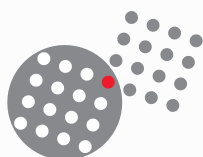




# UTS Series

Dynamic IP68/69K • UV Resistant • UL/IEC Compliant



**SOURIAU**  
Connection Technology





# UTS Series



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bits series.



UTS Series

# Overview

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### Example:

The enclosure contains some expensive electronics, so it is important to ensure that it remains sealed even when the cable is not connected.

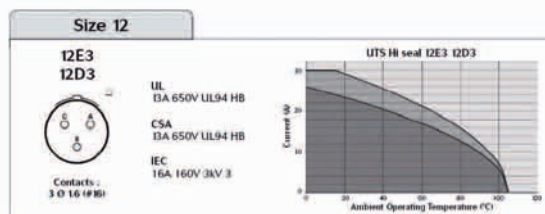
Use the layout guide page 12.



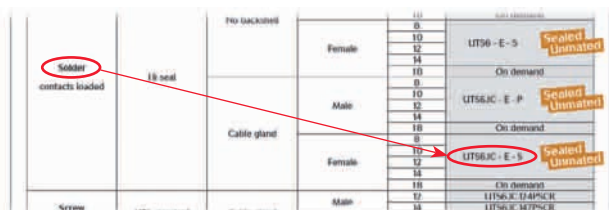
| Contact quantity | Shell size | Wire dimension & Contacts size            |                                                               |                                             |
|------------------|------------|-------------------------------------------|---------------------------------------------------------------|---------------------------------------------|
|                  |            | AWG 22 to 12<br>0.13 to 4 mm <sup>2</sup> | AWG 26 to 18<br>0.13 to 0.93 mm <sup>2</sup>                  | AWG 30 to 14<br>0.05 to 2.5 mm <sup>2</sup> |
|                  |            | Contact #12                               | Contact #20                                                   | Contact #16                                 |
| 2                | 8          |                                           | 8E2 (Solder)<br>8D2 (PCB)                                     |                                             |
|                  | 12         |                                           |                                                               | 12E2 (Solder)<br>12D2 (PCB)                 |
| 2 + PE           | 10         |                                           |                                                               | 103 (Crimp)                                 |
|                  | 8          |                                           |                                                               |                                             |
| 3                | 8          |                                           | 8E3, 8E3A, 8E9H, 8E33 (Solder)<br>8D3, 8D3A, 8D9H, 8D33 (PCB) |                                             |
|                  | 12         |                                           |                                                               | 12E3 (Solder)<br>12D3 (PCB)                 |
|                  | 14         |                                           |                                                               |                                             |

→ **12E3** (for solder contacts)  
or **12D3** (for PCB)

Check if your layout can run at 10A continuous using the dedicated de-rating curve (see pages 14 to 20).



In our example we chose a plug with solder contacts.



Plug with solder contacts:  
➔ **UTS6JC - E - S**

Your selection should be:

→ UTS6JC - E - S

Using the UTS layout guide you can select the insert arrangement code according to your needs. Replace -- by your choice → **12E3** for solder contacts.

**Result:**

Here your plug with solder contacts is **UTS6JC12E3S**

For any assembly questions please refer to the “assembly instruction” section (pages 54 to 57).

For discrimination see p.79.

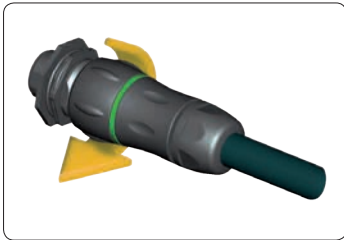


# UTS Series

## UTS range overview

**The UTS series is a plastic connector range but rugged enough to withstand industrial applications.**

The bayonet coupling system makes it simple to use. With only a 1/3 twist of the coupling ring, connectors are mated with an audible and sensitive "click"



**UTS series is a wide range...**

Based on multiple power & signal connectors and offers everything from box mounted receptacles and cable mounted plugs to cable mounted in-line and PCB mounted receptacles. Almost all ways to accommodate wires exist: Crimp, Solder, Screw termination. We recently added the RJ45 version (Cat5e) to meet the increasing demand of networking.



Screw termination version

RJ45 version

**The philosophy of the UTS series is built around three key elements:**

**Dynamic IP68/69K**



UTS series is rated at IP68/69K... even in dynamic conditions. This means that it remain sealed even when used continuously underwater or cleaned using a high pressure hose and cable is moving.

This extreme level of performance is achievable with jacketed cable or discrete wires.

If this same level of performance is required even when connectors are not mated, we have UTS Hi Seal; a product designed to remain watertight if an environmental cap is not fitted or if the equipment is likely to get wet when cables have been disconnected.

**UV Resistant**



In most applications, our connectors are exposed to extreme climatic conditions; it was therefore key for us to select the materials best able to cope with the targeted environment.

Part of our product qualification process involved subjecting connectors to a simulated five years of exposure to various elements including Temperature, UV and Humidity.

The results were positive in that there were no visible signs of weakness, such as cracking or crazing.

**UL/IEC Compliant**



The outmost priority for any electrical installation is to protect personnel from any shock hazard.

In North America, Underwriters Laboratories insisted that connector manufacturers, depending of the application, respect their standards. The UTS series had thus been qualified and is certified by this organisation.

In Europe and in Asia, IEC standards are better known and trusted by end users. Like its American equivalent, the IEC refers to safety rules. The UTS series was obviously designed to respect these rules.





## UTS range

### UTS discrete wire sealing

See page 9

### UTS Series



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



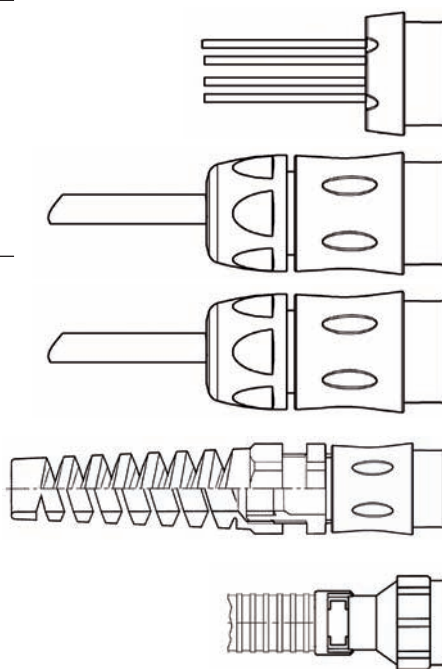
Corrosion-proof  
Plastic housing

### UTS screw termination



Just screw the wires  
to the connector !

No special tools  
required, use a  
standard screwdriver



### Crimp contact

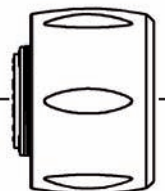
- machined
- stamped and formed
- coaxial
- fibre optics

### Solder contact

### Screw termination contact



RJ45



Plug

### UTS Hi seal



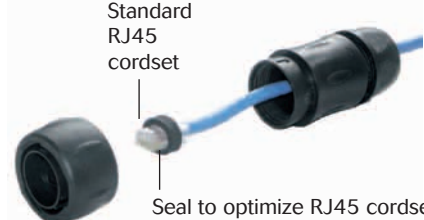
Sealed unmated: IP68/69K  
MIL-C-26482 compatible  
UV resistant  
UL/IEC compliant



Corrosion-proof  
Plastic housing

**Sealed  
Unmated**

### UTS RJ45



Standard  
RJ45  
cordset

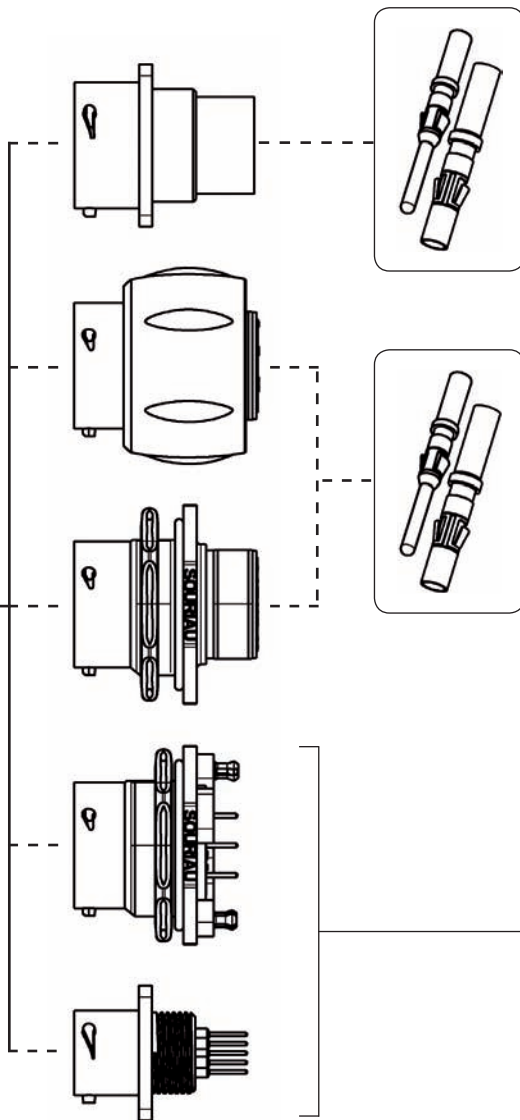
Seal to optimize RJ45 cordset  
positioning & vibration resistance





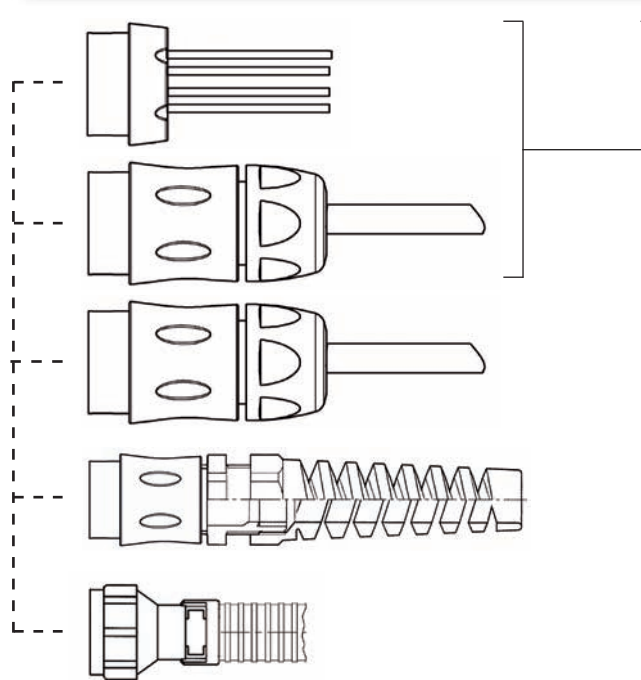
# UTS Series

## overview

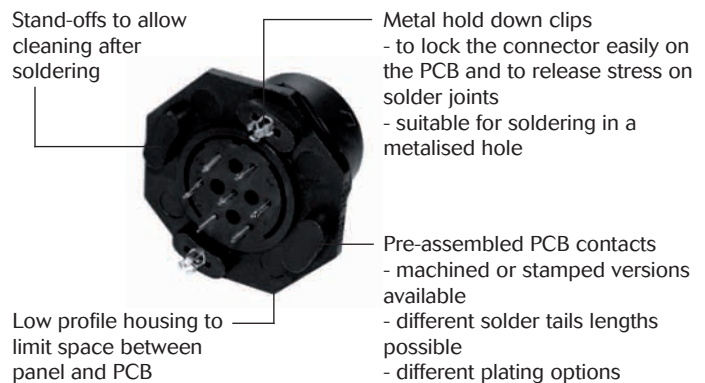


Receptacles

### UTS discrete wire sealing



### UTS PCB contacts





## General technical

### Mechanical

- Durability:  
250 matings & unmatings per MIL-C-26482
- 1** • Vibration resistance (all UTS versions except UTS Screw termination contacts & UTS RJ45):  
Sinusoidal vibrations per CEI 60512-4 - from 10 to 2000 Hz
- Thermal shock (all UTS versions except UTS RJ45):  
5 cycles 30 min. from -40°C to 105°C per MIL-STD 1344 method 1003

### Environmental

- 2** • Operating temperature:  
from -40°C to +105°C  
40/100/21 per NFF 61-030
- Flammability rating:  
UL94-V0 (all UTS except the Hi seal) - see page 60  
UL94-HB (UTS Hi seal only) - see page 60  
I2F3/I3F2 per NFF 61-030
- 3** • Salt spray:  
≥500 hours
- 4** • UV resistant:  
No mechanical degradation or important variation of colour after 5 years of exposure in natural environment (equivalence exposure to sun and moisture as per ISO4892)
- 5** • Sealing:
  - UTS Standard: IP68/IP69K (mated)
  - UTS Hi seal: IP68/IP69K (mated and unmated)
  - UTS Discrete wire sealing: IP67/69K (up to IP68 with easy handling backshell)
  - UTS Screw termination contacts: IP68/IP69K
  - UTS RJ45: IP65

Note: IPx8: 1m underwater during 1 week
- Fluid resistance:
  - Gasoil
  - Mineral oil
  - Acid bath
  - Basic bath



# UTS Series



## characteristics



### Electrical

- See pages 14 to 20

### Material

- Body connector + Backshell:  
Thermoplastic
- Insert:
  - UTS Standard, UTS Discrete wire sealing, UTS Screw termination contacts & UTS RJ45:  
Thermoplastic
  - UTS Hi seal handsolder & UTS Hi seal with PC tails contacts:  
Elastomer
- Contacts:  
See page 39
- Nut:  
Metal
- Halogen free
- RoHS compliant & conform to the Chinese standard SJ/T1166-2006 (Chinese RoHS equivalent)
- In accordance with:
  - UL 1977:  
Certificat ECBT2  
File number: E169916
  - CSA C22.2 n°182.3:  
Certificat ECBT8  
File number: E169916



# UTS Series



## UTS Layout Guide

| Contact quantity | Shell size | Wire dimension & Contacts size            |                                                               |                                               |                                          |
|------------------|------------|-------------------------------------------|---------------------------------------------------------------|-----------------------------------------------|------------------------------------------|
|                  |            | AWG 22 to 12<br>0.13 to 4 mm <sup>2</sup> | AWG 26 to 18<br>0.13 to 0.93 mm <sup>2</sup>                  | AWG 30 to 14<br>0.05 to 2.5 mm <sup>2</sup>   | AWG 16 to 8<br>1.5 to 10 mm <sup>2</sup> |
|                  |            | Contact #12 / Ø2.4mm                      | Contact #20 / Ø1mm                                            | Contact #16 / Ø1.6mm                          | Contact #8 / Ø3.6mm                      |
| 2                | 8          |                                           | 8E2 (Solder)<br>8D2 (PCB)                                     |                                               |                                          |
|                  | 12         |                                           |                                                               | 12E2 (Solder)<br>12D2 (PCB)                   |                                          |
| 2 + PE           | 10         |                                           |                                                               | 103 (Crimp)                                   | 142G1 (Crimp)                            |
| 3                | 8          |                                           | 8E3, 8E3A, 8E98, 8E33 (Solder)<br>8D3, 8D3A, 8D98, 8D33 (PCB) |                                               |                                          |
|                  | 12         |                                           |                                                               | 12E3 (Solder)<br>12D3 (PCB)                   |                                          |
| 3 + PE           | 12         |                                           |                                                               | 124 (Crimp)<br>124 (Screw) *                  |                                          |
| 4                | 8          |                                           | 8E4 (Solder)<br>8D4 (PCB)                                     |                                               |                                          |
|                  | 10         | 102W2 (Crimp, 2#20 + 2#12)                |                                                               |                                               |                                          |
|                  | 10         |                                           |                                                               | 104 (Crimp)                                   |                                          |
| 5                | 14         |                                           |                                                               | 145 (Crimp)                                   |                                          |
| 6                | 10         |                                           | 106 (Crimp)<br>10E6, 10E98 (Solder)<br>10D6, 10D98 (PCB)      |                                               |                                          |
|                  |            |                                           | 103W3 (Crimp, 3#20 + 3#16)                                    |                                               |                                          |
| 6 + PE           | 14         |                                           |                                                               | 147 (Crimp)<br>147 (Screw) *                  |                                          |
| 7                | 10         |                                           | 10E7 (Solder)<br>10D7 (PCB)                                   |                                               |                                          |
| 8                | 12         |                                           | 12E8 (Solder)<br>12D8 (PCB)                                   | 128 (Crimp)                                   |                                          |
| 10               | 12         |                                           | 1210 (Crimp)<br>12E10 (Solder)<br>12D10 (PCB)                 |                                               |                                          |
| 11               | 18         |                                           |                                                               | 18E11 (Solder)<br>18D11 (PCB)                 |                                          |
| 12               | 14         |                                           |                                                               | 1412 (Crimp)                                  |                                          |
|                  |            |                                           | 14E12 (Solder, 8#20 + 4#16)<br>14D12 (PCB, 8#20 + 4#16)       |                                               |                                          |
| 14               | 12         |                                           | 12E14 (Solder)<br>12D14 (PCB)                                 |                                               |                                          |
| 15               | 14         |                                           | 1415 (Crimp, 14#20 + 1#16)                                    |                                               |                                          |
| 19               | 14         |                                           | 1419 (Crimp)<br>14E19 (Solder)<br>14D19 (PCB)                 |                                               |                                          |
| 23               | 18         |                                           |                                                               | 1823 (Crimp)<br>18E23 (Solder)<br>18D23 (PCB) |                                          |
| 30               | 18         |                                           | 18E30 (Solder, 29#20 + 1#16)<br>18D30 (PCB, 29#20 + 1#16)     |                                               |                                          |
| 32               | 18         |                                           |                                                               | 1832 (Crimp)<br>18E32 (Solder)<br>18D32 (PCB) |                                          |

\* AWG 20 to 14, 0.5 to 2.5 mm<sup>2</sup>. Contact #16.

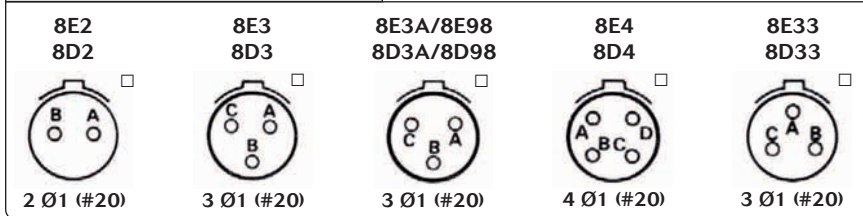
Note: PE=protective earth



# UTS Series

## Contact layouts

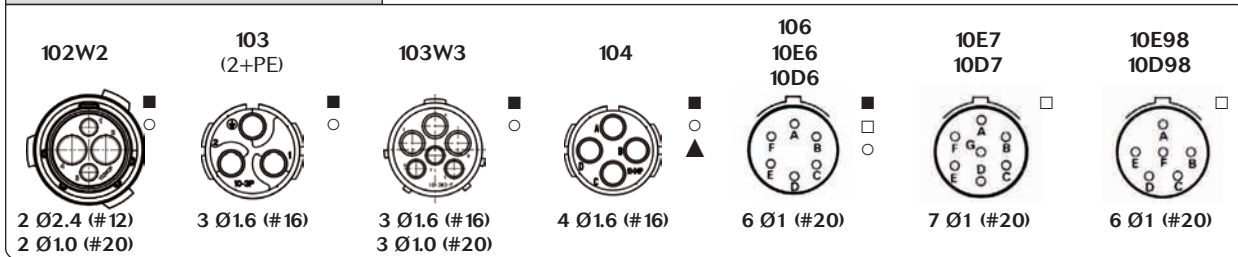
### Size 8



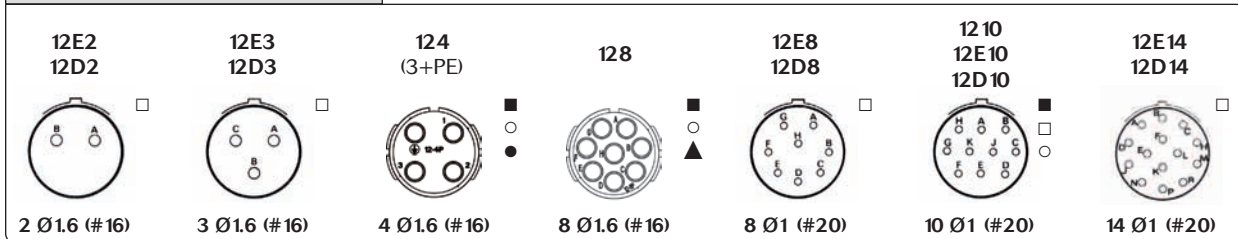
### UTS layouts:

- = UTS standard version (Ex: 1210)
- E - = UTS Hi seal + Solder (Ex: 12E10)
- D - = UTS Hi seal + PCB (Ex: 12D10)
- = UTS standard version
- = UTS Hi seal version
- ▲ = UTS discrete wire sealing version
- = UTS with screw contact termination
- = In-Line version

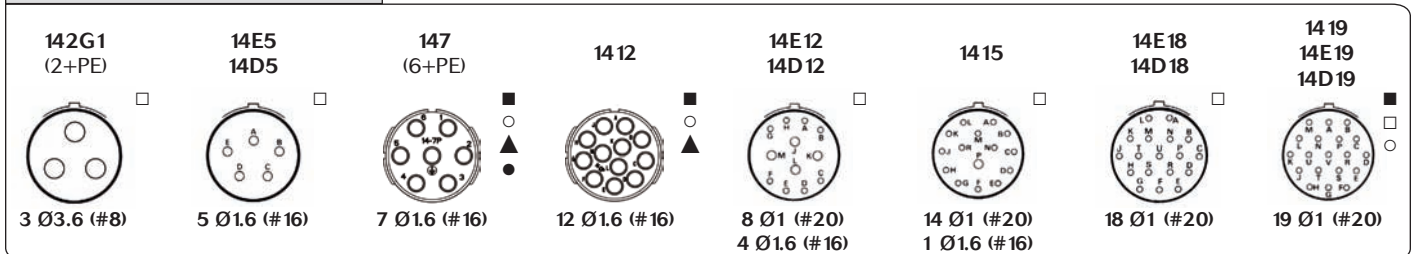
### Size 10



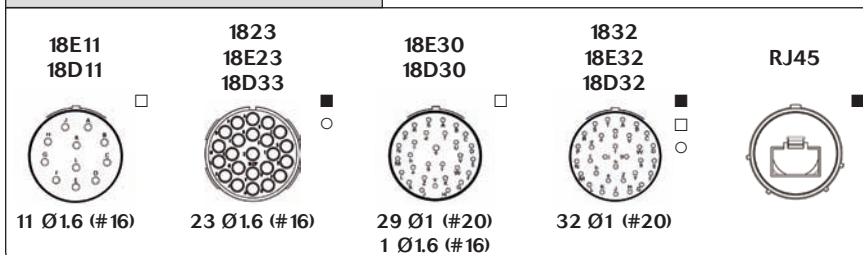
### Size 12



### Size 14



### Size 18





# UTS Series



## De-rating curves

### Size 8

#### 8E2 8D2



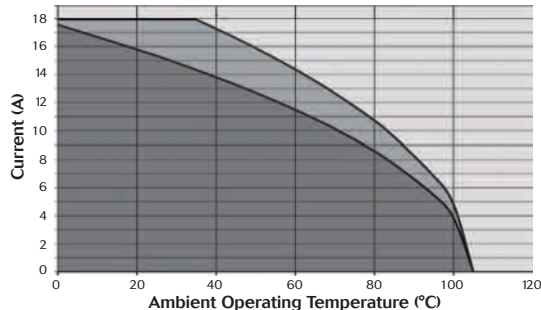
Contacts :  
2 Ø 1 (#20)

UL  
7A 250V UL94 HB

CSA  
7A 250V UL94 HB

IEC  
7A 63V 2.5kV 3

UTS Hi seal 8E2 8D2



#### 8E3 8D3



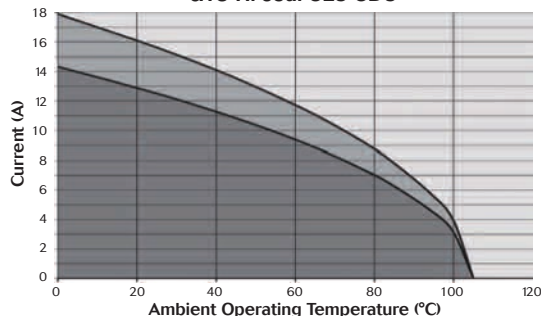
Contacts :  
3 Ø 1 (#20)

UL  
7A 250V UL94 HB

CSA  
7A 250V UL94 HB

IEC  
7A 40V 2.5kV 3

UTS Hi seal 8E3 8D3



#### 8E3A/8E98 8D3A/8D98



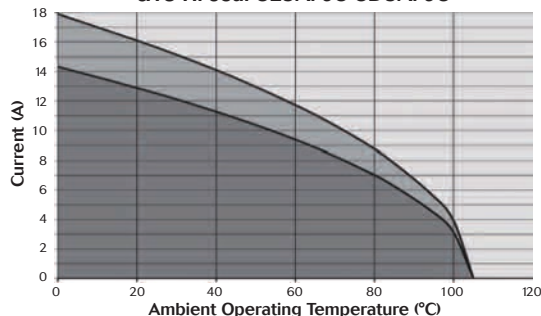
Contacts :  
3 Ø 1 (#20)

UL  
7A 250V UL94 HB

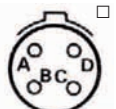
CSA  
7A 250V UL94 HB

IEC  
7A 40V 2.5kV 3

UTS Hi seal 8E3A/98 8D3A/98



#### 8E4 8D4



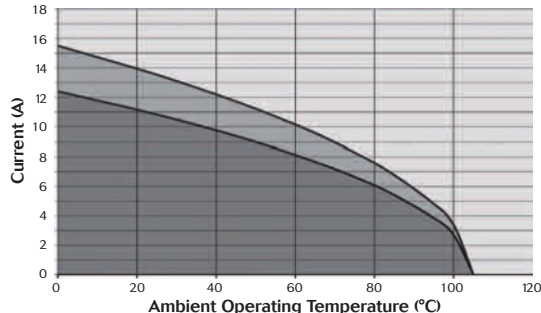
Contacts :  
4 Ø 1 (#20)

UL  
7A 250V UL94 HB

CSA  
7A 250V UL94 HB

IEC  
7A 40V 2.5kV 3

UTS Hi seal 8E4 8D4



### Test conditions

Contact used:

Machined contacts

Wires used:

0.518mm<sup>2</sup> for #20 contacts  
1.31mm<sup>2</sup> for #16 contacts  
3.31mm<sup>2</sup> for #12 contacts  
8.37mm<sup>2</sup> for #8 contacts

### Layouts

- UTS standard version
- ▲ UTS discrete wire sealing version
- In-Line version
- UTS Hi seal version
- UTS with screw contact termination

### Derating curve

- Current use
- Limited use
- Not recommended use



# UTS Series

## Size 8

**8E33  
8D33**

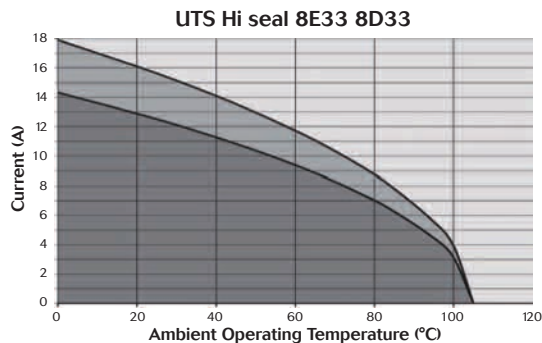


Contacts :  
3 Ø 1 (#20)

