ODU AMC® EASY-CLEAN

Rugged miniature circular connector with Easy-Clean function

www.odu-connectors.com
FEATURES

- Low weight and compact design
- Easy handling
- Watertight
- Blind mateable
- Robust
- EMC shielding
- Robust mechanical and optical coding
- Resist all kinds of extremes like dust, temperature, humidity, corrosion, radiation and shock vibration

APPLICATIONS

- Communication systems (PTT, PRR)
- Rugged computers and hand-holds
- Power supply
- Unmanned systems
- Optical devices
- Nightvision systems
- Software defined radions
- Defence and security
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For assembly instructions please refer to our website: www.odu-connectors.com/downloads
Creating connections, building alliances, collaborating into the future: Whether two technical components come together to form a unit or people come together to strive for great results – the key is to aspire to achieve superb results. This goal drives our work. Perfect connections that inspire and deliver on the promises.

**ODU GROUP OVERVIEW**

- Almost 80 years of experience in connector technology
- Over 2,300 employees worldwide
- Sales subsidiaries in China, Denmark, France, Germany, Hong Kong, Italy, Japan, Korea, Romania, Sweden, UK and the US as well as 5 production and logistics sites
- All technologies under one roof: Design and development, machine tool and special machine construction, injection, stamping, turning, surface technology, assembly and cable assembly

As of February 2020

**CERTIFICATES & APPROVALS**

- ISO 9001
- IATF 16949
- ISO 13485
- ISO 14001
- ISO 50001
- Wide range of UL, CSA, VG and VDE approvals
- UL Wiring Harnesses certified

For a complete list of our certifications and approvals, please visit our website.
Creating connections, building alliances, collaborating into the future:
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WORLDWIDE CUSTOMER PROXIMITY

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As of February 2020

A PERFECT ALLIANCE

WORLDWIDE CUSTOMER PROXIMITY
CONNECTIONS THAT LIVE UP TO ANY REQUIREMENT

**ELECTRICAL CONTACTS**
- Versatile contact technologies
- Outstanding reliability and durability
- Current-carrying capacity of up to 2,400 A
- Rugged and universal contact systems
- Stamping technology for customer-specific high volume solutions
- Very high vibration resistance
- Low, stable contact resistance

**CIRCULAR CONNECTORS**
- Circular connector series in robust metal or plastic housing
- Contacts for soldering, crimping and PCB termination
- Different locking systems available: Push-Pull and Screw-Locking options or Break-Away function for quick release
- 2 up to 55 contacts
- Protection classes IP50 to IP69
- Autoclavable for medical applications
- Hybrid inserts for combined transmission
- Including cable assembly – system solution from one source

**CABLE ASSEMBLY**
- Complete system solutions from one source based on years of expertise
- State-of-the-art production facilities with 100 % end testing
- Cable assembly available for ODU products
- Overmolding in silicone, hot-melt and high-pressure procedures
- Customer-specific labeling and cable printing
- Wide range of standard cables and accessories available
- Prototype, small series and high volume production
- Rapid prototyping

**APPLICATION AND CUSTOMER-SPECIFIC SOLUTIONS**
- Contacts, connectors and cable assemblies for the highest technical requirements as well as special applications
- First-class implementation expertise
- High level of vertical manufacturing – all competences and key technologies under one roof
- Expert advice based on mutual partnership
- Short development and production paths
CONNECTIONS THAT LIVE UP TO ANY REQUIREMENT

HEAVY DUTY CONNECTORS
- Extremely durable even under extreme / harsh environments
- High vibration resistance
- Up to 400 A (higher currents upon request)

PRINTED CIRCUIT BOARDS CONNECTORS
- Maximum flexibility in application designs
- High resilience and outstanding quality
- Including cable assembly – system solution from one source

MODULAR CONNECTORS
- Application-specific hybrid interface
- For manual mating and automatic docking
- Flexible modular construction and highest packing density
- For the transmission of signals, power, high current, high voltage, HF signals (coax), media, high-speed data or fiber optics
- Variety of locking options available
- Mating cycles scalable as required from 10,000 to over 100,000 (1 million)
- Including cable assembly – system solution from one source

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- For manual mating and automatic docking
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- Customer-specific labeling and cable printing
- Wide range of standard cables and accessories available
- Prototype, small series and high volume production
- Rapid prototyping

APPLICATION AND CUSTOMER-SPECIFIC SOLUTIONS
- For testing printed circuit boards (PCBs) and electronically assembled units
- Innovative engagement option: electromechanical version
- 8 tensioning points stop the frame distorting
- Very high flexibility thanks to ODU-MAC® modules
- Adapter frame (ITA) with tolerance compensation
- Including cable assembly – system solution from one source

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OUR KNOW-HOW
FOR YOUR SUCCESS

Customers rely on ODU technology wherever first-class, high-performance connector solutions are required. All our skills go into our products to ensure your success.

In addition to the top quality, reliable stability and maximum flexibility our products also stand for **dynamics, reliability, safety, precision, efficiency and sustainability.**

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HIGH PERFORMANCE CONNECTOR TECHNOLOGY FOR DEMANDING KEY MARKETS

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TEST AND MEASUREMENT

---

MILITARY AND SECURITY

---

INDUSTRIAL

---

AUTOMOTIVE

---

MEDICAL
**MORE THAN A CONNECTION**

Contacts, connectors and cable assembly system solutions meeting the most demanding technical market requirements – ODU’s connector solutions and value-added services are characterized by their exclusive focus on meeting the customer’s needs.

- Precise implementation of application-specific requirements regarding design, functionality, cost and exclusivity
- Modified connector solutions derived from standard products
- One-to-one local expertise and fair, friendly consulting
- Short development and production paths

**DEVELOPMENT OF CUSTOM SOLUTIONS**

Demands that can’t be pigeon-holed call for creative specialists who think outside the box. ODU offers the type of expertise that focuses solely on the specific requirements of our customers.

For every development order we get, we not only perform a thorough check to make sure it’s feasible, we intensively incorporate our customers in the ongoing design process.

This guarantees impressive, custom-fit final end products.
PRODUCT INFORMATION

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- ODU AMC® Easy-Clean product features .................................. 12
- ODU AMC® Easy-Clean product range and solutions ............. 13
- Related products ........................................................................ 13
- ODU AMC® Easy-Clean locking mechanism ......................... 14
ODU AMC® INTRODUCTION
A CONNECTOR THAT YOU CAN DEPEND ON

ODU AMC® is a rugged miniature connector solution for extreme environments. The connectors are waterproof when mated and unmated, offer robust mechanical coding with a visual indicator, and are EMI shielded.

The connectors have been designed and tested to survive many of the factors detrimental to the performance of connectors in harsh environments, including: sand and dust, extreme temperatures, humidity, corrosion, solar radiation, shock, vibration and torque.

