


Souriau UTGX series overview



**UTGX:**  
the next generation  
of bayonet connectors  
for harsh environments.

**EATON**

*Powering Business Worldwide*



Typical applications



Off-road vehicles



Heavy equipment



Energy



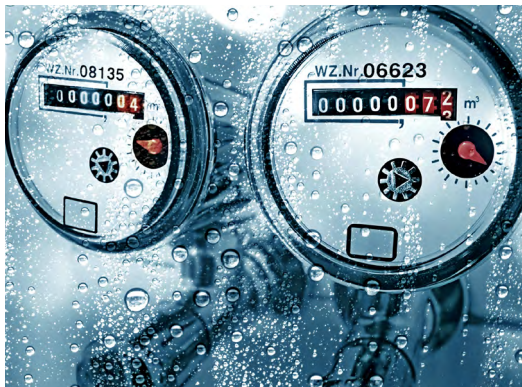
Power



Metal work



Instrumentation



Measurement



Robotic



Building automation & control



Infrastructure



Machinery



## A versatile, ruggedized solution for industrial applications

Waterproof, shock-proof and UV resistant, the UTGX series can withstand continuous underwater immersion, routine pressure washing, dirt and dust and other harsh conditions.

Ideal for both indoor and outdoor applications with a lifespan of up to 27 years in-application, the UL/IEC certified UTGX series connectors are **a safe and reliable solution**.

## Improve efficiency with lightweight, versatile and quick mating connectors

The UTGX series can be used in a wide range of configurations and electrical layouts, allowing you **to save space on your equipment**.

While the bayonet locking mechanism ensures a quick and secure connection and disconnection, other updates to the lightweight design make the UTGX series connectors easier than ever for operators to handle quickly. Especially in high-mating cycle applications, **UTGX will save time and money for your business**.

## Upgrading has never been easier

The new Souriau UTGX Series uses Trim Trio® contacts. A single design for machined, stamped and formed and highspeed contacts, making **it quicker, easier and more cost effective to upgrade**. By using the same contacts, the switch from one connector series to another doesn't require tool or panel cut-out modifications.



Outdoor & shock proof

Waterproof

UV resistant

Quick mating

# UTGX range overview

## UTGX series



Cable sealed

## UTGX standard



Sealed: IP68/69K dynamic  
UV resistant  
UL/IEC compliant



Corrosion-proof  
Plastic housing

## Contacts supplied separately



Choice of crimp contacts  
Machined / Stamped and Formed / Coaxial  
PCB contacts  
Fiber optic

## UTGX backshells

Cable sealing



## Plug



Contacts loaded  
Handsolder

## UTGX sealed unmated



Sealed mated: IP68/69K dynamic  
UV resistant  
UL/IEC compliant



Corrosion-proof  
Plastic housing

## Overmolded cable assembly

For more information on our overmolding solutions, please contact us.





**UTGX standard receptacle**

Jam nut



Square flange



In-line



Square flange



**Contacts supplied separately**



**Choice of crimp contacts**  
Machined / Stamped and Formed / Coaxial  
**PCB contacts**  
Fiber optic

**Contacts supplied separately**



**Choice of crimp contacts**  
Machined / Stamped and Formed / Coaxial  
**PCB contacts**  
Fiber optic

**UTGX backshells**

Cable sealing



**UTGX sealed unmated receptacle**

Jam nut



Square flange

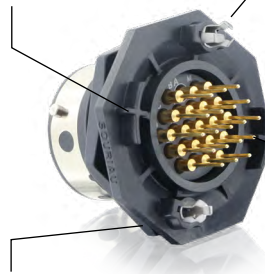


**Contacts loaded PCB  
Hand solder**

**UTGX PCB contacts**

Stand-offs to allow cleaning after soldering

Metal hold down clips lock the connector easily on the PCB and release stress on solder joints. They are also suitable for soldering the connector to the PCB through metal holes.