**UL**  
7A 250V UL94 HB

**CSA**  
7A 250V UL94 HB

**IEC**  
7A 100V 2.5kV 3



## Size 10

**102W2**

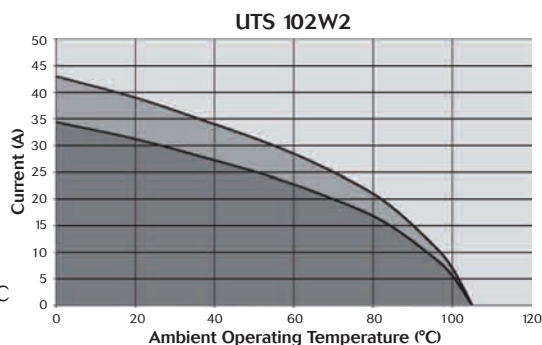


Contacts :  
2 Ø2.4 (#12)  
2 Ø1.0 (#20)

**UL**  
20A 500V UL94 V-0

**CSA**  
18A 500V UL94 V-0

**IEC**  
25A 200V 3kV 3  
Temperature elevation: 50°C



**103  
(2+PE)**

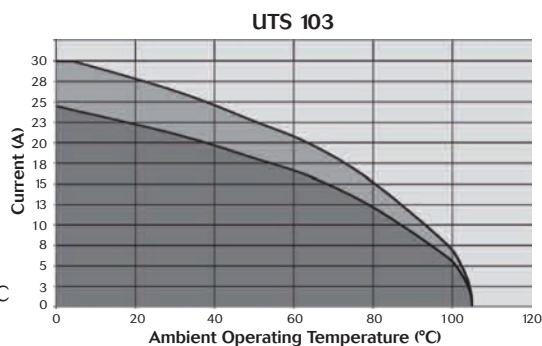


Contacts\* :  
3 Ø 1.6 (#16)

**UL**  
10A 500V UL94 V-0

**CSA**  
7A 500V UL94 V-0

**IEC**  
16A 320V 4kV 3  
Temperature elevation: 50°C



**104**

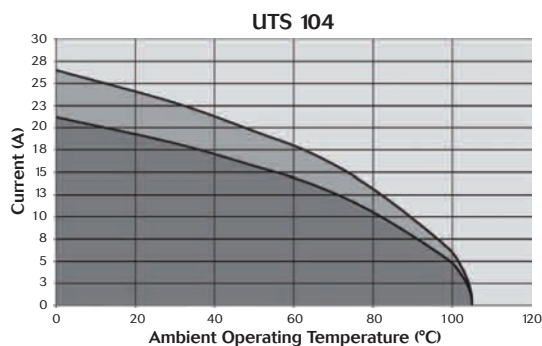


Contacts :  
4 Ø 1.6 (#16)

**UL**  
10A 500V UL94 V-0

**CSA**  
7A 500V UL94 V-0

**IEC**  
16A 200V 3kV 3



### Test conditions

Contact used:

Machined contacts

Wires used:

0.518mm² for #20 contacts  
1.31mm² for #16 contacts  
3.31mm² for #12 contacts  
8.37mm² for #8 contacts

### Layouts

- UTS standard version
- ▲ UTS discrete wire sealing version
- In-Line version
- UTS Hi seal version
- UTS with screw contact termination

### Derating curve

- Current use
- Limited use
- Not recommended use

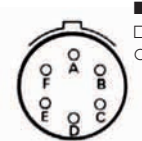


# UTS Series



## Size 10

### 106

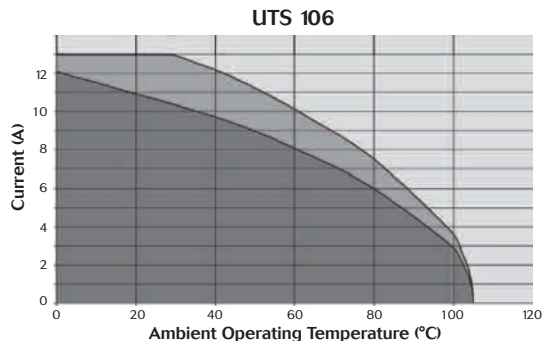


Contacts :  
6 Ø 1 (#20)

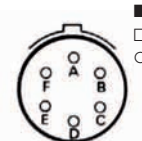
**UL**  
5A 250V UL94 V-0

**CSA**  
4A 250V UL94 V-0

**IEC**  
6A 40V 1.5kV 3



### 10E6 10D6

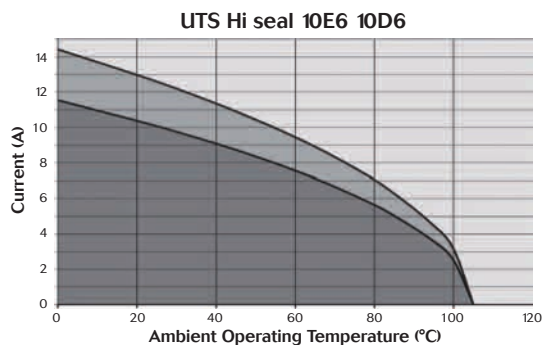


Contacts :  
6 Ø 1 (#20)

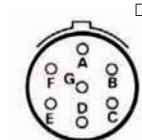
**UL**  
6A 250V UL94 HB

**CSA**  
6A 250V UL94 HB

**IEC**  
10A 100V 2.5kV 3



### 10E7 10D7

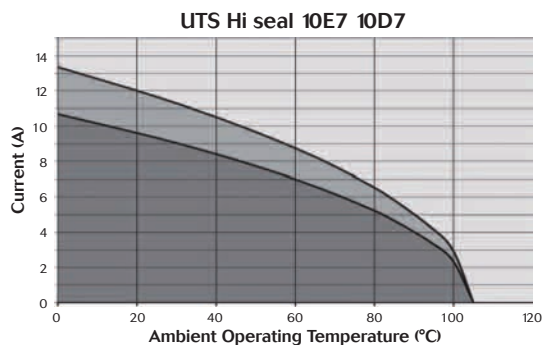


Contacts :  
7 Ø 1 (#20)

**UL**  
6A 250V UL94 HB

**CSA**  
6A 250V UL94 HB

**IEC**  
7A 100V 2.5kV 3



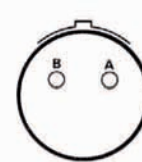
#### Test conditions

**Contact used:**  
Machined contacts

**Wires used:**  
0.518mm<sup>2</sup> for #20 contacts  
1.31mm<sup>2</sup> for #16 contacts  
3.31mm<sup>2</sup> for #12 contacts  
8.37mm<sup>2</sup> for #8 contacts

## Size 12

### 12E2 12D2

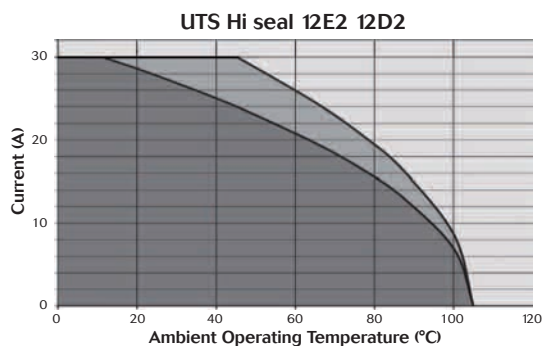


Contacts :  
2 Ø 1.6 (#16)

**UL**  
13A 650V UL94 HB

**CSA**  
13A 650V UL94 HB

**IEC**  
16A 160V 3kV 3



#### Layouts

- UTS standard version
- ▲ UTS discrete wire sealing version
- In-Line version
- UTS Hi seal version
- UTS with screw contact termination

#### Derating curve

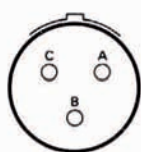
- Current use
- Limited use
- Not recommended use



# UTS Series

## Size 12

### 12E3 12D3

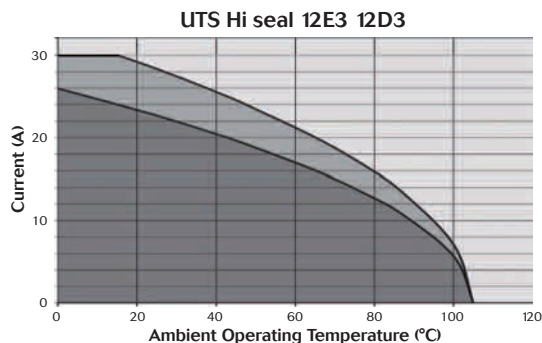


Contacts :  
3 Ø 1.6 (#16)

**UL**  
13A 650V UL94 HB

**CSA**  
13A 650V UL94 HB

**IEC**  
16A 160V 3kV 3



### 124 (3+PE)

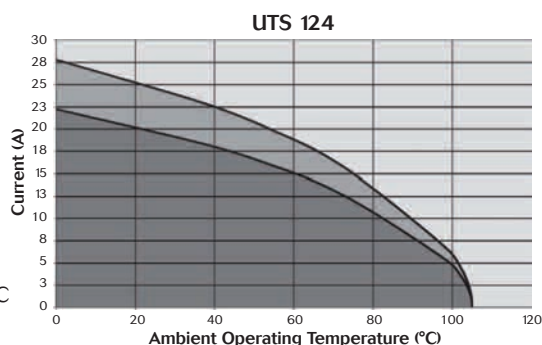


Contacts\* :  
4 Ø 1.6 (#16)

**UL**  
10A 500V UL94 V-0

**CSA**  
7A 500V UL94 V-0

**IEC**  
16A 400V 4kV 3  
Temperature elevation: 50°C



### 128

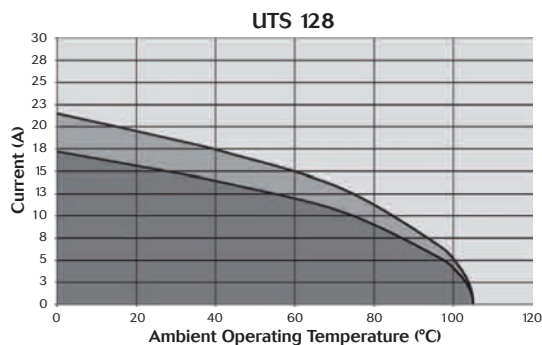


Contacts :  
8 Ø 1.6 (#16)

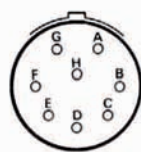
**UL**  
10A 500V UL94 V-0

**CSA**  
7A 500V UL94 V-0

**IEC**  
10A 80V 2.5kV 3



### 12E8 12D8

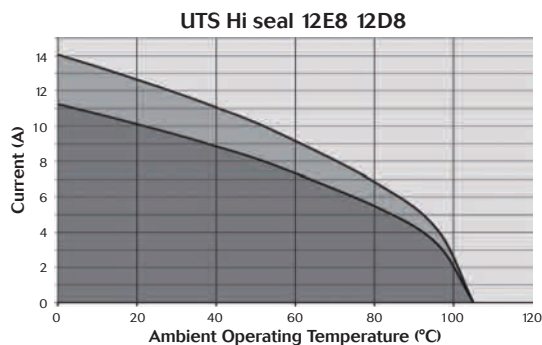


Contacts :  
8 Ø 1 (#20)

**UL**  
4.5A 250V UL94 HB

**CSA**  
4.5A 250V UL94 HB

**IEC**  
7A 100V 2.5kV 3



## Test conditions

**Contact used:**

Machined contacts

**Wires used:**

0.518mm<sup>2</sup> for #20 contacts  
1.31mm<sup>2</sup> for #16 contacts  
3.31mm<sup>2</sup> for #12 contacts  
8.37mm<sup>2</sup> for #8 contacts

## Layouts

- UTS standard version
- ▲ UTS discrete wire sealing version
- In-Line version
- UTS Hi seal version
- UTS with screw contact termination

## Derating curve

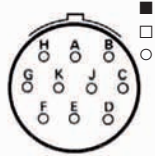
- Current use
- Limited use
- Not recommended use

# UTS Series



## Size 12

### 12 10

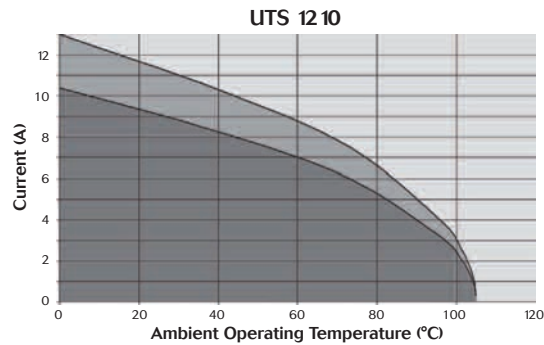


Contacts :  
10 Ø 1 (#20)

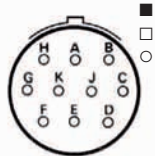
**UL**  
5A 250V UL94 V-0

**CSA**  
4A 250V UL94 V-0

**IEC**  
6A 40V 1.5kV 3



### 12E10 12D10

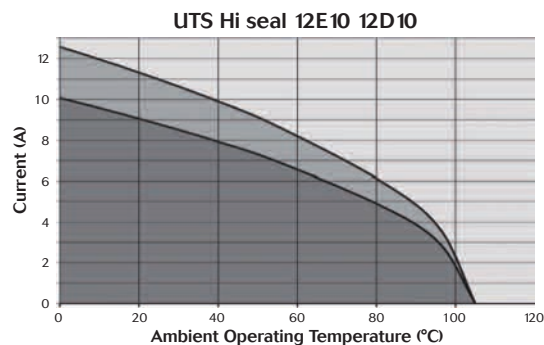


Contacts :  
10 Ø 1 (#20)

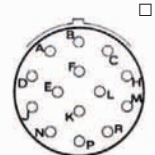
**UL**  
4.5A 250V UL94 HB

**CSA**  
4.5A 250V UL94 HB

**IEC**  
7A 100V 2.5kV 3



### 12E14 12D14

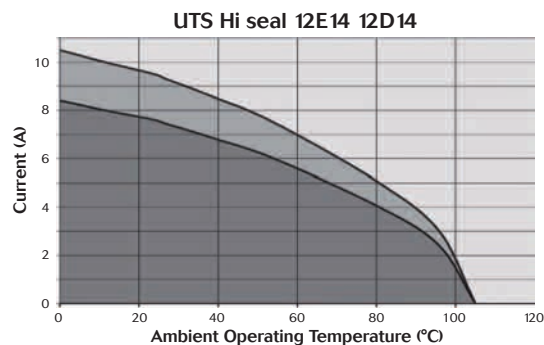


Contacts :  
14 Ø 1 (#20)

**UL**  
4.5A 250V UL94 HB

**CSA**  
4.5A 250V UL94 HB

**IEC**  
7A 32V 2.5kV 3



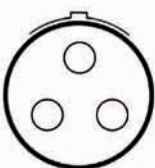
### Test conditions

**Contact used:**  
Machined contacts

**Wires used:**  
0.518mm<sup>2</sup> for #20 contacts  
1.31mm<sup>2</sup> for #16 contacts  
3.31mm<sup>2</sup> for #12 contacts  
8.37mm<sup>2</sup> for #8 contacts

## Size 14

### 142G1

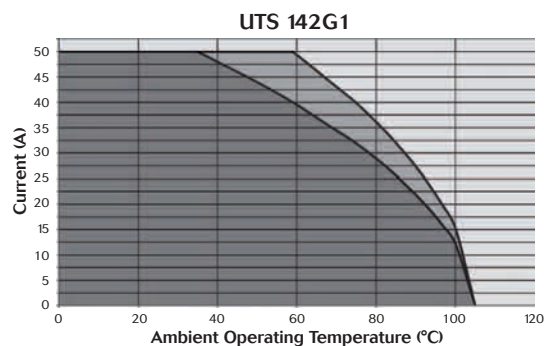


Contacts :  
3 Ø 3.6 (#8)

**UL**  
44A 600V UL94 V-0

**CSA**  
30A 600V UL94 V-0

**IEC**  
42A 230V 4kV 3



### Layouts

- UTS standard version
- ▲ UTS discrete wire sealing version
- In-Line version
- UTS Hi seal version
- UTS with screw contact termination

### Derating curve

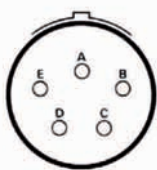
- Current use
- Limited use
- Not recommended use



# UTS Series

## Size 14

### 14E5 14D5



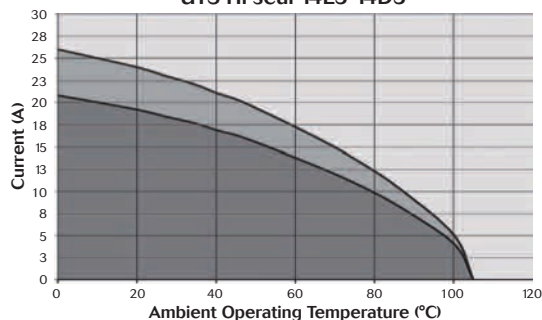
Contacts :  
5 Ø 1.6 (#16)

**UL**  
12A 650V UL94 HB

**CSA**  
12A 650V UL94 HB

**IEC**  
16A 160V 3kV 3

UTS Hi seal 14E5 14D5



### 147 (6+PE)



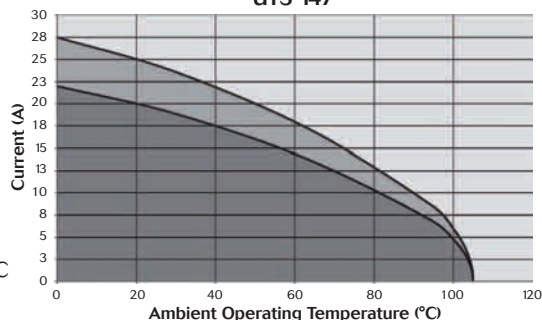
Contacts\* :  
7 Ø 1.6 (#16)

**UL**  
10A 500V UL94 V-0

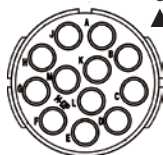
**CSA**  
7A 500V UL94 V-0

**IEC**  
16A 400V 4kV 3  
Temperature elevation: 50°C

UTS 147



### 1412



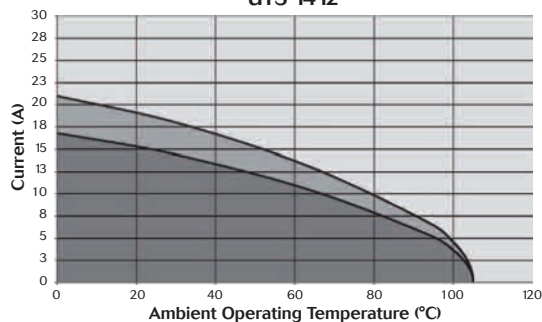
Contacts :  
12 Ø 1.6 (#16)

**UL**  
10A 500V UL94 V-0

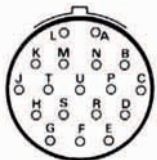
**CSA**  
7A 500V UL94 V-0

**IEC**  
10A 80V 2.5kV 3

UTS 1412



### 14E18 14D18



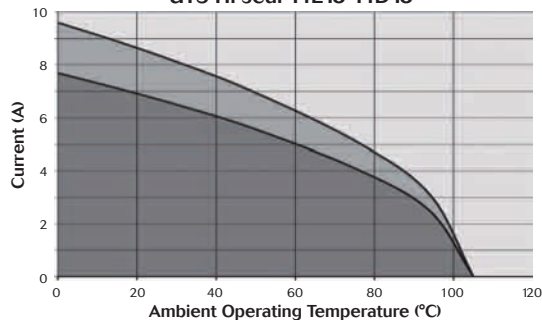
Contacts :  
18 Ø 1 (#20)

**UL**  
4A 250V UL94 HB

**CSA**  
4A 250V UL94 HB

**IEC**  
7A 100V 2.5kV 3

UTS Hi seal 14E18 14D18



## Test conditions

Contact used:

Machined contacts

Wires used:

0.518mm<sup>2</sup> for #20 contacts  
1.31mm<sup>2</sup> for #16 contacts  
3.31mm<sup>2</sup> for #12 contacts  
8.37mm<sup>2</sup> for #8 contacts

## Layouts

- UTS standard version
- ▲ UTS discrete wire sealing version
- In-Line version
- UTS Hi seal version
- UTS with screw contact termination

## Derating curve

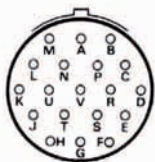
- Current use
- Limited use
- Not recommended use

# UTS Series



## Size 14

**14 19**

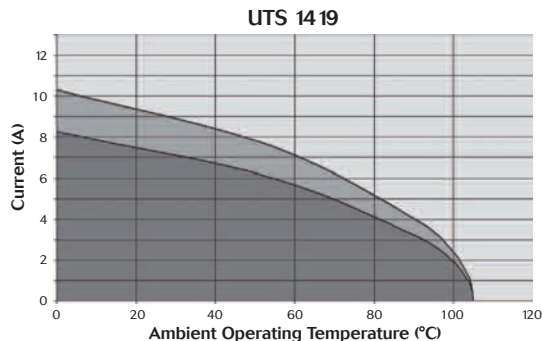


Contacts :  
19 Ø 1 (#20)

**UL**  
5A 250V UL94 V-0

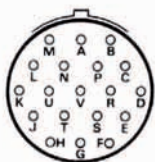
**CSA**  
4A 250V UL94 V-0

**IEC**  
4A 40V 1.5kV 3



**14E19**

**14D19**

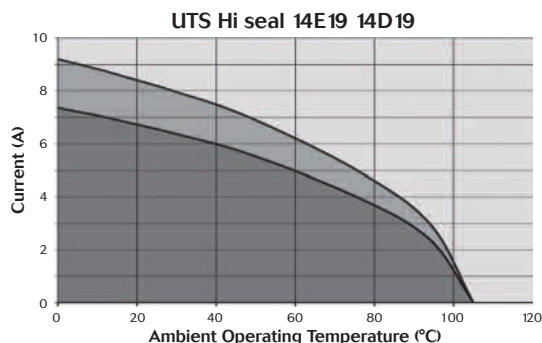


Contacts :  
19 Ø 1 (#20)

**UL**  
4A 250V UL94 HB

**CSA**  
4A 250V UL94 HB

**IEC**  
7A 100V 2.5kV 3



## Size 18

**1823**

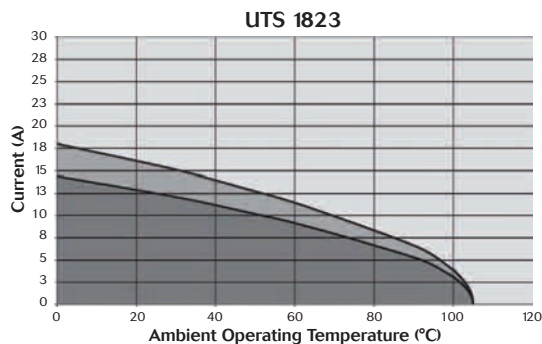


Contacts :  
23 Ø 1.6 (#16)

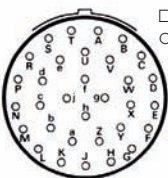
**UL**  
10A 500V UL94 V-0

**CSA**  
7A 500V UL94 V-0

**IEC**  
10A 80V 2.5kV 3



**1832**

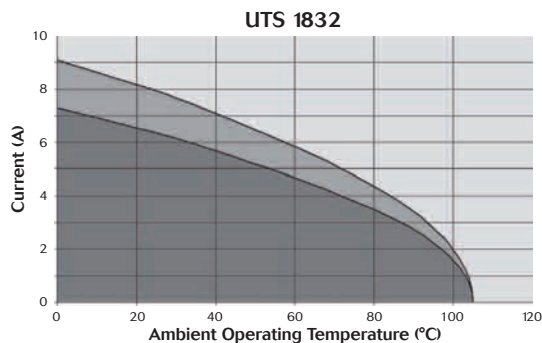


Contacts :  
32 Ø 1 (#20)

**UL**  
5A 250V UL94 V-0

**CSA**  
4A 250V UL94 V-0

**IEC**  
3A 32V 1.5kV 3



### Test conditions

Contact used:

Machined contacts

Wires used:

0.518mm<sup>2</sup> for #20 contacts  
1.31mm<sup>2</sup> for #16 contacts  
3.31mm<sup>2</sup> for #12 contacts  
8.37mm<sup>2</sup> for #8 contacts

### Layouts

- UTS standard version
- ▲ UTS discrete wire sealing version
- In-Line version
- UTS Hi seal version
- UTS with screw contact termination

### Derating curve

- Current use
- Limited use
- Not recommended use





bits series.



UTS Series

# Mechanics

|                                                 |    |
|-------------------------------------------------|----|
| ■ UTS plug cable gland backshell .....          | 24 |
| ■ UTS square flange receptacle .....            | 26 |
| ■ UTS jam nut receptacle with accessories ..... | 28 |
| ■ PCB version: nominal length out .....         | 30 |
| ■ UTS in line receptacle with accessories ..... | 32 |
| ■ Accessories.....                              | 34 |
| ■ Cable assembly.....                           | 36 |

# UTS Series



## Mechanics

### UTS plug cable gland backshell



Part number

| Contact type                           | Connector type | Termination     | Contact sex | Shell size | Part number    |
|----------------------------------------|----------------|-----------------|-------------|------------|----------------|
| Crimp<br>contacts supply<br>separately | UTS standard   | Cable gland     | Male        | 10         | UTS6JC - - P   |
|                                        |                |                 |             | 12         |                |
|                                        |                |                 |             | 14         |                |
|                                        |                |                 |             | 18         |                |
|                                        |                | Cable gland     | Female      | 10         | UTS6JC - - S   |
|                                        |                |                 |             | 12         |                |
|                                        |                |                 |             | 14         |                |
|                                        |                |                 |             | 18         |                |
|                                        |                | Nut and grommet | Female      | 10         | UTS6GN104S     |
|                                        |                |                 |             | 12         | UTS6GN128S     |
|                                        |                |                 |             | 14         | UTS6GN147S     |
|                                        |                |                 |             | 18         | UTS6GN1412S    |
| Solder<br>contacts loaded              | Hi seal        | No backshell    | Male        | 10         | UTS6 - E - P   |
|                                        |                |                 |             | 12         |                |
|                                        |                |                 |             | 14         |                |
|                                        |                |                 |             | 18         |                |
|                                        |                |                 | Female      | 8          | UTS6 - E - S   |
|                                        |                |                 |             | 10         |                |
|                                        |                |                 |             | 12         |                |
|                                        |                |                 |             | 14         |                |
|                                        |                | Cable gland     | Male        | 18         | On demand      |
|                                        |                |                 |             | 8          |                |
|                                        |                |                 |             | 10         |                |
|                                        |                |                 |             | 12         |                |
|                                        |                |                 | Female      | 14         | UTS6JC - E - P |
|                                        |                |                 |             | 18         |                |
|                                        |                |                 |             | 8          |                |
|                                        |                |                 |             | 10         |                |
| Screw<br>contacts loaded               | UTS standard   | Cable gland     | Male        | 12         | UTS6JC124PSCR  |
|                                        |                |                 |             | 14         | UTS6JC147PSCR  |
|                                        |                |                 | Female      | 12         | UTS6JC124SSCR  |
|                                        |                |                 |             | 14         | UTS6JC147SSCR  |
| RJ45                                   | UTS standard   | Cable gland     | -           | 18         | UTS6JC18RJN    |

Sealed  
Unmated

Sealed  
Unmated

Sealed  
Unmated

Sealed  
Unmated

For coding " - " see p.6 and UTS layout guide p.12.

