



## Contacts



### Description

The UTS series is delivered with (solder and PCB versions) or without contact (crimp version). When contacts are not loaded, this 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.



## 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

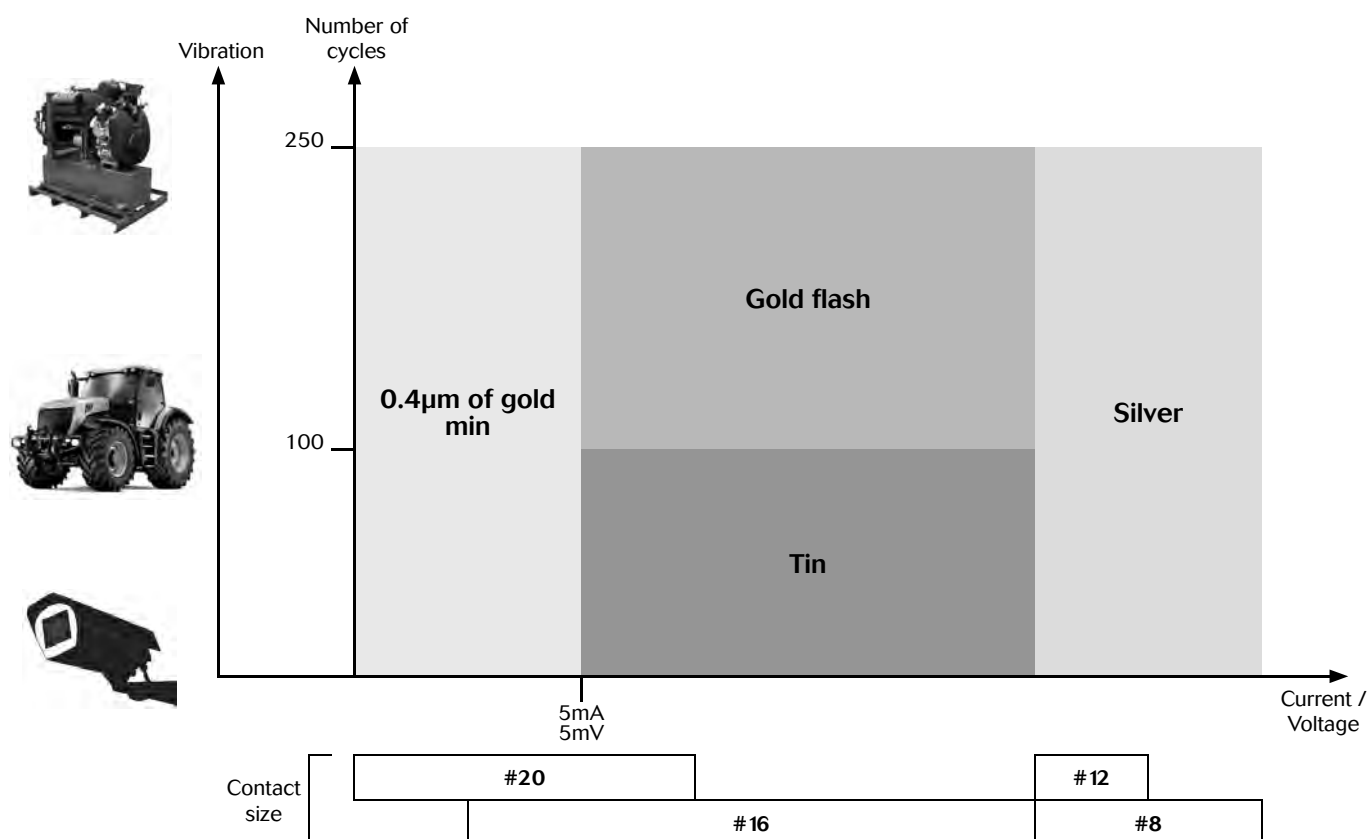
Machined contacts are generally chosen for low quantities purpose as well as a better solution for power applications.

