ODU AMC® HIGH-DENSITY

Ruggedized miniature circular connector
**ODU AMC® HIGH-DENSITY**

**FEATURES**

- High contact-density connector
- High-speed data transfer capability, including:
  - USB® 3.2 Gen 1×1
  - 10 G Ethernet
  - HDMI®
- Rugged, robust housing with non-reflective surface plating
- Submersible, watertight protection classes IP66 / IP67 / IP66K / IP67K9K
- Up to 5,000 mating cycles durability
- Break-Away for maximum safety
- Mechanical keying with color-coded visual indicator
- Contacts for solder cup and PCB termination

**APPLICATIONS**

- Tactical radios and accessories
- Ruggedized computers and tablets
- Power supplies
- Unmanned systems
- Optical devices
- Software defined radios
- Defence and security systems

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For assembly instructions please refer to our website: www.odu-usa.com/downloads.
**A PERFECT ALLIANCE**

**ODU group overview**

- Almost 80 years of experience in connector technology
- 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 tooling and special machine construction, injection, stamping, turning, surface technology, assembly and cable assembly

As of February 2021

**Worldwide customer proximity**

**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.

**ODU serves the markets**

- **MEDICAL**
- **TEST AND MEASUREMENT**
- **MILITARY AND SECURITY**
- **INDUSTRIAL**
- **AUTOMOTIVE**
PRODUCT PORTFOLIO

Circular Connectors
- Circular connector series in robust metal or plastic housing
- Different locking systems available: Push-Pull and Screw-Lock options or Break-Away for quick release
- Contacts for soldering, crimping and PCB termination
- 2 up to 55 contacts and protection classes IP50 to IP69
- Autoclavable for medical applications
- Hybrid inserts for combined transmission

Modular Connectors
- Application-specific hybrid interface
- Manual mating and automatic docking
- Flexible modular design and highest packing density
- High variety of locking options
- Mating cycles scalable as required from 10,000 to over 100,000 (1 million)
- Transmission of signals, power, high current, high voltage, HF signals (coax), media, high-speed data or fiber optics

Cable Assembly
- One point of contact for the complete solution
- State-of-the-art manufacturing facilities for small, medium and high volumes at production sites worldwide
- Overmolding in silicone, hot-melt and high-pressure procedures
- Customer-specific labeling and cable printing
- Wide range of standard cables and accessories available
- Rapid prototyping and fast customer samples

Electrical Contacts
- Versatile contact technologies with high 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 and low, stable contact resistance

Mass Interconnect Solutions
- For testing printed circuit boards (PCBs) and electronically assembled units
- Innovative engagement option: electromechanical version with remote control available
- 8 tensioning points stop the frame distortion
- Maximum flexibility with ODU-MAC® modules and signal blocks
- Adapter frame (ITA) with tolerance compensation
- Easy maintenance access for a simple and fast modification
ODU AMC® HIGH-DENSITY

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### ODU AMC® HIGH-DENSITY INTRODUCTION – A HIGHLY RELIABLE CONNECTOR SOLUTION

ODU AMC® High-Density is a rugged, ultra-miniature connector solution for extreme environments. Available in connector diameters as small as 7 mm, the ODU AMC® High-Density connector line proves that premium quality can also come in small packages.

In addition to discrete signal options, the product line includes versions for "Power" (up to 15 A) and "Data Transfer" (USB® 3.2 Gen 1×1, 5 A power) in compact, high-density configurations.

The ODU AMC® High-Density connector offers an impressively long service life of more than 5,000 mating cycles, even under challenging conditions. Intuitive mate and demate operation, and mechanical color keying aid operators and reduce user error.

### VARIOUS SIZES AND CONFIGURATIONS AVAILABLE

- Metal connector plug housing deliverable in 3 sizes
- Outer diameter 7 mm to 15 mm
- Number of contacts 2 to 27
- Inserts for high-speed data transmission
- International protection class IP68 / IP69
- Salt spray resistance
- Tested according to various MIL standards
- Mechanical and color keying
- Uniform distance from mounting flange to PCB, allows multiple connectors to be placed on the same board

### MATERIALS AND APPLICABILITY

The ODU AMC® High-Density connector series uses PEEK as the insulator material. The housings are made of brass, and plated with ruthenium over nickel (See page 33 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
- 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.)

### BREAK-AWAY WITH SCREW-LOCK OPTIONS

<table>
<thead>
<tr>
<th>Pin and groove</th>
<th>Keying</th>
<th>Size</th>
<th>Max. possible area (mm²)</th>
<th>Pull-diameter (mm)</th>
<th>Max. cable diameter (mm)</th>
<th>Number of mating cycles</th>
<th>High-Speed Inserts</th>
<th>Solder</th>
<th>PCB</th>
<th>International protection class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Break-Away</td>
<td>00</td>
<td>9.8</td>
<td>5</td>
<td>7</td>
<td>7</td>
<td>+</td>
<td></td>
<td>+</td>
<td>+</td>
<td>up to IP6K9K</td>
</tr>
<tr>
<td>Break-Away</td>
<td>0</td>
<td>12.8</td>
<td>7</td>
<td>16</td>
<td>+</td>
<td>+</td>
<td></td>
<td></td>
<td>+</td>
<td>up to IP6K9K</td>
</tr>
<tr>
<td>Break-Away</td>
<td>1</td>
<td>14.8</td>
<td>8</td>
<td>27</td>
<td>+</td>
<td>+</td>
<td></td>
<td></td>
<td>+</td>
<td>up to IP6K9K</td>
</tr>
</tbody>
</table>

