



The next generation  
of bayonet connectors  
for harsh environments





# Souriau UTGX series

## Typical applications



Off-road vehicles



Heavy equipment



Energy



Power



Metal work



Instrumentation



Measurement



Robotic



Building automation & control



Infrastructure



Machinery



# Souriau UTGX series

## 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



# Souriau UTGX series

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# Souriau UTGX series



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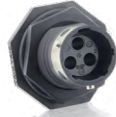


## UTGX Series



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

## Overmoulded cable assembly



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



**UTGX Standard receptacle**

Jam nut



Square flange



**Contacts supplied separately**



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

In-line



**Contacts supplied separately**



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

Square flange



**UTGX backshells**

Cable sealing



**UTGX sealed unmated receptacle**

Jam nut



**Contacts loaded PCB  
Handsolder**

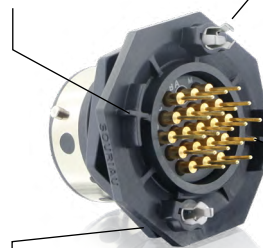
Square flange



**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 128
- 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 pages 13 to 15 and on each layout pages

### 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

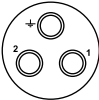
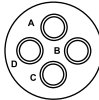
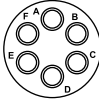
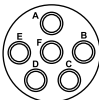
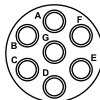
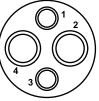
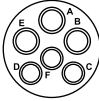
Connector type	Size 10	Size 12	Size 14
UTGX0 / UTGX6JC	IK05 (0.7J) according to IEC62262	IK06 (1J) according to IEC62262	IK06 (1J) according to IEC62262
UTGX7 / UTGX6JC	IK06 (1J) according to IEC62262	IK07 (2J) according to IEC62262	IK07 (2J) according to IEC62262
UTGX1JC / UTGX6JC	Impact test (6.8J)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

Contacts	Description (Mating face view male connectors)		
<b>Contact #16</b> (Ø 1.6 mm)			
	103 16A/300V 2 + ground Page 20	104 13A/150V 4 contacts Page 43	
<b>Contact #20</b> (Ø 1.0 mm)			
	106 – 10E6/10D6 7A/32V 6 contacts Page 58	10E98/10D98 7A/50V 6 contacts Page 63	10E7/10D7 7A/50V 7 contacts Page 72
<b>Hybrid &amp; others</b>			
	102W2 25A/150V 4 contact 2xØ 2.4 (#12) + 2xØ 1.0 (#20) Page 38	103W3 5A/32V 6 contacts 3xØ 1.6 (#16) + 3xØ 1.0 (#20) Page 52	

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

Contacts #20:  
from AWG 26 to 18  
0.13 to 0.93 mm<sup>2</sup>

Contacts #16:  
from AWG 30 to 14  
0.05 to 2.5 mm<sup>2</sup>

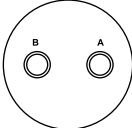
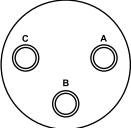
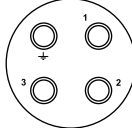
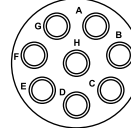
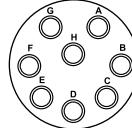
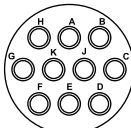
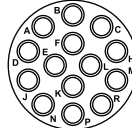
Contacts #12:  
from AWG 20 to 12  
0.13 to 4 mm<sup>2</sup>

Contacts #8:  
from AWG 16 to 8  
1.5 to 10 mm<sup>2</sup>

### 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.

Contacts	Description (Mating face view male connectors)			
<b>Contact #16</b> (Ø 1.6 mm)				
	12E2/12D2	12E3/12D3	124 – 12E4/12D4	128
	16A/150V	16A/150V	16A/150V	10A/80V
	2 contacts Page 16	3 contacts Page 28	3 + ground Page 33	8 contacts Page 76
<b>Contact #20</b> (Ø 1.0 mm)				
	12E8/12D8	1210 – 12E10/12D10	12E14/12D14	
	6A/32V 8 contacts Page 81	6A/50V 10 contacts Page 91	5A/32V 14 contacts Page 110	

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

Contacts #20:  
from AWG 26 to 18  
0.13 to 0.93 mm<sup>2</sup>

Contacts #16:  
from AWG 30 to 14  
0.05 to 2.5 mm<sup>2</sup>

Contacts #12:  
from AWG 20 to 12  
0.13 to 4 mm<sup>2</sup>

Contacts #8:  
from AWG 16 to 8  
1.5 to 10 mm<sup>2</sup>



### 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.

Contacts	Description (Mating face view male connectors)			
<b>Contact #16</b> (Ø 1.6 mm)				
	14E5/14D5 16A/150V 5 contacts Page 48	147 – 14E7/14D7 7A/150V 6 + ground Page 67	1412 10A/63V 12 contacts Page 96	1492 10A/63V 12 contacts Page 105
	<hr/>			
	<b>Contact #20</b> (Ø 1.0 mm)			
14E18/14D18 5A/50V 18 contacts Page 118		1419 – 14E19/14D19 5A/32V 19 contacts Page 122		
<hr/>				
<b>Contact #8</b> (Ø 3.6 mm)				
	142G1 40A/300V 2 + ground Page 25			
<hr/>				
<b>Mixed power</b>				
	148 17A/230V 8 contacts 4xØ 1.6 (#16) + 3xØ 2.4 (#12) + ground Page 85	14E12/14D12 4A/50V 12 contacts 4xØ 1.6 (#16) + 8xØ 1.0 (#20) Page 101	14E15/14D15 4A/50V 15 contacts 1xØ 1.6 (#16) + 14xØ 1.0 (#20) Page 114	
	<hr/>			

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

Contacts #20:  
from AWG 26 to 18  
0.13 to 0.93 mm<sup>2</sup>

Contacts #16:  
from AWG 30 to 14  
0.05 to 2.5 mm<sup>2</sup>

Contacts #12:  
from AWG 20 to 12  
0.13 to 4 mm<sup>2</sup>

Contacts #8:  
from AWG 16 to 8  
1.5 to 10 mm<sup>2</sup>

# 2

## Connectors

### Overmoulded cable assembly

2

Overmoulding is a process that further enhances the sealing properties of the **UTGX** range, especially over many years of

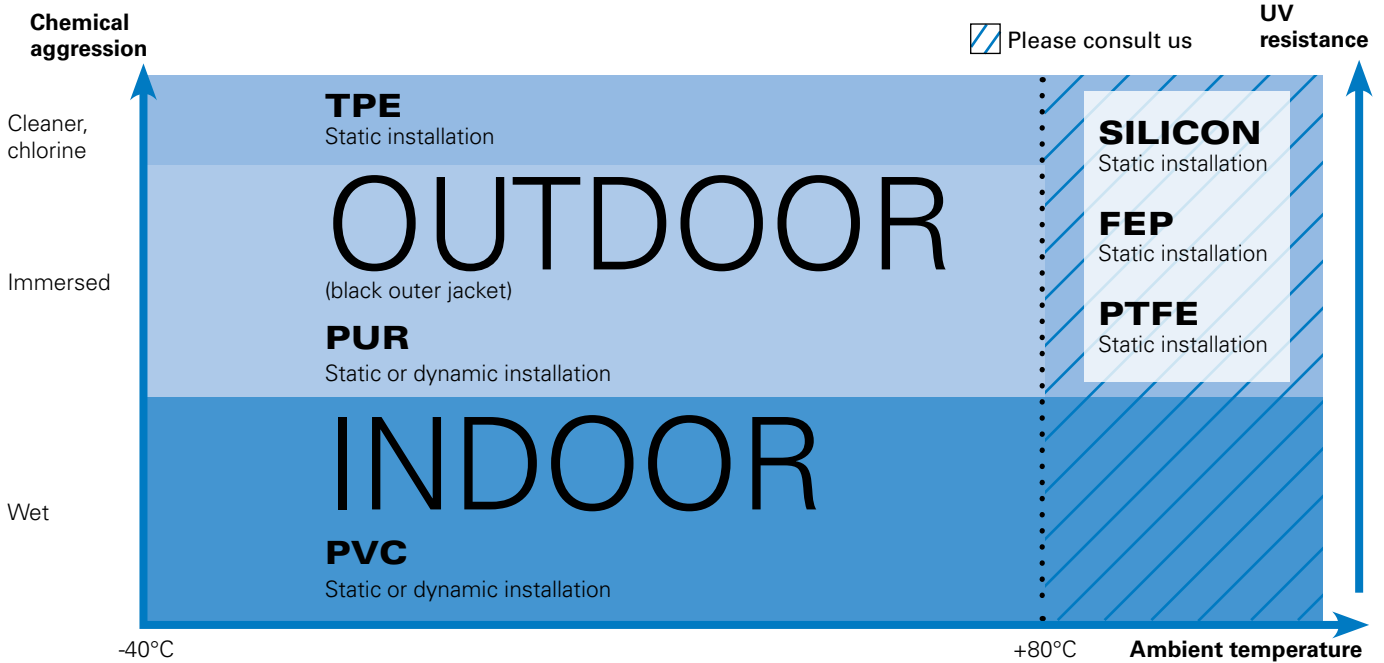
use. Overmoulding provides the opportunity to change the cable exit from straight to 90 degrees and avoid stress on

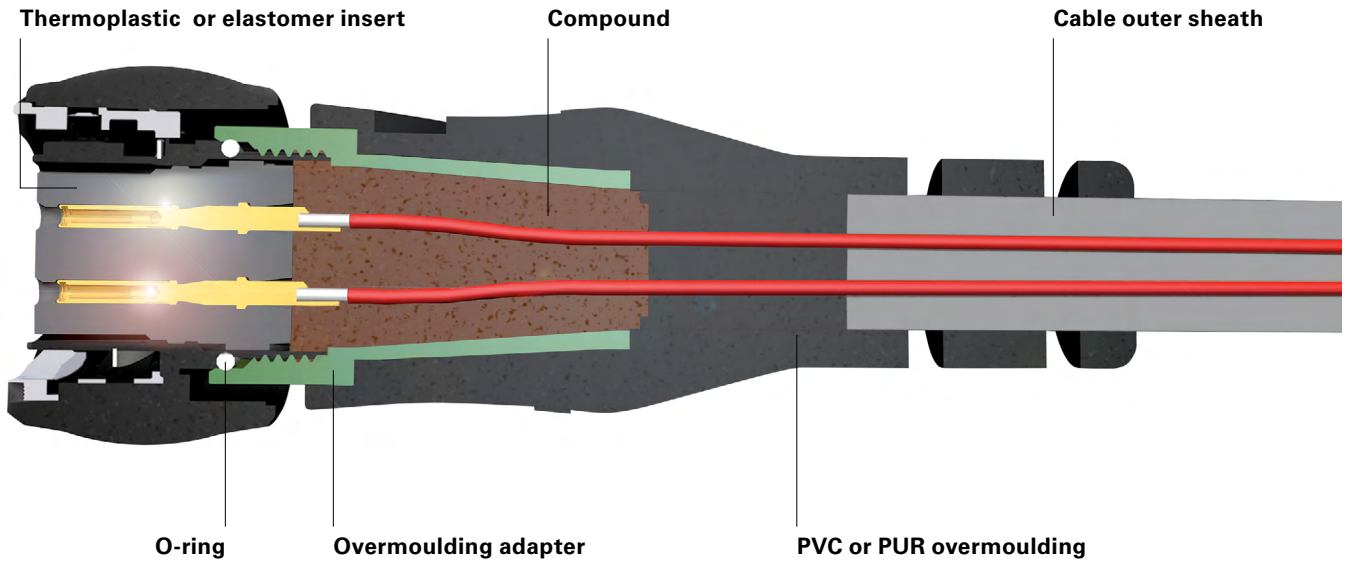
the cable terminated to the connector. Also, as the wires are encapsulated inside the moulding, a barrier is created

which prevents any liquid from entering the equipment through the connector if the cable jacket is breached.



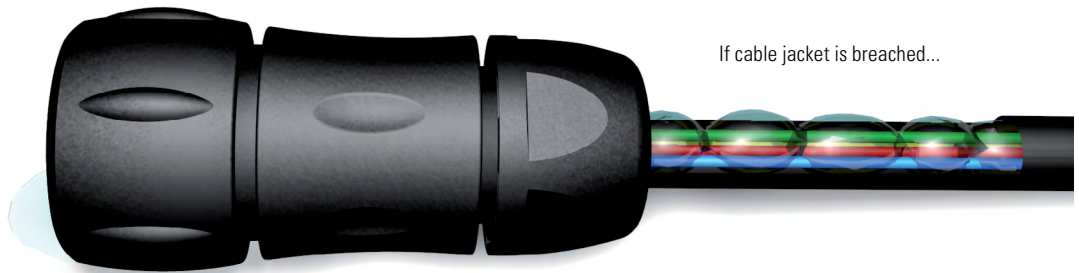
### How to choose the outer jacket material





Connector with cable gland backshell

GOOD



...water ingress unhampered, leading to damage.

Overmoulded connector

BEST



...prevents water ingress via capillary action.





### HAUTGX standard offering

**Cable**

- PVC outer sheath (grey color)
- Wire section 1.5 mm<sup>2</sup> for #16 contact
- Wire section 0.5 mm<sup>2</sup> for #20 contact
- 300V
- Unshielded
- Flammability rating
- Operating temperature: -40°C +70°C

### Overmoulding specifications

Plating	Salt spray	Temperature*	Waterproof*	Mechanical
No plating	500 H	-40°C up to + 105°C	IP68/IP69K dynamic (mated)	500 matings/unmatings

\* With appropriate cable and overmoulding

### Cable information

Range of temperature	Rated voltage	Wire section	Harmonized reference
Occasional flexing: -5°C up to +70°C	U0/U: 300/500V	Layouts with #16 contact: wire section 1.5 mm <sup>2</sup>	H05 VV - F XX
Fixed installation: -40°C up to +80°C		Layouts with #20 contact: wire section 0.5 mm <sup>2</sup>	

### Example of customized cable assemblies



Overmoulding on curly cable



Overmoulding with double ends



Harness for PCB connection

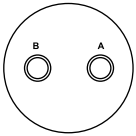




### Connector part number

#### UTGX 12E2/12D2

2 contacts + ground  
13A/600V  
per UL 1977  
with AWG16 wire



	Contact type	Connector type	Backshell	Part number	
				Male insert	Female insert
Hand solder electrical contacts loaded see page 19		Square flange receptacle	Without (Fig. 1)	<b>UTGX012E2P</b>	<b>UTGX012E2S</b>
		Plug	Without (Fig. 5)	<b>UTGX612E2P</b>	<b>UTGX612E2S</b>
			Cable gland (Fig. 3)	<b>UTGX6JC12E2P</b>	<b>UTGX6JC12E2S</b>
PCB contacts loaded see page 19		Jam nut receptacle	Without (Fig. 4)	<b>UTGX712E2P</b>	<b>UTGX712E2S</b>
		Square flange receptacle	Without (Fig. 2)	<b>UTGX012D2P</b>	<b>UTGX012D2S</b>
			Jam nut receptacle with stand off and without hold down clip	Without (Fig. 5)	<b>UTGX712D2P</b>
		Jam nut receptacle with stand off and with hold down clips	Without (Fig. 6)	<b>UTGX712D2P32</b>	<b>UTGX712D2S32</b>

For discrimination/keying methods see page 154

Sealed unmatd

### Overmoulded cable assembly part numbers

Overmoulding type	Connector type	Wire size (mm <sup>2</sup> )	Harmonized cable part number <sup>(1)</sup>	Part number (length: 1 m.)*	
				Male plug	Female plug
Straight ending	Plug	1.5	H05 VV - F 3x1.5	<b>HAUTGX12E2PST1M</b>	<b>HAUTGX12E2SST1M</b>
Right angle ending	Plug	1.5	H05 VV - F 3x1.5	<b>HAUTGX12E2PRA1M</b>	<b>HAUTGX12E2SRA1M</b>

(1) Other cable available on demand

\* Other lengths available on demand

Note: Overmoulded cable assembly dimensions available page 145

**Dimensions in mm** (For mated connector lengths see page 145)

**Square flange receptacle - UTGX0**

2

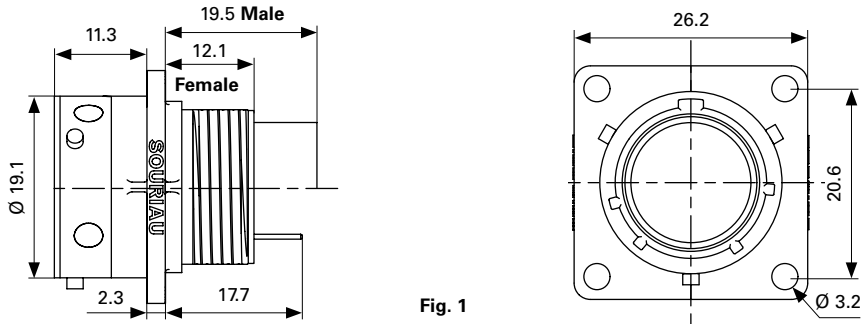


Fig. 1

**Plug - UTGX6 & UTGX6JC**

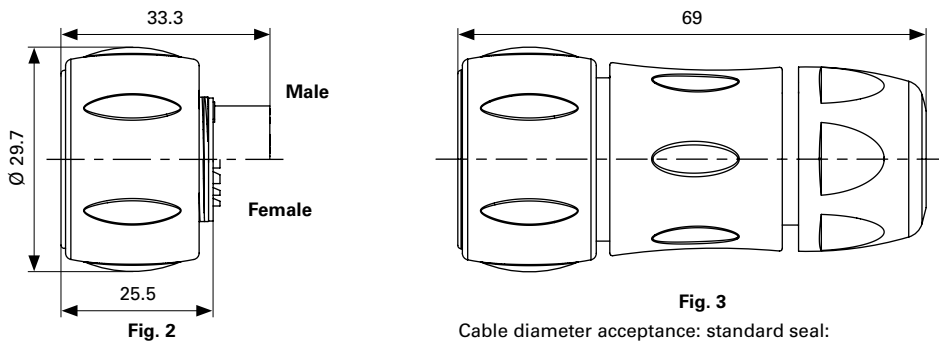


Fig. 3

Cable diameter acceptance: standard seal: from 2.5 mm to 12 mm, reduced seal: from 3 mm to 9 mm

**Jam nut receptacle UTGX7**

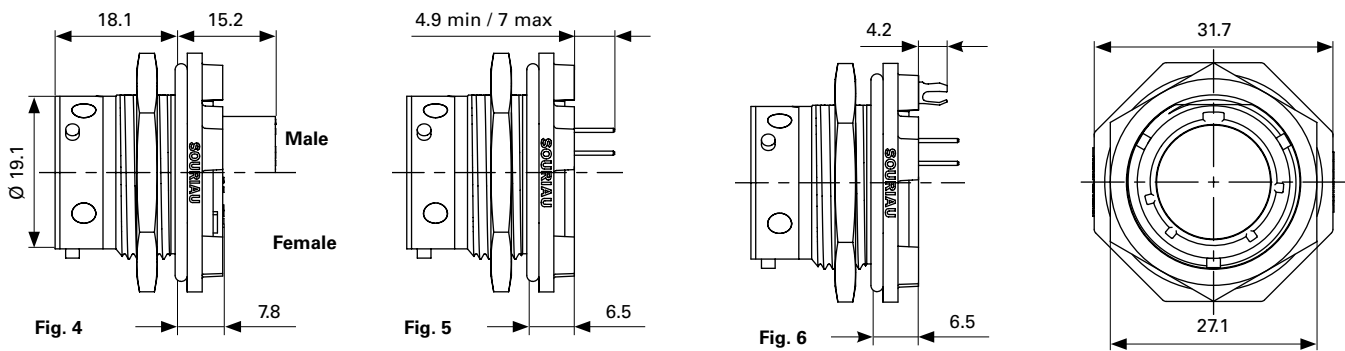


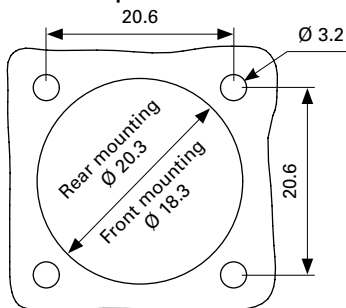
Fig. 4

Fig. 5

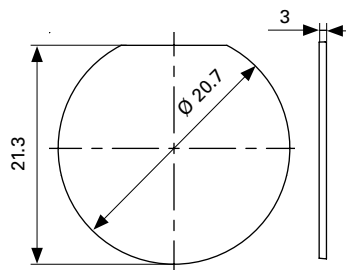
Fig. 6

**Panel cut out**

**Jam nut receptacle - UTGX0**



**Jam nut receptacle - UTGX7**





# 2

## Connectors

12E2/12D2 (Shell size 12, 2x#16)

### Accessories

2

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



Description	Part number
IP68/69K	UTGX12DCG
IP68/69K - Metal terminal	UTGX12DCGR

#### Square flange sealing cap



Description	Part number
IP68/69K - Metal terminal	UTGX12DCGE

#### Plug sealing cap



Description	Part number
IP68/69K	UTGX612DCG

#### Plastic protective cap



Part number receptacle cap	Part number plug cap
85005587A	85005596

#### Gasket



Part number
UTFD13B

#### Color coding rings



Description	Part number receptacles	Part number plugs
G for Green	UTGX712CCRG	UTGX612CCRG
Y for Yellow	UTGX712CCRY	UTGX612CCRY
R for Red	UTGX712CCRR	UTGX612CCRR

## Contacts

Contact size	Contact type	Plating	Cable acceptance (AWG)	Cable acceptance (mm <sup>2</sup> )	Wire stripping length
#16	Hand solder Loaded in the connector	Min 0.4μ gold over 0.8μ Ni	18 - 14	0.80 - 2.48	5 mm
	PCB Machined <sup>(1)</sup>	Min 0.4μ gold over 0.8μ Ni	–	–	–

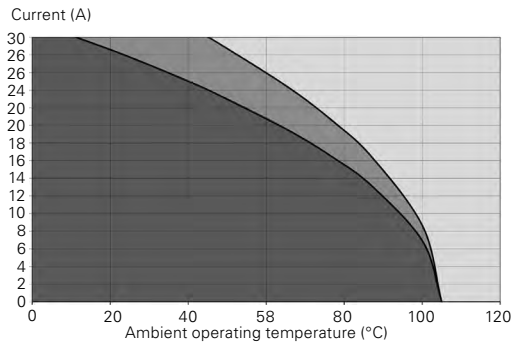
(1): For dimensions see pages 136 or 137

## Electrical characteristics

UL	CSA	IEC
13A 600V with AWG16 wire	13A 600V with AWG16 wire	16A 150V 2.5kV 3

Electrical information according to the IEC 61984, with pollution degree IV and overvoltage category III.

## UTGX 12E2/12D2 derating curves



- Current use
- Limited use
- Not recommended use

### Test conditions

Contact used: machined contacts

Wires used: 1.31 mm<sup>2</sup>

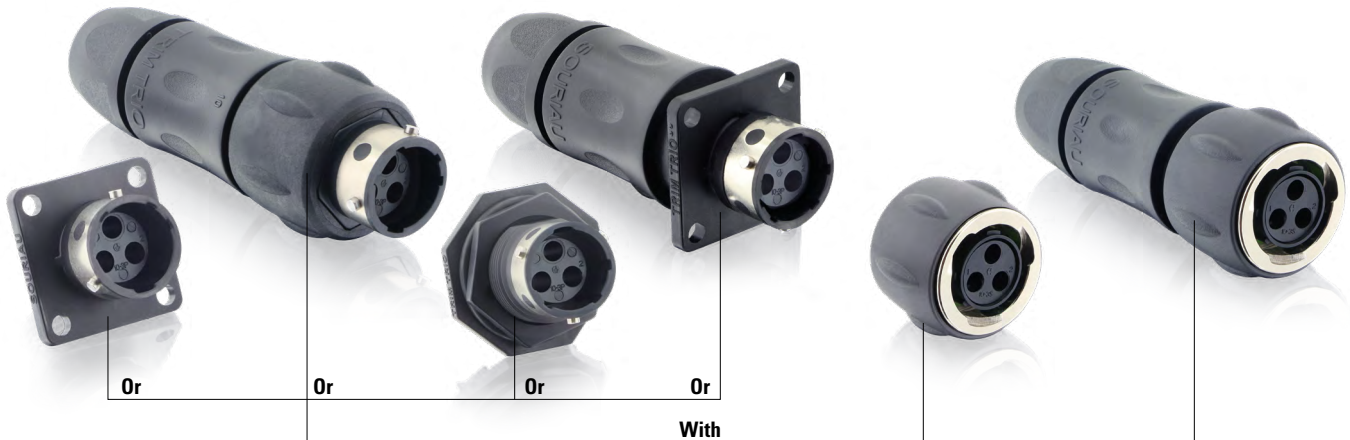
Derating curves based on continuous current application.

# 2

## Connectors

103 (Shell size 10, 2 + ground, 3x#16)

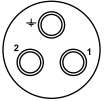
2



### Connector part number

#### UTGX 103

2 contacts + ground  
10A/500V  
per UL 1977 with  
AWG16 wire



Contact type	Connector type	Backshell	Part number	
			Male insert	Female insert
Crimp contacts supplied separately see page 24	Square flange receptacle	Without (Fig. 1)	<b>UTGX0103P</b>	<b>UTGX0103S</b>
	Square flange receptacle	Cable gland (Fig. 2)	<b>UTGX0JC103P</b>	<b>UTGX0JC103S</b>
	Free hanging receptacle	Cable gland (Fig. 3)	<b>UTGX1JC103P</b>	<b>UTGX1JC103S</b>
	Plug	Without (Fig. 4) Cable gland (Fig. 5)	<b>UTGX6103P</b> <b>UTGX6JC103P</b>	<b>UTGX6103S</b> <b>UTGX6JC103S</b>
PCB contacts supplied separately see page 24	Jam nut receptacle	Without (Fig. 6)	<b>UTGX7103P</b>	<b>UTGX7103S</b>
	Jam nut receptacle	Without (Fig. 7)	<b>UTGX7103P</b>	<b>UTGX7103S</b>

### Overmoulded cable assembly part numbers

Overmoulding type	Connector type	Wire size (mm <sup>2</sup> )	Harmonized cable part number <sup>(1)</sup>	Part number (length: 1 m.)*	
				Male plug	Female plug
Straight ending	Plug	1.5	H05 VV - F 3x1.5	<b>HAUTGX103PST1M</b>	<b>HAUTGX103SST1M</b>
Right angle ending	Plug	1.5	H05 VV - F 3x1.5	<b>HAUTGX103PRA1M</b>	<b>HAUTGX103SRA1M</b>

(1) Other cable available on demand

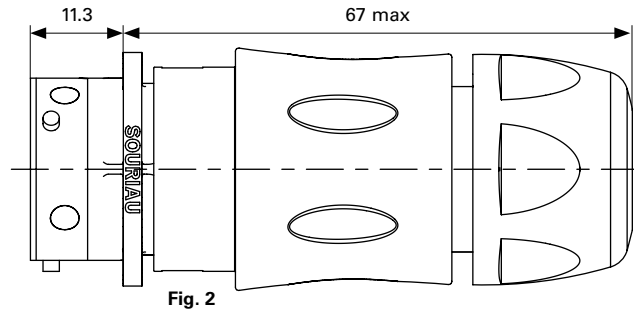
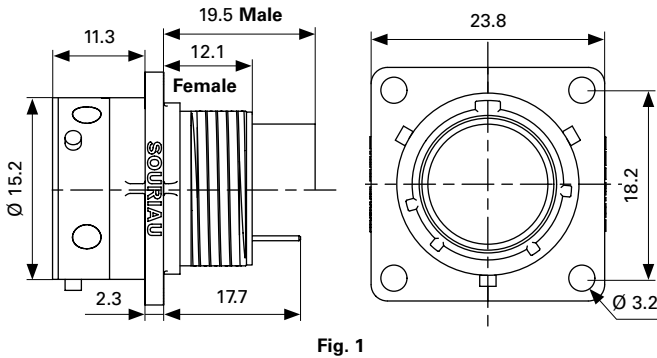
\* Other lengths available on demand

Note: Overmoulded cable assembly dimensions available page 145



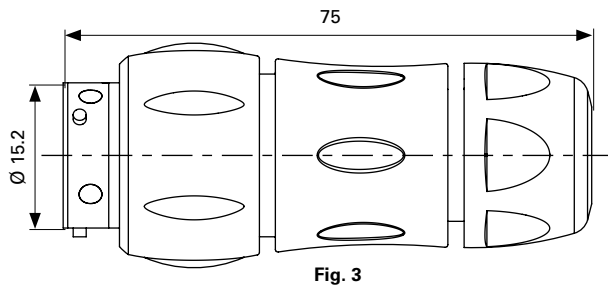
**Dimensions in mm** (For mated connector lengths see page 145)

**Square flange receptacle - UTGX0 and UTGX0JC**



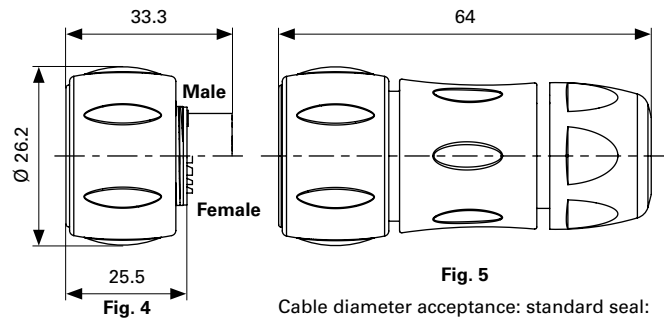
Cable diameter acceptance: standard seal: from 2.5 mm to 8 mm, reduced seal: from 1.5 mm to 5 mm

**Free hanging - UTGX1JC**



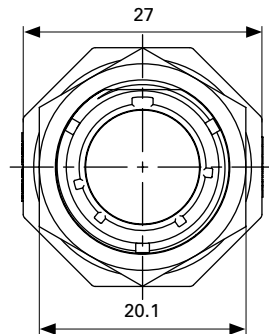
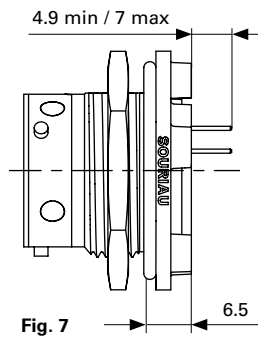
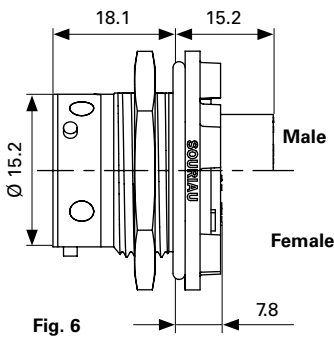
Cable diameter acceptance: standard seal: from 2.5 mm to 8 mm, reduced seal: from 1.5 mm to 5 mm

**Plug - UTGX6 & UTGX6JC**



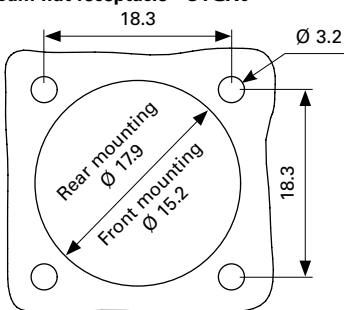
Cable diameter acceptance: standard seal: from 2.5 mm to 8 mm, reduced seal: from 1.5 mm to 5 mm

**Jam nut receptacle UTGX7**

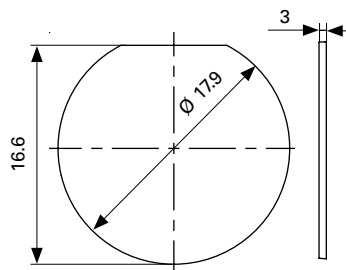


**Panel cut out**

**Jam nut receptacle - UTGX0**



**Jam nut receptacle - UTGX7**



# 2

## Connectors

103 (Shell size 10, 2 + ground, 3x#16)

### Accessories

2

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



Description	Part number
IP68/69K	UTGX10DCG
IP68/69K - Metal terminal	UTGX10DCGR

#### Plug sealing cap



Description	Part number
IP68/69K	UTGX610DCG

#### Plastic protective cap



Part number receptacle cap	Part number plug cap
85005586A	85005595

#### Color coding rings



Description	Part number receptacles	Part number plugs
G for Green	UTGX710CCRG	UTGX610CCRG
Y for Yellow	UTGX710CCRY	UTGX610CCRY
R for Red	UTGX710CCRR	UTGX610CCRR

103 (Shell size 10, 2 + ground, 3x#16)

## Tooling

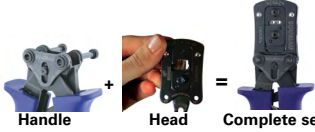
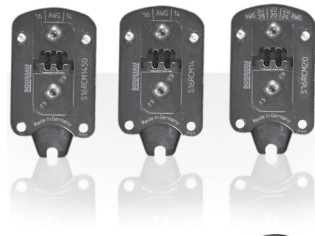
### Tooling



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

2

### Crimp tooling (without Shandles)



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

(1): Example of plating, for other plating options see page 129

\* Heads to be used with handle PN: SHANDLES

### Extraction tool #16



Description	Part number
<b>Fig. 1</b>	<b>RX2025GE1</b>
<b>Fig. 2 - Long endurance tool</b>	<b>RX2031J</b>



### Contacts #16

2

Contact style	Contact type	Cable acceptance (AWG)	Cable acceptance (mm <sup>2</sup> )	Part number Male	Part number Female	Max wire Ø (mm)	Max insulator Ø (mm)
Crimp contacts	Machined	30-26	0.48-0.08	RM28M1K <sup>(1)</sup>	RC28M1K <sup>(1)</sup>	0.55	1.00
		26-24	0.13-0.25	RM24M9K <sup>(1)</sup>	RC24M9K <sup>(1)</sup>	0.80	1.58
		20-20	0.32-0.52	RM20M13K <sup>(1)</sup>	RC20M13K <sup>(1)</sup>	1.15	1.80
		20-20	0.32-0.52	RM20M12K <sup>(1)</sup>	RC20M12K <sup>(1)</sup>	1.15	2.20
		20-16	0.52-1.48	RM16M23K <sup>(1)</sup>	RC16M23K <sup>(1)</sup>	1.80	3.20
		16-14	1.48-2.48	RM14M30K <sup>(1)</sup>	RC14M30K <sup>(1)</sup>	2.30	3.20
	Stamped & Formed reeled contacts See note <sup>(2)</sup> for loose piece	26-24	0.13-0.25	SM24M1TK6 <sup>(1)(2)</sup>	SC24M1TK6 <sup>(1)(2)</sup>	–	0.90-1.58
		20-20	0.32-0.52	SM20M1TK6 <sup>(1)(2)</sup>	SC20M1TK6 <sup>(1)(2)</sup>	–	1.20-2.10
		18-16	0.80-1.48	SM16M1TK6 <sup>(1)(2)</sup>	SC16M1TK6 <sup>(1)(2)</sup>	–	3.20
		18-16	0.80-1.48	SM16M11TK6 <sup>(1)(2)</sup>	SC16M11TK6 <sup>(1)(2)</sup>	–	3.00
		14	2.48	SM14M1TK6 <sup>(1)(2)</sup>	SC14M1TK6 <sup>(1)(2)</sup>	–	3.20
		PCB	Machined <sup>(3)</sup>	–	RM20M12E83K <sup>(1)</sup>	RC20M12E84K <sup>(1)</sup>	–
Coaxial	Cable multipiece	see pages 133 to 134		RMDXK10D28	RCDXK1D28	–	–
	Cable monocrimp			RMDX60xxD28	RCDX60xxD28	–	–
	Twisted pair multipiece			RMDXK10D28 + yorx090	RCDXK1D28 + yorx090	–	–
	Twisted pair monocrimp			RMDX60xxD28	RCDX60xxD28	–	–
Fiber optic	POF contacts (Plastic Optical Fiber)	–	RMPOF1000	RCPOF1000B	–	–	

(1): Example of plating, for other plating see page 129  
 (3): For dimensions see page 136

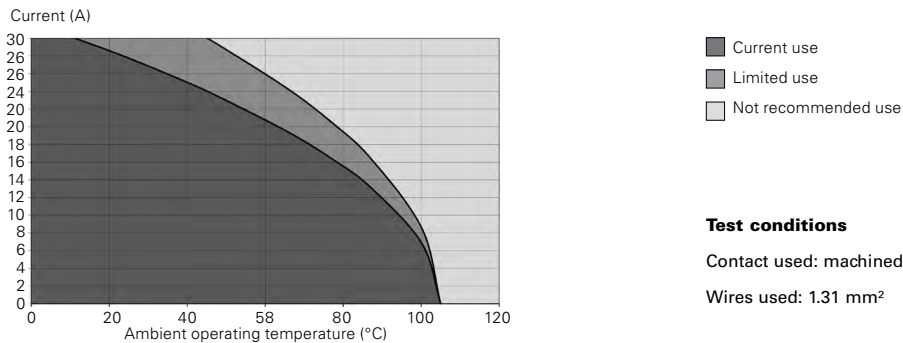
(2): Loose piece contact available by adding "L" after the "M" for the contact size and the plating. Example: SM20M1TK6 becomes SM20ML1TK6

### Electrical characteristics

UL	CSA	IEC
10A 500V with AWG16 wire	7A 500V with AWG16 wire	16A 300V 4kV 3 temperature elevation: 50°C

Electrical information according to the IEC 61984, with pollution degree IV and overvoltage category III.

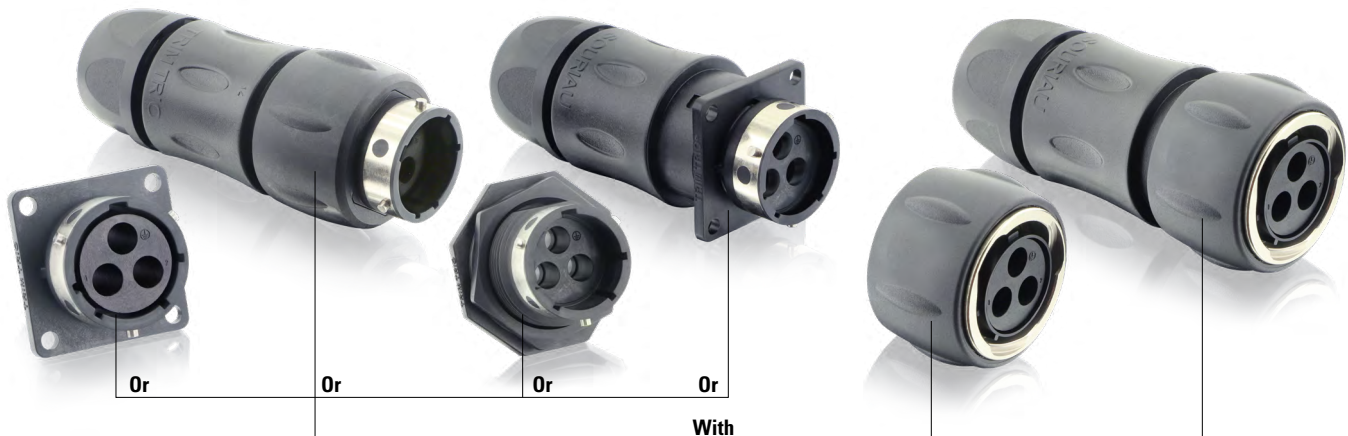
### UTGX 103 derating curves



Derating curves based on continuous current application.

142G1 (Shell size 14, 2 + ground, 3x#8)

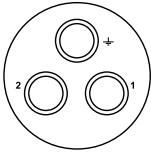
2



## Connector part number

### UTGX 142G1

2 contacts + ground  
Up to 44A/600V  
per UL 1977 with  
AWG8 wire



Contact type	Connector type	Backshell	Part number	
			Male insert	Female insert
Crimp contacts supplied separately see page 28	Square flange receptacle	Without (Fig. 1)	UTGX0142G1P	UTGX0142G1S
	Square flange receptacle	Cable gland (Fig. 2)	UTGX0JC142G1P	UTGX0JC142G1S
	Free hanging receptacle	Cable gland (Fig. 3)	UTGX1JC142G1P	UTGX1JC142G1S
	Plug	Without (Fig. 4)	UTGX6142G1P	UTGX6142G1S
PCB contacts supplied separately see page 28		Cable gland (Fig. 5)	UTGX6JC142G1P	UTGX6JC142G1S
	Jam nut receptacle	Without (Fig. 6)	UTGX7142G1P	UTGX7142G1S
	Jam nut receptacle	Without (Fig. 7)	UTGX7142G1P	UTGX7142G1S

## Overmoulded cable assembly part numbers

Overmoulding type	Connector type	Wire size (mm <sup>2</sup> )	Harmonized cable part number <sup>(1)</sup>	Part number (length: 1 m.)*	
				Male plug	Female plug
Straight ending	Plug	0.5	H05 VV - F 3x0.5	HAUTGX142G1PST1M	HAUTGX142G1SST1M
Right angle ending	Plug	0.5	H05 VV - F 3x0.5	HAUTGX142G1PRA1M	HAUTGX142G1SRA1M

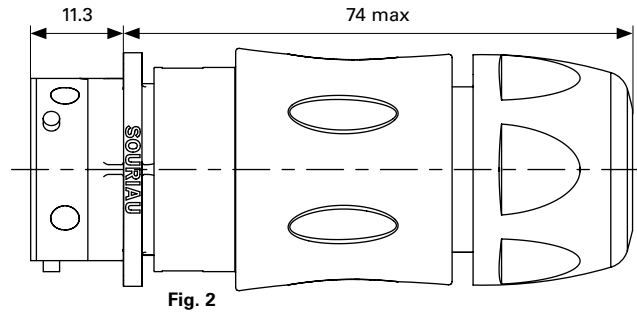
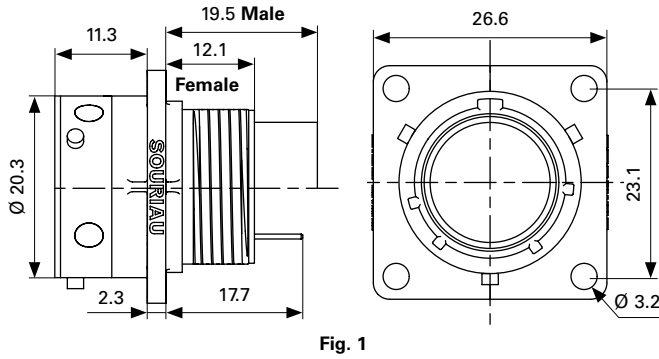
(1) Other cable available on demand

\* Other lengths available on demand

Note: Overmoulded cable assembly dimensions available page 145

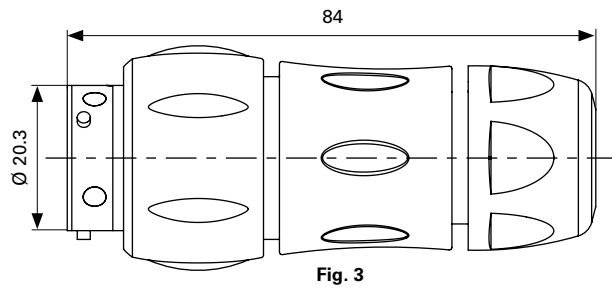
### Dimensions in mm (For mated connector lengths see page 145)

#### Square flange receptacle - UTGX0 and UTGX0JC



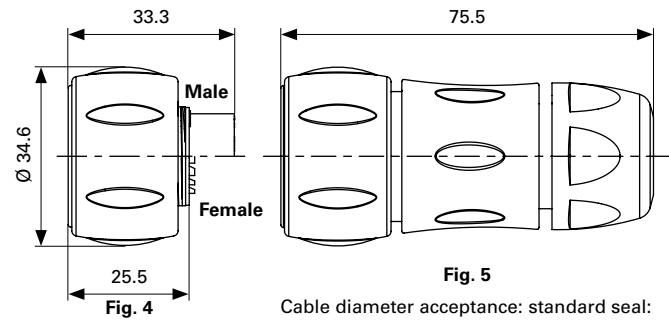
Cable diameter acceptance: standard seal:  
from 7 mm to 14 mm, reduced seal: from 5 mm to 12 mm

#### Free hanging - UTGX1JC



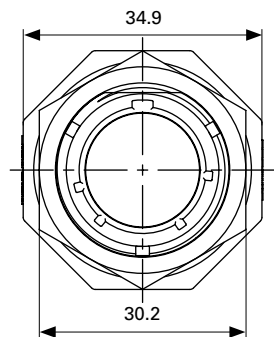
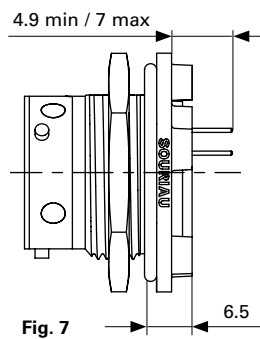
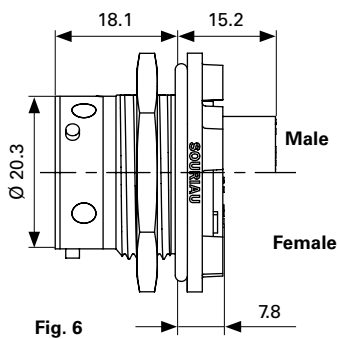
Cable diameter acceptance: standard seal:  
from 7 mm to 14 mm, reduced seal: from 5 mm to 12 mm

#### Plug - UTGX6 & UTGX6JC



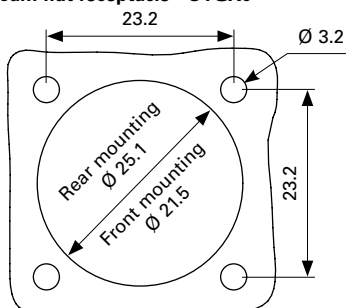
Cable diameter acceptance: standard seal:  
from 7 mm to 14 mm,  
reduced seal: from 5 mm to 12 mm

#### Jam nut receptacle UTGX7

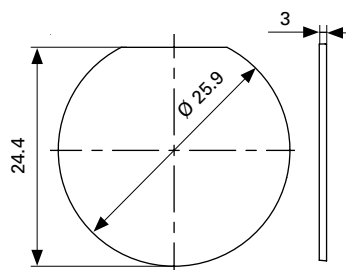


#### Panel cut out

##### Jam nut receptacle - UTGX0



##### Jam nut receptacle - UTGX7



142G1 (Shell size 14, 2 + ground, 3x#8)

**Accessories**

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



Description	Part number
IP68/69K	UTGX14DCG
IP68/69K - Metal terminal	UTGX14DCGR

2

**Plug sealing cap**



Description	Part number
IP68/69K	UTGX614DCG

**Plastic protective cap**



Part number receptacle cap	Part number plug cap
85005588A	85005597

**Gasket**



Part number
UTFD14B

**Color coding rings**



Description	Part number receptacles	Part number plugs
G for Green	UTGX714CCRG	UTGX614CCRG
Y for Yellow	UTGX714CCRY	UTGX614CCRY
R for Red	UTGX714CCRR	UTGX614CCRR



# 2

## Connectors

142G1 (Shell size 14, 2 + ground, 3x#8)

### Tooling

2

#### Hand Tool



Description	Part number
Shandle only	M317

#### Positioner + Locator setting #8



Description	Part number
For crimp contacts #8 Ø 0.141"	VGE10078A

#### Extraction tool #8



Description	Part number
For crimp contacts #8	51060210936

### Contacts #8

Contact style	Contact type	Cable acceptance (AWG)	Cable acceptance (mm <sup>2</sup> )	Part number Male	Part number Female	Max wire Ø (mm)	Max insulator Ø (mm)
Crimp contacts	Machined	16	1.48	82913601A <sup>(1)</sup>	82913600A <sup>(1)</sup>	1.72	6.5
		14	2.48	82913603A <sup>(1)</sup>	82913602A <sup>(1)</sup>	2.20	
		12	4.00	82913605A <sup>(1)</sup>	82913604A <sup>(1)</sup>	2.82	
		10	6.00	82913607A <sup>(1)</sup>	82913606A <sup>(1)</sup>	3.48	
		8	10.00	82913609A <sup>(1)</sup>	82913608A <sup>(1)</sup>	4.35	
PCB	Machined <sup>(2)</sup>	–	–	82911685NPC <sup>(1)</sup>	82911684NPC <sup>(1)</sup>	–	–

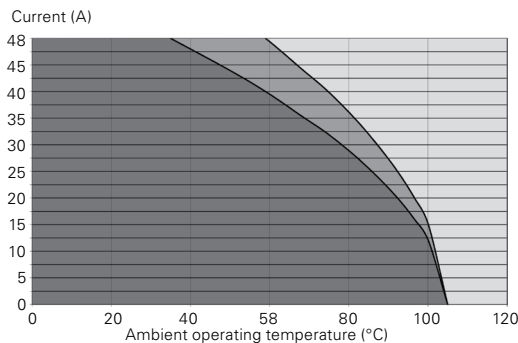
(1): Example of plating, for other plating see page 129

(2): for dimensions see pages 136 or 137

### Electrical characteristics

UL	CSA	IEC
44A 600V with AWG8 wire	34A 600V with AWG8 wire	40A 300V 4kV 3

### UTGX 142G1 derating curves



- Current use
- Limited use
- Not recommended use

#### Test conditions

Contact used: machined contacts

Wires used: 8.37 mm<sup>2</sup>

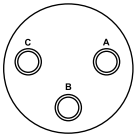
Derating curves based on continuous current application.



