New TRIM TRIO®

RoHS Compliant

UTS series

IP68 / IP69K Plastic Connector

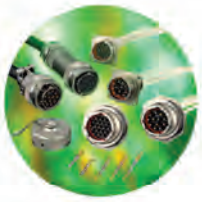
- Rapid
- Secure
- High Performance

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 broadline 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 distibutors and agents.

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

Quality Certificate Management System	Environment Certificate Management System	Quality Certificate Management System
ISO 9001	ISO 14001	Aeronautic Industry : EN 9100

UTS

Contents

Company profile..... 2
Contents..... **3**
Description..... **3**
Overview TRIM TRIO®..... **4**
Major features & benefits **5-9**
Contact styles..... 5
Rapid and secure locking system..... 6
Rapid and trouble free service..... 6
Extreme sealing performance..... 7
Contact arrangements..... 8
Rapid and secure panel mounting... 9
PCB receptacle..... 9
Ergonomic plug..... 10
Backshells..... 10
Sealing caps..... 10
UTS **11-16**
Technical characteristics..... 11
Cable plug..... 12
Jam nut receptacle..... 13
PCB jam nut receptacle..... 14
Accessories..... 15
What sealing is..... 16
Industrial applications..... 17

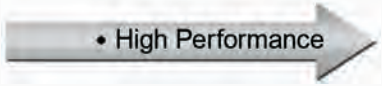
Description

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 :

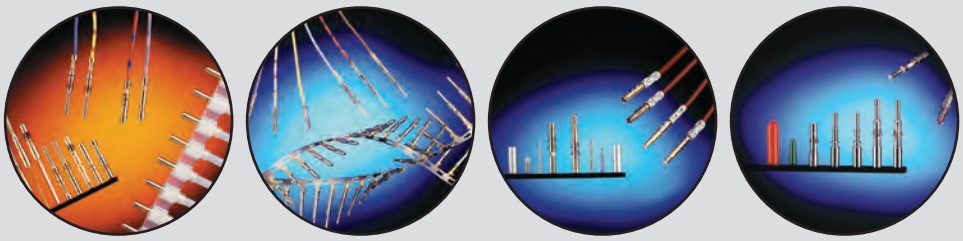
UTS : Your first choice in waterproof connectors !

UTS - Part of TRIM TRIO® interconnect system

Overview

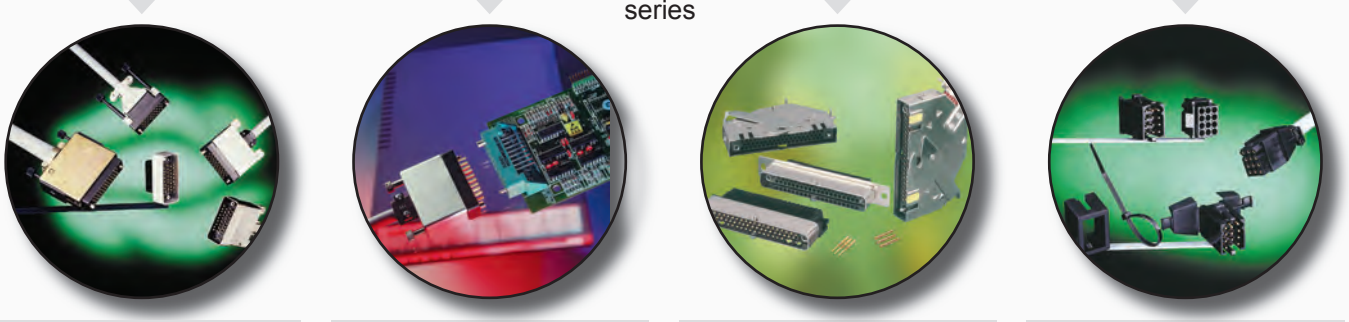
UTS* series	UT0* series	UTG series	UTP series	MBG series
Plastic	Metal shielded	Metal locking	Plastic	Push pull
IP68	IP67/IP68	IP65	IP65	Min 5000
IP69K	IP69K			matings

Size16 contacts (1,6 mm)