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:

*NB: do not mix different plating (e.g. tin plated pin contact with gold plated socket contact).*





### Contact selector guide

#### Contact preloaded

| Electrical characteristics:<br>contact resistance |          |       |
|---------------------------------------------------|----------|-------|
| #20<br>Ø1mm                                       | Machined | < 4mΩ |
| #16<br>Ø1.6mm                                     | Machined | < 3mΩ |

#### Available platings (contact preloaded)

Min 0.4μ gold over 2μ Ni

#### Contact supply separately

| Electrical characteristics:<br>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 (contact supply separately)

|            |                                                                                            |
|------------|--------------------------------------------------------------------------------------------|
| A          | 2μ Ni + 2μ Ag                                                                              |
| J          | Gold flash over 2μ Ni                                                                      |
| K          | Min 0.4μ gold over 2μ Ni                                                                   |
| S31        | Active part: Gold flash over Ni<br>Crimp area: Nickel                                      |
| S18        | Active part: 0.75μ gold min<br>over 2μ Ni<br>Crimp area: 1.3μ tin over Ni<br>Other: Nickel |
| S25<br>S26 | Active part: 0.75μ Au over Ni<br>Crimp area: flash Au over Ni                              |
| T          | T: 2μ Ni mini all over +<br>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):

#### Size contacts #20 & #16



- 25 pieces bulk packing (stamped & formed contacts)



- 50 pieces bulk packing (machined contacts)



- 1000 pieces bulk packing (machined contacts)



- 3000 pieces reeled (stamped & formed contacts)



- 5000 pieces reeled (machined contacts)

#### Size contacts #12 & #8



- 100 pieces bulk packing (stamped & formed contacts)



### Crimp contacts

#### Standard version



| Contact size   | Type             | Wire size |           | Part number                   |                               | Max wire Ø | Max insulator Ø    | Plating available                 |
|----------------|------------------|-----------|-----------|-------------------------------|-------------------------------|------------|--------------------|-----------------------------------|
|                |                  | AWG       | mm²       | Male                          | Female                        |            |                    |                                   |
| #20<br>Ø1 mm   | Machined         | 26-24     | 0.13-0.20 | RM24W3K                       | RC24W3K                       |            | 1.58 max           | K                                 |
|                | Stamped & Formed | 26-24     | 0.13-0.25 | SM24W3 - (1)                  | SC24W3 - (1)                  |            | 0.89-1.58          | TK6<br>S25 (female)<br>S26 (male) |
|                |                  |           |           | SM24WL3 - (2)                 | SC24WL3 - (2)                 |            |                    |                                   |
|                | Machined         | 22-20     | 0.32-0.52 | RM20W3K                       | RC20W3K                       |            | 1.58 max           | K                                 |
|                | Stamped & Formed | 22-20     | 0.35-0.5  | SM20W3 - (1)                  | SC20W3 - (1)                  |            | 1.17-2.08          | TK6<br>S25 (female)<br>S26 (male) |
|                |                  |           |           | SM20WL3 - (2)                 | SC20WL3 - (2)                 |            |                    |                                   |
| #16<br>Ø1.6 mm | Machined         | 20-18     | 0.50-0.93 | RM18W3K                       | RC18W3K                       |            | 2.10 max           | K                                 |
|                | 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                | K, J, T                           |
|                | Stamped & Formed | 26-24     | 0.13-0.25 | SM24M1 - (1)<br>SM24ML1 - (2) | SC24M1 - (1)<br>SC24ML1 - (2) | 0.89-1.28  | Insulation grip    | S31, S18, TK6                     |
|                |                  |           |           |                               |                               |            |                    |                                   |
|                | Machined         | 22-20     | 0.32-0.52 | RM20M13 -<br>RM20M12 -        | RC20M13 -<br>RC20M12 -        | 1.18       | 1.8<br>2.2         | K, J, T                           |
|                |                  |           |           |                               |                               |            |                    |                                   |
|                | Stamped & Formed | 22-20     | 0.35-0.5  | SM20M1 - (1)<br>SM20ML1 - (2) | SC20M1 - (1)<br>SC20ML1 - (2) | 1.17-2.08  | Insulation grip    | S31, S18, TK6                     |
|                |                  |           |           |                               |                               |            |                    |                                   |
|                | Machined         | 20-16     | 0.52-1.5  | RM16M23 -                     | RC16M23 -                     | 1.8        | 3.2                | K, J, T                           |
|                | Stamped & Formed | 18-16     | 0.8-1.5   | SM16M1 - (1)<br>SM16ML1 - (2) | SC16M1 - (1)<br>SC16ML1 - (2) | 3.0        | No insulation grip | S31, S18, TK6                     |
|                |                  |           |           |                               |                               |            |                    |                                   |
| #12<br>Ø2.4 mm | Machined         | 22        | 0.13-0.4  | 82911457NA                    | 82911456A                     | -          | 4.9                | A, K                              |
|                |                  | 20        | 0.5       | 82911459NA                    | 82911458A                     |            |                    |                                   |
|                |                  | 18        | 0.75-1.0  | 82911461NA                    | 82911460A                     |            |                    |                                   |
|                |                  | 16        | 1.5       | 82911463NA                    | 82911462A                     |            |                    |                                   |
|                |                  | 14        | 2.5       | 82911465NA                    | 82911464A                     |            |                    |                                   |
|                |                  | 12        | 4         | 82911467NA                    | 82911466A                     |            |                    |                                   |
| #8<br>Ø3.6 mm  | Machined         | 16        | 1.5       | 82913601A                     | 82913600A                     | -          | 6.5                | A                                 |
|                |                  | 14        | 2.5       | 82913603A                     | 82913602A                     |            |                    |                                   |
|                |                  | 12        | 4         | 82913605A                     | 82913604A                     |            |                    |                                   |
|                |                  | 10        | 6.0       | 82913607A                     | 82913606A                     |            |                    |                                   |
|                |                  | 8         | 10.0      | 82913609A                     | 82913608A                     |            |                    |                                   |