Pre-assembled PCB contacts  
- machined or Stamped versions available  
- different solder tail lengths possible  
- different plating options

Low profile housing to limit space between panel and PCB





## Technical features

### Materials

- Body connector and backshell: Thermoplastic
- Insert:
  - UTGX Standard, UTGX Single Wire Sealed, UTGX Screw Termination Contacts: Thermoplastic
  - UTGX Sealed Unmated Handsolder & UTGX Sealed Unmated with PC Tails Contacts: Elastomer
- Nut: Metal
- Contacts: See page 12
- Halogen free
- RoHS compliant & conforms to the Chinese standard SJ/T1166-2006 (Chinese RoHS equivalent)



### Environmental

- Temperature class: **IEC61984** from -40°C to +105°C
- Flammability rating:
  - **UL94 V-0** for UTGX standard
  - **UL94 HB** for UTGX Hi-seal
- R22 HL2 / R23 HL2 according to NF EN 45545 for UTGX standard only
- Salt spray: Per EIA-364-26: 500 hours
- UV resistant: Connector made with (f1) material according to **UL746C**
- Outdoor used following level 6/6P according to UL50/UL50E
- Aging validation: **ISO 21207 Method B, 5 cycles**. Corresponding to 27 years in an industrial environment
- Sealing:
  - UTGX Standard: **IP68/IP69K** dynamic (mated)
  - UTGX Sealed Unmated version: **IP68/IP69K** dynamic (unmated)

- UTGX Single Wire Sealed: **IP67/69K** (up to IP68 with double sealing backshell)
- UTGX Screw Termination Contacts: IP68/IP69K dynamic (mated)

**Note:** IP68=10 m underwater during 1 week

- Fluid resistance:
  - Gas and oil
  - Mineral oil
  - Acid bath
  - Basic bath
  - Chlorine

### Electrical

- In accordance with:
  - **UL 1977:** Category ECBT2 File number: E169916
  - **C22.2 n°182.3:** Category ECBT8 File number: E169916
  - **IEC61984**



**Notes:** Scan the QR code to download the certificate.

- Voltage and current information available on page 7

### Mechanical

- Durability: 500 matings and unmatings according to IEC 60512-9a
- Vibration Sinus from 10 to 2000Hz ; 20grms according to IEC60512-6-4
- Thermal shock: According to **MIL-DTL-26482** and **EIA364 32**
- IK resistors: See table below for shock resistance

Connector type	Size 10	Size 12	Size 14
<b>UTGX0 / UTGX6JC</b>	IK05 (0.7J) according to IEC62262	IK06 (1J) according to IEC62262	IK06 (1J) according to IEC62262
<b>UTGX7 / UTGX6JC</b>	IK06 (1J) according to IEC62262	IK07 (2J) according to IEC62262	IK07 (2J) according to IEC62262
<b>UTGX1JC / UTGX6JC</b>	Impact test (6.8J) according to UL746C	Impact test (6.8J) according to UL746C	Impact test (6.8J) according to UL746C



## Layouts face male contact

Electrical parameter according to IEC61984 for a pollution degree IV and overvoltage category III.

A higher voltage can be applied by selecting the appropriate connectors and contacts. Please consult us for more information.

