

**New TRIM TRIO®**



**RoHS  
Compliant**

# UTS series

IP68 / IP69K Plastic Connector

• Rapid

• Secure

• High Performance



**SOURIAU**  
Connection Technology





## SOURIAU

*Connectors and interconnect systems for harsh environments*

*The company designs, manufactures and markets high performance interconnect solutions for severe environments from industrial broadband and universal ranges to complex system with integrated functions:*

*filtering, high speed data transmission, hermetic seal, separation mechanism, remote handling, underwater mating, ...*



*Industrial*



*Aeronautical*



*Equipment & system*

*The dedicated end markets for SOURIAU's products are aeronautical, defense-space and industrial*



*Railway  
Geophysics  
Manufacturing environment  
Instrumentation  
Automation & process*



*Civil & military aircraft  
Helicopter  
Weapon delivery system  
Avionics*



*Military marine  
Communications  
Satellites  
Launcher & missile*

*SOURIAU was established in 1917 and has been created by successive acquisitions of the industrial, aeronautical, defense and space activities of SOURIAU, JUPITER and BURNDY.*

*The Group's products are engineered and manufactured in the USA and Dominican Republic, Europe and Morocco, Japan and India, and sold by a worldwide sales and marketing organization, and in addition to SOURIAU's offices, a large network of licensed distributors and agents.*

*SOURIAU complies with most of national and international Quality Assurance Standards, production unit with ISO 14001*

**Quality Certificate  
Management System**

**ISO 9001**

**Environment Certificate  
Management System**

**ISO 14001**

**Quality Certificate  
Management System**

**Aeronautic Industry : EN 9100**



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## Description

### IP68 / IP69K plastic circular connector with rapid locking system

“UTS” is the latest addition to the well known TRIM TRIO® interconnect system.

‘UTS’ is a range of Industrial circular multiway connectors available in 3 shell sizes and 9 contact arrangements.

The keywords for the new UTS are: Rapid – Secure – High performance

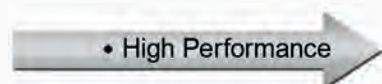


Rapid refers to the locking system and the total installed cost starting with the wiring & cabling and ending with the installation to the customers equipment. Rapid also refers to the total service on price request, samples and production deliveries.



The secure locking system together with the secure and versatile TRIM TRIO® contacts are giving confidence to both the connection and the customers equipment.

Moreover UTS is part of the well known TRIM TRIO® interconnect system with its more then 40 years of field experience.



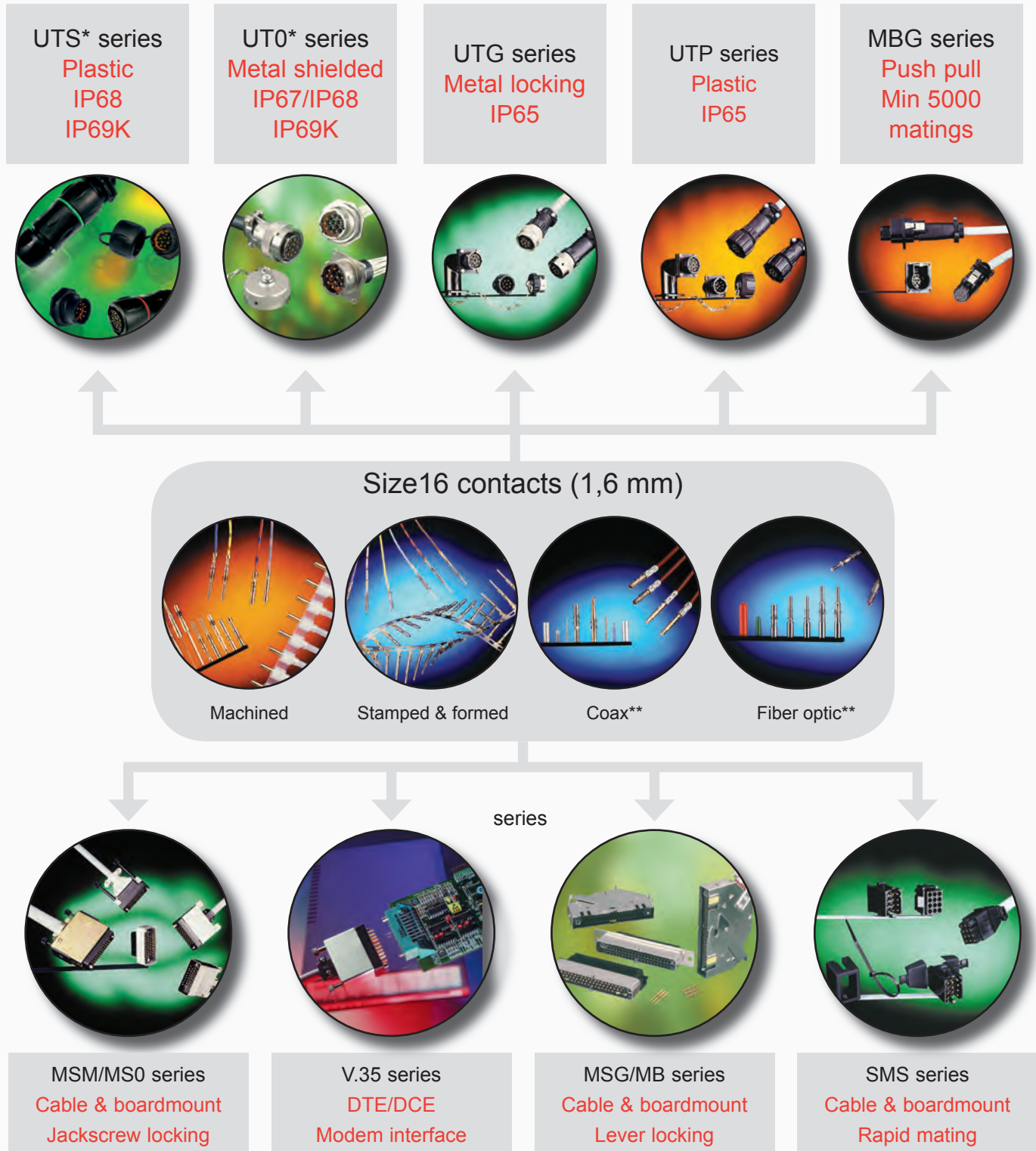
Extreme performance on water protection even in dynamic situations this in combination with a rapid and secure locking system makes UTS suitable for any high performance application.