Whether in extreme environments or under high mechanical stress, ODU connectors ensure reliable electrical communication, even in the most demanding conditions.

The ODU AMC® is available in a wide range of sizes and contact inserts. You can choose between four versions — Push-Pull, Break-Away, Easy-Clean and High-Density.

ODU AMC® EASY-CLEAN PRODUCT FEATURES

VARIOUS SIZES AND CONFIGURATIONS AVAILABLE
- 3 standard connector shell sizes
- Plug outer diameter 11.9 mm to 15.9 mm
- 4 to 19 contacts
- International protection class IP6K8 and IP6K9K

MATERIALS AND APPLICABILITY
The ODU AMC® connector series uses PEEK as the insulator material.
The housings are made of aluminum, and plated with ruthenium over nickel (see page 65 for more information).
Operating temperature range: −51 °C to +125 °C. This rugged and versatile connector series is ideal for defense & security applications as well as industrial electronics.

COMPLETE SYSTEM SOLUTION
Every connection has a unique cable requirement. Make no compromise when it comes to the quality of the complete interconnect system. ODU gives you the complete system solution from one source, without the need for an intermediary supplier.
Services include:
- 100% outgoing inspection
- EN ISO 14644-1:2015 clean room assembly available
- Factory-automated equipment and processes (cutting, stripping, etc.)
- Low- and high-pressure overmolding
- Ultrasonic welding
- EMI shielded enclosure assembly
- Custom labeling
- Various potting options for sealed systems
- Overmolded cable transitions (1-to-2, 1-to-3, etc.)
ODU AMC® EASY-CLEAN CONNECTORS
PRODUCT RANGE AND SOLUTIONS

<table>
<thead>
<tr>
<th>Coding</th>
<th>Size</th>
<th>No. of possible mechanical codings</th>
<th>Plug diameter in mm</th>
<th>Max. cable diameter in mm</th>
<th>Number max. contacts</th>
<th>Solder</th>
<th>PCB</th>
<th>International protection class ¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td>11.9</td>
<td>5.5</td>
<td>7</td>
<td>●</td>
<td>●</td>
<td>up to IP6K9K</td>
</tr>
<tr>
<td>1</td>
<td>4</td>
<td></td>
<td>13.9</td>
<td>6.5</td>
<td>16</td>
<td>●</td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>1.5</td>
<td></td>
<td></td>
<td>15.9</td>
<td>8.0</td>
<td>19</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹ International protection class in mated condition

RELATED PRODUCTS OF THE ODU CIRCULAR CONNECTOR SERIES

- High speed data technology
- Secure Push-Pull locking and Break-Away function
- Contacts for solder and PCB termination
- International protection class IP6K8K and IP6K9K

- Small and compact design
- High-contact density
- High-speed data transmission capable
- Break-Away function
- International protection class IP6K8
- With dual-locking option

- High reliability for harsh environments
- Screw locking with ratchet mechanism half turn to fully mate
- High vibration resistant
- International protection class IP6K8
- More mating cycles than most MIL spec. connectors

- Circular Push-Pull connector with metal housing
- Wide variety of contact configurations and combinations
- International protection class IP50 and IP68
ODU AMC® EASY-CLEAN LOCKING MECHANISM – THE PERFECT CONNECTION

ODU offers you high-quality connectors and comprehensive service for the complete assembly. From connectors to watertight potting, we provide the complete system as an one-stop-shop solution.

BREAK-AWAY FUNCTION

The Break-Away function allows connectors to be mated and unmated in fractions of a second. As a safety measure, features in the connector allow the plug and receptacle to separate when the connector is in axial tension.

During the mating process, locking tabs on the plug align with corresponding grooves in the receptacle, but the geometry of the locking tabs is such that the connectors will separate when the specific retention force of the mechanism is exceeded. As a result, disconnection of the system can be triggered by pulling on the plug connector, the receptacle connector or cables attached to either.
FOR YOUR NOTES
ODU AMC® EASY-CLEAN
CONFIGURATION GUIDELINE

Correct configuring – step by step
BIT BY BIT TO THE PERFECT CONNECTION

ODU offers you high-quality connectors and comprehensive service for the complete assembly. From connectors to watertight potting, we provide the complete system from a single source.
SAMPLE CONFIGURATION STEP BY STEP

The perfect product for you in just a few steps. These step-by-step instructions show you how to configure your own individual product with the ODU part number key based on a sample configuration.

Break-Away Plug / size 1 / AMC® series YR / coding A / connector plug housing ruthenium over aluminium / insulator PEEK / 16 contacts / solder flat contact/ contact diameter 0.6 / termination cross section AWG 26

STEP 1: SERIES (SEE POSITION 4)

STEP 2: TYPE/STYLE (SEE POSITIONS 1, 2, 16, 17 AND 19)

STEP 3: SIZE (SEE POSITION 3)

STEP 4: CODING (SEE POSITION 5)

STEP 5: HOUSING MATERIAL (SEE POSITION 6)
YOUR WAY TO AN INDIVIDUAL CONNECTION:
HOW TO CONFIGURE WITH THE PART NUMBER KEY

This shows you how ODU’s part number key is composed. In the first part of the configuration, select the connector plug housing (such as style and size) of the connector. In the middle part of the part number key, you configure the contact insert and then the cable entry.

**Type**
A = Break-Away connector  
G = Receptacle / panel mounted plug  
K = In-line receptacle

**Material insulator**  
(PEEK = standard)

**Series**  
YR

**Style**  
1 – 8, K, W

**Size**  
0, 1, A

**Coding**  
A, B, C, D

**Contact insert**  
e. g. 18 contacts = 18

**Contact type / surface**

**Contact diameter / termination cross-section**

**Housing material**  
Ruthenium

**Receptacle earth tag**  
(GK, GB and GW)

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**Configurations**

1. Connector plug housing  
   from page 25  

2. Contact insert  
   from page 32  

3. Additional configuration  
   from page 33

---

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**STEP 6: INSULATOR MATERIAL (SEE POSITION 8)**

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

**STEP 7: CONTACT INSERT (SEE POSITIONS 9 AND 10)**

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

**STEP 8: CONTACT TYPE / SURFACE (SEE POSITION 11)**

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

**STEP 9: CONTACT DIAMETER (SEE POSITION 12)**

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
A 11 Y A R – P 1 6 W D 0 – R 0 0 0

**STEP 10: TERMINATION CROSS-SECTION (SEE POSITIONS 13)**

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
A 11 Y A R – P 1 6 W D D 0 – R 0 0 0
ODU AMC® EASY-CLEAN

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Protection caps .................................................................................................................. 38
ODU AMC® Easy-Clean use pin and groove coding and additional to mechanical also optical color coding. These robust circular connectors can be configured in variety ways.