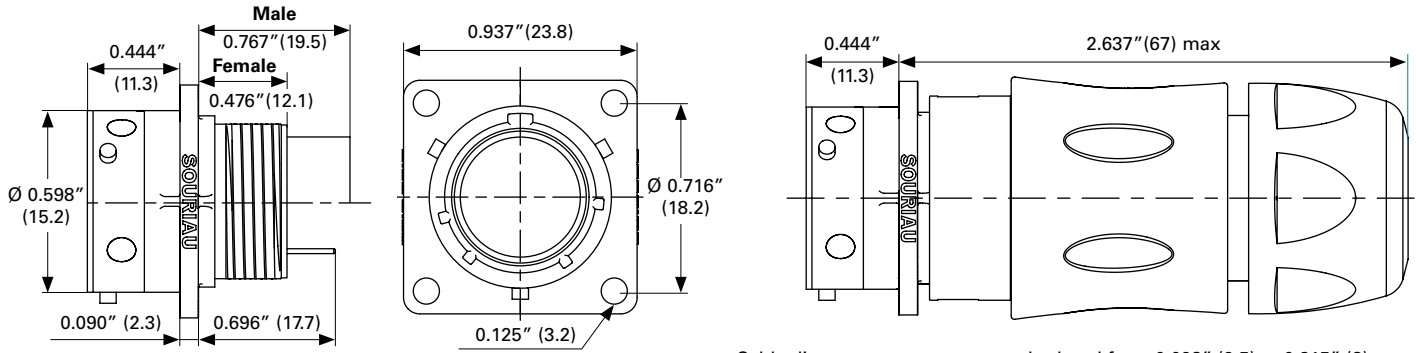
Connector size	Contacts	Description				
10	Contact #16 (Ø 1.6mm)		103 16A/300V - 2+ground		104 13A/150V - 4 contacts	
			106 – 10E6/10D6 7A/32V - 6 contacts		10E98/10D98 7A/50V - 6 contacts	
	Hybrid & others		102W2 25A/150V - 4 contact 2xØ2.4 (#12) + 2xØ1.0 (#20)		103W3 5A/32V - 6 contacts 3xØ1.6 (#16) + 3xØ1.0 (#20)	
	12	Contact #16 (Ø 1.6mm)		12E2/12D2 16A/150V - 2 contacts		12E3/12D3 16A/150V - 3 contacts
			124 – 12E4/12D4 16A/150V - 3 + ground		128 10A/80V - 8 contacts	
Contact #20 (Ø 1.0mm)			12E8/12D8 6A/32V - 8 contacts		1210 – 12E10/12D10 6A/50V - 10 contacts	
14	Contact #16 (Ø 1.6mm)		14E5/14D5 16A/150V - 5 contacts		147 – 14E7/14D7 7A/150V - 6+ground	
			1412 10A/63V - 12 contacts		1492 10A/63V - 12 contacts	
	Contact #20 (Ø 1.0mm)		14E18/14D18 5A/50V - 18 contacts		1419 – 14E19/14D19 5A/32V - 19 contacts	
	Contact #8 (Ø 3.6mm)		142G1 40A/300V - 2 + ground			
Mixed power		148 17A/230V - 8 contacts 4xØ1.6 (#16) + 3xØ2.4 (#12) + ground		14E12/14D12 4A/50V - 12 contacts 4xØ1.6 (#16) + 8xØ1.0 (#20)		14E15/14D15 4A/50V - 15 contacts 1xØ1.6 (#16) + 14xØ1.0 (#20)

Note: Layouts in blue text are UTGX sealed in unmated condition



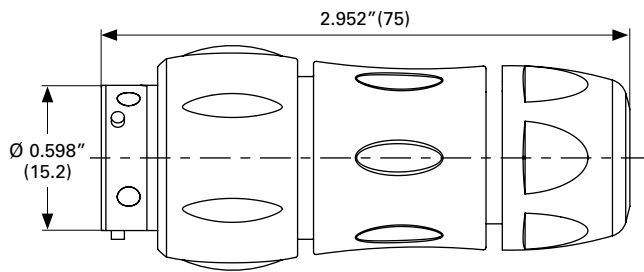
# UTGX dimensions size 10

## Square flange receptacle - UTGX0 and UTGX0JC



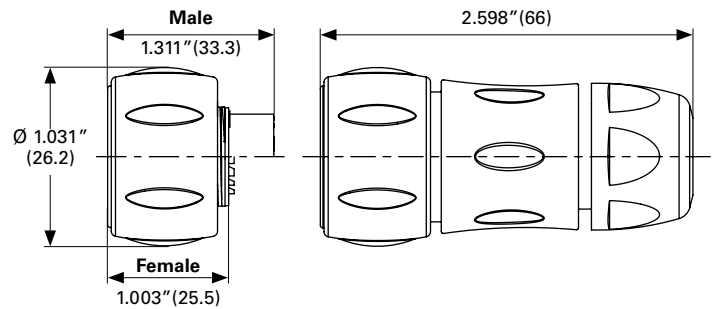
Cable diameter acceptance: standard seal from 0.098" (2.5) to 0.315" (8), reduced seal from 0.059" (1.5) to 0.196" (5).

