

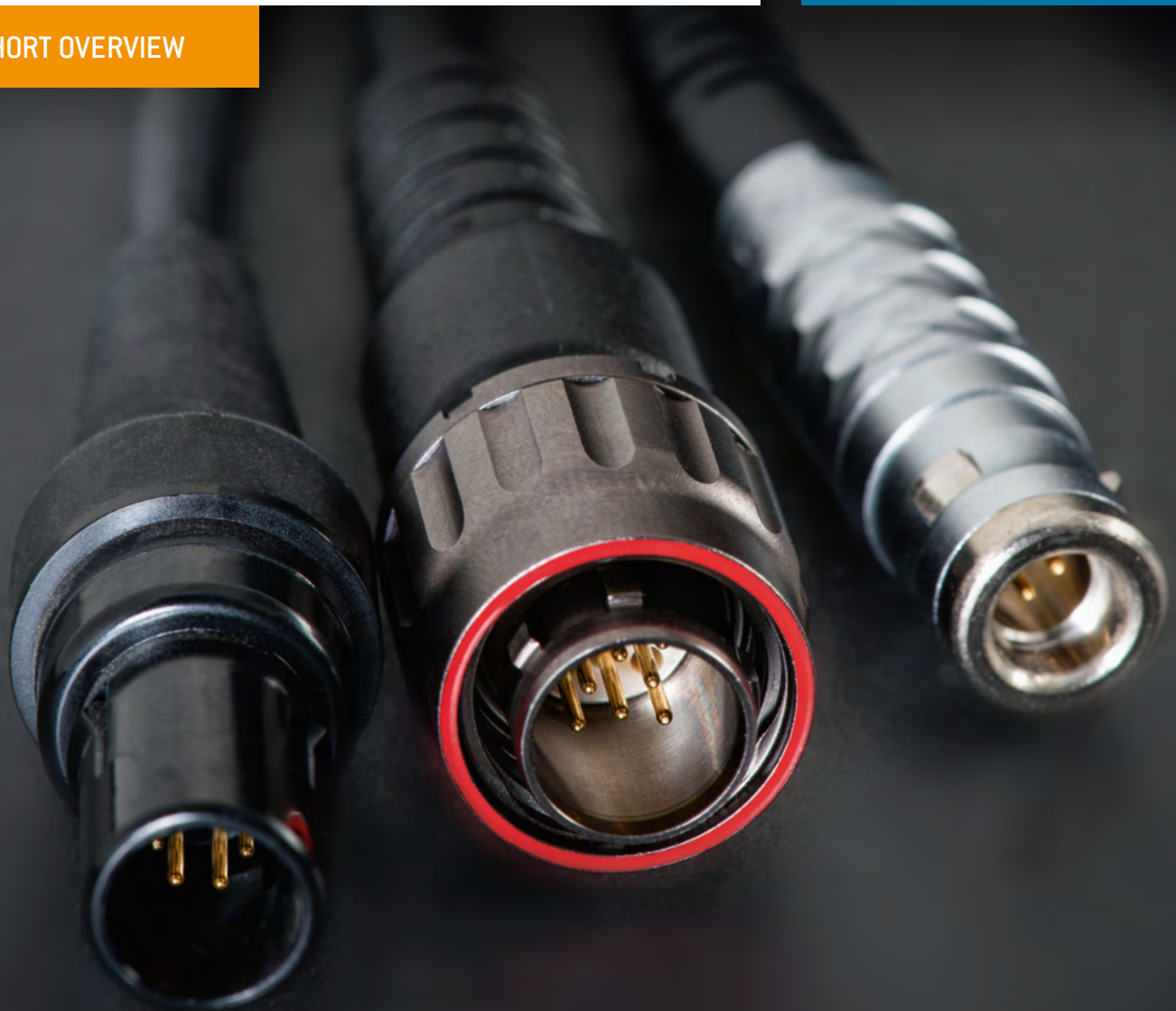
A PERFECT ALLIANCE.

# CIRCULAR CONNECTORS

Maximum performance and reliability to fit the smallest available space – a solution made to measure!