# UTS Series



## Dimensions

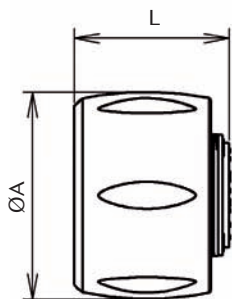


Fig. 1

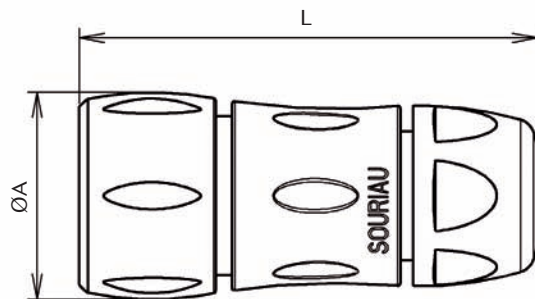


Fig. 2

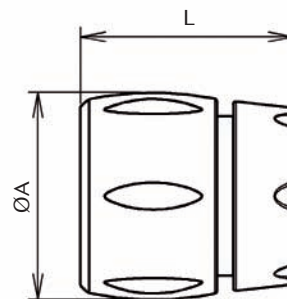


Fig. 3

| Part number    | Shell size | L<br>(total length) | ØA   | Figure |                  |
|----------------|------------|---------------------|------|--------|------------------|
| UTS6JC - - P   | 10         | 63.2                | 26.7 | Fig. 2 |                  |
|                | 12         | 66.7                | 30.2 |        |                  |
|                | 14         | 71.5                | 35.1 |        |                  |
|                | 18         | 81.3                | 42   |        |                  |
| UTS6JC - - S   | 10         | 63.2                | 26.7 |        |                  |
|                | 12         | 66.7                | 30.2 |        |                  |
|                | 14         | 71.5                | 35.1 |        |                  |
|                | 18         | 81.3                | 42   |        |                  |
| UTS6GN104S     | 10         | 32                  | 26.2 | Fig. 3 |                  |
| UTS6GN128S     | 12         | 32.3                | 29.7 |        |                  |
| UTS6GN147S     | 14         | 32                  | 34.6 |        |                  |
| UTS6GN1412S    |            |                     |      |        |                  |
| UTS6GJC104S    | 10         | 61.5                | 26.2 | Fig. 2 |                  |
| UTS6GJC128S    | 12         | 64.5                | 29.7 |        |                  |
| UTS6GJC147S    | 14         | 70                  | 34.6 |        |                  |
| UTS6GJC1412S   |            |                     |      |        |                  |
| UTS6 - E - P   | 8          | 21.3                | 22.5 | Fig. 1 |                  |
|                | 10         | 23.6                | 26.7 |        |                  |
|                | 12         | 23.6                | 30.2 |        |                  |
|                | 14         | 23.6                | 35.1 |        |                  |
| UTS6 - E - S   | 8          | 21.3                | 22.5 |        | Sealed<br>Unmate |
|                | 10         | 23.6                | 26.7 |        |                  |
|                | 12         | 23.6                | 30.2 |        |                  |
|                | 14         | 23.6                | 35.1 |        |                  |
| UTS6JC - E - P | 8          | 54                  | 22.5 | Fig. 2 |                  |
|                | 10         | 63.2                | 26.7 |        |                  |
|                | 12         | 66.7                | 30.2 |        |                  |
|                | 14         | 71.5                | 35.1 |        |                  |
|                | 18         | 81.3                | 42   |        |                  |
| UTS6JC - E - S | 8          | 54                  | 22.5 |        | Sealed<br>Unmate |
|                | 10         | 63.2                | 26.7 |        |                  |
|                | 12         | 66.7                | 30.2 |        |                  |
|                | 14         | 71.5                | 35.1 |        |                  |
|                | 18         | 81.3                | 42   |        |                  |
| UTS6JC124PSCR  | 12         | 66.7                | 29.7 | Fig. 2 |                  |
| UTS6JC147PSCR  | 14         | 71.5                | 34.6 |        |                  |
| UTS6JC124SSCR  | 12         | 66.7                | 29.7 |        |                  |
| UTS6JC147SSCR  | 14         | 71.5                | 34.6 |        |                  |
| UTS6JC18RJN    | 18         | 81.3                | 42   | Fig. 2 |                  |

Sealed  
Unmated

Sealed  
Unmated

For coding " - - " see p.6 and UTS layout guide p.12.

Note : all dimensions are in mm

# UTS Series



## Mechanics

### UTS square flange receptacle



| Part number                            |                |             |            |              |
|----------------------------------------|----------------|-------------|------------|--------------|
| Contact type                           | Connector type | Contact sex | Shell size | Part number  |
| Crimp<br>contacts supply<br>separately | UTS standard   | Male        | 10         | UTS0104P     |
|                                        |                |             | 12         | UTS0128P     |
|                                        |                |             | 14         | UTS01412P    |
|                                        |                |             | 18         | UTS01823P    |
|                                        |                | Female      | 10         | UTS0104S     |
|                                        |                |             | 12         | UTS0128S     |
|                                        |                |             | 14         | UTS01412S    |
|                                        |                |             | 18         | UTS01823S    |
| Solder<br>contacts loaded              | Hi seal        | Male        | 8          | UTS0 - E - P |
|                                        |                |             | 10         |              |
|                                        |                |             | 12         |              |
|                                        |                |             | 14         |              |
|                                        |                | Female      | 18         | On demand    |
|                                        |                |             | 8          | UTS0 - E - S |
|                                        |                |             | 10         |              |
|                                        |                |             | 12         |              |
| PCB<br>contacts loaded                 | Hi seal        | Male        | 14         | UTS0 - D - P |
|                                        |                |             | 18         |              |
|                                        |                |             | On demand  |              |
|                                        |                |             | 8          | UTS0 - D - S |
|                                        |                | Female      | 10         |              |
|                                        |                |             | 12         |              |
|                                        |                |             | 14         |              |
|                                        |                |             | 18         | On demand    |
| PCB<br>contacts supply<br>separately   | UTS standard   | Male        | 10         | UTS0104P     |
|                                        |                |             | 12         | UTS0128P     |
|                                        |                |             | 14         | UTS01412P    |
|                                        |                |             | 18         | UTS01823P    |
|                                        |                | Female      | 10         | UTS0104S     |
|                                        |                |             | 12         | UTS0128S     |
|                                        |                |             | 14         | UTS01412S    |
|                                        |                |             | 18         | UTS01823S    |

Sealed  
Unmated

Sealed  
Unmated

For coding " - " see p.6 and UTS layout guide p. 12.



# UTS Series

## Dimensions

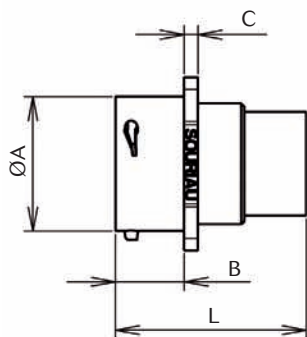


Fig. 1

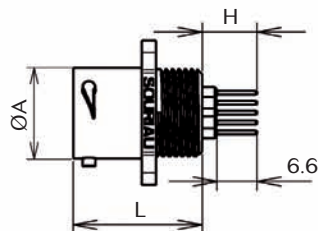


Fig. 2

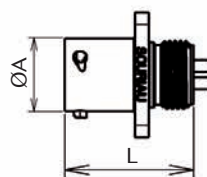
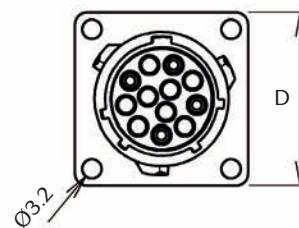


Fig. 3



Front view

| Part number  | Shell size | L<br>(total length) | ØA   | B     | C   | D    | Figure |
|--------------|------------|---------------------|------|-------|-----|------|--------|
| UTS0104P     | 10         | 31.7                | 15   | 11.35 | 2.3 | 23.8 | Fig. 1 |
| UTS0128P     | 12         |                     | 19   |       |     | 26.2 |        |
| UTS01412P    | 14         |                     | 22.2 |       |     | 28.6 |        |
| UTS01823P    | 18         |                     | 28.5 |       |     | 33.3 |        |
| UTS0104S     | 10         | 24.2                | 15   |       | 2.5 | 23.8 |        |
| UTS0128S     | 12         |                     | 19   |       |     | 26.2 |        |
| UTS01412S    | 14         |                     | 22.2 |       |     | 28.6 |        |
| UTS01823S    | 18         |                     | 28.5 |       |     | 33.3 |        |
| UTS0 - E - P | 8          | 21.5                | 12   | 11.35 | 2.3 | 21   | Fig. 3 |
|              | 10         |                     | 15   |       |     | 23.8 |        |
|              | 12         |                     | 19   |       |     | 26.2 |        |
|              | 14         |                     | 22.2 |       |     | 28.6 |        |
| UTS0 - E - S | 8          |                     | 12   |       |     | 21   |        |
|              | 10         |                     | 15   |       |     | 23.8 |        |
|              | 12         |                     | 19   |       |     | 26.2 |        |
|              | 14         |                     | 22.2 |       |     | 28.6 |        |
| UTS0 - D - P | 8          | 21.5                | 11.9 | 11.3  | 2.3 | 21   | Fig. 2 |
|              | 10         |                     | 14.9 |       |     | 23.8 |        |
|              | 12         |                     | 19   |       | 2.5 | 26.2 |        |
|              | 14         |                     | 22.2 |       |     | 28.6 |        |
| UTS0 - D - S | 8          |                     | 12   |       | 2.3 | 21   |        |
|              | 10         |                     | 15   |       |     | 23.8 |        |
|              | 12         |                     | 19   |       | 2.5 | 26.2 |        |
|              | 14         |                     | 22.2 |       |     | 28.6 |        |
| UTS0104P     | 10         | 31.7                | 15   | 11.35 | 2.3 | 23.8 | Fig. 2 |
| UTS0128P     | 12         |                     | 19   |       |     | 26.2 |        |
| UTS01412P    | 14         |                     | 22.2 |       |     | 28.6 |        |
| UTS01823P    | 18         |                     | 28.5 |       | 2.5 | 33.3 |        |
| UTS0104S     | 10         | 24.2                | 15   |       |     | 23.8 |        |
| UTS0128S     | 12         |                     | 19   |       |     | 26.2 |        |
| UTS01412S    | 14         |                     | 22.2 |       |     | 28.6 |        |
| UTS01823S    | 18         |                     | 28.5 |       |     | 33.3 |        |

Sealed  
Unmated

H (for PCB contact): PCB nominal length (see page 30)  
For coding " - " see p.6 and UTS layout guide p. 12.

Note : all dimensions are in mm



# UTS Series



## Mechanics

### UTS jam nut receptacle with accessories



Part number

| Contact type                           | Connector type            | Termination                             | Contact sex                       | Shell size   | Part number       |                   |            |  |
|----------------------------------------|---------------------------|-----------------------------------------|-----------------------------------|--------------|-------------------|-------------------|------------|--|
| Crimp<br>contacts supply<br>separately | UTS standard              |                                         | Male                              | 10           | UTS7 - - P        |                   |            |  |
|                                        |                           |                                         |                                   | 12           |                   |                   |            |  |
|                                        |                           |                                         |                                   | 14           |                   |                   |            |  |
|                                        |                           |                                         |                                   | 18           |                   |                   |            |  |
|                                        |                           |                                         | Female                            | 10           | UTS7 - - S        |                   |            |  |
|                                        |                           |                                         |                                   | 12           |                   |                   |            |  |
|                                        |                           |                                         |                                   | 14           |                   |                   |            |  |
|                                        |                           |                                         |                                   | 18           |                   |                   |            |  |
|                                        | Discrete wire<br>sealing  | Nut and<br>grommet                      | Male                              | 10           | UTS7GN104P        |                   |            |  |
|                                        |                           |                                         |                                   | 12           | UTS7GN128P        |                   |            |  |
|                                        |                           |                                         |                                   | 14           | UTS7GN147P        |                   |            |  |
|                                        |                           |                                         |                                   | 14           | UTS7GN1412P       |                   |            |  |
|                                        |                           | Cable gland<br>and grommet              | Male                              | 10           | UTS7GJC104P       |                   |            |  |
|                                        |                           |                                         |                                   | 12           | UTS7GJC128P       |                   |            |  |
| 14                                     |                           |                                         |                                   | UTS7GJC147P  |                   |                   |            |  |
| 14                                     |                           |                                         |                                   | UTS7GJC1412P |                   |                   |            |  |
| Solder<br>contacts loaded              | Hi seal<br>with stand off | Standard<br>receptacle                  | Male                              | 8            | UTS7 - E - P      | Sealed<br>Unmated |            |  |
|                                        |                           |                                         |                                   | 10           |                   |                   |            |  |
|                                        |                           |                                         |                                   | 12           |                   |                   |            |  |
|                                        |                           |                                         |                                   | 14           |                   |                   |            |  |
|                                        |                           | Female                                  | 8                                 | UTS7 - E - S | Sealed<br>Unmated |                   |            |  |
|                                        |                           |                                         | 10                                |              |                   |                   |            |  |
|                                        |                           |                                         | 12                                |              |                   |                   |            |  |
|                                        |                           |                                         | 14                                |              |                   |                   |            |  |
|                                        | PCB<br>contacts loaded    | UTS standard<br>with stand off          | Receptacle<br>with hold down clip | Male         | 18                | On demand         |            |  |
|                                        |                           |                                         |                                   |              | 12                | UTS7128PSEK9      |            |  |
| Hi seal<br>with stand off              |                           | Receptacle<br>without hold<br>down clip | Male                              | 14           | UTS7147PSEK9      | Sealed<br>Unmated |            |  |
|                                        |                           |                                         |                                   | 8            |                   |                   |            |  |
|                                        |                           |                                         |                                   | 10           |                   |                   |            |  |
|                                        |                           |                                         |                                   | 12           |                   |                   |            |  |
|                                        |                           |                                         | Female                            | 14           | UTS7 - D - P      | Sealed<br>Unmated |            |  |
|                                        |                           |                                         |                                   | 18           |                   |                   |            |  |
|                                        |                           | 8                                       |                                   |              |                   |                   |            |  |
|                                        |                           | 10                                      |                                   |              |                   |                   |            |  |
|                                        |                           | Receptacle<br>with hold<br>down clips   | Male                              | 12           | UTS7 - D - S      | Sealed<br>Unmated |            |  |
|                                        |                           |                                         |                                   | 14           |                   |                   |            |  |
|                                        |                           |                                         |                                   | 18           |                   |                   |            |  |
|                                        |                           |                                         |                                   | On demand    |                   |                   |            |  |
|                                        |                           |                                         | Female                            | 8            | UTS7 - D - S32    | Sealed<br>Unmated |            |  |
|                                        |                           |                                         |                                   | 10           |                   |                   |            |  |
| 12                                     |                           |                                         |                                   |              |                   |                   |            |  |
| 14                                     |                           |                                         |                                   |              |                   |                   |            |  |
| 18                                     |                           |                                         |                                   |              |                   |                   |            |  |
| On demand                              |                           |                                         |                                   |              |                   |                   |            |  |
| PCB<br>contacts supply<br>separately   | UTS standard              |                                         | Male                              | 8            | UTS7 - D - P32    | Sealed<br>Unmated |            |  |
|                                        |                           |                                         |                                   | 10           |                   |                   |            |  |
|                                        |                           |                                         |                                   | 12           |                   |                   |            |  |
|                                        |                           |                                         |                                   | 14           |                   |                   |            |  |
|                                        |                           |                                         | Female                            | 18           | UTS7 - D - S32    | Sealed<br>Unmated |            |  |
|                                        |                           |                                         |                                   | 8            |                   |                   |            |  |
|                                        |                           |                                         |                                   | 10           |                   |                   |            |  |
|                                        |                           |                                         |                                   | 12           |                   |                   |            |  |
| Screw<br>contacts loaded               | UTS standard              |                                         | Male                              | 14           | UTS7 - D - P      |                   |            |  |
|                                        |                           |                                         |                                   | 12           |                   |                   |            |  |
|                                        |                           |                                         | Female                            | 14           |                   |                   | UTS7 - - S |  |
|                                        |                           |                                         |                                   | 18           |                   |                   |            |  |
| RJ45                                   | UTS standard              |                                         | -                                 | 18           | UTS718RJFN        |                   |            |  |

Sealed  
Unmated

Sealed  
Unmated

Sealed  
Unmated

Sealed  
Unmated

Sealed  
Unmated

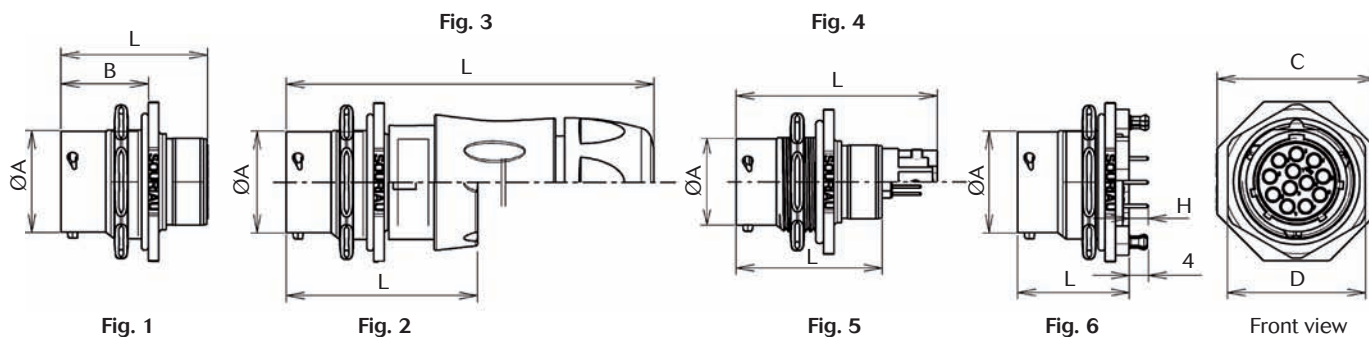
Sealed  
Unmated

For coding " - " see p.6 and UTS layout guide p.12.

# UTS Series



## Dimensions



| Part number    | Shell size | L<br>(total length) | ØA   | B    | C    | D    | Figure            |        |
|----------------|------------|---------------------|------|------|------|------|-------------------|--------|
| UTS7 - - P     | 10         | 33.9                | 14.9 | 19.3 | 27   | 22.2 | Fig. 1            |        |
|                | 12         |                     | 19   |      | 31.8 | 27   |                   |        |
|                | 14         |                     | 22.2 |      | 34.9 | 30.2 |                   |        |
|                | 18         |                     | 28.5 |      | 41.3 | 36.6 |                   |        |
| UTS7 - - S     | 10         |                     | 14.9 |      | 27   | 22.2 |                   | Fig. 2 |
|                | 12         |                     | 19   |      | 31.8 | 27   |                   |        |
|                | 14         |                     | 22.2 |      | 34.9 | 30.2 |                   |        |
|                | 18         |                     | 28.5 |      | 41.3 | 36.6 |                   |        |
| UTS7GN104P     | 10         | 41                  | 14.9 |      | 27   | 22.2 | Fig. 2            |        |
| UTS7GN128P     | 12         | 40.7                | 19   |      | 31.8 | 27   |                   |        |
| UTS7GN147P     | 14         | 43                  | 22.2 |      | 34.9 | 30.2 |                   |        |
| UTS7GN1412P    |            |                     |      |      |      |      |                   |        |
| UTS7GJC104P    | 10         | 70.5                | 14.9 |      | 27   | 22.2 | Fig. 3            |        |
| UTS7GJC128P    | 10         | 74                  | 19   |      | 31.8 | 27   |                   |        |
| UTS7GJC147P    | 14         | 80.5                | 22.2 |      | 34.9 | 30.2 |                   |        |
| UTS7GJC1412P   |            |                     |      |      |      |      |                   |        |
| UTS7 - E - P   | 8          | 25                  | 12   | 19.3 | 24   | 19.3 | Sealed<br>Unmated |        |
|                | 10         |                     | 14.9 |      | 27   | 22.2 |                   |        |
|                | 12         |                     | 19   |      | 31.8 | 27   |                   |        |
|                | 14         |                     | 22.2 |      | 34.9 | 30.2 |                   |        |
| UTS7 - E - S   | 8          |                     | 12   |      | 24   | 19.3 |                   | Fig. 6 |
|                | 10         |                     | 14.9 |      | 27   | 22.2 |                   |        |
|                | 12         |                     | 19   |      | 31.8 | 27   |                   |        |
|                | 14         |                     | 22.2 |      | 34.9 | 30.2 |                   |        |
| UTS7128PSEK9   | 12         | 25                  | 19   | 19.3 | 31.8 | 27   | Fig. 6            |        |
| UTS7147PSEK9   | 14         |                     | 22.1 |      | 34.9 | 30.2 |                   |        |
| UTS7 - D - P   | 8          | 25                  | 12   | 19.3 | 24   | 19.3 | Sealed<br>Unmated |        |
|                | 10         |                     | 14.9 |      | 28   | 22.2 |                   |        |
|                | 12         |                     | 19   |      | 31.8 | 27   |                   |        |
|                | 14         |                     | 22.2 |      | 34.9 | 30.2 |                   |        |
| UTS7 - D - S   | 8          | 25                  | 12   | 19.3 | 24   | 19.3 |                   | Fig. 6 |
|                | 10         |                     | 14.9 |      | 28   | 22.2 |                   |        |
|                | 12         |                     | 19   |      | 31.8 | 27   |                   |        |
|                | 14         |                     | 22.2 |      | 34.9 | 30.2 |                   |        |
| UTS7 - D - P32 | 8          | 25                  | 12   | 19.3 | 24   | 19.3 | Sealed<br>Unmated |        |
|                | 10         |                     | 14.9 |      | 28   | 22.2 |                   |        |
|                | 12         |                     | 19   |      | 31.8 | 27   |                   |        |
|                | 14         |                     | 22.2 |      | 34.9 | 30.2 |                   |        |
| UTS7 - D - S32 | 8          | 25                  | 12   | 19.3 | 24   | 19.3 | Fig. 6            |        |
|                | 10         |                     | 14.9 |      | 28   | 22.2 |                   |        |
|                | 12         |                     | 19   |      | 31.8 | 27   |                   |        |
|                | 14         |                     | 22.2 |      | 34.9 | 30.2 |                   |        |
| UTS7 - - P     | 10         | 33.9                | 14.9 | 19.3 | 27   | 22.2 | Fig. 5            |        |
|                | 12         |                     | 19   |      | 31.8 | 27   |                   |        |
|                | 14         |                     | 22.2 |      | 34.9 | 30.2 |                   |        |
|                | 18         |                     | 28.5 |      | 41.3 | 36.6 |                   |        |
| UTS7 - - S     | 10         |                     | 14.9 |      | 27   | 22.2 |                   | Fig. 5 |
|                | 12         |                     | 19   |      | 31.8 | 27   |                   |        |
|                | 14         |                     | 22.2 |      | 34.9 | 30.2 |                   |        |
|                | 18         |                     | 28.5 |      | 41.3 | 36.6 |                   |        |
| UTS7124PSCR    | 12         | 46.5                | 19   | 19.3 | 31.8 | 27   | Fig. 4            |        |
| UTS7147PSCR    | 14         | 52.5                | 22.2 |      | 34.9 | 30.2 |                   |        |
| UTS7124SSCR    | 12         | 38.3                | 19   |      | 31.8 | 27   |                   |        |
| UTS7147SSCR    | 14         | 44.4                | 22.2 |      | 34.9 | 30.2 |                   |        |
| UTS718RJFN     | 18         | 48                  | 28.5 | 19.3 | 41.3 | 36.6 |                   |        |

H (for PCB contact): PCB nominal length (see page 30)  
For coding " - - " see p.6 and UTS layout guide p.12.

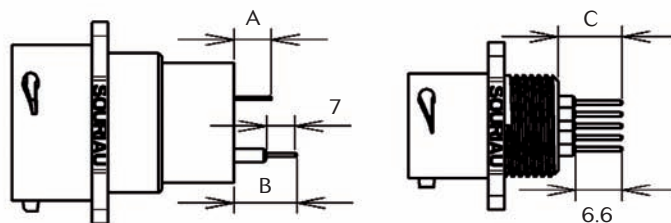
Note : all dimensions are in mm

# UTS Series



## Mechanics Solder tail protrusion

### Dimensions



| Contact type                            | Connector type   | Contact size | Contact sex | Part number | Shell size | Layout      | A    | C              |
|-----------------------------------------|------------------|--------------|-------------|-------------|------------|-------------|------|----------------|
| PCB<br>contacts<br>supply<br>separately | UTS0<br>Standard | 16           | Male        | RM20M12E8□  | 10 to 18   | -           | 50.2 | -              |
|                                         |                  |              |             | RM20M12E83□ |            | -           | 10.3 | -              |
|                                         |                  |              | Female      | RC20M12E8□  |            | -           | 5.2  | -              |
|                                         |                  |              |             | RC20M12E83□ |            | -           | 10.4 | -              |
|                                         |                  |              |             | RC20M12E84□ |            | -           | 13.9 | -              |
|                                         |                  |              |             |             |            |             |      |                |
| PCB<br>contacts<br>loaded               | UTS0<br>Hi seal  | 16 & 20      | Male        | -           | 8          | 8E2 8E3 8E4 | -    | 9.76 to 11.86  |
|                                         |                  |              |             | -           |            | 8E3A 8E98   | -    | 10.78 to 13.09 |
|                                         |                  |              |             | -           | 10         | -           | -    | 8.1 to 10.5    |
|                                         |                  |              |             | -           |            | -           | -    | 8.1 to 10.5    |
|                                         |                  |              |             | -           | 12         | 12 14       | -    | 7.2 to 9.3     |
|                                         |                  |              |             | -           |            | -           | -    | 8.1 to 10.5    |
|                                         |                  |              | Female      | -           | 8          | 8E2 8E3 8E4 | -    | 9.55 to 11.71  |
|                                         |                  |              |             | -           |            | 8E3A 8E98   | -    | 10.82 to 12.79 |
|                                         |                  |              |             | -           | 10         | -           | -    | 8.15 to 10.15  |
|                                         |                  |              |             | -           |            | -           | -    | 8.15 to 10.15  |
|                                         |                  |              |             | -           | 12         | 12 14       | -    | 7.3 to 9.3     |
|                                         |                  |              |             | -           |            | -           | -    | 8.15 to 10.15  |
|                                         |                  |              |             | -           | 14         | -           | -    | 8.15 to 10.15  |
|                                         |                  |              |             | -           |            | -           | -    | 8.15 to 10.15  |

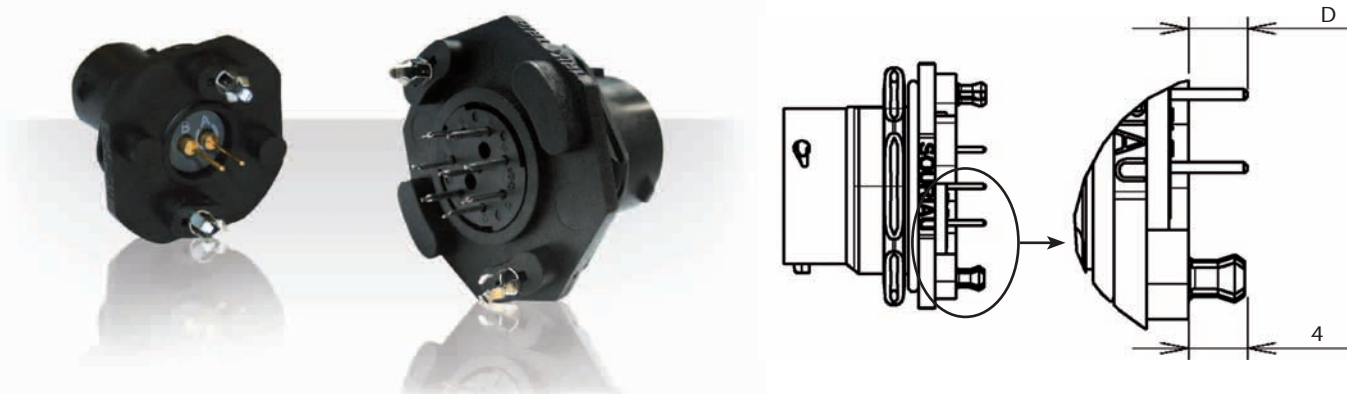
□ = plating - see available plating p.44