## Free hanging - UTGX1JC



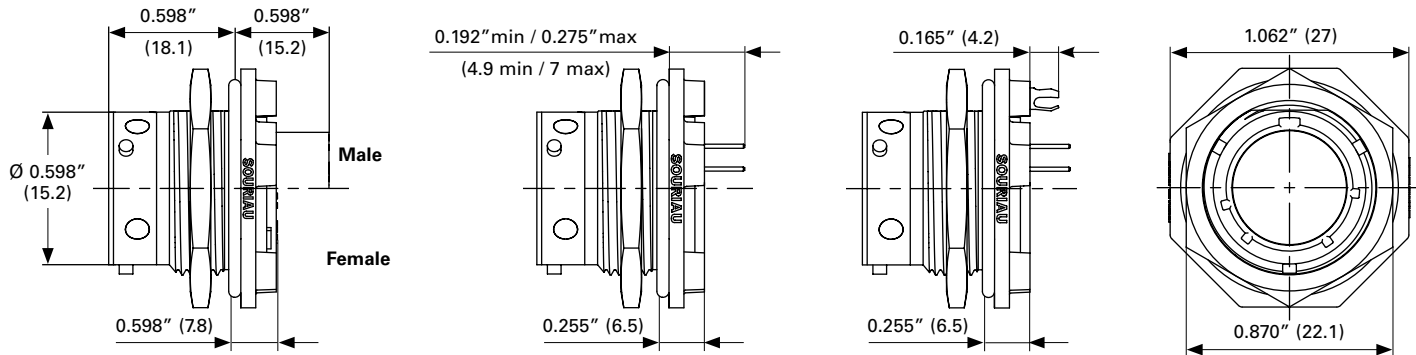
Cable diameter acceptance: standard seal from 0.098" (2.5) to 0.315" (8), reduced seal from 0.059" (1.5) to 0.196" (5).

## Plug - UTGX6 & UTGX6JC



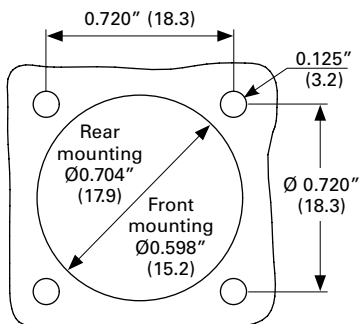
Cable diameter acceptance: standard seal from 0.098" (2.5) to 0.315" (8), reduced seal from 0.059" (1.5) to 0.196" (5).

## Jam nut receptacle UTGX7

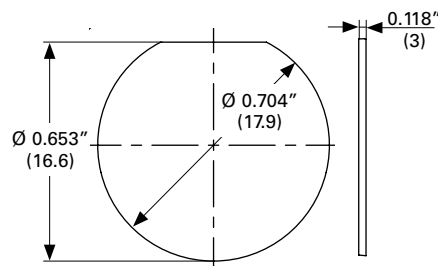


## Panel cut out

### Jam nut receptacle - UTGX0



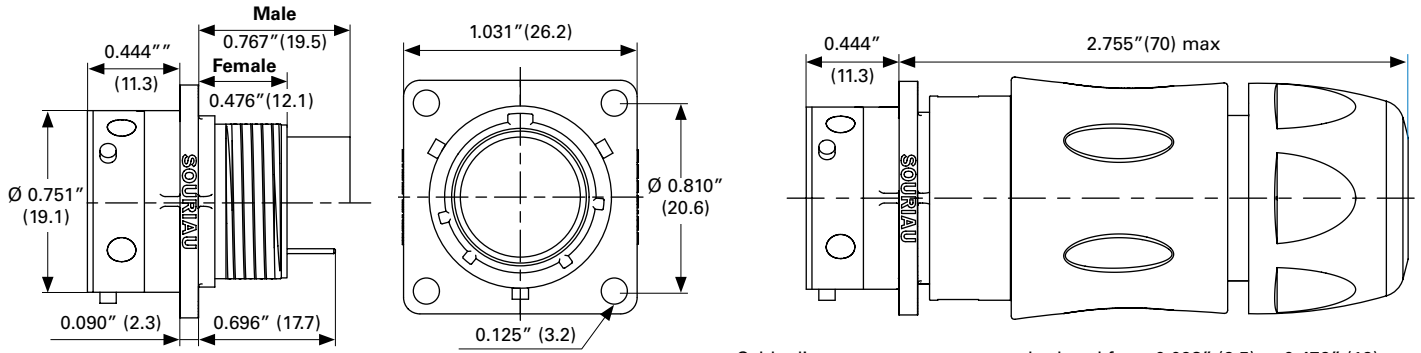
### Jam nut receptacle - UTGX7



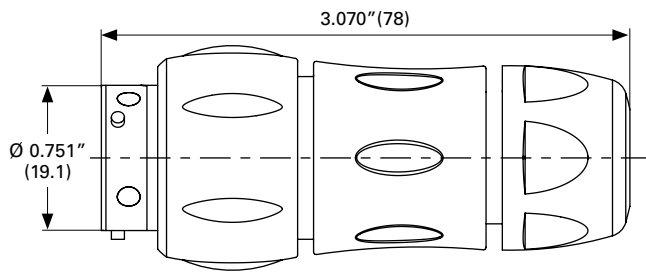
Dimensions: in (mm)



