 17 = free (0)
- 18 = free (0)
- 19 = free (0)

### Example receptacle

|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| G | 8 | 1 | Y | A | R | - | P | 0 | 8  | W  | F  | G  | 0  | -  | 0  | 0  | 0  | L  |

- 1 = Receptacle
- 2 = Style 8
- 3 = Size 1
- 4 = Series Y = ODU AMC
- 5 = Coding A = light brown
- 6 = Ruthenium over Aluminium
- 8 = Peek insulator
- 9, 10 = 8 positions
- 11 = Solder pin
- 12 = Contact diameter 0.7 mm
- 13 = Cross section AWG 22/0.38 mm<sup>2</sup>
- 14 = free (0)
- 16 = Locking Push-Pull / Break-Away
- 17 = free (0)
- 18 = free (0)
- 19 = Earth tag

Please open



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