¹ International protection class in mated condition

### RELATED PRODUCTS IN THE ODU CIRCULAR CONNECTOR SERIES

- Signal, Power and high-speed data technology
- Secure Push-Pull locking and Break-Away function
- Contacts for solder and PCB termination
- International protection class IP6K9K
- Pogo pin contacts can be easily cleaned and are resilient against damage caused by dirt and debris ingress
- Break-Away function
- International protection class IP6K9K
- High reliability for harsh environments
- Screw locking with “ratchet mechanism” half turn locking
- High vibration resistant
- International protection class IP6K8
- More mate cycles than MIL spec. connectors
- Circular Push-Pull connector with metal housing
- Wide variety of contact configurations and combinations
- International protection class IP6 and IP69
ODU AMC® HIGH-DENSITY LOCKING MECHANISMS

ODU offers you high-quality connectors and comprehensive service for the complete assembly. From connectors to submersible overmolded cable assemblies, we provide the complete system as an one-stop solution.

BREAK-AWAY FUNCTION

The Break-Away function allows connectors to be mated and unmated quickly and reliably. During the mating process, a locking ring inside the receptacle engages corresponding grooves on the plug. Once established, the connection will be maintained as long as axial tension on the plug is less than the release limit of the connector system. The retention mechanism is strong enough to resist minor tension. Pulling lightly on the plug or cable assembly will have no impact on the connection.

If the plug or cable assembly is pulled forcefully, and the release limit of the connector is exceeded the connectors will separate. Features in the connector allow the plug and receptacle to separate when the either the plug or the plug cable assembly is pulled axially away from the receptacle with enough force to overcome the retention mechanism.

SCREW-LOCK FUNCTION

Just like in the Break-Away connectors described above, during the mating process a locking ring inside the receptacle engages corresponding grooves on the plug. Once the connector is fully engaged, an operator can engage the secondary Screw-Lock mechanism by rotating the outer coupling sleeve. Once engaged, the connector will stay mated until the Screw-Lock mechanism is disengaged. Pulling on the plug connector or plug cable assembly will not cause the connector to separate.

CONNECTOR VARIATIONS

<table>
<thead>
<tr>
<th>RECEPTACLE IN-LINE RECEPTACLE</th>
<th>PLUG</th>
<th>SCREW-LOCK FUNCTION</th>
<th>BREAK-AWAY FUNCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Style G6 (Page 27)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Style K1 (Page 25)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Style G6 (Page 26)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Style G5 (Page 31)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Style K1 (Page 25)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Style G6 (Page 26)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Style G5 (Page 30)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Style K1 (Page 25)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Style G6 (Page 30)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Style G5 (Page 31)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Style KC (Page 29)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Demating of the connection

Demating of the connection

Demating of the connection
CONFIGURATION GUIDELINE
Correct configuring – step by step
STEP-BY-STEP 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.

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.

**SAMPLE CONFIGURATION STEP BY STEP**

Plug in style 1 / size 0 / series W / keying A / connector housing ruthenium over aluminium / insulator PEEK / 16 contacts / solder pin / contact diameter 0.3 / termination cross section AWG 28 /

**STEP 1: SERIES (SEE POSITION 4)**

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19

**STEP 2: STYLE (SEE POSITIONS 1 AND 2)**

A 1 W M P 0 0 0 0

**STEP 3: SIZE (SEE POSITION 3)**

A 1 0 W M P 0 0 0 0 0

**STEP 4: KEYING (SEE POSITION 5)**

A 1 0 W A M P 0 0 0 0 0

**STEP 5: HOUSING MATERIAL (SEE POSITION 6)**

A 1 0 W A M P 0 0 0 0 0

4 different mechanical keying options and keying with color-coded identification

2 termination types

Cable assembly (optional)

Contacts for solder termination

Cable assembly (optional)

Contacts for solder or print termination

IN-LINE RECEPTACLE

RECEPTACLE

RU

RUTHENIUM OVER BRASS

AMC® HIGH-DENSITY

BREAK-AWAY PLUG

SIZE 0

KEYING A = LIGHT BROWN
**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.

<table>
<thead>
<tr>
<th>Type</th>
<th>Material insulator ¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>G = Receptacle</td>
<td>PEEK = Standard</td>
</tr>
<tr>
<td>K = In-line receptacle</td>
<td></td>
</tr>
<tr>
<td>C = Break-Away plug with Screw-Lock</td>
<td></td>
</tr>
<tr>
<td>A = Break-Away plug</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Style</th>
<th>1, K, B, W, C, S</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Size</th>
<th>C, O, 1</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Series</th>
<th>AMC® High-Density (W)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Keying</th>
<th>Color &amp; mechanical (A-D)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Material / surface of housing</th>
<th>Ruthenium (M)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Contact configuration</th>
<th>e.g. 16 contacts = 16</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Contact type / surface</th>
<th>Receptacle earth tag</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Contact diameter</th>
<th>Termination cross section</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Material / surface of housing</th>
<th>Ruthenium (M)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Connector plug housing</th>
<th>from page 21</th>
</tr>
</thead>
</table>

| Contact insert | from page 34 |

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

A 1 0 W A M - P 0 - 0 0 0 0

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

A 1 0 W A M - P 1 6 0 - 0 0 0 0

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

A 1 0 W A M - P 1 6 X 0 - 0 0 0 0

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

A 1 0 W A M - P 1 6 X B 0 - 0 0 0 0

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

A 1 0 W A M - P 1 6 X B C 0 - 0 0 0 0

¹ Other insulation materials on request.
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SUMMARY ODU AMC® HIGH-DENSITY