Machined | Stamped & formed | Coax** | Fiber optic**

series



MSM/MS0 series	V.35 series	MSG/MB series	SMS series
Cable & boardmount	DTE/DCE	Cable & boardmount	Cable & boardmount
Jackscrew locking	Modem interface	Lever locking	Rapid mating

* Size 20 available for UTO & UTS series
** Coax & fiber optic available in #16

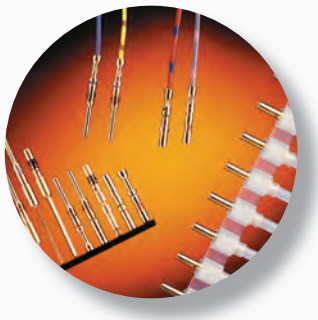
UTS : Your first choice in waterproof connectors !

UTS - Major features and benefits

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

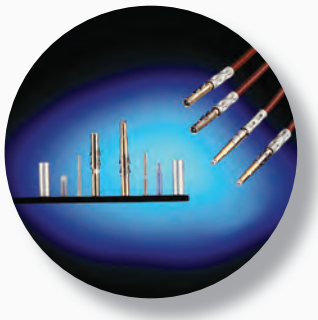
TRIM TRIO® contacts - The most versatile and modular contacts concept

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

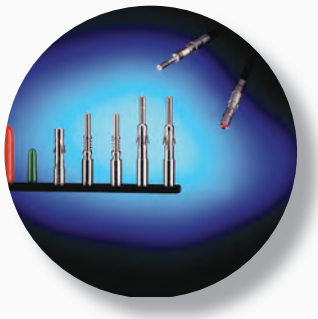


Machined

Stamped



Coax



Fiber optic

Rapid crimping with TRIM TRIO® contacts

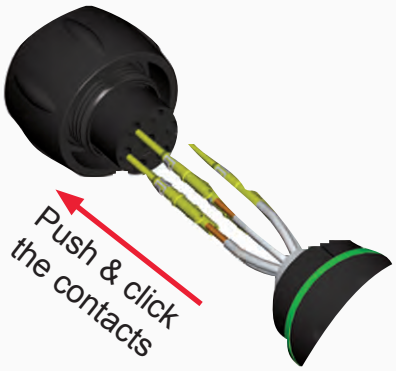
- Reliable and trouble free crimping
- Hand tools for maintenance and production
- Semi automatic bench press & applicators
- Stripper crimpers

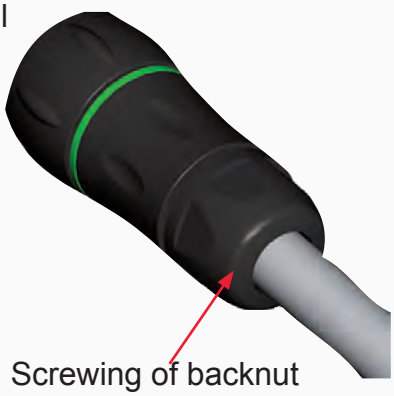
Rapid assembly of contacts

- 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



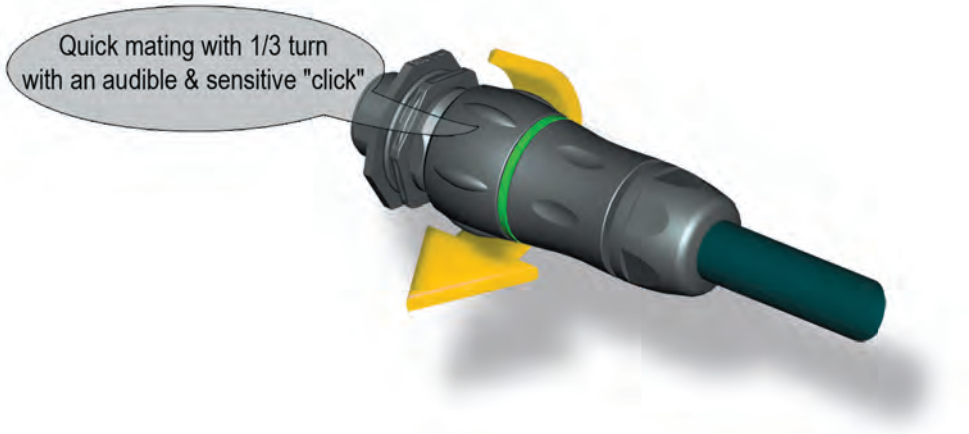


UTS : Your first choice in waterproof connectors !