- Mechanical coding over pin and groove
- 4 to 19 contacts
- Up to 3 sizes
- Protection class IP6K8 and IP6K9K
- 5,000 mating cycles
- Spring loaded contacts for solder and print termination

For assembly instructions please refer to our website: www.odu-connectors.com/downloads
BREAK-AWAY PLUG

STYLE 1

<table>
<thead>
<tr>
<th>Size</th>
<th>L1 (mm)</th>
<th>L2 (mm)</th>
<th>L3 (mm)</th>
<th>D1 (mm)</th>
<th>AF A (mm)</th>
<th>Max Ø-cable (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>23.5</td>
<td>3.0</td>
<td>15.0</td>
<td>11.9</td>
<td>9</td>
<td>5.5</td>
</tr>
<tr>
<td>1</td>
<td>26.9</td>
<td>3.5</td>
<td>18.4</td>
<td>13.9</td>
<td>11</td>
<td>6.5</td>
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<tr>
<td>1.5</td>
<td>27.5</td>
<td>3.5</td>
<td>18.5</td>
<td>15.9</td>
<td>12</td>
<td>8.0</td>
</tr>
</tbody>
</table>

TECHNICAL DATA
- Technical data see page 42
- Contact configuration see page 32
- Cable assembly information see ODU instruction 010.645.001.000.004 (available at www.odu-connectors.com/downloads/assembly-instructions/)

1 Based on cable with one braided shield
PANEL PLUG REAR MOUNT

STYLE W

<table>
<thead>
<tr>
<th>Size</th>
<th>L1 mm</th>
<th>L2 mm</th>
<th>L3 mm</th>
<th>X max mm</th>
<th>D1 mm</th>
<th>D2 mm</th>
<th>AFA mm</th>
<th>M mm</th>
<th>Panel cut out AF mm</th>
<th>Panel cut out Ø mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>15.0</td>
<td>6.4</td>
<td>2.5</td>
<td>3.0</td>
<td>13.2</td>
<td>12.8</td>
<td>9.2</td>
<td>10 × 0.5</td>
<td>9.3</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>15.0</td>
<td>8.0</td>
<td>2.5</td>
<td>3.5</td>
<td>15.5</td>
<td>15.0</td>
<td>10.0</td>
<td>11 × 0.75</td>
<td>10.1</td>
</tr>
<tr>
<td>1.5</td>
<td>A</td>
<td>16.5</td>
<td>9.7</td>
<td>4.0</td>
<td>3.5</td>
<td>17.5</td>
<td>17.9</td>
<td>13.0</td>
<td>14 × 0.75</td>
<td>13.1</td>
</tr>
</tbody>
</table>

NUTDRIVER FOR SLOTTED NUT

<table>
<thead>
<tr>
<th>Size</th>
<th>Number</th>
<th>Torque Nm</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>700.098.005.000.000</td>
<td>0.8</td>
</tr>
<tr>
<td>1</td>
<td>701.098.001.000.000</td>
<td>1.0</td>
</tr>
<tr>
<td>1.5 (A)</td>
<td>701.098.002.000.000</td>
<td>3.0</td>
</tr>
</tbody>
</table>

TECHNICAL DATA
- Technical data see page 42
- Contact configuration and PCB layout see page 32

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IN-LINE RECEPTACLE

STYLE 1

<table>
<thead>
<tr>
<th>Size</th>
<th>L1</th>
<th>L2</th>
<th>L3</th>
<th>L4</th>
<th>D1</th>
<th>D2</th>
<th>AF A</th>
<th>Max. Ø-cable</th>
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<td>5.5</td>
</tr>
<tr>
<td>1</td>
<td>27.0</td>
<td>12.1</td>
<td>1.5</td>
<td>5.8</td>
<td>13.9</td>
<td>12.5</td>
<td>11</td>
<td>6.5</td>
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<td>1.5</td>
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<td>1.5</td>
<td>5.8</td>
<td>15.9</td>
<td>14.5</td>
<td>12</td>
<td>8.0</td>
</tr>
</tbody>
</table>

Max. Ø-cable based on cable with one braided shield.

TECHNICAL DATA
- Technical data see page 42
- Contact configuration see page 32
- Cable assembly information see ODU instruction 010.645.001.000.003 (available at www.odu-connectors.com/downloads/assemble-instructions/)

1 Based on cable with one braided shield.
**STYLE K**

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

<table>
<thead>
<tr>
<th>Size</th>
<th>L1 max mm</th>
<th>L2 max mm</th>
<th>X max mm</th>
<th>D1 mm</th>
<th>D2 mm</th>
<th>AFA mm</th>
<th>M mm</th>
<th>Panel cut out AF mm</th>
<th>Panel cut out Ø mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>15.5</td>
<td>7.3</td>
<td>2.5</td>
<td>7.0</td>
<td>15.5</td>
<td>15.0</td>
<td>10</td>
<td>11 x 0.75</td>
<td>10.1</td>
</tr>
<tr>
<td>1</td>
<td>15.5</td>
<td>7.4</td>
<td>3.0</td>
<td>4.0</td>
<td>18.5</td>
<td>17.9</td>
<td>13</td>
<td>14 x 1</td>
<td>13.1</td>
</tr>
<tr>
<td>1.5</td>
<td>A</td>
<td>16.5</td>
<td>8.2</td>
<td>3.0</td>
<td>5.5</td>
<td>18.9</td>
<td>17.9</td>
<td>14 x 0.75</td>
<td>13.1</td>
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</table>

**NUTDRIVER FOR SLOTTED NUT**

<table>
<thead>
<tr>
<th>Size</th>
<th>Number</th>
<th>Torque Nm</th>
</tr>
</thead>
<tbody>
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<td>1.0</td>
</tr>
<tr>
<td>1</td>
<td>701.098.002.000.000</td>
<td>3.0</td>
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<td>701.098.002.000.000</td>
<td>3.0</td>
</tr>
</tbody>
</table>

**TECHNICAL DATA**

- Technical data see page 42
- Contact configuration see page 32
**STYLE 8**

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

<table>
<thead>
<tr>
<th>Size</th>
<th>L1</th>
<th>L2 max</th>
<th>L3</th>
<th>L4</th>
<th>X max</th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>AF A</th>
<th>M</th>
<th>Panel cut out</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mm</td>
<td>mm</td>
<td>mm</td>
<td>mm</td>
<td>mm</td>
<td>mm</td>
<td>mm</td>
<td>mm</td>
<td>mm</td>
<td>mm</td>
<td>AF  mm</td>
</tr>
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<td>16.3</td>
<td>3.0</td>
<td>11.5</td>
<td>3.0</td>
<td>15.5</td>
<td>15.0</td>
<td>10.0</td>
<td>10</td>
<td>11 × 0.75</td>
<td>10.1</td>
</tr>
<tr>
<td>1</td>
<td>8.0</td>
<td>14.9</td>
<td>4.0</td>
<td>10.5</td>
<td>3.5</td>
<td>18.5</td>
<td>17.9</td>
<td>12.0</td>
<td>13</td>
<td>14 × 1</td>
<td>13.1</td>
</tr>
<tr>
<td>1.5</td>
<td>7.0</td>
<td>17.7</td>
<td>2.5</td>
<td>12.5</td>
<td>3.0</td>
<td>18.9</td>
<td>17.9</td>
<td>14.0</td>
<td>13</td>
<td>14 × 0.75</td>
<td>13.1</td>
</tr>
</tbody>
</table>