The ODU AMC® High-Density is coded by pin and groove. These highly robust miniature connector series can be configured in many different ways: a variety of sizes, termination types and contact inserts are available:

- Keying over pin and groove
- 2 – 27 contacts / mixed inserts
- Up to 3 sizes and 2 termination types
- International protection class up to IP68 / IP69
- Up to 5,000 mating cycles
- Contacts for solder and PCB termination

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

**STYLE 1**

![BREAK-AWAY PLUG Diagram]

<table>
<thead>
<tr>
<th>Size</th>
<th>L1</th>
<th>L2</th>
<th>L3</th>
<th>D1</th>
<th>AFA</th>
<th>Max. Ø-cable</th>
</tr>
</thead>
<tbody>
<tr>
<td>00 C</td>
<td>20</td>
<td>1.2</td>
<td>12.8</td>
<td>9.8</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>00 W</td>
<td>21.5</td>
<td>1.2</td>
<td>14.2</td>
<td>12.8</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>1 1</td>
<td>25.2</td>
<td>1.2</td>
<td>18.2</td>
<td>14.8</td>
<td>12</td>
<td>8.5</td>
</tr>
</tbody>
</table>

**TECHNICAL DATA**
- IP68 in relation to end device
- Contact configuration see page 34
- Cable assembly information see ODU instruction 010.650.001.000.001 (available at www.odu-usa.com/downloads/)

IN-LINE RECEPTACLE

**STYLE 1**

![IN-LINE RECEPTACLE Diagram]

<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>AFA</th>
<th>Max. Ø-cable</th>
</tr>
</thead>
<tbody>
<tr>
<td>00 C</td>
<td>18.7</td>
<td>2.5</td>
<td>0.8</td>
<td>0.8</td>
<td>9.8</td>
<td>9</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>0 0</td>
<td>19.5</td>
<td>2.5</td>
<td>0.8</td>
<td>0.8</td>
<td>12.8</td>
<td>12</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>1 1</td>
<td>23.5</td>
<td>2.5</td>
<td>0.8</td>
<td>0.8</td>
<td>14.8</td>
<td>14</td>
<td>12</td>
<td>8.5</td>
</tr>
</tbody>
</table>

**TECHNICAL DATA**
- IP68 in relation to end device
- Contact configuration see page 34
- Cable assembly information see ODU instruction 010.650.001.000.002 (available at www.odu-usa.com/downloads/)
**TECHNICAL DATA**

- IP68 in relation to end device, also in unmated condition
- Contact configuration see page 34
- PCB layouts see page 35

**TECHNICAL DATA**

- IP68 in relation to end device, also in unmated condition
- Contact configuration see page 34
- Cable assembly information see ODU instruction: 010.650.001.000.006 (available at www.odu-usa.com/downloads/).
BREAK-AWAY PLUG WITH SCREW-LOCK

<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>M</th>
<th>Max. Ø-cable</th>
</tr>
</thead>
<tbody>
<tr>
<td>00 C</td>
<td>25.5</td>
<td>1.0</td>
<td>10.1</td>
<td>8.1</td>
<td>9.8</td>
<td>10.5</td>
<td>6.5</td>
<td>7 × 0.5</td>
<td>5.0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>26.8</td>
<td>1.5</td>
<td>11.0</td>
<td>8.2</td>
<td>12.8</td>
<td>12.8</td>
<td>9.0</td>
<td>10 × 0.5</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>27.8</td>
<td>1.5</td>
<td>12.0</td>
<td>8.3</td>
<td>14.8</td>
<td>15.2</td>
<td>11.0</td>
<td>12 × 0.5</td>
</tr>
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</table>

TECHNICAL DATA
- IP68 in relation to end device
- Contact configuration see page 34
- Cable assembly information see ODU instruction 010.650.001.000.011 (available at www.odu-usa.com/downloads/).

IN-LINE RECEPTACLE FOR SCREW-LOCK

<table>
<thead>
<tr>
<th>Style</th>
<th>L1</th>
<th>L2</th>
<th>L3</th>
<th>L4</th>
<th>L5</th>
<th>D1</th>
<th>D2</th>
<th>AF A</th>
<th>M</th>
<th>Max. Ø-cable¹</th>
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</thead>
<tbody>
<tr>
<td>C</td>
<td>18.7</td>
<td>2.5</td>
<td>0.9</td>
<td>0.8</td>
<td>3.0</td>
<td>9.8</td>
<td>8.5</td>
<td>6.5</td>
<td>7 × 0.5</td>
<td>5.0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>19.5</td>
<td>2.5</td>
<td>0.9</td>
<td>0.8</td>
<td>3.0</td>
<td>12.8</td>
<td>12.0</td>
<td>10</td>
<td>10 × 0.5</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>23.5</td>
<td>2.5</td>
<td>0.9</td>
<td>0.8</td>
<td>3.0</td>
<td>14.8</td>
<td>14.0</td>
<td>12</td>
<td>12 × 0.5</td>
</tr>
</tbody>
</table>

TECHNICAL DATA
- IP68 in relation to end device
- Contact configuration see page 34
- Cable assembly information see ODU instruction 010.650.001.000.012 (available at www.odu-usa.com/downloads/).
TECHNICAL DATA
• IP68 in relation to end device, also in unmated condition
• Contact configuration see page 34
• PCB-Layouts see page 35
FACTORY-TERMINATED FLEX ASSEMBLIES

TERMINATION PC-BOARDS

ODU AMC® High-Density device components can be supplied for direct attachment to the board or as rigid-flex-solution. The solder process is tested and suitable for all available inserts.