HIGH-QUALITY SOLUTIONS  
MADE OF METAL & PLASTIC

## SHORT OVERVIEW



### CIRCULAR CONNECTORS

[ODU AMC®](#)

[ODU THREADED CONNECTOR](#)

[ODU MINI-SNAP®](#)

[ODU MEDI-SNAP®](#)

[ODU MINI-SNAP® PC](#)

[ODU MINI-MED®](#)

# CIRCULAR CONNECTORS – MORE THAN JUST ONE SOLUTION



Circular connectors are among the most popular interface solutions for establishing and releasing connections intuitively. They provide maximum efficiency and reliability during both installation and operation. ODU offers a number of versatile solutions in the shape of the ODU MINI-SNAP®, ODU MINI-SNAP® PC, ODU MEDI-SNAP®, ODU MINI-MED®, ODU AMC®, and ODU Threaded Connector series, which are customized for your particular application and suitable for a whole host of ambient conditions.

No matter whether you want to transmit power, signals, data, or even fluids – our circular connectors, which come in robust metal or plastic housings with either an efficient quick-locking function (Push-Pull/Break-Away) or extremely vibration-resistant screw locking, will impress you with their outstanding quality and functionality.

Our broad portfolio of circular connector products provides our customers effective solutions, both standardized and customized, which are tailored to their particular needs.

## CONNECTIONS THAT LIVE UP TO ANY REQUIREMENT



# CONNECTORS FOR MILITARY AND SECURITY APPLICATIONS

## SMALLER – LIGHTER – FASTER






The ODU AMC® and ODU Threaded Connector series have been designed especially for use under extreme ambient conditions. These incredibly robust series of metal circular connectors leave absolutely nothing to be desired in terms of toughness and transmission reliability. They are in their element under even the most extreme field conditions: rugged, watertight, and easy to clean.

A low weight, low-reflection surfaces, excellent EMC properties, and a compact construction make these connectors the ideal elements for military and security technology applications.

## BENEFITS

- Easy installation thanks to Push-Pull, Break-Away or screw-locking technology
- Light, small, and easy to handle
- Highly resistant to shocks and vibrations
- Customized contact configuration
- Reliable data transmission
- Outstanding shielding performance
- System solution: cable assembly and overmolding



	ODU AMC® Break-Away	ODU AMC® Push-Pull	ODU AMC® Easy-Clean	ODU AMC® High-Density	ODU Threaded Connector
Mating cycles	Up to 5,000	Up to 5,000	Up to 5,000	Up to 5,000	Up to 2,000
Locking principle	Break-Away	Push-Pull	Break-Away	Break-Away	Screw locking
Coding options (mechanical)	 Pin/groove	 Pin/groove	 Pin/groove	 Pin/groove	 Pin/groove
Coding options (optical)	Dot marking, color coding	Dot marking, color coding	Dot marking, color coding	Dot marking, color coding	Color coding
Max. number of contacts	37	55	19	40	26
Transmission options	Signal, data, power	Signal, data, power	Signal	Signal, data	Signal, data, power
Available termination technologies	Solder, PCB	Solder, PCB	Solder, PCB	Solder, PCB	Solder, PCB
Max. IP protection in unmated condition	IP68	IP68	IP68	IP68	IP68
Max. IP protection in mated condition	IP69k	IP69k	IP69k	IP69k	IP69k

# METAL CIRCULAR CONNECTORS – A REAL ALL-ROUNDER

## RELIABLE – VERSATILE – COMPACT






ODU MINI-SNAP® is the all-rounder among ODU's circular connectors. The connector series in this portfolio are characterized by their robust metal housings with various different surfaces, their proven Push-Pull locking technology, and the fact they offer a wide variety of available transmission options.

ODU MINI-SNAP® products also stand out thanks to a multitude of termination options, which give users the flexibility they need to complete installation in minimal time. This makes ODU MINI-SNAP® products the go-to choice for many applications in the medical, test and measurement, industrial, military and security markets.