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**



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

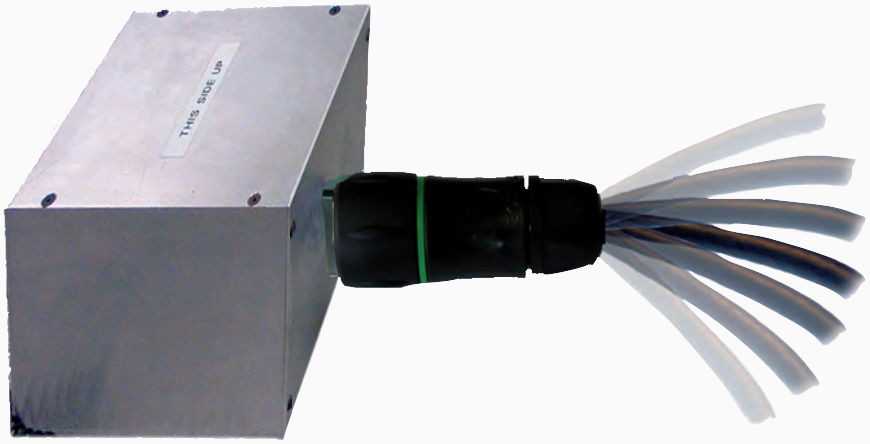
Extreme environmental sealing performance

IP68 / IP69K sealing … even in dynamic situations

Dynamic IP68*

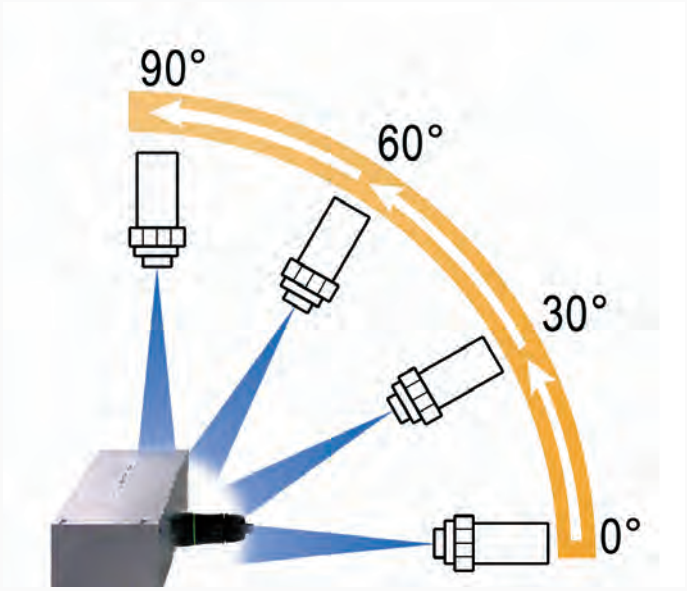
Connector will remain IP68 even when:

- 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 !

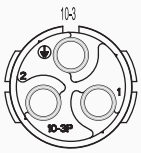
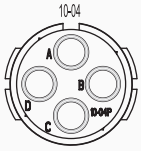
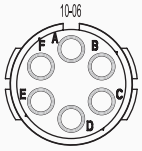
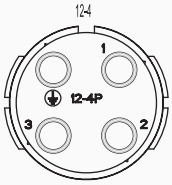
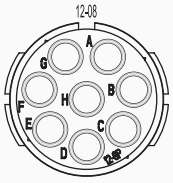
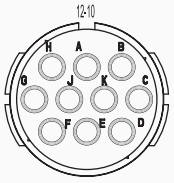
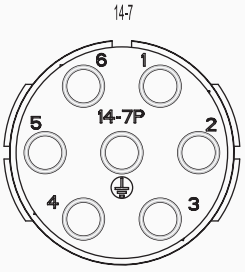
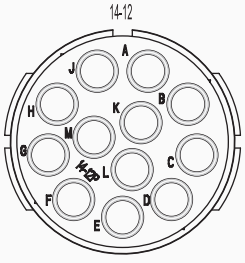
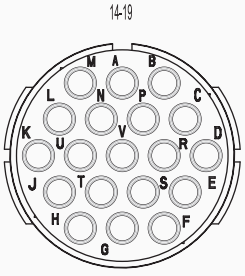
UTS - Major features and benefits