Connector part number

**UTGX 12E3/12D3**

2 contacts  
13A/600V  
per UL 1977  
with AWG16 wire



Contact type	Connector type	Backshell	Part number	
			Male insert	Female insert
Hand solder electrical contacts loaded see page 32	Square flange receptacle	Without (Fig. 1)	<b>UTGX012E3P</b>	<b>UTGX012E3S</b>
	Plug	Without (Fig. 2)	<b>UTGX612E3P</b>	<b>UTGX612E3S</b>
		Cable gland (Fig. 3)	<b>UTGX6JC12E3P</b>	<b>UTGX6JC12E3S</b>
PCB contacts loaded see page 32	Jam nut receptacle	Without (Fig. 4)	<b>UTGX712E3P</b>	<b>UTGX712E3S</b>
	Square flange receptacle	Without (Fig. 2)	<b>UTGX012D3P</b>	<b>UTGX012D3S</b>
	Jam nut receptacle with stand off and without hold down clip	Without (Fig. 5)	<b>UTGX712D3P</b>	<b>UTGX712D3S</b>
	Jam nut receptacle with stand off and with hold down clips	Without (Fig. 6)	<b>UTGX712D3P32</b>	<b>UTGX712D3S32</b>

For discrimination/keying methods see page 154

Sealed unmeted

Overmoulded cable assembly part numbers

Overmoulding type	Connector type	Wire size (mm <sup>2</sup> )	Harmonized cable part number <sup>(1)</sup>	Part number (length: 1 m.)*	
				Male plug	Female plug
Straight ending	Plug	1.5	H05 VV - F 3x1.5	<b>HAUTGX12E3PST1M</b>	<b>HAUTGX12E3SST1M</b>
Right angle ending	Plug	1.5	H05 VV - F 3x1.5	<b>HAUTGX12E3PRA1M</b>	<b>HAUTGX12E3SRA1M</b>

(1) Other cable available on demand

\* Other lengths available on demand

Note: Overmoulded cable assembly dimensions available page 145

### Dimensions in mm (For mated connector lengths see page 145)

#### Square flange receptacle - UTGX0

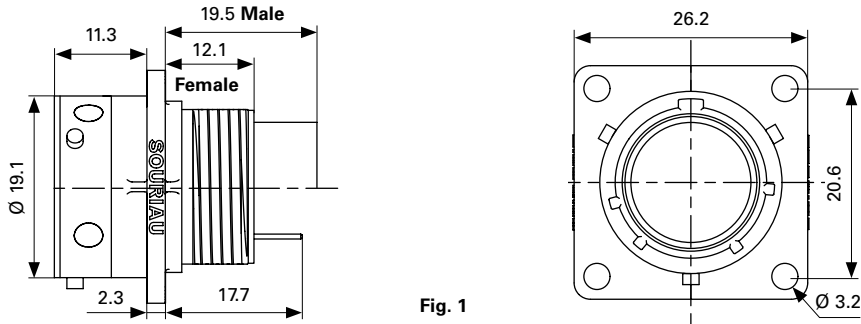


Fig. 1

#### Plug - UTGX6 & UTGX6JC

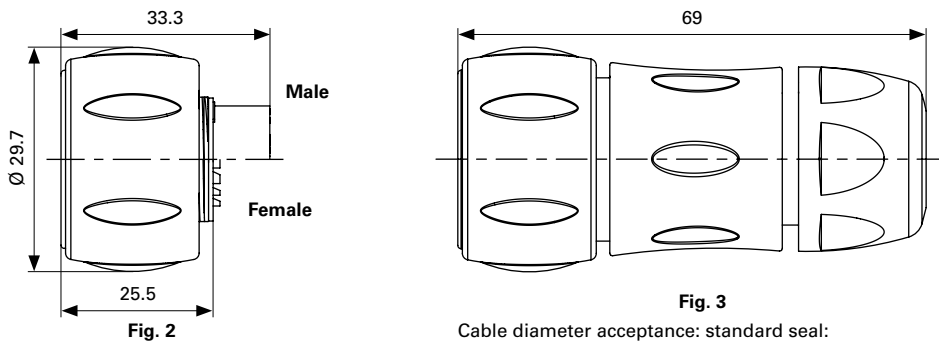


Fig. 3

Cable diameter acceptance: standard seal:  
from 2.5 mm to 12 mm, reduced seal: from 3 mm to 9 mm

#### Jam nut receptacle UTGX7

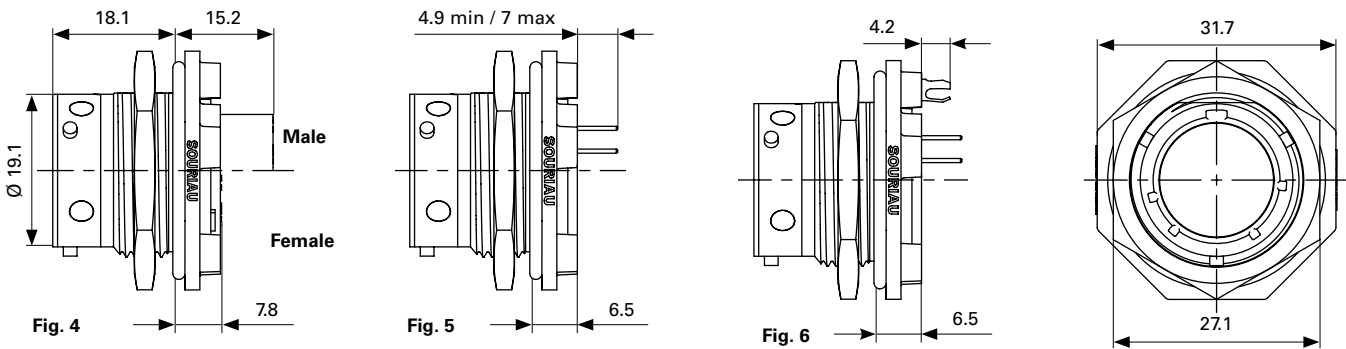


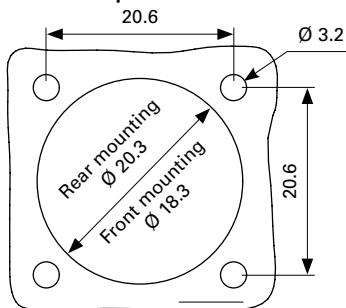
Fig. 4

Fig. 5

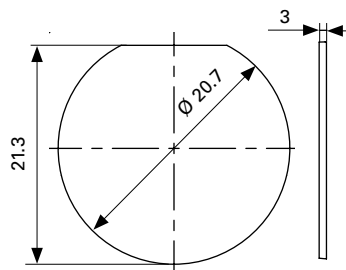
Fig. 6

#### Panel cut out

##### Jam nut receptacle - UTGX0



##### Jam nut receptacle - UTGX7



**Accessories**

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



Description	Part number
IP68/69K	UTGX12DCG
IP68/69K - Metal terminal	UTGX12DCGR

2

**Square flange sealing cap**



Description	Part number
IP68/69K - Metal terminal	UTGX12DCGE

**Plug sealing cap**



Description	Part number
IP68/69K	UTGX612DCG

**Plastic protective cap**



Part number receptacle cap	Part number plug cap
85005587A	85005596

**Gasket**



Part number
UTFD13B

**Color coding rings**



Description	Part number receptacles	Part number plugs
G for Green	UTGX712CCRG	UTGX612CCRG
Y for Yellow	UTGX712CCRY	UTGX612CCRY
R for Red	UTGX712CCRR	UTGX612CCRR

### Contacts

2

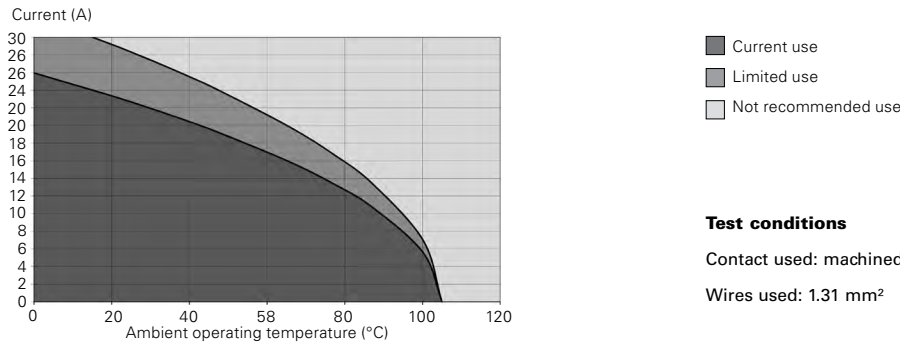
Contact size	Contact type	Plating	Cable acceptance (AWG)	Cable acceptance (mm <sup>2</sup> )	Wire stripping length
#16	Hand solder Loaded in the connector	Min 0.4μ gold over 0.8μ Ni	18 - 14	0.80 - 2.48	5 mm
	PCB Machined <sup>(1)</sup>	Min 0.4μ gold over 0.8μ Ni	–	–	–

(1): For dimensions see pages 136 or 137

### Electrical characteristics

UL	CSA	IEC
13A 600V with AWG16 wire	13A 600V with AWG16 wire	16A 150V 2.5kV 3

### UTGX 12E3/12D3 derating curves



Derating curves based on continuous current application.



124 - 12E4/12D4 (Shell size 12, 3 + ground, 4x#16)



2

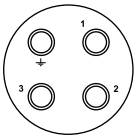
### Connector part number

#### UTGX 124

3 contacts + ground  
16A/500V  
per UL 1977  
with AWG14 wire

#### 12E4/12D4

3 contacts + ground  
13A/600V  
per UL 1977  
with AWG16 wire



Contact type	Connector type	Backshell	Part number	
			Male insert	Female insert
Crimp contacts supplied separately see page 37	Square flange receptacle	Without (Fig. 1)	UTGX0124P	UTGX0124S
	Square flange receptacle	Cable gland (Fig. 2)	UTGX0JC124P	UTGX0JC124S
	Free hanging receptacle	Cable gland (Fig. 3)	UTGX1JC124P	UTGX1JC124S
	Plug	Without (Fig. 4)	UTGX6124P	UTGX6124S
		Cable gland (Fig. 5)	UTGX6JC124P	UTGX6JC124S
Screw contacts loaded	Jam nut receptacle	Without (Fig. 6)	UTGX7124P	UTGX7124S
	Free hanging receptacle	Cable gland (Fig. 3)	UTGX1JC124PSCR	UTGX1JC124SSCR
		Cable gland (Fig. 5)	UTGX6JC124PSCR	UTGX6JC124SSCR
PCB contacts supplied separately see page 37	Plug	Without (Fig. 9)	UTGX7124PSCR	UTGX7124SSCR
	Square flange receptacle	Without (Fig. 1)	UTGX0124P	UTGX0124S
		Without (Fig. 7)	UTGX7124P	UTGX7124S
Handsolder electrical contacts loaded see page 37	Square flange receptacle	Without (Fig. 1)	UTGX012E4P	UTGX012E4S
		Without (Fig. 4)	UTGX612E4P	UTGX612E4S
	Plug	Cable gland (Fig. 5)	UTGX6JC12E4P	UTGX6JC12E4S
		Without (Fig. 6)	UTGX712E4P	UTGX712E4S
PCB contacts loaded	Square flange receptacle	Without (Fig. 3)	UTGX012D4P	UTGX012D4S
	Jam nut receptacle with stand off and without hold down clip	Without (Fig.7)	UTGX712D4P	UTGX712D4S
	Jam nut receptacle with stand off and with hold down clips	Without (Fig. 8)	UTGX712D4P32	UTGX712D4S32

Sealed unmatd

### Overmoulded cable assembly part numbers

Overmoulding type	Connector type	Wire size (mm <sup>2</sup> )	Harmonized cable part number <sup>(1)</sup>	Part number (length: 1 m.)*	
				Male plug	Female plug
Straight ending	Plug	1.5	H05 VV - F 4x1.5	HAUTGX124PST1M	HAUTGX124SST1M
				HAUTGX12E4PRA1M	HAUTGX12E4SRA1M
Right angle ending	Plug	1.5	H05 VV - F 4x1.5	HAUTGX124PRA1M	HAUTGX124SRA1M
				HAUTGX12E4PRA1M	HAUTGX12E4SRA1M

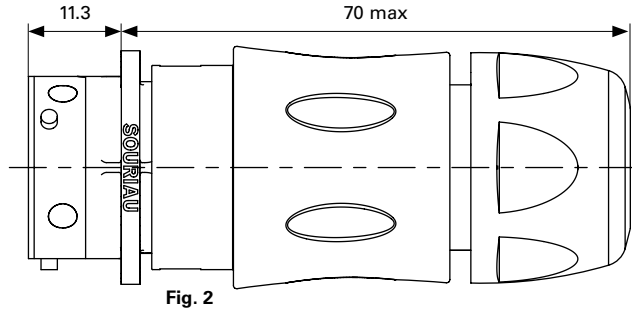
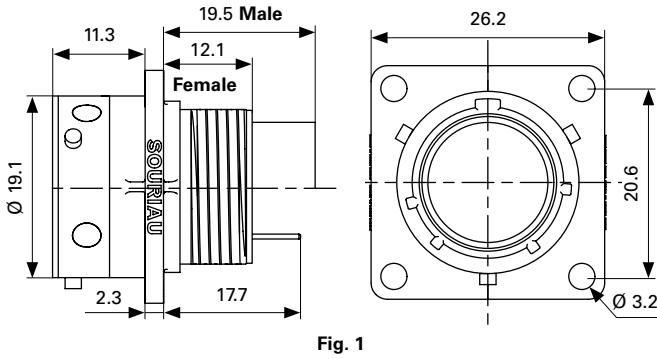
(1) Other cable available on demand

\* Other lengths available on demand

Note: Overmoulded cable assembly dimensions available page 145

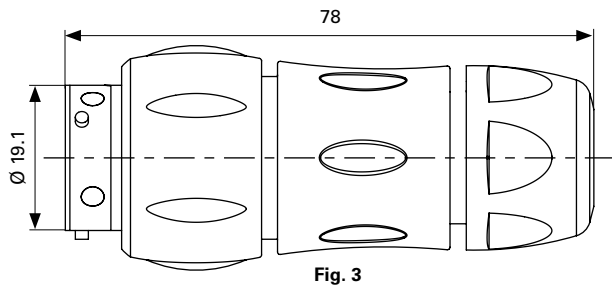
### Dimensions in mm (For mated connector lengths see page 145)

#### Square flange receptacle - UTGX0 and UTGX0JC



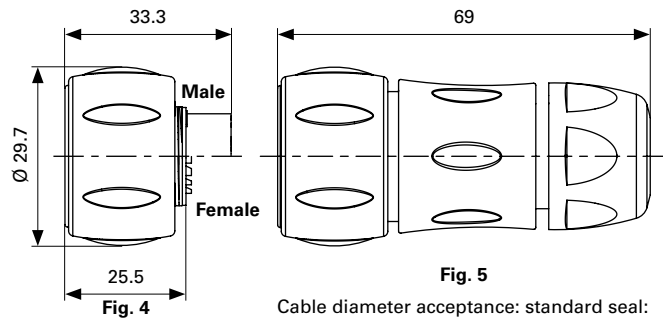
Cable diameter acceptance: standard seal:  
from 2.5 mm to 12 mm, reduced seal: from 3 mm to 9 mm

#### Free hanging - UTGX1JC



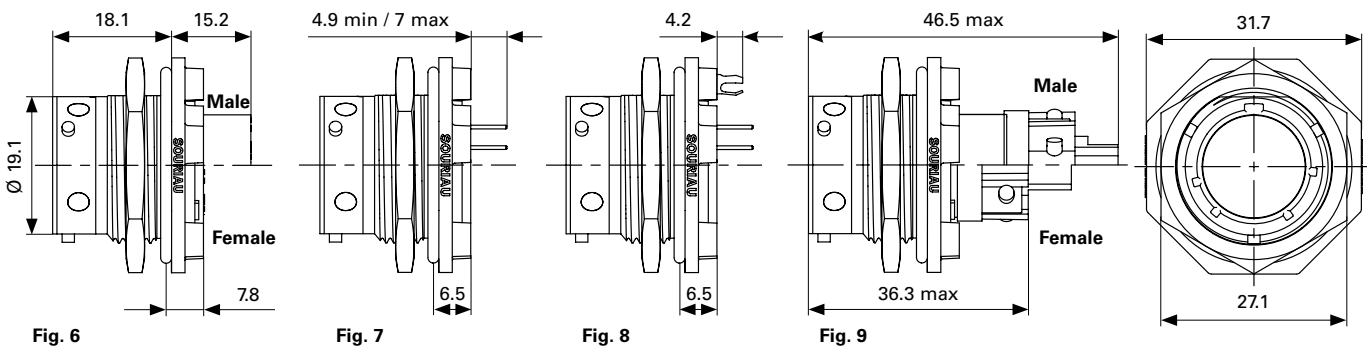
Cable diameter acceptance: standard seal:  
from 2.5 mm to 12 mm, reduced seal: from 3 mm to 9 mm

#### Plug - UTGX6 & UTGX6JC



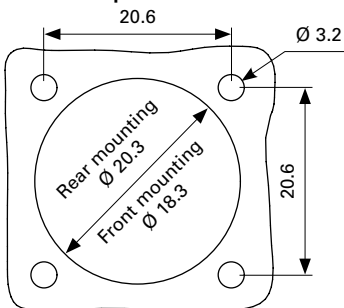
Cable diameter acceptance: standard seal:  
from 2.5 mm to 12 mm, reduced seal: from 3 mm to 9 mm

#### Jam nut receptacle UTGX7

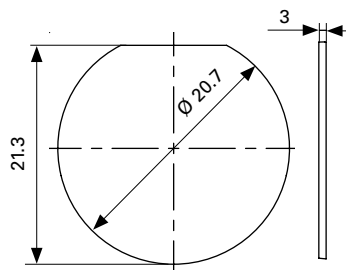


#### Panel cut out

##### Jam nut receptacle - UTGX0



##### Jam nut receptacle - UTGX7



124 - 12E4/12D4 (Shell size 12, 3 + ground, 4x#16)

## Accessories

### Jam nut & free hanging receptacle sealing caps



Description	Part number
IP68/69K	UTGX12DCG
IP68/69K - Metal terminal	UTGX12DCGR

2

### Square flange sealing cap



Description	Part number
IP68/69K - Metal terminal	UTGX12DCGE

### Plug sealing cap



Description	Part number
IP68/69K	UTGX612DCG

### Plastic protective cap



Part number receptacle cap	Part number plug cap
85005587A	85005596

### Gasket



Part number
UTFD13B

### Color coding rings



Description	Part number receptacles	Part number plugs
G for Green	UTGX712CCRG	UTGX612CCRG
Y for Yellow	UTGX712CCRY	UTGX612CCRY
R for Red	UTGX712CCRR	UTGX612CCRR

# 2

## Connectors

124 - 12E4/12D4 (Shell size 12, 3 + ground, 4x#16)

### Tooling

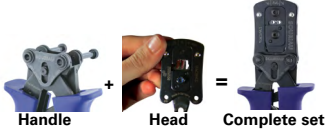
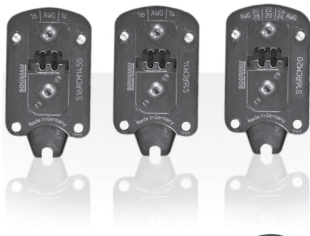
2

#### Tooling



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

#### Crimp tooling (without Shandles)



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

(1): Example of plating, for other plating options see page 129

\* Heads to be used with handle PN: SHANDLES

#### Extraction tool #16



Description	Part number
<b>Fig. 1</b>	<b>RX2025GE1</b>
<b>Fig. 2 - Long endurance tool</b>	<b>RX2031J</b>

124 - 12E4/12D4 (Shell size 12, 3 + ground, 4x#16)

## Contacts #16

Contact style	Contact type	Cable acceptance (AWG)	Cable acceptance (mm <sup>2</sup> )	Part number Male	Part number Female	Max wire Ø (mm)	Max insulator Ø (mm)	
Crimp contacts	Machined	30-26	0.48-0.08	RM28M1K <sup>(1)</sup>	RC28M1K <sup>(1)</sup>	0.55	1.00	
		26-24	0.13-0.25	RM24M9K <sup>(1)</sup>	RC24M9K <sup>(1)</sup>	0.80	1.58	
		20-20	0.32-0.52	RM20M13K <sup>(1)</sup>	RC20M13K <sup>(1)</sup>	1.15	1.80	
		20-20	0.32-0.52	RM20M12K <sup>(1)</sup>	RC20M12K <sup>(1)</sup>	1.15	2.20	
		20-16	0.52-1.48	RM16M23K <sup>(1)</sup>	RC16M23K <sup>(1)</sup>	1.80	3.20	
		16-14	1.48-2.48	RM14M30K <sup>(1)</sup>	RC14M30K <sup>(1)</sup>	2.30	3.20	
	Stamped & Formed reeled contacts See note <sup>(2)</sup> for loose piece	26-24	0.13-0.25	SM24M1TK6 <sup>(1)(2)</sup>	SC24M1TK6 <sup>(1)(2)</sup>	–	0.90-1.58	
		20-20	0.32-0.52	SM20M1TK6 <sup>(1)(2)</sup>	SC20M1TK6 <sup>(1)(2)</sup>	–	1.20-2.10	
		18-16	0.80-1.48	SM16M1TK6 <sup>(1)(2)</sup>	SC16M1TK6 <sup>(1)(2)</sup>	–	3.20	
		18-16	0.80-1.48	SM16M11TK6 <sup>(1)(2)</sup>	SC16M11TK6 <sup>(1)(2)</sup>	–	3.00	
		14	2.48	SM14M1TK6 <sup>(1)(2)</sup>	SC14M1TK6 <sup>(1)(2)</sup>	–	3.20	
		PCB	Machined <sup>(3)</sup>	–	RM20M12E83K <sup>(1)</sup>	RC20M12E84K <sup>(1)</sup>	–	–
		Coaxial	Cable multipiece	see pages 133 to 134		RMDXK10D28	RCDXK1D28	–
Cable monocrimp			RMDX60xxD28	RCDX60xxD28	–	–		
Twisted pair multipiece			RMDXK10D28 + yorx090	RCDXK1D28 + yorx090	–	–		
Twisted pair monocrimp			RMDX60xxD28	RCDX60xxD28	–	–		
Fiber optic	POF contacts (Plastic Optical Fiber)	–	–	RMPOF1000	RCPOF1000B	–	–	
Handsold	Loaded in the connector	14-18	2.48-0.80	–	–	–	–	

(1): Example of plating, for other plating see page 129

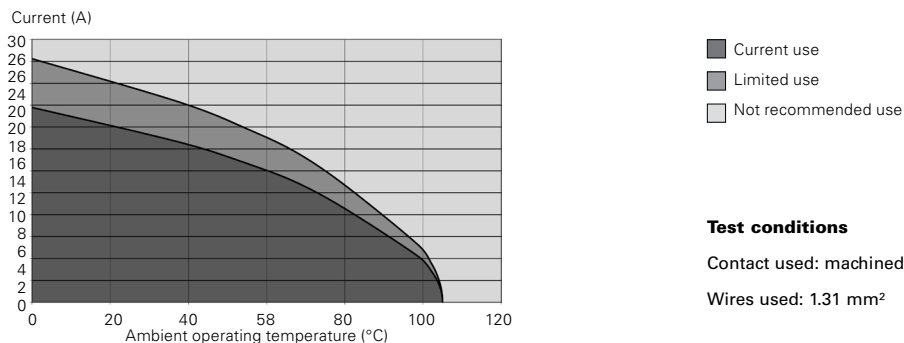
(2): Loose piece contact available by adding "L" after the "M" for the contact size and the plating. Example: SM20M1TK6 becomes SM20ML1TK6

(3): for dimensions see pages 136 or 137

## Electrical characteristics

UL	CSA	IEC
UTGX 124		
16A 500V with AWG14 wire	16A 500V with AWG14 wire	16A 150V 2.5kV 3 temperature elevation: 50°C
UTGX 12E4/12D4		
13A 600V with AWG16 wire	13A 600V with AWG16 wire	16A 150V 2.5kV 3 temperature elevation: 50°C

## UTGX 124 - 12E4/12D4 derating curves



Derating curves based on continuous current application.



# 2

## Connectors

102W2 (Shell size 10, 2x#20, 2x12)

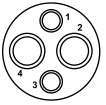
2



### Connector part number

#### UTGX 102W2

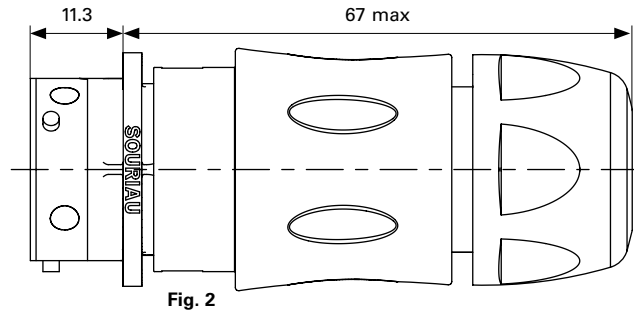
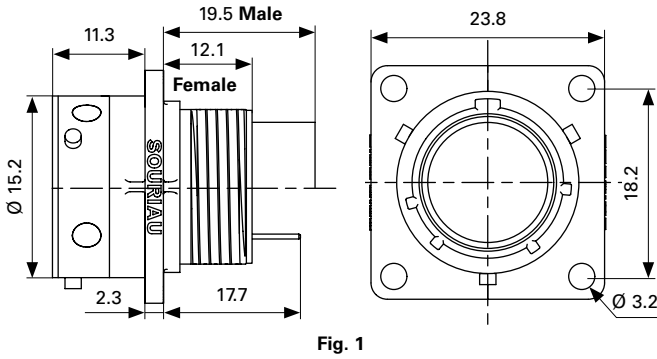
4 contacts  
 26A/600V per UL1977 with  
 AWG12 wire  
 7.5A/250V per UL1977 with  
 AWG20 wire  
 (qualification pending)



Contact type	Connector type	Backshell	Part number	
			Male insert	Female insert
Crimp contacts supplied separately see page 42	Square flange receptacle	Without (Fig. 1)	<b>UTGX0102W2P</b>	<b>UTGX0102W2S</b>
	Square flange receptacle	Cable gland (Fig. 2)	<b>UTGX0JC102W2P</b>	<b>UTGX0JC102W2S</b>
	Free hanging receptacle	Cable gland (Fig. 3)	<b>UTGX1JC102W2P</b>	<b>UTGX1JC102W2S</b>
	Plug	Without (Fig. 4)	<b>UTGX6102W2P</b>	<b>UTGX6102W2S</b>
		Cable gland (Fig. 5)	<b>UTGX6JC102W2P</b>	<b>UTGX6JC102W2S</b>
	Jam nut receptacle	Without (Fig. 6)	<b>UTGX7102W2P</b>	<b>UTGX7102W2S</b>

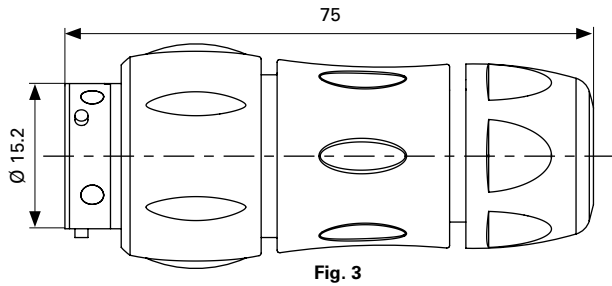
**Dimensions in mm** (For mated connector lengths see page 145)

**Square flange receptacle - UTGX0 and UTGX0JC**



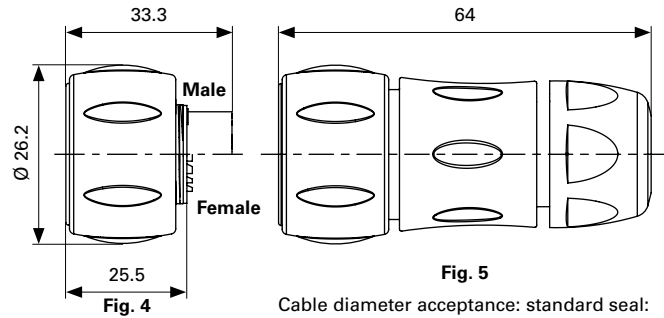
Cable diameter acceptance: standard seal: from 2.5 mm to 8 mm, reduced seal: from 1.5 mm to 5 mm

**Free hanging - UTGX1JC**



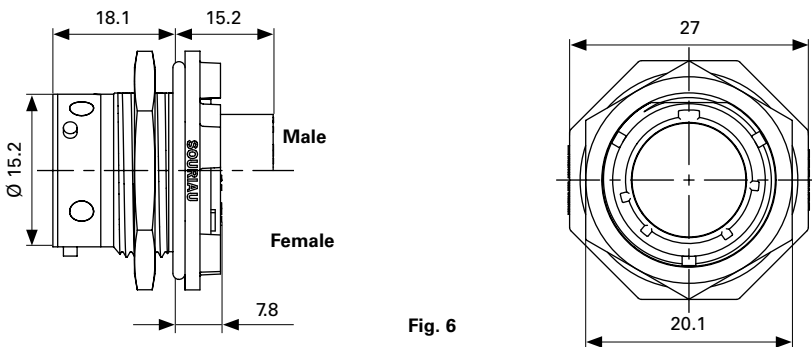
Cable diameter acceptance: standard seal: from 2.5 mm to 8 mm, reduced seal: from 1.5 mm to 5 mm

**Plug - UTGX6 & UTGX6JC**



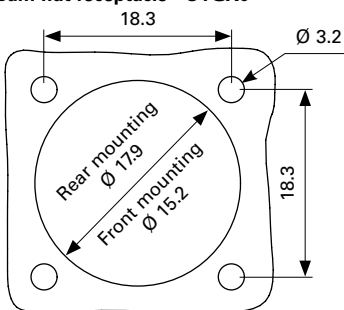
Cable diameter acceptance: standard seal: from 2.5 mm to 8 mm, reduced seal: from 1.5 mm to 5 mm

**Jam nut receptacle UTGX7**

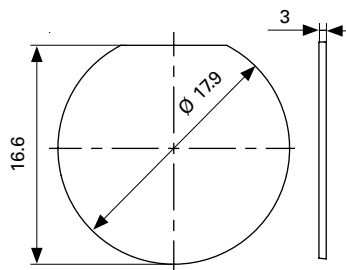


**Panel cut out**

**Jam nut receptacle - UTGX0**



**Jam nut receptacle - UTGX7**



# 2

## Connectors

102W2 (Shell size 10, 2x#20, 2x12)

### Accessories

2

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



Description	Part number
IP68/69K	UTGX10DCG
IP68/69K - Metal terminal	UTGX10DCGR

#### Plug sealing cap



Description	Part number
IP68/69K	UTGX610DCG

#### Plastic protective cap



Part number receptacle cap	Part number plug cap
85005586A	85005595

#### Gasket



Part number
UTFD12B

#### Color coding rings



Description	Part number receptacles	Part number plugs
G for Green	UTGX710CCRG	UTGX610CCRG
Y for Yellow	UTGX710CCRY	UTGX610CCRY
R for Red	UTGX710CCRR	UTGX610CCRR

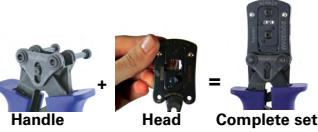
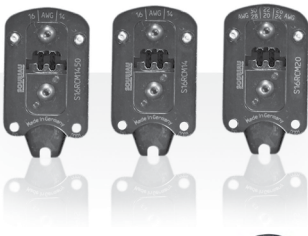
**Tooling**

**Tooling**



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

**Crimp tooling (without Shandles)**



Contact size	Contacts	Part number of Head
Standard contacts #20 Ø 1 mm	<b>RM/RC 24W3K<sup>(1)</sup></b>	<b>S20RCM*</b>
	<b>RM/RC 20W3K<sup>(1)</sup></b>	<b>S20RCM*</b>
	<b>RM/RC 18W3K<sup>(1)</sup></b>	<b>S20RCM*</b>
	<b>SM/SC 24WL3<sup>(1)(2)</sup></b>	<b>S20SCM20*</b>
	<b>SM/SC 20WL3<sup>(1)(2)</sup></b>	<b>S20SCM20*</b>

(1): Example of plating, for other plating options see page 129  
 (2): Loose contact  
 \* Heads to be used with handle PN: SHANDLES

**Crimp tooling #12**



Contact size	Part number hand tool	Part number positioner + locator setting
Standard contacts #12 Ø 2.4 mm	<b>M317</b>	<b>VG10077A</b>

**Extraction tool**



Description	Part number
<b>Fig. 1 - Contacts #20</b>	<b>RX20D44</b>
<b>Fig. 2 - Contacts #12</b>	<b>51060210924</b>

### Contacts #20

2

Contact style	Contact type	Cable acceptance (AWG)	Cable acceptance (mm <sup>2</sup> )	Part number Male	Part number Female	Max wire Ø (mm)	Max insulator Ø (mm)
Crimp contacts	Machined	26-24	0.13-0.25	RM24W3K	RC24W3K	0.80	1.58
		20-20	0.32-0.52	RM20W3K	RC20W3K	1.15	1.80
		20-18	0.52-0.80	RM18W3K	RC18W3K	1.30	2.10
	Stamped & Formed reeled contacts See note (2) for loose piece	26-24	0.13-0.25	SM24W3TK6 <sup>(1)(2)</sup>	SC24W3TK6 <sup>(1)(2)</sup>	–	0.90-1.58
		26-24	0.13-0.25	SM24W3S26 <sup>(1)(2)</sup>	SC24W3S25 <sup>(1)(2)</sup>	–	0.90-1.58
		20-20	0.32-0.52	SM20W3TK6 <sup>(1)(2)</sup>	SC20W3TK6 <sup>(1)(2)</sup>	–	1.20-2.10
		20-20	0.32-0.52	SM20W3S26 <sup>(1)(2)</sup>	SC20W3S25 <sup>(1)(2)</sup>	–	1.20-2.10

(1): Example of plating, for other plating see page 129

(2): Loose piece contact available by adding "L" after the "M" for the contact size and the plating. Example: SM20W3TK6 becomes SM20WL3TK6

### Contacts #12

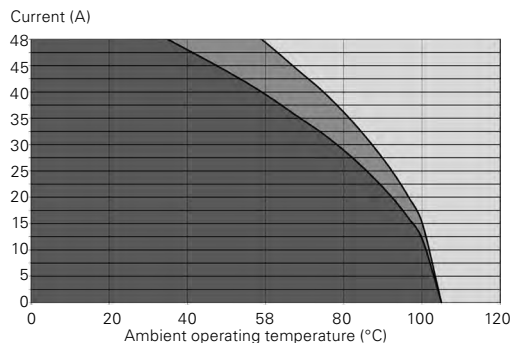
Contact style	Contact type	Cable acceptance (AWG)	Cable acceptance (mm <sup>2</sup> )	Part number Male	Part number Female	Max wire Ø (mm)	Max insulator Ø (mm)
Crimp contacts	Machined	20	0.52	82911457NA	82911456A	0.87	4.90
		20	0.52	82911459NA	82911458A	1.12	
		18	0.80	82911461NA	82911460A	1.42	
		16	1.48	82911463NA	82911462A	1.72	
		14	2.48	82911465NA	82911464A	2.20	
		12	4.00	82911467NA	82911466A	2.82	

### Electrical characteristics

UL	CSA	IEC
26A 600V with AWG12* 7.5A 250V with AWG20*	20A 600V with AWG12* 2.5A 250V with AWG20*	25A 150V 2.5kV 3 temperature elevation: 50°C

\* qualification pending

### UTGX 102W2 derating curves



- Current use
- Limited use
- Not recommended use

#### Test conditions

Contact used: machined contacts

Wires used: 0.518 mm<sup>2</sup>

Derating curves based on continuous current application.

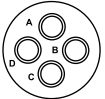




Connector part number

**UTGX 104**

4 contacts  
10A/500V  
per UL 1977 with  
AWG16 wire



Contact type	Connector type	Backshell	Part number	
			Male insert	Female insert
Crimp contacts supplied separately see page 47	Square flange receptacle	Without (Fig. 1)	<b>UTGX0104P</b>	<b>UTGX0104S</b>
	Square flange receptacle	Cable gland (Fig. 2)	<b>UTGX0JC104P</b>	<b>UTGX0JC104S</b>
	Free hanging receptacle	Cable gland (Fig. 3)	<b>UTGX1JC104P</b>	<b>UTGX1JC104S</b>
	Plug	Without (Fig. 4) Cable gland (Fig. 5)	<b>UTGX6104P</b> <b>UTGX6JC104P</b>	<b>UTGX6104S</b> <b>UTGX6JC104S</b>
PCB contacts supplied separately see page 47	Jam nut receptacle	Without (Fig. 6)	<b>UTGX7104P</b>	<b>UTGX7104S</b>
	Jam nut receptacle	Without (Fig. 7)	<b>UTGX7104P</b>	<b>UTGX7104S</b>

For discrimination/keying methods see page 154

Overmoulded cable assembly part numbers

Overmoulding type	Connector type	Wire size (mm <sup>2</sup> )	Harmonized cable part number <sup>(1)</sup>	Part number (length: 1 m.)*	
				Male plug	Female plug
Straight ending	Plug	1.5	H05 VV - F 4x1.5	<b>HAUTGX104PST1M</b>	<b>HAUTGX104SST1M</b>
Right angle ending	Plug	1.5	H05 VV - F 4x1.5	<b>HAUTGX104PRA1M</b>	<b>HAUTGX104SRA1M</b>

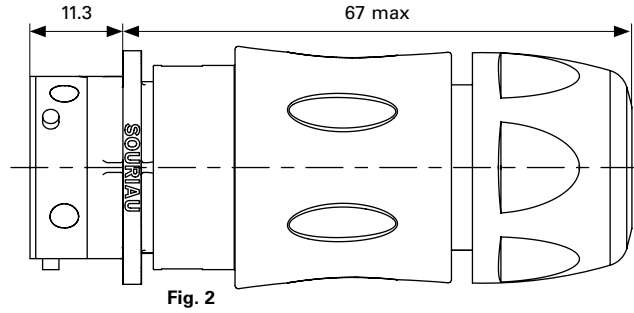
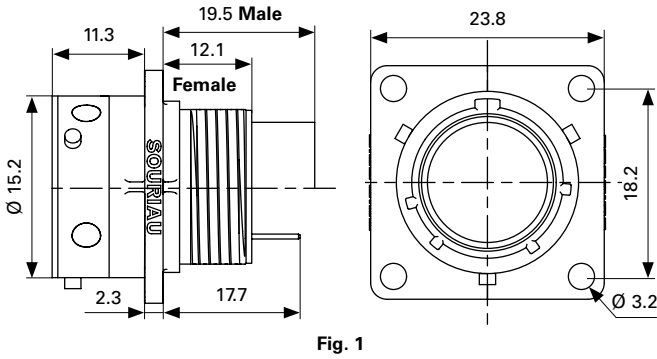
(1) Other cable available on demand

\* Other lengths available on demand

Note: Overmoulded cable assembly dimensions available page 145

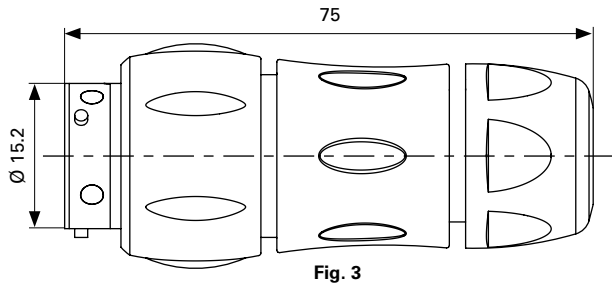
### Dimensions in mm (For mated connector lengths see page 145)

#### Square flange receptacle - UTGX0 and UTGX0JC



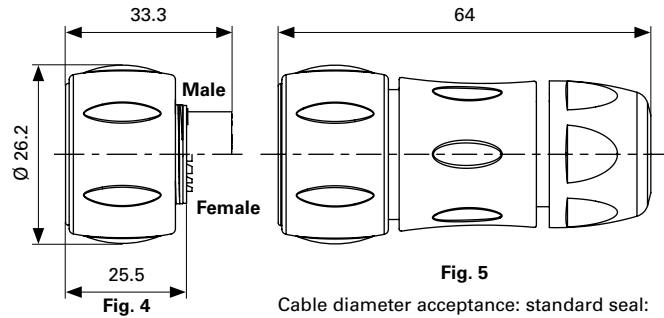
Cable diameter acceptance: standard seal:  
from 2.5 mm to 8 mm, reduced seal: from 1.5 mm to 5 mm

#### Free hanging - UTGX1JC



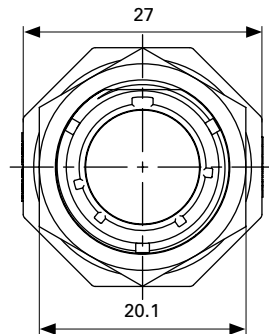
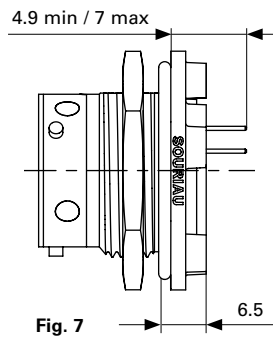
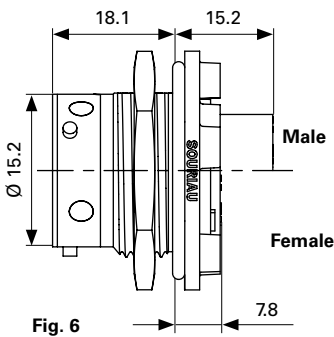
Cable diameter acceptance: standard seal:  
from 2.5 mm to 8 mm, reduced seal: from 1.5 mm to 5 mm

#### Plug - UTGX6 & UTGX6JC



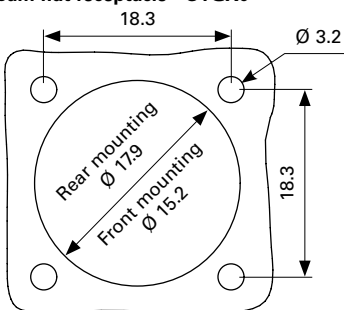
Cable diameter acceptance: standard seal:  
from 2.5 mm to 8 mm,  
reduced seal: from 1.5 mm to 5 mm

#### Jam nut receptacle UTGX7

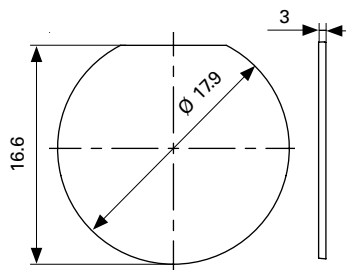


#### Panel cut out

##### Jam nut receptacle - UTGX0



##### Jam nut receptacle - UTGX7



## Accessories

### Jam nut & free hanging receptacle sealing caps



Description	Part number
IP68/69K	UTGX10DCG
IP68/69K - Metal terminal	UTGX10DCGR

2

### Square flange sealing cap



Description	Part number
IP68/69K - Metal terminal	UTGX10DCGE

### Plug sealing cap



Description	Part number
IP68/69K	UTGX610DCG

### Plastic protective cap



Part number receptacle cap	Part number plug cap
85005586A	85005595

### Gasket



Part number
UTFD12B

### Color coding rings



Description	Part number receptacles	Part number plugs
G for Green	UTGX710CCRG	UTGX610CCRG
Y for Yellow	UTGX710CCRY	UTGX610CCRY
R for Red	UTGX710CCRR	UTGX610CCRR

# 2

## Connectors

104 (Shell size 10, 4x#16)

### Tooling

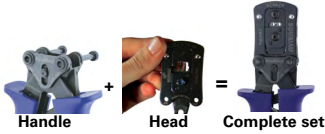
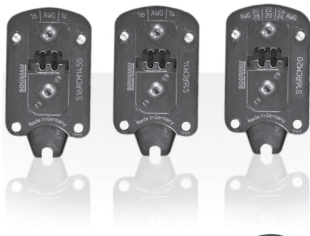
2

#### Tooling



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

#### Crimp tooling (without Shandles)



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

(1): Example of plating, for other plating options see page 129

\* Heads to be used with handle PN: SHANDLES

#### Extraction tool #16

Fig. 1



Fig. 2



Description	Part number
<b>Fig. 1</b>	<b>RX2025GE1</b>
<b>Fig. 2 - Long endurance tool</b>	<b>RX2031J</b>

## Contacts #16

Contact style	Contact type	Cable acceptance (AWG)	Cable acceptance (mm <sup>2</sup> )	Part number Male	Part number Female	Max wire Ø (mm)	Max insulator Ø (mm)	
Crimp contacts	Machined	30-26	0.48-0.08	RM28M1K <sup>(1)</sup>	RC28M1K <sup>(1)</sup>	0.55	1.00	
		26-24	0.13-0.25	RM24M9K <sup>(1)</sup>	RC24M9K <sup>(1)</sup>	0.80	1.58	
		20-20	0.32-0.52	RM20M13K <sup>(1)</sup>	RC20M13K <sup>(1)</sup>	1.15	1.80	
		20-20	0.32-0.52	RM20M12K <sup>(1)</sup>	RC20M12K <sup>(1)</sup>	1.15	2.20	
		20-16	0.52-1.48	RM16M23K <sup>(1)</sup>	RC16M23K <sup>(1)</sup>	1.80	3.20	
		16-14	1.48-2.48	RM14M30K <sup>(1)</sup>	RC14M30K <sup>(1)</sup>	2.30	3.20	
	Stamped & Formed reeled contacts See note <sup>(2)</sup> for loose piece	26-24	0.13-0.25	SM24M1TK6 <sup>(1)(2)</sup>	SC24M1TK6 <sup>(1)(2)</sup>	–	0.90-1.58	
		20-20	0.32-0.52	SM20M1TK6 <sup>(1)(2)</sup>	SC20M1TK6 <sup>(1)(2)</sup>	–	1.20-2.10	
		18-16	0.80-1.48	SM16M1TK6 <sup>(1)(2)</sup>	SC16M1TK6 <sup>(1)(2)</sup>	–	3.20	
		18-16	0.80-1.48	SM16M11TK6 <sup>(1)(2)</sup>	SC16M11TK6 <sup>(1)(2)</sup>	–	3.00	
		14	2.48	SM14M1TK6 <sup>(1)(2)</sup>	SC14M1TK6 <sup>(1)(2)</sup>	–	3.20	
		PCB	Machined <sup>(3)</sup>	–	RM20M12E83K <sup>(1)</sup>	RC20M12E84K <sup>(1)</sup>	–	–
		Coaxial	Cable multipiece	see pages 133 to 134		RMDXK10D28	RCDXK1D28	–
Cable monocrimp			RMDX60xxD28	RCDX60xxD28	–	–		
Twisted pair multipiece			RMDXK10D28 + yorx090	RCDXK1D28 + yorx090	–	–		
Twisted pair monocrimp			RMDX60xxD28	RCDX60xxD28	–	–		
Fiber optic	POF contacts (Plastic Optical Fiber)	–	RMPOF1000	RCPOF1000B	–	–		

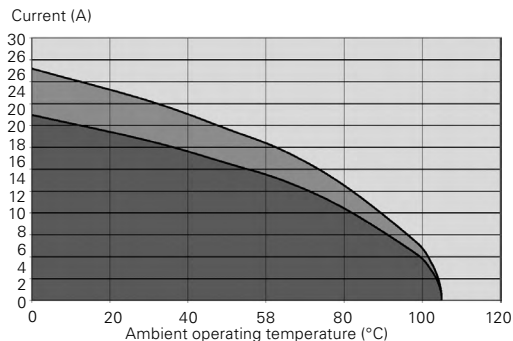
(1): Example of plating, for other plating see page 129  
(3): for dimensions see pages 136 or 137

(2): Loose piece contact available by adding "L" after the "M" for the contact size and the plating. Example: SM20M1TK6 becomes SM20ML1TK6

## Electrical characteristics

UL	CSA	IEC
10A 500V with AWG16 wire	7A 500V with AWG16 wire	13A 150V 2.5kV 3

## UTGX 104 derating curves



Derating curves based on continuous current application.