UTS provides a connection that performs faster, easier, safer and more reliable, it makes :

**UTS : Your first choice in waterproof connectors !**

# UTS - Part of TRIM TRIO<sup>®</sup> interconnect system

## Overview



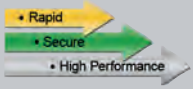
\* Size 20 available for UT0 & UTS series

\*\* Coax & fiber optic available in #16

**UTS : Your first choice in waterproof connectors !**



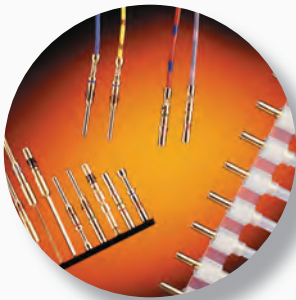
# UTS - Major features and benefits



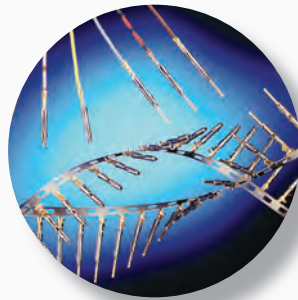
**Different contact styles, selective loading, easy reparability, rapid crimping...rapid assembly**

## ➡ **TRIM TRIO® contacts - The most versatile and modular contacts concept**

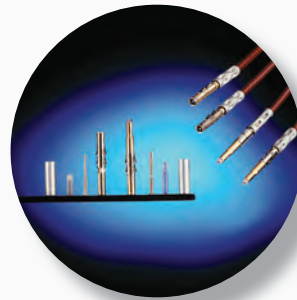
- Available in 4 different contact styles
- Suitable for field service and maintenance
- Combine all contact styles in same connector
- Established for more than 40 years



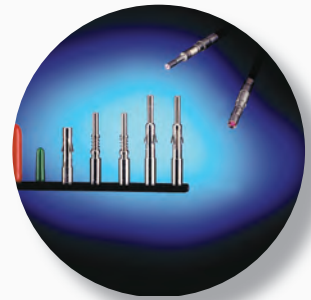
Machined



Stamped



Coax



Fiber optic

## ➡ **Rapid crimping with TRIM TRIO® contacts**

- Reliable and trouble free crimping
- Hand tools for maintenance and production
- Semi automatic bench press & applicators
- Stripper crimpers

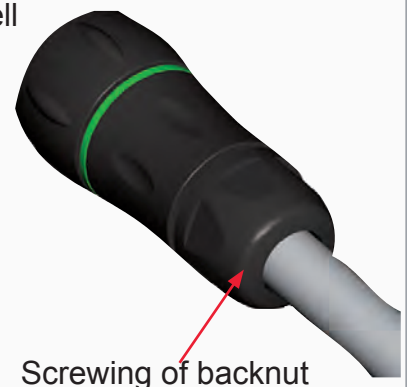
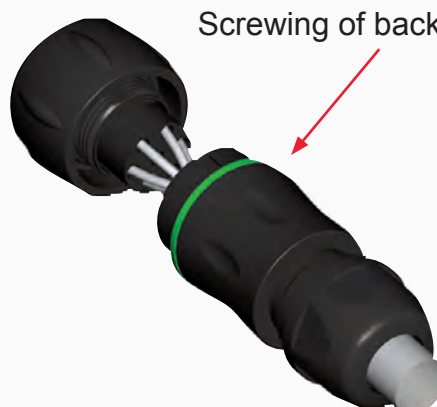
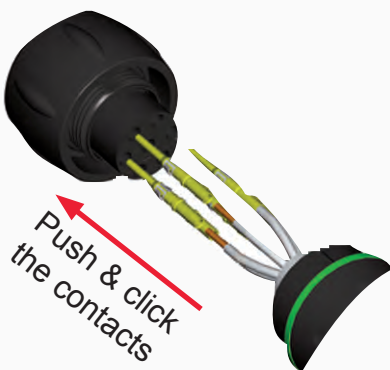


## ➡ **Rapid assembly of contacts**

- Push the contact in the cavity until it clicks»
- Selective loading
- Easy to repair

## ➡ **Rapid assembly of backshell**

- Limited number of components
- Integrated cable gland
- Backshell suitable for a wide range of cables



**UTS : Your first choice in waterproof connectors !**

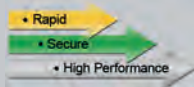
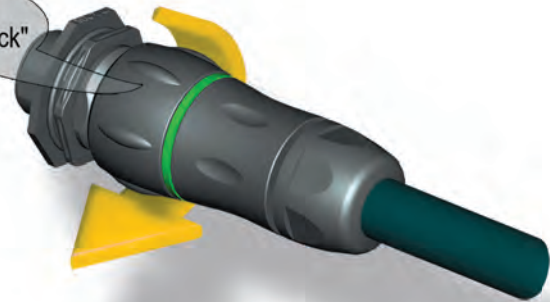
# UTS - Major features and benefits