**TECHNICAL DATA**

- Technical data see page 42
- Contact configuration and PCB layout see page 32

**NUTDRIVER FOR SLOTTED NUT**

<table>
<thead>
<tr>
<th>Size</th>
<th>Number</th>
<th>Torque</th>
<th>Nm</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>700.098.001.000.000</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>701.098.002.000.000</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>1.5</td>
<td>701.098.002.000.000</td>
<td>3.0</td>
<td></td>
</tr>
</tbody>
</table>
## CODING POSSIBILITIES

<table>
<thead>
<tr>
<th>Coding</th>
<th>Plug front view</th>
<th>Color coding</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td><img src="image1" alt="A front view" /></td>
<td><img src="image2" alt="A color coding" /></td>
<td>Light brown</td>
</tr>
<tr>
<td>B</td>
<td><img src="image3" alt="B front view" /></td>
<td><img src="image4" alt="B color coding" /></td>
<td>Red</td>
</tr>
<tr>
<td>C</td>
<td><img src="image5" alt="C front view" /></td>
<td><img src="image6" alt="C color coding" /></td>
<td>Blue</td>
</tr>
<tr>
<td>D</td>
<td><img src="image7" alt="D front view" /></td>
<td><img src="image8" alt="D color coding" /></td>
<td>Green</td>
</tr>
</tbody>
</table>

## HOUSING MATERIAL

<table>
<thead>
<tr>
<th>Coding</th>
<th>Housing material</th>
</tr>
</thead>
</table>
| R      | Aluminium EN-6023  
Ruthenium over electroless Ni |

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Y</td>
<td>R</td>
<td>P</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## CONTACT CONFIGURATIONS
### SIZE 0

<table>
<thead>
<tr>
<th>Number of contacts</th>
<th>Available connector styles</th>
<th>Contact type</th>
<th>Part number key</th>
<th>Contact diameter</th>
<th>Single contact nominal current</th>
<th>Test voltage</th>
<th>Nominal voltage</th>
<th>Termination diameter</th>
<th>Termination cross section</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>A1</td>
<td>Solder</td>
<td>W D D 0</td>
<td>0.6</td>
<td>2.0</td>
<td>0.600</td>
<td>0.200</td>
<td>0.65</td>
<td>26 0.15</td>
</tr>
<tr>
<td>0</td>
<td>G8</td>
<td>Flat contact</td>
<td>Print</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.5</td>
<td>– –</td>
</tr>
<tr>
<td>4</td>
<td>K1</td>
<td>Solder</td>
<td>X D D 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.65</td>
<td>26 0.15</td>
</tr>
<tr>
<td>0</td>
<td>A1</td>
<td>Flat contact</td>
<td>Print</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.5</td>
<td>– –</td>
</tr>
<tr>
<td>7</td>
<td>G8</td>
<td>Spring load contact</td>
<td>Print</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.65</td>
<td>26 0.15</td>
</tr>
</tbody>
</table>

1. Other contact configurations on request.
2. Derating factor see page 47
3. SAE AS 13441:2004 method 3001.1
4. Max. operating voltage at NN [sea level] acc. to SAE AS 13441.2004 method 3001.1

Further information on page 48
# PCB Layout Print Contacts

## Size 0

### View on termination area

<table>
<thead>
<tr>
<th>Spring load contact piece</th>
<th>Flat-contact piece</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="View on termination area" /></td>
<td><img src="image2" alt="View on termination area" /></td>
</tr>
<tr>
<td><img src="image3" alt="View on termination area" /></td>
<td><img src="image4" alt="View on termination area" /></td>
</tr>
</tbody>
</table>

### Number of contacts

<table>
<thead>
<tr>
<th>Contacts</th>
<th>Length earth tag and pin</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 pos.</td>
<td><strong>G8</strong> Pin X mm</td>
</tr>
<tr>
<td></td>
<td>4.3</td>
</tr>
<tr>
<td>7 pos.</td>
<td><strong>G8</strong> Pin X mm</td>
</tr>
<tr>
<td></td>
<td>4.3</td>
</tr>
</tbody>
</table>

### Length Earth Tag and Pin

**GB**

Earth tag 4.3

**GK**

4.3 Earth tag

**GW**

3.0 Earth tag
## CONTACT CONFIGURATIONS

### SIZE 1

<table>
<thead>
<tr>
<th>Number of contacts</th>
<th>Available connector styles</th>
<th>Contact type</th>
<th>Part number key</th>
<th>Contact diameter</th>
<th>Single contact nominal current</th>
<th>Test voltage</th>
<th>Nominal voltage</th>
<th>Termination diameter</th>
<th>Termination cross section</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A1 GW</td>
<td>Flat contact</td>
<td>Solder</td>
<td>W D D 0</td>
<td>0.6</td>
<td>2.0</td>
<td>0.600</td>
<td>0.200</td>
<td>0.65 26 0.15</td>
</tr>
<tr>
<td></td>
<td>K1 G8</td>
<td>Spring load contact</td>
<td>Solder</td>
<td>X D D 0</td>
<td>0.6</td>
<td>2.0</td>
<td>0.600</td>
<td>0.200</td>
<td>0.65 26 0.15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Print</td>
<td>U D 0 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.5 – –</td>
</tr>
</tbody>
</table>

1 Other contact configurations on request.
2 Derating factor see page 47
3 SAE AS 13441:2004 method 3001.1
4 Max. operating voltage at NN (sea level) acc. to SAE AS 13441:2004 method 3001.1
Further information on page 48
PCB LAYOUT PRINT CONTACTS
SIZE 1

View on termination area

<table>
<thead>
<tr>
<th>Number of contacts</th>
<th>Length earth tag and pin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring load contact piece</td>
<td>Flat-contact piece</td>
</tr>
<tr>
<td>10 pos.</td>
<td>G8</td>
</tr>
<tr>
<td></td>
<td>Pin X mm</td>
</tr>
<tr>
<td>3.9</td>
<td>3.9</td>
</tr>
</tbody>
</table>

| 16 pos.            | G8 | GK | GW |
|                    | Pin X mm | Pin Y mm | Pin Z mm |
| 3.9 | 3.9 | 3.0 |