- Current use
- Limited use
- Not recommended use

## Test conditions

Contact used: machined contacts

Wires used: 1.31 mm<sup>2</sup>

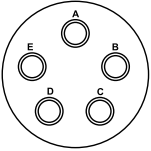




### Connector part number

#### UTGX 14E5/14D5

5 contacts  
12A/600V  
per UL 1977  
with AWG16 wire



	Contact type	Connector type	Backshell	Part number	
				Male insert	Female insert
Handsolder electrical contacts loaded see page 51	Square flange receptacle		Without (Fig. 1)	<b>UTGX014E5P</b>	<b>UTGX014E5S</b>
		Plug	Without (Fig. 2)	<b>UTGX614E5P</b>	<b>UTGX614E5S</b>
			Cable gland (Fig. 3)	<b>UTGX6JC14E5P</b>	<b>UTGX6JC14E5S</b>
PCB contacts loaded see page 51	Jam nut receptacle		Without (Fig. 4)	<b>UTGX714E5P</b>	<b>UTGX714E5S</b>
	Square flange receptacle		Without (Fig. 2)	<b>UTGX014D5P</b>	<b>UTGX014D5S</b>
	Jam nut receptacle with stand off and without hold down clip		Without (Fig. 5)	<b>UTGX714D5P</b>	<b>UTGX714D5S</b>
	Jam nut receptacle with stand off and with hold down clips		Without (Fig. 6)	<b>UTGX714D5P32</b>	<b>UTGX714D5S32</b>

For discrimination/keying methods see page 154

Sealed unmatd

### Overmoulded cable assembly part numbers

Overmoulding type	Connector type	Wire size (mm <sup>2</sup> )	Harmonized cable part number <sup>(1)</sup>	Part number (length: 1 m.)*	
				Male plug	Female plug
Straight ending	Plug	1.5	H05 VV - F 5x1.5	<b>HAUTGX14E5PST1M</b>	<b>HAUTGX14E5SST1M</b>
Right angle ending	Plug	1.5	H05 VV - F 5x1.5	<b>HAUTGX14E5PRA1M</b>	<b>HAUTGX14E5SRA1M</b>

(1) Other cable available on demand

\* Other lengths available on demand

Note: Overmoulded cable assembly dimensions available page 145

**Dimensions in mm** (For mated connector lengths see page 145)

**Square flange receptacle - UTGX0**

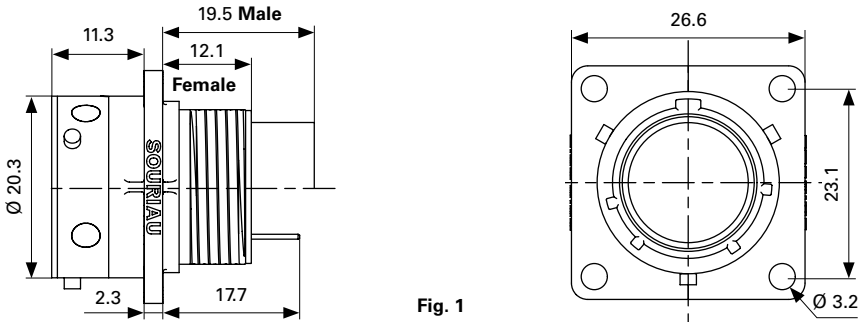


Fig. 1

**Plug - UTGX6 & UTGX6JC**

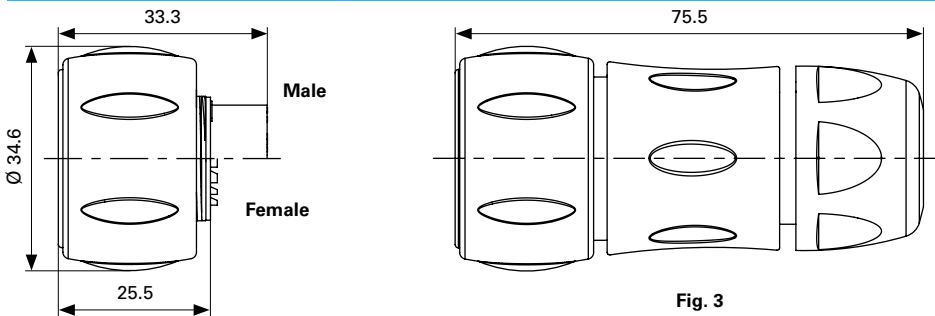


Fig. 3

Cable diameter acceptance: standard seal: from 7 mm to 14 mm, reduced seal: from 5 mm to 12 mm

**Jam nut receptacle UTGX7**

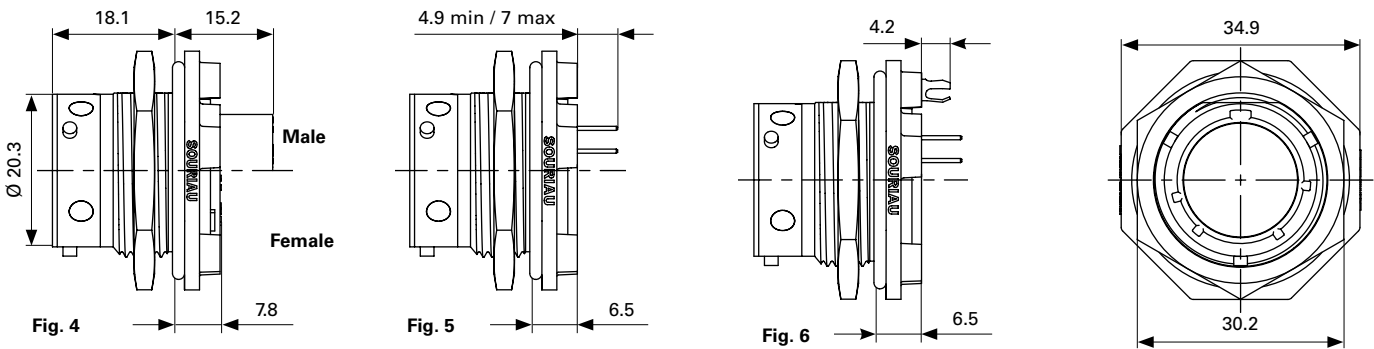
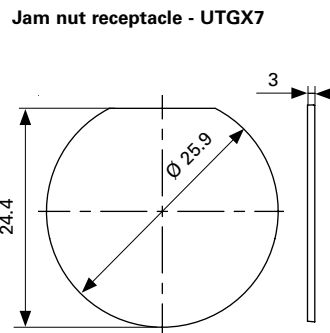
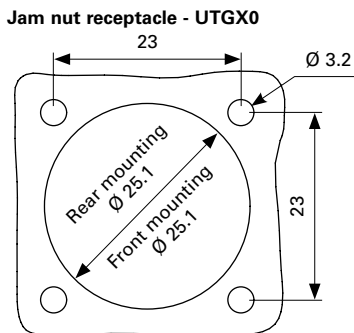


Fig. 4

Fig. 5

Fig. 6

**Panel cut out**



# 2

## Connectors

14E5/14D5 (Shell size 14, 5x#16)

### Accessories

2

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



Description	Part number
IP68/69K	UTGX14DCG
IP68/69K - Metal terminal	UTGX14DCGR

#### Square flange sealing cap



Description	Part number
IP68/69K - Metal terminal	UTGX14DCGE

#### Plug sealing cap



Description	Part number
IP68/69K	UTS614DCG133

#### Plastic protective cap



Part number receptacle cap	Part number plug cap
85005588A	85005597

#### Gasket



Part number
UTFD14B

#### Color coding rings



Description	Part number receptacles	Part number plugs
G for Green	UTGX714CCRG	UTGX614CCRG
Y for Yellow	UTGX714CCRY	UTGX614CCRY
R for Red	UTGX714CCRR	UTGX614CCRR

## Contacts

Contact size	Contact type	Plating	Cable acceptance (AWG)	Cable acceptance (mm <sup>2</sup> )	Wire stripping length
#16	Handsolder Loaded in the connector	Min 0.4μ gold over 0.8μ Ni	18 - 14	0.823 - 2.08	5 mm
	PCB Machined <sup>(1)</sup>	Min 0.4μ gold over 0.8μ Ni	—	—	—

(1): For dimensions see pages 136 or 137

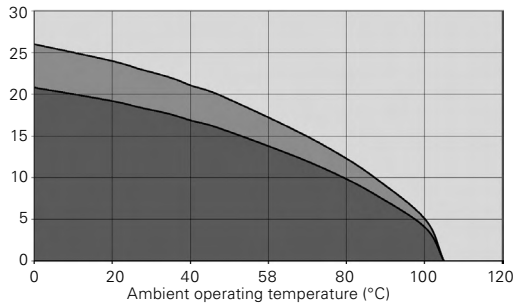
2

## Electrical characteristics

UL	CSA	IEC
12A 600V with AWG16 wire	12A 600V with AWG16 wire	16A 150V 2.5kV 3

## UTGX 14E5/14D5 derating curves

Current (A)



- Current use
- Limited use
- Not recommended use

### Test conditions

Contact used: machined contacts

Wires used: 1.31 mm<sup>2</sup>

Derating curves based on continuous current application.

# 2

## Connectors

103W3 (Shell size 10, 3x#20, 3x16)

2



### Connector part number

#### UTGX 103W3

6 contacts  
13A/500V per UL1977 with  
AWG16 wire  
7.5A/250V per UL1977 with  
AWG20 wire  
(qualification pending)



Contact type	Connector type	Backshell	Part number	
			Male insert	Female insert
Crimp contacts supplied separately see page 56	Square flange receptacle	Without (Fig. 1)	<b>UTGX0103W3P</b>	<b>UTGX0103W3S</b>
	Square flange receptacle	Cable gland (Fig. 2)	<b>UTGX0JC103P</b>	<b>UTGX0JC103S</b>
	Free hanging receptacle	Cable gland (Fig. 3)	<b>UTGX1JC103W3P</b>	<b>UTGX1JC103W3S</b>
	Plug	Without (Fig. 4)	<b>UTGX6103W3P</b>	<b>UTGX6103W3S</b>
		Cable gland (Fig. 5)	<b>UTGX6JC103W3P</b>	<b>UTGX6JC103W3S</b>
	Jam nut receptacle	Without (Fig. 6)	<b>UTGX7103W3P</b>	<b>UTGX7103W3S</b>
	PCB contacts supplied separately see page 56	Jam nut receptacle with stand off and without hold down clip	Without (Fig. 7)	<b>UTGX7103W3P</b>

**Dimensions in mm** (For mated connector lengths see page 145)

**Square flange receptacle - UTGX0 and UTGX0JC**

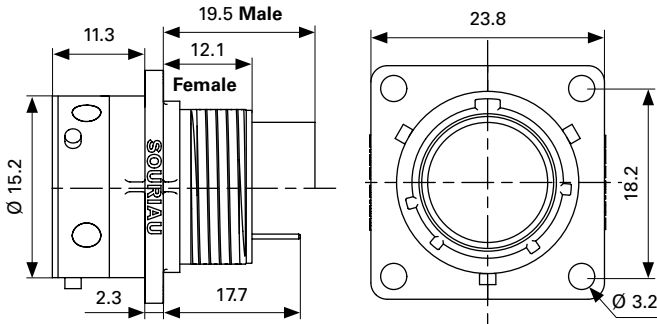


Fig. 1

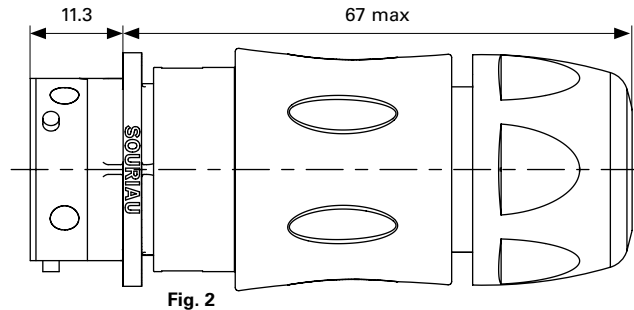


Fig. 2

Cable diameter acceptance: standard seal: from 2.5 mm to 8 mm, reduced seal: from 1.5 mm to 5 mm

**Free hanging - UTGX1JC**

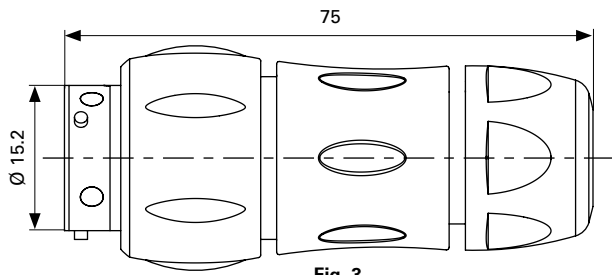


Fig. 3

Cable diameter acceptance: standard seal: from 2.5 mm to 8 mm, reduced seal: from 1.5 mm to 5 mm

**Plug - UTGX6 & UTGX6JC**

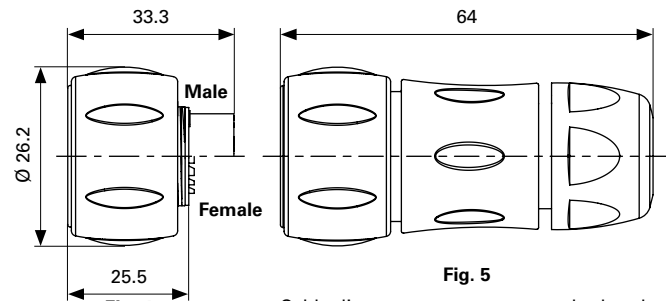


Fig. 4

Fig. 5

Cable diameter acceptance: standard seal: from 2.5 mm to 8 mm, reduced seal: from 1.5 mm to 5 mm

**Jam nut receptacle UTGX7**

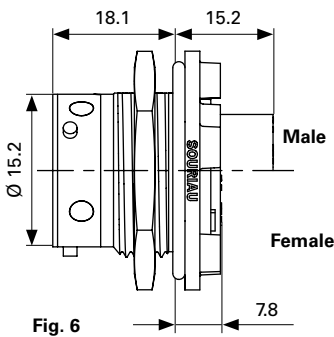


Fig. 6

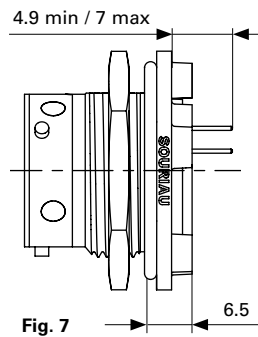
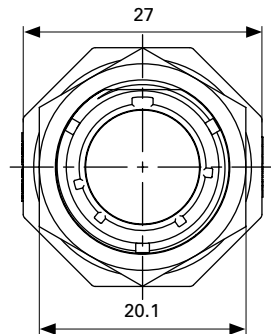
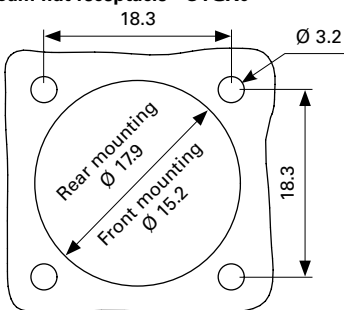


Fig. 7

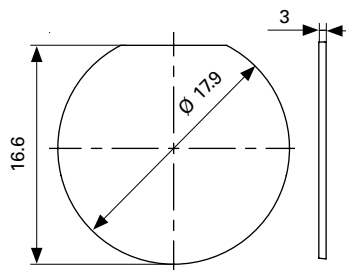


**Panel cut out**

**Jam nut receptacle - UTGX0**



**Jam nut receptacle - UTGX7**





# 2

## Connectors

103W3 (Shell size 10, 3x#20, 3x16)

### Accessories

2

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



Description	Part number
IP68/69K	UTGX10DCG
IP68/69K - Metal terminal	UTGX10DCGR

#### Plug sealing cap



Description	Part number
IP68/69K	UTGX610DCG

#### Plastic protective cap



Part number receptacle cap	Part number plug cap
85005586A	85005595

#### Gasket



Part number
UTFD12B

#### Color coding rings



Description	Part number receptacles	Part number plugs
G for Green	UTGX710CCRG	UTGX610CCRG
Y for Yellow	UTGX710CCRY	UTGX610CCRY
R for Red	UTGX710CCRR	UTGX610CCRR

## Tooling

### Tooling



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

2

### Crimp tooling (without Shandles)



Contact size	Contacts	Part number of Head
Standard contacts #16 Ø 1.6 mm	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 1 mm	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*	

(1): Example of plating, for other plating options see page 129

(2): Loose contact

\* Heads to be used with handle PN: SHANDLES

### Extraction tool #16

Fig. 1



Fig. 2



Description	Part number
Fig. 1	RX2025GE1
Fig. 2 - Long endurance tool	RX2031J

## Contacts #16

2

Contact style	Contact type	Cable acceptance (AWG)	Cable acceptance (mm <sup>2</sup> )	Part number Male	Part number Female	Max wire Ø (mm)	Max insulator Ø (mm)	
Crimp contacts	Machined	30-26	0.48-0.08	RM28M1K <sup>(1)</sup>	RC28M1K <sup>(1)</sup>	0.55	1.00	
		26-24	0.13-0.25	RM24M9K <sup>(1)</sup>	RC24M9K <sup>(1)</sup>	0.80	1.58	
		20-20	0.32-0.52	RM20M13K <sup>(1)</sup>	RC20M13K <sup>(1)</sup>	1.15	1.80	
		20-20	0.32-0.52	RM20M12K <sup>(1)</sup>	RC20M12K <sup>(1)</sup>	1.15	2.20	
		20-16	0.52-1.48	RM16M23K <sup>(1)</sup>	RC16M23K <sup>(1)</sup>	1.80	3.20	
		16-14	1.48-2.48	RM14M30K <sup>(1)</sup>	RC14M30K <sup>(1)</sup>	2.30	3.20	
	Stamped & Formed reeled contacts See note <sup>(2)</sup> for loose piece	26-24	0.13-0.25	SM24M1TK6 <sup>(1)(2)</sup>	SC24M1TK6 <sup>(1)(2)</sup>	–	0.90-1.58	
		20-20	0.32-0.52	SM20M1TK6 <sup>(1)(2)</sup>	SC20M1TK6 <sup>(1)(2)</sup>	–	1.20-2.10	
		18-16	0.80-1.48	SM16M1TK6 <sup>(1)(2)</sup>	SC16M1TK6 <sup>(1)(2)</sup>	–	3.20	
		18-16	0.80-1.48	SM16M11TK6 <sup>(1)(2)</sup>	SC16M11TK6 <sup>(1)(2)</sup>	–	3.00	
		14	2.48	SM14M1TK6 <sup>(1)(2)</sup>	SC14M1TK6 <sup>(1)(2)</sup>	–	3.20	
	PCB	Machined <sup>(3)</sup>	–		RM20M12E83K <sup>(1)</sup>	RC20M12E84K <sup>(1)</sup>	–	–
	Coaxial	Cable multipiece	see pages 133 to 134		RMDXK10D28	RCDXK1D28	–	–
Cable monocrimp				RMDX60xxD28	RCDX60xxD28	–	–	
Twisted pair multipiece				RMDXK10D28 + yorx090	RCDXK1D28 + yorx090	–	–	
Twisted pair monocrimp				RMDX60xxD28	RCDX60xxD28	–	–	
Fiber optic	POF contacts (Plastic Optical Fiber)	–		RMPOF1000	RCPOF1000B	–	–	

(1): Example of plating, for other plating see page 129

(2): Loose piece contact available by adding "L" after the "M" for the contact size and the plating. Example: SM20M1TK6 becomes SM20ML1TK6

(3): for dimensions see pages 136 or 137

## Contacts #20

Contact style	Contact type	Cable acceptance (AWG)	Cable acceptance (mm <sup>2</sup> )	Part number Male	Part number Female	Max wire Ø (mm)	Max insulator Ø (mm)
Crimp contacts	Machined	26-24	0.13-0.25	RM24W3K	RC24W3K	0.80	1.58
		20-20	0.32-0.52	RM20W3K	RC20W3K	1.15	1.80
		20-18	0.52-0.80	RM18W3K	RC18W3K	1.30	2.10
	Stamped & Formed reeled contacts See note <sup>(2)</sup> for loose piece	26-24	0.13-0.25	SM24W3TK6 <sup>(1)(2)</sup>	SC24W3TK6 <sup>(1)(2)</sup>	–	0.90-1.58
		26-24	0.13-0.25	SM24W3S26 <sup>(1)(2)</sup>	SC24W3S25 <sup>(1)(2)</sup>	–	0.90-1.58
		20-20	0.32-0.52	SM20W3TK6 <sup>(1)(2)</sup>	SC20W3TK6 <sup>(1)(2)</sup>	–	1.20-2.10
		20-20	0.32-0.52	SM20W3S26 <sup>(1)(2)</sup>	SC20W3S25 <sup>(1)(2)</sup>	–	1.20-2.10

(1): Example of plating, for other plating see page 129

(2): Loose piece contact available by adding "L" after the "M" for the contact size and the plating. Example: SM20W3TK6 becomes SM20WL3TK6

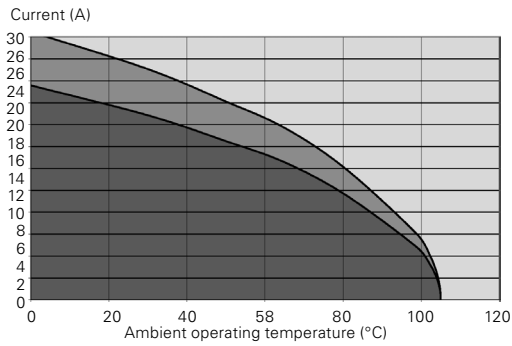
**Electrical characteristics**

UL	CSA	IEC
13A 500V with AWG 16* 7.5A 250V with AWG20*	7A 500V with AWG 16* 2.5A 250V with AWG20*	5A 32V 1.5kV 3 temperature elevation: 50°C

2

\*qualification pending

**UTGX 103W3 derating curves**



- Current use
- Limited use
- Not recommended use

**Test conditions**

Contact used: machined contacts

Wires used: 1.31 mm<sup>2</sup>

Wires used: 0.518 mm<sup>2</sup>

Derating curves based on continuous current application.



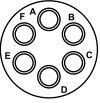
### Connector part number

#### UTGX 106

6 contacts  
4.5A/250V  
per UL 1977 with  
AWG20 wire

#### 10E6/10D6

6 contacts  
6A/250V  
per UL 1977 with  
AWG20 wire



Contact type	Connector type	Backshell	Part number	
			Male insert	Female insert
Crimp contacts supplied separately see page 62	Square flange receptacle	Without (Fig. 1)	UTGX0106P	UTGX0106S
	Square flange receptacle	Cable gland (Fig. 2)	UTGX0JC106P	UTGX0JC106S
	Free hanging receptacle	Cable gland (Fig. 3)	UTGX1JC106P	UTGX1JC106S
	Plug	Without (Fig. 4)	UTGX6106P	UTGX6106S
Cable gland (Fig. 5)		UTGX6JC106P	UTGX6JC106S	
Jam nut receptacle	Without (Fig. 6)	UTGX7106P	UTGX7106S	
	Without (Fig. 7)	UTGX7106P	UTGX7106S	
PCB contacts supplied separately see page 62	Jam nut receptacle	Without (Fig. 7)	UTGX7106P	UTGX7106S
Hand solder electrical contacts loaded	Square flange receptacle	Without (Fig. 1)	UTGX010E6P	UTGX010E6S
	Plug	Without (Fig. 4)	UTGX610E6P	UTGX610E6S
		Cable gland (Fig. 5)	UTGX6JC10E6P	UTGX6JC10E6S
	Jam nut receptacle	Without (Fig. 6)	UTGX710E6P	UTGX710E6S
PCB contacts supplied separately see page 62	Jam nut receptacle	Without (Fig.7)	UTGX710E6P	UTGX710E6S
PCB contacts loaded see page 62	Square flange receptacle	Without (Fig.1)	UTGX010D6P	UTGX010D6S
	Jam nut receptacle with stand off and without hold down clip	Without (Fig.8)	UTGX710D6P	UTGX710D6S
	Jam nut receptacle with stand off and with hold down clips	Without (Fig.8)	UTGX710D6P32	UTGX710D6S32

For discrimination/keying methods see page 154

Sealed unmatred

### Overmoulded cable assembly part numbers

Overmoulding type	Connector type	Wire size (mm <sup>2</sup> )	Harmonized cable part number <sup>(1)</sup>	Part number (length: 1 m.)*	
				Male plug	Female plug
Straight ending	Plug	0.5	H05 VV - F 6x0.5	HAUTGX106PST1M	HAUTGX106SST1M
				HAUTGX10E6PRA1M	HAUTGX10E6SRA1M
Right angle ending	Plug	0.5	H05 VV - F 6x0.5	HAUTGX106PRA1M	HAUTGX106SRA1M
				HAUTGX106EPRA1M	HAUTGX10E6SRA1M

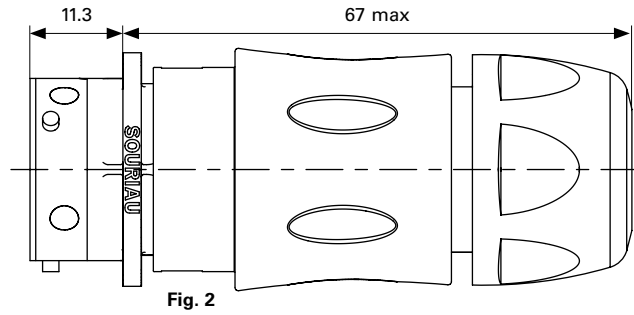
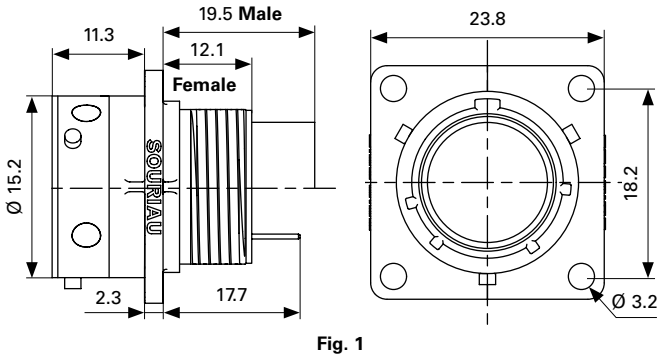
(1) Other cable available on demand

\* Other lengths available on demand

Note: Overmoulded cable assembly dimensions available page 145

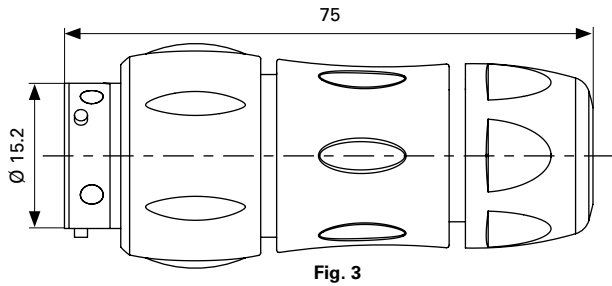
**Dimensions in mm** (For mated connector lengths see page 145)

**Square flange receptacle - UTGX0 and UTGX0JC**



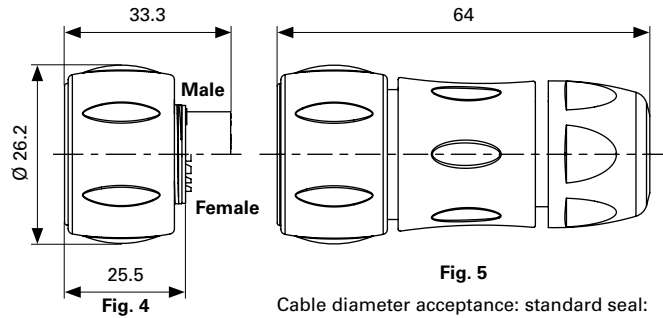
Cable diameter acceptance: standard seal: from 2.5 mm to 8 mm, reduced seal: from 1.5 mm to 5 mm

**Free hanging - UTGX1JC**



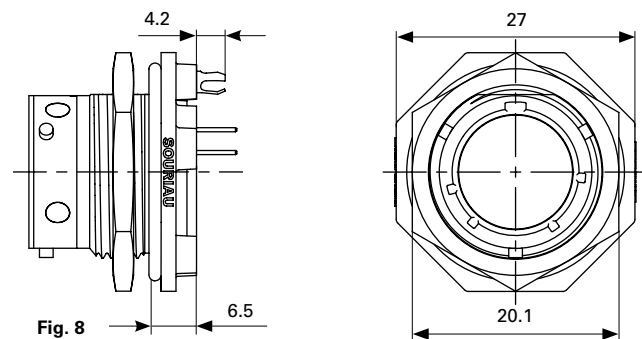
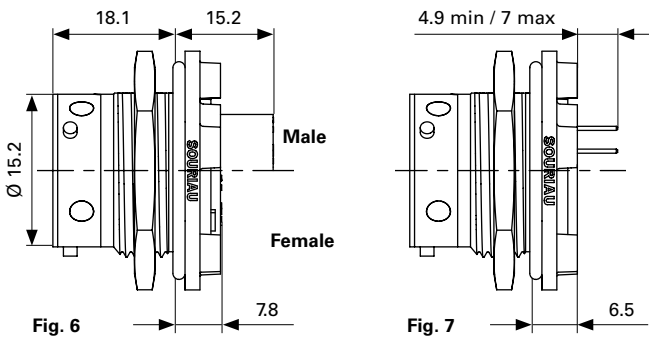
Cable diameter acceptance: standard seal: from 2.5 mm to 8 mm, reduced seal: from 1.5 mm to 5 mm

**Plug - UTGX6 & UTGX6JC**

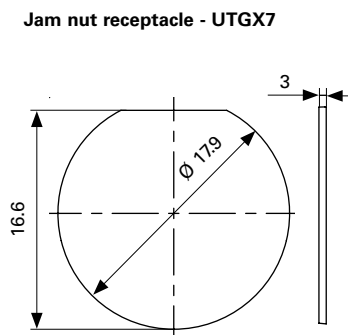
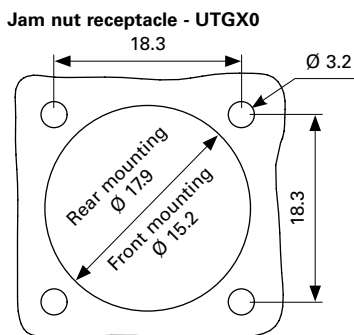


Cable diameter acceptance: standard seal: from 2.5 mm to 8 mm, reduced seal: from 1.5 mm to 5 mm

**Jam nut receptacle UTGX7**



**Panel cut out**





# 2

## Connectors

106 - 10E6/10D6 (Shell size 10, 6x#20)

### Accessories

2

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



Description	Part number
IP68/69K	UTGX10DCG
IP68/69K - Metal terminal	UTGX10DCGR

#### Square flange sealing cap



Description	Part number
IP68/69K - Metal terminal	UTGX10DCGE

#### Plug sealing cap



Description	Part number
IP68/69K	UTGX610DCG

#### Plastic protective cap



Part number receptacle cap	Part number plug cap
85005586A	85005595

#### Gasket



Part number
UTFD12B

#### Color coding rings



Description	Part number receptacles	Part number plugs
G for Green	UTGX710CCRG	UTGX610CCRG
Y for Yellow	UTGX710CCRY	UTGX610CCRY
R for Red	UTGX710CCRR	UTGX610CCRR

## Tooling

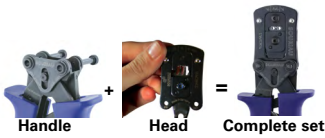
### Tooling



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

2

### Crimp tooling (without Shandles)



Contact size	Contacts	Part number of Head
Standard contacts #20 Ø 1 mm	<b>RM/RC 24W3K<sup>(1)</sup></b>	<b>S20RCM*</b>
	<b>RM/RC 20W3K<sup>(1)</sup></b>	<b>S20RCM*</b>
	<b>RM/RC 18W3K<sup>(1)</sup></b>	<b>S20RCM*</b>
	<b>SM/SC 24WL3<sup>(1)(2)</sup></b>	<b>S20SCM20*</b>
	<b>SM/SC 20WL3<sup>(1)(2)</sup></b>	<b>S20SCM20*</b>

(1): Example of plating, for other plating options see page 129  
 (2): Loose contact  
 \* Heads to be used with handle PN: SHANDLES

### Extraction tool #20



Description	Part number
Contacts #20	<b>RX20D44</b>

### Contacts #20

2

Contact style	Contact type	Cable acceptance (AWG)	Cable acceptance (mm <sup>2</sup> )	Part number Male	Part number Female	Max wire Ø (mm)	Max insulator Ø (mm)
Crimp contacts	Machined	26-24	0.13-0.25	RM24W3K	RC24W3K	0.80	1.58
		20-20	0.32-0.52	RM20W3K	RC20W3K	1.15	1.80
		20-18	0.52-0.80	RM18W3K	RC18W3K	1.30	2.10
	Stamped & Formed reeled contacts See note (2) for loose piece	26-24	0.13-0.25	SM24W3TK6 <sup>(1)(2)</sup>	SC24W3TK6 <sup>(1)(2)</sup>	–	0.90-1.58
		26-24	0.13-0.25	SM24W3S26 <sup>(1)(2)</sup>	SC24W3S25 <sup>(1)(2)</sup>	–	0.90-1.58
		20-20	0.32-0.52	SM20W3TK6 <sup>(1)(2)</sup>	SC20W3TK6 <sup>(1)(2)</sup>	–	1.20-2.10
20-20	0.32-0.52	SM20W3S26 <sup>(1)(2)</sup>	SC20W3S25 <sup>(1)(2)</sup>	–	1.20-2.10		

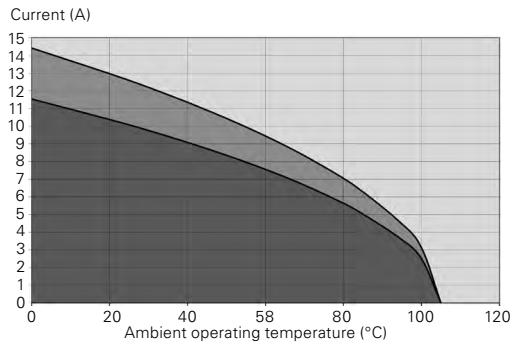
(1): Example of plating, for other plating see page 129 (2): Loose piece contact available by adding "L" after the "M" for the contact size and the plating. Example: SM20W3TK6 becomes SM20WL3TK6

Contact style	Contact type	Plating	Cable acceptance (AWG)	Wire stripping length (mm)
Handsold	Loaded in the connector	Min 0.4µ gold over 0.8µ Ni	20 to 18	3.8

### Electrical characteristics

UL	CSA	IEC
UTGX 106		
4.5A 250V with AWG20 wire	3A 250V with AWG20 wire	7A 32V 1.5kV 3
UTGX 10E6/10D6		
6A 250V with AWG20 wire	6A 250V with AWG20 wire	7A 32V 1.5kV 3

### UTGX 106 - 10E6/10D6 derating curves



- Current use
- Limited use
- Not recommended use

#### Test conditions

Contact used: machined contacts  
Wires used: 0.518 mm<sup>2</sup>

Derating curves based on continuous current application.

10E98/10D98 (Shell size 10, 6x#20)

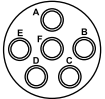
2



### Connector part number

#### UTGX 10E98/10D98

6 contacts  
6A/250V  
per UL 1977  
with AWG20 wire



Contact type	Connector type	Backshell	Part number	
			Male insert	Female insert
Hand solder electrical contacts loaded see page 66	Square flange receptacle	Without (Fig. 1)	UTGX010E98P	UTGX010E98S
	Plug	Without (Fig. 5)	UTGX610E98P	UTGX610E98S
		Cable gland (Fig. 3)	UTGX6JC10E98P	UTGX6JC10E98S
PCB contacts loaded see page 66	Jam nut receptacle	Without (Fig. 4)	UTGX710E98P	UTGX710E98S
	Square flange receptacle	Without (Fig. 2)	UTGX010D98P	UTGX010D98S
	Jam nut receptacle with stand off and without hold down clip	Without (Fig. 5)	UTGX710D98P	UTGX710D98S
	Jam nut receptacle with stand off and with hold down clips	Without (Fig. 6)	UTGX710D98P32	UTGX710D98S32

For discrimination/keying methods see page 154

Sealed unmated

### Overmoulded cable assembly part numbers

Overmoulding type	Connector type	Wire size (mm <sup>2</sup> )	Harmonized cable part number <sup>(1)</sup>	Part number (length: 1 m.)*	
				Male plug	Female plug
Straight ending	Plug	0.5	H05 VV - F 6x0.5	HAUTGX10E98PST1M	HAUTGX10E98SST1M
Right angle ending	Plug	0.5	H05 VV - F 6x0.5	HAUTGX10E98PRA1M	HAUTGX10E98SRA1M

(1) Other cable available on demand

\* Other lengths available on demand

Note: Overmoulded cable assembly dimensions available page 145

### Dimensions in mm (For mated connector lengths see page 145)

#### Square flange receptacle - UTGX0

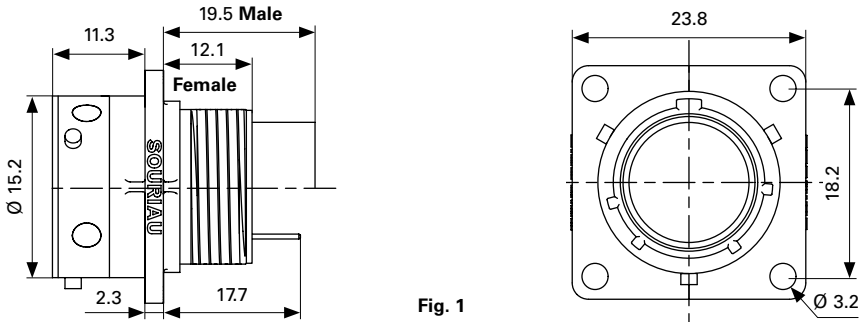


Fig. 1

#### Plug - UTGX6 & UTGX6JC

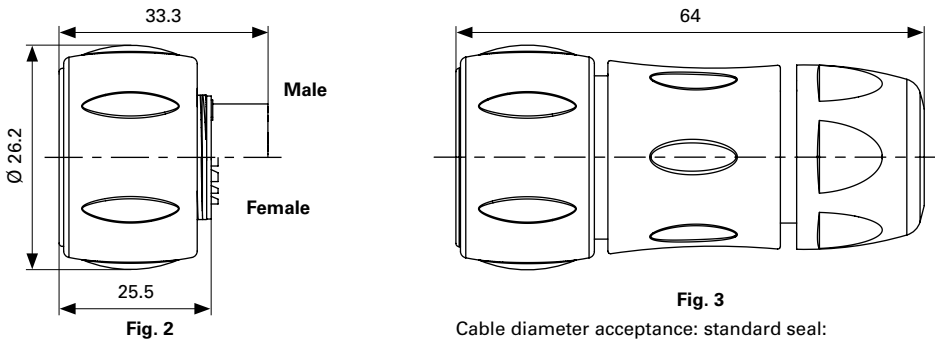


Fig. 3

Cable diameter acceptance: standard seal: from 2.5 mm to 8 mm, reduced seal: from 1.5 mm to 5 mm

#### Jam nut receptacle UTGX7

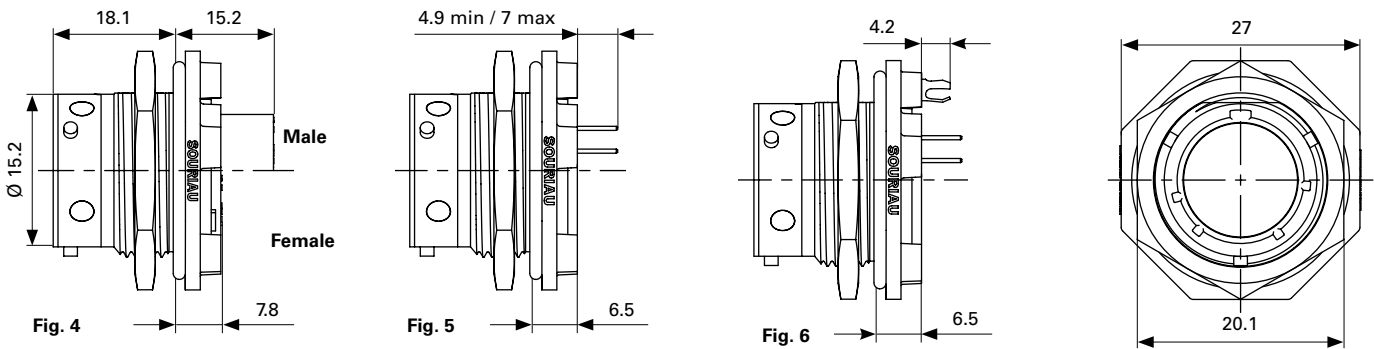


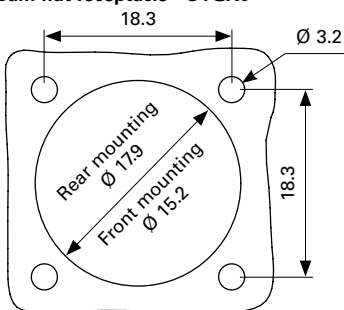
Fig. 4

Fig. 5

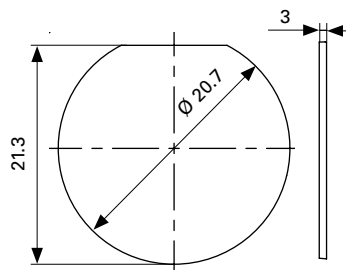
Fig. 6

#### Panel cut out

##### Jam nut receptacle - UTGX0



##### Jam nut receptacle - UTGX7



**Accessories**

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



Description	Part number
IP68/69K	UTGX10DCG
IP68/69K - Metal terminal	UTGX10DCGR

2

**Square flange sealing cap**



Description	Part number
IP68/69K - Metal terminal	UTGX10DCGE

**Plug sealing cap**



Description	Part number
IP68/69K	UTGX610DCG

**Plastic protective cap**



Part number receptacle cap	Part number plug cap
85005586A	85005595

**Gasket**



Part number
UTFD12B

**Color coding rings**



Description	Part number receptacles	Part number plugs
G for Green	UTGX710CCRG	UTGX610CCRG
Y for Yellow	UTGX710CCRY	UTGX610CCRY
R for Red	UTGX710CCRR	UTGX610CCRR



### Contacts #20

2

Contact style	Contact type	Cable acceptance (AWG)	Cable acceptance (mm <sup>2</sup> )	Part number Male	Part number Female	Max wire Ø (mm)	Max insulator Ø (mm)
Crimp contacts	Machined	26-24	0.13-0.25	RM24W3K	RC24W3K	0.80	1.58
		20-20	0.32-0.52	RM20W3K	RC20W3K	1.15	1.80
		20-18	0.52-0.80	RM18W3K	RC18W3K	1.30	2.10
	Stamped & Formed reeled contacts See note <sup>(2)</sup> for loose piece	26-24	0.13-0.25	SM24W3TK6 <sup>(1)(2)</sup>	SC24W3TK6 <sup>(1)(2)</sup>	–	0.90-1.58
		26-24	0.13-0.25	SM24W3S26 <sup>(1)(2)</sup>	SC24W3S25 <sup>(1)(2)</sup>	–	0.90-1.58
		20-20	0.32-0.52	SM20W3TK6 <sup>(1)(2)</sup>	SC20W3TK6 <sup>(1)(2)</sup>	–	1.20-2.10
		20-20	0.32-0.52	SM20W3S26 <sup>(1)(2)</sup>	SC20W3S25 <sup>(1)(2)</sup>	–	1.20-2.10

(1): Example of plating, for other plating see page 129 (2): Loose piece contact available by adding "L" after the "M" for the contact size and the plating. Example: SM20W3TK6 becomes SM20WL3TK6

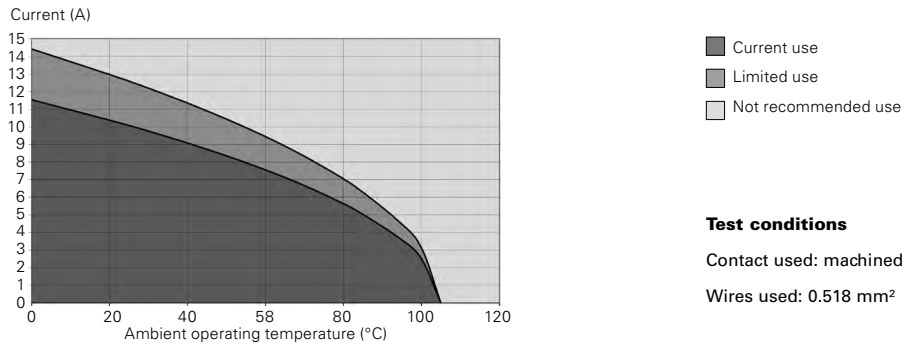
Contact style	Contact type	Plating	Cable acceptance (AWG)	Wire stripping length (mm)
Handsold	Loaded in the connector	Min 0.4µ gold over 0.8µ Ni	20 to 18	3.8

### Electrical characteristics

UL	CSA	IEC
6A 250V with AWG20 wire	6A 250V with AWG20 wire	7A 50V 1.5kV 3

Electrical information according to the IEC 61984, with pollution degree IV and overvoltage category III.

### UTGX 10E98/10D98 derating curves



**Test conditions**  
 Contact used: machined contacts  
 Wires used: 0.518 mm<sup>2</sup>

Derating curves based on continuous current application.