Note : all dimensions are in mm

# UTS Series



## Dimensions



| Contact type                   | Connector type | Contact size | Contact sex   | Part number | Shell size | Layout               | A    | B     | C   | D           |
|--------------------------------|----------------|--------------|---------------|-------------|------------|----------------------|------|-------|-----|-------------|
| PCB contacts supply separately | UTS7 Standard  | 16           | Male          | RM20M12E8□  | 10 to 18   | -                    | 4.1  | -     | -   | -           |
|                                |                |              |               |             | 10 to 18   | -                    | 9.2  | -     | -   | -           |
|                                |                |              |               | RM20M12E83□ | 20 & 22    | -                    | 4.85 | -     | -   | -           |
|                                |                |              |               |             | 24         | -                    | 3.35 | -     | -   | -           |
|                                |                |              | Female        | RC20M12E84□ | 10 to 18   | -                    | 4.65 | -     | -   | -           |
|                                |                |              |               |             | 10 & 12    | -                    | 7.15 | -     | -   | -           |
|                                |                |              |               |             | 14         | -                    | 7.85 | -     | -   | -           |
|                                |                |              |               | RC20M12E85□ | 16 & 18    | -                    | 7.15 | -     | -   | -           |
|                                |                |              |               |             | 20         | -                    | 3.4  | -     | -   | -           |
|                                |                |              |               |             | 22         | -                    | 2.7  | -     | -   | -           |
|                                |                |              |               |             | 24         | -                    | 1.3  | -     | -   | -           |
|                                |                |              | Female        | RC20M12E86□ | 10 & 12    | -                    | 7.95 | -     | -   | -           |
|                                |                |              |               |             | 14         | -                    | 8.65 | -     | -   | -           |
|                                |                |              |               |             | 16 & 18    | -                    | 7.95 | -     | -   | -           |
|                                |                |              |               |             | 20         | -                    | 4.2  | -     | -   | -           |
|                                |                |              |               |             | 22         | -                    | 3.5  | -     | -   | -           |
|                                |                |              |               |             | 24         | -                    | 2.1  | -     | -   | -           |
| PCB contacts loaded            | UTS7           | 20           | Male          | RMW50A7K    | 10 to 16   | -                    | 9.51 | -     | -   | -           |
|                                |                |              |               |             | 18 to 22   | -                    | 5    | -     | -   | -           |
|                                |                |              |               |             | 24         | -                    | 3.6  | -     | -   | -           |
|                                |                |              |               | RMW5016K    | 10 to 16   | -                    | -    | 10.41 | -   | -           |
|                                |                |              | Female        | RCW50A7K    | 18 to 22   | -                    | -    | 6     | -   | -           |
|                                |                |              |               |             | 24         | -                    | -    | 4.6   | -   | -           |
|                                |                |              |               | RCW5016K    | 10 to 16   | -                    | 2.4  | -     | -   | -           |
|                                |                |              |               |             |            |                      | 3.04 | -     | -   | -           |
|                                |                | 16           | Male & Female | -           | 12 & 14    | -                    | -    | -     | 3.6 | -           |
|                                |                |              |               | -           | 8          | 8D2 8D3 8D4          | -    | -     | -   | 3.8 to 6    |
|                                |                |              |               | -           | 10         | 8D3A 8D98 8D33       | -    | -     | -   | 4.7 to 7.25 |
|                                |                |              |               | -           | 12         | 10D6 10D7            | -    | -     | -   | 4.9 to 7    |
|                                |                |              |               | -           | 14         | 12D2 12D3 12D8 12D10 | -    | -     | -   | 4.8 to 7    |
|                                |                |              |               | -           | 16         | 12D14                | -    | -     | -   | 3.85 to 5.9 |
|                                |                |              |               | -           | 18         | 14D5 14D12 14D15     | -    | -     | -   | 4.8 to 7    |
|                                |                |              |               | -           | 20         | 14D18 14D19          | -    | -     | -   | 4.8 to 7    |
|                                |                |              |               | -           | 22         | 8D2 8D3 8D4          | -    | -     | -   | 3.75 to 5.8 |
|                                |                |              |               | -           | 24         | 8D3A 8D98 8D33       | -    | -     | -   | 4.8 to 6.9  |
|                                |                |              |               | -           | 26         | 10D6 10D7            | -    | -     | -   | 4.9 to 7    |
|                                |                |              |               | -           | 28         | 12D2 12D3 12D8 12D10 | -    | -     | -   | 5.2 to 7    |
|                                |                |              |               | -           | 30         | 12D14                | -    | -     | -   | 3.85 to 5.9 |
|                                |                |              |               | -           | 32         | 14D5 14D12 14D15     | -    | -     | -   | 5.3 to 7    |
|                                |                |              |               | -           | 34         | 14D18 14D19          | -    | -     | -   | 5.3 to 7    |

□ = plating - see available plating p.44

Note : all dimensions are in mm

# UTS Series



## Mechanics

### UTS in line receptacle with accessories

#### Part number



| Contact type                              | Connector type           | Termination                | Contact sex | Shell size | Part number   |
|-------------------------------------------|--------------------------|----------------------------|-------------|------------|---------------|
| Crimp<br>contacts<br>supply<br>separately | UTS standard             | Cable gland                | Male        | 10         | UTS1JC - - P  |
|                                           |                          |                            |             | 12         |               |
|                                           |                          |                            |             | 14         |               |
|                                           |                          |                            |             | 18         |               |
|                                           |                          |                            | Female      | 10         | UTS1JC - - S  |
|                                           |                          |                            |             | 12         |               |
|                                           |                          |                            |             | 14         |               |
|                                           |                          |                            |             | 18         |               |
|                                           | Discrete wire<br>sealing | Nut and<br>grommet         | Male        | 10         | UTS1GN104P    |
|                                           |                          |                            |             | 12         | UTS1GN128P    |
|                                           |                          |                            |             | 14         | UTS1GN147P    |
|                                           |                          |                            |             |            | UTS1GN1412P   |
|                                           |                          | Cable gland<br>and grommet | Male        | 10         | UTS1GJC104P   |
|                                           |                          |                            |             | 12         | UTS1GJC128P   |
|                                           |                          |                            |             | 14         | UTS1GJC147P   |
|                                           |                          |                            |             |            | UTS1GJC412P   |
| Screw<br>contacts loaded                  | UTS standard             | Cable gland<br>backshell   | Male        | 12         | UTS1JC124PSCR |
|                                           |                          |                            |             | 14         | UTS1JC147PSCR |

For coding " - - " see p.6 and UTS layout guide p. 12.

# UTS Series



## Dimensions

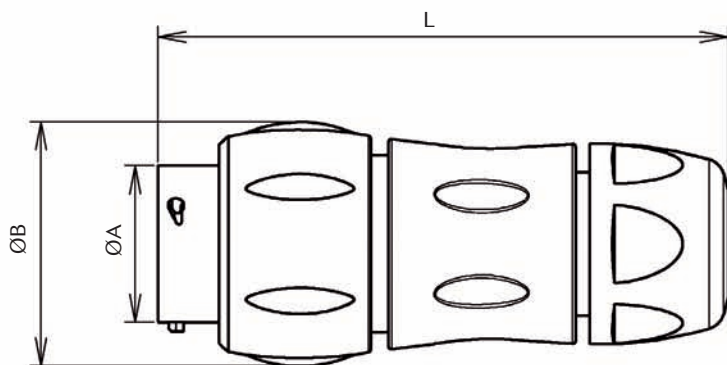


Fig. 1

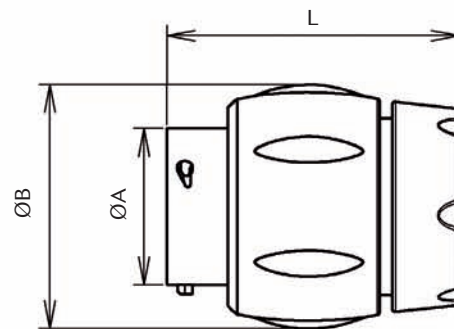


Fig. 2

| Part number   | Shell size | L<br>(total length) | ØA   | B    | Figure |
|---------------|------------|---------------------|------|------|--------|
| UTS1JC - - P  | 10         | 70                  | 14.9 | 26.7 | Fig. 1 |
|               | 12         | 74                  | 19   | 30.1 |        |
|               | 14         | 78.5                | 22.2 | 35.1 |        |
|               | 18         | 89                  | 28.5 | 42   |        |
| UTS1JC - - S  | 10         | 70                  | 14.9 | 26.7 |        |
|               | 12         | 74                  | 19   | 30.1 |        |
|               | 14         | 78.5                | 22.2 | 35.1 |        |
|               | 18         | 89                  | 28.5 | 42   |        |
| UTS1GN104P    | 10         | 40.9                | 14.9 | 26.2 | Fig. 2 |
| UTS1GN128P    | 12         | 40.9                | 19   | 29.7 |        |
| UTS1GN147P    | 14         | 43                  | 22.2 | 34.6 |        |
| UTS1GN1412P   |            |                     |      |      |        |
| UTS1GJC104P   | 10         | 70.7                | 14.9 | 26.2 | Fig. 1 |
| UTS1GJC128P   | 12         | 74.5                | 19   | 29.7 |        |
| UTS1GJC147P   | 14         | 80.5                | 22.2 | 34.6 |        |
| UTS1GJC412P   |            |                     |      |      |        |
| UTS1JC124PSCR | 12         | 74                  | 19   | 29.7 | Fig. 1 |
| UTS1JC147PSCR | 14         | 78.5                | 22.2 | 34.6 |        |

For coding " - - " see p.6 and UTS layout guide p.12.

Note : all dimensions are in mm

# UTS Series



## Accessories



### Description

UTS series offers a wide range of accessories: from the plastic protective cap to the dust caps, coloured rings for visual identification or discrimination pins.

### Colour coding rings



| Part numbers |            | Shell size |
|--------------|------------|------------|
| Receptacles  | Plugs      |            |
| UTS710CCR*   | UTS610CCR* | 10         |
| UTS712CCR*   | UTS612CCR* | 12         |
| UTS714CCR*   | UTS614CCR* | 14         |

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

For shell sizes 8 & 18, please consult factory

### Gasket



| Part numbers / neoprene | Shell size |
|-------------------------|------------|
| UTFD11B                 | 8          |
| UTFD12B                 | 10         |
| UTFD13B                 | 12         |
| UTFD14B                 | 14         |
| UTFD16B                 | 18         |

### PMA adapter



IP40 version

To get a PMA adapter you should change JC to PMA.  
Ex: UTS6JC -- S → UTS6PMA -- S

### Bending protection spiral



IP68/69K version

To get a spiral protection you should change JC to JS.  
Ex: UTS6JC -- S → UTS6JS -- S





# UTS Series

## Jam nut sealing caps



| Part numbers | Shell size |
|--------------|------------|
| UTS8DCG      | 8          |
| UTS10DCG     | 10         |
| UTS12DCG     | 12         |
| UTS14DCG     | 14         |
| UTS18DCG     | 18         |



Metal terminal

| Part numbers | Shell size |
|--------------|------------|
| UTS8DCGR     | 8          |
| UTS10DCGR    | 10         |
| UTS12DCGR    | 12         |
| UTS14DCGR    | 14         |
| UTS18DCGR    | 18         |

## Square flange sealing cap



Metal terminal

| Part numbers | Shell size |
|--------------|------------|
| UTS8DCGE     | 8          |
| UTS10DCGE    | 10         |
| UTS12DCGE    | 12         |
| UTS14DCGE    | 14         |
| UTS18DCGE    | 18         |

## Plug sealing cap\*



\* Except for UTS RJ45 plug / \*\* Non sealed

| Part numbers | Shell size |
|--------------|------------|
| UTS68C **    | 8          |
| UTS610DCG    | 10         |
| UTS612DCG    | 12         |
| UTS614DCG    | 14         |
| UTS618DCG    | 18         |

## Plug protective cap



Size 8  
IP40  
Part number: UTS68C

## Plastic protective cap



| Part numbers   |           | Shell size |
|----------------|-----------|------------|
| Receptacle cap | Plug cap  |            |
| 8500-5585A     | 8500-5594 | 8          |
| 8500-5586A     | 8500-5595 | 10         |
| 8500-5587A     | 8500-5596 | 12         |
| 8500-5588A     | 8500-5597 | 14         |
| 8500-5590A     | 8500-5599 | 18         |

# UTS Series



## Cable assembly

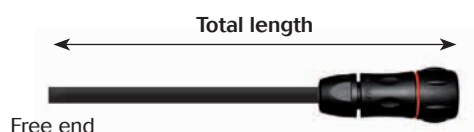
Souriau provides connectors in various applications for more than 90 years in the most extreme environment.

Being conscious about the difficulty to find a quick and a reliable harness manufacturer, we decided years ago to start in house cable assembly production. It allows customers to reduce the number of suppliers, and to take advantage of the "best in class" quality of the Souriau group. Overmoulding is a process that further enhances the sealing properties of the UTS range, especially over many years of use. Overmoulding provides the opportunity to change the cable exit from straight through 90 degrees and avoid any stress on the cable terminated to the connector. Also, as the wires are encapsulated inside the moulding, a barrier is created which prevents from any liquid from entering the equipment through the connector if the cable jacket is breached.

In this section you'll find standard cable sets but as all customers are unique we are happy to adapt our proposal to your specific needs on demand.

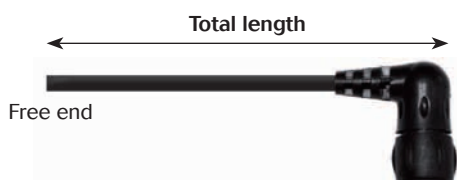
### Harnesses

#### Standard harnesses

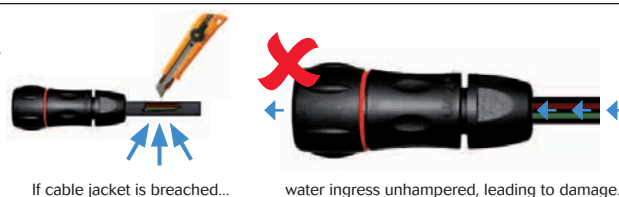


| Connector type | Backshell type | Gender | Connector size | Part number         |                     |                     |
|----------------|----------------|--------|----------------|---------------------|---------------------|---------------------|
|                |                |        |                | 1m of cable         | 3m of cable         | 5m of cable         |
| UTS standard   | Straight       | Male   | 10 to 18       | HAUTS - - PSTR100   | HAUTS - - PSTR300   | HAUTS - - PSTR500   |
|                |                | Female |                | HAUTS - - SSTR100   | HAUTS - - SSTR300   | HAUTS - - SSTR500   |
| UTS Hi seal    | Straight       | Male   | 8 to 14        | HAUTS - E - PSTR100 | HAUTS - E - PSTR300 | HAUTS - E - PSTR500 |
|                |                | Female |                | HAUTS - E - SSTR100 | HAUTS - E - SSTR300 | HAUTS - E - SSTR500 |

#### Overmoulded harnesses



##### Discrete connector



##### Overmoulded connector



| Connector type | Backshell type | Gender | Connector size | Part number           |                       |                       |
|----------------|----------------|--------|----------------|-----------------------|-----------------------|-----------------------|
|                |                |        |                | 1m of cable           | 3m of cable           | 5m of cable           |
| UTS standard   | Straight       | Male   | 10 to 18       | HAUTSOV - - PSTR100   | HAUTSOV - - PSTR300   | HAUTSOV - - PSTR500   |
|                |                | Female |                | HAUTSOV - - SSTR100   | HAUTSOV - - SSTR300   | HAUTSOV - - SSTR500   |
|                | 90°            | Male   |                | HAUTSOV - - PRA100    | HAUTSOV - - PRA300    | HAUTSOV - - PRA500    |
|                |                | Female |                | HAUTSOV - - SRA100    | HAUTSOV - - SRA300    | HAUTSOV - - SRA500    |
| UTS Hi seal    | Straight       | Male   | 8 to 14        | HAUTSOV - E - PSTR100 | HAUTSOV - E - PSTR300 | HAUTSOV - E - PSTR500 |
|                |                | Female |                | HAUTSOV - E - SSTR100 | HAUTSOV - E - SSTR300 | HAUTSOV - E - SSTR500 |
|                | 90°            | Male   |                | HAUTSOV - E - PRA100  | HAUTSOV - E - PRA300  | HAUTSOV - E - PRA500  |
|                |                | Female |                | HAUTSOV - E - SRA100  | HAUTSOV - E - SRA300  | HAUTSOV - E - SRA500  |

**Other lengths and configurations:** on demand, see factory

**Note:** UTS standard necessarily with gold plated stamped & formed contacts

# UTS Series



## Cable information

|                              |                                                                                                                                  |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| <b>Range of temperature:</b> | Occasional flexing: -5°C up to +70°C<br>Fixed installation: -40°C up to +80°C                                                    |
| <b>Rated voltage:</b>        | U0/U: 300/500 V                                                                                                                  |
| <b>Wire section :</b>        | Arrangement with #16 contact: wire section 1.5 mm <sup>2</sup><br>Arrangement with #20 contact: wire section 0.5 mm <sup>2</sup> |

## Cable selection

| Connector type |                              | Number and size of wires | Cable used |                      |
|----------------|------------------------------|--------------------------|------------|----------------------|
| Shell size     | Arrangement for UTS standard |                          | Type       | Harmonised reference |
| 8              | 8E2                          | 2 #20                    | 2X0.5      | H05 VV - F 2X0.5     |
|                | 8E3; 8E3A; 8E33              | 3 #20                    | 3X0.5      | H05 VV - F 3X0.5     |
|                | 8E4                          | 4 #20                    | 4X0.5      | H05 VV - F 4X0.5     |
| 10             | 103PE                        | 3 #16                    | 3G1.5      | H05 VV - F 3G1.5     |
|                | 103                          | 3 #16                    | 3X1.5      | H05 VV - F 3X1.5     |
|                | 104                          | 4 #16                    | 4X1.5      | H05 VV - F 4X1.5     |
|                | 106; 1098                    | 6 #20                    | 7X0.5      | H05 VV - F 7X0.5     |
|                | 10E7                         | 7 #20                    | 7X0.5      | H05 VV - F 7X0.5     |
|                |                              |                          |            |                      |
| 12             | 12E2                         | 2 #16                    | 2X1.5      | H05 VV - F 2X1.5     |
|                | 12E3                         | 3 #16                    | 3X1.5      | H05 VV - F 3X1.5     |
|                | 124PE                        | 4 #16                    | 4G1.5      | H05 VV - F 4G1.5     |
|                | 128                          | 8 #16                    | 8X1.5      | H05 VV - F 8X1.5     |
|                | 12E8                         | 8 #20                    | 10G0.5     | H05 VV - F 10G0.5    |
|                | 1210                         | 10 #20                   | 10G0.5     | H05 VV - F 10G0.5    |
|                | 1214                         | 14 #20                   | 14G0.5     | H05 VV - F 14G0.5    |
| 14             | 14E2                         | 3 #8                     | 3G10       | H05 VV - F 3G10      |
|                | 147PE                        | 7 #16                    | 7G1.5      | H05 VV - F 7G1.5     |
|                | 1412                         | 12 #16                   | 12X1.5     | H05 VV - F 12X1.5    |
|                | 14E12                        | 8 #20; 4 #16             | 12G0.5     | H05 VV - F 12G0.5    |
|                | 14E15                        | 14 #20; 1 #16            | 18G0.5     | H05 VV - F 18G0.5    |
|                | 14E18                        | 18 #20                   | 18G0.5     | H05 VV - F 18G0.5    |
|                | 1419                         | 19 #20                   | 21G0.5     | H05 VV - F 21G0.5    |
| 18             | 18E11                        | 11 #16                   | 12X1.5     | H05 VV - F 12X1.5    |
|                | 1823                         | 23 #16                   | 25G1       | H05 VV - F 25G1.5    |
|                | 18E30                        | 29 #20; 1 #16            | 30G0.5     | H05 VV - F 30G0.5    |
|                | 1832                         | 32 #20                   | 35G0.5     | H05 VV - F 35G0.5    |

bits series.



UTS Series

# Contacts

|                                        |    |
|----------------------------------------|----|
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## Contacts



### Description

The UTS series offers the unique possibility to use the same contact in any layout as long as it receives the same active part size. Thus it is possible to buy only one contact reference and equip all connectors even if housings are different.

The main benefit is the standardisation which means reduction of inventory cost.

Bearing in mind that any additional tool or complicated assembly process should be avoided, our contacts are based on a snap-in principle which avoid the use of an insertion tool.

Crimp contacts are available in different versions:



• machined



• stamped & formed



• coaxial



• fiber optic

In addition, UTS series can obviously be equipped with solder contacts, PCB contacts, screw termination and RJ45.



# UTS Series

## Contact plating selector guide

As soon as you know what contact size you need, you next have to decide on which type to use. Souriau proposes mainly two different types of electrical contacts:

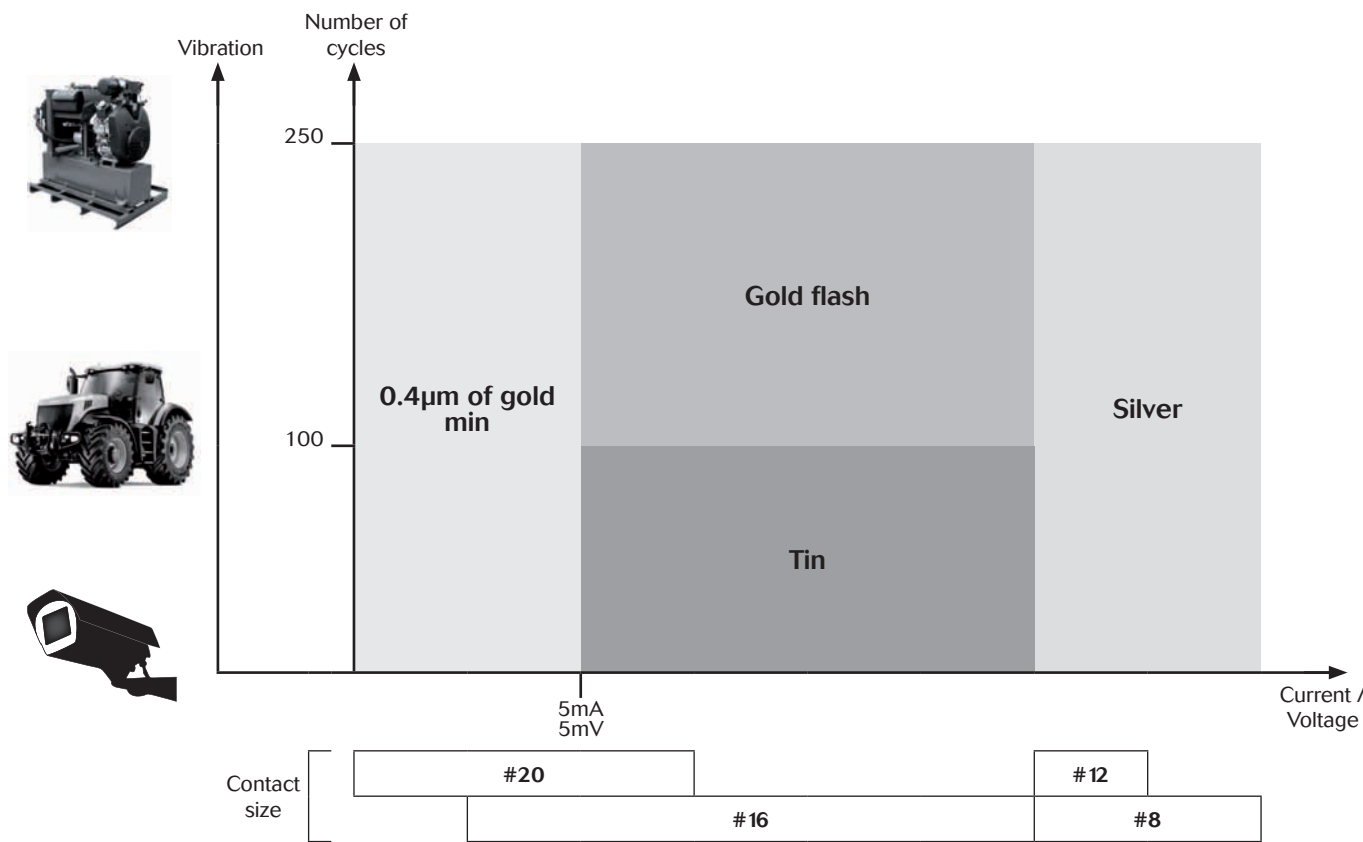
- Machined
- Stamped & formed

Machined contacts are generally chosen for low quantities purpose as well as a better solution for power applications.

Stamped & formed contacts offer the ability to be crimped automatically which makes them more suitable for high volume production applications.

Then comes the question: What plating should I choose ?