LENGTH EARTH TAG AND PIN

GB
Earth tag 3.8
Pin X

GK
3.8 Earth tag
Pin Y

GW
3.0 Earth tag
Pin Z
## CONTACT CONFIGURATIONS
### SIZE 1.5

<table>
<thead>
<tr>
<th>Number of contacts</th>
<th>Available connector styles</th>
<th>Contact type</th>
<th>Part number key</th>
<th>Contact diameter</th>
<th>Single contact nominal current</th>
<th>Test voltage</th>
<th>Nominal voltage</th>
<th>Termination diameter</th>
<th>Termination cross section</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A1 GW</td>
<td>Flat contact</td>
<td>W D D 0</td>
<td>0.6</td>
<td>2.0</td>
<td>0.600</td>
<td>0.200</td>
<td>0.65</td>
<td>26 0.15</td>
</tr>
<tr>
<td></td>
<td>K1 GW</td>
<td>Spring load contact</td>
<td>X D D 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.65</td>
<td>26 0.15</td>
</tr>
</tbody>
</table>

1. Other contact configurations on request
2. Derating factor see page 47
3. SAE AS 13441:2004 method 3001.1
4. Max. operating voltage at NN [sea level] acc. to SAE AS 13441:2004 method 3001.1

Further information on page 48
PCB LAYOUT PRINT CONTACTS
SIZE 1.5

View on termination area

<table>
<thead>
<tr>
<th>Spring load contact piece</th>
<th>Flat-contact piece</th>
</tr>
</thead>
</table>

Number of contacts

<table>
<thead>
<tr>
<th>Contact type</th>
<th>Part number</th>
<th>Nominal current</th>
<th>Test voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single contact</td>
<td>nom...</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Termination diameter

<table>
<thead>
<tr>
<th>Termination mm</th>
<th>kVeff</th>
<th>kVrms</th>
<th>mm</th>
<th>AWG</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.65</td>
<td>26</td>
<td>0.15</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table of contents

LENGTH EARTH TAG AND PIN

<table>
<thead>
<tr>
<th>GB</th>
<th>GK</th>
<th>GW</th>
</tr>
</thead>
</table>

Earth tag

<table>
<thead>
<tr>
<th>GB</th>
<th>GK</th>
<th>GW</th>
</tr>
</thead>
</table>

Pin X

Pin Y

Pin Z

3.5 Earth tag

1.5 Earth tag

Table of contents
DUST PROTECTION CAPS

ENVIRONMENTAL AND ELECTRICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Type</th>
<th>Performance</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protection</td>
<td>IP5K0</td>
<td>ISO 20653:2013</td>
</tr>
<tr>
<td>Shielding effectiveness</td>
<td>&gt; 55 dB</td>
<td>VG 95214-11</td>
</tr>
</tbody>
</table>

MATERIAL

<table>
<thead>
<tr>
<th>Part</th>
<th>Material</th>
<th>Flammability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cap</td>
<td>Conductive silicone</td>
<td>UL94 [V1]</td>
</tr>
<tr>
<td>Lanyard</td>
<td>Aramid</td>
<td>UL94 [V0]</td>
</tr>
<tr>
<td>Crimp ferrule, lug</td>
<td>Brass, copper</td>
<td></td>
</tr>
</tbody>
</table>

FOR RECEPTACLES G8 AND GK AND IN-LINE RECEPTACLE K1

Crimp ferrule and lug are included

<table>
<thead>
<tr>
<th>Size</th>
<th>Part number</th>
<th>Dimensions in mm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Part number</td>
<td>A</td>
</tr>
<tr>
<td>0</td>
<td>700.645.097.002.945</td>
<td>15.5</td>
</tr>
<tr>
<td>1</td>
<td>701.645.097.002.945</td>
<td>16.0</td>
</tr>
<tr>
<td>1.5</td>
<td>715.645.097.002.945</td>
<td>15.3</td>
</tr>
</tbody>
</table>

Assembly information including tools see ODU instruction 010.645.001.000.005 (available at www.odu-connectors.com/downloads/assembly-instructions)
ODU AMC® EASY-CLEAN
TECHNICAL INFORMATION

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**TECHNICAL DATA**

### ENVIRONMENTAL AND TESTING

<table>
<thead>
<tr>
<th>Type</th>
<th>Performance</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thermal shock</td>
<td>–65 °C up to +150 °C</td>
<td>EIA 364-2-E, IEC 60068-2-14</td>
</tr>
<tr>
<td>Humidity cyclic</td>
<td>85% up to 95%, 28 °C up to 71 °C</td>
<td>MIL-STD-1344A Method 1002.2 Type III, IEC 60068-2-38</td>
</tr>
<tr>
<td>Low pressure (rapid decompression)</td>
<td>59.1 kPa to 18.8 kPa</td>
<td>AECTP 300, 312 Procedure III (STANAG 4370)</td>
</tr>
<tr>
<td>Low pressure</td>
<td>57.2 kPa, –55 °C</td>
<td>MIL-STD-810G:2008 500.5 IEC 60068-2-40</td>
</tr>
<tr>
<td>Icing</td>
<td>Rime ice 6 mm</td>
<td>MIL-STD-810G:2008 521.3</td>
</tr>
<tr>
<td>Corrosion resistance</td>
<td>96 h salt mist, 5% salt solution, 35 °C</td>
<td>EIA-364-26B STANAG 4370, AECTP 300-309 MIL-STD-810G:2008 509.5</td>
</tr>
<tr>
<td>Mould growth</td>
<td>European fungus</td>
<td>IEC 60068-2-10:2005</td>
</tr>
<tr>
<td>Solar radiation</td>
<td></td>
<td>IEC 60068-2-5:2018</td>
</tr>
<tr>
<td>Chemical endurance</td>
<td>Several substances</td>
<td>ISO 16750-5:2010-04</td>
</tr>
</tbody>
</table>

### MECHANICAL DATA

<table>
<thead>
<tr>
<th>Type</th>
<th>Performance</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical endurance</td>
<td>5,000 mating cycles</td>
<td>IEC 60512-5-9-a EIA-364-09</td>
</tr>
<tr>
<td>Vibration</td>
<td></td>
<td>MIL-STD 1344 Method 2005 EIA-364-28</td>
</tr>
<tr>
<td>Shock</td>
<td>100 g amplitude, half sine pulse of 3 ms, no discontinuity &gt; 1 μs</td>
<td>MIL-STD 1344 Method 2004 EIA-364-27</td>
</tr>
</tbody>
</table>

