ODU ELECTRICAL CONTACTS

Springwire, lamella, turned, slotted and stamped contacts

ODU SPRINGTAC®
ODU LAMTAC®
ODU TURNTAC®
OUR COMPETENCE. YOUR BENEFIT.

ODU is a global leader in the development and production of high performance contacts for electrical connector technology. Electrical contacts from ODU that – depending on the application – can successfully complete up to one million mating cycles without any loss of reliability or transmission capacity continue to set the highest attainable standards. The same is true for current-carrying capacity in high temperatures or application-specific optimization of mating and demating forces.

ODU possesses the necessary skills for perfectly adapting contact systems to precisely meet the customers’ needs. Thereby, in terms of functions and properties, every contact system is custom-fit to each application, while also being available in a wide variety of diameters and termination types.
## ODU ELECTRICAL CONTACT PORTFOLIO

**ODU SPRINGTAC®**

- **Primary attribute**: High mating cycles
- **Contact technology**: Springwire technology
- **Reliability (contact points)**: 44 wire springs (size $\varnothing$ 6 mm)
- **Nominal current**: 100 A (size $\varnothing$ 6 mm)
- **Angular misalignment**: +/- 1°
- **Mating cycles**: > 100,000
- **Operating temperature range**: -40 °C to +125 °C
- **Contact size**: From $\varnothing$ 0.76 mm
- **Standard plating**: Ag / Au
- **Crimp termination**: ●
- **Screw termination**: ●
- **For busbars (through-hole design)**: ●

**ODU LAMTAC®**

- **Primary attribute**: High temperature & current
- **Contact technology**: Lamella technology
- **Reliability (contact points)**: 19 double contacting lamella louvres (size $\varnothing$ 6mm)
- **Nominal current**: 115 A (size $\varnothing$ 6 mm)
- **Angular misalignment**: +/- 1°
- **Mating cycles**: > 10,000
- **Operating temperature range**: -40 °C to +150 °C
- **Contact size**: From $\varnothing$ 1.5 mm
- **Standard plating**: Ag / Au
- **Crimp termination**: ●
- **Screw termination**: ●
- **For busbars (through-hole design)**: ●

**ODU TURNTAC®**

- **Primary attribute**: Rugged
- **Contact technology**: Turned, slotted contacts
- **Reliability (contact points)**: 4 contact fingers (size $\varnothing$ 6 mm)
- **Nominal current**: 100 A (size $\varnothing$ 6 mm)
- **Angular misalignment**: +/- 5°
- **Mating cycles**: > 10,000
- **Operating temperature range**: -40 °C to +125 °C
- **Contact size**: From $\varnothing$ 1.5 mm
- **Standard plating**: Ag / Au
- **Crimp termination**: ●
- **Screw termination**: ●

**ODU SPRINGTAC® Flatsocket**

- **Primary attribute**: High mating cycles
- **Contact technology**: Springwire technology
- **Reliability (contact points)**: 30 wire springs (size 6.3 x 0.8 mm)
- **Nominal current**: 27 A (size 6,3 x 0.8 mm)
- **Angular misalignment**: +/- 5°
- **Mating cycles**: > 50,000
- **Operating temperature range**: -40 °C to +125 °C
- **Contact size**: From 0.64 x 0.64 mm
- **Standard plating**: Ag / Au
- **Crimp termination**: ●
- **Screw termination**: ●

---

1 max. 5° misalignment in mounting position with corresponding design of the contact chamber

---

GET IN TOUCH AT electrical-contacts@odu.de
Connectors using the springwire technology offer maximum reliability for a wide variety of applications requiring longevity. On customers request, this technology can be maxed out from over 100,000 mating cycles to over one million mating cycles. The multiple independent springwire contact elements ensure top contact security and stable yet low contact resistance – especially for highly demanding applications.

- Outstanding reliability and durability with up to 1 million mating cycles
- Very high contact security
- Low mating and demating forces
- High vibration and shock resistance
- Low contact resistance
- High current-carrying capacity
SUBMARINE CHARGING CONNECTOR

ODU springwire contacts are used in a special high-performance charging connector at submarine mooring points, where the rough environmental conditions place high demands on the connection. ODU SPRINGTAC® contacts are particularly well suited for the task, due to their extreme reliability and durability.

CONTACTS FOR WELDING CURRENT TRANSMISSION

Our ODU SPRINGTAC® offers top performance for welding current transmission in a tool-changing system. An intelligent crimp termination system ensures maximum flexibility in the tiniest of installation spaces – as well as 1 million mating cycles.
Connectors using the lamella technology offer maximum current-carrying capacity. Its minimal power loss enables top performance integration even in the smallest of construction spaces. In addition, its high temperature resistance of up to 150 °C makes this universally adaptable contact, perfectly suited to all high current requirements, in the most varied high-performance applications.

- Current-carrying capacity of up to 2,400 amperes
- > 10,000 mating cycles
- High vibration and shock resistance
- Low contact resistance
- Automated lamella assembly
- High contact security
ELECTRIC SURFBOARD
The electric surfboard requires a connection that is highly current-carrying. At a top speed of up to 40 km/h, it must also be vibration- and shock-resistant. With its high current-carrying capacity, the ODU LAMTAC® is the perfect solution. The lamella technology results in a large number of contact points that create a reliable connection. The customized solution of the ODU LAMTAC® is applied between the speed controller, the motor, and the battery. This allows the controller to be operated.

SNOW GROOMER ENGINE
ODU lamella contacts form an interface between the inverter and the electric power system of the snow groomer’s engine. For this customer-specific solution, the high-current carrying ODU LAMTAC® contacts were integrated into the smallest of construction spaces.