Hereunder is a graph with criteria to guide you:







## Contact selector guide

### Electrical characteristics: contact resistance

|               |                  |        |
|---------------|------------------|--------|
| #20<br>Ø1mm   | Machined         | < 6mΩ  |
|               | Stamped & formed | < 15mΩ |
| #16<br>Ø1.6mm | Machined         | < 3mΩ  |
|               | Stamped & formed | < 6mΩ  |
| #12<br>Ø2.4mm | Machined         | < 5mΩ  |
| #8<br>Ø3.6mm  | Machined         | < 5mΩ  |

### Available platings

|            |                                                                |
|------------|----------------------------------------------------------------|
| A          | 2μ Ni + 2μ Ag                                                  |
| J          | Gold flash over 2μ Ni                                          |
| K          | Min 0.4μ gold over 2μ Ni                                       |
| S31        | Gold flash over Ni                                             |
| S18        | 0.75μ gold min in active part over 2μ Ni<br>Gold flash over Ni |
| S25<br>S26 | Active part: 0.75μ Au over Ni<br>Crimp area: flash Au over Ni  |
| T          | T: 2μ Ni mini all over + 3 to 5 μm Sn all over                 |
| TK6        | 2-5μ Sn pre-plated                                             |

## Packaging

Conscious of the wide variety of applications, contact packaging has been considered for small series (bulk packaging) and high volume production (reeled contacts):



• 50 pieces bulk packing (standard)



• 1000 pieces bulk packing



• 3000 pieces reeled stamped & formed contacts



• 5000 pieces reeled machined contacts

# UTS Series



## Crimp contacts

### Standard version



| Contact size   | Type     | Wire size |           | Part number                     |                                 | Max wire Ø | Max insulator Ø | Color band |      | Plating available |
|----------------|----------|-----------|-----------|---------------------------------|---------------------------------|------------|-----------------|------------|------|-------------------|
|                |          | AWG       | mm²       | Male                            | Female                          |            |                 | Front      | Rear |                   |
| #20<br>Ø1 mm   | Machined | 26-24     | 0.13-0.20 | RM24W3-                         | RC24W3-                         |            | 1.58 max        | -          | -    | K                 |
|                | S&F      | 26-24     | 0.13-0.25 | SM24W3S26 (1)<br>SM24WL3S26 (2) | SC24W3S25 (1)<br>SC24WL3S25 (2) |            | 0.89-1.58       | -          | -    | S25, S26          |
|                | Machined | 22-20     | 0.32-0.52 | RM20W3-                         | RC20W3-                         |            | 1.58 max        | -          | -    | K                 |
|                | S&F      | 22-20     | 0.35-0.5  | SM20W3S26 (1)<br>SM20WL3S26 (2) | SC20W3S25 (1)<br>SC20WL3S25 (2) |            | 1.17-2.08       | -          | -    | S25, S26          |
|                | Machined | 20-18     | 0.50-0.93 | RM18W3-                         | RC18W3-                         |            | 2.10 max        | -          | -    | K                 |
| #16<br>Ø1.6 mm | Machined | 30-28     | 0.05-0.08 | RM28M1-                         | RC28M1-                         | 0.55       | 1.1             | -          | -    | K, J, T           |
|                | Machined | 26-24     | 0.13-0.2  | RM24M9-                         | RC24M9-                         | 0.8        | 1.6             | Red        | -    | K, J, T           |
|                | S&F      | 26-24     | 0.13-0.25 | SM24M1- (1)<br>SM24ML1- (2)     | SC24M1- (1)<br>SC24ML1- (2)     | 0.89-1.28  |                 | -          | -    | S31, S18, TK6     |
|                | Machined | 22-20     | 0.32-0.52 | RM20M13-                        | RC20M13-                        | 1.18       | 1.8             | Black      | -    | K, J, T           |
|                |          |           |           | RM20M12-                        | RC20M12-                        |            | 2.2             | Blue       | -    |                   |
|                | S&F      | 22-20     | 0.35-0.5  | SM20M1- (1)<br>SM20ML1- (2)     | SC20M1- (1)<br>SC20ML1- (2)     | 1.17-2.08  |                 | -          | -    | S31, S18, TK6     |
|                | Machined | 20-16     | 0.52-1.5  | RM16M23-                        | RC16M23-                        | 1.8        | 3.2             | -          | -    | K, J, T           |
|                | S&F      | 18-16     | 0.8-1.5   | SM16M1- (1)<br>SM16ML1- (2)     | SC16M1- (1)<br>SC16ML1- (2)     | 3.0        |                 | -          | -    | S31, S18, TK6     |
|                | S&F      | 18-16     | 0.8-1.5   | SM16M11- (1)<br>SM16ML11- (2)   | SC16M11- (1)<br>SC16ML11- (2)   | 2.0-3.0    |                 | -          | -    | S31, S18, TK6     |
|                | Machined | 16-14     | 1.5-2.5   | RM14M50-                        | RC14M50-                        | 2.05       | 3.2             | -          | -    | K, J, T           |
|                | Machined | 16-14     | 1.5-2.5   | RM14M30-                        | RC14M30-                        | 2.28       | 3.2             | -          | -    | K, J, T           |
|                | S&F      | 14        | 2.0       | SM14M1- (1)<br>SM14ML1- (2)     | SC14M1- (1)<br>SC14ML1- (2)     | 3.2        |                 | -          | -    | S31, S18, TK6     |
| #12<br>Ø2.4 mm | Machined | 22        | 0.13-0.4  | 8291 1457N-                     | 8291 1456-                      | -          | 4.9             | -          | -    | A, K              |
|                |          | 20        | 0.5       | 8291 1459N-                     | 8291 1458-                      |            |                 |            |      |                   |
|                |          | 18        | 0.75-1.0  | 8291 1461N-                     | 8291 1460-                      |            |                 |            |      |                   |
|                |          | 16        | 1.5       | 8291 1463N-                     | 8291 1462-                      |            |                 |            |      |                   |
|                |          | 14        | 2.5       | 8291 1465N-                     | 8291 1464-                      |            |                 |            |      |                   |
|                |          | 12        | 4         | 8291 1467N-                     | 8291 1466-                      |            |                 |            |      |                   |
| #8<br>Ø3.6 mm  | Machined | 16        | 1.5       | 8291 3601-                      | 8291 3600-                      | -          | 6.5             | -          | -    | A                 |
|                |          | 14        | 2.5       | 8291 3603-                      | 8291 3602-                      |            |                 |            |      |                   |
|                |          | 12        | 4         | 8291 3605-                      | 8291 3604-                      |            |                 |            |      |                   |
|                |          | 10        | 6.0       | 8291 3607-                      | 8291 3606-                      |            |                 |            |      |                   |
|                |          | 8         | 10.0      | 8291 3609-                      | 8291 3608-                      |            |                 |            |      |                   |

(1) contact reeled  
(2) loose contact



## Crimp contacts

### First Mate Last Break contacts

| Contact size                                           | Type     | Wire size |           | Part number  |             | Max wire Ø | Max insulator Ø | Color band |      | Plating available |
|--------------------------------------------------------|----------|-----------|-----------|--------------|-------------|------------|-----------------|------------|------|-------------------|
|                                                        |          | AWG       | mm²       | Male         | Female      |            |                 | Front      | Rear |                   |
| #16<br>Ø1.6 mm<br>Longer male contact (+1mm)           | Machined | 30-28     | 0.05-0.08 | RM28M1GE1□   | -           | 0.55       | 1.1             | -          | Red  | □ =<br>K, J or T  |
|                                                        |          | 26-24     | 0.13-0.2  | RM24M9GE1□   |             | 0.8        | 1.6             | Red        | Red  |                   |
|                                                        |          | 22-20     | 0.32-0.52 | RM20M13GE1□  |             | 1.18       | 1.8             | Black      | Red  |                   |
|                                                        |          |           |           | RM20M12 GE1□ |             |            | 2.2             | Blue       | Red  |                   |
|                                                        |          | 20-16     | 0.52-1.5  | RM16M23 GE1□ |             | 1.8        | 3.2             | -          | Red  |                   |
|                                                        |          | 16-14     | 1.5-2.5   | RM14M50 GE1□ |             | 2.05       | -               | -          | Red  |                   |
|                                                        |          | 16-14     | 1.5-2.5   | RM14M30 GE1□ | 2.28        | -          | -               | Red        |      |                   |
| #16<br>Ø1.6 mm<br>Shorter fe-<br>male contact (-0.7mm) | Machined | 30-28     | 0.05-0.08 | -            | RC28M1GE7□  | 0.55       | 1.1             | -          | Blue | □ =<br>K, J or T  |
|                                                        |          | 26-24     | 0.13-0.2  |              | RC24M9GE7□  | 0.8        | 1.6             | Red        | Blue |                   |
|                                                        |          | 22-20     | 0.32-0.52 |              | RC20M13GE7□ | 1.18       | 1.8             | Black      | Blue |                   |
|                                                        |          |           |           |              | RC20M12GE7□ |            | 2.2             | Blue       | Blue |                   |
|                                                        |          | 20-16     | 0.52-1.5  |              | RC16M23GE7□ | 1.8        | 3.2             | -          | Blue |                   |
|                                                        |          | 16-14     | 1.5-2.5   |              | RC14M50GE7□ | 2.05       | -               | -          | Blue |                   |
|                                                        |          | 16-14     | 1.5-2.5   |              | RC14M30GE7□ | 2.28       | -               | -          | Blue |                   |

### How to make FMLB / LMFB connection

| Contact 1 \ Contact 2   | Standard male contact | Standard female contact | Longer male contact |
|-------------------------|-----------------------|-------------------------|---------------------|
| Standard male contact   |                       | ✓                       |                     |
| Standard female contact | ✓                     |                         | ✓<br>FMLB           |
| Shorter female contact  | ✓<br>LMFB             |                         |                     |

First Mate Last Break contacts should be chosen only if the cavity is not marked with the earth symbol. For cavities marked with the earth symbol, standard contacts will fulfill the same role as a first mate, last break contact used in a standard cavity.



Ground symbol



# UTS Series

## Coaxial contacts

### Coaxial contact range

We provide 2 types of coaxial contacts suitable for 50 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 economy is achieved by simultaneously crimping both the inner conductor and outer braid or drain wire.



#### 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 3.05mm  
Inner conductor up to 2.44mm diameter



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



### Contacts for coaxial cable summary

| Contact type      | Contact range |                | Contact part number with cable combination | Cabling notice    |
|-------------------|---------------|----------------|--------------------------------------------|-------------------|
|                   | Male contact  | Female contact |                                            |                   |
| <b>Multipiece</b> | RMDXK10D28    | RCDXK1D28      | See page 68                                | See pages 72 & 73 |
| <b>Monocrimp</b>  | RMDX60xxD28   | RCDX60xxD28    |                                            | See page 74       |

### Contacts for twisted pairs cable summary

| Contact type      | Contact range           |                        | Contact part number with cable combination | Cabling notice |
|-------------------|-------------------------|------------------------|--------------------------------------------|----------------|
|                   | Male contact            | Female contact         |                                            |                |
| <b>Multipiece</b> | RMDXK10D28<br>+ YORK090 | RCDXK1D28<br>+ YORK090 | See page 69                                | See page 70    |
| <b>Monocrimp</b>  | RMDX60xxD28             | RCDX60xxD28            |                                            | See page 71    |



## PCB contacts

### PCB contacts

#### PCB soldering

UTS range can be carried out with a wave soldering process, but not reflow soldering process. All high temperature processes are prohibited.



| Contact size  | Type          | Part number |             | Plating    |
|---------------|---------------|-------------|-------------|------------|
|               |               | Male        | Female      |            |
| #20<br>Ø1mm   | Short version | RMW50A7□    | RCW50A7□    | □ = K      |
|               | Long version  | RMW5016□    | RCW5016□    |            |
| #16<br>Ø1.6mm | Short version | RM20M12E8□  | RC20M12E8□  | □ = K or T |
|               | Long version  | RM20M12E83□ | RC20M12E83□ |            |
|               |               |             | RC20M12E84□ |            |



# UTS Series

## Fibre optic contacts

### Description

#### Size 16 Fibre optic contacts for TRIM TRIO® connectors

Size 16 Fibre optic contacts are optical contacts designed for the integration of optical links in all TRIM TRIO® cable connectors.

The Fibre optic contacts are designed to accommodate:

- Plastic Optical Fibre (POF)
  - 1 mm core and 2.2 mm jacket
- Plastic Clad Fibre (PCF)
  - 230µm core and 2.2 mm jacket
- Multimode Silica Fibre
  - 62.5/125µm type 2.0 mm max. jacket
- Singlemode Silica Fibre
  - 9/125µm type 2.0 mm jacket



Typical features and benefits are:

- Socket contact is spring loaded to avoid any air gap between the two optical faces.
- Low insertion loss is provided by high precision pieces.
- Single jumpers, multiway harness and active device housings can be supplied regarding customer requirement.

### Technical characteristics

#### Performance

|                                   |                |                |                |
|-----------------------------------|----------------|----------------|----------------|
| • Fibre type:                     | POF/PCF        | Multimode      | Singlemode     |
| • Wave length:                    | 650 nm         | 62.5/125µm     | 9/125µm        |
| • Optical insertion loss (typ.):  | 2 dB max.      | 1300 nm        | 1310 nm        |
| • Jacketed external diameter:     | 2.2mm          | < 0.5 dB       | < 0.35 dB      |
| • Temperature range:              | -25°C to +70°C | 2.0mm max.     | 2.0mm max.     |
| • Cable retention:                | 49N            | -25°C to +70°C | -25°C to +70°C |
| • Mating cycles without cleaning: | 50             |                |                |
| • 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, UTS, UTG, UTO.



## Fibre optic contacts

### Ordering information

#### POF Contacts (Plastic Optical Fibre)

|                |            |
|----------------|------------|
| Male contact   | RMPOF1000  |
| Female contact | RCPOF1000B |

#### PCF Contacts (Plastic Clad Fibre)

|                |           |
|----------------|-----------|
| Male contact   | RMPCF230  |
| Female contact | RCPCF230B |

#### Silica Contacts - Multimode

|                |         |
|----------------|---------|
| Male contact   | RMMMOFA |
| Female contact | RCMMOFA |

#### Silica Contacts - Monomode

|                |         |
|----------------|---------|
| Male contact   | RMSMOFA |
| Female contact | RCSMOFA |

### POF Contact (Plastic Optical Fibre)

#### 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 numbers | 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 be ordered only separately

| Part numbers | Descriptions    |
|--------------|-----------------|
| 80WG0010     | Needle          |
| 80WG0015     | Capsule         |
| 80WG0016     | Syringe         |
| 80WN0005     | Dry air spray   |
| 80WN0006     | Optical paper   |
| 80WN0012     | Dropping bottle |
| 80WN0008     | Wiping solvent  |

### PCF Contact (Plastic Clad Fibre)

#### STANDARD TOOLING KIT - P/N 80MG0039

| Descriptions                 |
|------------------------------|
| Stripping tool for Ø 2.2 mm  |
| Kevlar scissors              |
| Stripping tool for Ø 0.25 mm |
| Alumina blade                |
| Polishing tool               |
| Press fit tool               |
| Microscope                   |

| Descriptions                                |
|---------------------------------------------|
| Polishing disk (grain size 9µm)             |
| Polishing disk (grain size 0.3µm)           |
| Curing oven                                 |
| Polishing plate                             |
| Non slip base (to hold the polishing plate) |
| Glue                                        |





## Fibre optic contacts

### Multimode Contact - Silica

#### STANDARD TOOLING KIT - P/N 80MG0027

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

| Part numbers | Descriptions                                                   |
|--------------|----------------------------------------------------------------|
| 80WC0001     | Aramid yarn scissors                                           |
| 80WC0003     | Cutter                                                         |
| 80WC0004     | Alumina blade                                                  |
| 80WD0008     | Stripping tool for Ø 0.20 mm                                   |
| 80WD0010     | Stripping tool for Ø 0.25 mm                                   |
| 80WD0014     | Stripping tool for Ø 0.60 mm                                   |
| 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)                    |
| 80WT0008     | Curing oven                                                    |
| 80WT0009     | Protective tube                                                |

#### SPECIFIC TOOLING LIST - can be ordered only separately

| Part numbers | Descriptions                          |
|--------------|---------------------------------------|
| 80WD0036     | Stripping tool for Ø 0.9 mm & 0.25 mm |
| 80WD0005     | Stripping tool for Ø 2.2 mm & 1.5 mm  |
| 80WL0001     | Microscope x400                       |
| 80WL0008     | Microscope adaptor                    |
| 80WP0025     | Polishing tool                        |
| 80WS0002     | Crimping tool                         |
| 80WT0005     | Contact support for polymerisation    |
| 80WG0010     | Needle                                |
| 80WG0014     | Glue                                  |
| 80WG0015     | Capsule                               |
| 80WG0016     | Syringe                               |
| 80WN0005     | Dry air spray                         |
| 80WN0006     | Optical paper                         |
| 80WN0012     | Dropping bottle                       |
| 80WP0014     | Polishing disk (grain size 9µm)       |
| 80WP0015     | Polishing disk (grain size 0.3µm)     |

bits series.



UTS Series

# Technical information

|                                          |    |
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| ■ IEC 61984 and IP codes explained ..... | 63 |
| ■ What is NEMA rating ? .....            | 65 |



## Tooling

### Automatic crimping tools



**Mecal is leader in manufacturing tooling for crimping terminals over a stripped wire.**

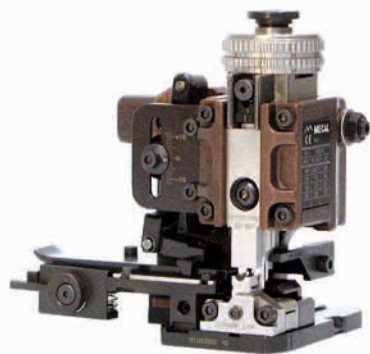
Established in 1976, Mecal has become one of the world's leading companies dedicated to the design and manufacture of semi automatic production tools for strip fed, open barrel crimp terminals, serving the Automotive, Telecom and Datacomm industry.



**The extreme environment interconnect specialist "from deep sea to deep space".**

Souriau designs manufactures and markets high performance interconnect solutions for severe environments dedicated to the aerospace, defence, light and heavy industry markets.

Souriau has been working in partnership with Mecal for a good number of years. With sales offices located in all major industrial regions of the world, the combined strengths of both organisations has resulted in a truly global solution to all your production tooling needs.



Mini Applicator



Stripper



Presses

Mecal sales network:

[www.mecal.net/eng/retevendita.php](http://www.mecal.net/eng/retevendita.php)



## Crimptooling table

### Standard contacts

| Contact size | Part number                             | Head       | Handles  |
|--------------|-----------------------------------------|------------|----------|
| #20<br>1mm   | RM/RC 24W3 -                            | S20RM      | SHANGLES |
|              | RM/RC 20W3 -                            |            |          |
|              | RM/RC 18W3 -                            |            |          |
|              | SM 24W3S - (1)<br>SC 24W3S - (1)        | S20SCM20   |          |
|              | SM 24WL3S - (2)<br>SC 24WL3S - (2)      |            |          |
|              | SM/SC 20W3S - (1)<br>SM/SC 20WL3S - (2) |            |          |
| #16<br>1.6mm | RM/RC 28M1 -                            | S16RCM20   |          |
|              | RM/RC 24M9 -                            |            |          |
|              | RM/RC 20M13 -                           |            |          |
|              | RM/RC 20M12 -                           |            |          |
|              | RM/RC 16M23 -                           | S16RCM16   |          |
|              | RM/RC 14M50 -                           | S16RCM1450 |          |
|              | RM/RC 14M30 -                           | S16RCM14   |          |
|              | SM/SC 24M1 -<br>SM/SC 24ML1 -           | S16SCM20   |          |
|              | SM/SC 20M1 -<br>SM/SC 20ML1 -           |            |          |
|              | SM/SC 16M1 -<br>SM/SC 16ML1 -           |            |          |
|              | SM/SC 14M1 -<br>SM/SC 14ML1 -           |            |          |
|              | SM/SC 16M11 -<br>SM/SC 16ML11 -         | S16SCML11  |          |



| Contact size | Part number              | Tool with separate locator |                              |     | Extraction tools |
|--------------|--------------------------|----------------------------|------------------------------|-----|------------------|
|              |                          | Hand tool                  | Positioner + locator setting |     |                  |
| 12<br>2.4mm  | 8291 1457N- / 8291 1456- | M317                       | VGE10077A                    | 1-2 | 5106 02 09 24    |
|              | 8291 1459N- / 8291 1458- |                            |                              | 2   |                  |
|              | 8291 1461N- / 8291 1460- |                            |                              | 2   |                  |
|              | 8291 1463N- / 8291 1462- |                            |                              | 3   |                  |
|              | 8291 1465N- / 8291 1464- |                            |                              | 3   |                  |
|              | 8291 1467N- / 8291 1466- |                            |                              | 4   |                  |
| #8<br>3.6mm  | 8291 3601A / 8291 3600A  | M317                       | VGE10078A                    | 3   | 5106 021 09 36   |
|              | 8291 3603A / 8291 3602A  |                            |                              | 3   |                  |
|              | 8291 3605A / 8291 3604A  |                            |                              | 4   |                  |
|              | 8291 3607A / 8291 3606A  |                            |                              | 5   |                  |
|              | 8291 3609A / 8291 3608A  |                            |                              | 6/7 |                  |
|              |                          |                            |                              |     |                  |

### Specific contacts

| Contact size                            | Part number                | Hand tools<br>(SHANDLES) head | Tool with separate locator |                              |     | Extraction tools |
|-----------------------------------------|----------------------------|-------------------------------|----------------------------|------------------------------|-----|------------------|
|                                         |                            |                               | Hand tool                  | Positioner + locator setting |     |                  |
| #16<br>Ø 1.6mm<br>Longer RM<br>contact  | RM28M1GE1-                 | S16RCM20                      | MH860                      | MH861686                     | 4/6 | RX2025GE1        |
|                                         | RM24M9GE1-                 |                               |                            |                              | 5/6 |                  |
|                                         | RM20M13GE1-                |                               |                            |                              | 6/7 |                  |
|                                         | RM16M23 GE1-               | S16RCM16                      | M317                       | UH2-5                        | 6/8 |                  |
|                                         | RM14M50 GE1-               | S16RCM1450                    |                            |                              | 3   |                  |
|                                         | RM14M30 GE1-               | S16RCM14                      |                            |                              | 3   |                  |
| #16<br>Ø 1.6mm<br>Shorter RC<br>contact | RC28M1GE7-                 | S16RCM20                      | MH860                      | MH861646                     | 4/6 |                  |
|                                         | RC24M9GE7-                 |                               |                            |                              | 5/6 |                  |
|                                         | RC20M13GE7-<br>RC20M12GE7- |                               |                            |                              | 5/7 |                  |
|                                         | RC16M23GE7-                | S16RCM16                      | M317                       | UH2-5                        | 6/8 |                  |
|                                         | RC14M50GE7-                | S16RCM1450                    |                            |                              | 3   |                  |
|                                         | RC14M30GE7-                | S16RCM14                      |                            |                              | 3   |                  |

### Coaxial contacts

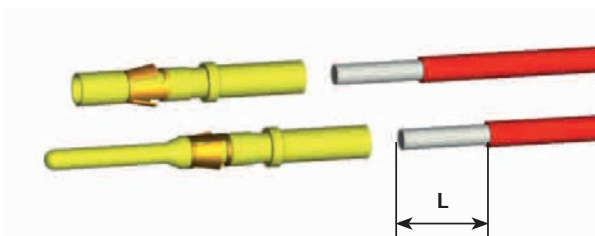
See cabling notice pages 68 to 74.

# UTS Series



## Assembly instruction

### Wire stripping



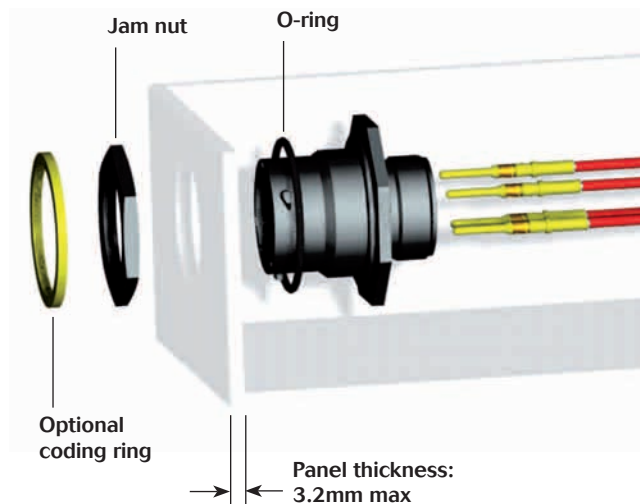
| Part number                                                                           |                                                                                        | Stripping length<br>L (mm) |            |
|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------|------------|
| Male                                                                                  | Female                                                                                 |                            |            |
| Screw contacts                                                                        |                                                                                        |                            |            |
| Contact delivered with connector                                                      |                                                                                        | 5.8                        |            |
| Power contacts #12                                                                    |                                                                                        |                            |            |
| 8291 1457 -<br>8291 1459 -<br>8291 1461-<br>8291 1463 -<br>8291 1465 -<br>8291 1467 - | 8291 1456 -<br>8291 1458 -<br>8291 1460 -<br>8291 1462 -<br>8291 1464 -<br>8291 1466 - | 7 to 8                     |            |
| Power contacts #8                                                                     |                                                                                        |                            |            |
| 8291 3601 -<br>8291 3603 -<br>8291 3605 -<br>8291 3607 -<br>8291 3609 -               | 8291 3600 -<br>8291 3602 -<br>8291 3604 -<br>8291 3606 -<br>8291 3608 -                |                            | 6.5 to 7.5 |

| Part number                                |                                            | Stripping length<br>L (mm) |
|--------------------------------------------|--------------------------------------------|----------------------------|
| Male                                       | Female                                     |                            |
| Machined contact # 16                      |                                            |                            |
| RM28M1-<br>RM24M9-<br>RM20M13-<br>RM20M12- | RC28M1-<br>RC24M9-<br>RC20M13-<br>RC20M12- | 4.8                        |
| RM16M23-<br>RM14M50-<br>RM14M30-           | RC16M23-<br>RC14M50-<br>RC14M30-           | 7.1                        |
| Stamped & formed contact # 16              |                                            |                            |
| SM24M1-<br>SM24ML1-<br>SM20M1-<br>SM20ML1- | SC24M1-<br>SC24ML1-<br>SC20M1-<br>SC20ML1- | 4                          |
| SM16M1-<br>SM16ML1-                        | SC16M1-<br>SC16ML1-                        | 6.35                       |
| SM16M11-<br>SM16ML11-                      | SC16M11-<br>SC16ML11-                      | 4.65                       |
| SM14M1-<br>SM14ML1-                        | SC16M11-<br>SC16ML11-                      | 6.35                       |
| Machined contacts #20                      |                                            |                            |
| RM24W3-<br>RM20W3-<br>RM18W3-              | RC24W3-<br>RC20W3-<br>RC18W3-              | 4.8                        |
| Stamped & formed contact #20               |                                            |                            |
| SM24W3-<br>SM24WL3-<br>SM20W3-<br>SM20WL3- | SC24W3-<br>SC24WL3-<br>SC20W3-<br>SC20WL3- | 4                          |

### UTS 7 assembly (mounting suggestion)

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

| Shell size | Jam nut<br>torque (Nm) | Ø Wire              |                                |
|------------|------------------------|---------------------|--------------------------------|
|            |                        | Standard<br>version | Discrete<br>wire<br>sealing    |
| 8          | 1.5                    | 3.2 mm<br>max.      | from<br>1.7 mm<br>to<br>3.0 mm |
| 10         | 3                      |                     |                                |
| 12         | 4                      |                     |                                |
| 14         | 5                      |                     |                                |
| 18         | 5                      |                     |                                |



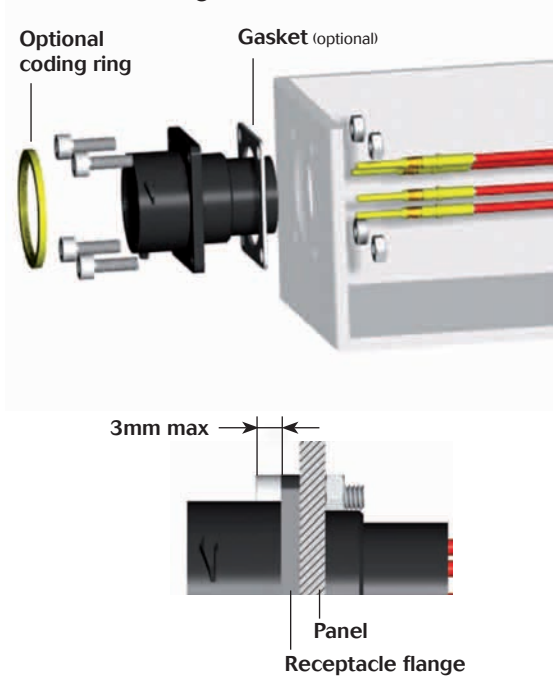


# UTS Series

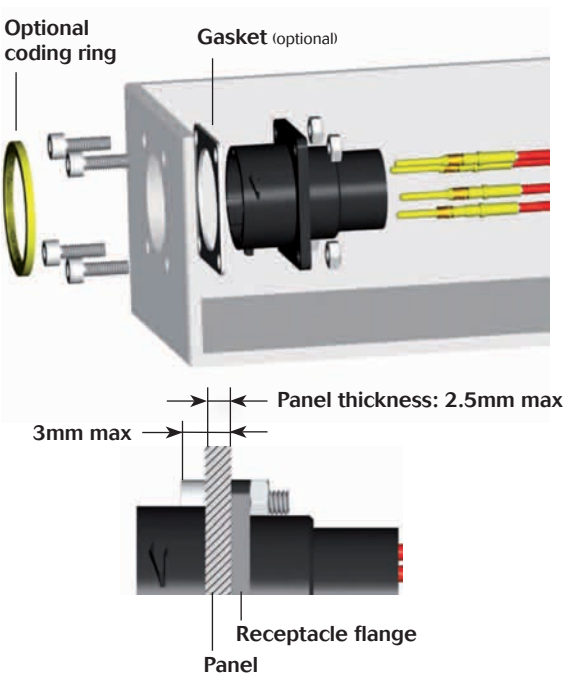
## UTS 0 assembly (mounting suggestion)

- Strip wires, crimp contacts
- Insert contacts into connector cavities (insert manually or use tool RTM205)
- Place receptacle in the panel cut-out, with optional gasket
- Secure receptacle with screws (not supplied)

### Front mounting



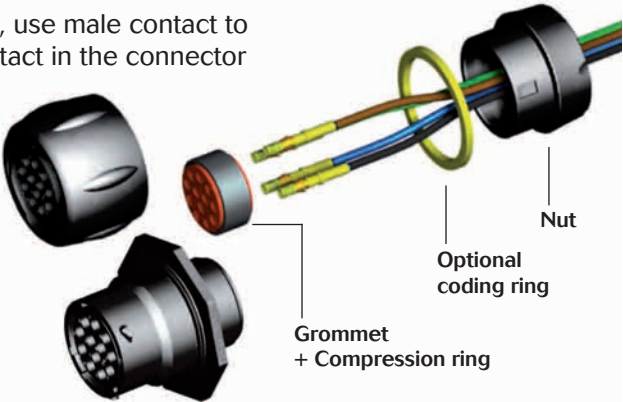
### Rear mounting



## UTS 6 GN / UTS 7 GN assembly

- Slide accessories on the cable (make sure to keep compression ring on the grommet)
- Strip wires and crimp contacts
- Insert first contact into the grommet (first contact in cavity A, use male contact to pierce the grommet, 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 nut (recommended torque: see note)

| Shell size | Nut tightening torque (Nm) | Ø Wire                      |
|------------|----------------------------|-----------------------------|
| 10         | 1                          | from<br>1.7 mm to<br>3.0 mm |
| 12         | 1.5                        |                             |
| 14         | 1.5                        |                             |





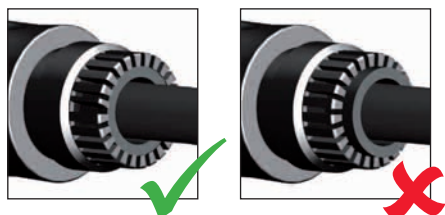
# UTS Series



## Assembly instruction

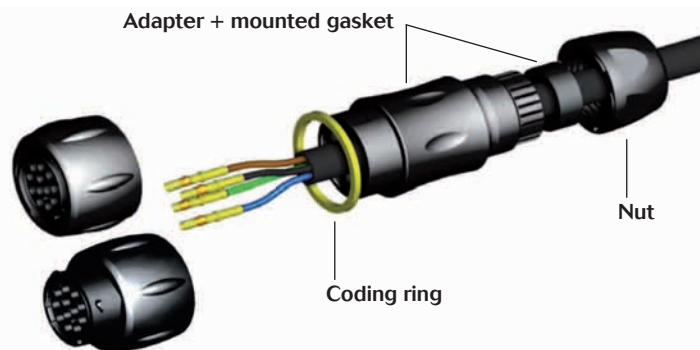
### UTS 1 JC / UTS 6 JC assembly

- Slide accessories on the cable



Make sure the rubber gasket is positioned as shown.