### ELECTRICAL DATA

<table>
<thead>
<tr>
<th>Type</th>
<th>Performance</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact resistance (fig. 1)</td>
<td>over 5,000 mating cycles</td>
<td>IEC 60512-2-1:2002</td>
</tr>
<tr>
<td>Contact diameter / resistance Ø 0.6 mm pogo pin &lt; 20 mOhm</td>
<td></td>
<td>IEC 60512-2-1:2002</td>
</tr>
<tr>
<td>Shell resistance (fig. 2)</td>
<td>&lt; 10 mOhm</td>
<td>IEC 60512-2-1:2002</td>
</tr>
<tr>
<td>Insulation resistance</td>
<td>&gt; 100 MOhm</td>
<td>IEC 60512-3-1:2002</td>
</tr>
</tbody>
</table>

### MEASUREMENT POINTS

**FIG. 1**

**FIG. 2**

---

1 Including temperature rise due to contact load
2 Substances listed at ODU datasheet 009.410.02 1.000.000

RoHS 2011/65/EC recognized
## MATERIAL AND SURFACE TREATMENTS

<table>
<thead>
<tr>
<th>Type</th>
<th>Material</th>
<th>Standard EU</th>
<th>Surface</th>
<th>Standard US</th>
<th>Flammability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing (conductive parts)</td>
<td>Aluminium AlMgSiSn1Bi</td>
<td>EN-AW 6023</td>
<td>Ruthenium over electroless nickel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nut</td>
<td>Aluminium AlMgSiSn1Bi</td>
<td>EN-AW 6023</td>
<td>Black anodized</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Backshell</td>
<td>Aluminium AlMgSiSn1Bi</td>
<td>EN-AW 6023</td>
<td>Electroless nickel SAE-AMS2404</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EMI-locking ring</td>
<td>Stainless steel</td>
<td>CW102C [2.1248]</td>
<td>Electrodeposited gold</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crimp sleeve</td>
<td>CuZn38Pb1.5</td>
<td>CW608N [2.0371]</td>
<td>Electrodeposited nickel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Color ring</td>
<td>PSU</td>
<td></td>
<td></td>
<td>UL94 [V0]</td>
<td></td>
</tr>
<tr>
<td>Insulator</td>
<td>PEEK</td>
<td></td>
<td></td>
<td>UL94 [V0]</td>
<td></td>
</tr>
<tr>
<td>Pin contact (pogo-pin)</td>
<td>Copper alloy, CuBe, steel</td>
<td>CW614N [2.0401]</td>
<td>1.27 um gold over electrodeposited nickel (on piston)</td>
<td>MIL-G-45204D</td>
<td></td>
</tr>
<tr>
<td>Socket contact</td>
<td>Copper alloy</td>
<td>CW614N [2.0401]</td>
<td>1.27 um gold over electrodeposited nickel</td>
<td>MIL-G-45204D</td>
<td></td>
</tr>
<tr>
<td>O-rings</td>
<td>FVMQ (floursilikon)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potting</td>
<td>Potting compound</td>
<td></td>
<td></td>
<td>UL94 [V0]</td>
<td></td>
</tr>
<tr>
<td>Overmolding material</td>
<td>TPU</td>
<td></td>
<td></td>
<td>UL94 [HB]</td>
<td></td>
</tr>
<tr>
<td>Shrink boots</td>
<td>Polyester-elastomere</td>
<td></td>
<td></td>
<td>Acc. to VG95343</td>
<td></td>
</tr>
</tbody>
</table>
PROTECTION OF ODU AMC® EASY-CLEAN

IP RATING ACC. TO ISO 20653:2013
IMMERSION ACC. TO MIL-STD-810G 512.5
SAND AND DUST ACC. TO MIL-STD-810G 510.5

The protection is only assured when backshell potted during cable assembly, according to ODU AMC® assembly instructions.
### INTERNATIONAL PROTECTION CLASSES


<table>
<thead>
<tr>
<th>Code no.</th>
<th>Protection against access to hazardous parts / Protection against ingress of solid foreign objects</th>
<th>Code no.</th>
<th>Protection against harmful effects due to the ingress of water</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No protection / No protection against solid foreign objects</td>
<td>0</td>
<td>No protection against water</td>
</tr>
<tr>
<td>1</td>
<td>Protection against contact with the back of hand (no protection against intentional contact)</td>
<td>1</td>
<td>Vertical drips shall not have any harmful effects or impair performance.</td>
</tr>
<tr>
<td>2</td>
<td>Protection against finger contact</td>
<td>2</td>
<td>Vertical drips shall not have any harmful effects or impair performance when the enclosure is tilted at any angle up to 15° on either side of the vertical.</td>
</tr>
<tr>
<td>3</td>
<td>Protection against penetration of tools (e.g. screwdrivers)</td>
<td>3</td>
<td>Water spray at an angle up to 60° on either side of the vertical shall have no harmful effects or impair performance.</td>
</tr>
<tr>
<td>4</td>
<td>Protection against granular foreign objects</td>
<td>4</td>
<td>Water which splashes against the enclosure from any direction shall have no harmful effects or impair performance.</td>
</tr>
<tr>
<td>4K</td>
<td>Protection against splashing water with increased pressure</td>
<td>5</td>
<td>Water which is directed against the enclosure from any direction as a jet shall not have any harmful effects or impair performance.</td>
</tr>
<tr>
<td>5K</td>
<td>Protection against dust</td>
<td>6</td>
<td>Water which is directed against the enclosure from any direction as a strong jet shall not have any harmful effects or impair performance.</td>
</tr>
<tr>
<td>6K</td>
<td>Protection against ingress of dust</td>
<td>6K</td>
<td>Water which is directed against the enclosure from any direction as a strong jet with increased pressure shall not have any harmful effects or impair performance.</td>
</tr>
<tr>
<td>7</td>
<td>Protection against the effects of temporary immersion in water</td>
<td>7</td>
<td>Water shall not penetrate in a quantity causing harmful effects or impair performance if the enclosure is immersed in water temporarily under specified pressure and time conditions.</td>
</tr>
<tr>
<td>8</td>
<td>Protection against the effects of continuous immersion in water</td>
<td>8</td>
<td>Water shall not penetrate in a quantity causing harmful effects if the enclosure is continuously immersed in water under conditions which shall be specified by the manufacturer.</td>
</tr>
<tr>
<td>9K</td>
<td>Protection against water during high-pressure/steam-jet cleaning</td>
<td>9K</td>
<td>Water which is directed against the enclosure from any direction shall not have any harmful effects or impair performance.</td>
</tr>
</tbody>
</table>
The contacts within the ODU AMC® Easy-Clean series are patented spring loaded contacts made by a leading Swiss manufacturer.