## Rapid and secure locking system

- ➡ Confidence that the connector is properly mated
- ➡ Easy to connect in difficult places
- ➡ Minimalised operator fatigue
- ➡ Labor saving

Quick mating with 1/3 turn  
with an audible & sensitive "click"



## Rapid and trouble free service

- ➡ Fast delivery of samples, quotes and production volumes

Worldwide network of:

- Sales units
- Distributors
- Agents



**UTS : Your first choice in waterproof connectors !**

# UTS - Major features and benefits



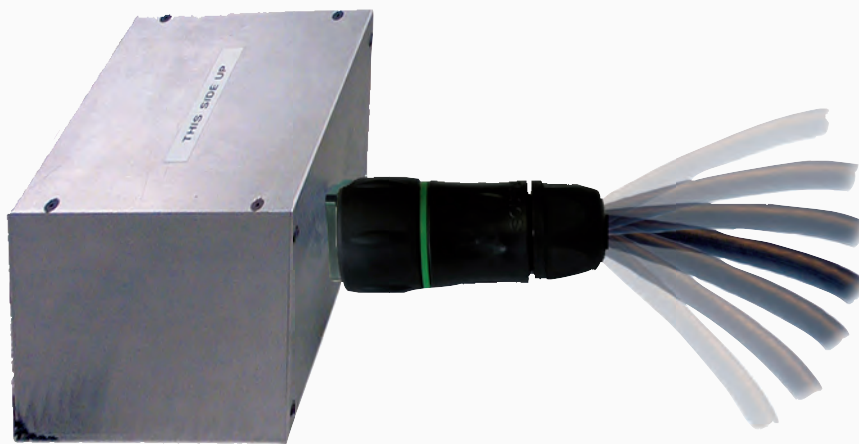
## Extreme environmental sealing performance

### ➡ IP68 / IP69K sealing ... even in dynamic situations

#### ➡ Dynamic IP68\*

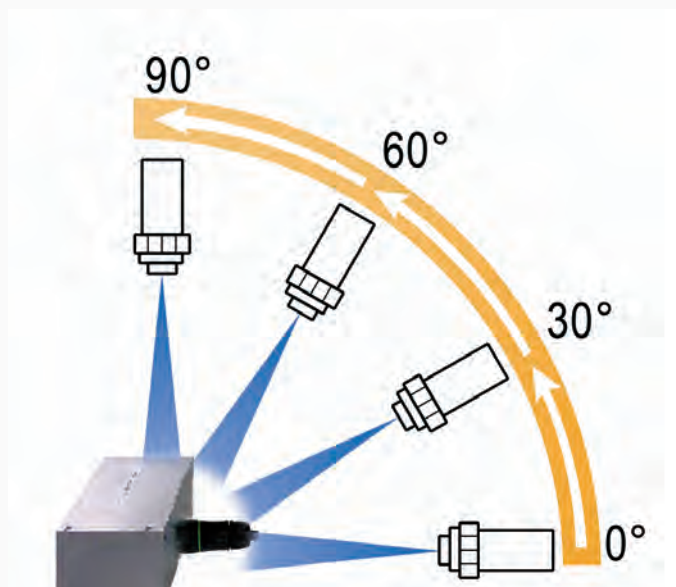
Connector will remain IP68 even when:

- Pulling on the cable
- Bending the cable



#### ➡ Dynamic IP69K\*

Connector withstands high pressure water cleaning



\* See table page 16 for more details

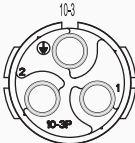
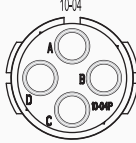
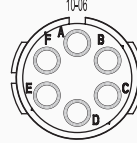
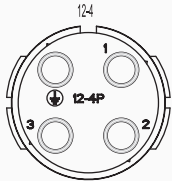
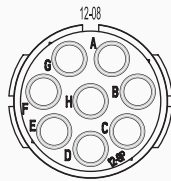
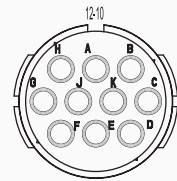
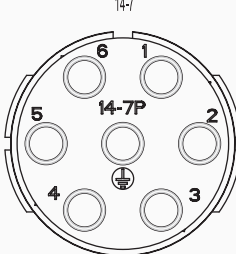
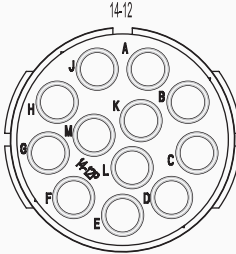
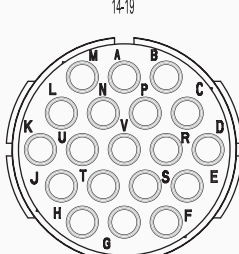
**UTS : Your first choice in waterproof connectors !**