**Square flange receptacle - UTGX0 and UTGX0JC**

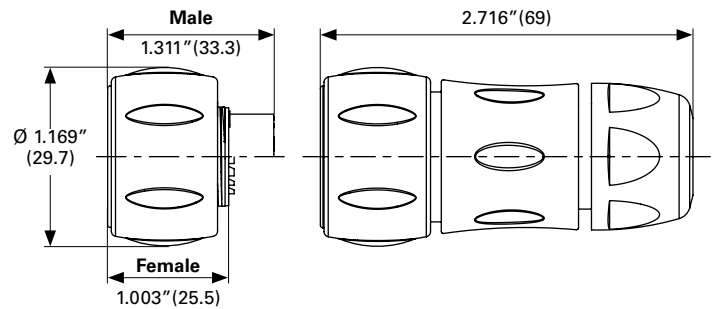


**Free hanging - UTGX1JC**



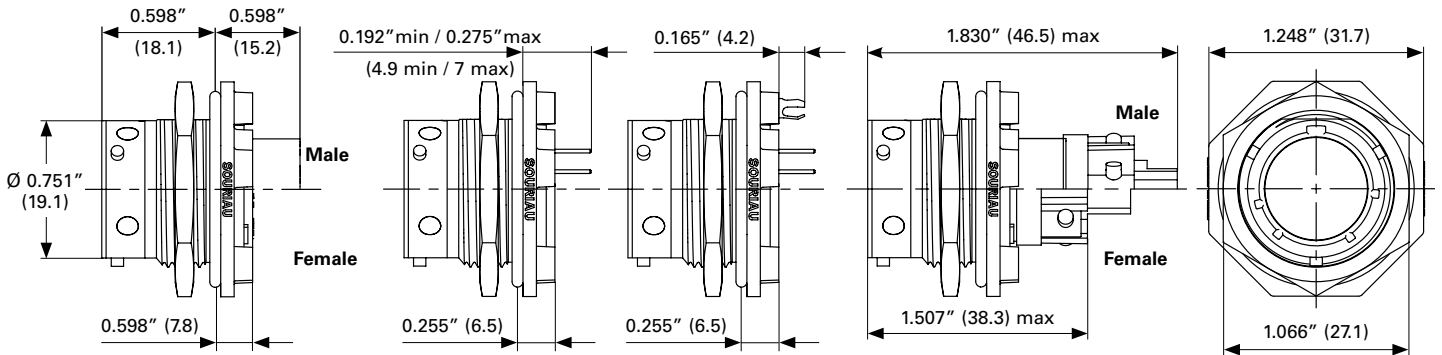
Cable diameter acceptance: standard seal from 0.098" (2.5) to 0.472" (12), reduced seal from 0.118" (3) to 0.354" (9).

**Plug - UTGX6 & UTGX6JC**



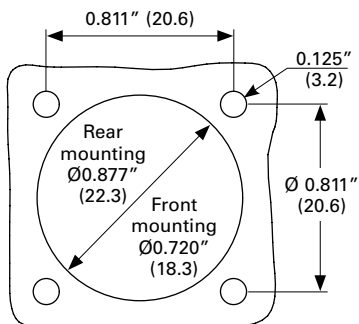
Cable diameter acceptance: standard seal from 0.098" (2.5) to 0.472" (12), reduced seal from 0.118" (3) to 0.354" (9).