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			
Number of contacts	3 (2+ grounding)	4	6
Max current (per contact)	13A (machined + stamped)	13A (machine + stamped)	7.5A (machnied) / 5A (stamped)
Size 12			
Number of contacts	4 (3 + grounding)	8	10
Max current (per contact)	13A (machined + stamped)	13A (machine + stamped)	7.5A (machined)/ 5A (stamped)
Size 14			
Number of contacts	7 (6 + grounding)	12	19
Max current (per contact)	13A (machined + stamped)	13A (machined + stamped)	7.5A (machined)/ 5A (stamped)

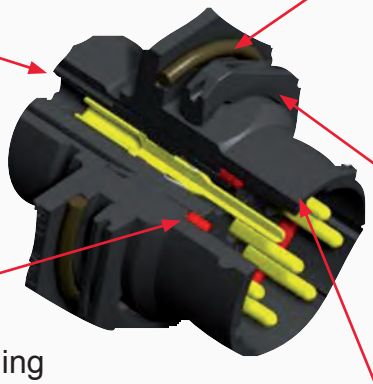
UTS : Your first choice in waterproof connectors !

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



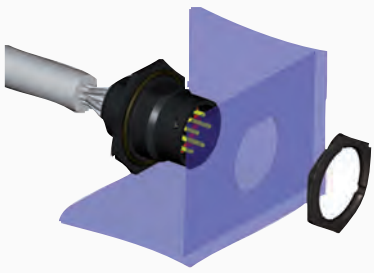
Robust jam nut to guarantee a rapid, secure and vibration proof panel mounting

O-ring seal to guarantee sealing between receptacle and plug

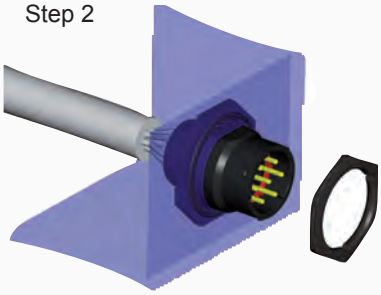
D-shape panel cut to ensure correct mounting and to prevent the connector from rotating

Assembly procedure of jam nut receptacle

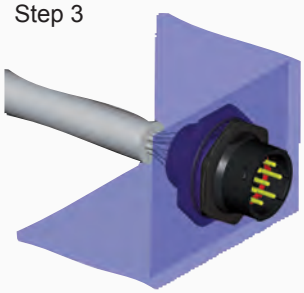
Step 1



Step 2



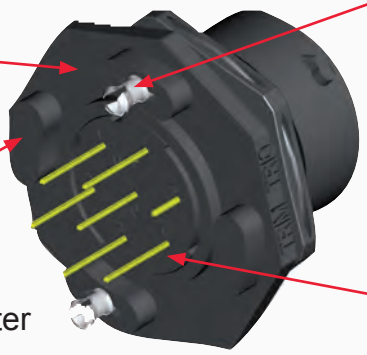
Step 3



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



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

Stand-offs to allow cleaning after soldering

UTS : Your first choice in waterproof connectors !