# UTS - Major features and benefits



## Multiple contact arrangements with VDE 0110 performances

- ➡ **Multiple contact arrangements within same connector size**
  - Different levels of current and rated voltages per VDE 0110
  - Available in male and female gender
  - Custom version upon request such as:
    - Mixed contact sizes
    - Power versions
    - High speed versions (RJ45, USB, BNC), upon request
- ➡ **UTS insert arrangements, contact size, rated voltage per VDE 0110 & current ratings**

| Contact size         | # 16 (dia. 1.6mm)                                                                   |                                                                                      | #20 (dia. 1.0mm)                                                                      |
|----------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Rated voltage        | 250 V                                                                               | 125 V                                                                                | 125 V                                                                                 |
| Overvoltage category | III                                                                                 | III                                                                                  | III                                                                                   |
| Pollution degree     | 3                                                                                   | 3                                                                                    | 3                                                                                     |
| Size 10              |  |   |  |
|                      | 3 (2+ grounding)                                                                    | 4                                                                                    | 6                                                                                     |
|                      | 13A (machined + stamped)                                                            | 13A (machine + stamped)                                                              | 7.5A (machined) / 5A (stamped)                                                        |
| Size 12              |  |  |  |
|                      | 4 (3 + grounding)                                                                   | 8                                                                                    | 10                                                                                    |
|                      | 13A (machined + stamped)                                                            | 13A (machine + stamped)                                                              | 7.5A (machined)/ 5A (stamped)                                                         |
| Size 14              |  |  |  |
|                      | 7 (6 + grounding)                                                                   | 12                                                                                   | 19                                                                                    |
|                      | 13A (machined + stamped)                                                            | 13A (machined + stamped)                                                             | 7.5A (machined)/ 5A (stamped)                                                         |

**UTS : Your first choice in waterproof connectors !**



# UTS - Major features and benefits



## Rapid and secure panel mounting

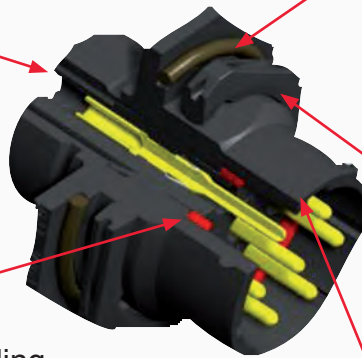
**Rear panel** mount solution suitable for pre-harnessing and PCB mounting

**Captive** panel seal to prevent misalignment

**Robust jam nut** to guarantee a rapid, secure and vibration proof panel mounting

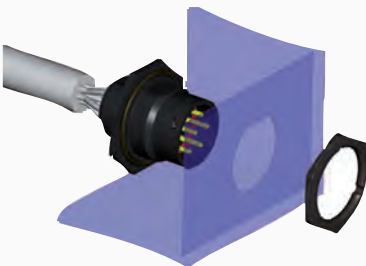
**O-ring seal** to guarantee sealing between receptacle and plug

**D-shape panel cut** to ensure correct mounting and to prevent the connector from rotating

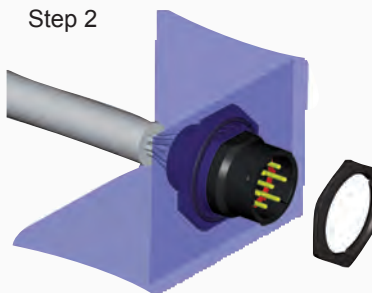


### Assembly procedure of jam nut receptacle

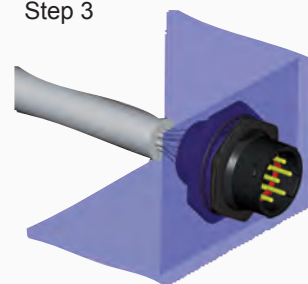
Step 1



Step 2



Step 3



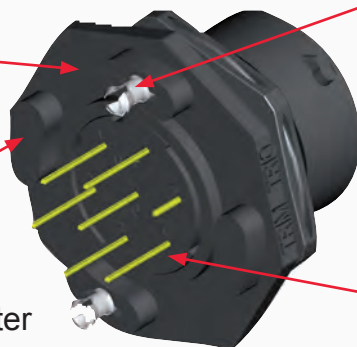
## PCB receptacle...low profile with rapid installation features

**Low profile housing** to limit space between panel and PCB

**Metal hold down clips** to lock the connector easily on the PCB and to release stress on solder joints

**Stand-offs** to allow cleaning after soldering

**Pre-assembled PCB contacts**  
- machined or stamped versions available  
- different solder tails lengths possible  
- different plating options

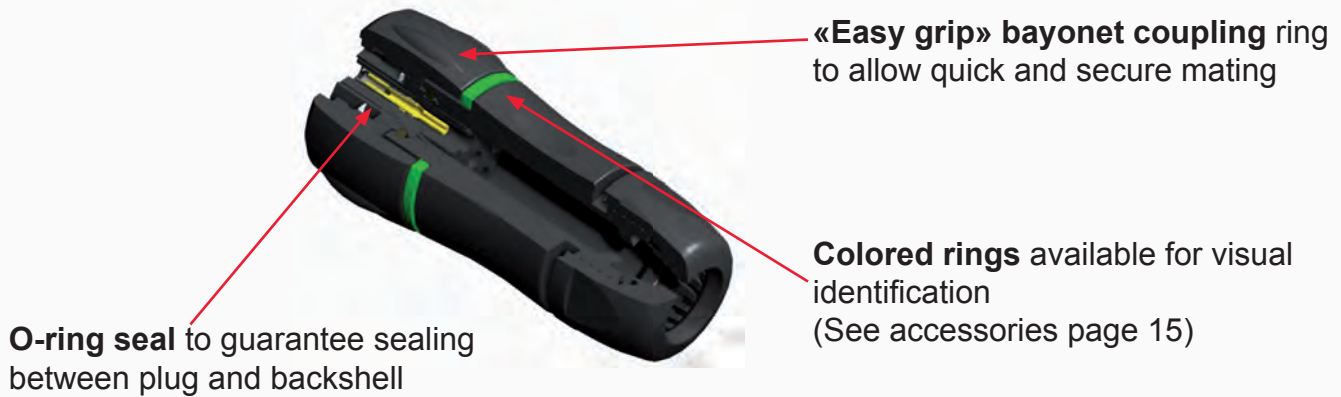


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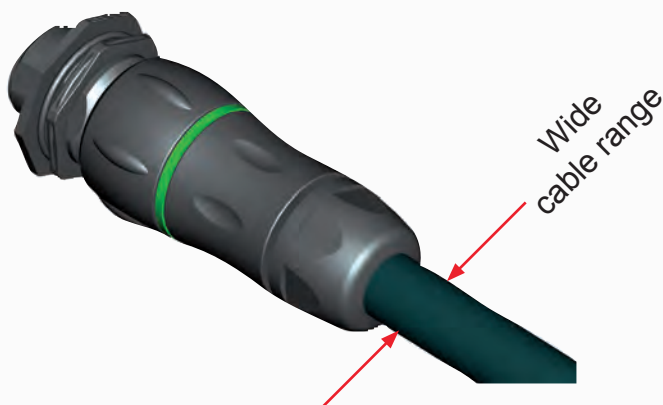
# UTS - Major features and benefits