Additional lengths, configurations and keyings available on request. Contact ODU for more information. Flex is designed to work with suitable ZIF connector (not supplied). Contact ODU for more information.

For data transmission protocols, please refer to page 2.

### KEYING OPTIONS

<table>
<thead>
<tr>
<th>Plug front view</th>
<th>Color keying</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Light brown</td>
<td>(Standard)</td>
</tr>
<tr>
<td>B</td>
<td>Red</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Blue</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Green</td>
<td></td>
</tr>
</tbody>
</table>

### HOUSING MATERIAL

<table>
<thead>
<tr>
<th>Housing Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
</tr>
<tr>
<td>Brass EN 12164</td>
</tr>
<tr>
<td>Ruthenium over Ni</td>
</tr>
</tbody>
</table>

### FACTORY-TERMINATED FLEX ASSEMBLIES

<table>
<thead>
<tr>
<th>Size</th>
<th>Partnumber</th>
<th>AMC® High-Density Connector (Included)</th>
<th>Number of contacts</th>
<th>Connector keying</th>
<th>Suitable for</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>C00.71C.100.040.001</td>
<td>GK0WAM-P04UB00-000L</td>
<td>04</td>
<td>A</td>
<td></td>
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<tr>
<td></td>
<td>C00.71C.100.070.001</td>
<td>GK0WAM-P07UB00-000L</td>
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<td>0</td>
<td>C00.701.100.120.001</td>
<td>GK0WCM-P12UM00-000L</td>
<td>12</td>
<td>C, USB® 3.2 Gen 1×1 + Power®</td>
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<tr>
<td></td>
<td>C00.701.100.160.001</td>
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</tr>
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<td>GK1WAM-P27UB00-000L</td>
<td>27</td>
<td>A</td>
<td></td>
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*For data transmission protocols, please refer to page 2.*
## CONTACT CONFIGURATIONS (SIZE 00)

### HIGH-SPEED INSERTS (OR SPECIFIC INSERTS FOR HIGH DATA TRANSMISSION RATES)

<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>Contact current recommended [A]</th>
<th>Test voltage [V]</th>
<th>Termination diameter</th>
<th>Termination cross section</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 2</td>
<td>K1 G6, G5, G6, GC</td>
<td>Socket</td>
<td>W C E 0</td>
<td>0.5</td>
<td>3</td>
<td>1.200</td>
<td>–</td>
<td>24 0.25</td>
</tr>
<tr>
<td></td>
<td>A1 – – C1 – Pin Solder</td>
<td></td>
<td>X C E 0</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>0 4</td>
<td>K1 G6, G5, G5, GC</td>
<td>Socket</td>
<td>W B C 0</td>
<td>0.3</td>
<td>1</td>
<td>0.900</td>
<td>–</td>
<td>28 0.08</td>
</tr>
<tr>
<td></td>
<td>A1 – – C1 – Pin Solder</td>
<td></td>
<td>X B C 0</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>0 7</td>
<td>K1 G6, G5, G5, GC</td>
<td>Socket</td>
<td>W B C 0</td>
<td>0.3</td>
<td>1</td>
<td>0.750</td>
<td>–</td>
<td>28 0.08</td>
</tr>
<tr>
<td></td>
<td>A1 – – C1 – Pin Solder</td>
<td></td>
<td>X B C 0</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
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</tr>
</tbody>
</table>

### PCB LAYOUT PRINT CONTACTS SIZE 00

#### View on termination area

- **Pin side**
- **Socket side**

#### Data transmission protocols

- USB 2.0
- USB 3.0

#### Number of contacts

- 2 pos.
- 4 pos.
- 7 pos.

#### HIGH-SPEED INSERTS

- Suitable wire (size and characteristics) considering the running factor on page 53
- Acc. to EIA-364-20F 2019-02, further information on voltage rating on page 54

---

*Other contact configurations on request*

*Acc. to EIA-364-20F 2019-02, further information on voltage rating on page 54*
## CONTACT CONFIGURATIONS (SIZE 00 COAX)