147 - 14E7/14D7 (Shell size 14, 6 + ground, 7x#16)



2

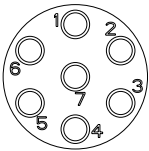
Connector part number

**UTGX 147**

6 contacts + ground  
10A/500V  
per UL 1977  
with AWG16 wire

**14E7/14D7**

6 contacts + ground  
12A/600V  
per UL 1977  
with AWG16 wire



Contact type	Connector type	Backshell	Part number	
			Male insert	Female insert
Crimp contacts supplied separately see page 71	Square flange receptacle	Without (Fig. 1)	<b>UTGX0147P</b>	<b>UTGX0147S</b>
	Square flange receptacle	Cable gland (Fig. 2)	<b>UTGX0JC147P</b>	<b>UTGX0JC147S</b>
	Free hanging receptacle	Cable gland (Fig. 3)	<b>UTGX1JC147P</b>	<b>UTGX1JC147S</b>
	Plug	Without (Fig. 4)	<b>UTGX6147P</b>	<b>UTGX6147S</b>
		Cable gland (Fig. 5)	<b>UTGX6JC147P</b>	<b>UTGX6JC147S</b>
	Jam nut receptacle	Without (Fig. 6)	<b>UTGX7147P</b>	<b>UTGX7147S</b>
Screw contacts loaded	Free hanging receptacle	Cable gland (Fig. 3)	<b>UTGX1JC147PSCR</b>	<b>UTGX1JC147SSCR</b>
	Plug	Cable gland (Fig. 5)	<b>UTGX6JC147PSCR</b>	<b>UTGX6JC147SSCR</b>
	Jam nut receptacle	Without (Fig. 9)	<b>UTGX7147PSCR</b>	<b>UTGX7147SSCR</b>
PCB contacts supplied separately see page 71	Square flange receptacle	Without (Fig. 1)	<b>UTGX0147P</b>	<b>UTGX0147S</b>
Hand solder electrical contacts loaded see page 71	Square flange receptacle	Without (Fig. 1)	<b>UTGX014E7P</b>	<b>UTGX014E7S</b>
	Plug	Without (Fig. 4)	<b>UTGX614E7P</b>	<b>UTGX614E7S</b>
		Cable gland (Fig. 5)	<b>UTGX6JC14E7P</b>	<b>UTGX6JC14E7S</b>
	Jam nut receptacle	Without (Fig. 6)	<b>UTGX714E7P</b>	<b>UTGX714E7S</b>
PCB contacts loaded	Square flange receptacle	Without (Fig. 3)	<b>UTGX014D7P</b>	<b>UTGX014D7S</b>
	Jam nut receptacle with stand off and without hold down clip	Without (Fig.7)	<b>UTGX714D7P</b>	<b>UTGX714D7S</b>
	Jam nut receptacle with stand off and with hold down clips	Without (Fig. 8)	<b>UTGX714D7P32</b>	<b>UTGX714D7S32</b>

Sealed unmatd

Overmoulded cable assembly part numbers

Overmoulding type	Connector type	Wire size (mm <sup>2</sup> )	Harmonized cable part number <sup>(1)</sup>	Part number (length: 1 m.)*	
				Male plug	Female plug
Straight ending	Plug	1.5	H05 VV - F 7x1.5	<b>HAUTGX147PST1M</b>	<b>HAUTGX147SST1M</b>
				<b>HAUTGX14E7PRA1M</b>	<b>HAUTGX14E7SRA1M</b>
Right angle ending	Plug	1.5	H05 VV - F 7x1.5	<b>HAUTGX147PRA1M</b>	<b>HAUTGX147SRA1M</b>
				<b>HAUTGX14E7PRA1M</b>	<b>HAUTGX14E7SRA1M</b>

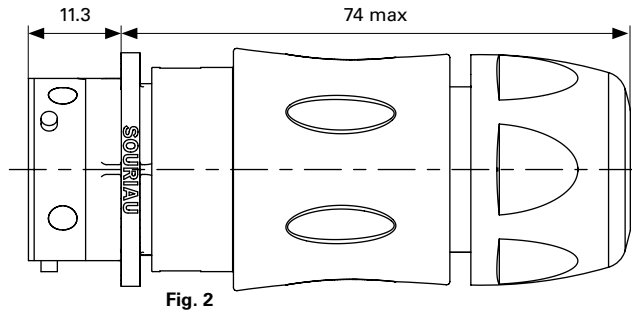
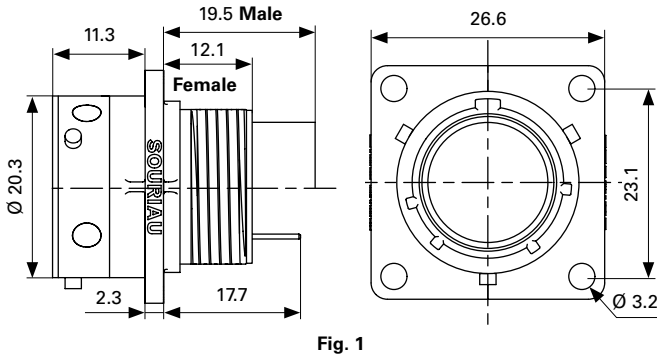
(1) Other cable available on demand

\* Other lengths available on demand

Note: Overmoulded cable assembly dimensions available page 145

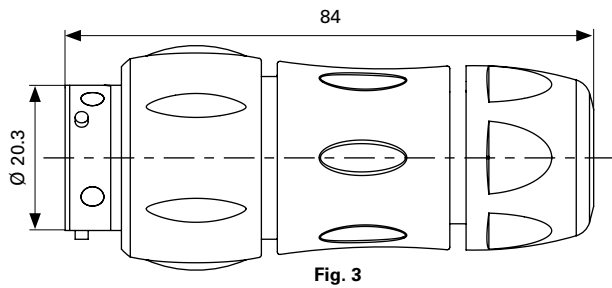
### Dimensions in mm (For mated connector lengths see page 145)

#### Square flange receptacle - UTGX0 and UTGX0JC



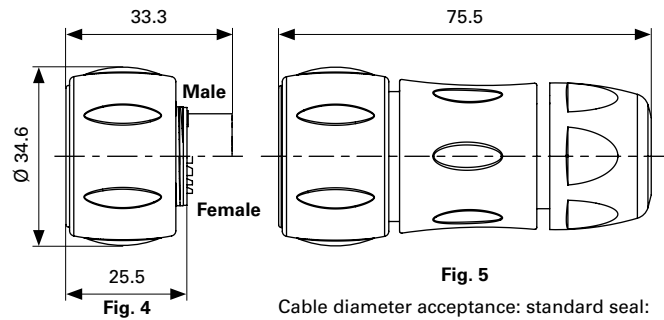
Cable diameter acceptance: standard seal:  
from 7 mm to 14 mm, reduced seal: from 5 mm to 12 mm

#### Free hanging - UTGX1JC



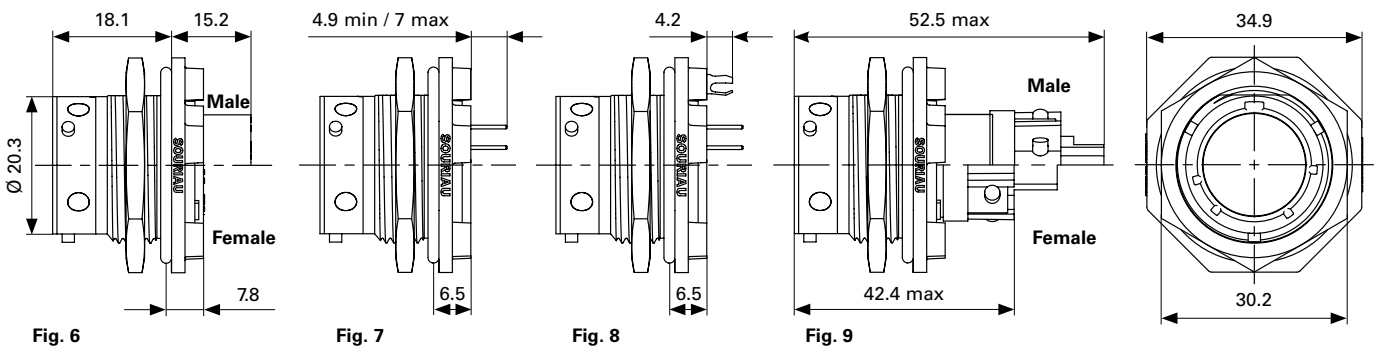
Cable diameter acceptance: standard seal:  
from 7 mm to 14 mm, reduced seal: from 5 mm to 12 mm

#### Plug - UTGX6 & UTGX6JC



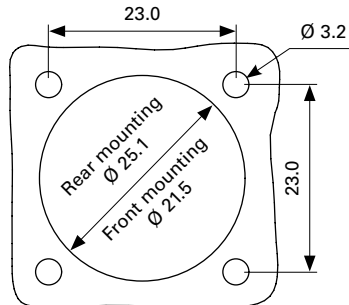
Cable diameter acceptance: standard seal:  
from 7 mm to 14 mm, reduced seal: from 5 mm to 12 mm

#### Jam nut receptacle UTGX7

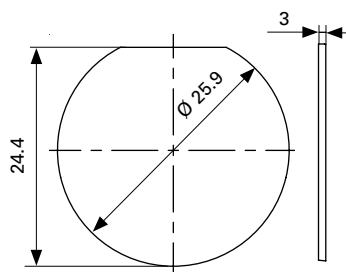


#### Panel cut out

##### Jam nut receptacle - UTGX0



##### Jam nut receptacle - UTGX7



147 - 14E7/14D7 (Shell size 14, 6 + ground, 7x#16)

## Accessories

### Jam nut & free hanging receptacle sealing caps



Description	Part number
IP68/69K	UTGX14DCG
IP68/69K - Metal terminal	UTGX14DCGR

2

### Square flange sealing cap



Description	Part number
IP68/69K - Metal terminal	UTGX14DCGE

### Plug sealing cap



Description	Part number
IP68/69K	UTS614DCG133

### Plastic protective cap



Part number receptacle cap	Part number plug cap
8500588A	8500589

### Gasket



Part number
UTFD14B

### Color coding rings



Description	Part number receptacles	Part number plugs
G for Green	UTGX714CCRG	UTGX614CCRG
Y for Yellow	UTGX714CCRY	UTGX614CCRY
R for Red	UTGX714CCRR	UTGX614CCRR

# 2

## Connectors

147 - 14E7/14D7 (Shell size 14, 6 + ground, 7x#16)

### Tooling

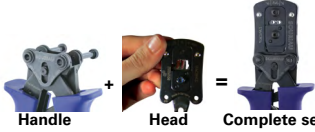
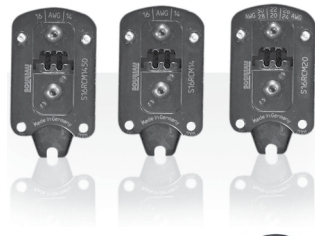
2

#### Tooling



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

#### Crimp tooling (without Shandles)



Contact size	Contacts	Part number of Head
Standard contacts #16 Ø 1.6 mm	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*
	SM/SC 16ML11TK6 <sup>(1)</sup>	S16SCML11*

(1): Example of plating, for other plating options see page 129

\* Heads to be used with handle PN: SHANDLES

#### Extraction tool #16



Description	Part number
<b>Fig. 1</b>	<b>RX2025GE1</b>
<b>Fig. 2 - Long endurance tool</b>	<b>RX2031J</b>

147 - 14E7/14D7 (Shell size 14, 6 + ground, 7x#16)

## Contacts #16

Contact style	Contact type	Cable acceptance (AWG)	Cable acceptance (mm <sup>2</sup> )	Part number Male	Part number Female	Max wire Ø (mm)	Max insulator Ø (mm)	
Crimp contacts	Machined	30-26	0.48-0.08	RM28M1K <sup>(1)</sup>	RC28M1K <sup>(1)</sup>	0.55	1.00	
		26-24	0.13-0.25	RM24M9K <sup>(1)</sup>	RC24M9K <sup>(1)</sup>	0.80	1.58	
		20-20	0.32-0.52	RM20M13K <sup>(1)</sup>	RC20M13K <sup>(1)</sup>	1.15	1.80	
		20-20	0.32-0.52	RM20M12K <sup>(1)</sup>	RC20M12K <sup>(1)</sup>	1.15	2.20	
		20-16	0.52-1.48	RM16M23K <sup>(1)</sup>	RC16M23K <sup>(1)</sup>	1.80	3.20	
		16-14	1.48-2.48	RM14M30K <sup>(1)</sup>	RC14M30K <sup>(1)</sup>	2.30	3.20	
	Stamped & Formed reeled contacts See note <sup>(2)</sup> for loose piece	26-24	0.13-0.25	SM24M1TK6 <sup>(1)(2)</sup>	SC24M1TK6 <sup>(1)(2)</sup>	–	0.90-1.58	
		20-20	0.32-0.52	SM20M1TK6 <sup>(1)(2)</sup>	SC20M1TK6 <sup>(1)(2)</sup>	–	1.20-2.10	
		18-16	0.80-1.48	SM16M1TK6 <sup>(1)(2)</sup>	SC16M1TK6 <sup>(1)(2)</sup>	–	3.20	
		18-16	0.80-1.48	SM16M11TK6 <sup>(1)(2)</sup>	SC16M11TK6 <sup>(1)(2)</sup>	–	3.00	
		14	2.48	SM14M1TK6 <sup>(1)(2)</sup>	SC14M1TK6 <sup>(1)(2)</sup>	–	3.20	
		PCB	Machined <sup>(3)</sup>	–	RM20M12E83K <sup>(1)</sup>	RC20M12E84K <sup>(1)</sup>	–	–
		Coaxial	Cable multipiece	see pages 133 to 134		RMDXK10D28	RCDXK1D28	–
Cable monocrimp			RMDX60xxD28	RCDX60xxD28	–	–		
Twisted pair multipiece			RMDXK10D28 + yorx090	RCDXK1D28 + yorx090	–	–		
Twisted pair monocrimp			RMDX60xxD28	RCDX60xxD28	–	–		
Fiber optic	POF contacts (Plastic Optical Fiber)	–	–	RMPOF1000	RCPOF1000B	–	–	
Hand solder	Loaded in the connector	14-18	2.48-0.80	–	–	–	–	

(1): Example of plating, for other plating see page 129

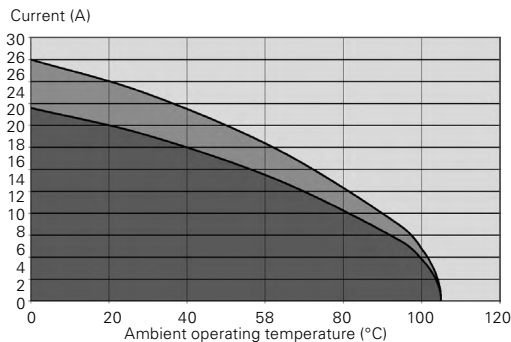
(2): Loose piece contact available by adding "L" after the "M" for the contact size and the plating. Example: SM20M1TK6 becomes SM20ML1TK6

(3): for dimensions see pages 136 or 137

## Electrical characteristics

UL	CSA	IEC
UTGX 147		
10A 500V with AWG16 wire	7A 500V with AWG16 wire	7A 150V 1.5kV 3
UTGX 14E7/14D7		
12A 600V with AWG16 wire	12A 600V with AWG16 wire	7A 150V 1.5kV 3

## UTGX 147 - 14E7/14D7 derating curves



■ Current use  
 ■ Limited use  
 □ Not recommended use

## Test conditions

Contact used: machined contacts

Wires used: 1.31 mm<sup>2</sup>

Derating curves based on continuous current application.

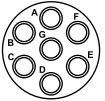




### Connector part number

#### UTGX 10E7/10D7

7 contacts  
6A/250V  
per UL 1977  
with AWG20 wire



Contact type	Connector type	Backshell	Part number	
			Male insert	Female insert
Hand solder electrical contacts loaded see page 75	Square flange receptacle	Without (Fig. 1)	UTGX010E7P	UTGX010E7S
	Plug	Without (Fig. 5)	UTGX610E7P	UTGX610E7S
		Cable gland (Fig. 3)	UTGX6JC10E7P	UTGX6JC10E7S
PCB contacts loaded see page 75	Jam nut receptacle	Without (Fig. 4)	UTGX710E7P	UTGX710E7S
	Square flange receptacle	Without (Fig. 2)	UTGX010D7P	UTGX010D7S
	Jam nut receptacle with stand off and without hold down clip	Without (Fig. 5)	UTGX710D7P	UTGX710D7S
	Jam nut receptacle with stand off and with hold down clips	Without (Fig. 6)	UTGX710D7P32	UTGX710D7S32

For discrimination/keying methods see page 154

Sealed unmated

### Overmoulded cable assembly part numbers

Overmoulding type	Connector type	Wire size (mm <sup>2</sup> )	Harmonized cable part number <sup>(1)</sup>	Part number (length: 1 m.)*	
				Male plug	Female plug
Straight ending	Plug	0.5	H05 VV - F 7x0.5	HAUTGX10E7PST1M	HAUTGX10E7SST1M
Right angle ending	Plug	0.5	H05 VV - F 7x0.5	HAUTGX10E7PRA1M	HAUTGX10E7SRA1M

(1) Other cable available on demand

\* Other lengths available on demand

Note: Overmoulded cable assembly dimensions available page 145

**Dimensions in mm** (For mated connector lengths see page 145)

**Square flange receptacle - UTGX0**

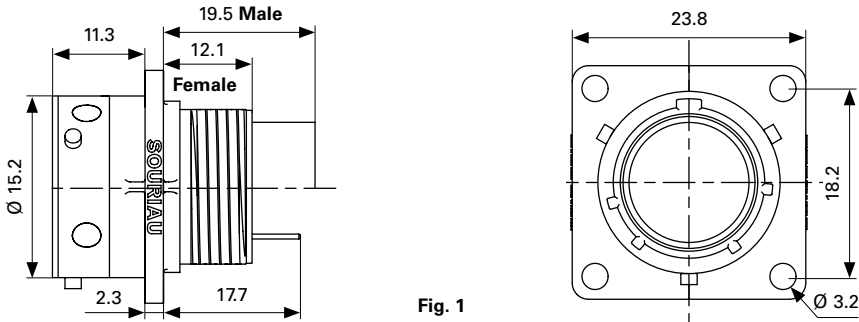


Fig. 1

**Plug - UTGX6 & UTGX6JC**

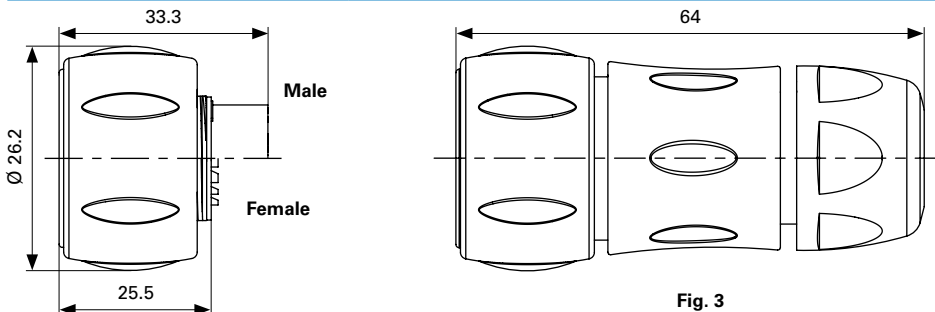


Fig. 3

Cable diameter acceptance: standard seal: from 2.5 mm to 8 mm, reduced seal: from 1.5 mm to 5 mm

**Jam nut receptacle UTGX7**

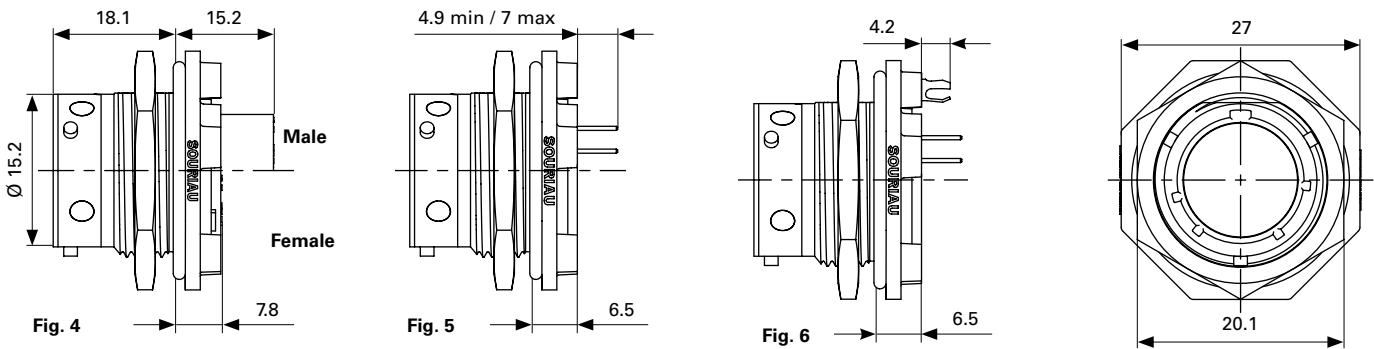
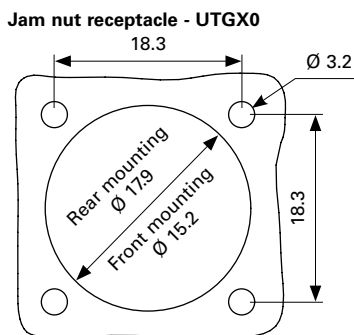


Fig. 4

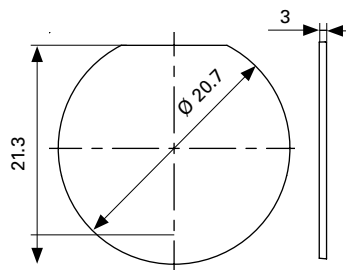
Fig. 5

Fig. 6

**Panel cut out**



**Jam nut receptacle - UTGX7**



# 2

## Connectors

10E7/10D7 (Shell size 10, 7x#20)

### Accessories

2

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



Description	Part number
IP68/69K	UTGX10DCG
IP68/69K - Metal terminal	UTGX10DCGR

#### Square flange sealing cap



Description	Part number
IP68/69K - Metal terminal	UTGX10DCGE

#### Plug sealing cap



Description	Part number
IP68/69K	UTGX610DCG

#### Plastic protective cap



Part number receptacle cap	Part number plug cap
85005586A	85005595

#### Gasket



Part number
UTFD12B

#### Color coding rings



Description	Part number receptacles	Part number plugs
G for Green	UTGX710CCRG	UTGX610CCRG
Y for Yellow	UTGX710CCRY	UTGX610CCRY
R for Red	UTGX710CCRR	UTGX610CCRR

## Contacts #20

Contact style	Contact type	Cable acceptance (AWG)	Cable acceptance (mm <sup>2</sup> )	Part number Male	Part number Female	Max wire Ø (mm)	Max insulator Ø (mm)
Crimp contacts	Machined	26-24	0.13-0.25	RM24W3K	RC24W3K	0.80	1.58
		20-20	0.32-0.52	RM20W3K	RC20W3K	1.15	1.80
		20-18	0.52-0.80	RM18W3K	RC18W3K	1.30	2.10
	Stamped & Formed reeled contacts See note (2) for loose piece	26-24	0.13-0.25	SM24W3TK6 <sup>(1)(2)</sup>	SC24W3TK6 <sup>(1)(2)</sup>	–	0.90-1.58
		26-24	0.13-0.25	SM24W3S26 <sup>(1)(2)</sup>	SC24W3S25 <sup>(1)(2)</sup>	–	0.90-1.58
		20-20	0.32-0.52	SM20W3TK6 <sup>(1)(2)</sup>	SC20W3TK6 <sup>(1)(2)</sup>	–	1.20-2.10
		20-20	0.32-0.52	SM20W3S26 <sup>(1)(2)</sup>	SC20W3S25 <sup>(1)(2)</sup>	–	1.20-2.10

(1): Example of plating, for other plating see page 129

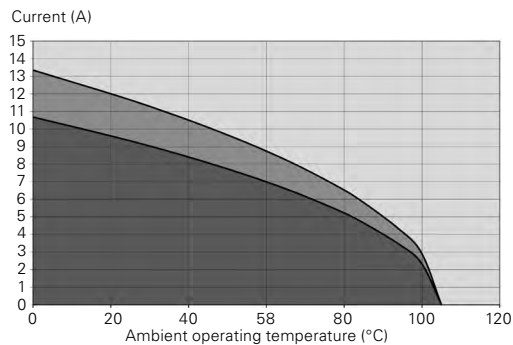
(2): Loose piece contact available by adding "L" after the "M" for the contact size and the plating. Example: SM20W3TK6 becomes SM20WL3TK6

Contact style	Contact type	Plating	Cable acceptance (AWG)	Wire stripping length (mm)
Handsold	Loaded in the connector	Min 0.4µ gold over 0.8µ Ni	20 to 18	3.8

## Electrical characteristics

UL	CSA	IEC
6A 250V with AWG20 wire	6A 250V with AWG20 wire	7A 50V 1.5kV 3

## UTGX 10E7/10D7 derating curves



■ Current use  
 ■ Limited use  
 □ Not recommended use

## Test conditions

Contact used: machined contacts

Wires used: 0.518 mm<sup>2</sup>

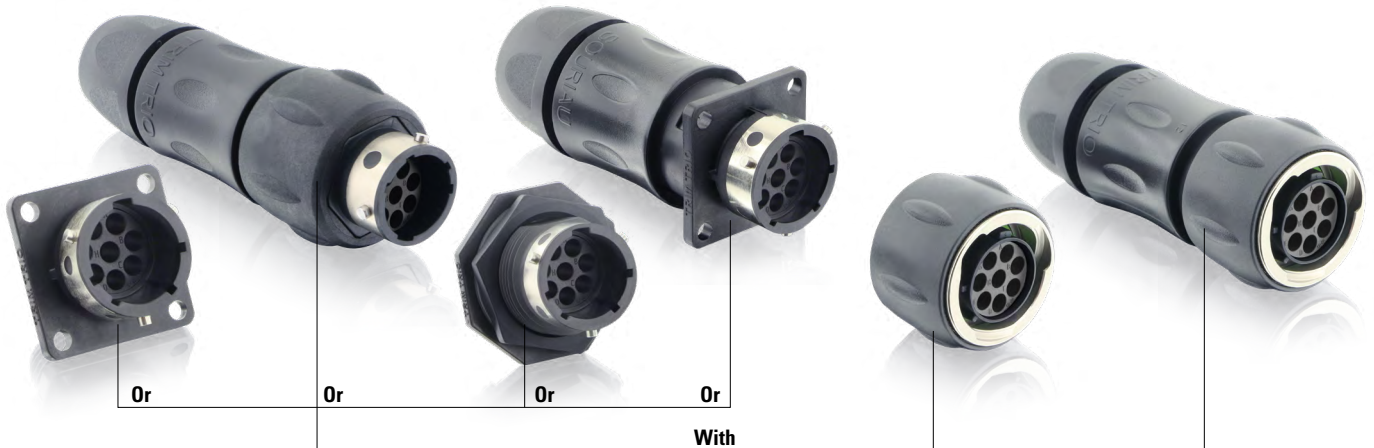
Derating curves based on continuous current application.

# 2

## Connectors

128 (Shell size 12, 8x16)

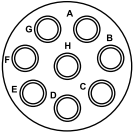
2



### Connector part number

#### UTGX 128

6 contacts  
10A/500V  
per UL 1977 with  
AWG16 wire



Contact type	Connector type	Backshell	Part number	
			Male insert	Female insert
Crimp contacts supplied separately see page 80	Square flange receptacle	Without (Fig. 1)	<b>UTGX0128P</b>	<b>UTGX0128S</b>
	Square flange receptacle	Cable gland (Fig. 2)	<b>UTGX0JC128P</b>	<b>UTGX0JC128S</b>
	Free hanging receptacle	Cable gland (Fig. 3)	<b>UTGX1JC128P</b>	<b>UTGX1JC128S</b>
	Plug	Without (Fig. 4)	<b>UTGX6128P</b>	<b>UTGX6128S</b>
Cable gland (Fig. 5)		<b>UTGX6JC128P</b>	<b>UTGX6JC128S</b>	
PCB contacts supplied separately see page 80	Jam nut receptacle	Without (Fig. 6)	<b>UTGX7128P</b>	<b>UTGX7128S</b>
	Jam nut receptacle with stand off and without hold down clip	Without (Fig. 7)	<b>UTGX7128P</b>	<b>UTGX7128S</b>

### Overmoulded cable assembly part numbers

Overmoulding type	Connector type	Wire size (mm <sup>2</sup> )	Harmonized cable part number <sup>(1)</sup>	Part number (length: 1 m.)*	
				Male plug	Female plug
Straight ending	Plug	1.5	H05 VV - F 3x1.5	<b>HAUTGX128PST1M</b>	<b>HAUTGX128SST1M</b>
Right angle ending	Plug	1.5	H05 VV - F 3x1.5	<b>HAUTGX128PRA1M</b>	<b>HAUTGX128SRA1M</b>

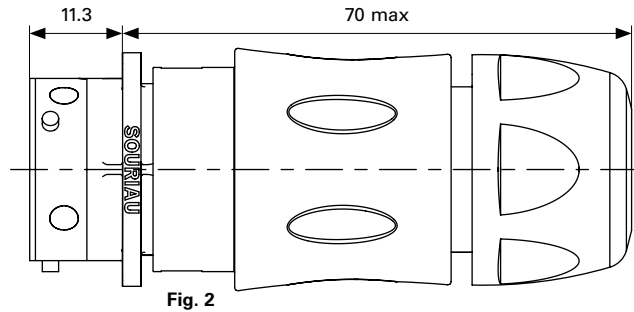
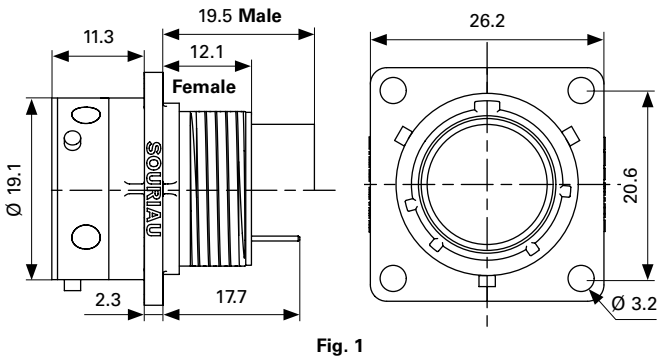
(1) Other cable available on demand

\* Other lengths available on demand

Note: Overmoulded cable assembly dimensions available page 145

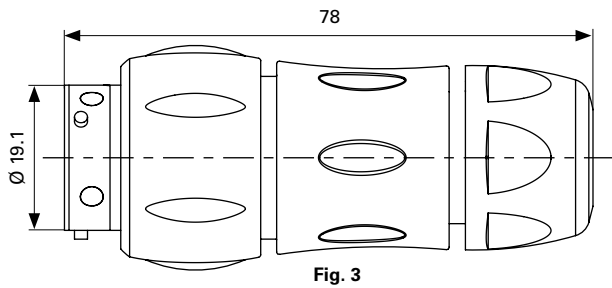
**Dimensions in mm** (For mated connector lengths see page 145)

**Square flange receptacle - UTGX0 and UTGX0JC**



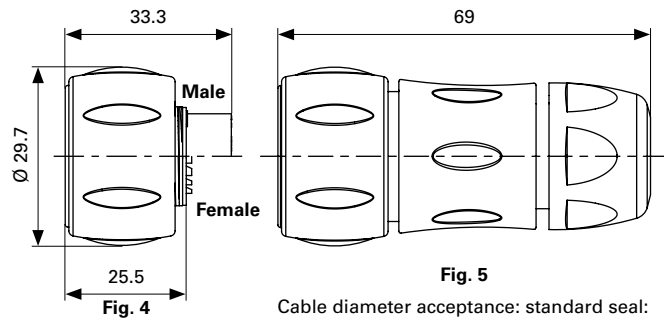
Cable diameter acceptance: standard seal:  
from 2.5 mm to 12 mm, reduced seal: from 3 mm to 9 mm

**Free hanging - UTGX1JC**



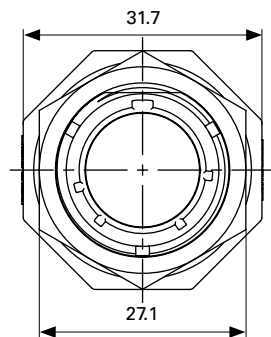
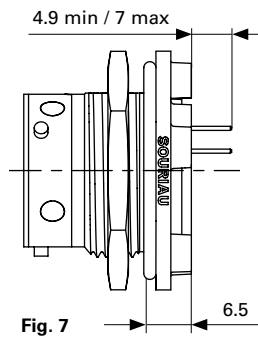
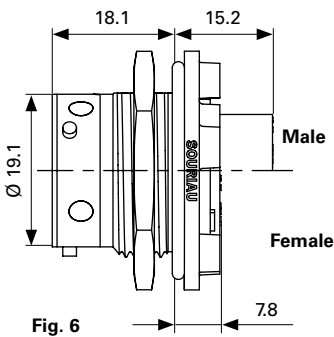
Cable diameter acceptance: standard seal:  
from 2.5 mm to 12 mm, reduced seal: from 3 mm to 9 mm

**Plug - UTGX6 & UTGX6JC**



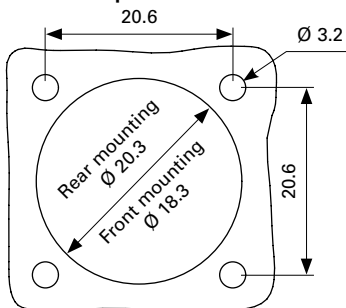
Cable diameter acceptance: standard seal:  
from 2.5 mm to 12 mm, reduced seal: from 3 mm to 9 mm

**Jam nut receptacle UTGX7**

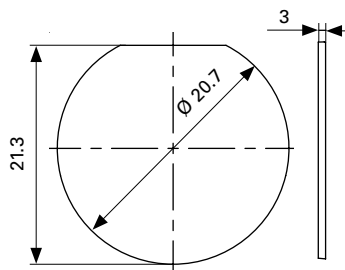


**Panel cut out**

**Jam nut receptacle - UTGX0**



**Jam nut receptacle - UTGX7**



# 2

## Connectors

128 (Shell size 12, 8x16)

### Accessories

2

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



Description	Part number
IP68/69K	UTGX12DCG
IP68/69K - Metal terminal	UTGX12DCGR

#### Plug sealing cap



Description	Part number
IP68/69K	UTGX612DCG

#### Plastic protective cap



Part number receptacle cap	Part number plug cap
85005587A	85005596

#### Gasket



Part number
UTFD13B

#### Color coding rings



Description	Part number receptacles	Part number plugs
G for Green	UTGX712CCRG	UTGX612CCRG
Y for Yellow	UTGX712CCRY	UTGX612CCRY
R for Red	UTGX712CCRR	UTGX612CCRR



## Tooling

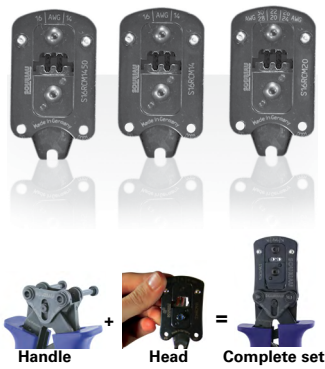
### Tooling



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

2

### Crimp tooling (without Shandles)



Contact size	Contacts	Part number of Head
Standard contacts #16 Ø 1.6 mm	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 1 mm	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*	

(1): Example of plating, for other plating options see page 129

(2): Loose contact

\* Heads to be used with handle PN: SHANDLES

### Extraction tool #16



Fig. 1



Fig. 2

Description	Part number
Fig. 1	RX2025GE1
Fig. 2 - Long endurance tool	RX2031J

### Contacts #16

2

Contact style	Contact type	Cable acceptance (AWG)	Cable acceptance (mm <sup>2</sup> )	Part number Male	Part number Female	Max wire Ø (mm)	Max insulator Ø (mm)
Crimp contacts	Machined	30-26	0.48-0.08	RM28M1K <sup>(1)</sup>	RC28M1K <sup>(1)</sup>	0.55	1.00
		26-24	0.13-0.25	RM24M9K <sup>(1)</sup>	RC24M9K <sup>(1)</sup>	0.80	1.58
		20-20	0.32-0.52	RM20M13K <sup>(1)</sup>	RC20M13K <sup>(1)</sup>	1.15	1.80
		20-20	0.32-0.52	RM20M12K <sup>(1)</sup>	RC20M12K <sup>(1)</sup>	1.15	2.20
		20-16	0.52-1.48	RM16M23K <sup>(1)</sup>	RC16M23K <sup>(1)</sup>	1.80	3.20
		16-14	1.48-2.48	RM14M30K <sup>(1)</sup>	RC14M30K <sup>(1)</sup>	2.30	3.20
	Stamped & Formed reeled contacts See note <sup>(2)</sup> for loose piece	26-24	0.13-0.25	SM24M1TK6 <sup>(1)(2)</sup>	SC24M1TK6 <sup>(1)(2)</sup>	–	0.90-1.58
		20-20	0.32-0.52	SM20M1TK6 <sup>(1)(2)</sup>	SC20M1TK6 <sup>(1)(2)</sup>	–	1.20-2.10
		18-16	0.80-1.48	SM16M1TK6 <sup>(1)(2)</sup>	SC16M1TK6 <sup>(1)(2)</sup>	–	3.20
		18-16	0.80-1.48	SM16M11TK6 <sup>(1)(2)</sup>	SC16M11TK6 <sup>(1)(2)</sup>	–	3.00
		14	2.48	SM14M1TK6 <sup>(1)(2)</sup>	SC14M1TK6 <sup>(1)(2)</sup>	–	3.20
PCB	Machined <sup>(3)</sup>	–		RM20M12E83K <sup>(1)</sup>	RC20M12E84K <sup>(1)</sup>		–
Coaxial	Cable multipiece	see pages 133 to 134		RMDXK10D28	RCDXK1D28	–	–
	Cable monocrimp			RMDX60xxD28	RCDX60xxD28	–	–
	Twisted pair multipiece			RMDXK10D28 + yorx090	RCDXK1D28 + yorx090	–	–
	Twisted pair monocrimp			RMDX60xxD28	RCDX60xxD28	–	–
Fiber optic	POF contacts (Plastic Optical Fiber)	–		RMPOF1000	RCPOF1000B	–	–
Handsoldier	Loaded in the connector	14-18	2.48-0.80	–	–	–	–

(1): Example of plating, for other plating see page 129

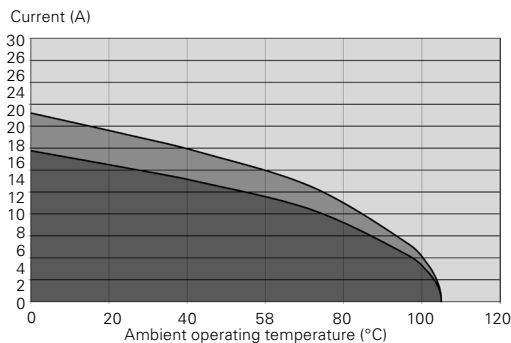
(2): Loose piece contact available by adding "L" after the "M" for the contact size and the plating. Example: SM20M1TK6 becomes SM20ML1TK6

(3): for dimensions see pages 136 or 137

### Electrical characteristics

UL	CSA	IEC
10A 500V with AWG16 wire	7A 500V with AWG16 wire	10A 80V 1.5kV 3

### UTGX 128 derating curves



- Current use
- Limited use
- Not recommended use

#### Test conditions

Contact used: machined contacts

Wires used: 1.31 mm<sup>2</sup>

Derating curves based on continuous current application.

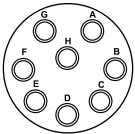


2

### Connector part number

#### UTGX 12E8/12D8

8 contacts  
4.5A/250V  
per UL 1977 with  
AWG20 wire



Contact type	Connector type	Backshell	Part number	
			Male insert	Female insert
Hand solder electrical contacts loaded see page 84	Square flange receptacle	Without (Fig. 1)	UTGX012E8P	UTGX012E8S
	Plug	Without (Fig. 2)	UTGX612E8P	UTGX612E8S
		Cable gland (Fig. 3)	UTGX6JC12E8P	UTGX6JC12E8S
PCB contacts loaded see page 84	Jam nut receptacle	Without (Fig. 4)	UTGX712E8P	UTGX712E8S
	Square flange receptacle	Without (Fig. 1)	UTGX012D8P	UTGX012D8S
		Jam nut receptacle with stand off and without hold down clip	Without (Fig. 5)	UTGX712D8P
	Jam nut receptacle with stand off and with hold down clips	Without (Fig. 6)	UTGX712D8P32	UTGX712D8S32

For discrimination/keying methods see page 154

Sealed unmatd

### Overmoulded cable assembly part numbers

Overmoulding type	Connector type	Wire size (mm <sup>2</sup> )	Harmonized cable part number <sup>(1)</sup>	Part number (length: 1 m.)*	
				Male plug	Female plug
Straight ending	Plug	1.5	H05 VV - F 3x1.5	HAUTGX12E8PST1M	HAUTGX12E8SST1M
Right angle ending	Plug	1.5	H05 VV - F 3x1.5	HAUTGX12E8PRA1M	HAUTGX12E8SRA1M

(1) Other cable available on demand

\* Other lengths available on demand

Note: Overmoulded cable assembly dimensions available page 145

### Dimensions in mm (For mated connector lengths see page 145)

#### Square flange receptacle - UTGX0

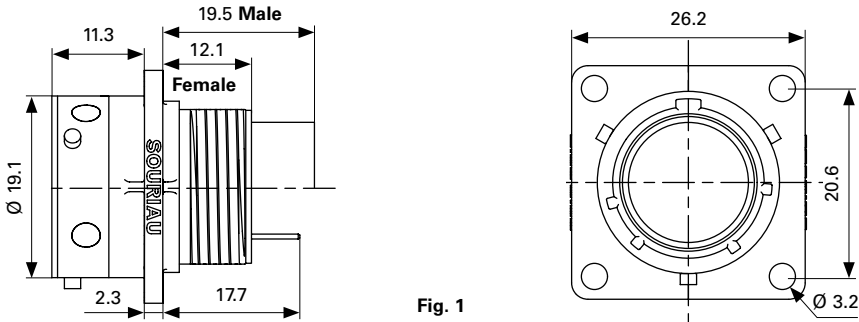


Fig. 1

#### Plug - UTGX6 & UTGX6JC

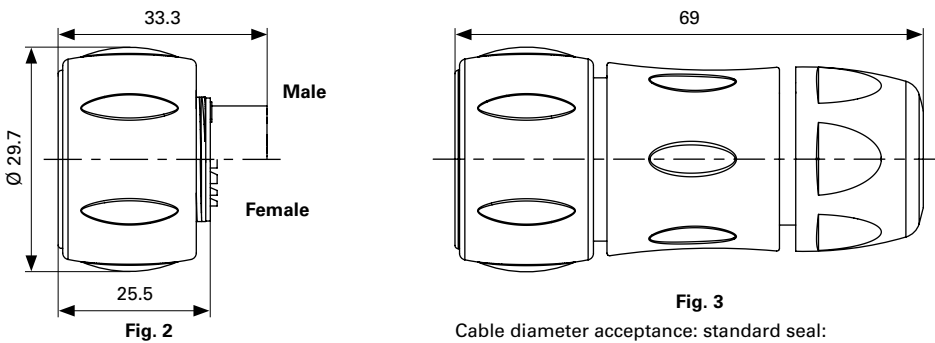


Fig. 3

Cable diameter acceptance: standard seal: from 2.5 mm to 12 mm, reduced seal: from 3 mm to 9 mm

#### Jam nut receptacle UTGX7

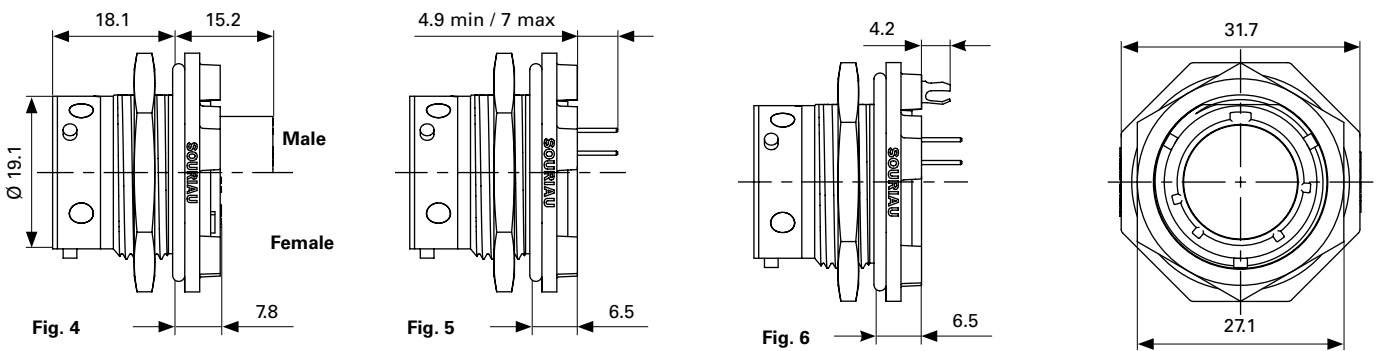


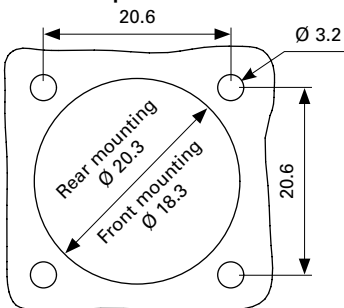
Fig. 4

Fig. 5

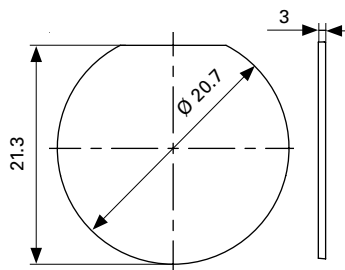
Fig. 6

#### Panel cut out

##### Jam nut receptacle - UTGX0



##### Jam nut receptacle - UTGX7



## Accessories

### Jam nut & free hanging receptacle sealing caps



Description	Part number
IP68/69K	UTGX12DCG
IP68/69K - Metal terminal	UTGX12DCGR

2

### Plug sealing cap



Description	Part number
IP68/69K	UTGX612DCG

### Plastic protective cap



Part number receptacle cap	Part number plug cap
85005587A	85005596

### Gasket



Part number
UTFD13B

### Color coding rings



Description	Part number receptacles	Part number plugs
G for Green	UTGX712CCRG	UTGX612CCRG
Y for Yellow	UTGX712CCRY	UTGX612CCRY
R for Red	UTGX712CCRR	UTGX612CCRR

### Contacts #20

2

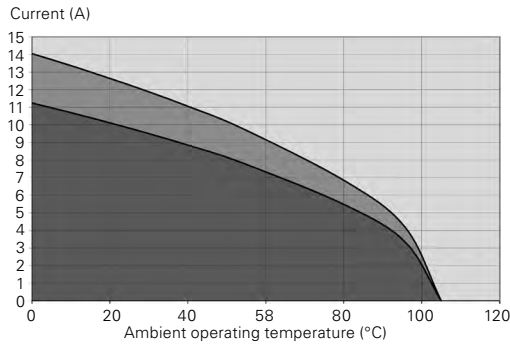
Contact style	Contact type	Plating	Cable acceptance (AWG)	Wire stripping length (mm)
Handsold	Loaded in the connector	Min 0.4μ gold over 0.8μ Ni	20 to 18	3.8
PCB	Machined <sup>(1)</sup>	Min 0.4μ gold over 0.8μ Ni	–	–

(1): For dimensions see pages 136 or 137

### Electrical characteristics

UL	CSA	IEC
4.5A 250V with AWG20 wire	4.5A 250V with AWG20 wire	6A 32V 1.5kV 3

### UTGX 12E8/12D8 derating curves



- Current use
- Limited use
- Not recommended use

#### Test conditions

Contact used: machined contacts  
Wires used: 0.518 mm<sup>2</sup>

Derating curves based on continuous current application.