## BENEFITS

- Outstanding functional reliability due to robust metal housing
- Able to withstand even the most challenging environmental conditions, such as ambient temperatures of –40 °C to +120 °C
- Ease of connections – thanks to Push-Pull quick-locking technology, connections are established and released in < 1 second.
- Minimal space requirements thanks to interfaces with diameters of just 6,4 mm



	ODU MINI-SNAP® L	ODU MINI-SNAP® K	ODU MINI-SNAP® B	ODU MINI-SNAP® F	ODU MINI-SNAP® S
Mating cycles	> 5,000	> 5,000	> 5,000	> 5,000	> 5,000
Locking principle	Push-Pull (L principle)	Push-Pull (L principle)	Push-Pull (F principle)	Push-Pull (F principle)	Push-Pull (F principle)
Coding options (mechanical)	 Pin/groove	 Pin/groove	 Pin/groove	 Half-shell	 Insulator
Coding options (optical)	Dot marking	Dot marking	Dot marking	Dot marking	Dot marking
Max. number of contacts	40	40	30	27	10
Transmission options	Signal, data, power	Signal, data, power	Signal, data, power	Signal, data, power	Signal, data
Available termination technologies	Solder, crimp, PCB	Solder, crimp, PCB	Solder, crimp, PCB	Solder, crimp, PCB	Solder, PCB
Max. IP protection in unmated condition	IP68	IP68	IP68	IP68	IP68
Max. IP protection in mated condition	IP50	IP68	IP68	IP68	IP68

# PLASTIC CIRCULAR CONNECTORS – LIGHTWEIGHT, WITH INTUITIVE HANDLING

## EFFICIENT – CONVENIENT – CUSTOM-FIT





ODU's plastic connectors have already proven in a multitude of application areas. Especially for mobile devices or applications with strict space constraints, it is essential to have products that are lightweight and make the most efficient use of space. For this reason, plastic in particular is becoming an increasingly important material for connectors.

Either as a molded system solution ensuring plug and play functionality or an attachable connector enabling flexible assembly – the ODU plastic connector portfolio offers the right connection for a variety of applications.

## BENEFITS

- 75 % lighter than metal connectors
- Good grip due to special surface structure
- Highly economical solution
- High chemical and thermal resistance
- Minimal requirements in terms of installation and maintenance
- Space-saving product design
- Totally hygienic due to a capability of complete sterilisation



	ODU MEDI-SNAP®		ODU MINI-SNAP® PC	ODU MINI-MED®
Mating cycles	> 2,000	2,000/5,000	> 5,000	> 1,000
Locking principle	Push-Pull	Break-Away	Push-Pull	Break-Away
Coding options (mechanical)	 Pin/groove	 Pin/groove	 Half-shell	 Pin/groove
Coding options (optical)	Arrow marking, color coding	Arrow marking	Arrow marking	Arrow marking
Max. number of contacts	26	26	27	6
Transmission options	Signal, power, fluids (liquids and gases)	Signal, power	Signal	Signal
Available termination technologies	Solder, crimp, PCB	Solder	Solder, crimp, PCB	Solder
Max. IP protection in unmated condition	IP68	IP68	IP50	IP50
Max. IP protection in mated condition	IP64	IP67	IP67	IP67



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# BIT BY BIT TO THE PERFECT CONNECTION

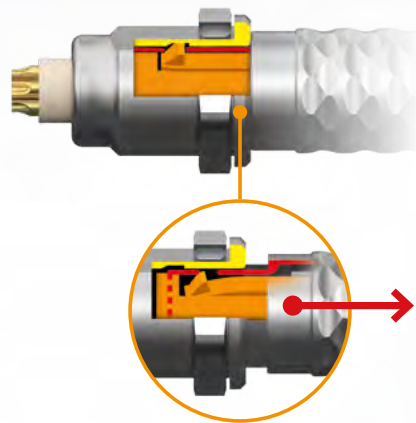
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ODU offers you high-quality connectors and comprehensive service for the complete assembly. From connectors to watertight potting, we provide the complete system as an one-stop-shop solution.

## PUSH-PULL LOCKING

The proven Push-Pull locking ensures establishing connections easily in less than a second. It is **self-securing** – this means that an accidental release by pulling on the cable can be precluded. During the mating process, the connector's locking claws will lock into place in the corresponding grooves in the receptacle and form a dependable connection between the connector and the receptacle.