## Ergonomic plug design with maximized cabling space and minimized connector length



## Backshells...accepting a wide range of cables

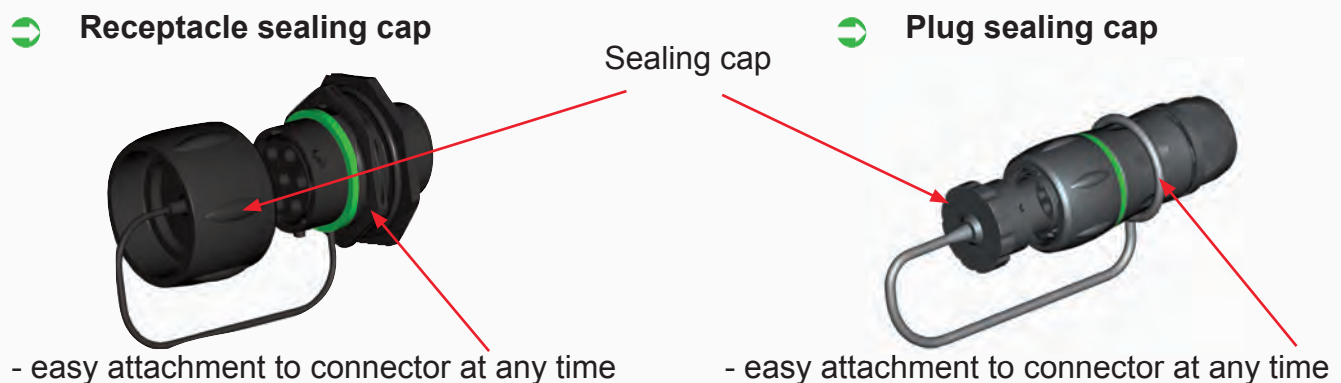


|         |                |
|---------|----------------|
| Size 10 | 2.5 to 8.0 mm  |
| Size 12 | 3.0 to 12.0 mm |
| Size 14 | 5.0 to 14.0 mm |

**Low installed cost** with reduced number of components



## Sealing caps...easy to install...at any time



**UTS : Your first choice in waterproof connectors !**



## Technical characteristics

### MECHANICAL

- Durability: 250 matings & unmatings
- Vibration resistance: Per CEI 60512-4
- Thermal shock: Per MIL-STD1344 method 1003

### ELECTRICAL

- Insulation resistance: 5000 MΩ min
- Test potential: 2000 VAC
- As per VDE specifications (see page 8 for more details)

### ENVIRONMENTAL

- Operating temp: -40°C to + 105°C
- Flammability rating: UL94V0 and NFF16101 level 2
- Sealing (mated): Dynamic IP68 – 10m under water for 1 week per IEC60529  
Dynamic IP69K per DIN40050
- UV resistant
- Salt spray: 500 hours

### MATERIAL

- Connectors + Backshell: Thermoplastic



### PLATING (only for PCB version)

- Plating for machined contacts: min 0.4 μ gold all over
- Plating for stamped contacts: Min 0.4 μ gold in contact area  
3 – 5 μ tin on solder tail

Other platings upon request

### CONTACT ACCOMMODATION

- “UTS” connectors accept TRIM TRIO® size 16 or size 20 (depending on arrangement)  
removable snap-lock contacts
- Refer to TRIM TRIO® catalog for details
- Contacts to be ordered separately (except PCB versions)

In accordance with UL requirements

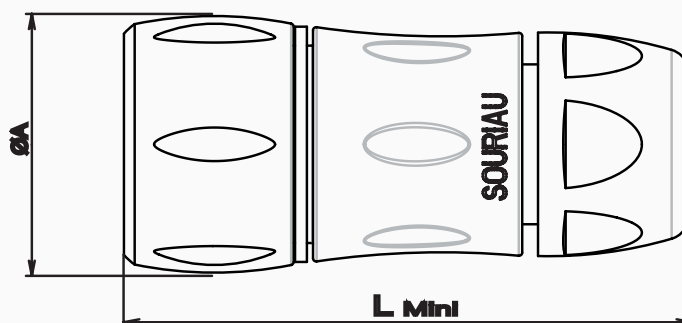
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## Cable plug with backshell for pin and socket contacts

UTS6JC...P / UTS6JC...S)



Each plug has 2 seals to cover the specified cable range (See table below).