148 (Shell size 14, 4x#16, 4x#12)

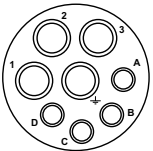


2

**Connector part number**

**UTGX 148**

8 contacts  
 25A 600V per UL1977 with AWG14 wire  
 5A 600V per UL1977 AWG20 wire (qualification pending)



Contact type	Connector type	Backshell	Part number	
			Male insert	Female insert
Crimp contacts supplied separately see page 89	Square flange receptacle	Without (Fig. 1)	<b>UTGX0148P</b>	<b>UTGX0148S</b>
	Square flange receptacle	Cable gland (Fig. 2)	<b>UTGX0JC148P</b>	<b>UTGX0JC148S</b>
	Free hanging receptacle	Cable gland (Fig. 3)	<b>UTGX1JC148P</b>	<b>UTGX1JC148S</b>
	Plug	Without (Fig. 4)	<b>UTGX6148P</b>	<b>UTGX6148S</b>
		Cable gland (Fig. 5)	<b>UTGX6JC148P</b>	<b>UTGX6JC148S</b>
	Jam nut receptacle	Without (Fig. 6)	<b>UTGX7148P</b>	<b>UTGX7148S</b>



# 2

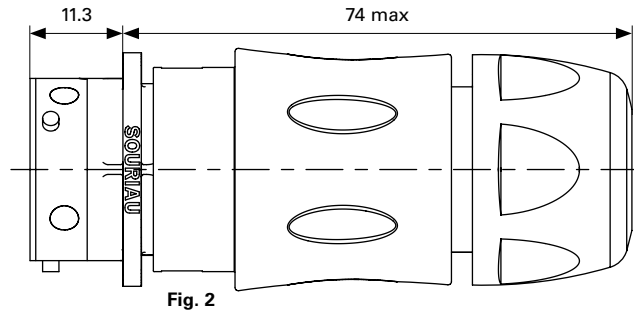
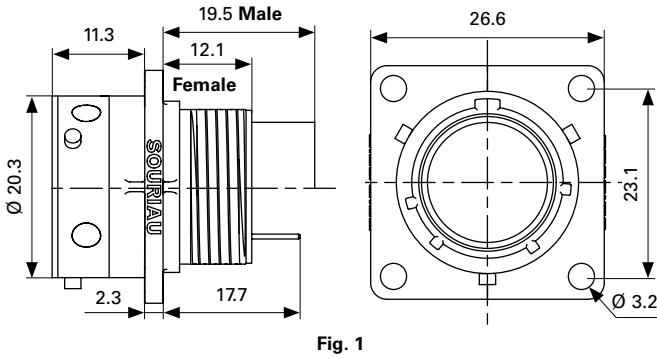
## Connectors

148 (Shell size 14, 4x#16, 4x#12)

### Dimensions in mm (For mated connector lengths see page 145)

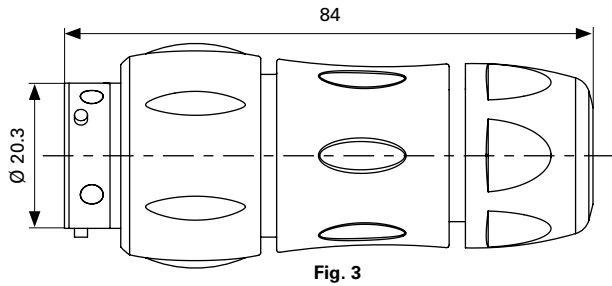
#### 2

#### Square flange receptacle - UTGX0 and UTGX0JC



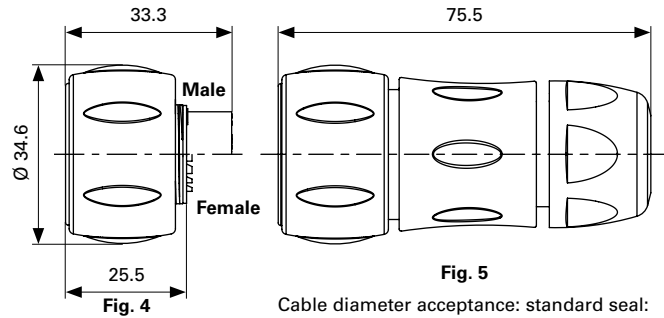
Cable diameter acceptance: standard seal:  
from 7 mm to 14 mm, reduced seal: from 5 mm to 12 mm

#### Free hanging - UTGX1JC



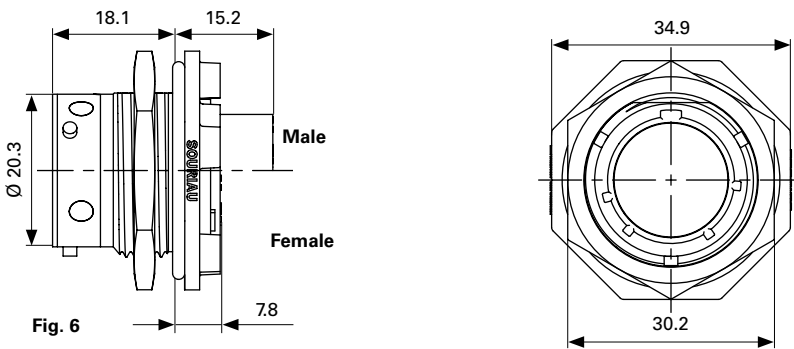
Cable diameter acceptance: standard seal:  
from 7 mm to 14 mm, reduced seal: from 5 mm to 12 mm

#### Plug - UTGX6 & UTGX6JC



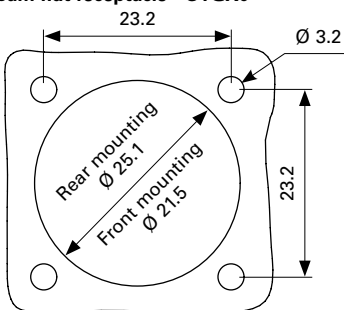
Cable diameter acceptance: standard seal:  
from 7 mm to 14 mm,  
reduced seal: from 5 mm to 12 mm

#### Jam nut receptacle UTGX7

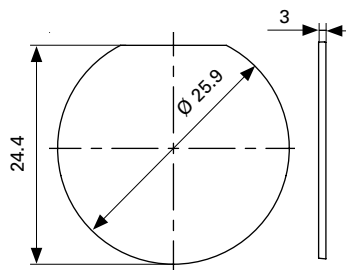


#### Panel cut out

##### Jam nut receptacle - UTGX0



##### Jam nut receptacle - UTGX7



## Accessories

### Jam nut & free hanging receptacle sealing caps



Description	Part number
IP68/69K	UTGX14DCG
IP68/69K - Metal terminal	UTGX14DCGR

2

### Square flange sealing cap



Description	Part number
IP68/69K - Metal terminal	UTGX14DCGE

### Plug sealing cap



Description	Part number
IP68/69K	UTS614DCG133

### Plastic protective cap



Part number receptacle cap	Part number plug cap
85005588A	85005597

### Gasket



Part number
UTFD14B

### Color coding rings



Description	Part number receptacles	Part number plugs
G for Green	UTGX714CCRG	UTGX614CCRG
Y for Yellow	UTGX714CCRY	UTGX614CCRY
R for Red	UTGX714CCRR	UTGX614CCRR

# 2

## Connectors

148 (Shell size 14, 4x#16, 4x#12)

### Tooling

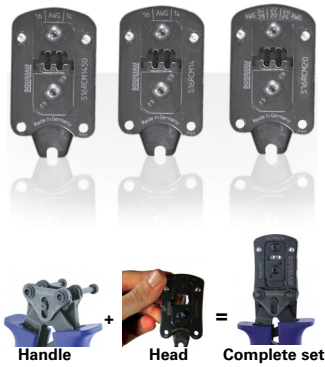
2

#### Tooling



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

#### Crimp tooling (without Shandles)



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

(1): Example of plating, for other plating options see page 129

\* Heads to be used with handle PN: SHANDLES

#### Extraction tool #16



Description	Part number
<b>Fig. 1</b>	<b>RX2025GE1</b>
<b>Fig. 2 - Long endurance tool</b>	<b>RX2031J</b>

#### Crimp tooling #12



Contact size	Part number hand tool	Part number positioner + locator setting
Standard contacts #12 Ø 2.4 mm	<b>M317</b>	<b>VGE10077A</b>

#### Extraction tool #20



Description	Part number
Contacts #12	<b>51060210924</b>

148 (Shell size 14, 4x#16, 4x#12)

## Contacts #16

Contact style	Contact type	Cable acceptance (AWG)	Cable acceptance (mm <sup>2</sup> )	Part number Male	Part number Female	Max wire Ø (mm)	Max insulator Ø (mm)		
Crimp contacts	Machined	30-26	0.48-0.08	RM28M1K <sup>(1)</sup>	RC28M1K <sup>(1)</sup>	0.55	1.00		
		26-24	0.13-0.25	RM24M9K <sup>(1)</sup>	RC24M9K <sup>(1)</sup>	0.80	1.58		
		20-20	0.32-0.52	RM20M13K <sup>(1)</sup>	RC20M13K <sup>(1)</sup>	1.15	1.80		
		20-20	0.32-0.52	RM20M12K <sup>(1)</sup>	RC20M12K <sup>(1)</sup>	1.15	2.20		
		20-16	0.52-1.48	RM16M23K <sup>(1)</sup>	RC16M23K <sup>(1)</sup>	1.80	3.20		
		16-14	1.48-2.48	RM14M30K <sup>(1)</sup>	RC14M30K <sup>(1)</sup>	2.30	3.20		
	Stamped & Formed reeled contacts See note <sup>(2)</sup> for loose piece	26-24	0.13-0.25	SM24M1TK6 <sup>(1)(2)</sup>	SC24M1TK6 <sup>(1)(2)</sup>	–	0.90-1.58		
		20-20	0.32-0.52	SM20M1TK6 <sup>(1)(2)</sup>	SC20M1TK6 <sup>(1)(2)</sup>	–	1.20-2.10		
		18-16	0.80-1.48	SM16M1TK6 <sup>(1)(2)</sup>	SC16M1TK6 <sup>(1)(2)</sup>	–	3.20		
		18-16	0.80-1.48	SM16M11TK6 <sup>(1)(2)</sup>	SC16M11TK6 <sup>(1)(2)</sup>	–	3.00		
		14	2.48	SM14M1TK6 <sup>(1)(2)</sup>	SC14M1TK6 <sup>(1)(2)</sup>	–	3.20		
		Coaxial	Cable multipiece	see pages 133 to 134		RMDXK10D28	RCDXK1D28	–	–
			Cable monocrimp			RMDX60xxD28	RCDX60xxD28	–	–
Twisted pair multipiece			RMDXK10D28 + yorx090	RCDXK1D28 + yorx090	–	–			
Twisted pair monocrimp			RMDX60xxD28	RCDX60xxD28	–	–			

(1): Example of plating, for other plating see page 129

(2): Loose piece contact available by adding "L" after the "M" for the contact size and the plating. Example: SM20M1TK6 becomes SM20ML1TK6

## Contacts #12

Contact style	Contact type	Cable acceptance (AWG)	Cable acceptance (mm <sup>2</sup> )	Part number Male	Part number Female	Max wire Ø (mm)	Max insulator Ø (mm)
Crimp contacts	Machined	20	–	82911457NA <sup>(1)</sup>	82911456A <sup>(1)</sup>	0.7	4.90
		20	–	82911459NA <sup>(1)</sup>	82911458A <sup>(1)</sup>	1.12	
		18	–	82911461NA <sup>(1)</sup>	82911460A <sup>(1)</sup>	1.42	
		16	–	82911463NAv	82911462A <sup>(1)</sup>	1.72	
		14	–	82911465NA <sup>(1)</sup>	82911464A <sup>(1)</sup>	2.20	
		12	–	82911467NA <sup>(1)</sup>	82911466A <sup>(1)</sup>	2.82	

(1): Example of plating, for other plating see page 129

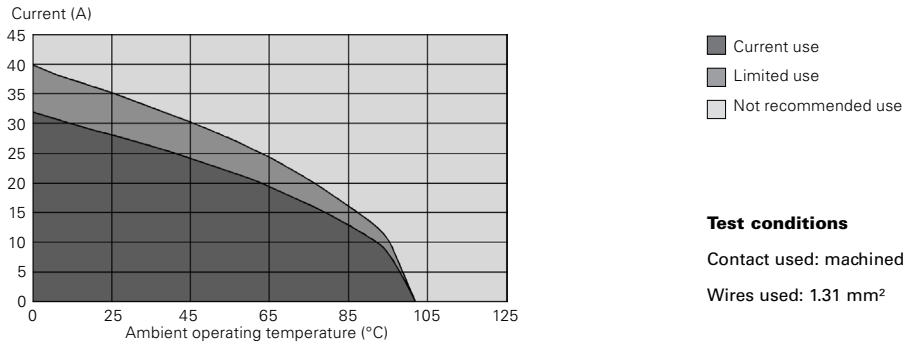
### Electrical characteristics

2

UL	CSA	IEC
25A 600V with AWG14* 5A 600V with AWG20*	17A 600V with AWG14* 5A 600V with AWG20*	17A 230V 1.5kV 3

\* qualification pending

### UTGX 148 derating curves



- Current use
- Limited use
- Not recommended use

**Test conditions**  
 Contact used: machined contacts  
 Wires used: 1.31 mm<sup>2</sup>

Derating curves based on continuous current application.

12 10 - 12E10/12D10 (Shell size 12, 10x#20)

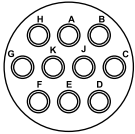
2



Connector part number

UTGX 1210 - 12E10/12D10

10 contacts  
4.5A/250V  
per UL 1977  
with AWG20 wire



Contact type	Connector type	Backshell	Part number	
			Male insert	Female insert
Crimp contacts supplied separately see page 95	Square flange receptacle	Without (Fig. 1)	UTGX01210P	UTGX01210S
	Square flange receptacle	Cable gland (Fig. 2)	UTGX0JC1210P	UTGX0JC1210S
	Free hanging receptacle	Cable gland (Fig. 3)	UTGX1JC1210P	UTGX1JC1210S
	Plug	Without (Fig. 4)	UTGX61210P	UTGX61210S
		Cable gland (Fig. 5)	UTGX6JC1210P	UTGX6JC1210S
Jam nut receptacle	Without (Fig. 6)	UTGX71210P	UTGX71210S	
Handsolder electrical contacts loaded see page 95	Square flange receptacle	Without (Fig. 1)	UTGX012E10P	UTGX012E10S
	Plug	Without (Fig. 4)	UTGX612E10P	UTGX612E10S
		Cable gland (Fig. 5)	UTGX6JC12E10P	UTGX6JC12E10S
	Jam nut receptacle	Without (Fig. 6)	UTGX712E10P	UTGX712E10S
PCB contacts loaded	Square flange receptacle	Without (Fig. 3)	UTGX012D10P	UTGX012D10S
	Jam nut receptacle with stand off and without hold down clip	Without (Fig.7)	UTGX712D10P	UTGX712D10S
	Jam nut receptacle with stand off and with hold down clips	Without (Fig. 8)	UTGX712D10P32	UTGX712D10S32

For discrimination/keying methods see page 154

Sealed unmatd

Overmoulded cable assembly part numbers

Overmoulding type	Connector type	Wire size (mm <sup>2</sup> )	Harmonized cable part number <sup>(1)</sup>	Part number (length: 1 m.)*	
				Male plug	Female plug
Straight ending	Plug	0.5	H05 VV - F 10x0.5	HAUTGX1210PST1M	HAUTGX1210SST1M
				HAUTGX12E10PRA1M	HAUTGX12E10SRA1M
Right angle ending	Plug	0.5	H05 VV - F 10x0.5	HAUTGX1210PRA1M	HAUTGX1210SRA1M
				HAUTGX12E10PRA1M	HAUTGX12E10SRA1M

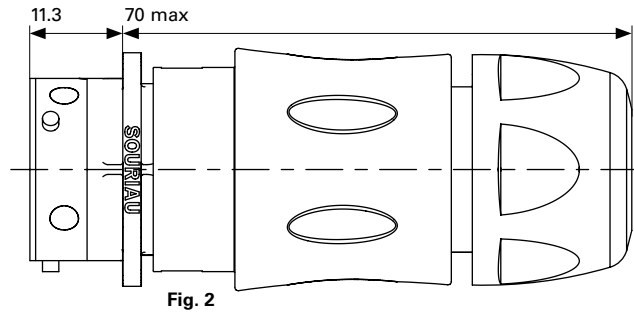
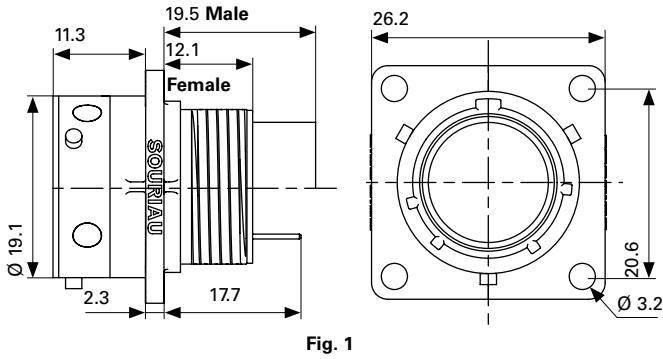
(1) Other cable available on demand

\* Other lengths available on demand

Note: Overmoulded cable assembly dimensions available page 145

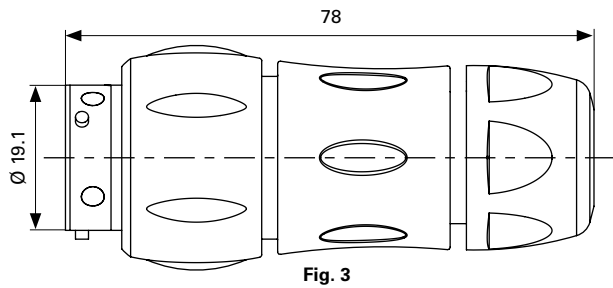
### Dimensions in mm (For mated connector lengths see page 145)

#### Square flange receptacle - UTGX0 and UTGX0JC



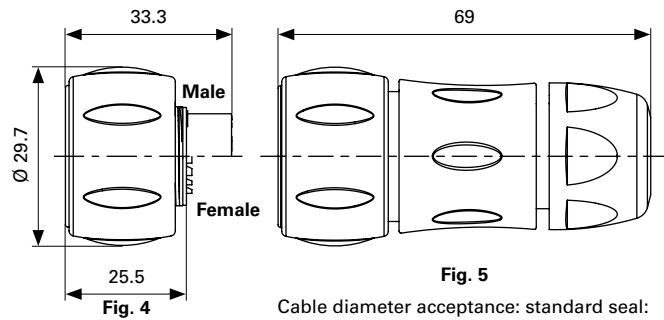
Cable diameter acceptance: standard seal:  
from 2.5 mm to 12 mm, reduced seal: from 3 mm to 9 mm

#### Free hanging - UTGX1JC



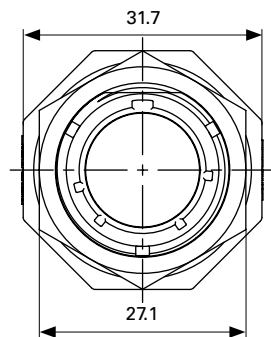
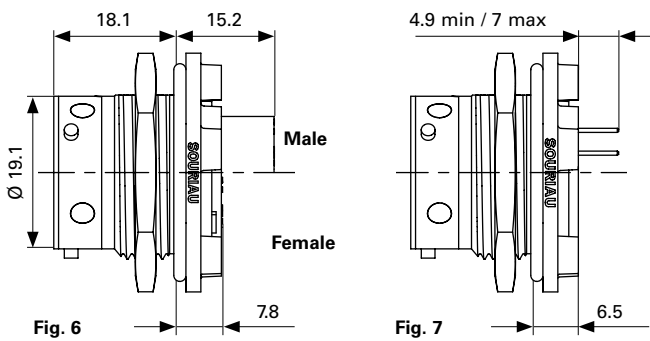
Cable diameter acceptance: standard seal:  
from 2.5 mm to 12 mm, reduced seal: from 3 mm to 9 mm

#### Plug - UTGX6 & UTGX6JC



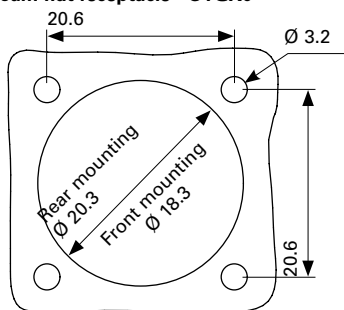
Cable diameter acceptance: standard seal:  
from 2.5 mm to 12 mm,  
reduced seal: from 3 mm to 9 mm

#### Jam nut receptacle UTGX7

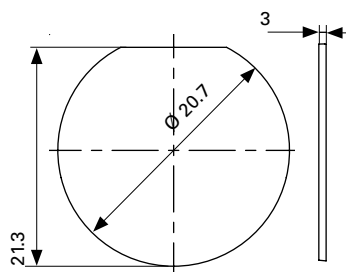


#### Panel cut out

##### Jam nut receptacle - UTGX0



##### Jam nut receptacle - UTGX7





1210 - 12E10/12D10 (Shell size 12, 10x#20)

## Accessories

### Jam nut & free hanging receptacle sealing caps



Description	Part number
IP68/69K	UTGX12DCG
IP68/69K - Metal terminal	UTGX12DCGR

2

### Square flange sealing cap



Description	Part number
IP68/69K - Metal terminal	UTGX12DCGE

### Plug sealing cap



Description	Part number
IP68/69K	UTGX612DCG

### Plastic protective cap



Part number receptacle cap	Part number plug cap
85005587A	85005596

### Gasket



Part number
UTFD13B

### Color coding rings



Description	Part number receptacles	Part number plugs
G for Green	UTGX712CCRG	UTGX612CCRG
Y for Yellow	UTGX712CCRY	UTGX612CCRY
R for Red	UTGX712CCRR	UTGX612CCRR

# 2

## Connectors

1210 - 12E10/12D10 (Shell size 12, 10x#20)

### Tooling

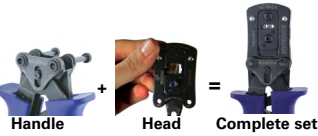
2

#### Tooling



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

#### Crimp tooling (without Shandles)



Contact size	Contacts	Part number of Head
Standard size #20 Ø 1 mm	<b>RM/RC 24W3K<sup>(1)</sup></b>	<b>S20RCM*</b>
	<b>RM/RC 20W3K<sup>(1)</sup></b>	<b>S20RCM*</b>
	<b>RM/RC 18W3K<sup>(1)</sup></b>	<b>S20RCM*</b>
	<b>SM/SC 24WL3<sup>(1)(2)</sup></b>	<b>S20SCM20*</b>
	<b>SM/SC 20WL3<sup>(1)(2)</sup></b>	<b>S20SCM20*</b>

(1): Example of plating, for other plating options see page 129

(2): Loose contact

\* Heads to be used with handle PN: SHANDLES

#### Extraction tool #20



Description	Part number
Contacts #20	<b>RX20D44</b>

1210 - 12E10/12D10 (Shell size 12, 10x#20)

## Contacts #20

Contact style	Contact type	Cable acceptance (AWG)	Cable acceptance (mm <sup>2</sup> )	Part number Male	Part number Female	Max wire Ø (mm)	Max insulator Ø (mm)
Crimp contacts	Machined	26-24	0.13-0.25	RM24W3K	RC24W3K	0.80	1.58
		20-20	0.32-0.52	RM20W3K	RC20W3K	1.15	1.80
		20-18	0.52-0.80	RM18W3K	RC18W3K	1.30	2.10
	Stamped & Formed reeled contacts See note <sup>(2)</sup> for loose piece	26-24	0.13-0.25	SM24W3TK6 <sup>(1)(2)</sup>	SC24W3TK6 <sup>(1)(2)</sup>	–	0.90-1.58
		26-24	0.13-0.25	SM24W3S26 <sup>(1)(2)</sup>	SC24W3S25 <sup>(1)(2)</sup>	–	0.90-1.58
		20-20	0.32-0.52	SM20W3TK6 <sup>(1)(2)</sup>	SC20W3TK6 <sup>(1)(2)</sup>	–	1.20-2.10
		20-20	0.32-0.52	SM20W3S26 <sup>(1)(2)</sup>	SC20W3S25 <sup>(1)(2)</sup>	–	1.20-2.10
PCB	Machined <sup>(3)</sup>	–	RMW5016K	RCW5016K	–	–	

(1): Example of plating, for other plating see page 129

(2): Loose piece contact available by adding "L" after the "M" for the contact size and the plating. Example: SM20W3TK6 becomes SM20WL3TK6

(3): for dimensions see pages 136 or 137

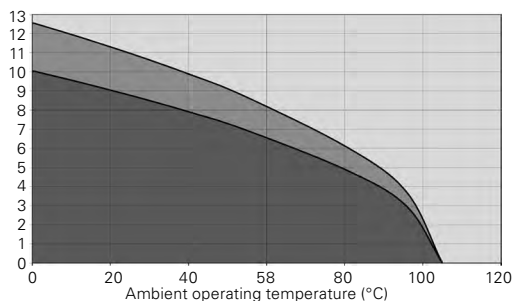
Contact style	Contact type	Plating	Cable acceptance (AWG)	Wire stripping length (mm)
Hand solder	Loaded in the connector	Min 0.4µ gold over 0.8µ Ni	20 to 18	3.8

## Electrical characteristics

UL	CSA	IEC
UTGX 1210		
4.5A 250V with AWG20 wire	3A 250V with AWG20 wire	6A 50V 1.5kV 3
UTGX 12E10/12D10		
4.5A 250V with AWG20 wire	4.5A 250V with AWG20 wire	6A 50V 1.5kV 3

## UTGX 1210 - 12E10/12D10 derating curves

Current (A)



- Current use
- Limited use
- Not recommended use

## Test conditions

Contact used: machined contacts

Wires used: 0.518 mm<sup>2</sup>

Derating curves based on continuous current application.

# 2

## Connectors

1412 (Shell size 14, 12x#16)

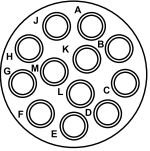
2



### Connector part number

#### UTGX 1412

12 contacts  
16A/500V  
per UL 1977 with  
AWG14 wire



Contact type	Connector type	Backshell	Part number	
			Male insert	Female insert
Crimp contacts supplied separately See page 100	Square flange receptacle	Without (Fig. 1)	UTGX01412P	UTGX01412S
	Square flange receptacle	Cable gland (Fig. 2)	UTGX0JC1412P	UTGX0JC1412S
	Free hanging receptacle	Cable gland (Fig. 3)	UTGX1JC1412P	UTGX1JC1412S
	Plug	Without (Fig. 4) Cable gland (Fig. 5)	UTGX61412P UTGX6JC1412P	UTGX61412S UTGX6JC1412S
PCB contacts supplied separately See page 100	Jam nut receptacle	Without (Fig. 6)	UTGX71412P	UTGX71412S
	Square flange receptacle	Without (Fig. 1)	UTGX01412P	UTGX01412S
	Jam nut receptacle	Without (Fig. 6)	UTGX71412P	UTGX71412S

For discrimination/keying methods see page 154

### Overmoulded cable assembly part numbers

Overmoulding type	Connector type	Wire size (mm <sup>2</sup> )	Harmonized cable part number <sup>(1)</sup>	Part number (length: 1 m.)*	
				Male plug	Female plug
Straight ending	Plug	1.5	H05 VV - F 12x1.5	HAUTGX1412PST1M	HAUTGX1412SST1M
Right angle ending	Plug	1.5	H05 VV - F 12x1.5	HAUTGX1412PRA1M	HAUTGX1412SRA1M

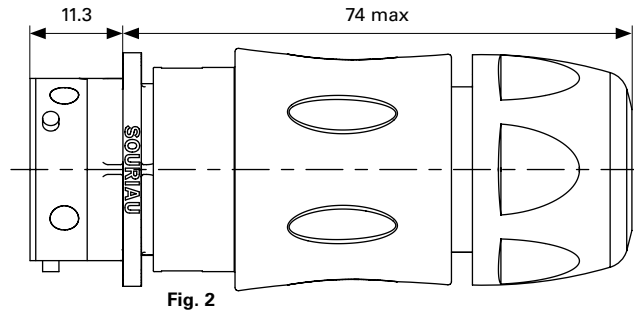
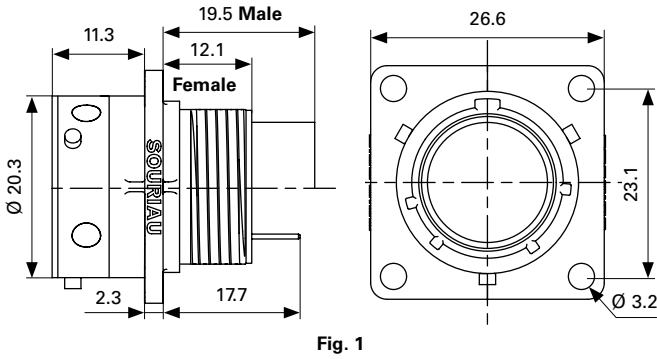
(1) Other cable available on demand

\* Other lengths available on demand

Note: Overmoulded cable assembly dimensions available page 145

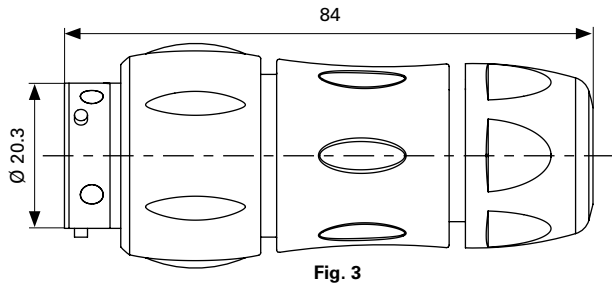
**Dimensions in mm** (For mated connector lengths see page 145)

**Square flange receptacle - UTGX0 and UTGX0JC**



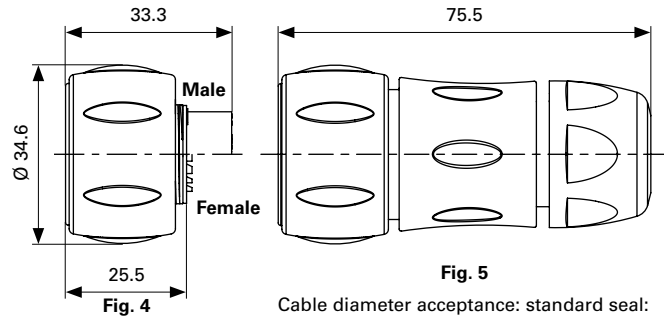
Cable diameter acceptance: standard seal: from 7 mm to 14 mm, reduced seal: from 5 mm to 12 mm

**Free hanging - UTGX1JC**



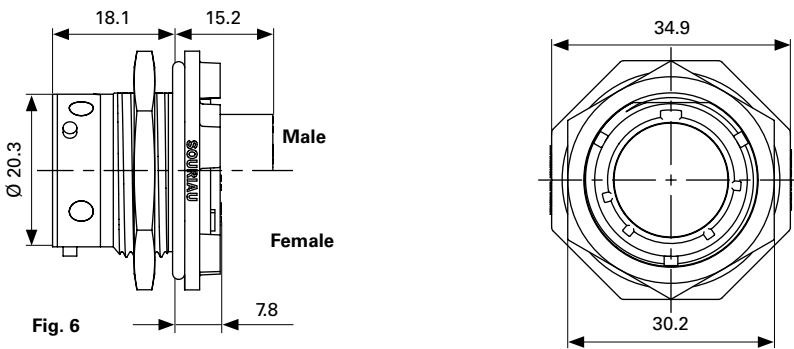
Cable diameter acceptance: standard seal: from 7 mm to 14 mm, reduced seal: from 5 mm to 12 mm

**Plug - UTGX6 & UTGX6JC**



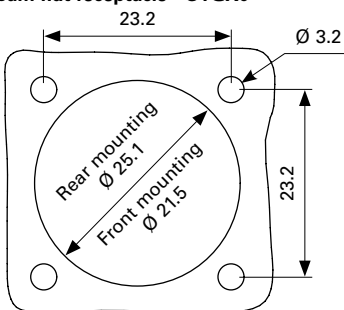
Cable diameter acceptance: standard seal: from 7 mm to 14 mm, reduced seal: from 5 mm to 12 mm

**Jam nut receptacle UTGX7**

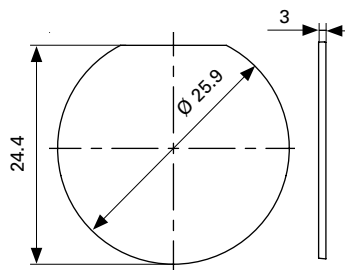


**Panel cut out**

**Jam nut receptacle - UTGX0**



**Jam nut receptacle - UTGX7**



# 2

## Connectors

1412 (Shell size 14, 12x#16)

### Accessories

2

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



Description	Part number
IP68/69K	UTGX14DCG
IP68/69K - Metal terminal	UTGX14DCGR

#### Square flange sealing cap



Description	Part number
IP68/69K - Metal terminal	UTGX14DCGE

#### Plug sealing cap



Description	Part number
IP68/69K	UTS614DCG133

#### Plastic protective cap



Part number receptacle cap	Part number plug cap
85005588A	85005597

#### Gasket



Part number
UTFD14B

#### Color coding rings



Description	Part number receptacles	Part number plugs
G for Green	UTGX714CCRG	UTGX614CCRG
Y for Yellow	UTGX714CCRY	UTGX614CCRY
R for Red	UTGX714CCR	UTGX614CCR

## Tooling

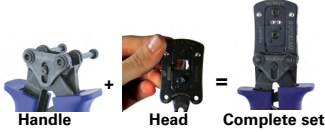
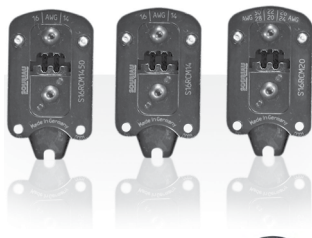
### Tooling



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

2

### Crimp tooling (without Shandles)



Contact size	Contacts	Part number of Head
Standard contacts #16 Ø 1.6 mm	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*
	SM/SC 16ML11TK6 <sup>(1)</sup>	S16SCML11*

(1): Example of plating, for other plating options see page 129

\* Heads to be used with handle PN: SHANGLES

### Extraction tool #16

Fig. 1



Fig. 2



Description	Part number
Fig. 1	RX2025GE1
Fig. 2 - Long endurance tool	RX2031J



### Contacts #16

2

Contact style	Contact type	Cable acceptance (AWG)	Cable acceptance (mm <sup>2</sup> )	Part number Male	Part number Female	Max wire Ø (mm)	Max insulator Ø (mm)
Crimp contacts	Machined	30-26	0.48-0.08	<b>RM28M1K<sup>(1)</sup></b>	<b>RC28M1K<sup>(1)</sup></b>	0.55	1.00
		26-24	0.13-0.25	<b>RM24M9K<sup>(1)</sup></b>	<b>RC24M9K<sup>(1)</sup></b>	0.80	1.58
		20-20	0.32-0.52	<b>RM20M13K<sup>(1)</sup></b>	<b>RC20M13K<sup>(1)</sup></b>	1.15	1.80
		20-20	0.32-0.52	<b>RM20M12K<sup>(1)</sup></b>	<b>RC20M12K<sup>(1)</sup></b>	1.15	2.20
		20-16	0.52-1.48	<b>RM16M23K<sup>(1)</sup></b>	<b>RC16M23K<sup>(1)</sup></b>	1.80	3.20
		16-14	1.48-2.48	<b>RM14M30K<sup>(1)</sup></b>	<b>RC14M30K<sup>(1)</sup></b>	2.30	3.20
	Stamped & Formed reeled contacts See note <sup>(2)</sup> for loose piece	26-24	0.13-0.25	<b>SM24M1TK6<sup>(1)(2)</sup></b>	<b>SC24M1TK6<sup>(1)(2)</sup></b>	–	0.90-1.58
		20-20	0.32-0.52	<b>SM20M1TK6<sup>(1)(2)</sup></b>	<b>SC20M1TK6<sup>(1)(2)</sup></b>	–	1.20-2.10
		18-16	0.80-1.48	<b>SM16M1TK6<sup>(1)(2)</sup></b>	<b>SC16M1TK6<sup>(1)(2)</sup></b>	–	3.20
		18-16	0.80-1.48	<b>SM16M11TK6<sup>(1)(2)</sup></b>	<b>SC16M11TK6<sup>(1)(2)</sup></b>	–	3.00
		14	2.48	<b>SM14M1TK6<sup>(1)(2)</sup></b>	<b>SC14M1TK6<sup>(1)(2)</sup></b>	–	3.20
		PCB	Machined <sup>(3)</sup>	–		<b>RM20M12E83K<sup>(1)</sup></b>	<b>RC20M12E84K<sup>(1)</sup></b>
Coaxial	Cable multipiece	see pages 133 to 134		<b>RMDXK10D28</b>	<b>RCDXK1D28</b>	–	–
	Cable monocrimp			<b>RMDX60xxD28</b>	<b>RCDX60xxD28</b>	–	–
	Twisted pair multipiece			<b>RMDXK10D28 + yorx090</b>	<b>RCDXK1D28 + yorx090</b>	–	–
	Twisted pair monocrimp			<b>RMDX60xxD28</b>	<b>RCDX60xxD28</b>	–	–
Fiber optic	POF contacts (Plastic Optical Fiber)	–		<b>RMPOF1000</b>	<b>RCPOF1000B</b>	–	–
Handsoldier	Loaded in the connector	14-18	2.48-0.80	–	–	–	–

(1): Example of plating, for other plating see page 129

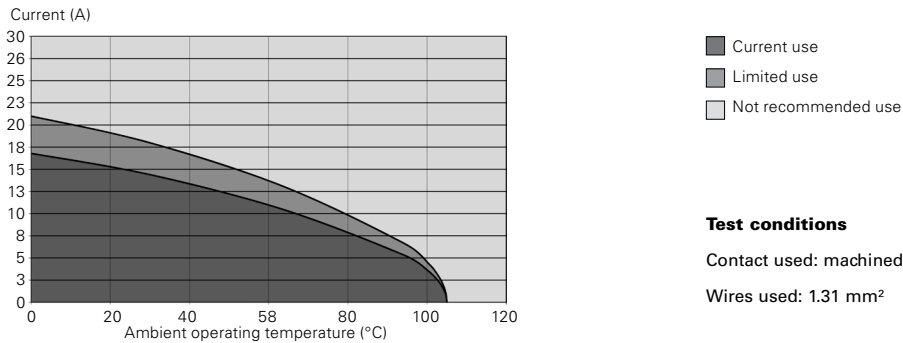
(2): Loose piece contact available by adding "L" after the "M" for the contact size and the plating. Example: SM20M1TK6 becomes SM20ML1TK6

(3): for dimensions see pages 136 or 137

### Electrical characteristics

UL	CSA	IEC
16A 500V with AWG14 wire	16A 500V with AWG14 wire	10A 63V 1.5kV 3

### UTGX 1412 derating curves



Derating curves based on continuous current application.

14E12/14D12 (Shell size 14, 8x#20, 4#16)

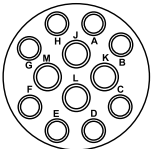
2



Connector part number

**UTGX 14E12/14D12**

12 contacts  
5A 250V per UL1977 with AWG20 wire  
10A 600V per UL1977 with AWG16 wire (qualification pending)



Contact type	Connector type	Backshell	Part number	
			Male insert	Female insert
Hand solder electrical contacts loaded see page 104	Square flange receptacle	Without (Fig. 1)	<b>UTGX014E12P</b>	<b>UTGX014E12S</b>
	Plug	Without (Fig. 2)	<b>UTGX614E12P</b>	<b>UTGX614E12S</b>
		Cable gland (Fig. 3)	<b>UTGX6JC14E12P</b>	<b>UTGX6JC14E12S</b>
PCB contacts loaded see page 104	Jam nut receptacle	Without (Fig. 4)	<b>UTGX714E12P</b>	<b>UTGX714E12S</b>
	Square flange receptacle	Without (Fig. 2)	<b>UTGX014D12P</b>	<b>UTGX014D12S</b>
	Jam nut receptacle with stand off and without hold down clip	Without (Fig. 5)	<b>UTGX714D12P</b>	<b>UTGX714D12S</b>
	Jam nut receptacle with stand off and with hold down clips	Without (Fig. 6)	<b>UTGX714D12P32</b>	<b>UTGX714D12S32</b>

For discrimination/keying methods see page 154

Sealed unmatd

Overmoulded cable assembly part numbers

Overmoulding type	Connector type	Wire size (mm <sup>2</sup> )	Harmonized cable part number <sup>(1)</sup>	Part number (length: 1 m.)*	
				Male plug	Female plug
Straight ending	Plug	1.5	H05 VV - F 12x1.5	<b>HAUTGX14E12PST1M</b>	<b>HAUTGX14E12SST1M</b>
Right angle ending	Plug	1.5	H05 VV - F 12x1.5	<b>HAUTGX14E12PRA1M</b>	<b>HAUTGX14E12SRA1M</b>

(1) Other cable available on demand

\* Other lengths available on demand

Note: Overmoulded cable assembly dimensions available page 145

### Dimensions in mm (For mated connector lengths see page 145)

2

#### Square flange receptacle - UTGX0

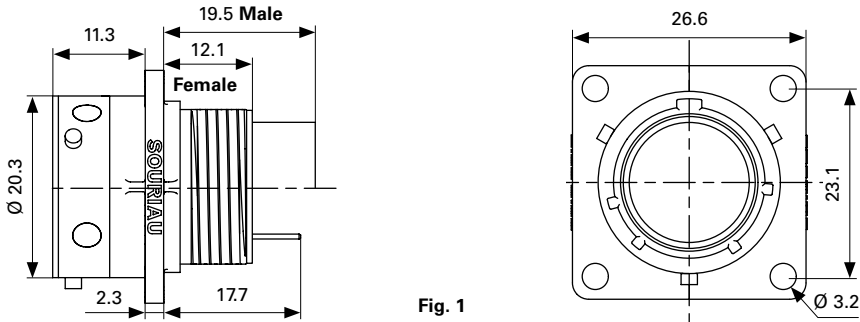


Fig. 1

#### Plug - UTGX6 & UTGX6JC

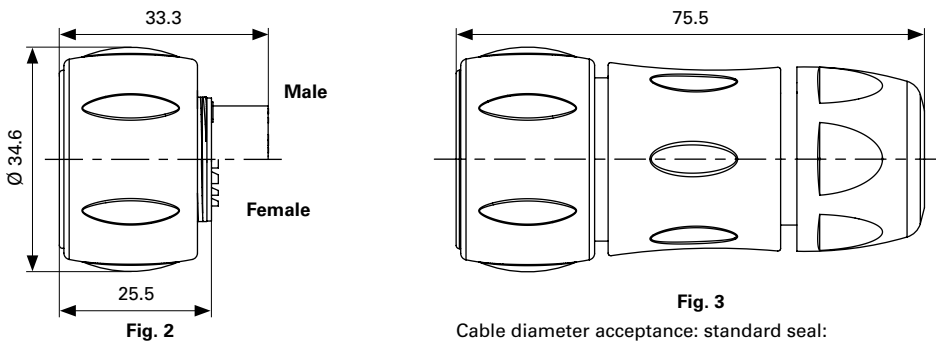


Fig. 2

Fig. 3

Cable diameter acceptance: standard seal: from 7 mm to 14 mm, reduced seal: from 5 mm to 12 mm

#### Jam nut receptacle UTGX7

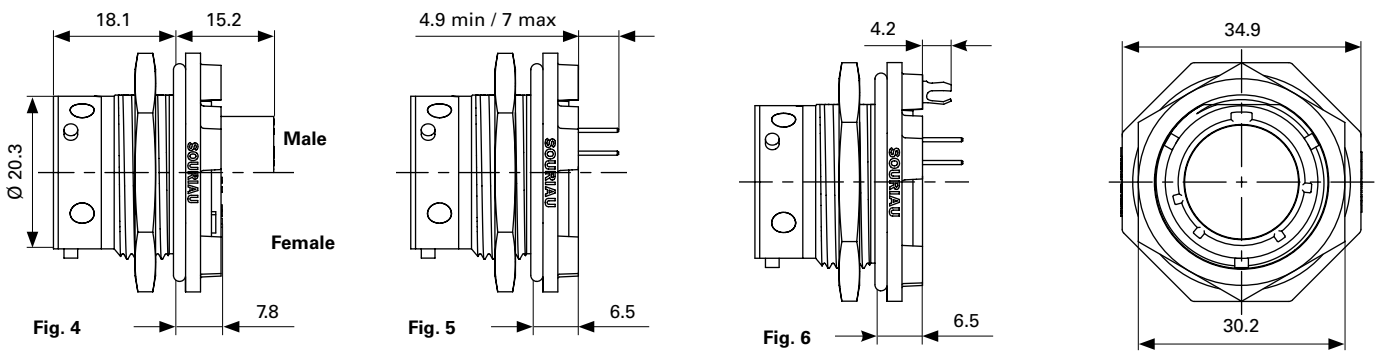


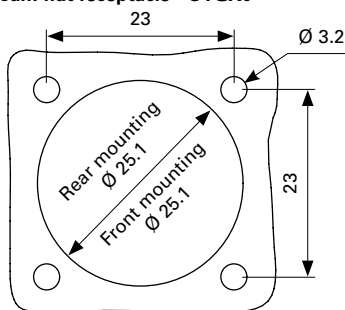
Fig. 4

Fig. 5

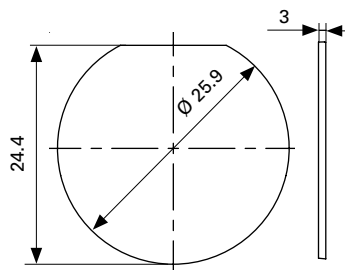
Fig. 6

#### Panel cut out

##### Jam nut receptacle - UTGX0



##### Jam nut receptacle - UTGX7



14E12/14D12 (Shell size 14, 8x#20, 4#16)

## Accessories

### Jam nut & free hanging receptacle sealing caps



Description	Part number
IP68/69K	UTGX14DCG
IP68/69K - Metal terminal	UTGX14DCGR

2

### Square flange sealing cap



Description	Part number
IP68/69K - Metal terminal	UTGX14DCGE

### Plug sealing cap



Description	Part number
IP68/69K	UTS614DCG133

### Plastic protective cap



Part number receptacle cap	Part number plug cap
85005588A	85005597

### Gasket



Part number
UTFD14B

### Color coding rings



Description	Part number receptacles	Part number plugs
G for Green	UTGX714CCRG	UTGX614CCRG
Y for Yellow	UTGX714CCRY	UTGX614CCRY
R for Red	UTGX714CCRR	UTGX614CCRR

### Contacts

2

Contact size	Contact type	Plating	Cable acceptance (AWG)	Cable acceptance (mm <sup>2</sup> )	Wire stripping length (mm)
#16	Hand solder Loaded in the connector	Min 0.4µ gold over 0.8µ Ni	18 - 14	0.823 - 2.08	5
	PCB Machined <sup>(1)</sup>	Min 0.4µ gold over 0.8µ Ni	–	–	–
#20	Hand solder Loaded in the connector	Min 0.4µ gold over 0.8µ Ni	20 - 18	0.32 - 0.75	3.8
	PCB Machined <sup>(1)</sup>	Min 0.4µ gold over 0.8µ Ni	–	–	–

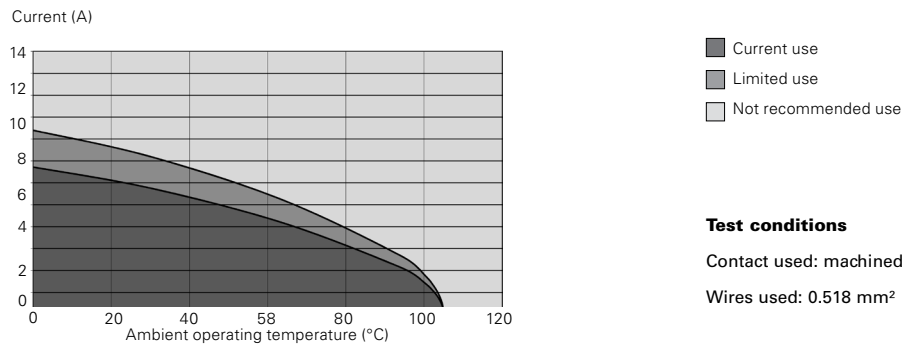
(1): For dimensions see pages 136 or 137

### Electrical characteristics

UL	CSA	IEC
5A 250V with AWG20* 10A 600V with AWG16*	5A 250V with AWG20* 10A 600V with AWG16*	4A 50V 1.5kV 3

\* qualification pending

### UTGX 14E12/14D12 derating curves



**Test conditions**  
 Contact used: machined contacts  
 Wires used: 0.518 mm<sup>2</sup>

Derating curves based on continuous current application.