UTS - Major features and benefits

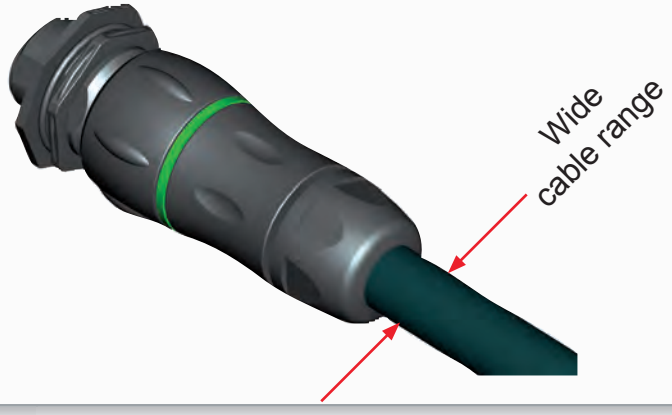
Ergonomic plug design with maximized cabling space and minimized connector length

«Easy grip» bayonet coupling ring to allow quick and secure mating

Colored rings available for visual identification
(See accessories page 15)

O-ring seal to guarantee sealing between plug and backshell

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

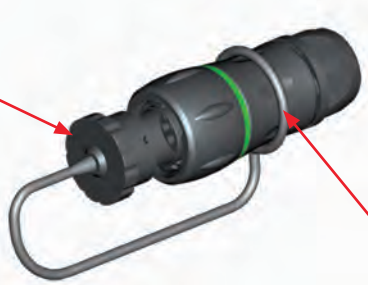
Low installed cost with reduced number of components

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

Receptacle sealing cap

- easy attachment to connector at any time

Plug sealing cap



- easy attachment to connector 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

RoHS Compliant

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

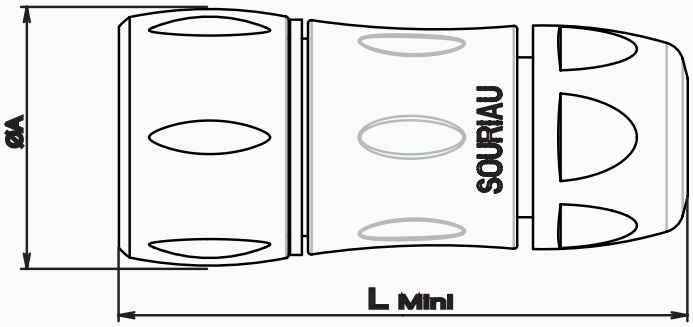
CONTACT ACCOMMODATION

- "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

UTS : Your first choice in waterproof connectors !

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 stabdard seal is preassembled
The second seal is supplied as loose piece togoether with a plug.

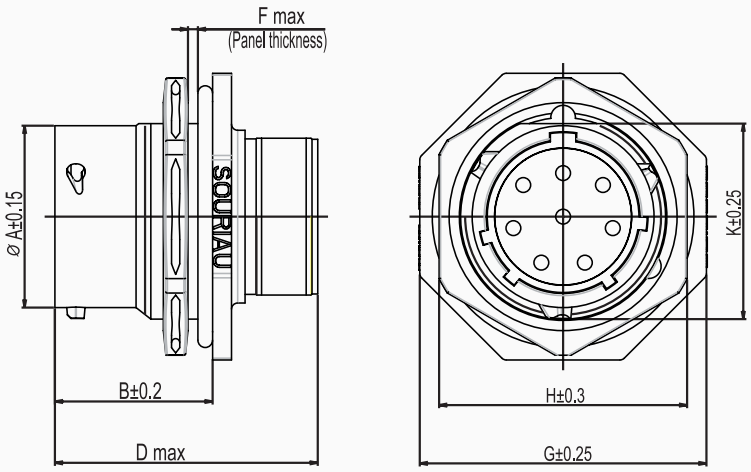
PN pin contact	PN socket	NB contacts	Shell size	L	Ø A	Ø Cable range
UTS6JC103P	**UTS6JC103S**	**3**	**10**	63.2	26.2	1.5 to 5.0 2.5 to 8.00 (standard)
UTS6JC104P	**UTS6JC104S**	**4**				
UTS6JC106P	**UTS6JC106S**	**6**				
UTS6JC124P	**UTS6JC124S**	**4**	**12**	66.7	29.7	3.0 to 9.0 5.0 to 12.0 (standard)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

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

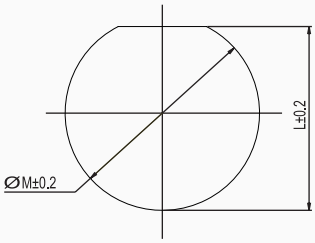
Notes : All dimensions are in mm.
Dimensions are not contractual and may be subject to modifications.