The standard seal is preassembled

The second seal is supplied as loose piece together with a plug.

| PN pin contact | PN socket   | NB contacts | Shell size | L    | Ø A  | Ø Cable range                         |
|----------------|-------------|-------------|------------|------|------|---------------------------------------|
| UTS6JC103P     | UTS6JC103S  | 3           | 10         | 63.2 | 26.2 | 1.5 to 5.0<br>2.5 to 8.00 (standard)  |
| UTS6JC104P     | UTS6JC104S  | 4           |            |      |      |                                       |
| UTS6JC106P     | UTS6JC106S  | 6           |            |      |      |                                       |
| UTS6JC124P     | UTS6JC124S  | 4           | 12         | 66.7 | 29.7 | 3.0 to 9.0<br>5.0 to 12.0 (standard)  |
| UTS6JC128P     | UTS6JC128S  | 8           |            |      |      |                                       |
| UTS6JC1210P    | UTS6JC1210S | 10          |            |      |      |                                       |
| UTS6JC147P     | UTS6JC147S  | 7           | 14         | 71.5 | 34.6 | 5.0 to 12.0<br>7.0 to 14.0 (standard) |
| UTS6JC1412P    | UTS6JC1412S | 12          |            |      |      |                                       |
| UTS6JC1419P    | UTS6JC1419S | 19          |            |      |      |                                       |

Coloured ring supplied as optional extra (See page 15).

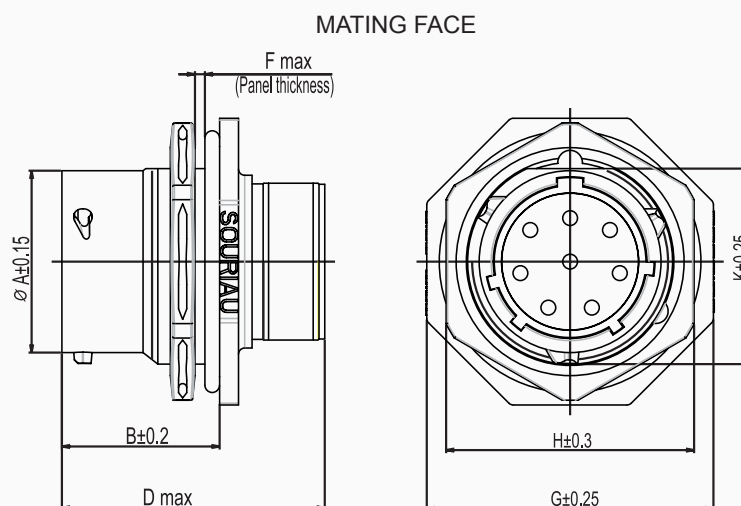
Notes : All dimensions are in mm.

Dimensions are not contractual and may be subject to modifications.

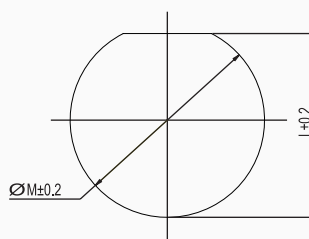
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## Jam nut receptacle (wire version) for pin and socket contacts (UTS7...P / UTS7...S)



PANEL CUT OUT



| PN pin contact | PN socket | NB contacts | Shell size | Ø A  | B    | D Max | F Max | G    | H    | K    | L    | Ø M  |
|----------------|-----------|-------------|------------|------|------|-------|-------|------|------|------|------|------|
| UTS7103P       | UTS7103S  | 3           | 10         | 14.9 | 19.3 | 33.9  | 3.2   | 27.0 | 22.2 | 16.6 | 16.5 | 17.7 |
| UTS7104P       | UTS7104S  | 4           |            |      |      |       |       |      |      |      |      |      |
| UTS7106P       | UTS7106S  | 6           |            |      |      |       |       |      |      |      |      |      |
| UTS7124P       | UTS7124S  | 4           | 12         | 19.0 | 19.3 | 33.9  | 3.2   | 31.8 | 27.0 | 20.8 | 21.2 | 22.5 |
| UTS7128P       | UTS7128S  | 8           |            |      |      |       |       |      |      |      |      |      |
| UTS71210P      | UTS71210S | 10          |            |      |      |       |       |      |      |      |      |      |
| UTS7147P       | UTS7147S  | 7           | 14         | 22.2 | 19.3 | 33.9  | 3.2   | 34.9 | 30.2 | 23.9 | 24.3 | 25.7 |
| UTS71412P      | UTS71412S | 12          |            |      |      |       |       |      |      |      |      |      |
| UTS71419P      | UTS71419S | 19          |            |      |      |       |       |      |      |      |      |      |

Coloured ring supplied as optional extra (See page 15).

Notes : All dimensions are in mm

Dimensions are not contractual and may be subject to modifications.