<table>
<thead>
<tr>
<th>Material</th>
<th>Plug</th>
<th>Receptacle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Piston</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Barrel</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Spring</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>CIIP</td>
<td>●</td>
<td>●</td>
</tr>
</tbody>
</table>

Information on diameters, terminal types and current-carrying capacity can be found after the inserts.
CURRENT LOAD OF SPRING LOADED CONTACT

NOMINAL SINGLE CONTACT CURRENT LOAD FOR SPRING LOAD CONTACT (PISTON DIAMETER 0.6 mm)

UPPER LIMIT TEMPERATURE OF SPRING LOAD CONTACT: +125 °C

In the case of multi-position connectors and cables, the heating is greater than it is with individual contacts. For that reason, it is calculated with a derating factor. For connectors, the derating factors for multi-core cables pursuant to VDE 0298-4:2013-06 are applied. The derating factor is factored in at 5 live wires and up.

DERATING CURVE

The corrected current-carrying capacity curve, derived from the base curve determined (0.8 × measured current). It factors in manufacturing tolerances as well as uncertainties in temperature measurement and measurement arrangement. See derating measurement method.

DERATING FACTOR

<table>
<thead>
<tr>
<th>Number of loaded wires</th>
<th>Derating factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>0.75</td>
</tr>
<tr>
<td>7</td>
<td>0.65</td>
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<tr>
<td>10</td>
<td>0.55</td>
</tr>
<tr>
<td>14</td>
<td>0.50</td>
</tr>
<tr>
<td>19</td>
<td>0.45</td>
</tr>
</tbody>
</table>
TECHNICAL INFORMATION

OPERATING VOLTAGE
ACC. TO SAE AS 13441-METHOD 3001.1

The values acc. to SAE AS 13441:2004-method 3001.1 comply with MIL-Std. 1344 – method 3001. 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. 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 Break-down voltage × 0.75
Operating voltage Break-down voltage × 0.75 × 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 safety 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.
The American Wire Gauge (AWG) is based on the principle that the cross-section of the wire changes by 26% from one gauge number to the next. The AWG numbers decrease as the wire diameter increases, while the AWG numbers increase as the wire diameter decreases. This only applies to solid wire.

However, stranded wire is predominately used in practice. This has the advantage of a longer service life under bending and vibration as well as greater flexibility in comparison with solid wire.

Stranded wires are made of multiple, smaller-gauge wires (higher AWG number). The stranded wire then receives the AWG numbers of a solid wire with the next closest cross-section to that of the stranded wire. In this case, the cross-section of the stranded wire refers to the sum of the copper cross-sections of the individual wires.

Accordingly, strands with the same AWG number but different numbers of wires differ in cross-section. For instance, an AWG 20 strand of 7 AWG 28 wires has a cross-section of 0.563 mm², while an AWG 20 strand of 19 AWG 32 wires has a cross-section of 0.616 mm².

Source: ASTM

<table>
<thead>
<tr>
<th>AWG</th>
<th>Diameter (mm)</th>
<th>Cross-section (mm²)</th>
<th>Weight (kg/km)</th>
<th>Max. resistance (Ω/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>0.1019</td>
<td>2.590</td>
<td>5.26</td>
<td>46.77</td>
</tr>
<tr>
<td>10</td>
<td>0.1150</td>
<td>2.921</td>
<td>4.74</td>
<td>42.10</td>
</tr>
<tr>
<td>12</td>
<td>0.0808</td>
<td>2.050</td>
<td>3.31</td>
<td>29.41</td>
</tr>
<tr>
<td>12</td>
<td>0.0930</td>
<td>2.362</td>
<td>3.08</td>
<td>27.36</td>
</tr>
<tr>
<td>12</td>
<td>0.0910</td>
<td>2.311</td>
<td>2.97</td>
<td>26.45</td>
</tr>
<tr>
<td>14</td>
<td>0.0641</td>
<td>1.630</td>
<td>2.08</td>
<td>18.51</td>
</tr>
<tr>
<td>14</td>
<td>0.1470</td>
<td>1.854</td>
<td>1.94</td>
<td>17.23</td>
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<tr>
<td>14</td>
<td>0.1125</td>
<td>2.087</td>
<td>2.08</td>
<td>18.870</td>
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<tr>
<td>16</td>
<td>0.0500</td>
<td>1.290</td>
<td>1.31</td>
<td>11.625</td>
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<tr>
<td>16</td>
<td>0.0590</td>
<td>1.499</td>
<td>1.23</td>
<td>10.928</td>
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<td>18</td>
<td>0.0403</td>
<td>1.020</td>
<td>0.823</td>
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<tr>
<td>18</td>
<td>0.0459</td>
<td>1.100</td>
<td>0.963</td>
<td>8.564</td>
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<tr>
<td>20</td>
<td>0.0250</td>
<td>0.635</td>
<td>0.508</td>
<td>4.613</td>
</tr>
<tr>
<td>20</td>
<td>0.0288</td>
<td>0.732</td>
<td>0.563</td>
<td>5.003</td>
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<tr>
<td>22</td>
<td>0.0201</td>
<td>0.511</td>
<td>0.205</td>
<td>1.820</td>
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<tr>
<td>22</td>
<td>0.0250</td>
<td>0.635</td>
<td>0.227</td>
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</tr>
<tr>
<td>24</td>
<td>0.0159</td>
<td>0.404</td>
<td>0.128</td>
<td>1.139</td>
</tr>
<tr>
<td>26</td>
<td>0.0120</td>
<td>0.300</td>
<td>0.0804</td>
<td>0.715</td>
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<tr>
<td>28</td>
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<td>0.406</td>
<td>0.0889</td>
<td>0.790</td>
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<tr>
<td>30</td>
<td>0.0100</td>
<td>0.254</td>
<td>0.0507</td>
<td>0.450</td>
</tr>
<tr>
<td>30</td>
<td>0.0130</td>
<td>0.330</td>
<td>0.0568</td>
<td>0.505</td>
</tr>
<tr>
<td>32</td>
<td>0.0123</td>
<td>0.312</td>
<td>0.0720</td>
<td>0.622</td>
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<tr>
<td>32</td>
<td>0.0080</td>
<td>0.203</td>
<td>0.0324</td>
<td>0.288</td>
</tr>
<tr>
<td>32</td>
<td>0.0110</td>
<td>0.279</td>
<td>0.0341</td>
<td>0.303</td>
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<tr>
<td>34</td>
<td>0.0063</td>
<td>0.160</td>
<td>0.0201</td>
<td>0.179</td>
</tr>
<tr>
<td>34</td>
<td>0.0070</td>
<td>0.180</td>
<td>0.0222</td>
<td>0.197</td>
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<tr>
<td>36</td>
<td>0.0050</td>
<td>0.127</td>
<td>0.0127</td>
<td>0.1126</td>
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<tr>
<td>36</td>
<td>0.0060</td>
<td>0.150</td>
<td>0.0142</td>
<td>0.1263</td>
</tr>
</tbody>
</table>

Circular wire

Source: ASTM
TECHNICAL TERMS

AMBIENT TEMPERATURE
Temperature of the air or other medium in which a piece of equipment is intended to be used in (IEC 44/709/CDV:2014 [VDE 0113-1:2019-06]).