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

MATING FACE



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										

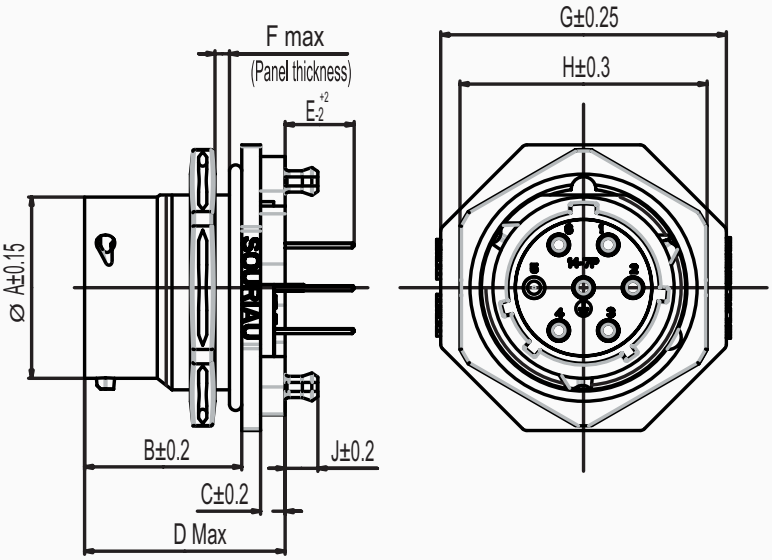
Coloured ring supplied as optional extra (See page 15).

Notes : All dimensions are in mm
Dimensions are not contractual and may be subject to modifications.

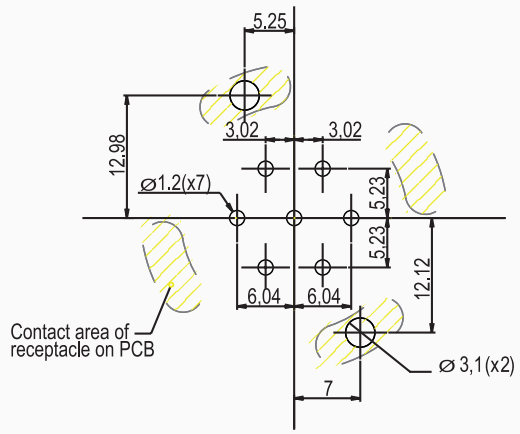
PCB jam nut receptacle for male contacts

UTS714PSE4K9

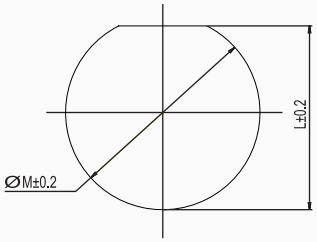
MATING FACE



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

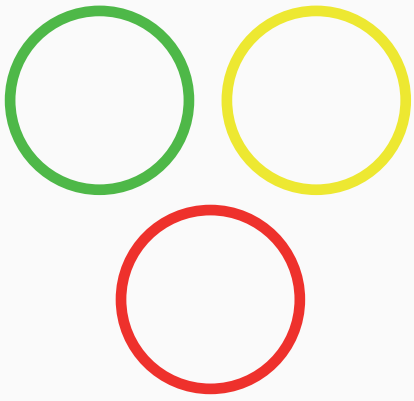
Receptacle sealing cap

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*
Size14: UTS614CCR*
* Add G for Green, Y for Yellow, R for Red

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):

First index figure
(foreign bodies protection)

Code letters
(International Protection) → **IP 6 8** ← **Second index figure**
(water protection)

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

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

SOURIAU reserves the right to make any engineering refinments, alterations or improvements deemed necessary on its products.
The dimensions appearing in this catalogue are thus subject to change without notice. When dimensions are critical detailed drawings should be requested.

UTS : Your first choice in waterproof connectors !