<table>
<thead>
<tr>
<th>Number of contacts</th>
<th>Available connector styles</th>
<th>Contact type</th>
<th>Contact style key</th>
<th>Contact part number</th>
<th>Contact diameter mm</th>
<th>Contact current recommendation A</th>
<th>Test voltage VDC</th>
<th>Termination diameter mm</th>
<th>Termination cross section mm²</th>
<th>View on termination area</th>
<th>Data transmission protocols</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>K 1</strong></td>
<td>– G6 – – – – – – – – – – – – – – –</td>
<td>– – – – – – – – – – – – – – – – –</td>
<td>– – – – – – – – – – – – – – – – –</td>
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<td>– – – – – – – – – – – – – – – – –</td>
<td>– – – – – – – – – – – – – – – – –</td>
</tr>
<tr>
<td>K1</td>
<td>– – – – – – – – – – – – – – – – –</td>
<td>LW1 – – – – – – – – – – – – – – – –</td>
<td>– – – – – – – – – – – – – – – – –</td>
<td>– – – – – – – – – – – – – – – – –</td>
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<td>– – – – – – – – – – – – – – – – –</td>
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</tr>
<tr>
<td>X1</td>
<td>– – – – – – – – – – – – – – – – –</td>
<td>LW1 – – – – – – – – – – – – – – – –</td>
<td>– – – – – – – – – – – – – – – – –</td>
<td>– – – – – – – – – – – – – – – – –</td>
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<td>– – – – – – – – – – – – – – – – –</td>
</tr>
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</table>

1. Impedance 50 Ohm
2. VSWR < 1.25 up to 3 GHz with cable RD316
3. Suitable wire (size and characteristics) considering the derating factor on page 53
4. Acc. to EIA-364-20F 2019-02, further information on voltage rating on page 54
### 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>Contact current recommend(^1)</th>
<th>Test voltage(^2)</th>
<th>Termination diameter</th>
<th>Termination cross section</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td></td>
<td>K1 G6</td>
<td>G5 Socket</td>
<td>0.3</td>
<td>1</td>
<td>0.750</td>
<td>0.3</td>
<td>0.25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>K1 –</td>
<td>G4 Socket</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>A1 –</td>
<td>G4 –</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>K1 G6</td>
<td>G5 –</td>
<td>0.3</td>
<td>1</td>
<td>0.750</td>
<td>0.3</td>
<td>0.25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>K1 –</td>
<td>G4 –</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>A1 –</td>
<td>G4 –</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>K1 G6</td>
<td>G5 Socket</td>
<td>0.3</td>
<td>1</td>
<td>0.750</td>
<td>0.3</td>
<td>0.25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>K1 –</td>
<td>G4 –</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>A1 –</td>
<td>G4 –</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>16</td>
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<td>K1 G6</td>
<td>G5 –</td>
<td>0.3</td>
<td>1</td>
<td>0.750</td>
<td>0.3</td>
<td>0.25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>K1 –</td>
<td>G4 –</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>A1 –</td>
<td>G4 –</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

\(^1\)Other contact configurations on request
\(^2\)Suitable wire (size and characteristics) considering the derating factor on page 53
\(^3\)Acc. to EIA-364-209-2019-02, further information on voltage rating on page 54

---

### PCB LAYOUT PRINT CONTACTS SIZE 0

- View on termination area
  - Pin side
  - Socket side
- Data transmission protocols
  - Ethernet Class E\(^3\) Channel up to 80m 10Gbit
  - USB\(^*\) 2.0* + Power
  - USB\(^*\) 3.2 Gen 1* + Power
  - Ethernet Typ CAT5e\(^a\) up to 1 Gbit

Number of contacts: 8, 9, 12, 16 positions
## 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 mm</th>
<th>Contact current recommend A</th>
<th>Test voltage VDC</th>
<th>Termination diameter mm</th>
<th>Termination cross section mm²</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 0</td>
<td>K1 G6 GS</td>
<td>Solder</td>
<td>W M M 0</td>
<td>16 x 0.3 4 x 0.7</td>
<td>1.5</td>
<td>0.750</td>
<td>0.8</td>
<td>28 32 36</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>G8 GC Socket</td>
<td></td>
<td>U M 0 0</td>
<td>16 x 0.3 4 x 0.7</td>
<td>1.5</td>
<td>0.750</td>
<td>0.8</td>
<td>28 32 36</td>
</tr>
<tr>
<td>A1 -- C1 -- Pin</td>
<td>Solder</td>
<td>X M M 0</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2 7</td>
<td>K1 G6 GS</td>
<td>Solder</td>
<td>W B C 0</td>
<td>0.3</td>
<td>1.0</td>
<td>0.750</td>
<td>0.3</td>
<td>28 32 36</td>
</tr>
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<td></td>
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<tr>
<td></td>
<td>G8 GC Socket</td>
<td></td>
<td>U B 0 0</td>
<td>0.3</td>
<td>1.0</td>
<td>0.750</td>
<td>0.3</td>
<td>28 32 36</td>
</tr>
<tr>
<td>A1 -- C1 -- Pin</td>
<td>Solder</td>
<td>X B C 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Other contact configurations on request
- Suitable wire [size and characteristics] considering the derating factor on page 53
- Acc. to IEC 364-7-21:2019-02, further information on voltage rating on page 54

### PCB LAYOUT PRINT CONTACTS

**View on termination area**

**Data transmission protocols**

**Number of contacts**

- 20 pos.
- 27 pos.

*Concerning data transmission protocols, please refer to page 2.
PROTECTIVE CAPS

FOR RECEPTACLES AND IN-LINE RECEPTACLES

<table>
<thead>
<tr>
<th>Size</th>
<th>Part number</th>
<th>Dimensions in mm</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>L</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>713.650.097.002.359</td>
<td>13.8 6.5 1.5 4.5 8.5 200</td>
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<td></td>
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<td></td>
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<tr>
<td>0</td>
<td>700.650.097.002.359</td>
<td>13.8 6.5 1.5 7.04 10.9 200</td>
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</tr>
<tr>
<td>1</td>
<td>701.650.097.002.359</td>
<td>13.8 6.5 1.5 9.02 13.5 200</td>
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<td></td>
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</tbody>
</table>

Crimp ferrule and lug are included.