AWG
American Wire Gauge. See page 50.

BASE CURVE
A current-carrying capacity curve metrologically determined according to the method described in IEC 60512-5-2:2002 (DIN EN 60512-5-2:2003-01) depending on the permissible limit temperature of the materials.

CHEMICAL RESISTANCE
Many secondary processing procedures use adhesives, cleaning agents or other chemicals on our products. Contact with unsuitable chemicals may have an adverse effect on the mechanical and electrical properties of the insulation and housing materials which specified properties may not be able to withstand. Please observe our processing suggestions and technical instructions in this catalogue.

CLEARANCE DISTANCE
The shortest distance in the air between two conductive parts.

CODING (ORIENTATION)
Arrangement with which differing polarization of otherwise identical connectors prevents interchangeability. This is a good idea if two or more identical connectors are attached to the same device. See also compatible connectors, see page 30.

CONNECTORS
Also known as connectors without contact rating (COC): [IEC 61984:2008 [VDE 0627:2009-11]. An element which enables electrical conductors to be connected and is intended to create and/or separate connections with a suitable counterpart.

CONNECTOR WITHOUT BREAKING CAPACITY (COC)
Connector which is not deemed to be engaged or disengaged in normal use when live or under load.

CONTACT RESISTANCE
Total resistance value measured from terminal to terminal. In this case, the resistance is significantly lower than the contact resistance. The specifications are average values.

CORES
Electrical conductor, solid wire or multi-wire strand, with insulation as well as any conductive layers. Cables or leads may have one or more cores.

CREEPAGE DISTANCES
The shortest distance between two conductive parts along the surface of a solid insulation material. This factors in all elevations and recesses in the insulator, as long as defined minimum dimensions are on hand.

CRIMP BARREL
A terminal sleeve which can accommodate one or more conductor and be crimped by a crimping tool.

CRIMP CONNECTION (CRIMP TERMINATION)
The permanent, non-detachable and solder-free mounting of a contact to a conductor via deforming or shaping under pressure to make a good electrical and mechanical connection. Executed with crimping tool, press or automatic crimping machine.

CRIMPING AREA
The specified area of the crimp barrel in which the crimp termination is executed by means of deforming or shaping the barrel under pressure around the conductor.

DEGREE OF POLLUTION
The effect of pollution is factored in as degree of pollution when measuring clearance and creepage distances. Four degrees of pollution are defined for the micro-environment: IEC 60664-1:2007 (VDE 0110-1:2008-01).

DELIVERY FORM
Connectors can be delivered in assembled form or as individual parts.
DERATING CURVE
See page 47.

DERATING FACTOR
According to VDE 0298-4:2013-06, with connectors and cables over 5 contacts, the heating is greater than it is with individual contacts. For that reason, the aforementioned standard is calculated with a derating factor.

Measurement method to determine the current-carrying capacity of connectors in consideration of the maximum permissible limit temperature. See page 47.

FIXED CONNECTORS
Intended for mounting on a fixed surface such as a frame, dock, device or wall (with ODU also receptacle or panel mounted plug).

FREE CONNECTORS
Intended for mounting on free ends of mobile leads and cables (with ODU also connectors, plugs, in-line receptacles).

INSULATOR
Part of a connector which separates conductive parts with different potentials from one another; usually identical to the contact carrier.

LOWERMOST LIMIT TEMPERATURE
The lowest permissible temperature at which a connector may be operated.

MATERIALS (STANDARD MODEL)
See page 43.

MATING AND DEMATING FORCE
The force required to fully mate or demate pluggable elements without the influence of a coupling or locking device.

MATING CYCLES
Mechanical actuation of connectors via push and pull action. A mating cycle consists of one mating and demating action. ODU’s standard value for the ODU AMC® series is 5,000 mating cycles.

MAX. CONTINUOUS CURRENT
The metrologically determined amperage at room temperature (approx. 20 °C) which increases the contact temperature to the limit temperature. The values specified in the catalog apply to either individual contacts or completely assembled inserts / modules, as indicated.

NOMINAL SINGLE CONTACT CURRENT LOAD
The current-carrying capacity which each individual contact can be loaded with on its own. See page 47.

NOMINAL VOLTAGE
The voltage which the manufacturer specifies for a connector and which the operating and performance features relate to.

OPERATING TEMPERATURE FOR ODU AMC® EASY-CLEAN
Range between the uppermost and lowermost temperature limits; –51 °C to +125 °C. See page 42.

PCB (A.K.A. “PRINTED CIRCUIT BOARD”)
A PCB is a carrier for electronic components. It serves the purposes of mechanical mounting and electrical connection.

PCB TERMINATION
Production of a conductive connection between the PCB and an element in through-hole assembly, THT (through-hole technology).

RATED CURRENT (NOMINAL CURRENT)
See page 47.
SOLDER CONNECTION (SOLDER TERMINATION)
Termination technology in which a molten additional metal (solder) with a lower melting point than the base materials to be connected is used to attach two metallic materials to one another.

TIGHTNESS IEC 60529:2013 (VDE 0470-1:2014-09)
See protection classes on page 45.

TERMINATION CROSS-SECTION
The specified cross-sections correspond to a “fine-wire” conductor structure pursuant to DIN EN 60228:2005-09 (VDE 0295:2005-09; class 5) or a “fine-wire” conductor structure (7/19 wire) according to AWG (ASTM B258:2014).

TERMINATION TECHNOLOGIES
Methods for connecting the leads to the electro-mechanical element, such as solder-free connections pursuant to IEC 60352 (DIN EN 60352): crimp, screw connection etc. or soldering connection. See page 46.

TEST VOLTAGE
The voltage which a conductor can withstand under defined conditions without dielectric breakdown or flashover.

UPPERMOST LIMIT TEMPERATURE
The maximum permissible temperature at which a connector may be operated. It includes contact heating through current-carrying capacity.

WIRE
Wires (solid conductors) are available with an insulator sleeve and/or electrical shielding. Cables or conductors may be made up of one or more wires.

GENERAL NOTE
The connectors listed in this catalogue are intended for use in high voltage and frequency ranges. Suitable precautionary measures must be taken to ensure that people do not come into contact with live conductors during installation and operation. All entries in this catalogue were thoroughly reviewed before printing. ODU reserves the right to make changes based on the current state of knowledge without prior notice without being obliged to provide replacement deliveries or refinements of older designs.