**UTS : Your first choice in waterproof connectors !**

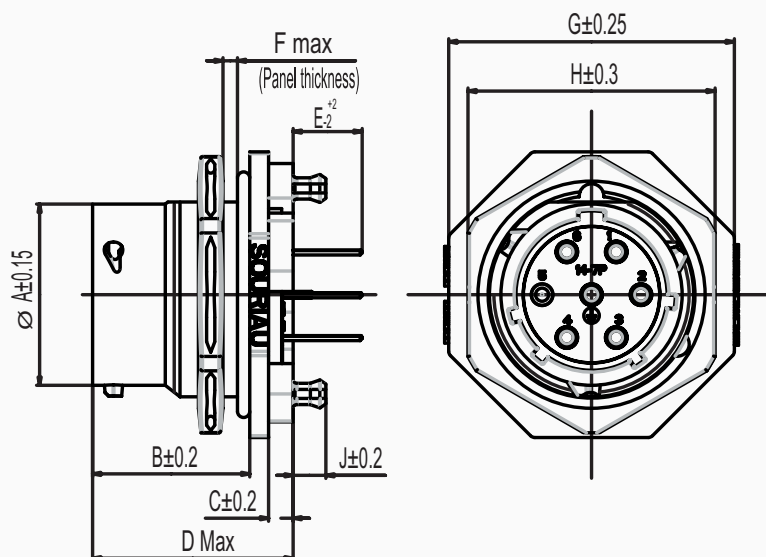


## PCB jam nut receptacle for male contacts

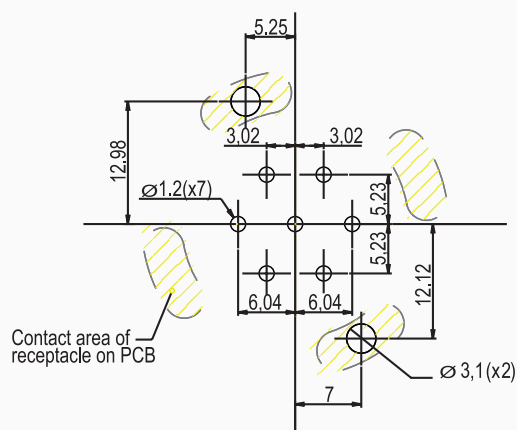
UTS714PSE4K9



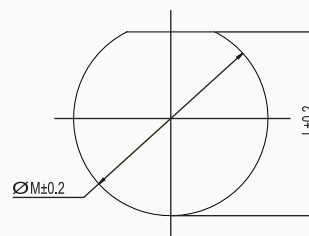
MATING FACE



DRILLING PATTERN



PANEL CUT OUT



| Shell size | Ø A  | B    | C | D Max | E   | F   | G    | H    | J | L    | Ø M  |
|------------|------|------|---|-------|-----|-----|------|------|---|------|------|
| 14         | 22.2 | 19.3 | 3 | 24.5  | 3.6 | 3.2 | 34.9 | 30.2 | 4 | 24.3 | 25.7 |

Other arrangements upon request.

Stamped and formed contacts.

Plating:

K9 (std) = Min 0.4µ Gold in contact area, 3 - 5µ Tin on solder tail

T = 3 - 5µ Tin all over

Notes : All dimensions are in mm.

Dimensions are not contractual and may be subject to modifications.

**UTS : Your first choice in waterproof connectors !**





## Accessories

### Receptacle sealing cap



#### Part numbers

Size 10: UTS10DCG  
Size 12: UTS12DCG  
Size 14: UTS14DCG

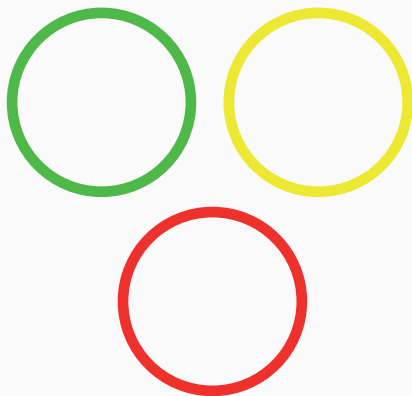
### Plug sealing cap



#### Part numbers

Size 10: UTS610DCG  
Size 12: UTS612DCG  
Size 14: UTS614DCG

### Colour coding rings



#### Part numbers for receptacle

Size 10: UTS710CCR\*  
Size 12: UTS712CCR\*  
Size 14: UTS714CCR\*

\* Add G for Green, Y for Yellow, R for Red

#### Part numbers for receptacle

Size 10: UTS610CCR\*  
Size 12: UTS612CCR\*  
Size 14: UTS614CCR\*

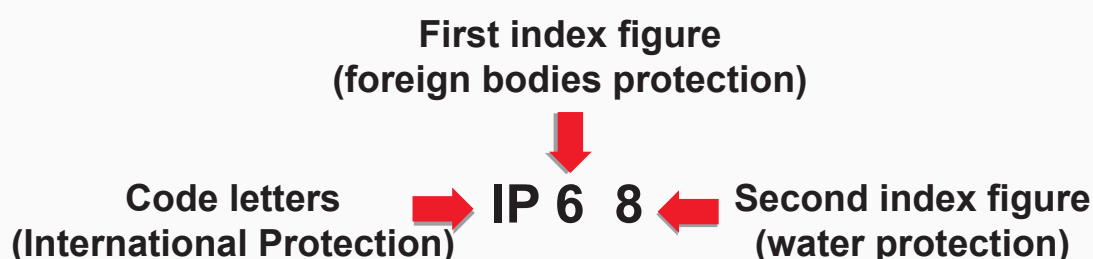
\* Add G for Green, Y for Yellow, R for Red

**UTS : Your first choice in waterproof connectors !**



## What is sealing and how it is specified

- The connector's housing, sealing and locking mechanism protect the connection from external influences such as mechanical shocks, foreign bodies, humidity, dust, water and other fluids.
- The degree of protection is explained in IEC 60529, DIN EN60529 (DIN 40050) standards that categorize connections according to foreign body and water protection.
- The degree of protection is indicated by IP (International Protection) followed by 2 digits (See example below):



| Index figure | Degree of protection                                                                                                                                               | Index figure | Degree of protection                                                                                       |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------------------------------------------------------------------------------------------------------|
| 0            | No protection against accidental contact.<br>No protection against solid foreign bodies.                                                                           | 0            | No protection against water.                                                                               |
| 1            | Protection against contacts with any large area by hand and against large solid foreign bodies with a diameter bigger than 50mm.                                   | 1            | Drip-proof.<br>Protection against vertical water drips.                                                    |
| 2            | Protection against contacts with the fingers.<br>Protection against solid foreign bodies with a diameter bigger than 12mm.                                         | 2            | Drip-proof.<br>Protection against water drips up to a 15° angle.                                           |
| 3            | Protection against tools, wires or similar objects with a diameter bigger than 2.5mm..<br>Protection against small solid bodies with a diameter bigger than 2.5mm. | 3            | Spray-proof.<br>Protection against diagonal water drips up to a 60° angle.                                 |
| 4            | As 3 however diameter is bigger than 1mm.                                                                                                                          | 4            | Splash-proof.<br>Protection against splashed water from all directions.                                    |
| 5            | Full protection against contacts. Protection against interior injurious dust deposits.                                                                             | 5            | Hose-proof.<br>Protection against water (out of a nozzle) from all directions.                             |
| 6            | Total protection against contacts. Protection against penetration of dust.                                                                                         | 6            | Protection against temporary flooding.                                                                     |
|              |                                                                                                                                                                    | 7            | Protection against temporary immersions.                                                                   |
|              |                                                                                                                                                                    | 8            | Protection against water pressure.<br>Pressure to be specified by supplier.                                |
|              |                                                                                                                                                                    | 9K           | High pressure hose-proof.<br>Protection against high pressure water (out of a nozzle) from all directions. |