FOR PLUGS

<table>
<thead>
<tr>
<th>Size</th>
<th>Part number</th>
<th>Dimensions in mm</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>713.650.097.001.359</td>
<td>16.2 8.6 5 200</td>
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<tr>
<td>0</td>
<td>700.650.097.001.359</td>
<td>16.2 10.7 5 200</td>
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<tr>
<td>1</td>
<td>701.650.097.001.359</td>
<td>16.2 13.5 5 200</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Crimp ferrule and lug are included.

Assembly information including tools see ODU instruction 010.650.001.000.003 (available at www.odu-usa.com/downloads/).

CUSTOM PARTS

40 POSITIONS / SIZE 1.5
- Ø 16.8 mm and a panel cut-out of Ø 14 mm
- Special cable assembly and potting needed

ROBUST, MINIATURE, LOW SPACE
- Miniature connector
- Reduced outside dimension Ø 6.5 mm

MINIATURE COAX CONNECTOR WITH SCREW LOCKING
- Cable assembly straight and right-angle
- Watertight

ODU AMC® HIGH-DENSITY WITH CUSTOMIZED CABLE ASSEMBLY
- Space saving cable assembly and overmolding

CUSTOMIZED LOW PROFILE SOLUTION
- Very small receptacle with chrome surface
- Plug with special customized design
- Very space saving overmolding and cable assembly
- Space saving 90° overmolding and cable assembly
- Max. 6 positions
**ASSEMBLY AND CRIMP TOOLS**

**CRIMP TOOL**

Part number hand crimp tool (all sizes)
080.000.026.000.000

<table>
<thead>
<tr>
<th>Size</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>00 (C)</td>
<td>080.000.026.713.001</td>
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<td>1</td>
<td>080.000.026.715.000</td>
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**CRIMP DIES**

**CRIMP TOOL FOR CAPS**

Part number hand crimp tool (all sizes)
080.000.061.000.000

**CRIMP RANGE**

<table>
<thead>
<tr>
<th>Part</th>
<th>Tool adjustment</th>
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</thead>
<tbody>
<tr>
<td>Cable lug</td>
<td>0.25 – 1.5</td>
</tr>
<tr>
<td>Crimp ferrule</td>
<td>0.25 – 1.5</td>
</tr>
</tbody>
</table>

**BAND-IT BANDS**

Part number hand crimp tool (all sizes)
080.000.068.000.000

Part number tie-DEX micro band (all sizes)
921.000.004.000.248

To connect the shielding with the crimp adapter, use a Tie-Dex Micro Band.

**NUTDRIVER FOR SLOTTED NUT**

<table>
<thead>
<tr>
<th>Size</th>
<th>Part number</th>
<th>L</th>
<th>Hex drive</th>
<th>Torque in</th>
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<tbody>
<tr>
<td>00 (C)</td>
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<td>6.3 / 6.35</td>
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<td>0</td>
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<td>59</td>
<td>6.3 / 6.35</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>700.098.001.000.010</td>
<td>57</td>
<td>6.3 / 6.35</td>
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</table>

**SPANN WRENCH**

<table>
<thead>
<tr>
<th>Size</th>
<th>Part number</th>
<th>Wrench size (AF)</th>
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<tr>
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**ASSEMBLY TOOL**

<table>
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<td>701.650.900.000.000</td>
</tr>
<tr>
<td>1</td>
<td>701.650.900.000.000</td>
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</tbody>
</table>
ODU connectors ensure perfect and reliable transmission of power, signal, data and other media in a wide variety of applications.

Further information can be found on the following pages.
ENVIRONMENTAL AND TESTING

**MECHANICAL DATA**

<table>
<thead>
<tr>
<th>Type</th>
<th>Performance Standard</th>
<th>Tensile Strength (ksi)</th>
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<tbody>
<tr>
<td>Housing back-shell</td>
<td>ISO 20653-2013-02</td>
<td>0.50 max.</td>
</tr>
<tr>
<td>Grooved nut</td>
<td>ISO 20653-2013-02</td>
<td>0.50 max.</td>
</tr>
<tr>
<td>Backshell, grounding</td>
<td>ISO 20653-2013-02</td>
<td>0.50 max.</td>
</tr>
<tr>
<td>EMI-locking ring</td>
<td>ISO 20653-2013-02</td>
<td>0.50 max.</td>
</tr>
<tr>
<td>Crimp sleeve</td>
<td>ISO 20653-2013-02</td>
<td>0.50 max.</td>
</tr>
<tr>
<td>Outer press ring</td>
<td>ISO 20653-2013-02</td>
<td>0.50 max.</td>
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**ELECTRICAL DATA**

<table>
<thead>
<tr>
<th>Type</th>
<th>Performance Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact resistance</td>
<td>&gt; 5.000 mating cycles</td>
</tr>
<tr>
<td>Shell resistance</td>
<td>&gt; 5.000 mating cycles</td>
</tr>
<tr>
<td>Insulation resistance</td>
<td>&gt; 5.000 mating cycles</td>
</tr>
<tr>
<td>Shielding effectiveness</td>
<td>&gt; 5.000 mating cycles</td>
</tr>
</tbody>
</table>

**MEASUREMENT POINTS**

**FIG. 1**

**FIG. 2**

---

* Including temperature rise due to contact load.