Notes

Notes

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

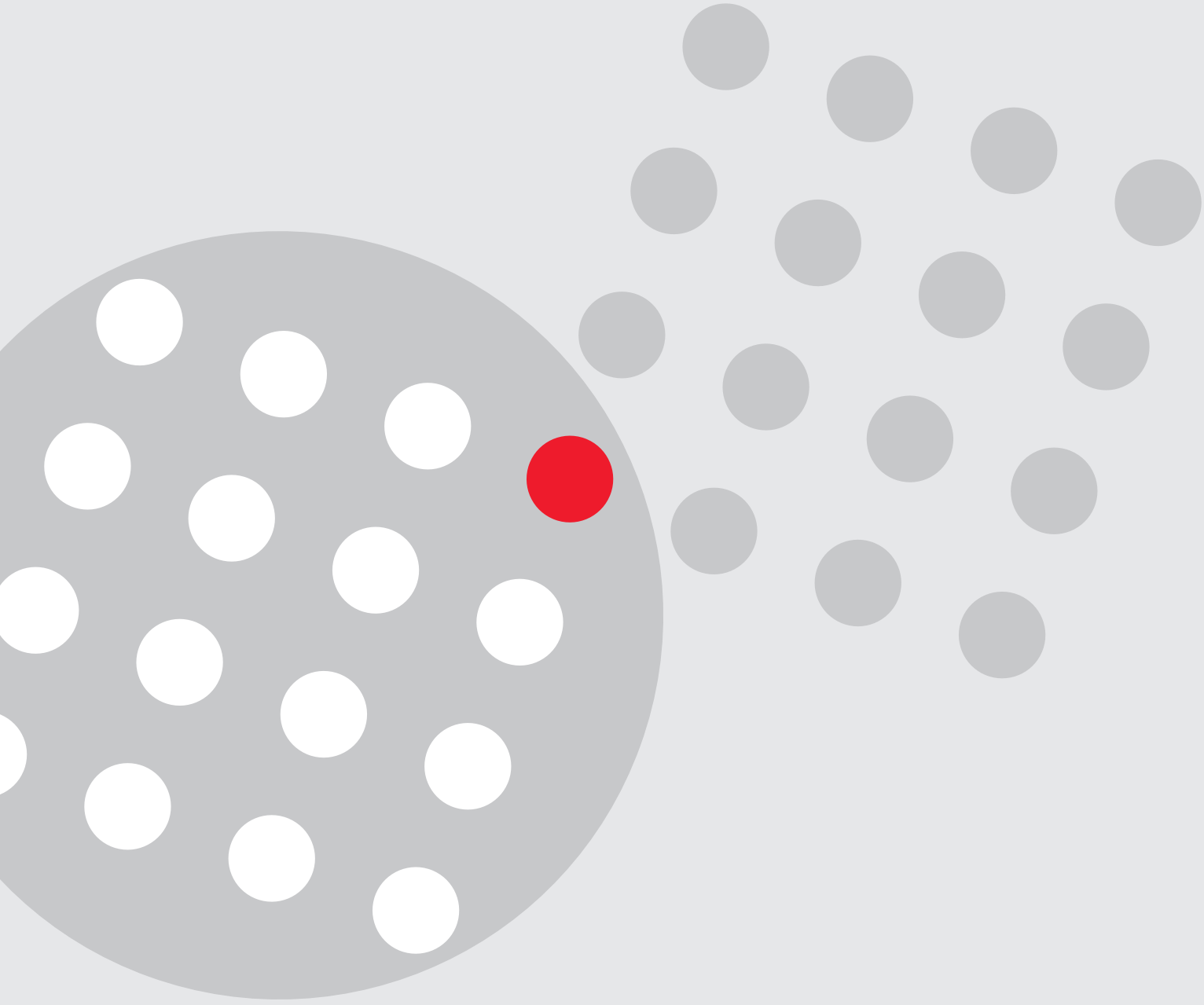
and there is more...:

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...

Oceanographic instrumentations

Coast guarding equipments

Broadcasting systems



SOURIAU
Connection Technology

www.souriau.com