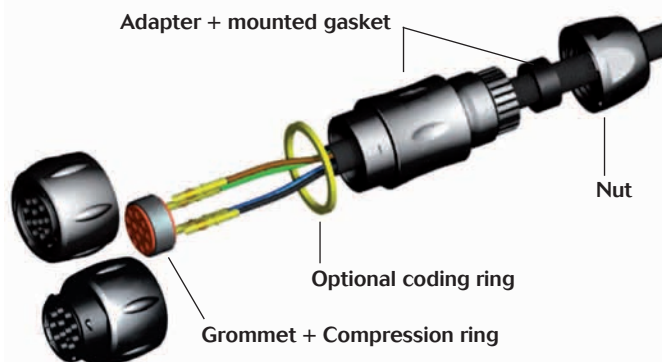
- Strip external cable jacket
- Strip wires and crimp contacts
- Insert contacts into connector cavities (insert manually or use tool RTM205)
- Tighten adaptor with plug, tighten nut with adaptor (recommended torque values to be applied according to the table - right)



| Shell size | Recommended jacket strip length (mm) |        | Adapter tightening torque (Nm) | Nut tightening torque (Nm) | Ø Cable range Standard seal | Ø Cable range Reducing seal | Ø Wire      |
|------------|--------------------------------------|--------|--------------------------------|----------------------------|-----------------------------|-----------------------------|-------------|
|            | Male                                 | Female |                                |                            |                             |                             |             |
| 8          | (17)                                 | (25)   | 1                              | 0.75                       | 2.5/6.5                     | 1.5/5.0                     | 3.2 mm max. |
| 10         | 21                                   | 29     | 1.5                            | 2                          | 2.5/8.0                     | 1.5/5.0                     |             |
| 12         | 25                                   | 33     | 2                              | 2.5                        | 5.0/12.0                    | 3.0/9.0                     |             |
| 14         | 29                                   | 36     | 3                              | 2.5                        | 7.0/14.0                    | 5.0/12.0                    |             |
| 18         | 37                                   | 45     | 4                              | 3.5                        | 9.0/18.0                    | 7.0/16.0                    |             |

### UTS 1 GJC / UTS 6 GJC assembly

- Slide accessories on the cable (make sure to keep compression ring on the grommet)
- Strip external cable jacket
- Strip wires and crimp contacts
- Insert first contact into the grommet (first contact in cavity A, the contact pierces the grommet, 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
- Tight adapter with plug, tight nut with adaptater (recommended torque values to be applied according to the table - right)



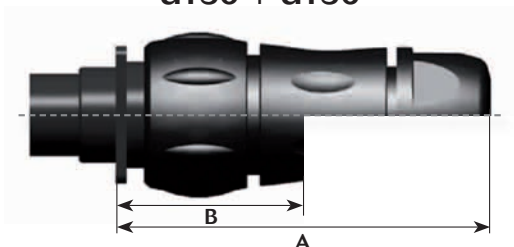
| Shell size | Recommended jacket strip length (mm) |        | Adapter tightening torque (Nm) | Nut tightening torque (Nm) | Ø Cable range Standard seal | Ø Cable range Reducing seal | Ø Wire                |
|------------|--------------------------------------|--------|--------------------------------|----------------------------|-----------------------------|-----------------------------|-----------------------|
|            | Male                                 | Female |                                |                            |                             |                             |                       |
| 8          | (17)                                 | (25)   | 1                              | 0.75                       | 2.5/6.5                     | 1.5/5.0                     | from 1.7 mm to 3.0 mm |
| 10         | 21                                   | 29     | 1.5                            | 2                          | 2.5/8.0                     | 1.5/5.0                     |                       |
| 12         | 25                                   | 33     | 2                              | 2.5                        | 5.0/12.0                    | 3.0/9.0                     |                       |
| 14         | 29                                   | 36     | 3                              | 2.5                        | 7.0/14.0                    | 5.0/12.0                    |                       |
| 18         | 37                                   | 45     | 4                              | 3.5                        | 9.0/18.0                    | 7.0/16.0                    |                       |



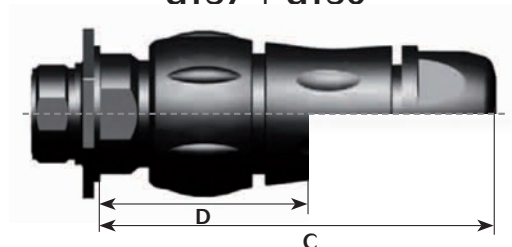
# UTS Series

## Mated connector length

UTS0 + UTS6



UTS7 + UTS6

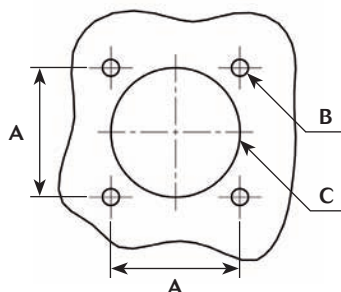


| Shell size | UTS0<br>+ UTS6 EN JC & CJC | UTS0<br>+ UTS6 EN GN | UTS7<br>+ UTS6 EN JC & CJC | UTS7<br>+ UTS6 EN GN |
|------------|----------------------------|----------------------|----------------------------|----------------------|
|            | A max                      | B max                | C max                      | D max                |
| 10         | 73.2                       | 39.6                 | 77.3                       | 43.7                 |
| 12         | 77.6                       | 39.4                 | 81.7                       | 43.5                 |
| 14         | 83.5                       | 40                   | 87.6                       | 44.1                 |
| 18         | 93.1                       | -                    | 97.2                       | -                    |

## Panel cut out

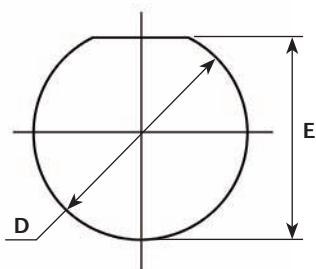
UTS0

Square flange receptacle



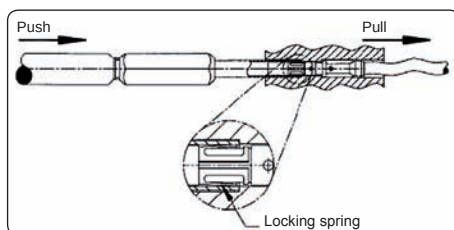
UTS7

Jam nut receptacle



| Shell size | A $\pm 0.25$ | $\varnothing B \pm 0.1$ | $\varnothing C \pm 0.1$ |               | $\varnothing D \pm 0.2$ | E $\pm 0.2$ |
|------------|--------------|-------------------------|-------------------------|---------------|-------------------------|-------------|
|            |              |                         | Front mounting          | Rear mounting |                         |             |
| 8          | 15.1         | 3.2                     | 12.5                    | 14.5          | 14.6                    | 13.75       |
| 10         | 18.3         |                         | 15.1                    | 17.8          | 17.7                    | 16.5        |
| 12         | 20.6         |                         | 18.2                    | 22.2          | 22.5                    | 21.2        |
| 14         | 23.0         |                         | 21.4                    | 25.5          | 25.7                    | 24.3        |
| 18         | 27.0         |                         | 27.8                    | 31.8          | 32                      | 30.6        |

## Contact extraction for size 16 & size 20 contacts



### How to remove a contact out of its cavity?

First of all, if the connector is fitted with a backshell, unscrew it and slide it up the cable. Slide the extraction tip over contact from mating side and push it all the way into the connector cavity until it stops, indicating that the locking spring from the contact is depressed.

Push on handle to activate the sprung loaded inner plunger to extract the contact from the rear of the connector.



## Rated current & working voltage

### 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 as well, since they help to dissipate heat and avoid overheating (Fig.1 & Fig.3).

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 locating 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: UTS 12-4 – 1.5mm<sup>2</sup> wires

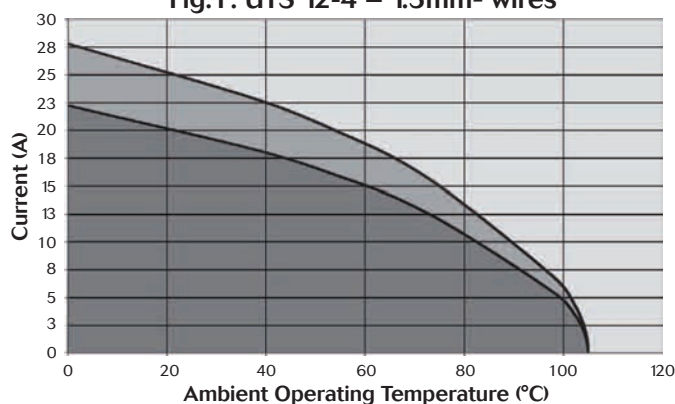


Fig.2: UTS 12-8 – 1.5mm<sup>2</sup> wires

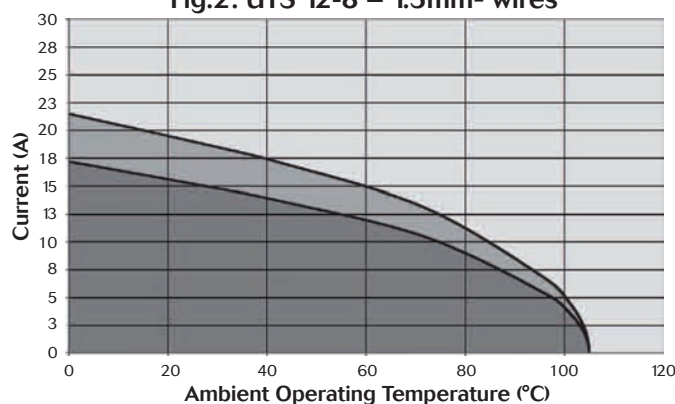
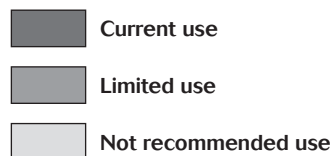
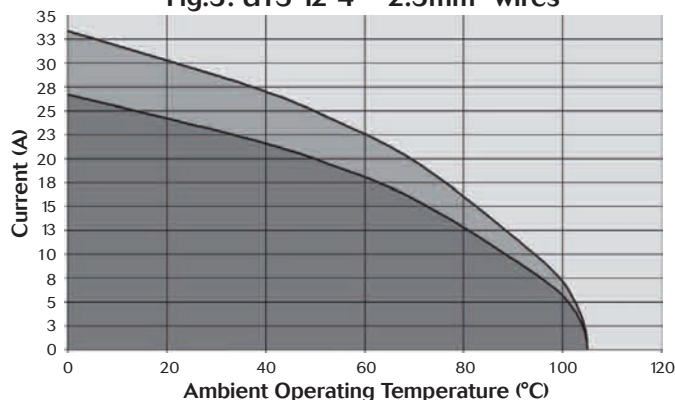


Fig.3: UTS 12-4 – 2.5mm<sup>2</sup> wires



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.



# UTS Series

## UV resistance

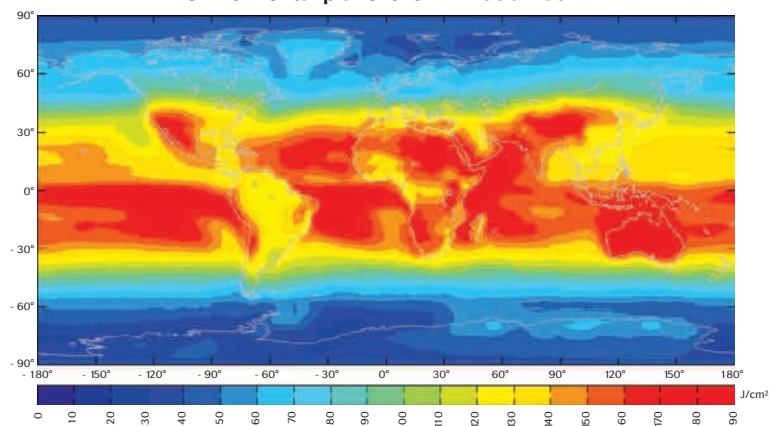
Solar radiation affects all materials, but plastics can be susceptible to extreme degradation over time. The choice of materials for the UTS series was therefore a critical consideration.

All over the world we are not exposed to the same amount of energy given by the sun. The chart shown here clearly illustrates this.

So we performed test according to the ISO 4892-2 and simulated 5 years exposure to outdoor environments (temperature, humidity, etc...)

After this period there was no significant colour variation, no crazing, no cracking and no major variation of mechanical properties.

Yearly mean of daily irradiation in UV (280-400 nm) on horizontal plane (J/cm<sup>2</sup>) (1990-2004)



## 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. Here are some reasons why we recommend this method of termination for UTS connectors:

### Advantages (Extract from the IEC 60352-2):

- Efficient processing of connections at each production level
- Processing by fully-automatic or semi- automatic crimping machines, or with hand operated tools
- No cold-soldered joints
- No degradation of the spring characteristic of female contacts by the soldering temperature
- No health risk from heavy metal and flux steam
- Preservation of conductor flexibility behind the crimped connection
- No burnt, discolored and overheated wire insulation
- Good connections with reproducible electrical and mechanical performances
- Easy production control

To ensure that the crimp tooling is performing according to original specifications, it is important to carry out regular checks. A common way to check the performance of tooling is with a simple pull test, ideally using a dedicated electric pull tester. Minimum recommended full forces are indicated in the tables below:

| Conductor cross-section |     | Pull out force |
|-------------------------|-----|----------------|
| MM <sup>2</sup>         | AWG | N              |
| 0.05                    | 30  | 6              |
| 0.08                    | 28  | 11             |
| 0.12                    | 26  | 15             |
| 0.14                    |     | 18             |
| 0.22                    | 24  | 28             |
| 0.25                    |     | 32             |
| 0.32                    | 22  | 40             |
| 0.5                     | 20  | 60             |
| 0.75                    |     | 85             |
| 0.82                    | 18  | 90             |
| 1.0                     |     | 108            |

| Conductor cross-section |     | Pull out force |
|-------------------------|-----|----------------|
| MM <sup>2</sup>         | AWG | N              |
| 1.3                     | 16  | 135            |
| 1.5                     |     | 150            |
| 2.1                     | 14  | 200            |
| 2.5                     |     | 230            |
| 3.3                     | 12  | 275            |
| 4.0                     |     | 310            |
| 5.3                     | 10  | 355            |
| 6.0                     |     | 360            |
| 8.4                     | 8   | 370            |
| 10.0                    |     | 380            |



## There are two main standards for industrial connectors: UL94 & UL1977

### UL94

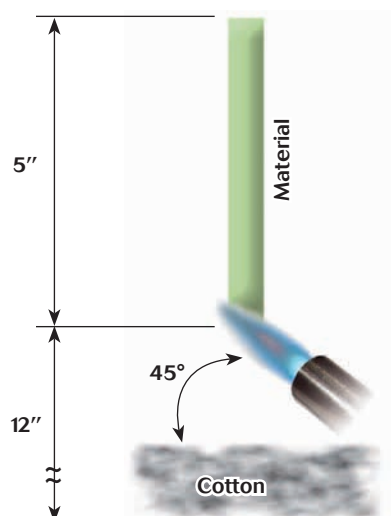
This standard is dedicated to plastics flammability. It characterises how the material burns in various orientation and thicknesses.

The UTS series has been rated at **V-0** & **HB**.

Procedure: A specimen is supported in a vertical or horizontal position and a flame is applied to the bottom of the specimen. The flame is applied for ten seconds and then removed until flaming stops, at which time the flame is reapplied for another ten seconds and then removed. Two sets of five specimens are tested. The two sets are conditioned under different conditions.

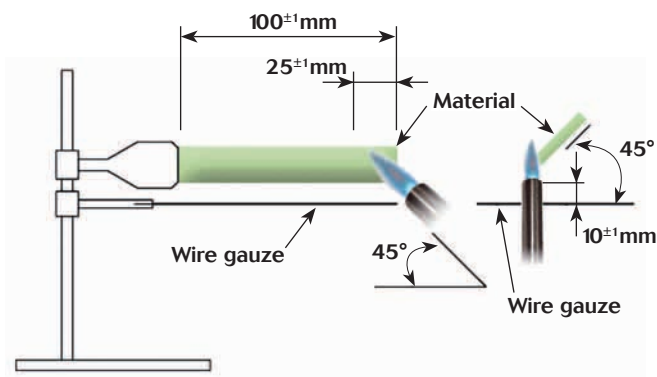
#### V-0 :

- Specimens must not burn with flaming combustion for more than 10 seconds after either test flame application.
- Total flaming combustion time must not exceed 50 seconds for each set of 5 specimens.
- Specimens must not burn with flaming or glowing combustion up to the specimen holding clamp.
- Specimens must not drip flaming particles that ignite the cotton.
- No specimen can have glowing combustion remain for longer than 30 seconds after removal of the test flame.



#### HB :

- A material classed HB shall not have a burning rate exceeding 40 mm per minute over a 75 mm span for specimens having a thickness of 3.0 to 13 mm.
- A material classed HB shall not have a burning rate exceeding 75 mm per minute over a 75 mm span for specimens having a thickness less than 3.0 mm.
- A material classed HB shall cease to burn before the 100 mm reference mark.





# UTS Series

## Underwriter Laboratories

### UL1977

There are several standards which deal with plug and receptacle. Each of them is only for a small area of applications. It could be telecommunication, Etc. The UL 1977 covers single and multipole connectors intended for factory assembly.

Requirements apply to devices in taking into account intensity and voltage. There are categories as follows:

|        | 0       | 30 V<br>(42 V peak) | 600 V |
|--------|---------|---------------------|-------|
| 0      | Type 0  | Type 1A             |       |
| 8.3 A  |         |                     |       |
| 31 A   | Type 1B | Type 2              |       |
| 200 A  |         | Type 3              |       |
| 1000 A | Type 4  |                     |       |

According to above table, the level of performance that has to be reached could be different. Most of them are explained in the following page.

### Insulating materials:

Material used for electrical insulation, as a minimum, have to comply with the characteristics shown below:

• Minimum ratings for polymeric materials

| Type | Flame rating | Relative thermal index (RTI)<br>Electrical/mechanical w/o impact ** |
|------|--------------|---------------------------------------------------------------------|
| 0    | -            | 50/50                                                               |
| 1A   | HB           | 50/50                                                               |
| 1B   | HB           | 50/50                                                               |
| 2    | HB           | 50/50                                                               |
| 3    | HB           | 50/50                                                               |
| 4    | HB           | 50/50                                                               |

\* The RTI of the material shall not be lower than the temperature measured during the Temperature Test.

\*\* For a thickness less than that for which a value has been established, the RTI of the minimum thickness with an established value shall be used.

### Assembly:

Connector has to be keyed to prevent any mismatching that can damage the machine or hurt the user. In the same way, plugs and sockets have to be equipped to protect persons against contact with live parts.

Finally the identified grounding contact shall be located so that the corresponding electrical continuity has to be completed before any other contact.



## UL1977

### Spacing:

For a 250V max connector, distance through air or over material shall be 1.2mm whereas from 250V to 600V connector the spacing is 3.2 minimum. These distances have to be taken between uninsulated live parts as shown in the matrix below:

#### • Applicability of spacing requirements

| Type | Uninsulated live part - uninsulated live part of opposite polarity | Uninsulated live part - uninsulated grounded metal part | Uninsulated live part - exposed dead metal part |
|------|--------------------------------------------------------------------|---------------------------------------------------------|-------------------------------------------------|
| 0    | No                                                                 | No                                                      | No                                              |
| 1A   | Yes                                                                | Yes                                                     | Yes                                             |
| 1B   | Yes                                                                | Yes                                                     | No                                              |
| 2    | Yes                                                                | Yes                                                     | Yes                                             |
| 3    | Yes                                                                | Yes                                                     | Yes                                             |
| 4    | Yes                                                                | Yes                                                     | Yes                                             |

An alternative way to determine voltage rating is with the Dielectric-Withstand test. If during one minute there is no arc-over or breakdown the rated voltage is given as given below:

- a) 500 volts for a type 1B device
- b) 1000 volts plus twice rated voltage for types 1A, 2, 3 and 4 devices.

### Marking:

A device shall be legibly marked with the manufacturer's trade name, trade mark, or other descriptive marking by which the organisation responsible for the product may be identified. (Exception: If the device is too small, or where the legibility would be difficult to attain, the manufacturer's name, trademark, or other descriptive marking may appear on the smallest unit container or carton)

The following shall be marked on the device or on the smallest unit container or carton or on a stuffer sheet in the smallest unit container or carton:

- a) The catalogue number or an equivalent designation
- b) The electrical rating in both volts and amperes, if assigned
- c) Whether ac or dc, if restricted
- d) Flammability class, if identified

Example - Marking for the arrangement 10-3: **10A 500V UL94 V-0**





# UTS Series

## IEC 61984

The norm is dedicated to connectors with rated voltage above 50V and up to 1000V and rated currents up to 125A per contact. But depending of your application connectors should be compliant with another standard. This has to be double checked with the customer.

There are lot of constructional requirements and performances specified in that standard. Most of them are illustrated in greater details hereafter.

### Provisions for earthing:

The UTS connector is intended to be used on Class II systems. Even if the purpose of our connector is not to interrupt current, we often see a need to add a protective earth contact. Then this one shall be a "First mate, last break" style. Critically, among all of the normal assumptions we make in designing a connector, this contact has to be considered as a live part and must be protected against electric shock by double or reinforced insulation.

### IP Code:

IP is a coding system defined by the IEC 60529 to indicate the degrees of protection provided by an enclosure. The aim of this is to give information regarding the accessibility of live parts against ingress of water and other foreign bodies.



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

UTS offers high sealing performance IP68 / 69K... Even in dynamic situations.

In addition to the IEC 60529 we conjointly use the DIN 40050 part 9 which are dedicated to road vehicles. The main differences are:

- **First digit:** 5 replaced by 5K, 6 by 6K. In the DIN the tested equipment is not depressurized as it is in the IEC.
- **Second digit:** 5K and 6K has been added and are equivalent respectively to 5 and 6 but with higher pressure. 9K which represents the High pressure cleaning.

|    |                                                                                                            |
|----|------------------------------------------------------------------------------------------------------------|
| 9K | High pressure hose-proof.<br>Protection against high pressure water (out of a nozzle) from all directions. |
|----|------------------------------------------------------------------------------------------------------------|





## IEC 61984

### Overvoltage

UTS connectors are qualified to be used on systems rated at Overvoltage category III

Per the IEC 60664-1 (formerly VDE 0110) each category is linked to the end application and where the device will be implemented:

- **Category IV** (primary overcurrent protection equipment):  
Origin of the installation
- **Category III** (Any fixed installation with a permanent connection)  
Fixed installation and equipment and for cases where the reliability and the availability is subject to special requirements
- **Category II** (Domestic appliances):  
Energy consuming equipment to be supplied from the fixed installation
- **Category I** (Protected electronic circuit):  
For connection to circuit in which measures are taken to limit transient overvoltage.

### Pollution degree

Per the IEC 60664-1 (formerly VDE 0110) the environment affects the performance of the insulation. Particles can build a bridge between two metal parts. As a rule dust mixed with water can be conductive and more generally speaking metal dust is conductive. Finally, the standard defines 4 levels of pollution:

- **Degree 1** (Air conditioned dry room):  
No pollution or only dry, non conductive pollution occurs. The pollution has no influence.
- **Degree 2** (Personal computer in a residential area):  
Only non conductive pollution occurs except that occasionally a temporary conductivity caused by condensation is to be expected.
- **Degree 3** (Machine tools):  
Conductive pollution occurs or dry non-conductive pollution occurs which becomes conductive due to condensation which is to be expected.
- **Degree 4** (Equipments on roof, locomotives):  
Continuous conductivity occurs due to conductive dust, rain or other wet conditions.

Finally, the harsher the environment is, the longer clearance and creepage distances should be. Nonetheless, according the IEC 61984, enclosure rated at IP54 or higher can be dimensioned for a lower pollution degree. This applies to mated connectors disengaged for test and maintenance.

### Marking

The marking should give enough details to the user to know what the main characteristics are and without going deep in technical documentation. Below examples identify the suitability of the connector:

- **Example 1:**  
Marking of a connector with rated current 16A, rated voltage 400V, rated impulse voltage 6kV and pollution degree 3, 2 and 1 for use in any system, preferably unearthed or delta-earthed systems:

16A 400V 6kV 3

- **Example 2:**  
Marking of a connector with rated current 16A, rated insulation voltages line-to-earth 250V, line-to-line 400V, rated impulse voltage 4kV and pollution degree 3, 2 and 1 for use in earthed systems:

16A 250V 400V 4kV 3



# UTS Series

## What is NEMA rating ?

- **NEMA ratings vs IP ratings**

Whereas IP ratings only consider protection against ingress of foreign bodies - first digit - and ingress of water (second digit), **NEMA** ratings consider these but also verify protection from external ice, corrosive materials, oil immersion, etc.

The correlation between NEMA & IP being limited only to dust and water, we can state that a NEMA type is *equivalent* to an IP rating but it is not possible to say the contrary.

Below a list of some NEMA standards:

| Enclosure rating | IP20 | IP22 | IP55 | IP64 | IP65 | IP66 | IP67 |
|------------------|------|------|------|------|------|------|------|
| Type 1           | •    |      |      |      |      |      |      |
| Type 3           |      |      |      | •    |      |      |      |
| Type 3R          |      | •    |      |      |      |      |      |
| Type 3S          |      |      |      | •    |      |      |      |
| Type 4           |      |      |      |      |      | •    |      |
| Type 4X          |      |      |      |      |      | •    |      |
| Type 6           |      |      |      |      |      |      | •    |
| Type 12          |      |      | •    |      |      |      |      |
| Type 13          |      |      |      |      | •    |      |      |

- indicates compliance

Type 6 rating can be either Type 6 or Type 6P - please see below:

|    |      |                                                                                                                                                                                                                                                                                                                        |
|----|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6  | IP67 | Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment, falling dirt, hose-directed water, the entry of water during occasional temporary submersion at a limited depth and damage from external ice formation. |
| 6P | IP67 | Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment, falling dirt, hose-directed water, the entry of water during prolonged submersion at a limited depth and damage from external ice formation.            |

bits series.