1492 (Shell size 14, 12x#16)

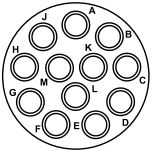


2

Connector part number

**UTGX 1492**

12 contacts  
10A/500V  
per UL 1977 with  
AWG16 wire



Contact type	Connector type	Backshell	Part number	
			Male insert	Female insert
Crimp contacts supplied separately see page 109	Square flange receptacle	Without (Fig. 1)	<b>UTGX01492P</b>	<b>UTGX01492S</b>
	Square flange receptacle	Cable gland (Fig. 2)	<b>UTGX0JC1492P</b>	<b>UTGX0JC1492S</b>
	Free hanging receptacle	Cable gland (Fig. 3)	<b>UTGX1JC1492P</b>	<b>UTGX1JC1492S</b>
	Plug	Without (Fig. 4) Cable gland (Fig. 5)	<b>UTGX61492P</b> <b>UTGX6JC1492P</b>	<b>UTGX61492S</b> <b>UTGX6JC1492S</b>
PCB contacts supplied separately see page 109	Jam nut receptacle	Without (Fig. 6)	<b>UTGX71492P</b>	<b>UTGX71492S</b>
	Square flange receptacle	Without (Fig. 1)	<b>UTGX01492P</b>	<b>UTGX01492S</b>
	Jam nut receptacle	Without (Fig. 6)	<b>UTGX71492P</b>	<b>UTGX71492S</b>

For discrimination/keying methods see page 154

# 2

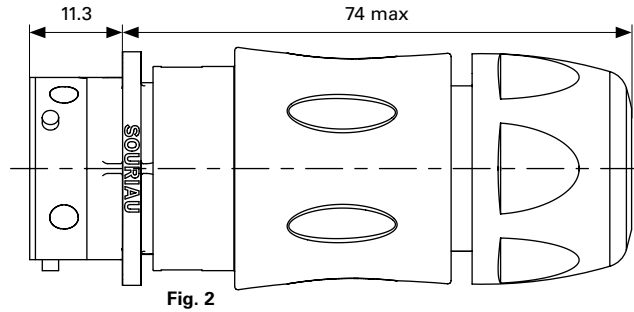
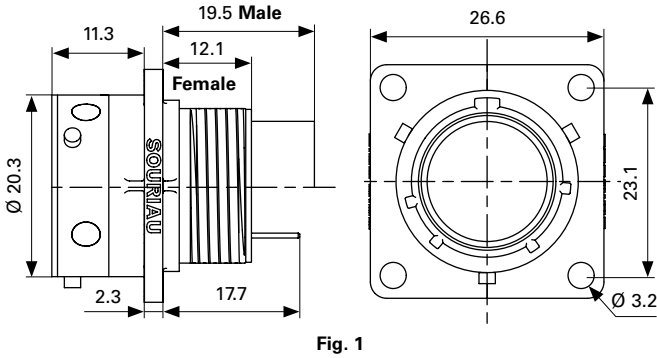
## Connectors

1492 (Shell size 14, 12x#16)

### Dimensions in mm (For mated connector lengths see page 145)

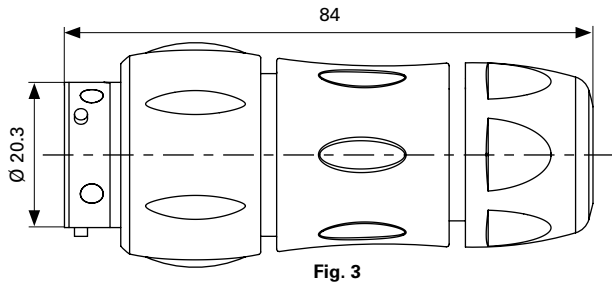
2

#### Square flange receptacle - UTGX0 and UTGX0JC



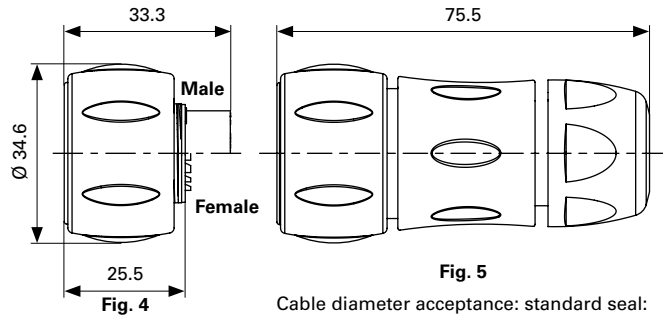
Cable diameter acceptance: standard seal:  
from 7 mm to 14 mm, reduced seal: from 5 mm to 12 mm

#### Free hanging - UTGX1JC



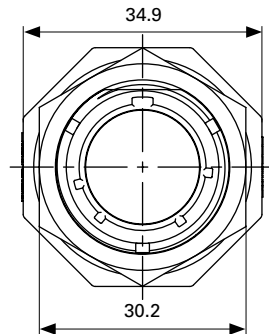
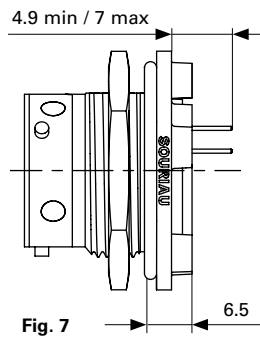
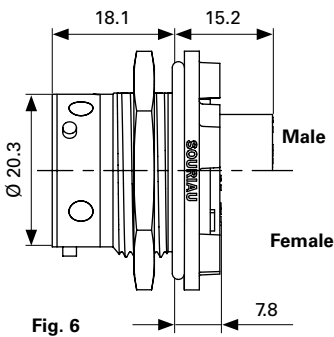
Cable diameter acceptance: standard seal:  
from 7 mm to 14 mm, reduced seal: from 5 mm to 12 mm

#### Plug - UTGX6 & UTGX6JC



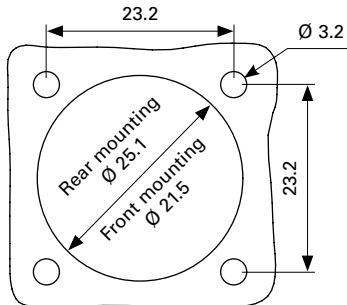
Cable diameter acceptance: standard seal:  
from 7 mm to 14 mm,  
reduced seal: from 5 mm to 12 mm

#### Jam nut receptacle UTGX7

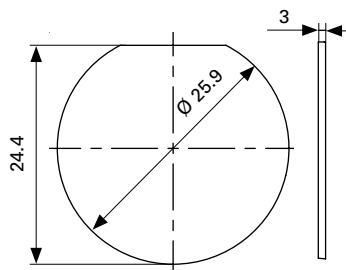


#### Panel cut out

##### Jam nut receptacle - UTGX0



##### Jam nut receptacle - UTGX7



**Accessories**

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



Description	Part number
IP68/69K	UTGX14DCG
IP68/69K - Metal terminal	UTGX14DCGR

2

**Square flange sealing cap**



Description	Part number
IP68/69K - Metal terminal	UTGX14DCGE

**Plug sealing cap**



Description	Part number
IP68/69K	UTS614DCG133

**Plastic protective cap**



Part number receptacle cap	Part number plug cap
85005588A	85005597

**Gasket**



Part number
UTFD14B

**Color coding rings**



Description	Part number receptacles	Part number plugs
G for Green	UTGX714CCRG	UTGX614CCRG
Y for Yellow	UTGX714CCRY	UTGX614CCRY
R for Red	UTGX714CCRR	UTGX614CCRR



# 2

## Connectors

1492 (Shell size 14, 12x#16)

### Tooling

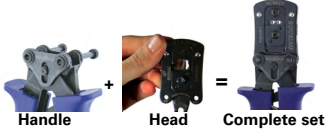
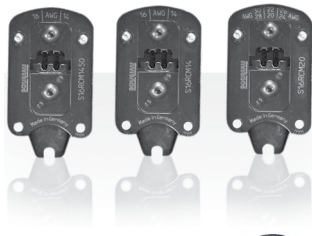
2

#### Tooling



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

#### Crimp tooling (without Shandles)



Contact size	Contacts	Part number of Head
Standard contacts #16 Ø 1.6 mm	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*
	SM/SC 16ML11TK6 <sup>(1)</sup>	S16SCML11*

(1): Example of plating, for other plating options see page 129

\* Heads to be used with handle PN: SHANGLES

#### Extraction tool #16

Fig. 1



Fig. 2



Description	Part number
Fig. 1	<b>RX2025GE1</b>
Fig. 2 - Long endurance tool	<b>RX2031J</b>

## Contacts #16

Contact style	Contact type	Cable acceptance (AWG)	Cable acceptance (mm <sup>2</sup> )	Part number Male	Part number Female	Max wire Ø (mm)	Max insulator Ø (mm)	
Crimp contacts	Machined	30-26	0.48-0.08	RM28M1K <sup>(1)</sup>	RC28M1K <sup>(1)</sup>	0.55	1.00	
		26-24	0.13-0.25	RM24M9K <sup>(1)</sup>	RC24M9K <sup>(1)</sup>	0.80	1.58	
		20-20	0.32-0.52	RM20M13K <sup>(1)</sup>	RC20M13K <sup>(1)</sup>	1.15	1.80	
		20-20	0.32-0.52	RM20M12K <sup>(1)</sup>	RC20M12K <sup>(1)</sup>	1.15	2.20	
		20-16	0.52-1.48	RM16M23K <sup>(1)</sup>	RC16M23K <sup>(1)</sup>	1.80	3.20	
		16-14	1.48-2.48	RM14M30K <sup>(1)</sup>	RC14M30K <sup>(1)</sup>	2.30	3.20	
	Stamped & Formed reeled contacts See note <sup>(2)</sup> for loose piece	26-24	0.13-0.25	SM24M1TK6 <sup>(1)(2)</sup>	SC24M1TK6 <sup>(1)(2)</sup>	–	0.90-1.58	
		20-20	0.32-0.52	SM20M1TK6 <sup>(1)(2)</sup>	SC20M1TK6 <sup>(1)(2)</sup>	–	1.20-2.10	
		18-16	0.80-1.48	SM16M1TK6 <sup>(1)(2)</sup>	SC16M1TK6 <sup>(1)(2)</sup>	–	3.20	
		18-16	0.80-1.48	SM16M11TK6 <sup>(1)(2)</sup>	SC16M11TK6 <sup>(1)(2)</sup>	–	3.00	
		14	2.48	SM14M1TK6 <sup>(1)(2)</sup>	SC14M1TK6 <sup>(1)(2)</sup>	–	3.20	
		PCB	Machined <sup>(3)</sup>	–	RM20M12E83K <sup>(1)</sup>	RC20M12E84K <sup>(1)</sup>	–	–
		Coaxial	Cable multipiece	see pages 133 to 134		RMDXK10D28	RCDXK1D28	–
Cable monocrimp			RMDX60xxD28	RCDX60xxD28	–	–		
Twisted pair multipiece			RMDXK10D28 + yorx090	RCDXK1D28 + yorx090	–	–		
Twisted pair monocrimp			RMDX60xxD28	RCDX60xxD28	–	–		
Fiber optic	POF contacts (Plastic Optical Fiber)	–	–	RMPOF1000	RCPOF1000B	–	–	
Handsold	Loaded in the connector	14-18	2.48-0.80	–	–	–	–	

(1): Example of plating, for other plating see page 129

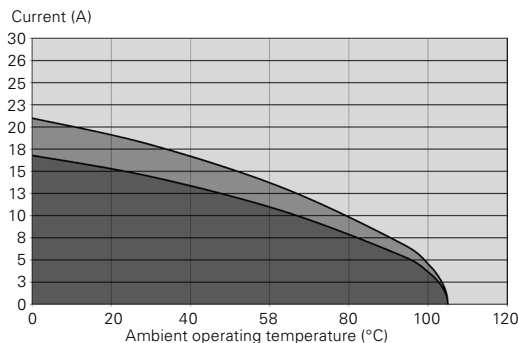
(2): Loose piece contact available by adding "L" after the "M" for the contact size and the plating. Example: SM20M1TK6 becomes SM20ML1TK6

(3): for dimensions see pages 136 or 137

## Electrical characteristics

UL	CSA	IEC
10A 500V with AWG16 wire	7A 500V with AWG16 wire	10A 63V 1.5kV 3

## UTGX 1412 derating curves



- Current use
- Limited use
- Not recommended use

## Test conditions

Contact used: machined contacts

Wires used: 1.31 mm<sup>2</sup>

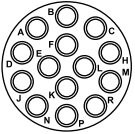
Derating curves based on continuous current application.



### Connector part number

#### UTGX 12E14/12D14

14 contacts  
4.5A/250V  
per UL 1977 with  
AWG20 wire



Contact type	Connector type	Backshell	Part number	
			Male insert	Female insert
Hand solder electrical contacts loaded see page 113	Square flange receptacle	Without (Fig. 1)	<b>UTGX012E14P</b>	<b>UTGX012E14S</b>
	Plug	Without (Fig. 2)	<b>UTGX612E14P</b>	<b>UTGX612E14S</b>
		Cable gland (Fig. 3)	<b>UTGX6JC12E14P</b>	<b>UTGX6JC12E14S</b>
PCB contacts loaded see page 113	Jam nut receptacle	Without (Fig. 4)	<b>UTGX712E14P</b>	<b>UTGX712E14S</b>
	Square flange receptacle	Without (Fig. 1)	<b>UTGX012D14P</b>	<b>UTGX012D14S</b>
	Jam nut receptacle with stand off and without hold down clip	Without (Fig. 5)	<b>UTGX712D14P</b>	<b>UTGX712D14S</b>
	Jam nut receptacle with stand off and with hold down clips	Without (Fig. 6)	<b>UTGX712D14P32</b>	<b>UTGX712D14S32</b>

For discrimination/keying methods see page 154

Sealed unmated

### Overmoulded cable assembly part numbers

Overmoulding type	Connector type	Wire size (mm <sup>2</sup> )	Harmonized cable part number <sup>(1)</sup>	Part number (length: 1 m.)*	
				Male plug	Female plug
Straight ending	Plug	0.5	H05 VV - F 14x0.5	<b>HAUTGX12E14PST1M</b>	<b>HAUTGX12E14SST1M</b>
Right angle ending	Plug	0.5	H05 VV - F 14x0.5	<b>HAUTGX12E14PRA1M</b>	<b>HAUTGX12E14SRA1M</b>

(1) Other cable available on demand

\* Other lengths available on demand

Note: Overmoulded cable assembly dimensions available page 145

**Dimensions in mm** (For mated connector lengths see page 145)

**Square flange receptacle - UTGX0**

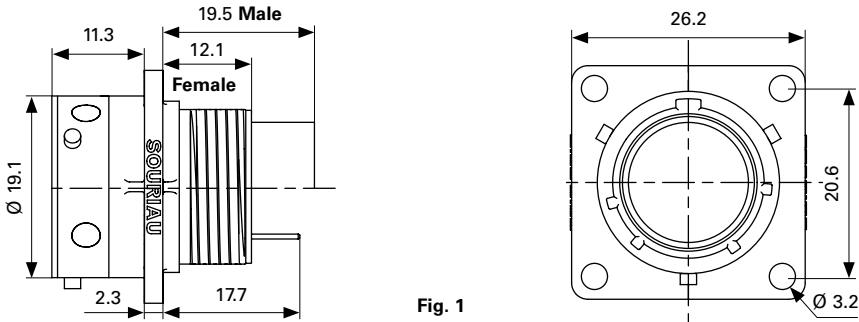


Fig. 1

**Plug - UTGX6 & UTGX6JC**

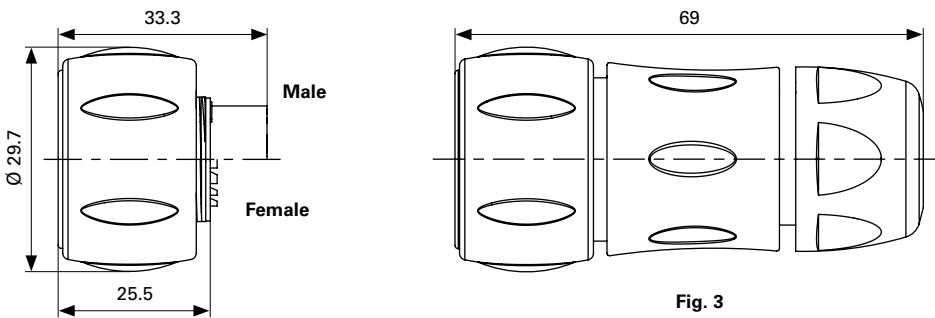


Fig. 2

Fig. 3

Cable diameter acceptance: standard seal: from 2.5 mm to 12 mm, reduced seal: from 3 mm to 9 mm

**Jam nut receptacle UTGX7**

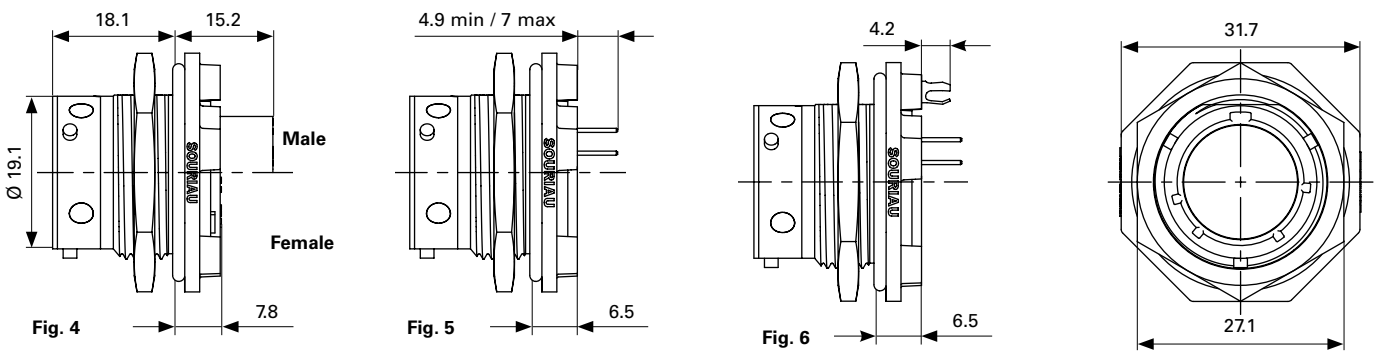
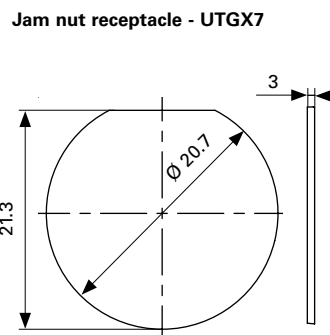
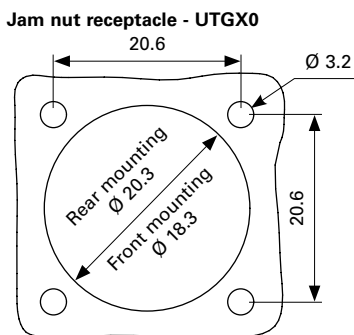


Fig. 4

Fig. 5

Fig. 6

**Panel cut out**



# 2

## Connectors

12E14/12D14 (Shell size 12, 14x20)

### Accessories

2

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



Description	Part number
IP68/69K	UTGX12DCG
IP68/69K - Metal terminal	UTGX12DCGR

#### Plug sealing cap



Description	Part number
IP68/69K	UTGX612DCG

#### Plastic protective cap



Part number receptacle cap	Part number plug cap
85005587A	85005596

#### Gasket



Part number
UTFD13B

#### Color coding rings



Description	Part number receptacles	Part number plugs
G for Green	UTGX712CCRG	UTGX612CCRG
Y for Yellow	UTGX712CCRY	UTGX612CCRY
R for Red	UTGX712CCRR	UTGX612CCRR

## Contacts #20

Contact style	Contact type	Plating	Cable acceptance (AWG)	Wire stripping length (mm)
Handsoldier	Loaded in the connector	Min 0.4 $\mu$ gold over 0.8 $\mu$ Ni	20 to 18	3.8
PCB	Machined <sup>(1)</sup>	Min 0.4 $\mu$ gold over 0.8 $\mu$ Ni	–	–

(1): For dimensions see pages 136 or 137

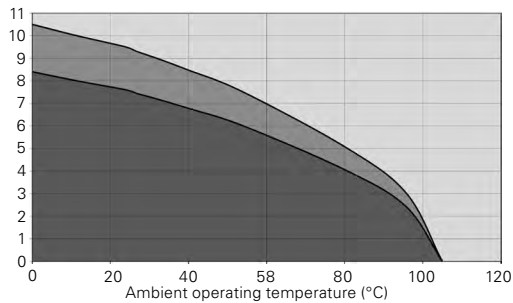
2

## Electrical characteristics

UL	CSA	IEC
4.5A 250V with AWG20 wire	4.5A 250V with AWG20 wire	5A 32V 1.5kV 3

## UTGX 12E4/12D4 derating curves

Current (A)



- Current use
- Limited use
- Not recommended use

### Test conditions

Contact used: machined contacts

Wires used: 0.518 mm<sup>2</sup>

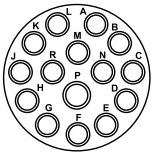
Derating curves based on continuous current application.



### Connector part number

#### UTGX 14E15/14D15

15 contacts  
12A 600V per UL1977 with AWG16 wire  
5A 250V per UL1977 with AWG20 wire (qualification pending)



	Contact type	Connector type	Backshell	Part number	
				Male insert	Female insert
Handsolder electrical contacts loaded see page 117		Square flange receptacle	Without (Fig. 1)	<b>UTGX014E15P</b>	<b>UTGX014E15S</b>
		Plug	Without (Fig. 2)	<b>UTGX614E15P</b>	<b>UTGX614E15S</b>
			Cable gland (Fig. 3)	<b>UTGX6JC14E15P</b>	<b>UTGX6JC14E15S</b>
PCB contacts loaded see page 117		Jam nut receptacle	Without (Fig. 4)	<b>UTGX714E15P</b>	<b>UTGX714E15S</b>
		Square flange receptacle	Without (Fig. 2)	<b>UTGX014D15P</b>	<b>UTGX014D15S</b>
			Jam nut receptacle with stand off and without hold down clip	Without (Fig. 5)	<b>UTGX714D15P</b>
		Jam nut receptacle with stand off and with hold down clips	Without (Fig. 6)	<b>UTGX714D15P32</b>	<b>UTGX714D15S32</b>

For discrimination/keying methods see page 154

Sealed unmated

### Overmoulded cable assembly part numbers

Overmoulding type	Connector type	Wire size (mm <sup>2</sup> )	Harmonized cable part number <sup>(1)</sup>	Part number (length: 1 m.)*	
				Male plug	Female plug
Straight ending	Plug	1.5	H05 VV - F 15x1.5	<b>HAUTGX14E15PST1M</b>	<b>HAUTGX14E15SST1M</b>
Right angle ending	Plug	1.5	H05 VV - F 15x1.5	<b>HAUTGX14E15PRA1M</b>	<b>HAUTGX14E15SRA1M</b>

(1) Other cable available on demand

\* Other lengths available on demand

Note: Overmoulded cable assembly dimensions available page 145

**Dimensions in mm** (For mated connector lengths see page 145)

**Square flange receptacle - UTGX0**

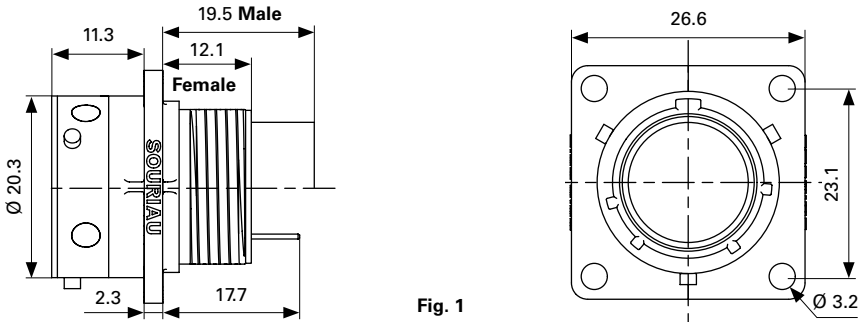


Fig. 1

**Plug - UTGX6 & UTGX6JC**

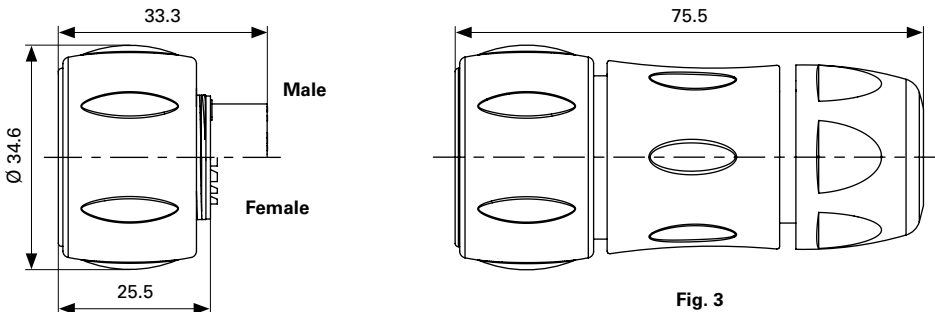


Fig. 2

Fig. 3

Cable diameter acceptance: standard seal: from 7 mm to 14 mm, reduced seal: from 5 mm to 12 mm

**Jam nut receptacle UTGX7**

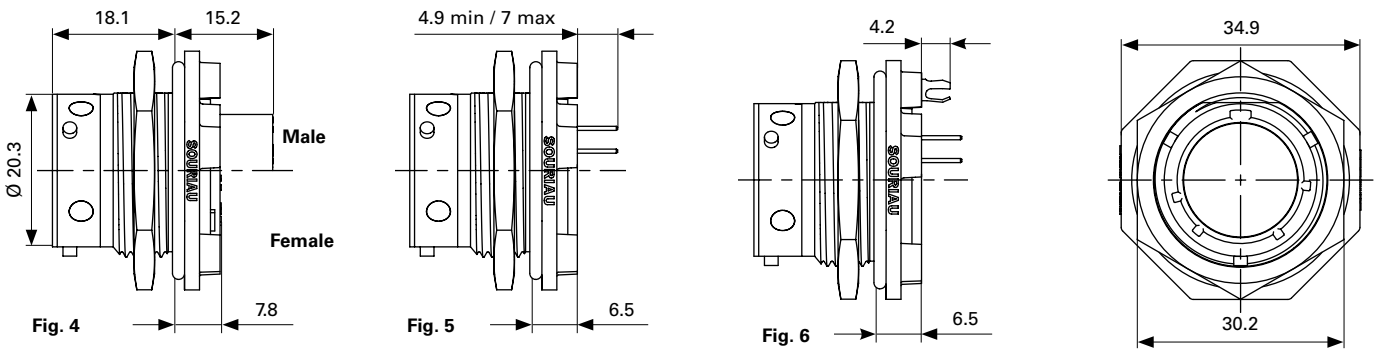
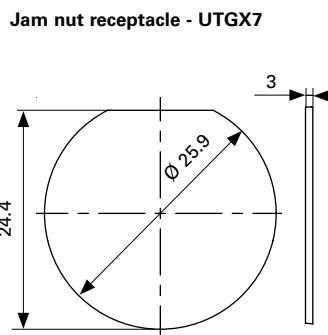
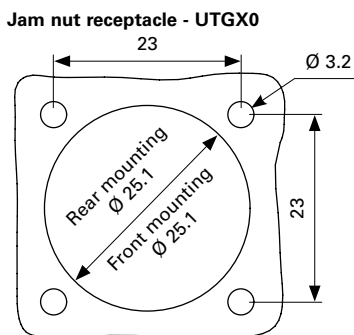


Fig. 4

Fig. 5

Fig. 6

**Panel cut out**





# 2

## Connectors

14E15/14D15 (Shell size 14, 14x#20, 1#16)

### Accessories

2

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



Description	Part number
IP68/69K	UTGX14DCG
IP68/69K - Metal terminal	UTGX14DCGR

#### Square flange sealing cap



Description	Part number
IP68/69K - Metal terminal	UTGX14DCGE

#### Plug sealing cap



Description	Part number
IP68/69K	UTGS614DCG133

#### Plastic protective cap



Part number receptacle cap	Part number plug cap
85005588A	85005597

#### Gasket



Part number
UTFD14B

#### Color coding rings



Description	Part number receptacles	Part number plugs
G for Green	UTGX714CCRG	UTGX614CCRG
Y for Yellow	UTGX714CCRY	UTGX614CCRY
R for Red	UTGX714CCRR	UTGX614CCRR

14E15/14D15 (Shell size 14, 14x#20, 1#16)

## Contacts

Contact size	Contact type	Plating	Cable acceptance (AWG)	Cable acceptance (mm <sup>2</sup> )	Wire stripping length (mm)
#16	Hand solder Loaded in the connector	Min 0.4μ gold over 0.8μ Ni	18 - 14	0.823 - 2.08	5
	PCB Machined <sup>(1)</sup>	Min 0.4μ gold over 0.8μ Ni	—	—	—
#20	Hand solder Loaded in the connector	Min 0.4μ gold over 0.8μ Ni	20 - 18	0.32 - 0.75	3.8
	PCB Machined <sup>(1)</sup>	Min 0.4μ gold over 0.8μ Ni	—	—	—

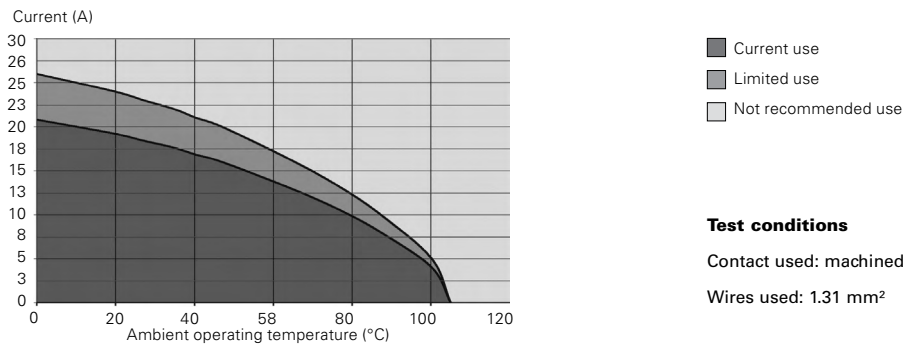
(1): For dimensions see pages 136 or 137

## Electrical characteristics

UL	CSA	IEC
12A 600V with AWG16* 5A 250V with AWG20*	12A 600v with AWG16* 5A 250V with AWG20*	4A 50V 1.5kV 3

\* qualification pending

## UTGX 14E15/14D15 derating curves



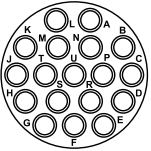
Derating curves based on continuous current application.



### Connector part number

#### UTGX 14E18/14D18

18 contacts  
4A/250V  
per UL 1977  
with AWG20 wire



Contact type	Connector type	Backshell	Part number	
			Male insert	Female insert
Hand solder electrical contacts loaded see page 121	Square flange receptacle	Without (Fig. 1)	UTGX014E18P	UTGX014E18S
	Plug	Without (Fig. 2)	UTGX614E18P	UTGX614E18S
		Cable gland (Fig. 3)	UTGX6JC14E18P	UTGX6JC14E18S
PCB contacts loaded see page 121	Jam nut receptacle	Without (Fig. 4)	UTGX714E18P	UTGX714E18S
	Square flange receptacle	Without (Fig. 2)	UTGX014D18P	UTGX014D18S
		Jam nut receptacle with stand off and without hold down clip	Without (Fig. 5)	UTGX714D18P
	Jam nut receptacle with stand off and with hold down clips	Without (Fig. 6)	UTGX714D18P32	UTGX714D18S32

For discrimination/keying methods see page 154

Sealed unmated

### Overmoulded cable assembly part numbers

Overmoulding type	Connector type	Wire size (mm <sup>2</sup> )	Harmonized cable part number <sup>(1)</sup>	Part number (length: 1 m.)*	
				Male plug	Female plug
Straight ending	Plug	0.5	H05 VV - F 18x0.5	HAUTGX14E18PST1M	HAUTGX14E18SST1M
Right angle ending	Plug	0.5	H05 VV - F 18x0.5	HAUTGX14E18PRA1M	HAUTGX14E18SRA1M

(1) Other cable available on demand

\* Other lengths available on demand

Note: Overmoulded cable assembly dimensions available page 145

**Dimensions in mm** (For mated connector lengths see page 145)

**Square flange receptacle - UTGX0**

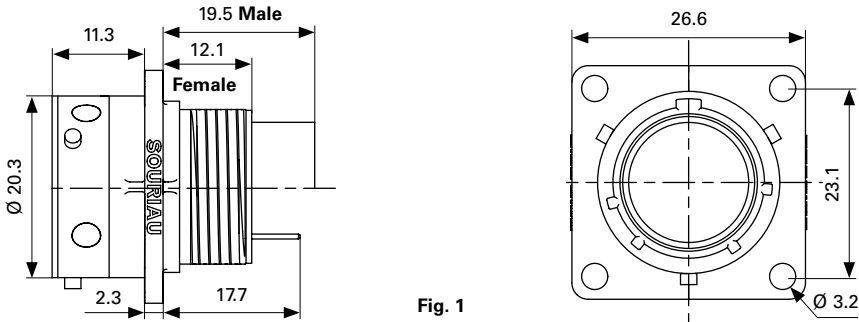


Fig. 1

**Plug - UTGX6 & UTGX6JC**

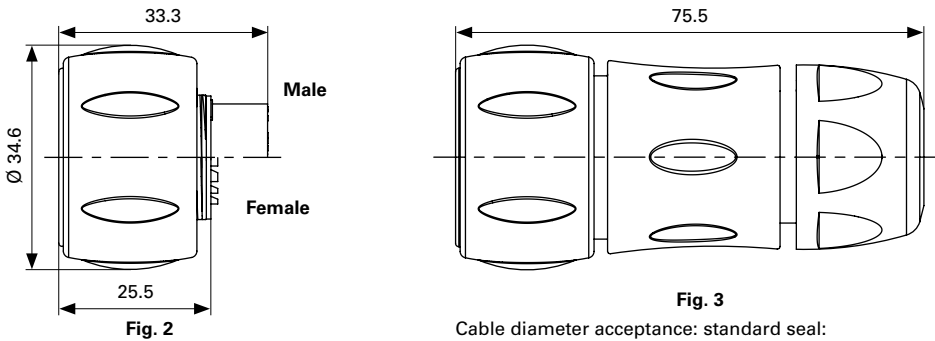


Fig. 2

Fig. 3

Cable diameter acceptance: standard seal: from 7 mm to 14 mm, reduced seal: from 5 mm to 12 mm

**Jam nut receptacle UTGX7**

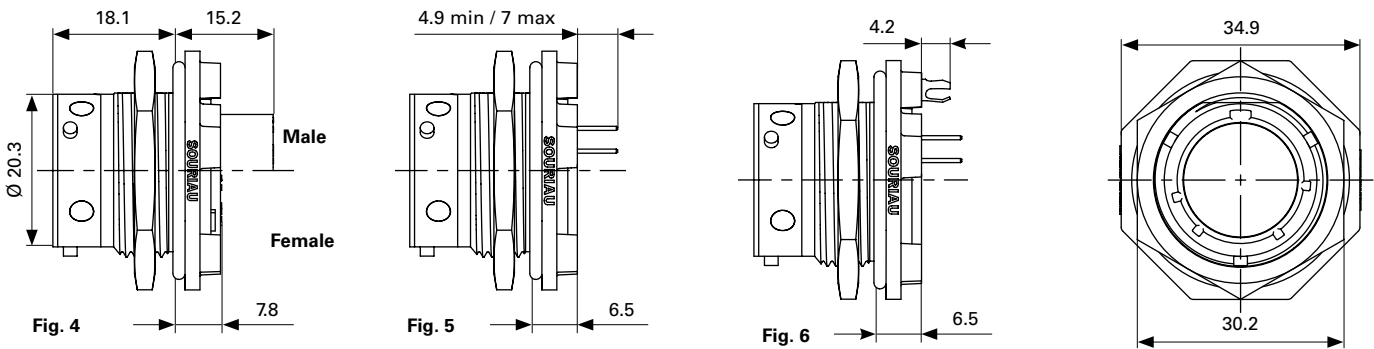
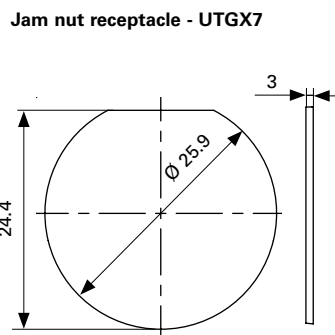
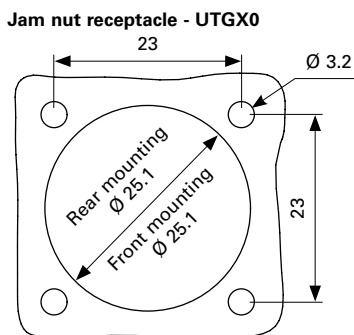


Fig. 4

Fig. 5

Fig. 6

**Panel cut out**



# 2

## Connectors

14E18/14D18 (Shell size 14, 18x#20)

### Accessories

2

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



Description	Part number
IP68/69K	UTGX14DCG
IP68/69K - Metal terminal	UTGX14DCGR

#### Square flange sealing cap



Description	Part number
IP68/69K - Metal terminal	UTGX14DCGE

#### Plug sealing cap



Description	Part number
IP68/69K	UTS614DCG133

#### Plastic protective cap



Part number receptacle cap	Part number plug cap
85005588A	85005597

#### Gasket



Part number
UTFD14B

#### Color coding rings



Description	Part number receptacles	Part number plugs
G for Green	UTGX714CCRG	UTGX614CCRG
Y for Yellow	UTGX714CCRY	UTGX614CCRY
R for Red	UTGX714CCRR	UTGX614CCRR

14E18/14D18 (Shell size 14, 18x#20)

## Contacts

Contact size	Contact type	Plating	Cable acceptance (AWG)	Cable acceptance (mm <sup>2</sup> )	Wire stripping length (mm)
#20	Hand solder Loaded in the connector	Min 0.4μ gold over 0.8μ Ni	20 - 18	0.32 - 0.75	3.8
	PCB Machined <sup>(1)</sup>	Min 0.4μ gold over 0.8μ Ni	—	—	—

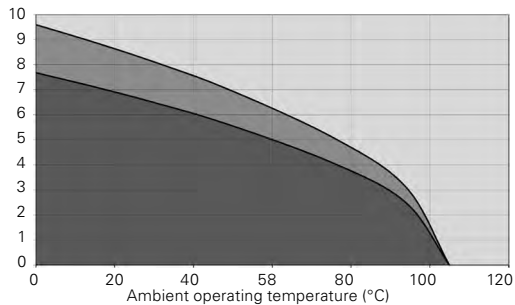
(1): For dimensions see pages 136 or 137

## Electrical characteristics

UL	CSA	IEC
4A 250V with AWG20 wire	4A 250V with AWG20 wire	5A 50V 1.5kV 3

## UTGX 14E18/14D18 derating curves

Current (A)



- Current use
- Limited use
- Not recommended use

### Test conditions

Contact used: machined contacts

Wires used: 0.518 mm<sup>2</sup>

Derating curves based on continuous current application.



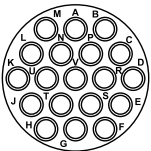
Connector part number

**UTGX 1419**

19 contacts + ground  
4.5A/250V  
per UL 1977  
with AWG20 wire

**14E19/14D19**

19 contacts + ground  
4A/250V  
per UL 1977  
with AWG20 wire



Contact type	Connector type	Backshell	Part number	
			Male insert	Female insert
Crimp contacts supplied separately see page 126	Square flange receptacle	Without (Fig. 1)	<b>UTGX01419P</b>	<b>UTGX01419S</b>
	Square flange receptacle	Cable gland (Fig. 2)	<b>UTGX0JC1419P</b>	<b>UTGX0JC1419S</b>
	Free hanging receptacle	Cable gland (Fig. 3)	<b>UTGX1JC1419P</b>	<b>UTGX1JC1419S</b>
	Plug	Without (Fig. 4)	<b>UTGX61419P</b>	<b>UTGX61419S</b>
		Cable gland (Fig. 5)	<b>UTGX6JC1419P</b>	<b>UTGX6JC1419S</b>
Jam nut receptacle	Without (Fig. 6)	<b>UTGX71419P</b>	<b>UTGX71419S</b>	
PCB contacts supplied separately see page 126	Square flange receptacle	Without (Fig. 1)	<b>UTGX01419P</b>	<b>UTGX01419S</b>
Hand solder electrical contacts loaded see page 126	Square flange receptacle	Without (Fig. 1)	<b>UTGX014E19P</b>	<b>UTGX014E19S</b>
	Plug	Without (Fig. 4)	<b>UTGX614E19P</b>	<b>UTGX614E19S</b>
		Cable gland (Fig. 5)	<b>UTGX6JC14E19P</b>	<b>UTGX6JC14E19S</b>
Jam nut receptacle	Without (Fig. 6)	<b>UTGX714E19P</b>	<b>UTGX714E19S</b>	
PCB contacts loaded	Square flange receptacle	Without (Fig. 3)	<b>UTGX014D19P</b>	<b>UTGX014D19S</b>
	Jam nut receptacle with stand off and without hold down clip	Without (Fig.7)	<b>UTGX714D19P</b>	<b>UTGX714D19S</b>
	Jam nut receptacle with stand off and with hold down clips	Without (Fig. 8)	<b>UTGX714D19P32</b>	<b>UTGX714D19S32</b>

For discrimination/keying methods see page 154

Sealed unmatd

Overmoulded cable assembly part numbers

Overmoulding type	Connector type	Wire size (mm <sup>2</sup> )	Harmonized cable part number <sup>(1)</sup>	Part number (length: 1 m.)*	
				Male plug	Female plug
Straight ending	Plug	1.5	H05 VV - F 7x1.5	<b>HAUTGX1419PST1M</b>	<b>HAUTGX1419SST1M</b>
				<b>HAUTGX14E19PRA1M</b>	<b>HAUTGX14E19SRA1M</b>
Right angle ending	Plug	1.5	H05 VV - F 7x1.5	<b>HAUTGX1419PRA1M</b>	<b>HAUTGX1419SRA1M</b>
				<b>HAUTGX14E19PRA1M</b>	<b>HAUTGX14E19SRA1M</b>

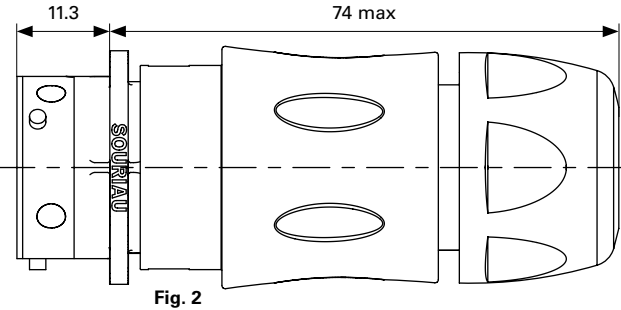
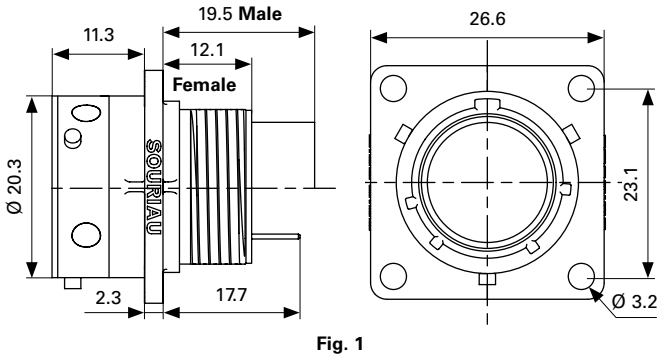
(1) Other cable available on demand

\* Other lengths available on demand

Note: Overmoulded cable assembly dimensions available page 145

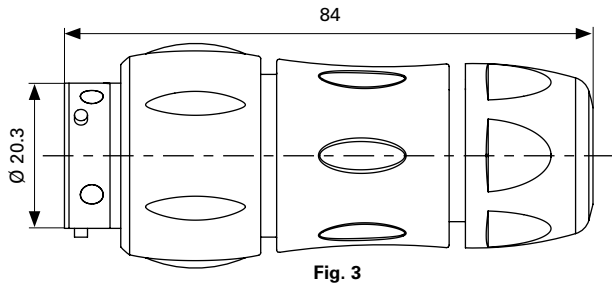
**Dimensions in mm** (For mated connector lengths see page 145)

**Square flange receptacle - UTGX0 and UTGX0JC**



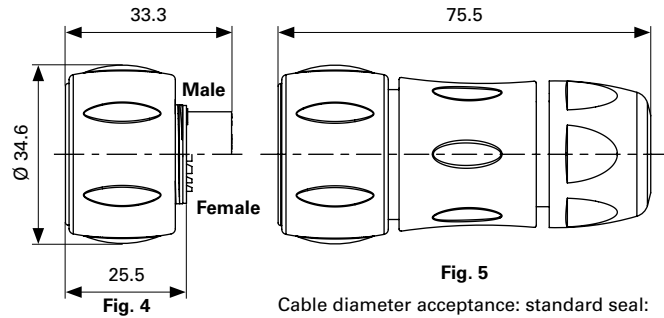
Cable diameter acceptance: standard seal: from 7 mm to 14 mm, reduced seal: from 5 mm to 12 mm

**Free hanging - UTGX1JC**



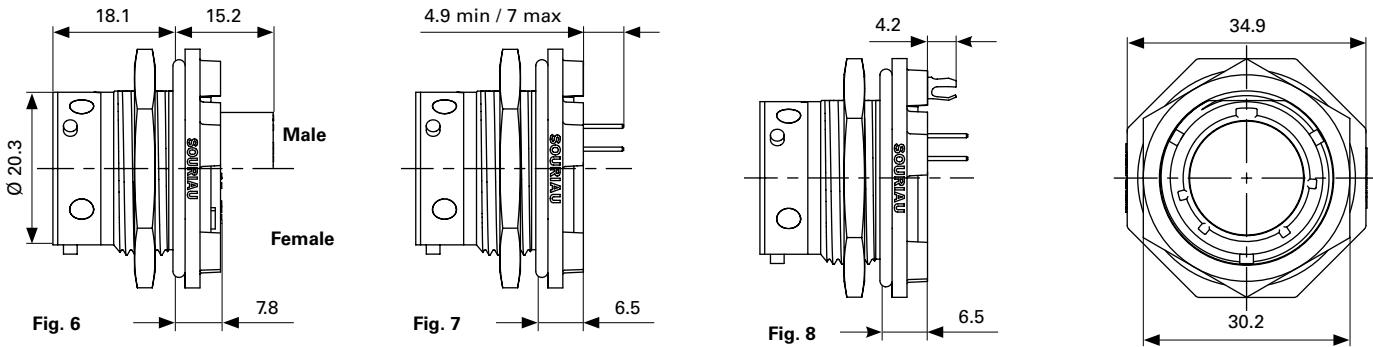
Cable diameter acceptance: standard seal: from 7 mm to 14 mm, reduced seal: from 5 mm to 12 mm

**Plug - UTGX6 & UTGX6JC**



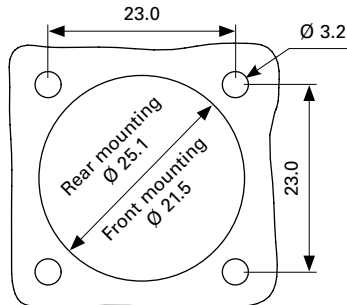
Cable diameter acceptance: standard seal: from 7 mm to 14 mm, reduced seal: from 5 mm to 12 mm

**Jam nut receptacle UTGX7**

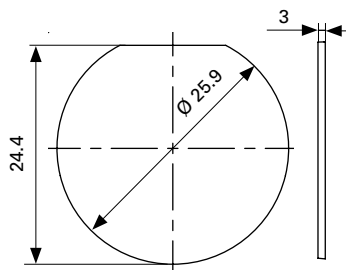


**Panel cut out**

**Jam nut receptacle - UTGX0**



**Jam nut receptacle - UTGX7**





# 2

## Connectors

1419 - 14E19/14D19 (Shell size 14, 19x#20)

### Accessories

2

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



Description	Part number
IP68/69K	UTGX14DCG
IP68/69K - Metal terminal	UTGX14DCGR

#### Square flange sealing cap



Description	Part number
IP68/69K - Metal terminal	UTGX14DCGE

#### Plug sealing cap



Description	Part number
IP68/69K	UTS614DCG133

#### Plastic protective cap



Part number receptacle cap	Part number plug cap
85005588A	85005597

#### Gasket



Part number
UTFD14B

#### Color coding rings



Description	Part number receptacles	Part number plugs
G for Green	UTGX714CCRG	UTGX614CCRG
Y for Yellow	UTGX714CCRY	UTGX614CCRY
R for Red	UTGX714CCRR	UTGX614CCRR

1419 - 14E19/14D19 (Shell size 14, 19x#20)

## Tooling

### Tooling



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

2

### Crimp tooling (without Shandles)

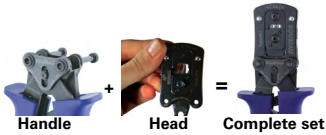


Contact size	Contacts	Part number of Head
Standard contacts #20 Ø 1 mm	RM/RC 24W3K <sup>(1)</sup>	S20RCM*
	RM/RC 20W3K <sup>(1)</sup>	S20RCM*
	RM/RC 18W3K <sup>(1)</sup>	S20RCM*
	SM/SC 24WL3 <sup>(1)(2)</sup>	S20SCM20*
	SM/SC 20WL3 <sup>(1)(2)</sup>	S20SCM20*

(1): Example of plating, for other plating options see page 129

(2): Loose contact

\* Heads to be used with handle PN: SHANDLES



### Extraction tool #20



Description	Part number
Contacts #20	RX20D44

### Contacts #20

2

Contact style	Contact type	Cable acceptance (AWG)	Cable acceptance (mm <sup>2</sup> )	Part number Male	Part number Female	Max wire Ø (mm)	Max insulator Ø (mm)
Crimp contacts	Machined	26-24	0.13-0.25	RM24W3K	RC24W3K	0.80	1.58
		20-20	0.32-0.52	RM20W3K	RC20W3K	1.15	1.80
		20-18	0.52-0.80	RM18W3K	RC18W3K	1.30	2.10
	Stamped & Formed reeled contacts See note <sup>(2)</sup> for loose piece	26-24	0.13-0.25	SM24W3TK6 <sup>(1)(2)</sup>	SC24W3TK6 <sup>(1)(2)</sup>	–	0.90-1.58
		26-24	0.13-0.25	SM24W3S26 <sup>(1)(2)</sup>	SC24W3S25 <sup>(1)(2)</sup>	–	0.90-1.58
		20-20	0.32-0.52	SM20W3TK6 <sup>(1)(2)</sup>	SC20W3TK6 <sup>(1)(2)</sup>	–	1.20-2.10
	20-20	0.32-0.52	SM20W3S26 <sup>(1)(2)</sup>	SC20W3S25 <sup>(1)(2)</sup>	–	1.20-2.10	
PCB	Machined <sup>(3)</sup>	–	–	RMW5016K	RCW5016K	–	–

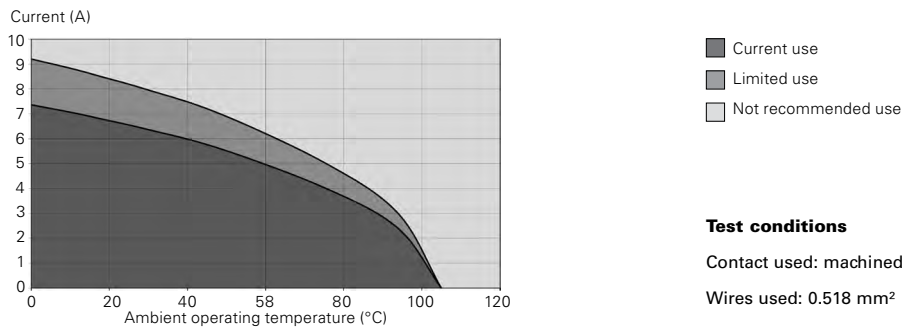
(1): Example of plating, for other plating see page 129 (2): Loose piece contact available by adding "L" after the "M" for the contact size and the plating. Example: SM20W3TK6 becomes SM20WL3TK6 (3): for dimensions see pages 136 or 137

Contact style	Contact type	Plating	Cable acceptance (AWG)	Wire stripping length (mm)
Handsold	Loaded in the connector	Min 0.4µ gold over 0.8µ Ni	20 to 18	3.8

### Electrical characteristics

UL	CSA	IEC
UTGX 1419 4.5A 250V with AWG20 wire	3A 250V with AWG20 wire	5A 32V 1.5kV 3
UTGX 14E19/14D19 4A 250V with AWG20 wire	4A 250V with AWG20 wire	5A 32V 1.5kV 3

### UTGX 1419 - 14E19/14D19 derating curves



Derating curves based on continuous current application.