**Jam nut receptacle UTGX7**

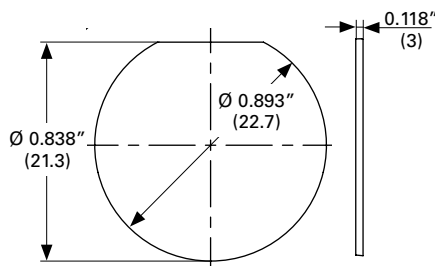


**Panel cut out**

**Jam nut receptacle - UTGX0**



**Jam nut receptacle - UTGX7**

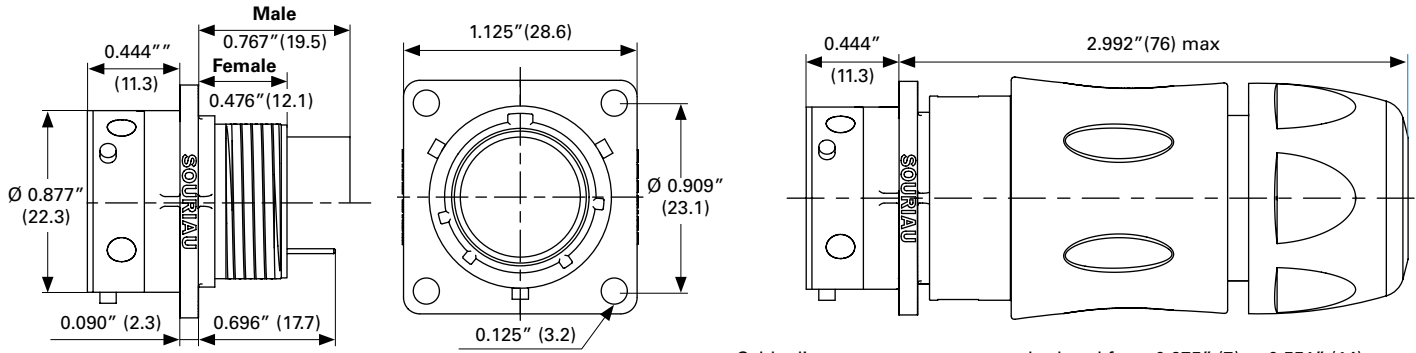


Dimensions: in (mm)



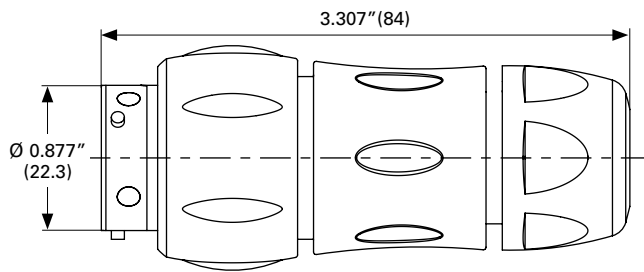
# UTGX dimensions size 14

## Square flange receptacle - UTGX0 and UTGX0JC



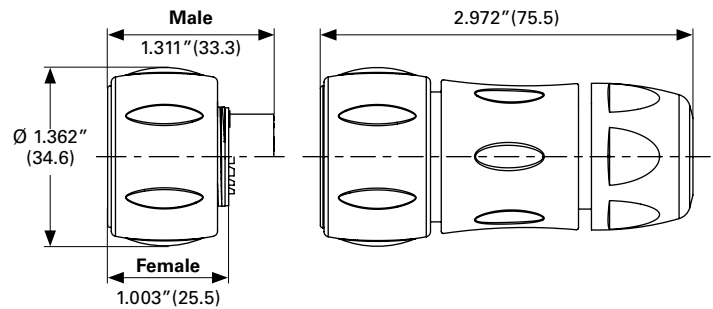
Cable diameter acceptance: standard seal from 0.275" (7) to 0.551" (14), reduced seal from 0.196" (5) to 0.472" (12).

## Free hanging - UTGX1JC



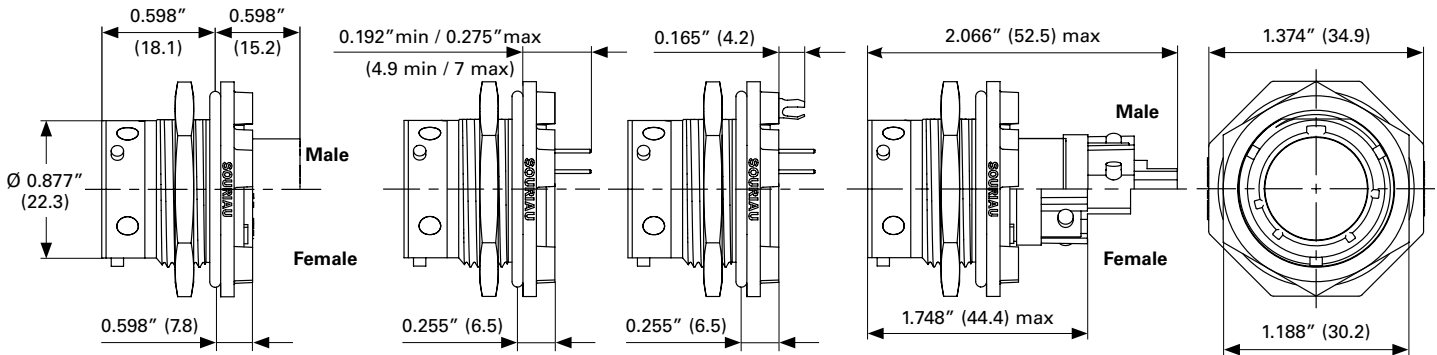
Cable diameter acceptance: standard seal from 0.275" (7) to 0.551" (14), reduced seal from 0.196" (5) to 0.472" (12).