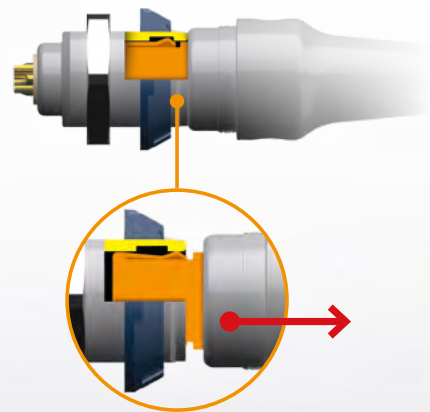
Consequently, when the connection is properly established, an unintentional demating of the connection by pulling on the cable cannot take place. The connection can only be released deliberately, by just pulling back the connector's outer sleeve.



## BREAK-AWAY FUNCTION

The efficient Break-Away function allows for an easy establishment of connections within fractions of a second just like the Push-Pull locking. But furthermore it also features an **emergency release** which enables demating the connection when needed by pulling on the cable.

During mating, the connector's locking claws will lock into place in the corresponding grooves in the receptacle and form a dependable connection between the connector and the receptacle. The sloping shape of the locking claws ensures the "breaking away" of the connection when the connector or cable is pulled with a defined force.



## SCREW LOCKING

The extremely robust screw locking technology guarantees maximum connection reliability even under the most challenging ambient conditions, such as when used outdoors or in military and security applications.

Thanks to a **quick-locking function, 3-start thread, and latching mechanism**, the connection is reliably protected against even the strongest vibrations in the mated condition.



## CODING

### Mechanical



Pin/groove



Half-shell

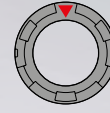


Insulator

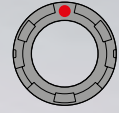
### Optical



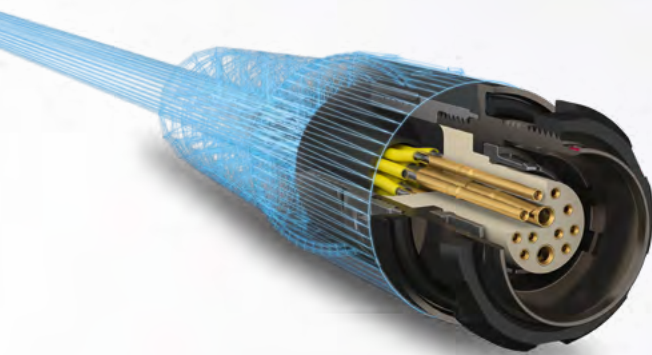
Color coding



Arrow marking



Dot marking



## CABLE ASSEMBLY

The properties of the cables used to make connections and how those cables terminate at connectors have a decisive impact on the performance of connection systems. Therefore, an ideal connection system is achieved when the contact, termination technology, and cable assembly are all in perfect harmony.

### This can be done in the following ways:

- System solutions molded using the high-pressure or hot-melt method for plug and play application
- Customized assembly solutions with individual labeling and application-specific component modifications if required – for maximum flexibility

## APPLICATION-SPECIFIC SOLUTIONS

As diverse as our customers are also the requirements of the standards that are relevant for their particular applications. ODU circular connectors are already able to fulfil the following standards:

+ **DIN EN 13060**  
[Autoclavability]



+ **IEC 60601-1**  
[Touch proof for medical devices]

+ **IEC 60512**  
[Hermetic sealing]

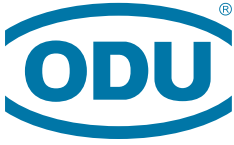


+ **UL 1977**  
[Certified safety]



+ **IEC 60664-1**  
[Dielectric strength]

+ **VARIOUS MILITARY STANDARDS**



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## ODU GROUP WORLDWIDE



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#### Further information and specialized representatives can be found at:

[www.odu-connectors.com/contact](http://www.odu-connectors.com/contact)

### PRODUCTION AND LOGISTICS SITES

**Germany** Otto Dunkel GmbH  
**China** ODU (Shanghai) Connectors Manufacturing Co.Ltd  
**Mexico** ODU Mexico Manufacturing S.R.L. de C.V.  
**Romania** ODU Romania Manufacturing S.R.L.  
**USA** ODU-USA, Inc.  
ODU North American Logistics



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