# 3

## Contacts

### Description

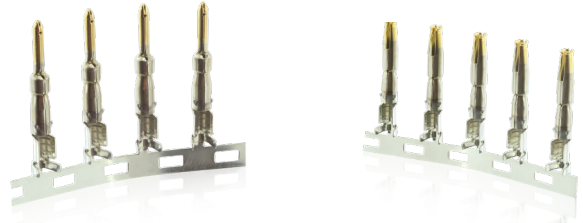
Trim Trio® contacts offer the unique feature of using the same contact style in any layout, with the same active part size (i.e. #20, #16, #12, etc.). This provides an easy solution allowing you to use only one type of contact to equip all of your Souriau connectors designed for Trim Trio® contacts.

3

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.

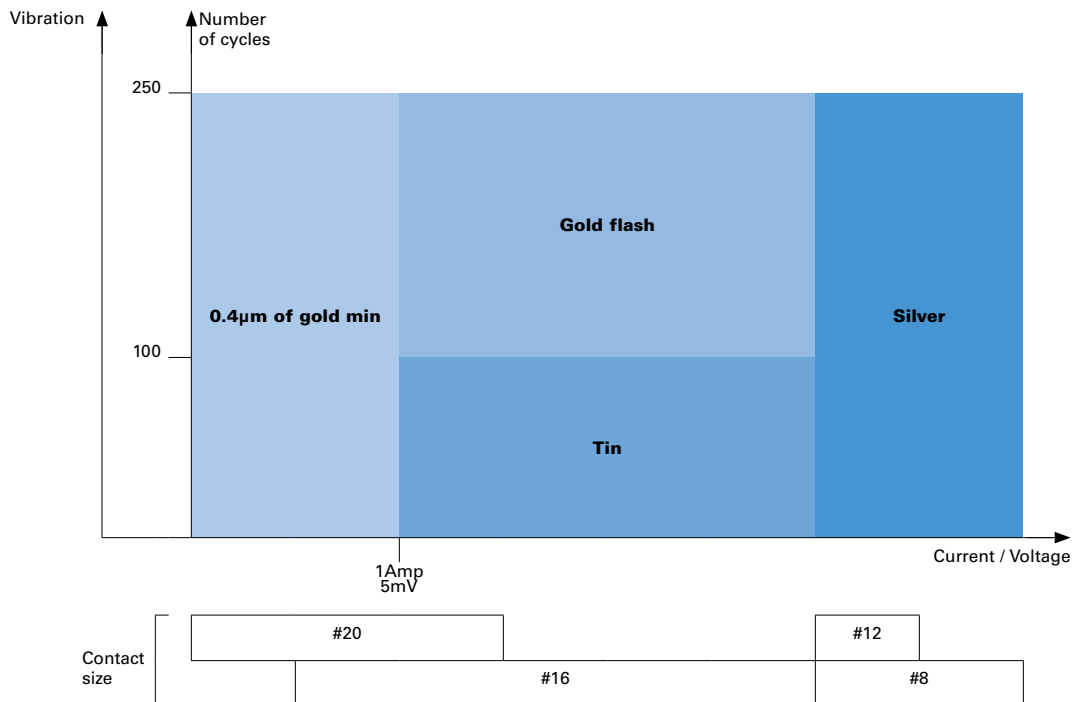


Machined contacts



Stamped & Formed contacts

### Contact plating selector guide



Once the contact size has been selected, the next step is to decide on which type to use. **Eaton** offers two main types of electrical contacts:

- Machined
- Stamped & Formed

Machined contacts are generally chosen as a better solution for power applications or when lower quantities are needed.

Stamped & Formed contacts offer the ability to be crimped

automatically which makes them more suitable for high volume production applications.

The next decision to make is: What plating should I choose? The graph can help guide you

to recommendations based on application, mating cycles and current/voltage needs.

**Note:** Do not mix different plating (i.e. tin plated pin contacts with gold plated socket contacts).

## Machined contacts

Contact size	Contact type	Active area
#20 Ø 1 mm	K	0.4µm Gold over 2µm Nickel min
#16 Ø 1.6 mm	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
#12 Ø 2.4 mm	A	2µm Nickel + 2µm Ag
	K	0.4µm Gold over 2µm Nickel min
#8 Ø 3.6 mm	A	2µm Nickel + 2µm Ag

## Stamped & Formed contacts

Contact size	Plating code	Plating description	
		Active area	Other area
#20 Ø 1 mm	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	-
#16 Ø 1.6 mm	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	-

## Contacts supplied separately

Contact size	Contact type	Resistance
<b>Electrical characteristics: contact resistance</b>		
#20 Ø 1 mm	Machined	< 6mΩ
	Stamped and Formed	< 6mΩ
#16 Ø 1.6 mm	Machined	< 3mΩ
	Stamped and Formed	< 6mΩ
#12 Ø 2.4 mm	Machined	< 5mΩ
#8 Ø 3.6 mm	Machined	< 5mΩ

# 3

## Contacts

### 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).

### Contacts size #20 (Ø 1 mm) & #16 (Ø 1.6 mm)

3

#### Stamped & Formed contacts



Description	Number
Loose package	25 pieces
Reeled	3,000 pieces

#### Machined contacts



Description	Number
Bulk package	48 pieces
Bulk package	1,000 pieces
Reeled size #16 only	2,000 pieces

### Contacts machined size #12 (Ø 2.4 mm) & #8 (Ø 3.6 mm)

#### Machined contacts



Description	Number
Bulk package	100 pieces

**Note:** 1,000 pieces bulk package available by adding 1000 at the end of the part number: e.g. RC16M23K1000  
2,000 pieces reeled package available by adding K at the beginning of the part number: e.g. KRC16M23K

Standard version

Contact size	Type	Wire size		Part number		Max insulator Ø (mm)	Available plating see page 129
		AWG	mm <sup>2</sup>	Male	Female		
#20 Ø 1 mm	Machined	26-24	0.13-0.20	RM24W3K	RC24W3K	1.58 max	K
	Stamped & Formed	26-24	0.13-0.25	SM24W3-(1)	SC24W3-(1)	0.89-1.58	TK6 S25 (female) S26 (male)
				SM24WL3-(2)	SC24WL3-(2)		
	Machined	20-20	0.32-0.52	RM20W3K	RC20W3K	1.58 max	K
				Stamped & Formed	20-20		
						SM20WL3-(2)	SC20WL3-(2)
	Machined	20-18	0.48-0.93	RM18W3K	RC18W3K	2.10 max	K
	#16 Ø 1.6 mm	Machined	30-26	0.05-0.08	RM28M1-	RC28M1-	1.1
Machined		26-24	0.13-0.2	RM24M9-	RC24M9-	1.6	K, J
Stamped & Formed		26-24	0.13-0.25	SM24M1-(1)	SC24M1-(1)	0.89-1.58	S31, S18, TK6
				SM24ML1-(2)	SC24ML1-(2)		
Machined		20-20	0.32-0.52	RM20M13-	RC20M13-	1.8	K, J
				RM20M12-	RC20M12-		
Stamped & Formed		20-20	0.35-0.5	SM20M1-(1)	SC20M1-(1)	1.17-2.08	S31, S18, TK6
				SM20ML1-(2)	SC20ML1-(2)		
Machined		18-16	0.92-1.5	RM16M23-	RC16M23-	3.2	K, J
Stamped & Formed		18-16	0.8-1.5	SM16M1-(1)	SC16M1-(1)	No insulation grip	S31, S18, TK6
				SM16ML1-(2)	SC16ML1-(2)		
Stamped & Formed		18-16	0.8-1.5	SM16M11-(1)	SC16M11-(1)	2.08-3.0	S31, S18, TK6
	SM16ML11-(2)			SC16ML11-(2)			
Machined	16-14	1.5-2.5	RM14M30-	RC14M30-	3.2	K, J	
Stamped & Formed	14	2.0-2.5	SM14M1-(1)	SC14M1-(1)	No insulation grip	S31, S18, TK6	
			SM14ML1-(2)	SC14ML1-(2)			
#12 Ø 2.4 mm	Machined	20	0.13-0.4	82911457N-	82911456-	4.0	A, K
		20	0.5	82911459N-	82911458-		
		18	0.75-1.0	82911461N-	82911460-		
		16	1.5	82911463N-	82911462-		
		14	2.5	82911465N-	82911464-		
		12	4	82911467N-	82911466-		
#8 Ø 3.6 mm	Machined	16	1.5	82913601A	82913600A	6.3	A
		14	2.5	82913603A	82913602A		
		12	4	82913605A	82913604A		
		10	6.0	82913607A	82913606A		
		8	10.0	82913609A	82913608A		

(1) contact reeled

(2) loose contact

Example: RM24W3K - Size #20, Machined, AWG24 wire.

3

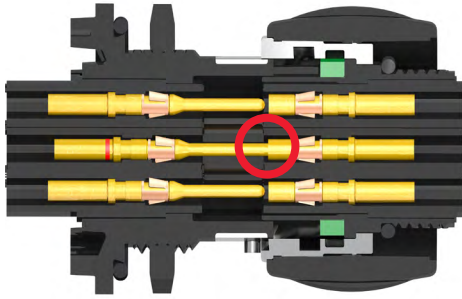


# 3

## Contacts

### Crimp contacts

3



### First mate, last break male contacts

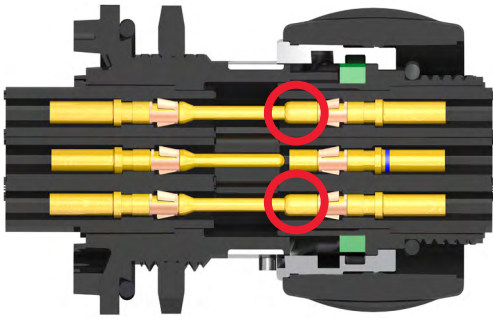
#### Description

The layouts UTGX103, UTGX124, UTGX12E4/12D4, UTGX142G1, UTGX147 and UTGX14E7/14D7 are already designed to have a first mate, last brake connection on the ground line. That's why, for cavities marked with the ground symbol, standard contacts will fulfill the same role as a first mate, last break contact used in a standard cavity.

For the other layouts (without ground marking) a specific contact is necessary to achieve ground connection.

Please choose your contact from the table below.

Contact size	Type	Wire size		Part number	Max wire Ø (mm)	Max insulator Ø (mm)	Color band		Available plating see p. 129
		AWG	mm <sup>2</sup>				Front	Rear	
#16 Ø 1.6 mm	Machined	30-26	0.05-0.08	<b>RM28M1GE1K</b>	0.55	1.0	-	Red	K
		26-24	0.13-0.2	<b>RM24M9GE1K</b>	0.8	1.6	Red	Red	
		20-20	0.32-0.52	<b>RM20M12GE1K</b>	1.15	2.2	Blue	Red	
Longer male contact (+1mm)		18-16	0.92-1.5	<b>RM16M23GE1K</b>	1.8	3.2	-	Red	
		16-14	1.5-2.5	<b>RM14M30GE1K</b>	2.26	-	-	Red	



### Last break, first mate female contacts

#### Description

In order to create a last break, first mate connection, a shorter female contact is necessary. On the other side, a standard male contact can be used.

A complete offer of contacts is available to realize this connection type according the wire section used for our contact #16. Please choose your contact from the table below.

Contact size	Type	Wire size		Part number	Max wire Ø (mm)	Max insulator Ø (mm)	Color band		Available plating see p. 129
		AWG	mm <sup>2</sup>				Front	Rear	
#16 Ø 1.6 mm	Machined	30-26	0.05-0.08	<b>RC28M1GE7K</b>	0.55	1.0	-	Blue	K
		26-24	0.13-0.2	<b>RC24M9GE7K</b>	0.8	1.6	Red	Blue	
		20-20	0.32-0.52	<b>RC20M13GE7K</b>	1.15	1.8	Black	Blue	
Shorter female contact (-0.7 mm)		20-20	0.32-0.52	<b>RC20M12GE7K</b>	1.15	2.2	Blue	Blue	
		18-16	0.92-1.5	<b>RC16M23GE1K</b>	1.8	3.2	-	Blue	
		16-14	1.5-2.5	<b>RC14M30GE1K</b>	2.26	-	-	Blue	

Eaton provides two types of coaxial contacts suitable for 48 or 75Ω, coaxial cable or twisted pair cable.

### Monocrimp coaxial contact



- The monocrimp one-piece coaxial contacts offer high reliability plus the economic advantage of a 95% reduction in installation time over conventional assembly methods. This is achieved by simultaneously crimping both the inner conductor and outer braid or drain wire.

3

### Multipiece crimp coaxial contact

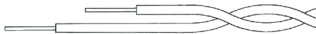


- The inner conductor and outer braid is crimped individually.
- The thermoplastic insulating bushing in the outer body is designed to accept and permanently retain the inner contact.
- An outer ferrule is used to connect the braid to the outer contact and provide cable support to ensure against bending and vibration.

### Suitable for coaxial cable or twisted cable



- For jacket diameter from 1.78 to 3.05 mm. Inner conductor up to 2.42 mm diameter



- For jacket diameter from 0.64 to 1.45 mm. Inner conductor from AWG30 to AWG24

### Contacts for coaxial cable summary

Contact type	Contact range	
	Male contact	Female contact
Multipiece	RMDXK10D28	RCDXK1D28
Monocrimp	RMDX60xxD28	RCDX60xxD28

### Contacts for twisted pairs cable summary

Contact type	Contact range	
	Male contact	Female contact
Multipiece	RMDXK10D28 + Yorx090	RCDXK1D28 + Yorx090
Monocrimp	RMDX60xxD28	RCDX60xxD28

## Coaxial cable - Contact monocrimp and multipiece

Cable type	Impedance	Contact type	Ø over jacket		Ø over dielectric		Inner cond size	Ø outer braid		Male contact kit for coaxial cable	Female contact kit for coaxial cable	
			inch	mm	inch	mm		inch	mm			
RG161/U	75	Multi piece	0.09"	2.29	0.057"	1.45	–	–	–	RMDXK10D28	RCDXK1D28	
RG179A/U	75		0.105"	2.67	0.063"	1.6	0.3	0.084"	2.13 max			
RG179B/U	75		0.105"	2.67	0.063"	1.6	0.3	0.084"	2.13 max			
RG187/U	75		0.11"	2.79 max	0.06"	1.52	0.3	–	–			
RG188/U	48		0.11"	2.79 max	0.06"	1.52	0.51	0.078"	1.98 max			
RG174/U	48		0.11"	2.92	0.06"	1.52	0.48	0.088"	2.24 max			
AMPHENOL 21–598	48		0.105"	2.67	0.06"	1.52	0.48	–	–			
RG196/U	48		0.08"	2.03 max	0.034"	0.086	0.3	–	–			
RG152A/U	48		0.075"	1.91	0.034"	0.84	0.3	0.054"	1.37 max			
RG/188A/U	48		Mono crimp	0.110"	2.79	0.06"	1.52	0.51	0.078"	1.98 max	RMDX6036D28	RCDX6036D28
KX21TVT (europe) RG152 B/U	48	0.075"		1.91	0.034"	0.84	0.3	0.054"	1.37 max	RMDX6034D28	RCDX6034D28	
RG152 / BU	48	0.075"		1.91	0.034"	0.84	0.3	0.054"	1.37 max	RMDX6050D28	RCDX6016D28	
RG174/U	48	0.115"		2.92	0.06"	1.52	0.48	0.088"	2.24 max	RMDX6032D28	RCDX6032D28	
RG188A/U	48	0.11"		2.79	0.06"	1.52	0.51	0.078"	1.98 max	RMDX6036D28	RCDX6036D28	
RG316/U	48	0.107"		2.72	0.06"	1.52	0.51	0.078"	2.05 max	RMDX6036D28	RCDX6036D28	
raychem 5024A3111	48	0.12"		3.05	0.083"	2.11	0.64	0.097"	2.46	RMDX6052D28	RCDX6052D28	
raychem 5026e1614	48	0.083"		2.11	0.05"	1.27	0.48	0.067"	1.7	RMDX6036D28	RCDX6036D28	
surprenant pn 8134	–	Multi piece		0.1"	2.54	0.058"	1.47	0.3	–	–	RMDXK10D28	RCDXK1D28
PRD PN 247AS-C1123–001	–	Mono crimp		0.103"	2.62	0.06"	1.52	0.51	0.078"	1.98	RMDX6018D28	RCDX6018D28
PRD PN 247AS–C1251	–		0.092"	2.34	0.05"	1.27	0.64	0.067"	1.7	RMDX6018D28	RCDX6018D28	
JUDD C15013010902	–		0.087"	2.13	0.05"	1.27	0.48	0.066"	1.67	RMDX6036D28	RCDX6036D28	
CDC PIN22939200	–		0.09"	2.29	0.048"	1.20	0.3	0.064"	1.63	RMDX6046D28	RCDX6016D28	
CDC PIN22939200	–		0.09"	2.29	0.048"	1.20	0.3	0.064"	1.63	RMDX6050D28	RCDX6016D28	
CDC PIN245670000	–		0.104"	2.64	0.067"	1.7	0.3	0.083"	2.11	RMDX6050D28	RCDX6016D28	
ampex	–		0.114"	2.9	0.075"	1.91	0.36	0.09"	1.29	RMDX6032D28	RCDX6032D28	
TI PN 920580	–		0.7"	1.78	0.038"	0.94	0.48	0.054"	1.37	RMDX6024D28	RCDX6024D28	
Honeywell PN 58000062	–		0.12"	3.05	0.077"	1.94	0.41 solid	0.096"	2.42	RMDX6026D28	RCDX6026D28	
–	–		0.104"	2.64	0.067"	1.7	0.3	–	2.11	RMDX6050D28	–	
–	–	0.09"	2.29	0.048"	1.20	0.3	–	1.63	RMDX6050D28	–		
–	–	0.114"	2.9	0.075"	1.91	0.36	–	1.29	RMDX6032D28	RCDX6032D28		
–	–	0.07"	1.78	0.038"	0.94	0.48	–	1.37	RMDX6024D28	RCDX6024D28		
–	–	0.12"	3.05	0.077"	1.94	0.41	–	2.42	RMDX6026D28	RCDX6026D28		

Twisted cable - Contact monocrimp and multipiece

Cable type	Contact type	Inner AWG cond	Ø over jacket (single wire)		Inner cond size		Ø outer braid		Male contact kit for coaxial cable	Female contact kit for coaxial cable
			inch	mm	Stranded definition	Ext. Ø mm	inch	mm		
<b>2#24 stranded MIL-W-16878 type B</b>	Multi piece	24	0.049"	1.24 max	7/.008	–	–	–	RMDXK10D28	RCDXK1D28
<b>2 #24 solid MIL-W-74 type LW</b>		24	0.047"	1.12 max	1/.0201	–	–	–	RMDXK10D28	RCDXK1D28
<b>2 #26 stranded MIL-W-74 type LW or MIL-W-16878 type B&amp;E</b>		26	0.043"	1.09 max	7/.0063	0.16	–	–	RMDXK10D28	RCDXK1D28
<b>2 #26 solid MIL-W-81822/3</b>		26	0.028"	0.71 max	–	–	–	–	RMDXK10D28	RCDXK1D28
<b>Twisted pair 1/.201 solid MIL-W-74 type LW or MIL-W-16878</b>		26	0.044"	1.12 max	1/.0201	0.511	–	–	RMDXK10D28	RCDXK1D28
<b>Twisted pair solid MIL-W-81822/3</b>		26	0.028"	0.71 max	1/.0126	0.32	–	–	RMDXK10D28	RCDXK1D28
<b>#26 7/.0036 per Hitachi spec ec-711 (13-2820)</b>	Mono crimp	–	0.046"	1.17	7/.0036	–	–	–	RMDX6031D28 + YORX090	RCDX6031D28 + YORX090
<b>20218201</b>		–	0.028"	0.71	–	–	–	–	RMDX6031D28 + YORX090	RCDX6031D28 + YORX090
<b>#30 solid</b>		–	0.025"	0.64	–	–	–	–	RMDX6015D28 + YORX090	RCDX6015D28 + YORX090
<b>#26 7/.0063</b>		26	0.028"	0.71	7/.063	0.16	–	–	RMDX6031D28 + YORX090	RCDX6031D28 + YORX090
<b>#26 19/.004</b>		26	0.049"	1.24	19/.004	–	–	–	RMDX6019D28 + YORX090	RCDX6019D28 + YORX090
<b>#24 7/.008</b>		24	0.049"	1.24	7/.008	–	–	–	RMDX6019D28 + YORX090	RCDX6019D28 + YORX090
<b>#24 19/.005</b>		24	0.057"	1.45	19/.005	–	–	–	RMDX6019D28 + YORX090	RCDX6019D28 + YORX090
–		26	–	1.25	–	–	–	19x0.1	RMDX6019D28 + YORX090	RCDX6019D28 + YORX090
–		24	–	1.25	–	–	–	7x0.2	RMDX6019D28 + YORX090	RCDX6019D28 + YORX090
–		24	–	1.45	–	–	–	19x0.13	RMDX6019D28 + YORX090	RCDX6019D28 + YORX090
–	26	–	0.7	–	–	–	7x0.16	RMDX6031D28 + YORX090	RCDX6031D28 + YORX090	

3

## PCB contacts supplied separately - UTGX standard series

### PCB soldering

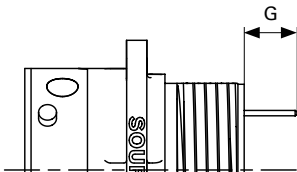
3



The UTGX Series can be used in a wave soldering process but not reflow soldering process. All high temperature processes are prohibited.

Contact size	Type	Part number		Plating see page 129
		Male	Female	
#20 Ø 1 mm	Short version	RMW50A7K	RCW50A7K	K
	Long version	RMW5016K	RCW5016K	
#16 Ø 1.6 mm	Short version	RM20M12E8K	RC20M12E8K	K
	Long version	RM20M12E83K	RC20M12E83K	
		RC20M12E84K		
#8 Ø 3.6 mm	–	82911685NPC	82911684NPC	2 µm Ni
		82911685NAPC	82911684NAPC	3 µm Ag

### Minimal length G (mm)



Dimension of dipsolder contacts out of connector (contacts to be ordered separately).

#### UTGX0 with PCB contacts #16

Connector size	Pin contact			Socket contact			
	RM20M12E8K*	RM20M12E83K*	RM20M12E84K*	RC20M12E8K*	RC20M12E83K*	RC20M12E84K*	RC20M12E87K*
10	4.2	9.4	12.9	4.2	9.4	12.9	6.5
12	3.6	8.8	12.3	4.2	9.4	12.9	6.5
14	3.3	8.5	12.0	2.6	7.8	11.3	4.9

#### UTGX7 with PCB contacts #20 and #16

Connector size	Pin contact			Socket contact			
	RM20M12E83K*	RM20M12E84K*	RMW50A7K*	RMW5016K*	RC20M12E84K*	RCW50A7K*	RCW5016K*
10	7.3	10.8	8.4	9.3	3.6	8.4	9.3
12	7.3	10.8	8.4	9.3	3.9	8.4	9.3
14	7.3	10.8	8.4	9.3	3.6	–	–

\* Plating indication see page 129

#### UTGX7 with PCB contacts #16 and #8

Connector size	Pin contact		Socket contact	
	RM20M12E83K*	82911685NPC*	RC20M12E87K*	82911684NPC*
UTGX7142G1P	–	6.4	–	–
UTGX7142G1S	–	–	–	8.2
UTGX7142G1SNPT	–	5.8	–	5.4
UTGX718X2M3	4.9	4.5	3.6	5.2
UTGX7183G1SNPT	–	–	–	4.17

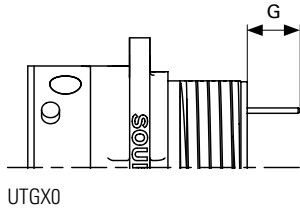
\* Plating indication see page 129

## PCB contacts loaded - UTGX sealed unmated series

### PCB soldering

The UTGX Series can be used in a wave soldering process, but not reflow soldering process. All high temperature processes are prohibited.

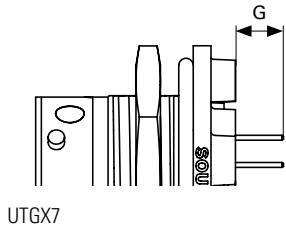
### Minimal length G (mm)



Dimension of dipsolder contacts out of connector (contacts to be ordered separately).

#### UTGX0

Connector size	Connector part Number	Pin contact		Socket contact		
		G min	G max	G min	G max	
10	10D6 - 10D98 - 10D7	8.1	10.2	8.1	10.3	
	12	12D2 - 12D3 - 12D8 - 12D10	8.1	10.2	8.1	10.3
		12D4	8.2	10	8.1	10.3
14	12D14	7.2	9	7.1	9.2	
	14D5 - 14D12 - 14D15 14D18 - 14D19	8.1	10.2	8.1	10.3	
	14D7	8.2	10	8.1	10.3	



#### UTGX7

Connector size	Connector part Number	Pin contact		Socket contact		
		G min	G max	G min	G max	
10	10D6 - 10D98 - 10D7	4.7	7.3	4.7	7	
	12	12D2 - 12D3 - 12D8 - 12D10	4.7	7.3	4.8	7
		12D4	4.9	7.1	4.8	7
14	12D14	3.9	6.2	3.8	6	
	14D5 - 14D12 - 14D15 14D18 - 14D19	4.8	7.3	4.9	7	
	14D7	4.9	7.1	4.9	7	

## Size 16 fiber optic contacts for UTGX and other TRIM TRIO® connectors

POF

### Description

3



Size 16 fiber optic contacts are designed for the integration of optical links in UTGX and other TRIM TRIO® cable connectors.

The fiber optic contacts are designed to accommodate:

- Plastic Optical Fiber (POF) 1 mm core and 2.2 mm jacket

Typical features and benefits are:

- Socket contact is spring loaded to avoid any air gap between the two optical faces.
- High precision pieces provide low insertion loss.
- We can provide custom harness solutions for specific customer requirements including single jumpers, multiways harness and active device housings.

### Technical specifications

Performance

- Fiber type: POF
- Wave length: 650 nm
- Optical insertion loss (typ.): 2 dB max.
- Jacketed external diameter: 2.2mm
- Temperature range: -25°C to +70°C
- Cable retention: 49N
- Mating cycles without cleaning: 48
- Max. mating cycles: 500

Construction

- Contact body: Copper alloy

Connector accommodation

Any TRIM TRIO® size 16 contact can be used in any contact position in any connector in the TRIM TRIO® size 16 interconnection system: UTP, UTGX, UTS, UTO, UTL.

## Ordering information

### Plastic Optical Fiber contact

Male contact

Female contact

RMPOF1000

## Plastic Optical Fiber tools

Standard tooling kit - P/N 80MS0004

The standard tooling kit is made of the part numbers below that can be ordered separately as well.

Part number	Descriptions
80WD0005	Stripping tool
80WD0025	Automatic stripping tool for Ø 0.5 mm, 0.6 mm, 0.7 mm & 3.8 mm
80WM0006	Ruler
80WP0005	Polishing plate
80WP0013	Non slip base (to hold the polishing plate)
80WP0014	Polishing disk (grain size 9µm)
80WP0018	Polishing tool
80WP0019	Polishing disk (grain size 30µm)
80WS0002	Crimping plier

Specific tooling list - Can only be ordered separately

Part number	Descriptions
80WG0010	Needle
80WG0015	Capsule
80WG0016	Syringe
80WN0005	Dry air spray
80WN0006	Optical paper
80WN0012	Dropper bottle
80WN0008	Wiping solvent



## Crimping tools for standard contacts

Contact size	Part number	Head*	Handles*	Extraction tools
#20 Ø 1 mm	RM/RC 24W3K	<b>S20RCM</b>	<b>SHANGLES</b>	<b>RX20D44</b>
	RM/RC 20W3K			
	RM/RC 18W3K			
	SM 24WL3S*(1) SC 24WL3S*(1)	<b>S20SCM20</b>		
	SM/SC 20WL3S*(1)			
#16 Ø 1.6 mm	RM/RC 28M1*	<b>S16RCM20</b>	<b>SHANGLES</b>	<b>RX2025GE1 or RX2031J long endurance tool</b>
	RM/RC 24M9*			
	RM/RC 20M13*			
	RM/RC 20M12*			
	RM/RC 16M23*	<b>S16RCM16</b>		
	RM/RC 14M30*		<b>S16RCM14</b>	
	SM/SC 24ML1*(1)	<b>S16SCM20</b>		
	SM/SC 20ML1*(1)			
	SM/SC 16ML1*(1)	<b>S16SCML1</b>		
	SM/SC 14ML1*(1)			
	SM/SC 16ML11*(1)	<b>S16SCML11</b>		

(1) loose contact

\* endurance of SHANGLES &amp; Head tools = 48,000 cycles

Contact size	Part number	Tool with separate locator		Extraction tools	
		Hand tool	Positioner + locator setting		
#12 Ø 2.4 mm	82911457N* / 82911456*	<b>M317</b>	<b>VGE10077A</b>	<b>1/2</b>	<b>51060210924</b>
	82911459N* / 82911458*			<b>2</b>	
	82911461N* / 82911460*			<b>2</b>	
	82911463N* / 82911462*			<b>3</b>	
	82911465N* / 82911464*			<b>3</b>	
	82911467N* / 82911466*			<b>4</b>	
#8 Ø 3.6 mm	82913601A / 82913600A	<b>M317</b>	<b>VGE10078A</b>	<b>3</b>	<b>51060210936</b>
	82913603A / 82913602A			<b>3</b>	
	82913605A / 82913604A			<b>4</b>	
	82913607A / 82913606A			<b>5</b>	
	82913609A / 82913608A			<b>6/7</b>	

\* see page 129 for plating options and other contact details

## Specific contacts (First mate, last break contacts)

Contact size	Part number*	Hand tools	Tool with separate locator		Extraction tools
		(SHANGLES) Head	Hand tool	Positioner + locator setting	
#16 Ø 1.6 mm Longer RM contact	RM28M1GE1K	<b>S16RCM20</b>	<b>MH860</b>	<b>MH86186</b>	<b>RX2025GE1 or RX2031J long endurance tool</b>
	RM24M9GE1K			5/6	
	RM16M23GE1K RM20M12GE1K	<b>S16RCM16</b>	<b>MH860</b>	<b>MH86186</b>	
	RM14M30GE1K			<b>M317</b>	
#16 Ø 1.6 mm Shorter RC contact	RC28M1GE7K	<b>S16RCM20</b>	<b>MH860</b>	<b>MH86164G</b>	4/6
	RC24M9GE7K			5/6	
	RC20M13GE7K RC20M12GE7K			5/7	
	RC16M23GE7K	<b>S16RCM16</b>			6/8
	RC14M30GE7K		<b>M317</b>	<b>UH25</b>	3

\* see page 132 for plating options and other contact details

## Coaxial contacts

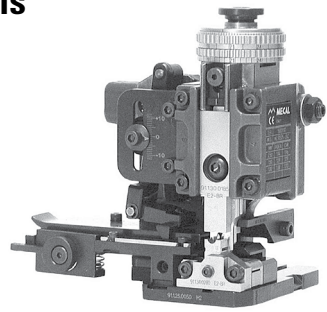
Please consult us.

### Automatic crimping tools

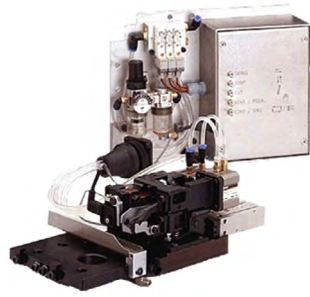
Contact Mecal for semi-automatic production tools.

Mecal sales network:

**www.mecal.net**



Min Applicator



Stripper



Presses

4

### Extraction tool



RX20D44



RX2025GE1



51060210924



51060210936



RX2031J

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

### Contact extraction instruction



Place the tool into the cavity from front face of the connector, push on the handle, then remove the contact.

# 4

## Technical information

### Crimping instructions

#### Wire stripping crimp version

##### Machined contact



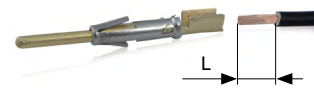
Contact size	Part number		Stripping length L (mm)
	Male	Female	
#20 (Ø 1 mm)	RM24W3- / RM20W3- RM18W3-	RC24W3- / RC20W3- RC18W3-	4.8
#16 (Ø 1.6 mm)	RM28M1- / RM24M9- RM20M13- / RM20M12-	RC28M1- / RC24M9- RC20M13- / RC20M12-	4.8
	RM16M23- / RM14M30-	RC16M23- / RC14M30-	7.1
#8 (Ø 3.6 mm)	82913601- / 82913603- 82913605- / 82913607- 82913609-	82913600- / 82913602- 82913604- / 82913606- 82913608-	6.5 to 7.5

##### Stamped & Formed with insulation support



Contact size	Part number		Stripping length L (mm)
	Male	Female	
#20 (Ø 1 mm)	SM24W3- / SM24WL3- SM20W3- / SM20WL3-	SC24W3- / SC24WL3- SC20W3- / SC20WL3-	4
#16 (Ø 1.6 mm)	SM24M1- / SM24ML1- SM20M1- / SM20ML1-	SC24M1- / SC24ML1- SC20M1- / SC20ML1-	4
	SM16M11- / SM16ML11-	SC16M11- / SC16ML11-	4.65

##### Stamped & Formed without insulation support



Contact size	Part number		Stripping length L (mm)
	Male	Female	
#16 (Ø 1.6 mm)	SM16M1- / SM16ML1-	SC16M1- / SC16ML1-	6.35
	SM14M1- / SM14ML1-	SC14M1- / SC14ML1-	6.35

##### Power contacts

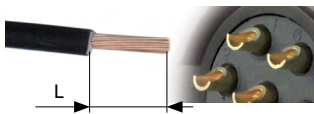


Contact size	Part number		Stripping length L (mm)	
	Male	Female		
#12 (Ø 2.4 mm)	82911457- / 82911459- 82911461- / 82911463- 82911465- / 82911467-	82911456- / 82911458- 82911460- / 82911462- 82911464- / 82911466-	7 to 8	
	#8 (Ø 3.6 mm)	82913601- / 82913603- 82913605- / 82913607- 82913609-	82913600- / 82913602- 82913604- / 82913606- 82913608-	6.5 to 7.5

Note: See page 129 for plating options and other contact details

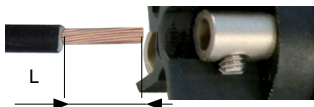
#### Wire stripping solder and screw versions

##### Solder contact delivered with connector



Contact size	Stripping length L (mm)
#16 (Ø 1.6 mm) & #20 (Ø 1 mm)	5

##### Screw contact delivered with connector



Contact size	Stripping length L (mm)
#16 (Ø 1.6 mm)	5.8

## Crimping

One of the key factors which affects the performance of a connector is the way contacts are terminated. Crimped connections are nowadays seen as the best solution to ensure quality throughout the lifetime of the product.



Active contact part	Contact type	Die location on heads	Wire section range	Section (inch <sup>2</sup> )	Tensile straight test (min)	Height (inch) W (±0.002")	Width (inch) W (±0.002")	Tooling head part number		
<b>Machined contacts</b> size #20 Ø 0.039"	RM24W3K RC24W3K	26/24	26 AWG	0.004" min	15 N	0.037"	0.05"	<b>S20RCM</b>		
			24 AWG	0.009" max	32 N					
	RM20W3K RC20W3K	22/20	22 AWG	0.012" min	40 N	0.049"	0.070"			
			20 AWG	0.019" max	60 N					
	RM18W3K RC18W3K	20/18	20 AWG	0.019" max	60 N	0.053"	0.073"			
			18 AWG	0.032" max	90 N					
<b>S &amp; F contacts</b> size #20 Ø 0.039"	SM24WL3TK6* SC24WL3TK6*	26/24	26 AWG	0.004" min	15 N	0.031"	0.058"	<b>S20SCM20</b>		
			24 AWG	0.009" max	32 N					
	SM20WL3TK6* SC20WL3TK6*	22/20	22 AWG	0.012" min	40 N	0.039"	0.060"			
			20 AWG	0.019" max	60 N					
	<b>Machined contacts</b> size #16 Ø 0.062"	RM28M1K* RC28M1K*	30/28	30 AWG	0.001" min	11 N	0.044"		0.055"	<b>S16RCM20</b>
				28 AWG	0.003" max	6 N				
RM24M9K* RC24M9K*		26/24	26 AWG	0.004" min	15 N	0.045"	0.055"			
			24 AWG	0.009" max	32 N					
RM20M13K* RC20M13K*		22/20	22 AWG	0.012" min	40 N	0.049"	0.069"			
			20 AWG	0.019" max	60 N					
RM20M12K* RC20M12K*			22 AWG	0.012" min	40 N					
			20 AWG	0.019" max	60 N					
RM16M23K* RC16M23K*		18	18 AWG	0.032" max	90 N	0.070"	0.089"	<b>S16RCM16</b>		
			16	16 AWG	0.059" max				150 N	0.077"
RM14M30K* RC14M30K*		16	16 AWG	0.059" min	150 N	0.082"	0.105"	<b>S16RCM14</b>		
			14	14 AWG	0.098" min				230 N	0.090"
<b>S &amp; F contacts</b> size #16 Ø 0.062"	SM24ML1TK6* SC24ML1TK6*	26/24	26 AWG	0.004" min	15 N	0.033"	0.059"	<b>S16SCM20</b>		
			24 AWG	0.009" max	32 N					
	SM20ML1TK6* SC20ML1TK6*	22/20	22 AWG	0.012" min	40 N	0.040"	0.060"			
			20 AWG	0.019" max	60 N					
	SM16ML11TK6* SC16ML11TK6*	18	18 AWG	0.032" min	90 N	0.051"	0.082"		<b>S16SCML11</b>	
			16	16 AWG	0.059" max					150 N
	SM16ML1TK6* SC16ML1TK6*	18	18 AWG	0.032" min	90 N	0.058"	0.079"	<b>S16SCML1</b>		
			16	16 AWG	0.059" max				150 N	0.066"
	SM14ML1TK6* SC14ML1TK6*	14	14 AWG	0.098" max	230 N	0.070"	0.101"			

\* example of plating, for other plating see page 129

**Note:** Assembly operations mentioned above shall not interfere with or be in contradiction with the IPC-WHMA-A-620B

# 4

## Technical information

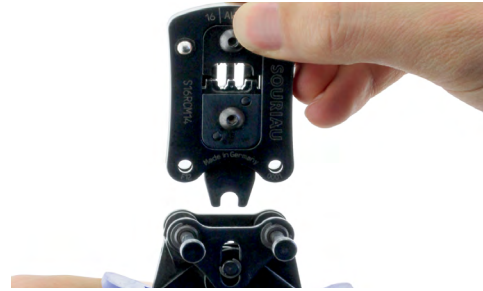
Handle & interchangeable heads for crimp contacts

### Crimping with Souriau tooling

4



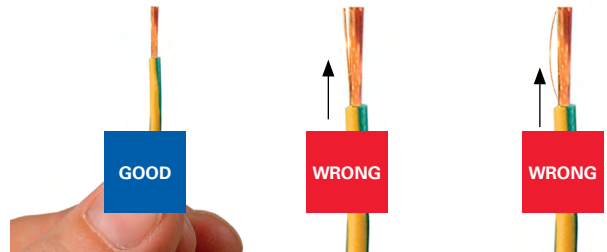
1) Fully close then release the tool, keep it open. Open the two pins.



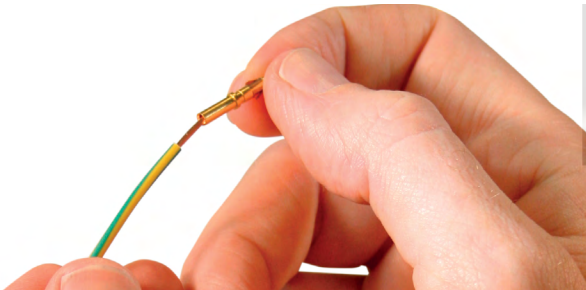
2) Choose the adapter head (sold separately). Keep vertical and slide it into the handle until the mechanical stop.



3) Close the two pins simultaneously to maintain the head.



4) Strip the cable properly by checking the recommended size in the catalog on page 142.



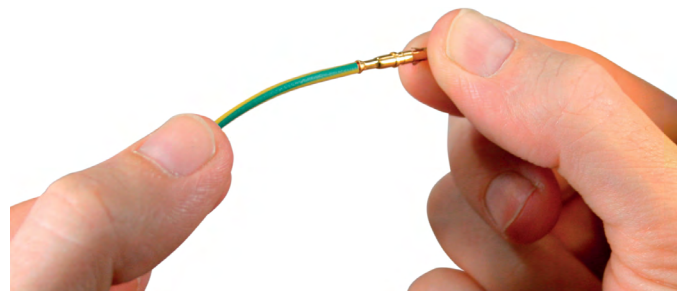
5) Place conductors, with no deterioration, in the contact bucket. All strands to be located in the crimp bucket.



6) Position the contact in the bottom of the tool by checking its orientation. Maintain the wire in position.



7) Tighten the handles to the end of the mechanism (max 175 N). After handles are opened, extract the contact.

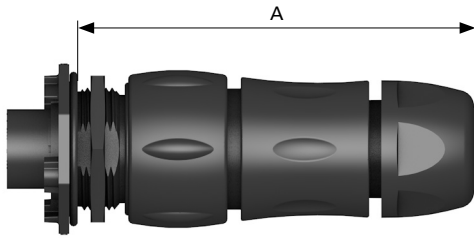


8) Control the quality of crimping (see page 143).

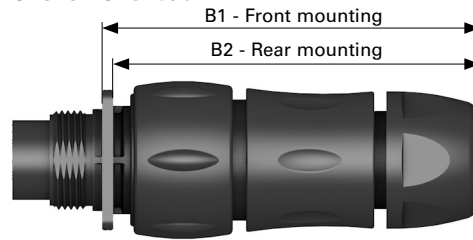
**Note:** Assembly operations mentioned above shall not interfere or to be in contradiction with the IPC-WHMA-A-620B

### Mated connector lengths (mm)

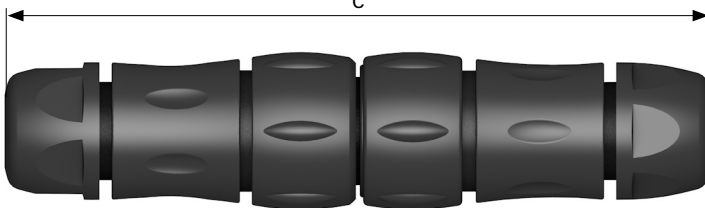
**UTGX7 + UTGX6JC**



**UTGX0 + UTGX6JC**



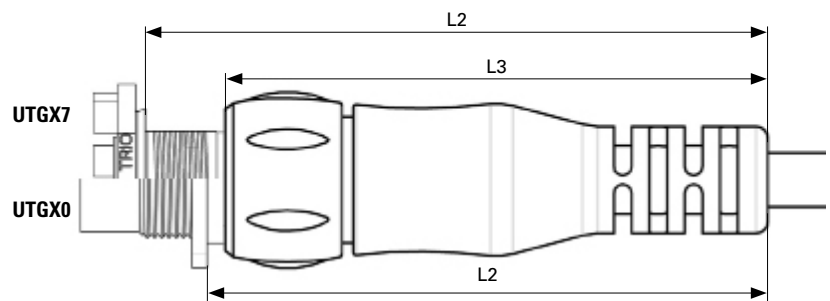
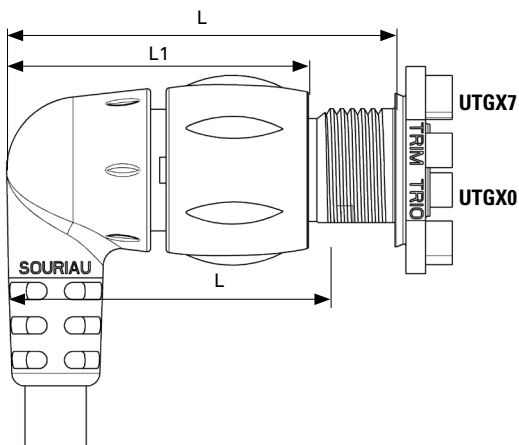
**UTGX1JC + UTGX6JC**



Shell size	UTGX7 + UTGX6JC	UTGX0 + UTGX6JC		UTGX1JC + UTGX6JC
	A max	B1 max	B2 max	C max
10	74	72	69.5	132
12	79	75	73	138
14	85.5	81.5	79	150.5

### Overmoulded cable assembly dimensions (mm)

Shell size	UTGX0				UTGX7			
	L max	L1 max	L2 max	L3 max	L max	L1 max	L2 max	L3 max
8	42.8	36.8	80.7	57.2	46.8	36.8	85.8	57.2
10	55.8	48.3	98.6	92	58.5	48.3	100.7	92
12	57.1	51.4	99.3	93.7	61.4	51.4	106.4	93.7
14	62.5	56.3	100.3	94.6	67.6	56.3	104.8	94.6

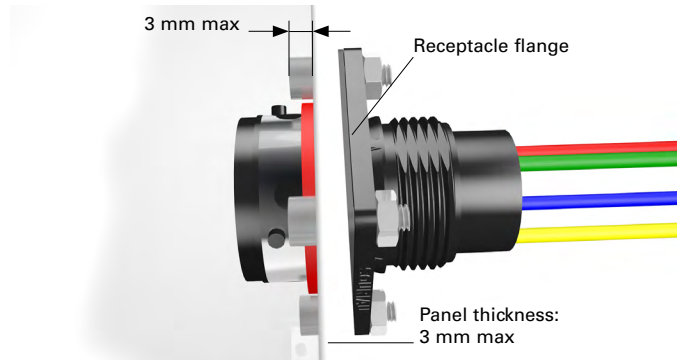
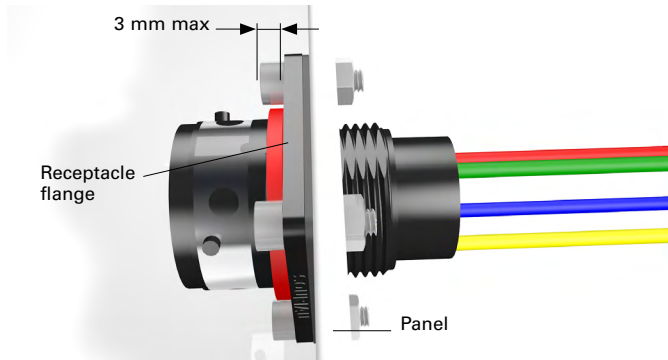
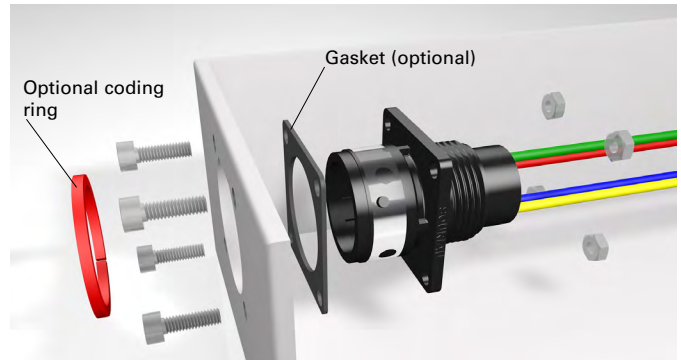
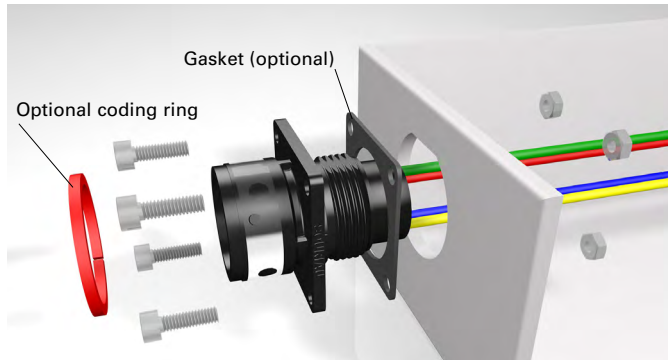




#### UTGX0 or UTGX0JC assembly (Mounting suggestion)

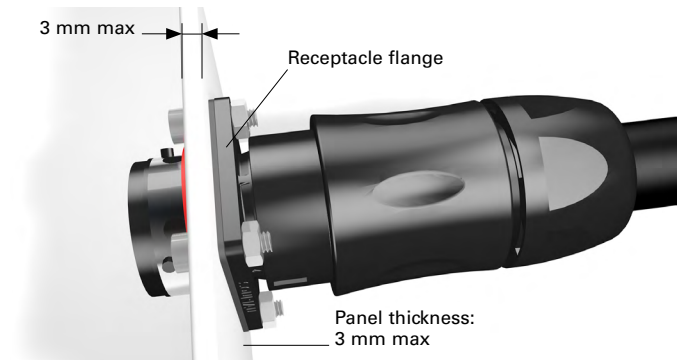
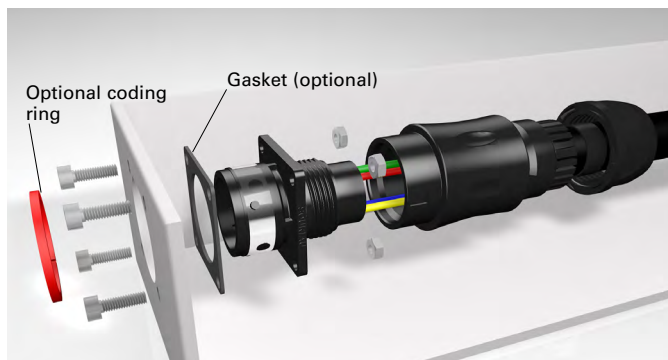
- Strip wires, crimp or solder contacts (see pages 142 & 143)
- Insert contacts into connector cavities (insert manually or use tool RTM205 crimp contacts)
- Place receptacle in the panel cut-out
- Secure receptacle with screws (not supplied)
  - Tighten screws: M2.5 (recommended torque: see table below)
  - Warning: to prevent any mating issue with the plug counterpart, take into account the following dimensions of screw heads and panel thickness
- For complete sealing of the system use optional gasket and sealed screw solution (not sold by Eaton).