(1) contact reeled (2) loose contact

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



## Crimp contacts

### First Mate Last Break contacts

| Contact size                                      | Type     | Wire size |           | Part number |             | Max wire Ø | Max insulator Ø |  |      | 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  |                   |
|                                                   |          |           |           | RM20M12GE1□ |             |            | 2.2             | Blue                                                                                | Red  |                   |
|                                                   |          | 20-16     | 0.52-1.5  | RM16M23GE1□ |             | 1.8        | 3.2             | -                                                                                   | Red  |                   |
|                                                   |          | 16-14     | 1.5-2.5   | RM14M50GE1□ |             | 2.05       | -               | -                                                                                   | Red  |                   |
|                                                   |          | 16-14     | 1.5-2.5   | RM14M30GE1□ |             | 2.28       | -               | -                                                                                   | Red  |                   |
| #16<br>Ø1.6 mm<br>Shorter female 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 |                   |

Example: RM16M3GE1K - Size # 16, Machined, Longer male, AWG16 wire.

### How to make FMLB / LMFB connection

| Contact 1<br>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



## #16 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.



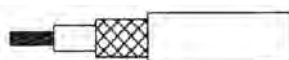
#### Multipiece crimp coaxial contact

- 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 |                                            |                     |
| Multipiece   | RMDXK10D28    | RCDXK1D28      | See page 176                               | See pages 180 & 181 |
| Monocrimp    | RMDX60xxD28   | RCDX60xxD28    |                                            | See page 182        |

#### Contacts for twisted pairs cable summary

| Contact type | Contact range           |                        | Contact part number with cable combination | Cabling notice |
|--------------|-------------------------|------------------------|--------------------------------------------|----------------|
|              | Male contact            | Female contact         |                                            |                |
| Multipiece   | RMDXK10D28<br>+ YORK090 | RCDXK1D28<br>+ YORK090 | See page 177                               | See page 178   |
| Monocrimp    | RMDX60xxD28             | RCDX60xxD28            |                                            | See page 179   |