UTS Series

# Annexes

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# UTS Series



## Coaxial contacts

### Coaxial cable - Contact monocrimp and multipiece

| Cable type                    | Impe-<br>dance | Contact<br>type | Ø over jacket |          | Ø over<br>dielectric |      | Inner<br>cond<br>size | Ø outer braid |          | Male contact kit<br>for coaxial cable | Female contact<br>kit for coaxial<br>cable |
|-------------------------------|----------------|-----------------|---------------|----------|----------------------|------|-----------------------|---------------|----------|---------------------------------------|--------------------------------------------|
|                               |                |                 | inch          | mm       | inch                 | mm   | Ext. Ø<br>mm          | inch          | mm       |                                       |                                            |
| RG161/U                       | 75             | Multi<br>piece  | 0.09          | 2.29     | 0.057                | 1.45 |                       |               |          | RMDXK10D28                            | RCDXK10D28                                 |
| 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                       | 50             |                 | 0.11          | 2.79 max | 0.06                 | 1.52 | 0.51                  | 0.078         | 1.98 max |                                       |                                            |
| RG174/U                       | 50             |                 | 0.11          | 2.92     | 0.06                 | 1.52 | 0.48                  | 0.088         | 2.24 max |                                       |                                            |
| AMPHENOL 21-598               | 50             |                 | 0.105         | 2.67     | 0.06                 | 1.52 | 0.48                  |               |          |                                       |                                            |
| RG196/U                       | 50             |                 | 0.08          | 2.03 max | 0.034                | 0.86 | 0.3                   |               |          |                                       |                                            |
| RG178A/U                      | 50             | Mono<br>crimp   | 0.075         | 1.91     | 0.034                | 0.86 | 0.3                   | 0.054         | 1.37 max | RMDX60-36D28                          | RCDX60-36D28                               |
| RG/188A/U                     | 50             |                 | 0.110         | 2.79     | 0.06                 | 1.52 | 0.51                  | 0.078         | 1.98 max | RMDX60-34D28                          | RCDX60-34D28                               |
| KX21TVT (europe)<br>RG178 B/U | 50             |                 | 0.075         | 1.91     | 0.034                | 0.86 | 0.3                   | 0.054         | 1.37 max | RMDX60-50D28                          | RCDX60-16D28                               |
| RG178 / BU                    | 50             |                 | 0.075         | 1.91     | 0.034                | 0.86 | 0.3                   | 0.054         | 1.37 max | RMDX60-32D28                          | RCDX60-32D28                               |
| RG174/U                       | 50             |                 | 0.115         | 2.92     | 0.06                 | 1.52 | 0.48                  | 0.088         | 2.24 max | RMDX60-36D28                          | RCDX60-36D28                               |
| RG188A/U                      | 50             |                 | 0.11          | 2.79     | 0.06                 | 1.52 | 0.51                  | 0.078         | 1.98 max | RMDX60-36D28                          | RCDX60-36D28                               |
| RG316/U                       | 50             |                 | 0.107         | 2.72     | 0.6                  | 1.52 | 0.51                  | 0.078         | 2.05 max | RMDX60-52D28                          | RCDX60-52D28                               |
| raychem 5024A3111             | 50             |                 | 0.12          | 3.05     | 0.083                | 2.11 | 0.64                  | 0.097         | 2.46     | RMDX60-36D28                          | RCDX60-36D28                               |
| raychem 5026e1614             | 50             | Multi<br>piece  | 0.083         | 2.11     | 0.05                 | 1.27 | 0.48                  | 0.067         | 1.7      | RMDX60-18D28                          | RCDX60-18D28                               |
| surprenant pn 8134            | -              |                 | 0.1           | 2.54     | 0.058                | 1.47 | 0.3                   |               |          | RMDX60-18D28                          | RCDX60-18D28                               |
| PRD PN 247AS-<br>C1123-001    | -              |                 | 0.103         | 2.62     | 0.06                 | 1.52 | 0.51                  | 0.078         | 1.98     | RMDX60-36D28                          | RCDX60-36D28                               |
| PRD PN 247AS-C1251            | -              |                 | 0.092         | 2.34     | 0.05                 | 1.27 | 0.64                  | 0.067         | 1.7      | RMDX60-46D28                          | RCDX60-16D28                               |
| JUDD C15013010902             | -              |                 | 0.087         | 2.13     | 0.05                 | 1.27 | 0.48                  | 0.066         | 1.67     | RMDX60-50D28                          | RCDX60-16D28                               |
| CDC PIN22939200               | -              |                 | 0.09          | 2.29     | 0.048                | 1.22 | 0.3                   | 0.064         | 1.63     | RMDX60-50D28                          | RCDX60-16D28                               |
| CDC PIN22939200               | -              |                 | 0.09          | 2.29     | 0.048                | 1.22 | 0.3                   | 0.064         | 1.63     | RMDX60-50D28                          | RCDX60-16D28                               |
| CDC PIN245670000              | -              |                 | 0.104         | 2.64     | 0.067                | 1.7  | 0.3                   | 0.083         | 2.11     | RMDX60-32D28                          | RCDX60-32D28                               |
| ampex                         | -              | Mono<br>crimp   | 0.114         | 2.9      | 0.075                | 1.91 | 0.38                  | 0.09          | 1.29     | RMDX60-24D28                          | RCDX60-24D28                               |
| TI PN 920580                  | -              |                 | 0.7           | 1.78     | 0.038                | 0.96 | 0.48                  | 0.054         | 1.37     | RMDX60-26D28                          | RCDX60-26D28                               |
| Honeywell PN<br>58000062      | -              |                 | 0.12          | 3.05     | 0.077                | 1.96 | 0.41<br>solid         | 0.096         | 2.44     | RMDX60-50D28                          | RCDX60-50D28                               |
| -                             | -              |                 | 0.104         | 2.64     | 0.067                | 1.7  | 0.3                   |               | 2.11     | RMDX60-50D28                          | RCDX60-50D28                               |
| -                             | -              |                 | 0.09          | 2.29     | 0.048                | 1.22 | 0.3                   |               | 1.63     | RMDX60-32D28                          | RCDX60-32D28                               |
| -                             | -              |                 | 0.114         | 2.9      | 0.075                | 1.91 | 0.38                  |               | 1.29     | RMDX60-24D28                          | RCDX60-24D28                               |
| -                             | -              |                 | 0.07          | 1.78     | 0.038                | 0.96 | 0.48                  |               | 1.37     | RMDX60-26D28                          | RCDX60-26D28                               |
| -                             | -              |                 | 0.12          | 3.05     | 0.077                | 1.96 | 0.41                  |               | 2.44     |                                       |                                            |



# UTS Series

## Twisted cable - Contact monocrimp and multipiece

| Cable type                                                   | Contact type   | Inner<br>AWG<br>cond | Ø over jacket<br>(single wire) |             | Inner cond size        |              | Ø outer<br>braid |         | Male<br>contact kit for<br>coaxial cable | Female<br>contact kit for<br>coaxial cable |
|--------------------------------------------------------------|----------------|----------------------|--------------------------------|-------------|------------------------|--------------|------------------|---------|------------------------------------------|--------------------------------------------|
|                                                              |                |                      | inch                           | mm          | Stranded<br>definition | Ext. Ø<br>mm | inch             | mm      |                                          |                                            |
| 2#24 stranded mil w 16878 type B                             | Multi<br>piece | 24                   | 0.049                          | 1.24<br>max | 7/.008                 |              | -                | -       | RMDXK10D28                               | RCDXK10D28                                 |
| 2 #24 solid mil-w-76 type LW                                 |                | 24                   | 0.047                          | 1.12<br>max | 1/.0201                |              | -                | -       | RMDXK10D28                               | RCDXK10D28                                 |
| 2 #26 stranded mil w 76 type LW<br>or mil w16878 type b&e    |                | 26                   | 0.043                          | 1.09<br>max | 7/.0063                | 0.16         | -                | -       | RMDXK10D28                               | RCDXK10D28                                 |
| 2 #28 solid mil-w-81822/3                                    |                | 28                   | 0.028                          | 0.71<br>max |                        |              | -                | -       | RMDXK10D28                               | RCDXK10D28                                 |
| TWISTED PAIR 1/.201 SOLID MIL<br>w 76 TYPE lw or MIL W 16878 |                | 26                   | 0.044                          | 1.12<br>max | 1/.0201                | 0.511        | -                | -       | RMDXK10D28                               | RCDXK10D28                                 |
| twisted pair solid mil w 81822/3                             |                | 28                   | 0.028                          | 0.71<br>max | 1/.0126                | 0.32         | -                | -       | RMDXK10D28                               | RCDXK10D28                                 |
| #28 7/.0036 per Hitachi spec<br>ec-711 (13-2820)             | Mono<br>crimp  | -                    | 0.046                          | 1.17        | 7/.0036                | -            | -                | -       | RMDX60-31D28<br>+ YORX090                | RCDX60-31D28<br>+ YORX090                  |
| 20218201                                                     |                | -                    | 0.028                          | 0.71        | -                      | -            | -                | -       | RMDX60-31D28<br>+ YORX090                | RCDX60-31D28<br>+ YORX090                  |
| #30 solid                                                    |                | -                    | 0.025                          | 0.64        | -                      | -            | -                | -       | RMDX60-15D28<br>+ YORX090                | RCDX60-15D28<br>+ YORX090                  |
| #26 7/.0063                                                  |                | 26                   | 0.028                          | 0.71        | 7/.063                 | 0.16         | -                | -       | RMDX60-31D28<br>+ YORX090                | RCDX60-31D28<br>+ YORX090                  |
| #26 19/.004                                                  |                | 26                   | 0.049                          | 1.24        | 19/.004                | -            | -                | -       | RMDX60-19D28<br>+ YORX090                | RCDX60-19D28<br>+ YORX090                  |
| #24 7/.008                                                   |                | 24                   | 0.049                          | 1.24        | 7/.008                 | -            | -                | -       | RMDX60-19D28<br>+ YORX090                | RCDX60-19D28<br>+ YORX090                  |
| #24 19/.005                                                  |                | 24                   | 0.057                          | 1.45        | 19/.005                | -            | -                | -       | RMDX60-19D28<br>+ YORX090                | RCDX60-19D28<br>+ YORX090                  |
| -                                                            |                | 26                   | -                              | 1.25        | -                      | -            | -                | 19x0.1  | RMDX60-19D28<br>+ YORX090                | RCDX60-19D28<br>+ YORX090                  |
| -                                                            |                | 24                   | -                              | 1.25        | -                      | -            | -                | 7x0.2   | RMDX60-19D28<br>+ YORX090                | RCDX60-19D28<br>+ YORX090                  |
| -                                                            |                | 24                   | -                              | 1.45        | -                      | -            | -                | 19x0.13 | RMDX60-19D28<br>+ YORX090                | RCDX60-19D28<br>+ YORX090                  |
| -                                                            |                | 26                   | -                              | 0.7         | -                      | -            | -                | 7x0.16  | RMDX60-31D28<br>+ YORX090                | RCDX60-31D28<br>+ YORX090                  |

# UTS Series

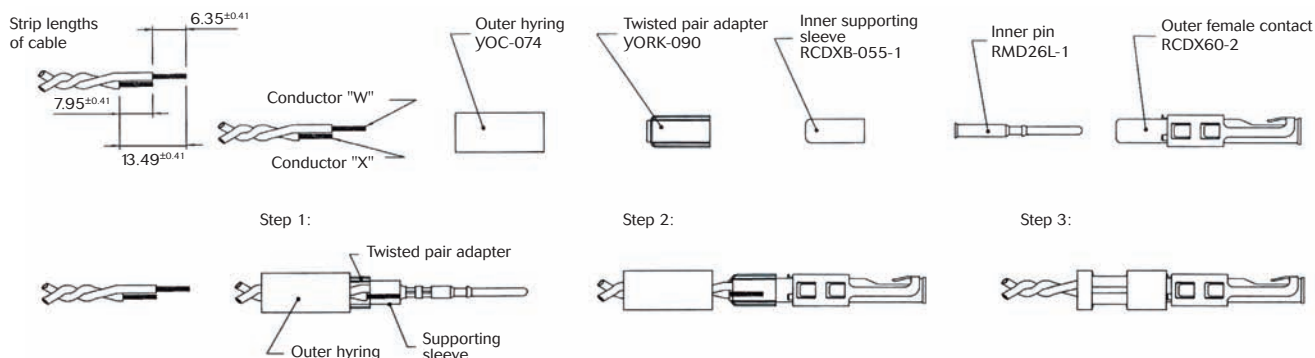


## Coaxial contacts

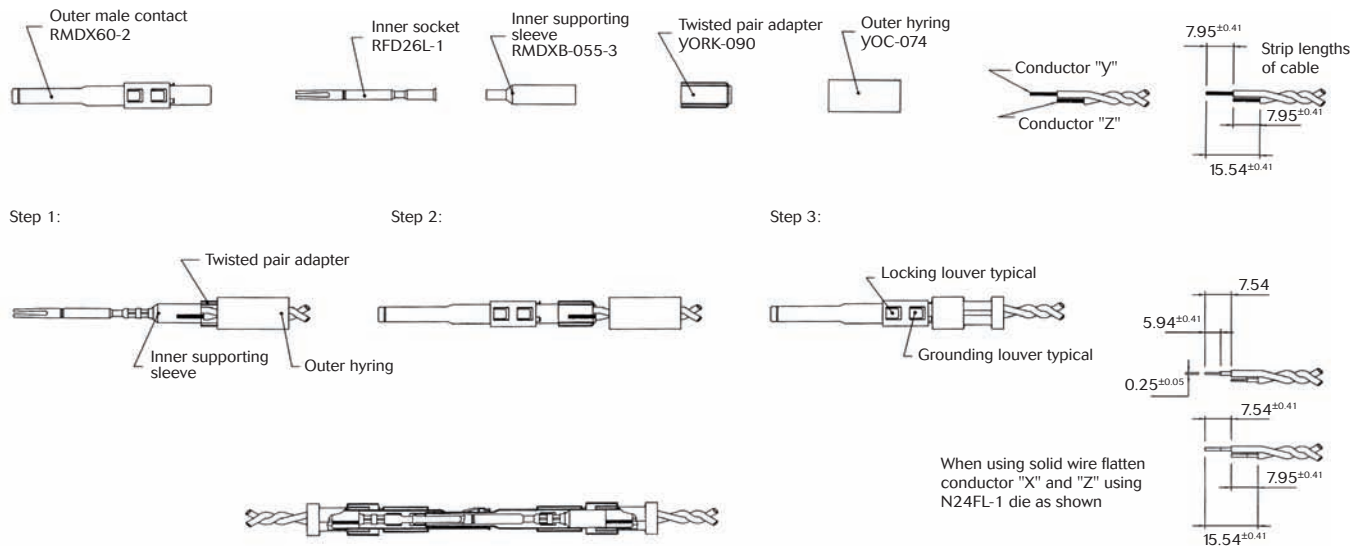
### Twisted pair cable multipiece contact cabling

| Cable reference                                           | Contact type | Male contact | Female contact | Crimp tool | Die set | Stop bushing | Cable strip length  |   |   | Inner conductor crimp |       | Braid crimp |       |
|-----------------------------------------------------------|--------------|--------------|----------------|------------|---------|--------------|---------------------|---|---|-----------------------|-------|-------------|-------|
|                                                           |              |              |                |            |         |              | A                   | B | C | g dim                 | t dim | g dim       | t dim |
| 2#24 stranded mil w 16878 type B                          | Multi piece  | RMDXK10D28   | RCDXK10D28     | M10S-1J    | -       | -            | See assembly notice |   |   |                       |       |             |       |
| 2 #24 solid mil-w-76 type LW                              |              |              |                |            |         |              |                     |   |   |                       |       |             |       |
| 2 #26 stranded mil w 76 type LW or mil w 16878 type b&e   |              |              |                |            |         |              |                     |   |   |                       |       |             |       |
| 2 #28 solid mil-w-81822/3                                 |              |              |                |            |         |              |                     |   |   |                       |       |             |       |
| TWISTED PAIR 1/.201 SOLID MIL w 76 TYPE lw OR MIL W 16878 |              |              |                |            |         |              |                     |   |   |                       |       |             |       |
| twisted pair solid mil w 81822/3                          |              |              |                |            |         |              |                     |   |   |                       |       |             |       |

#### Female contact



#### Male contact



Note : all dimensions are in mm



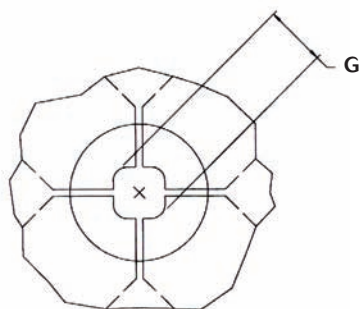
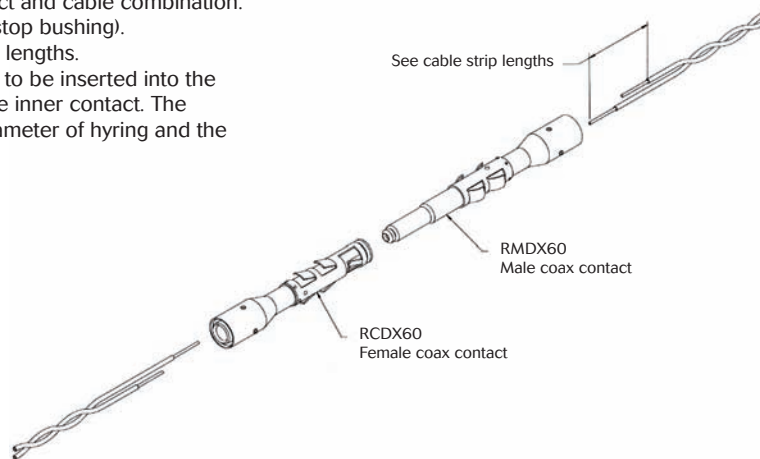
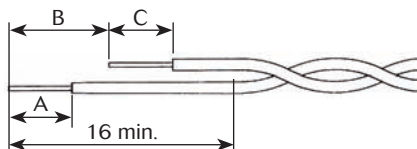
# UTS Series

## Twisted pair cable monocrimp contact cabling

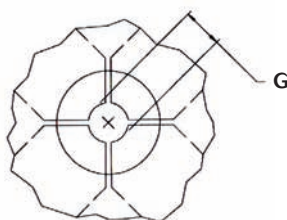
| Cable reference                               | Contact type | Male contact           | Female contact         | Crimp tool | Die set                                              | Stop bushing | Cable strip length |     |      | Inner conductor crimp |              | Braid crimp  |              |
|-----------------------------------------------|--------------|------------------------|------------------------|------------|------------------------------------------------------|--------------|--------------------|-----|------|-----------------------|--------------|--------------|--------------|
|                                               |              |                        |                        |            |                                                      |              | A                  | B   | C    | g dim                 | t dim        | g dim        | t dim        |
| #28 7/.0036 per Hitachi spec ec-711 (13-2820) | Mono crimp   | RMDX60-31D28 + YORX090 | RCDX60-31D28 + YORX090 | M10S-1J    | S-80                                                 | SL-105       | 4.7                | 6.1 | 4.32 | 1.30 to 1.12          | 1.4 to 1.22  | 2.97 to 2.84 | 3.07 to 2.9  |
| 20218204                                      |              |                        |                        |            | S-80                                                 | SL-105       | 3.94               | 6.1 | 3.16 | 1.30 to 1.17          | 1.4 to 1.22  | 2.97 to 2.84 | 3.07 to 2.79 |
| #30 solid                                     |              |                        |                        |            | S-83                                                 | SL-105       | 4.7                | 6.1 | 4.06 | 1.22 to 1.12          | 1.35 to 1.22 | 2.97 to 2.84 | 3.12 to 2.95 |
| #26 7/.0063                                   |              |                        |                        |            | S-80                                                 | SL-105       | 4.7                | 6.1 | 4.06 | 1.30 to 1.17          | 1.4 to 1.22  | 2.97 to 2.84 | 3.07 to 2.9  |
| #26 19/.004                                   |              |                        |                        |            | M10SG8 ASSY Y TOOL DIE SET STOP BUSHING M10S-1J TOOL |              | 4.7                | 6.1 | 4.06 | 1.22 to 1.17          | 1.35 to 1.22 | 2.84 to 2.79 | 3.12 to 2.97 |
| #24 7/.008                                    |              |                        |                        |            |                                                      |              | 4.7                | 6.1 | 4.06 | 1.22 to 1.17          | 1.35 to 1.22 | 2.84 to 2.79 | 3.12 to 2.97 |
| #24 19/.005                                   |              |                        |                        |            |                                                      |              | 4.7                | 6.1 | 4.06 | 1.22 to 1.17          | 1.35 to 1.22 | 2.84 to 2.79 | 3.12 to 2.97 |
| AWG26 (19x0.1)                                |              |                        |                        |            | M10SG8 crimping kit                                  |              | 4.7                | 6   | 4    |                       |              |              |              |
| AWG24 (7x0.2)                                 |              |                        |                        |            |                                                      |              |                    |     |      |                       |              |              |              |
| AWG24 (19x0.13)                               |              |                        |                        |            |                                                      |              |                    |     |      |                       |              |              |              |
| AWG26 (7x0.16)                                |              |                        |                        |            | S-80                                                 | SL-150       |                    |     |      |                       |              |              |              |

- Select appropriate monocrimp coax twisted pair contact and cable combination.
- Select appropriate crimp tooling (hand tool, S-die set, stop bushing).
- Strip the twisted pair cable to the designated wire strip lengths.
- Insert the stripped cable into the contact. One cable is to be inserted into the inside diameter of hyring, and pushed forward into the inner contact. The second cable is to be inserted between the outside diameter of hyring and the inside diameter of the outer contact body.
- Crimp the contact.

Cable strip length



Braid crimp (G) to be measured with die set fully closed



Inner conductor crimp (G) to be measured with die set fully closed

Note : all dimensions are in mm





## Coaxial contacts

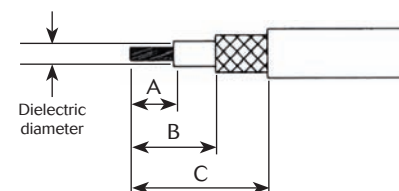
### Multipiece male contact with coax cable

| Cable reference    | Outer contact       | Hyring complementary compoments | Crimp tool | Die set | Stop bushing | Inner contact | Die set | Stop bushing | Cable strip length |      |       |
|--------------------|---------------------|---------------------------------|------------|---------|--------------|---------------|---------|--------------|--------------------|------|-------|
|                    |                     |                                 |            |         |              |               |         |              | A                  | B    | C     |
| RG161U             | Male:<br>RMDXK10D28 | YOC074                          | M10S-1J    | S22-1   | SL47-1       | RFD26L1D28    | S23D2   | SL46D2       | 4.37               | 7.95 | 15.88 |
| RG179              |                     |                                 |            |         |              |               |         |              | 4.37               | 7.95 | 15.88 |
| RG187U             |                     |                                 |            |         |              |               |         |              | 4.37               | 7.95 | 15.88 |
| RG188/U            |                     |                                 |            |         |              |               |         |              | 4.37               | 7.95 | 15.88 |
| RG174/U            |                     | YOC074 + RMDXB0553              |            |         |              |               | S26D2   |              | 4.37               | 7.95 | 15.88 |
| RG178A/U           |                     |                                 |            |         |              |               | S23D2   |              | 7.54               | 9.12 | 17.53 |
| RG196U             |                     |                                 |            |         |              |               |         |              | 7.54               | 9.12 | 17.53 |
| AMPHENOL 21-598    |                     |                                 |            |         |              |               | YOC074  |              | -                  | 4.37 | 7.95  |
| surprenant pn 8134 |                     | -                               |            |         |              |               |         |              | 4.37               | 7.95 | 15.88 |

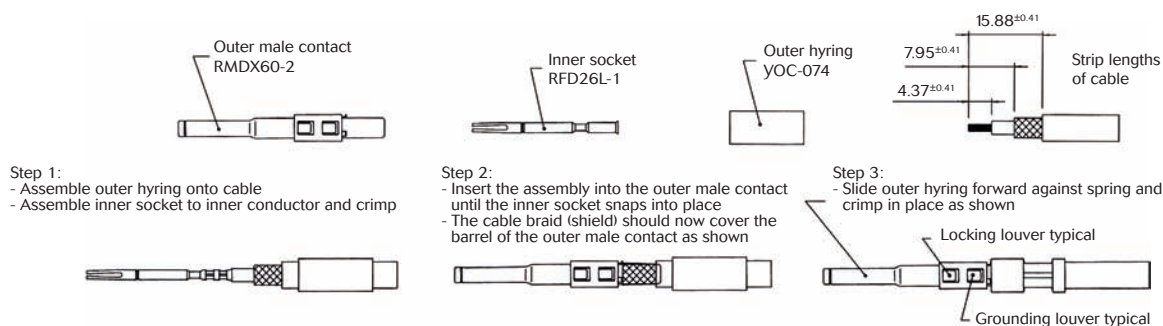
#### Multipiece kit details

|                     |            |                         |
|---------------------|------------|-------------------------|
| RMDXK10D28 includes | RMDX602D28 | Body contact            |
|                     | RFD26L1D28 | Inner contact           |
|                     | YOC-074    | Outer hyring            |
|                     | RMDXB0553  | Inner supporting sleeve |

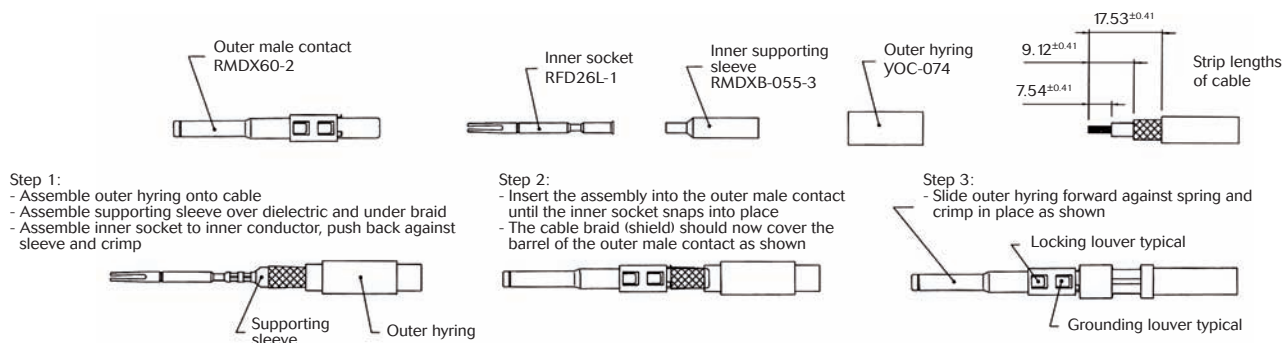
#### Cable strip length



#### Contact assembly with dielectric diameter over 1.4mm - without inner supporting sleeve



#### Contact assembly with dielectric diameter under 1.4mm - with inner supporting sleeve



Note : all dimensions are in mm



# UTS Series

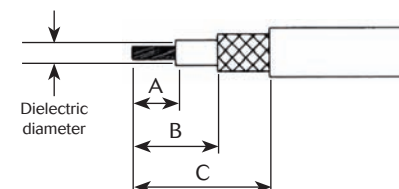
## Multipiece female contact with coax cable

| Cable reference    | Outer contact         | Hying complementary compoments | Crimp tool | Die set | Stop bushing | Inner contact | Die set | Stop bushing | Cable strip length |   |       |
|--------------------|-----------------------|--------------------------------|------------|---------|--------------|---------------|---------|--------------|--------------------|---|-------|
|                    |                       |                                |            |         |              |               |         |              | A                  | B | C     |
| RG161U             | Female:<br>RCDXK10D28 | YOC074                         | M10S-1J    | S22-1   | SL47-1       | RMD26L1D28    | S23D2   | SL46D2       | 4.37               | - | 11.13 |
| RG179              |                       |                                |            |         |              |               | S23D2   |              | 4.37               |   | 11.13 |
| RG187U             |                       |                                |            |         |              |               |         |              | 4.37               |   | 11.13 |
| RG188/U            |                       |                                |            |         |              |               |         |              | 4.37               |   | 11.13 |
| RG174/U            |                       |                                |            |         |              |               |         |              | 4.37               |   | 11.13 |
| RG178A/U           |                       | YOC074 + RMDXB0553             |            |         |              |               | S23D2   |              | 6.35               |   | 11.13 |
| RG196U             |                       |                                |            |         |              |               |         |              | 6.35               |   | 11.13 |
| AMPHENOL 21-598    |                       | YOC074                         |            |         |              |               | -       |              | 4.37               |   | 11.13 |
| surprenant pn 8134 |                       |                                |            |         |              |               | -       |              | 4.37               |   | 11.13 |