## Plug - UTGX6 & UTGX6JC



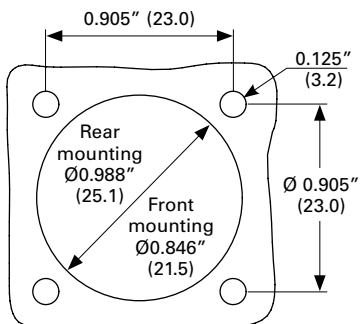
Cable diameter acceptance: standard seal from 0.275" (7) to 0.551" (14), reduced seal from 0.196" (5) to 0.472" (12).

## Jam nut receptacle UTGX7

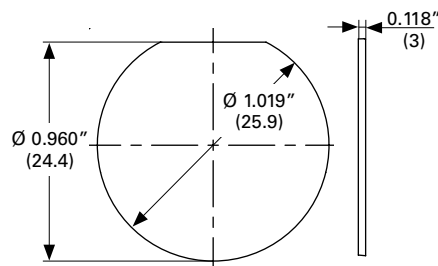


## Panel cut out

### Jam nut receptacle - UTGX0



### Jam nut receptacle - UTGX7



Dimensions: in (mm)



**Jam nut & free hanging receptacle sealing caps**



Connector size	Description	Part number
10	IP68/69K	<b>UTGX10DCG</b>
	IP68/69K - Metal terminal	<b>UTGX10DCGR</b>
12	IP68/69K	<b>UTGX12DCG</b>
	IP68/69K - Metal terminal	<b>UTGX12DCGR</b>
14	IP68/69K	<b>UTGX14DCG</b>
	IP68/69K - Metal terminal	<b>UTGX14DCGR</b>

**Square flange sealing cap**



Connector size	Description	Part number
10	IP68/69K - Metal terminal	<b>UTGX10DCGE</b>
12	IP68/69K - Metal terminal	<b>UTGX12DCGE</b>
14	IP68/69K - Metal terminal	<b>UTGX14DCGE</b>

**Plug sealing cap**



Connector size	Description	Part number
10	IP68/69K	<b>UTGX610DCG</b>
12	IP68/69K	<b>UTGX612DCG</b>
14	IP68/69K	<b>UTS614DCG133</b>

**Plastic protective cap**



Connector size	Part number receptacle cap	Part number plug cap
10	<b>85005586A</b>	<b>85005595</b>
12	<b>85005587A</b>	<b>85005596</b>
14	<b>85005588A</b>	<b>85005597</b>

**Gasket**



Connector size	Part number
10	<b>UTFD12B</b>
12	<b>UTFD13B</b>
14	<b>UTFD14B</b>

**Color coding rings**

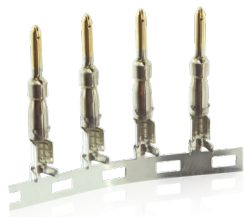


Connector size	Description	Part number receptacle	Part number plug
10	G for Green	<b>UTGX710CCRG</b>	<b>UTGX610CCRG</b>
	Y for Yellow	<b>UTGX710CCRY</b>	<b>UTGX610CCRY</b>
	R for Red	<b>UTGX710CCRR</b>	<b>UTGX610CCRR</b>
12	G for Green	<b>UTGX712CCRG</b>	<b>UTGX612CCRG</b>
	Y for Yellow	<b>UTGX712CCRY</b>	<b>UTGX612CCRY</b>
	R for Red	<b>UTGX712CCRR</b>	<b>UTGX612CCRR</b>
14	G for Green	<b>UTGX714CCRG</b>	<b>UTGX614CCRG</b>
	Y for Yellow	<b>UTGX714CCRY</b>	<b>UTGX614CCRY</b>
	R for Red	<b>UTGX714CCRR</b>	<b>UTGX614CCRR</b>

# UTGX contacts



**Machined contacts**



**Stamped & Formed contacts**



**Coaxial contacts**



**PCB contacts**

## Description

Trim Trio® contacts offer the unique feature of using the same contact style in any layout, with the same active part size (i.e. #20, #16, #12, etc.). This provides an easy solution allowing you to use only one type of contact to equip all of your Souriau connectors designed for Trim Trio® contacts.