---

**MATERIAL AND SURFACE TREATMENT**

<table>
<thead>
<tr>
<th>Component</th>
<th>Material</th>
<th>Standard</th>
<th>Surface</th>
<th>Flammability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing, back-shell</td>
<td>CuZn39Pb3</td>
<td>CW614N (2.0401)</td>
<td>C38500 Ruthenium over electroless nickel</td>
<td></td>
</tr>
<tr>
<td>Grooved nut</td>
<td>CuZn39Pb3</td>
<td>CW614N (2.0401)</td>
<td>C38500 Black over electrodeposited nickel</td>
<td></td>
</tr>
<tr>
<td>Backshell, grounding</td>
<td>CuZn39Pb3</td>
<td>CW614N (2.0401)</td>
<td>C38500 Electrodeposited nickel</td>
<td></td>
</tr>
<tr>
<td>EMI-locking ring</td>
<td>CuBe2</td>
<td>CW102C (2.1248)</td>
<td>C37300 Gold over electroless nickel</td>
<td></td>
</tr>
<tr>
<td>Crimp sleeve</td>
<td>CuZn38Pb1.5</td>
<td>CW608N (2.0371)</td>
<td>C35300 Electrodeposited nickel</td>
<td></td>
</tr>
<tr>
<td>Outer press ring</td>
<td>CuZn39Pb3</td>
<td>CW614N (2.0401)</td>
<td>C38500 Black zinc-nickel over electrodeposited nickel</td>
<td></td>
</tr>
</tbody>
</table>

---

**Insulator**

- PEEK (UL94 V0)
- PTFE (UL94 V0)
- PBT (UL94 V0)
- FEP (UL94 V0)
- PVDF (UL94 V0)

**Shielding effectiveness**

- > 65 dB Connector pair A10W + K10W
- > 70 dB Connector pair A20W + K20W
### INTERNATIONAL PROTECTION CLASSES


<table>
<thead>
<tr>
<th>Code no.</th>
<th>Protection against ingress of solid foreign objects (Degrees of protection against access to hazardous parts)</th>
<th>Protection against harmful effects due to the ingress of water (Degrees of protection against water)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No protection against contact / No protection against solid foreign objects</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>Vertical drips shall not have any harmful effects or impair performance</td>
</tr>
<tr>
<td>2</td>
<td>Protection against penetration of tools (e.g. screwdrivers)</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>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>Water which splashes against the enclosure from any direction shall have no harmful effects or impair performance</td>
</tr>
<tr>
<td>5K</td>
<td>Protection against dust</td>
<td>Water which is directed against the enclosure from any direction as a jet shall have no harmful effects or impair performance</td>
</tr>
<tr>
<td>5</td>
<td>Protection against high-velocity water</td>
<td>Water which is directed against the enclosure from any direction as a jet shall have no harmful effects or impair performance</td>
</tr>
<tr>
<td>6</td>
<td>Protection against water jet</td>
<td>Water which is directed against the enclosure from any direction as a jet shall have no harmful effects or impair performance</td>
</tr>
<tr>
<td>6K</td>
<td>Protection against high-velocity water with increased pressure</td>
<td>Water which is directed against the enclosure from any direction as a jet shall have no harmful effects or impair performance</td>
</tr>
<tr>
<td>7</td>
<td>Protection against the effects of temporary immersion in water</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>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>Water which is directed against the enclosure from any direction as a jet shall have no harmful effects or impair performance</td>
</tr>
</tbody>
</table>

**PROTECTION OF ODU AMC® HIGH-DENSITY**


![Break-Away plug](image1)

- **IP68**
- **In-line receptacle**
- **Panel mount receptacle**

![Break-Away plug](image2)

- **IP6K8 / IP6K9K**
- **Plug with in-line receptacle**
- **Plug with panel mount receptacle**

The protection is only assured when backshell potted during cable assembly, according to ODU AMC® High-Density assembly instructions.
CONVERSIONS / AWG (AMERICAN WIRE GAUGE)

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

CURRENT LOAD OF TURNED CONTACTS

Nominal single contact current load for pin / slotted socket (nominal diameter 0.3 mm – 0.7 mm)

The wire cross-section shown in the legend was connected as test cable. 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 reduction factor.

For connectors, the reduction factors for multi-core cables pursuant to DIN VDE 0298-4:2013-06 are applied. The reduction factor is factored in at 5 live wires and up.

DE-RATING 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.

UPPER LIMIT TEMPERATURE OF STANDARD CONTACTS: +125°C

The wire cross-section shown in the legend was connected as test cable. 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 reduction factor.

For connectors, the reduction factors for multi-core cables pursuant to DIN VDE 0298-4:2013-06 are applied. The reduction factor is factored in at 5 live wires and up.