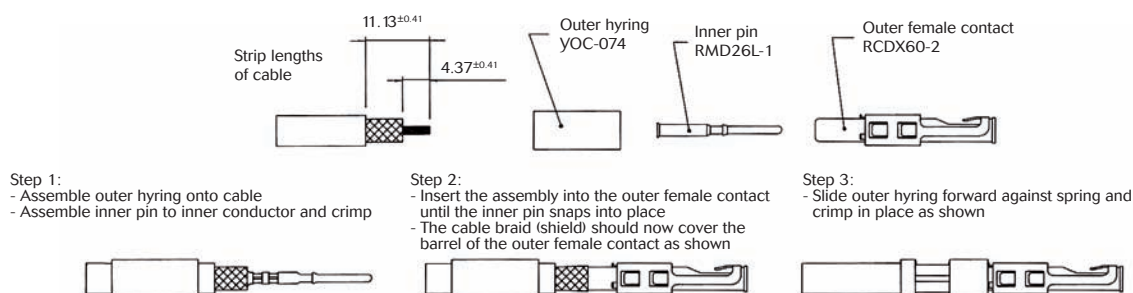
### Multipiece kit details

|                     |            |                         |
|---------------------|------------|-------------------------|
| RCDXK10D28 includes | RCDX602D28 | Body contact            |
|                     | RMD26L1D28 | Inner contact           |
|                     | YOC-074    | Outer hying             |
|                     | RCDXB0553  | Inner supporting sleeve |

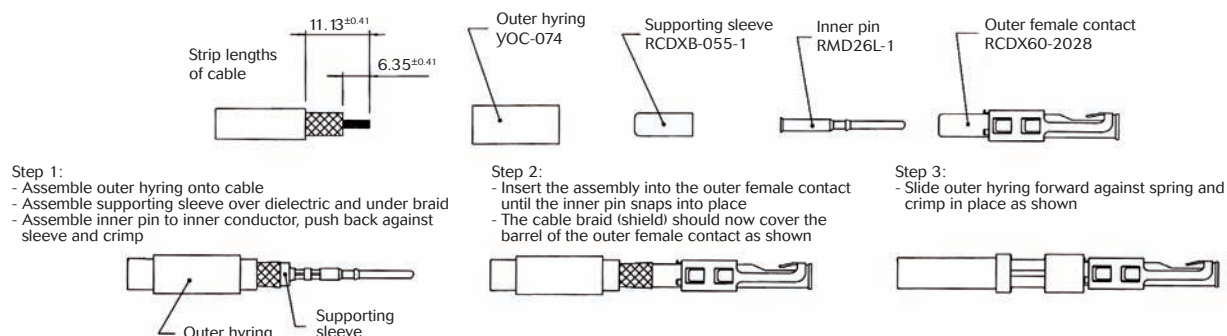
### Cable strip length



### Contact assembly with dielectric diameter over 1.4mm - without inner supporting sleeve



### Contact assembly with dielectric diameter under 1.4mm - with inner supporting sleeve



Note : all dimensions are in mm

# UTS Series



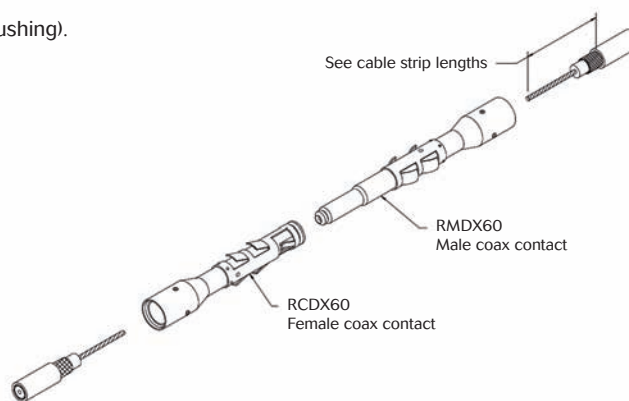
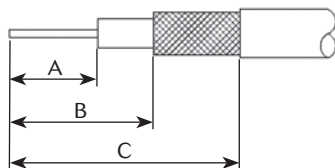
## Coaxial contacts

### Coax cable with monocrimp contact cabling

| Cable reference                     | Male contact | Female contact | Crimp tool | Die set                                                       | Stop bushing | Cable strip length |      |       | Inner conductor crimp |           | Braid crimp |           |
|-------------------------------------|--------------|----------------|------------|---------------------------------------------------------------|--------------|--------------------|------|-------|-----------------------|-----------|-------------|-----------|
|                                     |              |                |            |                                                               |              | A                  | B    | C     | g dim                 | t dim     | g dim       | t dim     |
| CDC PIN22939200                     | RMDX60-46D28 | RCDX60-16D28   | M10S-1J    | S-80                                                          | SL-105       | 4.19               | 5.97 | 8.51  | 1.30/1.17             | 1.40/1.22 | 2.77/2.64   | 3.02/2.84 |
| CDC PIN22939200                     | RMDX60-46D28 | RCDX60-16D28   |            | S-87                                                          | SL-105       | 5.08               | 6.35 | 8.89  | 1.30/1.17             | 1.40/1.22 | 2.77/2.64   | 3.02/2.84 |
| CDC PIN245670000                    | RMDX60-50D28 | RCDX60-16D28   |            | S-80                                                          | SL-105       | 5.08               | 6.35 | 8.89  | 1.30/1.17             | 1.40/1.22 | 2.97/2.84   | 3.12/2.95 |
| KX21TVT (europe)<br>RG178 B/U       | RMDX60-34D28 | RCDX60-34D28   |            | S-82                                                          | SL-105       | 5.08               | 6.35 | 8.89  | 1.30/1.17             | 1.32/1.17 | 2.84/2.74   | 3.07/2.9  |
| RG178 / BU                          | RMDX60-50D28 | RCDX60-16D28   |            | S-87                                                          | SL-105       | 5.08               | 6.35 | 8.89  | 1.30/1.17             | 1.40/1.22 | 2.77/2.64   | 3.02/2.84 |
| ampex                               | RMDX60-32D28 | RCDX60-32D28   |            | S-80                                                          | SL-105       | 5.08               | 6.35 | 11.68 | 1.30/1.17             | 1.40/1.22 | 2.97/2.84   | 3.12/2.95 |
| TI PN 920580                        | RMDX60-24D28 | RCDX60-24D28   |            | S-82                                                          | SL-105       | 5.08               | 6.35 | 8.89  | 1.35/1.19             | 1.42/1.27 | 2.87/2.74   | 3.07/2.9  |
| RG174/U                             | RMDX60-32D28 | RCDX60-32D28   |            | S-80                                                          | SL-105       | 5.08               | 6.35 | 11.68 | 1.30/1.17             | 1.40/1.22 | 2.97/2.84   | 3.12/2.95 |
| Honeywell PN<br>58000062            | RMDX60-26D28 | RCDX60-26D28   |            | S-82                                                          | SL-105       | 5.08               | 6.35 | 8.89  | 1.35/1.19             | 1.42/1.27 | 2.87/2.74   | 3.07/2.9  |
| RG188A/U                            | RMDX60-36D28 | RCDX60-36D28   |            | S-80                                                          | SL-105       | 5.08               | 6.35 | 11.68 | 1.30/1.17             | 1.40/1.22 | 2.97/2.84   | 3.12/2.95 |
| RG316/U                             | RMDX60-36D28 | RCDX60-36D28   |            | S-80                                                          | SL-105       | 5.08               | 6.35 | 11.68 | 1.30/1.17             | 1.40/1.22 | 2.97/2.84   | 3.12/2.95 |
| PRD PN<br>247AS-C1123-001           | RMDX60-18D28 | RCDX60-18D28   |            | M10SG8 ASSY/Y<br>TOOL DIE SET<br>STOP BUSHING<br>M10S-1J TOOL |              | 5.08               | 6.35 | 8.89  | 1.22/1.17             | 1.35/1.22 | 2.92/2.79   | 3.12/2.97 |
| PRD PN 247AS-C1251                  | RMDX60-18D28 | RCDX60-18D28   |            |                                                               |              | 5.08               | 6.35 | 8.89  | 1.22/1.17             | 1.35/1.22 | 2.92/2.79   | 3.12/2.97 |
| raychem 5024A3111                   | RMDX60-52D28 | RCDX60-52D28   |            | S-88                                                          | SL-105       | 5.08               | 6.35 | 11.68 | 1.37/1.27             | 1.45/1.32 | 2.92/2.79   |           |
| raychem 5026e1614                   | RMDX60-36D28 | RCDX60-36D28   |            | M10SG8 ASSY/Y<br>TOOL DIE SET<br>STOP BUSHING<br>M10S-1J TOOL |              | 5.08               | 6.35 | 8.89  | 1.22/1.17             | 1.35/1.22 | 2.92/2.79   | 3.12/2.97 |
| JUDD C15013010902                   | RMDX60-36D28 | RCDX60-36D28   |            |                                                               |              | 5.08               | 6.35 | 8.89  | 1.22/1.17             | 1.35/1.22 | 2.92/2.79   | 3.12/2.97 |
| inner cond. #30,<br>braid diam 2.64 | RMDX60-50D28 | RCDX60-50D28   |            | S-80                                                          | SL-105       | 5.1                | 6.35 | 8.9   | -                     | -         | -           | -         |
| inner cond. #30,<br>braid diam 2.29 | RMDX60-50D28 | RCDX60-50D28   |            | S-87                                                          | SL-105       | 4.2                | 6.35 | 8.5   | -                     | -         | -           | -         |
| inner cond. #28,<br>braid diam 2.9  | RMDX60-32D28 | RCDX60-32D28   |            | S-80                                                          | SL-105       | 5.1                | 6.35 | 11.7  | -                     | -         | -           | -         |
| inner cond. #26,<br>braid diam 1.78 | RMDX60-24D28 | RCDX60-24D28   |            | S-82                                                          | SL-105       | 5.1                | 6.35 | 8.9   | -                     | -         | -           | -         |
| inner cond. #26,<br>braid diam 3.05 | RMDX60-26D28 | RCDX60-26D28   |            | S-82                                                          | SL-105       | 5.1                | 6.35 | 8.9   | -                     | -         | -           | -         |

- Select appropriate cable and contact combination.
- Select appropriate crimp tooling (hand tool, S-die set, stop bushing).
- Strip coax cable to the designated wire strip lengths.
- Insert the stripped coax into the rear of the contact.
- Crimp the contact.

Cable strip length



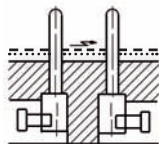


# UTS Series

## Glossary of terms

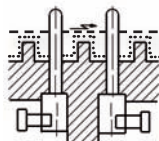
- **Clearance**

Per the IEC 60664-1 it is the shortest distance between two conductive parts even over the air.



- **Creepage distance**

Per the IEC 60664-1 it represents the shortest distance along the surface of the insulating material between two conductive parts.



— — — — — Air gap  
..... Creepage distance

- **Working voltage**

Per the IEC 60664-1 it is the highest r.m.s. value of A.C. or D.C. voltage across any particular insulation which can occur when the equipment is supplied at rated voltage.

- **Rated impulse voltage**

Impulse withstands voltage value assigned by the manufacturer to the equipment or to a part of it characterizing the specified withstand capability of its insulation against transient overvoltage.

- **Working current**

It is the maximum continuous and not interrupted current able to be carried by all contacts without exceeding the maximum temperature of the insulating material.

- **Transient voltage**

Extract from the IEC 60664-1: Short duration overvoltage of a few millisecond or less, oscillatory or non-oscillatory, usually highly damped.

- **CTI (Comparative Tracking Index)**

The CTI value is commonly used to characterize the electrical breakdown properties of an insulating material. It allows users to know the tendency to create creepage paths. This value represents the maximum voltage after 50 drops of ammonium chloride solution without any breakdown.

- **RTI (Relative temperature Index):**

Extract from ULs website:

“Maximum service temperature for a material, where a class of critical property will not be unacceptably compromised through chemical thermal degradation, over the reasonable life of an electrical product, relative to a reference material having a confirmed, acceptable corresponding performance defined RTI.

- **RTI Elec:** Electrical RTI, associated with critical electrical insulating properties.

- **RTI Mech Imp:** Mechanical Impact RTI, associated with critical impact resistance, resilience and flexibility properties.

- **RTI Mech Str:** Mechanical Strength (Mechanical without Impact) RTI, associated with critical mechanical strength where impact resistance, resilience and flexibility are not essential”



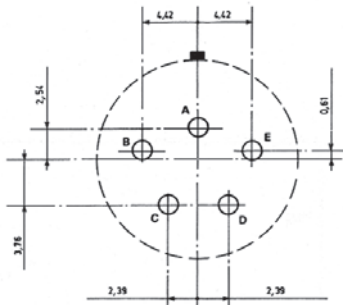
## Drilling patterns (terminations viewed from male rear face, soldering side)

|                  |                  |                      |                |
|------------------|------------------|----------------------|----------------|
| <div>8D2</div>   | <div>8D3</div>   | <div>8D3A/8D98</div> | <div>8D4</div> |
| <div>8D33</div>  | <div>10D6</div>  | <div>10D7</div>      |                |
| <div>10D98</div> | <div>12D2</div>  | <div>12D3</div>      |                |
| <div>12D8</div>  | <div>12D10</div> | <div>12D14</div>     |                |

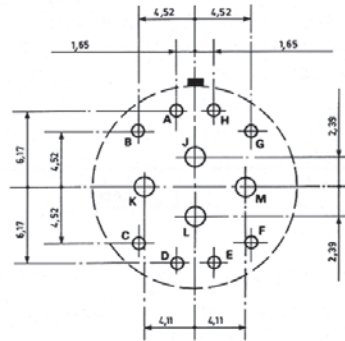


# UTS Series

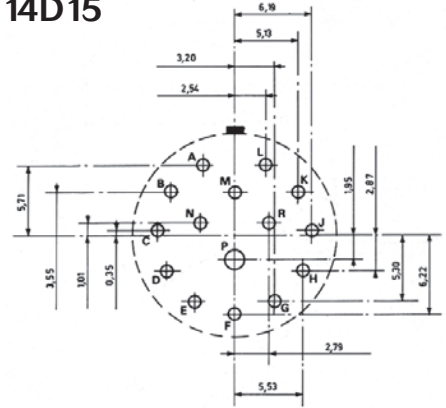
**14D5**



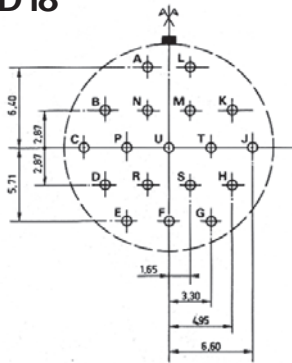
**14D12**



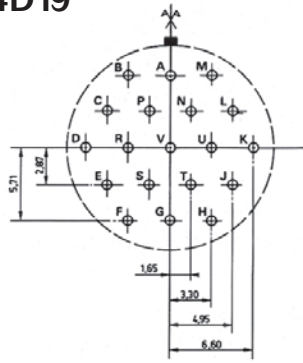
**14D15**



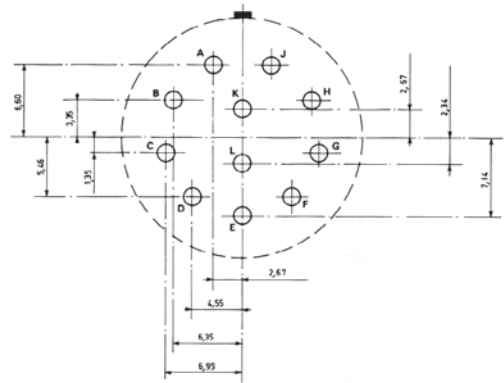
**14D18**



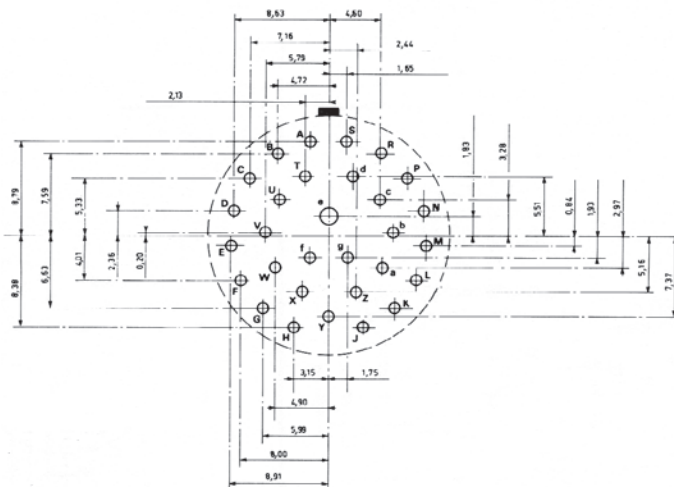
**14D19**



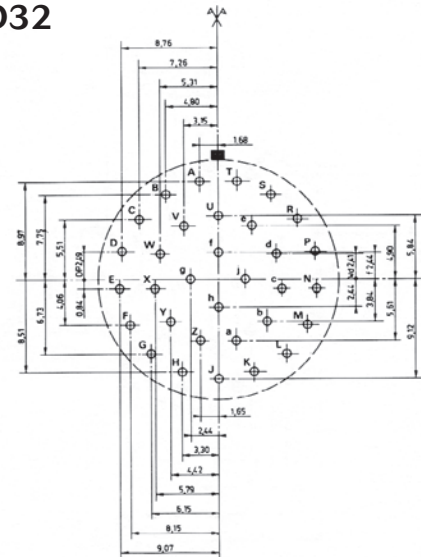
**18D11**



**18D30**

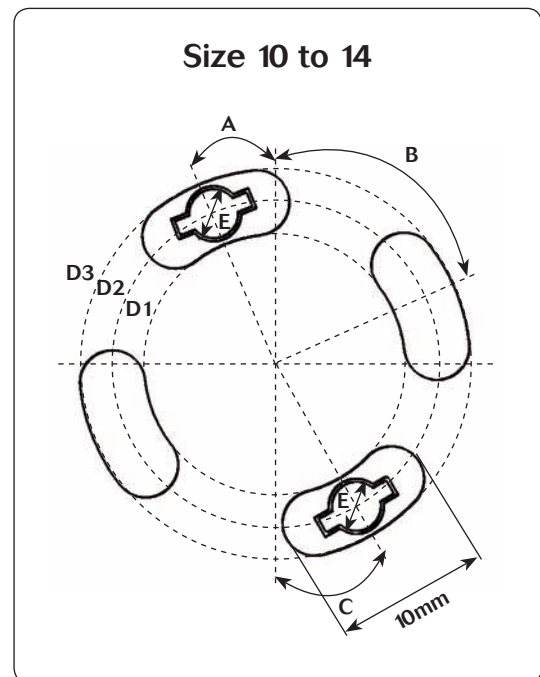
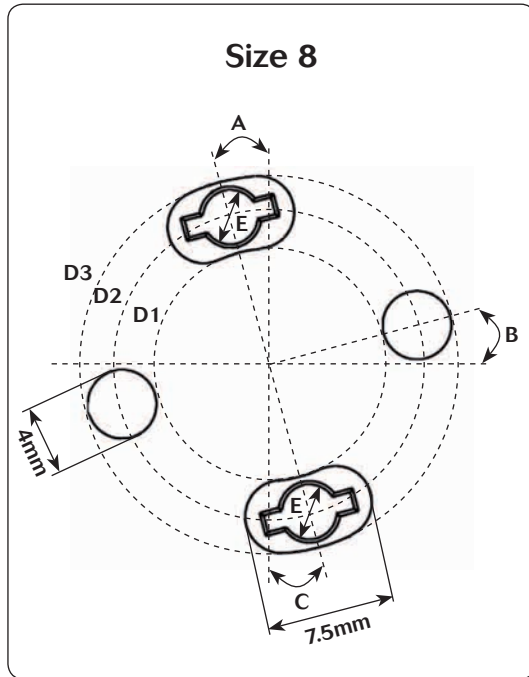


**18D32**





## Stand off dimensions - Drilling pattern (PCB view)



| Shell size | Angle A | Angle B | Angle C | Ø Internal diameter D1 | Diameter D2 | Ø External diameter D3 | Ø E |
|------------|---------|---------|---------|------------------------|-------------|------------------------|-----|
| 8          | 15°     | 15°     | 15°     | 13.5                   | 17.7        | 22                     | 3.1 |
| 10         | 22°     | 68°     | 30°     | 17                     | 21.25       | 25.5                   |     |
| 12         |         |         |         | 22                     | 26.25       | 30.5                   |     |
| 14         |         |         | 22°     | 24                     |             | 32.5                   |     |

Note : all dimensions are in mm



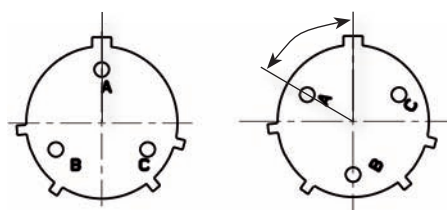


## Discrimination/Keying methods

In applications where similar connectors are used next to each other, mismatching can be a reason for disturbances, system failure or even danger to operating personnel.

To eliminate mismatching, all TRIM TRIO® connectors can be equipped with discrimination keys, which offer unlimited possibilities for an error avoiding interconnection system.

The other way around is to rotate the insert into the shell.



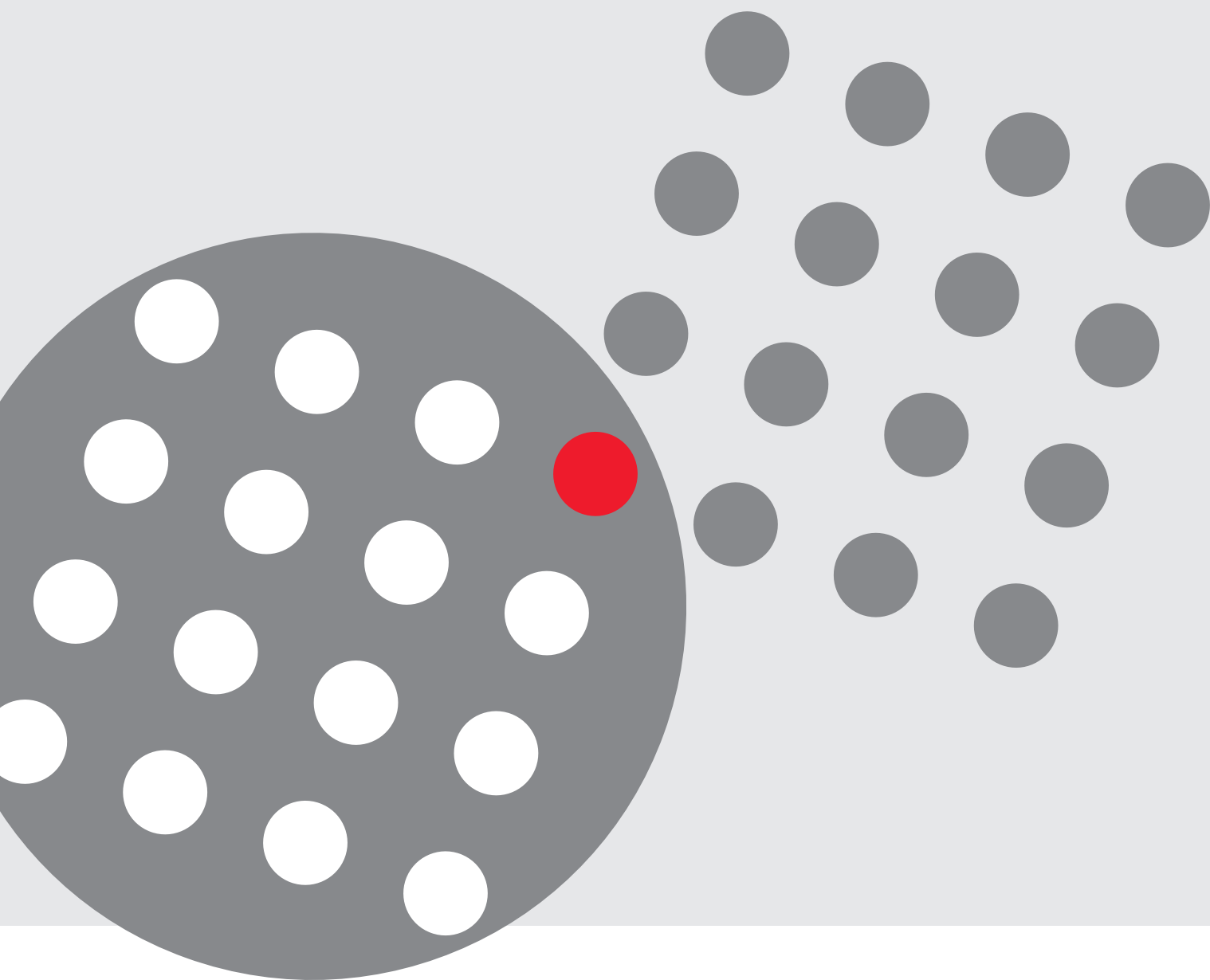
N (Normal)

*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.

| Shell size | Layout         | Discrimination keys degrees |      |      |      |
|------------|----------------|-----------------------------|------|------|------|
|            |                | W                           | X    | Y    | Z    |
| 8          | 8E2            | 58°                         | 122° |      |      |
|            | 8E3<br>8E3A    | 60°                         | 210° |      |      |
|            | 8E4            | 45°                         |      |      |      |
|            | 8E33           | 90°                         |      |      |      |
| 10         | 102W2<br>103   |                             |      |      |      |
|            | 104<br>106     | 45°                         |      |      |      |
|            | 10E6<br>10E7   | 90°                         |      |      |      |
|            | 10E98          | 90°                         | 180° | 240° | 270° |
| 12         | 12E2           |                             |      |      |      |
|            | 12E3           |                             |      | 180° |      |
|            | 124            |                             |      |      |      |
|            | 128            | 26°                         |      |      |      |
|            | 12E8           | 90°                         | 112° | 203° | 292° |
|            | 12 10<br>12E10 | 60°                         | 155° | 270° | 295° |
|            | 12E14          | 45°                         |      |      |      |
| 14         | 14E5           | 40°                         | 92°  | 184° | 273° |
|            | 142G1<br>147   |                             |      |      |      |
|            | 1412           | 60°                         |      |      |      |
|            | 14E12          | 43°                         | 90°  |      |      |
|            | 14E15          | 17°                         | 110° | 155° | 234° |
|            | 14E18          | 15°                         | 90°  | 180° | 270° |
|            | 1419           | 30°                         | 165° | 315° |      |
|            | 14E19          | 30°                         | 165° | 315° |      |
| 18         | 18E11          | 62°                         | 119° | 241° | 340° |
|            | 1823           |                             | 158° |      | 270° |
|            | 18E30          | 180°                        | 193° | 285° | 350° |
|            | 1832<br>18E32  | 85°                         | 138° | 222° | 265° |





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