Please note that the **UTGX series** is delivered with solder or PCB contacts for Hi-seal versions and without contacts for standard crimp versions.

The benefit of this standardization is to drastically reduce inventory costs. In addition, it eliminates the need for additional tooling and simplifies the assembly process. Souriau Trim Trio® contacts are designed for simple snap-in installation and further eliminate the need for an insertion tool.

## Packaging

Trim Trio® contacts are available in a wide variety of packaging from very small quantities (small bulk packaging) to very large quantities (reeled parts).



## Contact selector guide

### Machined contacts

Contact size	Contact type	Active area
<b>#20</b> Ø1mm	K	0.4µm Gold over 2µm Nickel min
<b>#16</b> Ø1.6mm	K	0.4µm Gold over 2µm Nickel min
	J	Gold flash over Nickel 2µm min
	T	Tin 3µm (-0/+2) over 1.3µm Nickel min
	D28 for Coax contacts only	0.75µm min Gold over 2µm Nickel min
<b>#12</b> Ø2.4mm	A	2µm Nickel + 2µm Ag
	K	0.4µm Gold over 2µm Nickel min
<b>#8</b> Ø3.6mm	A	2µm Nickel + 2µm Ag

### Stamped & Formed contacts

Contact size	Plating code	Plating description	
		Active area	Inactive area
<b>#20</b> Ø1mm	S25 (female)	0.75µm Gold min over Nickel	Gold flash over Nickel
	S26 (male)	0.75µm Gold min over Nickel	Gold flash over Nickel
	TK6	0.5µm - 2.5µm Sn pre-plated	-
<b>#16</b> Ø1.6mm	S31	Gold flash over Nickel	Crimped area: 1.3µm Tin min over Nickel
	S18	0.75µm Gold min over Nickel	Other areas: 1.3µm Tin min
	D70	0.13µm Gold min over Nickel	Gold flash over Nickel
	TK6	0.5µm - 2.5µm Sn pre-plated	-



## Extraction tool



RX20D44



RX2025GE1



51060210924



51060210936



RX2031J

Contact size	Part number
#20	RX20D44
#16	RX2025GE1
#16 Long endurance tool	RX2031J
#12	51060210924
#8	51060210936

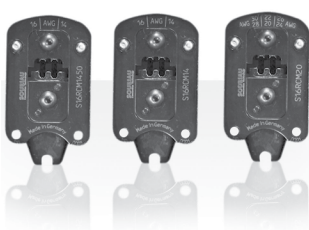
## Crimp tooling

### Tooling



Description	Part number
Handle (without head)	Shandles
Box containing handle and several crimp tooling	Toolkit

### Crimp tooling (without Shandles)



Contact size	Contacts	Part number of head
Standard contacts #16 Ø 1.6mm	RM/RC 28M1K <sup>(1)</sup>	S16RCM20*
	RM/RC 24M9K <sup>(1)</sup>	S16RCM20*
	RM/RC 20M13K <sup>(1)</sup>	S16RCM20*
	RM/RC 20M12K <sup>(1)</sup>	S16RCM20*
	RM/RC 16M23K <sup>(1)</sup>	S16RCM16*
	RM/RC 14M30K <sup>(1)</sup>	S16RCM14*
	SM/SC 24ML1TK6 <sup>(1)</sup>	S16SCM20*
	SM/SC 20ML1TK6 <sup>(1)</sup>	S16SCM20*
	SM/SC 16ML1TK6 <sup>(1)</sup>	S16SCML1*
	SM/SC 14ML1TK6 <sup>(1)</sup>	S16SCML1*
Standard contacts #20 Ø 1mm	SM/SC 16ML11TK6 <sup>(1)</sup>	S16SCML11*
	RM/RC 24W3K <sup>(1)</sup>	S20RCM*
	RM/RC 20W3K <sup>(1)</sup>	S20RCM*
	RM/RC 18W3K <sup>(1)</sup>	S20RCM*
	SM/SC 24WL3 <sup>(1)(2)</sup>	S20SCM20*
	SM/SC 20WL3 <sup>(1)(2)</sup>	S20SCM20*

### Crimp tooling #12 and #8



Contact size	Part number hand tool	Part number positioner + locator setting
Standard contacts #12 Ø 2.4mm	M317	VGE10077A
Standard contacts #8 Ø 3.6mm	M317	VGE10078A







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