#### Front mounting



Shell size	Screw tightening torque (Nm)
10	0.30/0.40
12	0.30/0.40
14	0.30/0.40

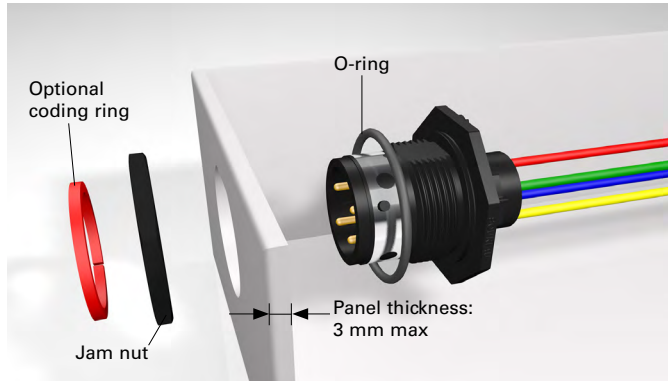
#### UTGX0JC rear mounting



### UTGX7 assembly (Mounting suggestion)

- Strip wires and crimp contacts (see pages 142 & 143)
- Insert contacts into connector cavities (insert manually or use tool RTM205 crimp contacts)
- Seat o-ring, place receptacle in the panel cut-out
- Tighten jam nut

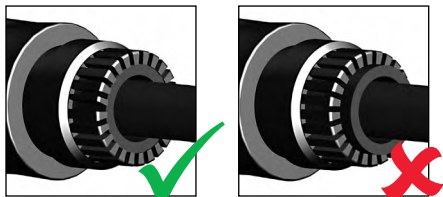
#### Crimp or solder version



Shell size	Jam nut torque (Nm) max	Exterior jam nut dim. (mm)	Ø Wire Standard version	Discrete wire sealing
10	3	20.2	3.2 mm max.	From 1.7 mm to 3.0 mm
12	4	27.0		
14	5	30.1		

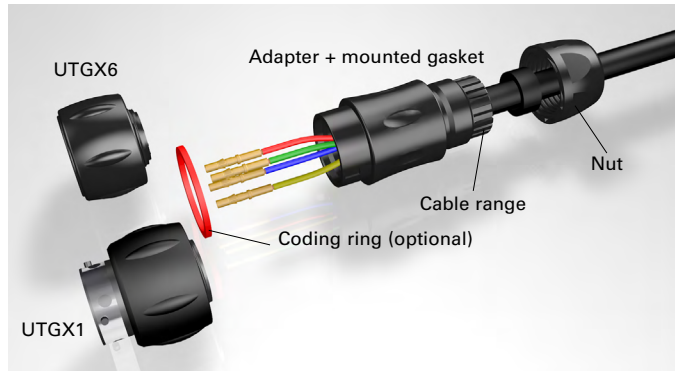
### UTGX1JC or UTGX6JC assembly: Crimp version

- Slide accessories onto the cable

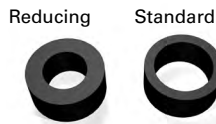


Make sure the seal is positioned as shown.

- Mate the plug with a corresponding counter part
- Strip external cable jacket
- Strip wires and crimp contacts (.)
- Insert contacts into connector cavities (insert manually or use tool RTM205)
- Tighten adapter with plug UTGX6 or receptacle UTGX1, choose right seal (waste the other seal)
- Tighten the nut to rear of either UTGX1 or UTGX6 (recommended torque values to be applied according to table below)
- Caution: only one of the two gaskets included should be used!



#### Cable ranges

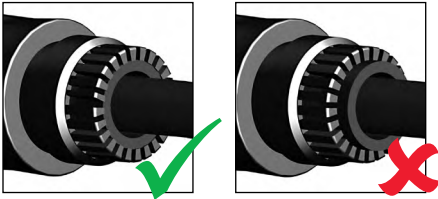


Shell size	Recommended jacket strip length (mm)		Adapter tightening torque (Nm)	Nut tightening torque (Nm)	Ø Cable range Standard seal (mm)	Ø Cable range Reducing seal (mm)	Ø Wire
	Male	Female					
10	21	29	1.5	1	2.5/8.0	1.5/5.0	From 1.7 mm to 3.0 mm
12	25	33	2.5	2	5.0/12.0	3.0/9.0	
14	29	36	3	2.5	7.0/14.0	5.0/12.0	



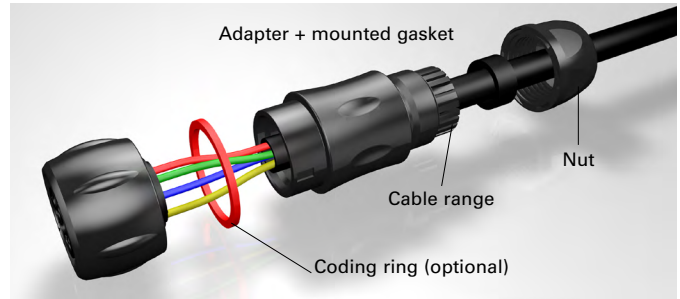
#### UTGX6JC assembly (Mounting suggestion)

- Slide accessories onto the cable

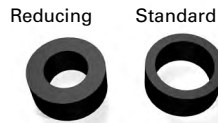


Make sure the seal is positioned as shown.

- Mate the plug with a corresponding receptacle
- Strip external cable jacket (see pages 142 & 143)
- Solder contacts
- Tighten adapter with plug, choose right seal (waste the other seal)
- Tighten the nut to rear of either UTGX6 (recommended torque values to be applied according table to the right)
- Caution: only one of the two gaskets included should be used!



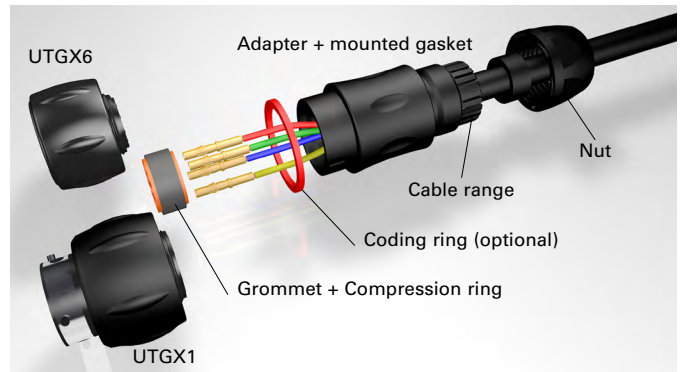
#### Cable ranges



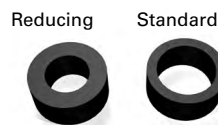
Shell size	Recommended jacket strip length (mm)		Adapter tightening torque (Nm)	Nut tightening torque (Nm)	Ø Cable range Standard seal (mm)	Ø Cable range Reducing seal (mm)	Ø Wire
	Male	Female					
10	21	29	1.5	1	2.5/8.0	1.5/5.0	From 1.7 mm to 3.0 mm
12	25	33	2.5	2	5.0/12.0	3.0/9.0	
14	29	36	3	2.5	7.0/14.0	5.0/12.0	

#### UTGX1GJC or UTGX6GJC assembly

- Slide accessories onto the cable (make sure to keep compression ring on the grommet)
- Strip external cable jacket
- Strip wires and crimp contacts (see pages 142 & 143)
- Insert first contact into the grommet (first contact in cavity A, no tool is required). Then insert the contact in the connector cavity A (insert manually or use tool RTM205)
- Place the grommet and compression ring on the insulator
- Insert the other contacts
- Tighten adapter with plug UTGX6 or receptacle UTGX1, choose correct seal
- Tighten the nut to rear of either UTGX1 or UTGX6 (recommended torque values to be applied according to the table right).



#### Cable ranges



Shell size	Recommended jacket strip length (mm)		Adapter tightening torque (Nm)	Nut tightening torque (Nm)	Ø Cable range Standard seal (mm)	Ø Cable range Reducing seal (mm)	Ø Wire
	Male	Female					
10	21	29	1.5	1	2.5/8.0	1.5/5.0	From 1.7 mm to 3.0 mm
12	25	33	2.5	2	5.0/12.0	3.0/9.0	
14	29	36	3	2.5	7.0/14.0	5.0/12.0	

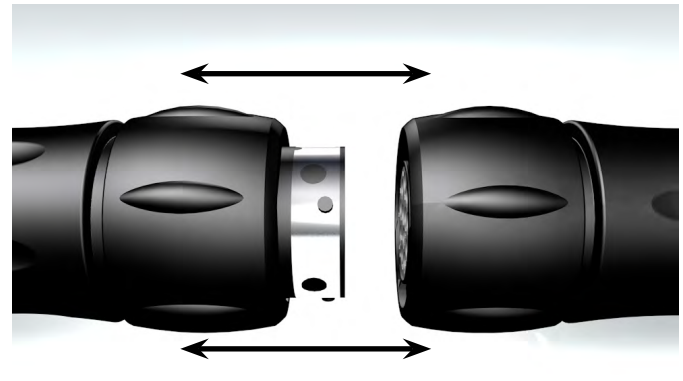
### UTGX coupling procedure

The pictures below provides step by step instructions on how to mate a plug and receptacle connector in order to avoid damaging any of the contacts.

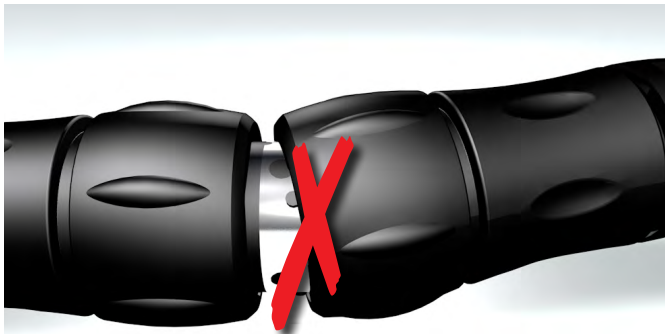
**1 - Identify the primary key of each connector.**



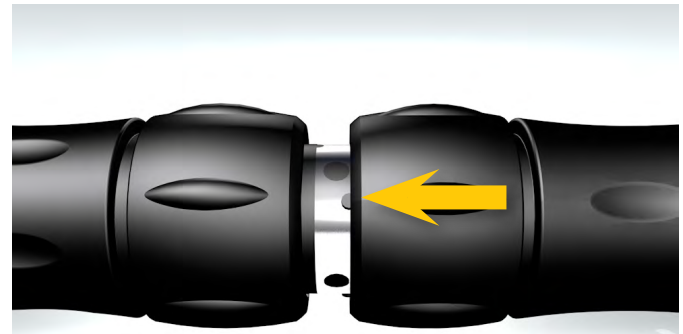
**2 - Align the primary keys of the connectors.**



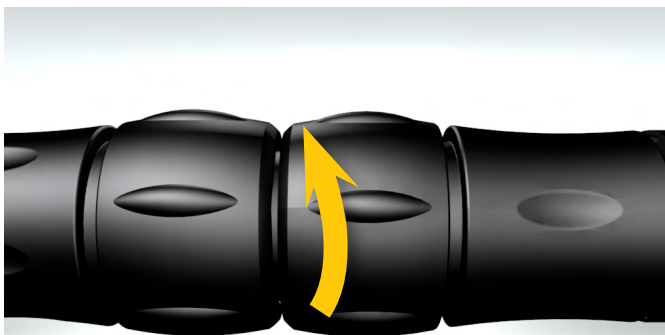
**3 - Non correct positioning:**



**4 - Offer the plug to the receptacle.**



**5 - Turn coupling ring until you hear a 'click'**



**6 - Example of installation**



Fastening of cable: In order to avoid any mechanical stress on the connection, cable should be clamp closed to the connector in such a way there is no bending or traction applying on the connector.

4

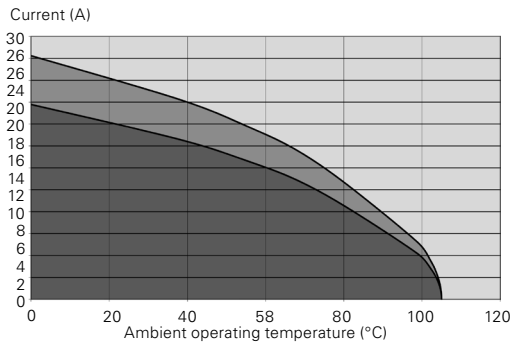
### Current carrying capacity

The current carrying capacity of a connector is limited by the thermal properties of materials used in its construction. The amount of current that can be handled depends on the size of cable used, the ambient temperature and the heat that is generated inside the connector. Part 3 of the IEC 60512 standard determines through a derating curve, the maximum current permissible, which varies from one layout to another (Fig.1 & Fig.2). Wire size plays an important role in dissipating heat and avoiding overheating (Fig.1 & Fig.3).

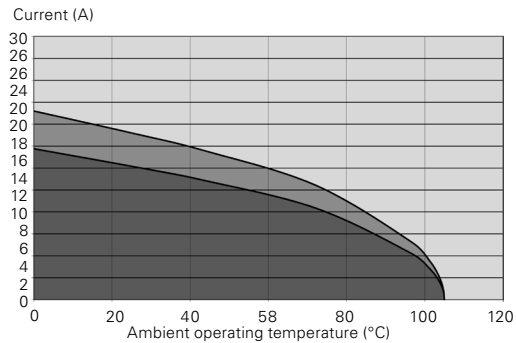
4

Please note that the curve should be adjusted when dealing with potential hot spots, which can occur as a result of unequal loading of current across a number of contacts. As a general rule, it is best to avoid placing power handling contacts in the middle of the connector. Try to locate them towards the edge where heat can be dissipated more effectively. Eventually you should find a level which represents the permissible operating range.

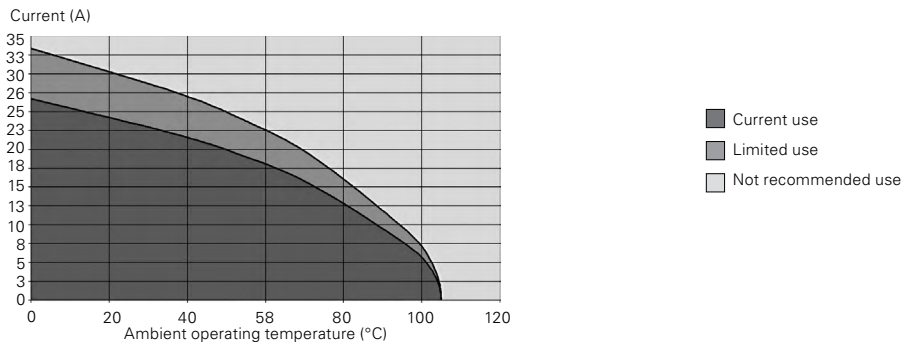
**Fig.1: UTGX 12-4 – 1.5 mm<sup>2</sup> wires**



**Fig.2: UTGX 12-8 – 1.5 mm<sup>2</sup> wires**



**Fig.3: UTGX 12-4 – 2.5 mm<sup>2</sup> wires**



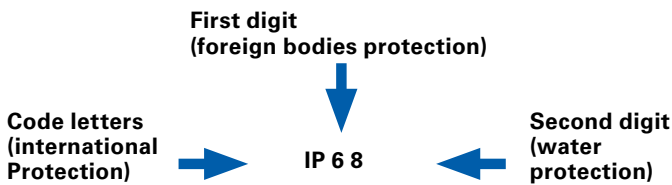
The rated current is defined as uninterrupted continuous current that a connector can take when all contacts are energized simultaneously without exceeding the maximum limit of temperature. The earth contact is never loaded.

## UV resistance

Plastics can be susceptible to extreme degradation over time. The UTGX series is made with (f1) material according to UL746C. The UTGX material withstand a 1000h UV exposure according ISO4892 without significant color variation, cracking or variation of mechanical properties.

## Protection provided by an enclosure

For safety reasons, electrical equipment needs to be protected against outside influences. The basis for the determination is the standard IEC 60529. IP is a coding system that provides information regarding the accessibility of live parts against ingress of water or other foreign bodies.

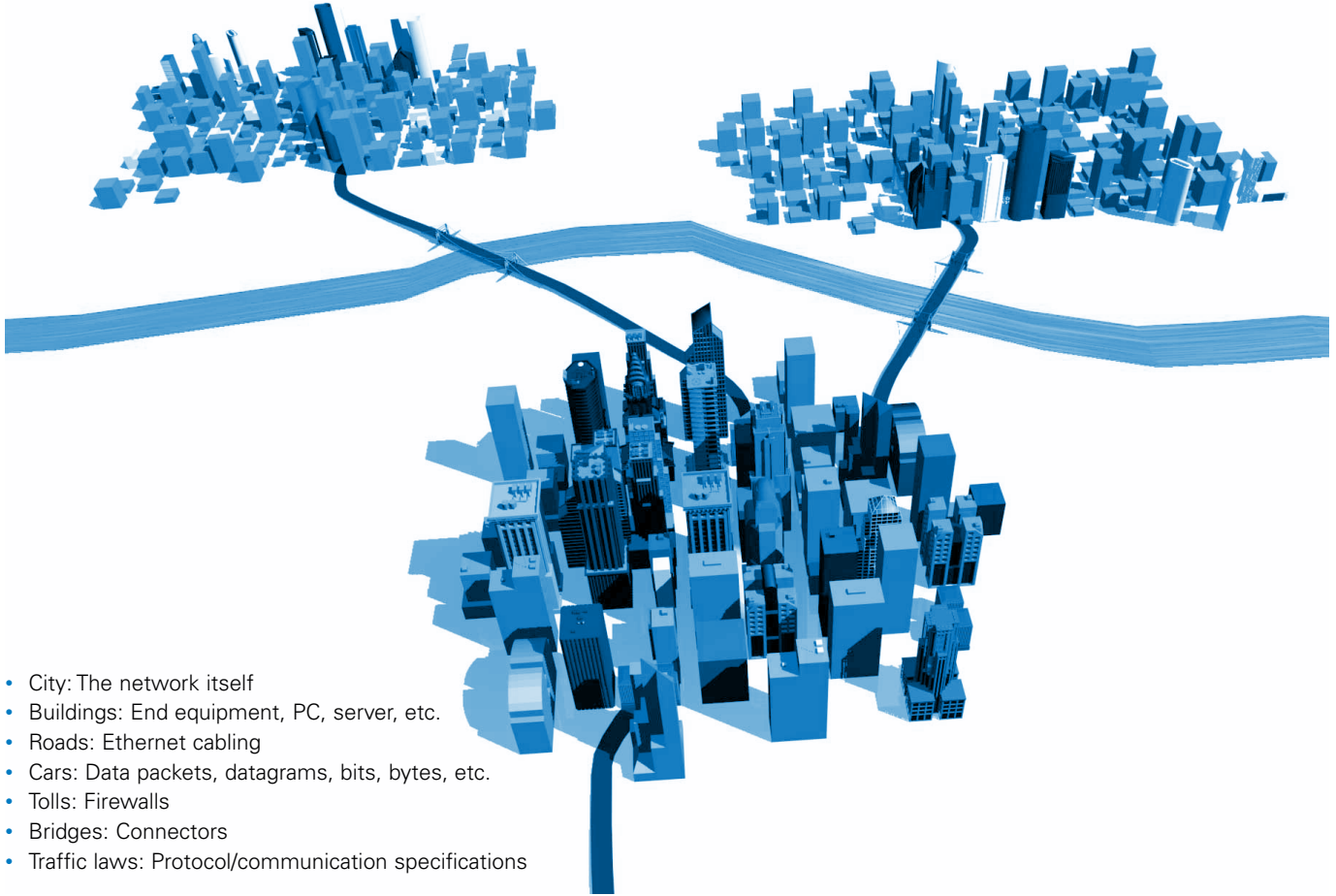


1st digit	Degree of protection	2nd digit	Degree of protection
0	No protection against accidental contact. No protection against solid foreign bodies.	0	No protection against water.
1	Protection against contact with any large area by hand and against large solid foreign bodies with a diameter bigger than 48 mm.	1	Drip-proof. Protection against vertical water drips.
2	Protection against contact with the fingers. Protection against solid foreign bodies with a diameter bigger than 12 mm.	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 2.5 mm. Protection against small solid bodies with a diameter bigger than 2.5 mm.	3	Spray-proof. Protection against diagonal water drips up to a 60° angle.
4	Same as 3 however diameter is bigger than 1 mm.	4	Splash-proof. Protection against splashed water from all directions.
5	Full protection against contact. Protection against interior injurious dust deposits.	5	Hose-proof. Protection against water (out of a nozzle) from all directions.
6	Total protection against contact. Protection against penetration of dust.	6	Protection against powerful water jets .
		7	Protection against temporary immersions.
		8	Protection against water pressure. Pressure and immersion time to be specified by supplier.
		9K	High pressure hose-proof. Protection against high pressure water (out of a nozzle) from all directions.

UTGX offers high sealing: IP68/69K even in dynamic situations.

In addition to the IEC 60529 we conjointly use the ISO 20653 for the implementation of IPx9K testing:

In order to explain basic Ethernet theory, we can use a functional comparison to a busy city with highways, buildings and cars. To illustrate this, the table below provides correlation between the different components/pieces/links that encompass Ethernet network connectivity, and the larger scale infrastructure of a metropolitan city.



- City: The network itself
- Buildings: End equipment, PC, server, etc.
- Roads: Ethernet cabling
- Cars: Data packets, datagrams, bits, bytes, etc.
- Tolls: Firewalls
- Bridges: Connectors
- Traffic laws: Protocol/communication specifications

### Ethernet basics

Ethernet is a widely used communications protocol that is used to transmit data packets (datagrams) between network devices. Imagine a highway in a large metropolitan area six lanes wide at rush hour. The vehicles on the highway need rules to follow so that they get to their destination without crashing into each other. In an Ethernet network link, there could be 100 million bits of information transmitted in one second. In the Ethernet standard, there exist rules to govern packet structure, transmission requirements, error correction, communication with end equipment, etc.

### Examining the differences between 100Mhz, 100 Base TX, Cat5e/Cat6. What does it all mean?

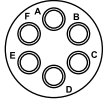
When discussing connectors and Ethernet, there are a few key details to be aware of

- 100Mhz is a measurement of Frequency for the signal
  - Comparable to the Speed Limit of a highway
- 100BaseTX (or Fast Ethernet) is an Ethernet link standard and identifies available link bandwidth. The bandwidth is measured in units of Mbits/S (megabits per second)
  - Comparable to the number of cars that pass a point in one second
- Cat5e/Cat6 are an EIA/TIA standard for performance and physical characteristics for cables and connectors
  - Comparable to performance specifications of the car and highway.

In connectors and cables, Fast Ethernet uses two pairs. One for transmit and one for receive. This way data traffic can flow in both directions simultaneously.

## Eaton offering

### Standard solutions.



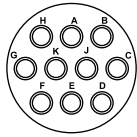
106\* 10E6/10D6  
4.5A 250V 6A 250V  
6 contacts Ø 1 mm (#20)

#### UTGX size 10, 6 contacts

- 1 (Pair 1) = A
- 2 (Pair 1) = B
- 3 (Pair 2) = E
- 4 (Pair 2) = D

Shielding continuity done in cavity C&F.

**Note:** Shielding can be replaced by DC power.



1210 - 12E10/12D10  
4.5A 250V  
10 contacts Ø 1 mm (#20)

#### UTGX size 12, 10 contacts

- 1 (Pair 1) = C
- 2 (Pair 1) = B
- 3 (Pair 2) = G
- 4 (Pair 2) = H

## What about using coax contacts?

Ethernet twisted pairs carry a symmetrical (balanced) signal. With coax contacts, the inner core will be shielded, but not the outer core, resulting in an unbalanced signal due to electromagnetic interferences. Therefore, coax contacts will not work correctly and are not recommended.

## What about using Quadrax contacts?

Quadrax contacts are used in railway applications because of the use of quad cables. In this specific industry, the standard Ethernet twisted pair cables cannot be used as they are too thin and usually solid, not stranded.

In other industries, UTP (Unshielded Twisted Pair) cables are widely used. Quadrax contacts are not designed to terminate UTP cables and are not recommended.

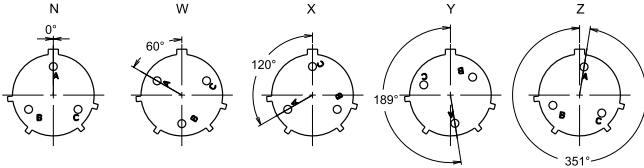
## Conclusion

To carry 100Mb/s data signals, 100BaseTX or Fast Ethernet, it is recommended to use Cat5e connectors as well as Cat5e cables with the support of a 100MHz signal. However, a 100Mb/s signal can be transmitted in certain conditions: short distance, only one connector, lower frequency, and so does not necessarily need to be Cat5e rated.

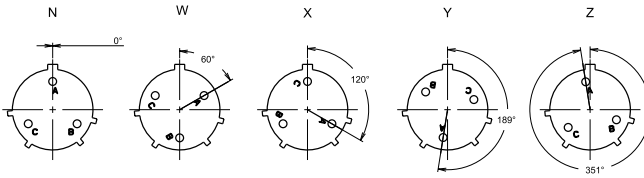
The UTGX has layouts with discrimination keys, which help avoid mismatching when operators mate the connectors.

This safety feature is particularly important when similar connectors are placed next to each other. Mismatching connectors can lead to serious problems including system failures and even physical injury.

5



**Note:** Insert rotated in body (viewed from front face of female insert)



**Note:** Insert rotated in body (viewed from front face of male insert)

Connectors with rotated inserts can be ordered by adding the suffix W, X, Y or Z to the standard part number.

e.g. **UTGX6JC104S** (N key) → **UTGX6JC104SW** (W key)

Consult us for overmolded harnesses.

Shell size	Layout	Discrimination keys degrees			
		W	X	Y	Z
<b>10</b>	102W2/103	–	–	–	–
	104	45°	–	–	–
	103W3	–	–	–	–
	106	90°	–	–	–
	10E6/10D6	90°	–	–	–
	10E7/10D7	90°	–	–	–
<b>12</b>	10E98/10D98	90°	180°	240°	270°
	12E2/12D2	–	–	–	–
	12E3/12D3	–	–	180°	–
	124	–	–	–	–
	12E4/12D4	–	–	–	–
	128	26°	–	–	–
	12E8/12D8	90°	112°	203°	292°
	1210	60°	155°	270°	295°
	12E10/12D10	60°	155°	270°	295°
	12E14/12D14	45°	–	–	–
<b>14</b>	14E5/14D5	40°	92°	184°	273°
	142G1	–	–	–	–
	147	–	–	–	–
	14E7/14D7	–	–	–	–
	148	–	–	–	–
	1412	60°	–	–	–
	1492	49°	71°	145°	–
	14E12/14D12	43°	90°	–	–
	14E15/14D15	17°	110°	155°	234°
	14E18/14D18	15°	90°	180°	270°
1419	30°	165°	315°	–	
14E19/14D19	30°	165°	315°	–	

### SMSPKE0: discrimination pin for male UTGX connectors (#16 contacts only)

Another solution to eliminate mismatching is to use a SMSPKE0 dummy contact, which can be inserted into an empty #16 male contact cavity. The UTGX male connector will only mate with a female connector that has a vacant contact cavity at the corresponding position.





**Connectors**

**Free hanging receptacle with cable gland**

UTGX1JC102W2P	38
UTGX1JC102W2S	38
UTGX1JC103P	20
UTGX1JC103S	20
UTGX1JC103W3P	52
UTGX1JC103W3S	52
UTGX1JC104P	43
UTGX1JC104S	43
UTGX1JC106P	58
UTGX1JC106S	58
UTGX1JC1210P	91
UTGX1JC1210S	91
UTGX1JC124P	33
UTGX1JC124PSCR	33
UTGX1JC124S	33
UTGX1JC124SSCR	33
UTGX1JC128P	76
UTGX1JC128S	76
UTGX1JC1412P	96
UTGX1JC1412S	96
UTGX1JC1419P	122
UTGX1JC1419S	122
UTGX1JC142G1P	25
UTGX1JC142G1S	25
UTGX1JC147P	67
UTGX1JC147PSCR	67
UTGX1JC147S	67
UTGX1JC147SSCR	67
UTGX1JC148P	85
UTGX1JC148S	85
UTGX1JC1492P	105
UTGX1JC1492S	105

**Jam nut receptacle only**

UTGX7102W2P	38
UTGX7102W2S	38
UTGX7103P	20
UTGX7103S	20
UTGX7103W3P	52
UTGX7103W3S	52
UTGX7104P	43
UTGX7104S	43
UTGX7106P	58
UTGX7106S	58
UTGX710D6P	58
UTGX710D6P32	58
UTGX710D6S	58
UTGX710D6S32	58
UTGX710D7P	72
UTGX710D7P32	72
UTGX710D7S	72
UTGX710D7S32	72
UTGX710D98P	63
UTGX710D98P32	63
UTGX710D98S	63
UTGX710D98S32	63
UTGX710E6P	58
UTGX710E6S	58
UTGX710E7P	72
UTGX710E7S	72
UTGX710E98P	63
UTGX710E98S	63
UTGX71210P	91
UTGX71210S	91
UTGX7124P	33

UTGX7124PSCR	33
UTGX7124S	33
UTGX7124SSCR	33
UTGX7128P	76
UTGX7128S	76
UTGX712D10P	91
UTGX712D10P32	91
UTGX712D10S	91
UTGX712D10S32	91
UTGX712D14P	110
UTGX712D14P32	110
UTGX712D14S	110
UTGX712D14S32	110
UTGX712D2P	16
UTGX712D2P32	16
UTGX712D2S	16
UTGX712D2S32	16
UTGX712D3P	28
UTGX712D3P32	28
UTGX712D3S	28
UTGX712D3S32	28
UTGX712D4P	33
UTGX712D4P32	33
UTGX712D4S	33
UTGX712D4S32	33
UTGX712D8P	81
UTGX712D8P32	81
UTGX712D8S	81
UTGX712D8S32	81
UTGX712E10P	91
UTGX712E10S	91
UTGX712E14P	110
UTGX712E14S	110
UTGX712E2P	16
UTGX712E2S	16
UTGX712E3P	28
UTGX712E3S	28
UTGX712E4P	33
UTGX712E4S	33
UTGX712E8P	81
UTGX712E8S	81
UTGX71412P	96
UTGX71412S	96
UTGX71419P	122
UTGX71419S	122
UTGX7142G1P	25
UTGX7142G1S	25
UTGX7147P	67
UTGX7147PSCR	67
UTGX7147S	67
UTGX7147SSCR	67
UTGX7148P	85
UTGX7148S	85
UTGX71492P	105
UTGX71492S	105
UTGX714D12P	101
UTGX714D12P32	101
UTGX714D12S	101
UTGX714D12S32	101
UTGX714D15P	114
UTGX714D15P32	114
UTGX714D15S	114
UTGX714D15S32	114
UTGX714D18P	118
UTGX714D18P32	118
UTGX714D18S	118
UTGX714D18S32	118



UTGX714D19P.....	122	UTGX6147S.....	67
UTGX714D19P32.....	122	UTGX6148P.....	85
UTGX714D19S.....	122	UTGX6148S.....	85
UTGX714D19S32.....	122	UTGX61492P.....	105
UTGX714D5P.....	48	UTGX61492S.....	105
UTGX714D5P32.....	48	UTGX614E12P.....	101
UTGX714D5S.....	48	UTGX614E12S.....	101
UTGX714D5S32.....	48	UTGX614E15P.....	114
UTGX714D7P.....	67	UTGX614E15S.....	114
UTGX714D7P32.....	67	UTGX614E18P.....	118
UTGX714D7S.....	67	UTGX614E18S.....	118
UTGX714D7S32.....	67	UTGX614E19P.....	110
UTGX714E12P.....	101	UTGX614E19S.....	110
UTGX714E12S.....	101	UTGX614E5P.....	114
UTGX714E15P.....	114	UTGX614E5S.....	114
UTGX714E15S.....	114	UTGX614E7P.....	67
UTGX714E18P.....	118	UTGX614E7S.....	67
UTGX714E18S.....	118		
UTGX714E19P.....	122	<b>Plug with cable gland</b>	
UTGX714E19S.....	122	UTGX6JC102W2P.....	38
UTGX714E5P.....	48	UTGX6JC102W2S.....	38
UTGX714E5S.....	48	UTGX6JC103P.....	20
UTGX714E7P.....	67	UTGX6JC103S.....	20
UTGX714E7S.....	67	UTGX6JC103W3P.....	52
		UTGX6JC103W3S.....	52
<b>Plug only</b>		UTGX6JC104P.....	43
UTGX6100W2P.....	38	UTGX6JC104S.....	43
UTGX6100W2S.....	38	UTGX6JC106P.....	58
UTGX6103P.....	20	UTGX6JC106S.....	58
UTGX6103S.....	20	UTGX6JC10E6P.....	58
UTGX6103W3P.....	52	UTGX6JC10E6S.....	58
UTGX6103W3S.....	52	UTGX6JC10E7P.....	72
UTGX6104P.....	43	UTGX6JC10E7S.....	72
UTGX6104S.....	43	UTGX6JC10E98P.....	63
UTGX6106P.....	58	UTGX6JC10E98S.....	63
UTGX6106S.....	58	UTGX6JC1210P.....	91
UTGX610E6P.....	58	UTGX6JC1210S.....	91
UTGX610E6S.....	58	UTGX6JC124P.....	33
UTGX610E7P.....	72	UTGX6JC124PSCR.....	33
UTGX610E7S.....	72	UTGX6JC124S.....	33
UTGX610E98P.....	63	UTGX6JC124SSCR.....	33
UTGX610E98S.....	63	UTGX6JC128P.....	76
UTGX61210P.....	91	UTGX6JC128S.....	76
UTGX61210S.....	91	UTGX6JC12E10P.....	91
UTGX6124P.....	33	UTGX6JC12E10S.....	91
UTGX6124S.....	33	UTGX6JC12E14P.....	91
UTGX6128P.....	84	UTGX6JC12E14S.....	91
UTGX6128S.....	84	UTGX6JC12E2P.....	16
UTGX612E10P.....	91	UTGX6JC12E2S.....	16
UTGX612E10S.....	91	UTGX6JC12E3P.....	29
UTGX612E14P.....	110	UTGX6JC12E3S.....	29
UTGX612E14S.....	110	UTGX6JC12E4P.....	33
UTGX612E2P.....	16	UTGX6JC12E4S.....	33
UTGX612E2S.....	16	UTGX6JC12E8P.....	81
UTGX612E3P.....	32	UTGX6JC12E8S.....	81
UTGX612E3S.....	32	UTGX6JC1412P.....	85
UTGX612E4P.....	33	UTGX6JC1412S.....	85
UTGX612E4S.....	33	UTGX6JC1419P.....	110
UTGX612E8P.....	81	UTGX6JC1419S.....	110
UTGX612E8S.....	81	UTGX6JC142G1P.....	26
UTGX61412P.....	85	UTGX6JC142G1S.....	26
UTGX61412S.....	85	UTGX6JC147P.....	67
UTGX61419P.....	122	UTGX6JC147PSCR.....	67
UTGX61419S.....	122	UTGX6JC147S.....	67
UTGX6142G1P.....	26	UTGX6JC147SSCR.....	67
UTGX6142G1S.....	26	UTGX6JC148P.....	94
UTGX6147P.....	67	UTGX6JC148S.....	94

UTGX6JC1492P	105	UTGX01412S	96
UTGX6JC1492S	105	UTGX01419P	122
UTGX6JC14E12P	101	UTGX01419S	122
UTGX6JC14E12S	101	UTGX0142G1P	26
UTGX6JC14E15P	43	UTGX0142G1S	26
UTGX6JC14E15S	43	UTGX0147P	67
UTGX6JC14E18P	118	UTGX0147S	67
UTGX6JC14E18S	118	UTGX0148P	85
UTGX6JC14E19P	110	UTGX0148S	85
UTGX6JC14E19S	110	UTGX01492P	105
UTGX6JC14E5P	43	UTGX01492S	105
UTGX6JC14E5S	43	UTGX014D12P	101
UTGX6JC14E7P	67	UTGX014D12S	101
UTGX6JC14E7S	67	UTGX014D15P	114
<b>Square flange receptacle only</b>		UTGX014D15S	114
UTGX0102W2P	38	UTGX014D18P	118
UTGX0102W2S	38	UTGX014D18S	118
UTGX0103P	20	UTGX014D19P	122
UTGX0103S	20	UTGX014D19S	122
UTGX0103W3P	52	UTGX014D5P	48
UTGX0103W3S	52	UTGX014D5S	48
UTGX0104P	43	UTGX014D7P	67
UTGX0104S	43	UTGX014D7S	67
UTGX0106P	58	UTGX014E12P	101
UTGX0106S	58	UTGX014E12S	101
UTGX010D6P	58	UTGX014E15P	114
UTGX010D6S	58	UTGX014E15S	114
UTGX010D7P	72	UTGX014E18P	118
UTGX010D7S	72	UTGX014E18S	118
UTGX010D98P	63	UTGX014E19P	122
UTGX010D98S	63	UTGX014E19S	122
UTGX010E6P	58	UTGX014E5P	48
UTGX010E6S	58	UTGX014E5S	48
UTGX010E7P	72	UTGX014E7P	67
UTGX010E7S	72	UTGX014E7S	67
UTGX010E98P	63	<b>Square flange receptacle with cable gland</b>	
UTGX010E98S	63	UTGX0JC102W2P	38
UTGX01210P	91	UTGX0JC102W2S	38
UTGX01210S	91	UTGX0JC103P	20
UTGX0128P	76	UTGX0JC103S	20
UTGX0128S	76	UTGX0JC104P	43
UTGX012D10P	91	UTGX0JC104S	43
UTGX012D10S	91	UTGX0JC106P	58
UTGX012D14P	110	UTGX0JC106S	58
UTGX012D14S	110	UTGX0JC1210P	91
UTGX012D2P	16	UTGX0JC1210S	91
UTGX012D2S	16	UTGX0JC124P	33
UTGX012D3P	29	UTGX0JC124S	33
UTGX012D3S	29	UTGX0JC128P	76
UTGX012D4P	33	UTGX0JC128S	76
UTGX012D4S	33	UTGX0JC1412P	96
UTGX012D8P	81	UTGX0JC1412S	96
UTGX012D8S	81	UTGX0JC1419P	122
UTGX012E10P	91	UTGX0JC1419S	122
UTGX012E10S	91	UTGX0JC142G1P	25
UTGX012E14P	110	UTGX0JC142G1S	25
UTGX012E14S	110	UTGX0JC147P	67
UTGX012E2P	16	UTGX0JC147S	67
UTGX012E2S	16	UTGX0JC148P	85
UTGX012E3P	29	UTGX0JC148S	85
UTGX012E3S	29	UTGX0JC1492P	105
UTGX012E4P	33	UTGX0JC1492S	105
UTGX012E4S	33		
UTGX012E8P	81		
UTGX012E8S	81		
UTGX01412P	96		

**Accessories****Color coding rings**

UTGX610CCRG	22
UTGX610CCRR	22
UTGX610CCRY	22
UTGX612CCRG	18
UTGX612CCRR	18
UTGX612CCRY	18
UTGX614CCRG	27
UTGX614CCRR	27
UTGX614CCRY	27
UTGX710CCRG	22
UTGX710CCRR	22
UTGX710CCRY	22
UTGX712CCRG	18
UTGX712CCRR	18
UTGX712CCRY	18
UTGX714CCRG	27
UTGX714CCRR	27
UTGX714CCRY	27

**Discrimination pin**

SMSPE0	154
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**Gasket**

UTFD12B	40
UTFD13B	18
UTFD14B	27

**Plastic protective cap**

85005586A	22
85005587A	18
85005588A	27
85005595	22
85005596	18
85005597	27

**Sealing caps**

UTGX10DCG	22
UTGS10DCGR	22
UTGS12DCG	18
UTGX12DCGE	18
UTGX12DCGR	18
UTGX14DCG	27
UTGX14DCGE	50
UTGX14DCGR	27
UTGX610DCG	22
UTGX612DCG	18
UTGX614DCG	27
UTS614DCG133	50

**Contacts****Crimp contacts**

82911456A	131
82911456K	131
82911457NA	131
82911457NK	131
82911458A	131
82911458K	131
82911459NA	131
82911459NK	131
82911460A	131
82911460K	131
82911461NA	131
82911461NK	131
82911462A	131
82911462K	131
82911463NA	131
82911463NK	131

82911464A	131
82911464K	131
82911465NA	131
82911465NK	131
82911466A	131
82911466K	131
82911467NA	131
82911467NK	131
82913600A	131
82913601A	131
82913602A	131
82913603A	131
82913604A	131
82913605A	131
82913606A	131
82913607A	131
82913608A	131
82913609A	131
RC14M30GE1K	131
RC14M30J	131
RC14M30K	131
RC16M23GE1K	131
RC16M23J	131
RC16M23K	131
RC18W3K	131
RC20M12GE7K	131
RC20M12J	131
RC20M12K	131
RC20M13GE7K	131
RC20M13J	131
RC20M13K	131
RC20W3K	131
RC24M9GE7K	131
RC24M9J	131
RC24M9K	131
RC24W3K	131
RC28M1GE7K	131
RC28M1J	131
RC28M1K	131
RM14M30GE1K	131
RM14M30J	131
RM14M30K	131
RM16M23GE1K	131
RM16M23J	131
RM16M23K	131
RM18W3K	131
RM20M12GE1K	131
RM20M12J	131
RM20M12K	131
RM20M13J	131
RM20M13K	131
RM20W3K	131
RM24M9GE1K	131
RM24M9J	131
RM24M9K	131
RM24W3K	131
RM28M1GE1K	131
RM28M1J	131
RM28M1K	131
SC14M1S18	131
SC14M1S31	131
SC14M1TK6	131
SC14ML1S18	131
SC14ML1S31	131
SC14ML1TK6	131
SC16M11S18	131
SC16M11S31	131

SC16M11TK6	131	SM24W3TK6	131
SC16M1S18	131	SM24WL3TK6	131
SC16M1S31	131	SM24WL3TKS26	131
SC16M1TK6	131	<b>Coaxial contacts</b>	
SC16ML11S18	131	RCDX6016D28	134
SC16ML11S31	131	RCDX6018D28	134
SC16ML11TK6	131	RCDX6024D28	134
SC16ML1S18	131	RCDX6026D28	134
SC16ML1S31	131	RCDX6032D28	134
SC16ML1TK6	131	RCDX6034D28	134
SC20M1S18	131	RCDX6036D28	134
SC20M1S31	131	RCDX6052D28	134
SC20M1TK6	131	RCDX60xxD28	133
SC20ML1S18	131	RCDXK1D28	134
SC20ML1S31	131	RMDX6018D28	134
SC20ML1TK6	131	RMDX6024D28	134
SC20W3S26	131	RMDX6026D28	134
SC20W3TK6	131	RMDX6032D28	134
SC20WL3S25	131	RMDX6034D28	134
SC20WL3TK6	131	RMDX6036D28	134
SC24M1S18	131	RMDX6046D28	134
SC24M1S31	131	RMDX6050D28	134
SC24M1TK6	131	RMDX6052D28	134
SC24ML1S18	131	RMDX60xxD28	133
SC24ML1S31	131	RMDXK10D28	134
SC24ML1TK6	131	<b>Fiber optic contacts</b>	
SC24W3S25	131	RCPOF1000B	139
SC24W3S26	131	RMPOF1000	139
SC24W3TK6	131	<b>PCB contacts</b>	
SC24WL3TK6	131	82911684NAPC	136
SC24WL3TKS25	131	82911684NPC	136
SM14M1S18	131	82911685NAPC	136
SM14M1S31	131	82911685NPC	136
SM14M1TK6	131	RC20M12E83K	136
SM14ML1S18	131	RC20M12E84K	136
SM14ML1S31	131	RC20M12E8K	136
SM14ML1TK6	131	RCW5016K	136
SM16M11S18	131	RCW50A7K	136
SM16M11S31	131	RM20M12E83K	136
SM16M11TK6	131	RM20M12E8K	136
SM16M1S18	131	RMW5016K	136
SM16M1S31	131	RMW50A7K	136
SM16M1TK6	131	<b>Tooling</b>	
SM16ML11S18	131	51060210924	140
SM16ML11S31	131	51060210936	140
SM16ML11TK6	131	M317	140
SM16ML1S18	131	MH860	140
SM16ML1S31	131	RX2025GE1	141
SM16ML1TK6	131	RX2031J	141
SM20M1S18	131	RX20D44	141
SM20M1S31	131	S16RCM14	140
SM20M1TK6	131	S16RCM16	140
SM20ML1S18	131	S16SCM20	140
SM20ML1S31	131	S16SCML1	140
SM20ML1TK6	131	S16SCML11	140
SM20W3S26	131	S20RCM	140
SM20W3TK6	131	S20SCM20	140
SM20WL3S26	131	SHANDLES	140
SM20WL3TK6	131	VEGE10077A	140
SM24M1S18	131	VEGE10078A	140
SM24M1S31	131		
SM24M1TK6	131		
SM24ML1S18	131		
SM24ML1S31	131		
SM24ML1TK6	131		
SM24W3S26	131		
SM24W3S26	131		





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## Appendices

Notes

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