UTS offers high sealing performance IP68 / IP69K...  
Even in dynamic situations.







# UTS - Suitable for a broad range of applications

Tunnel fans



Meteorological measurement systems



Traffic control



Its uses are endless!  
here are a few...

Parking detection systems



Videosurveillance



Lifting equipments



Oceanographic instrumentations



Broadcasting systems

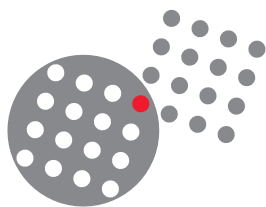
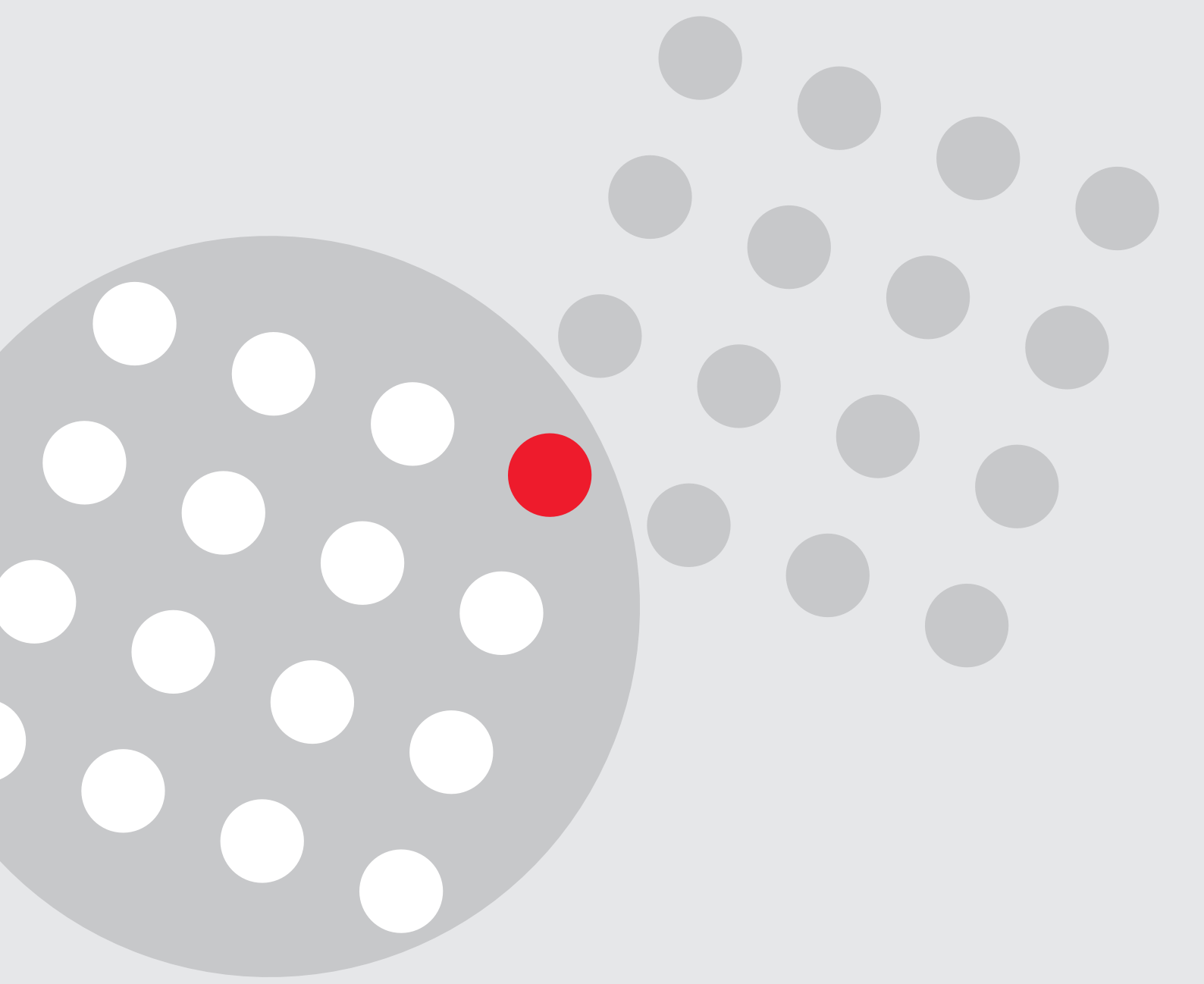


Coast guarding equipments



and there is more...:

- street maintenance,
- Wind mills,
- Off road equipment,
- Antenna dish,
- Solar technology,
- Machine tools,
- Lightning / theatre,
- Outdoor advertising,
- Food processing
- Elevators & lifts
- Measuring / Test / Inspection
- Wheel chairs,
- Medical applications,
- etc...



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