Easy assembly due to screw termination
Low contact resistance for perfect performance
Compact contact design for low space requirements
Very high current-carrying capacity due to lamella technology
This universally applicable contact system is based on turned and slotted contacts and offers the best contact properties and qualities for economical prices. It was proven reliable even in harsh environments and excels through its extraordinarily robust nature when misalignment occurs on mating — no matter how high the mating cycle rate. Even the smallest contact diameters (from 0.3 mm) offer top quality performance and through the profile design, enable the greatest contact densities.

- Turned, slotted contacts
- > 10,000 mating cycles
- Low and stable mating and demating forces
- Tiniest dimensions possible, down to 0.3 mm contact diameter
- Mating possible at an angle of up to 5°
CONNECTION BETWEEN TRUCK AND TRAILER
The ODU TURNTAC® technology with its turned and slotted contacts offers high flexibility and is therefore extremely rugged. Besides its outstanding reliability and durability, the contact system helps to compensate for misalignment or tolerances, especially in multipole systems. In addition to the standard termination technologies, many different options are available. In this application the termination was adapted to solder the contacts to a PCB.

BATTERY STORAGE SYSTEM
The angled ODU pin contact mates with an ODU TURNTAC® socket, which in-turn completes the circuit between the module block and battery storage system. The ODU product, which we manufacture completely including the cable assembly, guarantees easy installation of the system. Additional protection against unintentional mating, creates perfect connections.
For many components and assemblies, simple low-cost flat contacts or square pins are used. These kinds of connectors have not been created with a focus on a high number of mating cycles, as they are only demated for servicing. But for the quality control during the serial production high mating cycles are needed. The ODU SPRINGTAC® Flatsocket with springwire technology is the perfect, long-lived counterpart for testing purposes. Its low, stable resistance values make it suitable for sensitive measuring tasks as well as for the testing of high current-carrying capacity.

+ Ideal for test adapters
+ > 50,000 mating cycles
+ Versions for 2 and 4-wire measurement (Kelvin measurement)
+ Functional ODU quick change head QCH principle

ODU SPRINGTAC® FLATSOCKET
OPTIMAL CONTACTING FOR RELIABLE RESULTS
TEST ADAPTER FOR HIGH MATING CYCLES

ODU SPRINGTAC® Flatsockets with quick change head (QCH) principle are used in test adapters. Flatsockets with this principle have a contact pin termination which can be mated with a socket installed in an assembled connector (base part). Sockets with a QCH termination are integrated in a test adapter (interchangeable part) which can be front-mounted to the connector. This way, the test adapter can be exchanged in a quick and easy way without further assembly.

4-WIRE MEASUREMENT (KELVIN METHOD)

The specialty of this flatsocket lies in the two contact halves which are insulated from each other. The ODU SPRINGTAC® Flatsocket is therefore suitable for 4-wire measurement (Kelvin measurement), a standard measuring method for precise measuring of low electrical resistance. With over 50,000 mating cycles, it is ideal for use in measuring applications.
QUALITY AND EFFICIENCY IN EVERY DETAIL

TURNERY
Over 160 automatic lathes equipped with up to 12 axis, numerous special tools, some equipped with high frequency spindles, provide significant production flexibility with consistently high quality.

STAMPING TECHNOLOGY
High-precision, mass-produced contacts are manufactured from various materials at 1,400 strokes/min and 300 kN in material thicknesses of 0.07 mm to 1.5 mm.

ASSEMBLY
Starting with customer specific, single-unit production and continuing up to high volumes, all processes at ODU are individually assembled and adjusted to meet the requirements. The results are economic solutions for the production of the contact up to the complete cable assembly.

ODU provides stamping technology for customer-specific high-volume solutions. The tooling technologies for this are developed in-house.
PLATING SYSTEMS FOR HIGHEST DEMANDS

ODU is a leading provider of high-quality plating systems, or "functional surfaces". Through the integration of surface treatment technology at an early stage of all development and production processes, ODU contacts are guaranteed to have a finishing quality that is precisely tailored to each special requirement.

GOLD
For best signal transmission

SILVER
For ideal power transmission

NICKEL
For high temperatures

TIN
Very good solderability

MEASURING, TESTING, UNDERSTANDING AND CONTROLLING

To guarantee functionality, reliability, quality and security of electrical contacts a profound understanding of the underlying physical interrelations is necessary. Our Technology Test Center is the central linchpin for application-specific baseline investigations as well as for the development and use of many different testing procedures.

- Design and development
- FEM analysis
- Technology Test Center T²C
- Electrical testing
- Mechanical testing
- Environmental testing
- Material selection and testing
The termination and cable can have a decisive impact on the overall system. Therefore, a perfect connector system offers a perfect interplay of the contact, termination technology and cable assembly. To ensure this, we offer complete solutions.
THE TERMINATION FOR A PERFECT CONNECTION

ODU has the relevant expertise for developing and manufacturing reliable solutions that are stable for the long-term, especially for critical, performance-limiting termination areas. To achieve this, ODU mainly use crimp, solder and screw termination types, as well as different welding processes.

IT IS NOT A GIVEN, AT ODU, IT’S INCLUSIVE

+ 100 % final inspection
+ Production possible in cleanroom in accordance with ISO 14644-1:2015
+ Customer-specific laser labeling possible

OVERMOLDING

Overmolded solutions are perfect to reduce components like housings or sealing and to reduce the effort for assembling. Form and color can be adjusted to individual customer requirements.