DE-RATING 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>
</tr>
<tr>
<td>10</td>
<td>0.55</td>
</tr>
<tr>
<td>14</td>
<td>0.5</td>
</tr>
<tr>
<td>19</td>
<td>0.45</td>
</tr>
<tr>
<td>24</td>
<td>0.4</td>
</tr>
</tbody>
</table>
EXPLANATIONS AND INFORMATION TO VOLTAGE RATINGS AND SAFETY REQUIREMENTS

OPERATING VOLTAGE (RATED VOLTAGE)
All shown connectors and cable assemblies are rated to a safety extra low voltage SELV of less than 50 V AC / 75 V DC, according to IEC 61140:2016 (VDE 0140-1:2016) Protection against electric shock – Common aspects for installation and equipment. In case other standards rule a specific use of the connectors and cable assemblies, the application specific safety criteria shall be considered first. In this context, lower voltage ratings may be valid.

If a higher operating voltage is needed, please refer to chapter "Voltage rating according EIA-364-20F:2019".

VOLTAGE RATING ACCORDING EIA-364-20F:2019-02 (TEST VOLTAGE / WITHSTANDING VOLTAGE)

WARNING:
Danger to life for operating voltages above 50 V AC / 120 V DC!

The subsequently explained procedure according EIA-364-20F:2019-02 method A, test condition I (sea level up to 2000 m) “Withstanding Voltage – Test Procedure for Electrical Connectors, Sockets and Coaxial Contacts”.

The test voltage represents the physical limit of the connector and is usually set at 75 % of the break-down voltage. According to EIA-364-20F:2019-02 and former MIL-STD-1344 method 3001 it is specified to set the operating voltage (rated voltage) to ⅓ of the test voltage acc. to EIA-364-20F:2019-02.

Example:
Breakdown voltage = 1000 V DC = 0.75 × test voltage
Test voltage = 750 V DC = 0.33 × operating voltage
Operating voltage = 250 V DC.

TECHNICAL TERMS

AMBIENT TEMPERATURE
Temperature of the air or other medium in which a piece of equipment is intended to be used in (IEC 44-7/09/CDN:2014 [VDE 0113-1:2014-10]).

AWG
American Wire Gauge – see page 52

BASE CURVE
See page 53.


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 catalog.

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

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.

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

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 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. See page 44.

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 60664-1:2020-05 (VDE 0110-1:2008-0).

DELIVERY FORM
Connectors can be delivered in assembled form or as individual parts.

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. See page 53.

Measurement method to determine the current carrying capacity of connectors in consideration of the maximum permissible limit temperature. (see page 53).

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).
TECHNICAL TERMS

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.

MATING CYCLES
A mating cycle consists of one insertion and withdrawal action.

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 53).

OPERATING TEMPERATURE FOR ODU AMC® HIGH-DENSITY RANGE BETWEEN THE UPPERMOST AND LOWERMOST TEMPERATURE LIMITS. –51 °C TO 125 °C (SEE PAGE 48).

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, TH (through-hole technology).

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

REDUCTION 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 reduction factor.

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.

TERMINATION CROSS-SECTION
The specified cross-sections correspond to a "fine-wire" conductor structure pursuant to IEC 60228:2004 (VDE 0295:2005-09, Class 5) or a "fine-wire" conductor structure (7/19 wire) according to AWG (ASTM B 258:2018).

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.

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

TIGHTNESS ISO 20653:2013
See protection types on page 51.

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 catalog 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 catalog 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.
ODU GROUP WORLDWIDE

ODU USA

ODU-USA, Inc.
300 Camarillo Ranch Road, Suite A, Camarillo, CA 93012, United States of America
Phone: +1 805 484-0540, Fax: +1 805 484-7458, E-mail: sales@odu-usa.com

HEADQUARTERS
ODU GmbH & Co. KG
Pregelstraße 11
84453 Mühldorf a. Inn, Germany
Phone: +49 8631 6156-0
Fax: +49 8631 6156-49
E-mail: sales@odu.de

SALES LOCATIONS
ODU [Shanghai] International Trading Co., Ltd.
Phone: +86 21 58347828-0
E-mail: sales@odu.com.cn
www.odu.com.cn

ODU (HK) Trading Co., Ltd.
Phone: +852 3963 9588
E-mail: sales@odu.hk
www.odu.hk

ODU (Shanghai) Connectors Manufacturing Co,Ltd
Phone: +86 21 58347828-0
E-mail: sales@odu.com.cn
www.odu.com.cn

ODU [Shanghai] Connectors Manufacturing Co,Ltd
Phone: +86 21 58347828-0
E-mail: sales@odu.com.cn
www.odu.com.cn

ODU Denmark ApS
Phone: +45 2233 5335
E-mail: sales@odu-denmark.dk
www.odu-denmark.dk

ODU France SARL
Phone: +33 1 3935-4690
E-mail: sales@odu.fr
www.odu.fr

ODU Italia S.R.L.
Phone: +39 331 8708847
E-mail: sales@odu-italia.it
www.odu-italia.it

ODU Japan K.K.
Phone: +81 3 6441 3210
E-mail: sales@odu.co.jp
www.odu.co.jp

ODU Korea Inc.
Phone: +82 2 6964 7181
E-mail: sales@odu-korea.kr
www.odu-korea.kr

ODU Romania Manufacturing SRL
Phone: +40 269 704638
E-mail: sales@odu-romania.ro
www.odu-romania.ro

ODU Scandinavia AB
Phone: +46 176 18262
E-mail: sales@odu.se
www.odu.se

Further information and specialized representatives can be found at:
www.odu-usa.com/contact

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