

Contacts

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Contacts



Description

The UTS series is delivered with (solder, PCB versions and screw termination) or without contact (crimp version) and offers the unique feature to use the same contact style in any layout with the same active part size (i.e. #20, #16, #12, etc.). This provides our customers with an easy solution to buy only one type of contact to equip all their connectors even if housings/shell sizes are different.

This provides the benefit of standardization and subsequent reduced inventory costs. In addition, it eliminates the need for added tooling and simplifies the assembly process. SOURIAU contacts are designed for simple snap-in installation and further eliminate the need for insertion tooling.

In addition to the below "crimp" style contact options, the UTS series can also be equipped with PCB contacts.

Crimp contacts are available in different versions:



• Machined



• Stamped & Formed



• Coaxial



• Fiber Optic

Contact Plating Selector Guide

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

- Machined
- Stamped & Formed

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

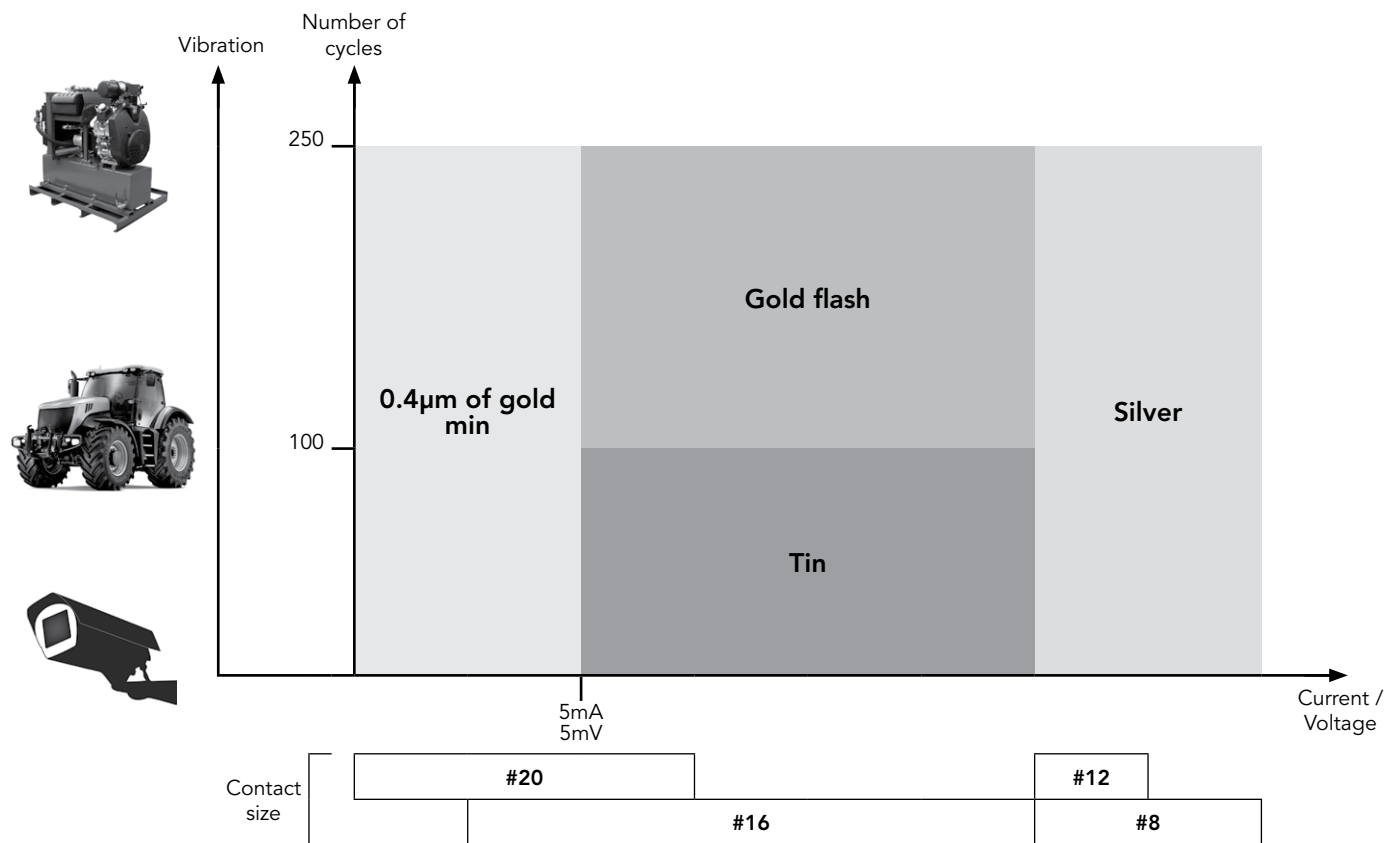
Stamped & Formed contacts offer the ability to be crimped automatically which makes them more suitable for high volume production applications.

The next decision to make is: What plating should I choose?

The graph below can help guide you to plating recommendations based on application, mating cycles and current/voltage needs.

Note: To avoid galvanic couples, fretting corrosion and at the end interruption of electrical signal do not mix different platings (i.e. tin plated pin contacts with gold plated socket contacts).

If customer mixes different contact platings, Souriau can't guarantee electrical performances.



Contact Selector Guide

Contacts supplied separately

Electrical characteristics: contact resistance		
#20 Ø1.0mm	Machined	< 6mΩ
	Stamped & Formed	< 6mΩ
#16 Ø1.6mm	Machined	< 3mΩ
	Stamped & Formed	< 6mΩ
#12 Ø2.4mm	Machined	< 5mΩ
#8 Ø3.6mm	Machined	< 5mΩ

Available platings (contacts supplied 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 Crimp area: Nickel
S18	Active part: 0.75μ gold min over 2μ Ni Crimp area: 1.3μ tin over Ni Other: Nickel
S25 S26	Active part: 0.75μ Au over Ni Crimp area: flash Au over Ni
TK6	2-5μ Sn pre-plated
D70	Superseded by S31
S6	Superseded by S18
Other platings on request (contacts supplied separately)	
T	T: 2μ Ni mini all over + 3 to 5 μm Sn all over
D28	0.75μ gold over Ni
NPC	2 μm Ni

Contact preloaded

Electrical characteristics: contact resistance		
#20 Ø1.0mm	Machined	< 4mΩ
#16 Ø1.6mm	Machined	< 3mΩ

Available plating (contact preloaded)	
Min 0.4μ gold over 0.8μ Ni	

Packaging

Due to the wide variety of applications, contact packaging is offered for small series (bulk package) and high volume production (reeled contacts):

Size contacts #20 (Ø1.0mm) & #16 (Ø1.6mm)



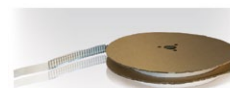
- 25 pieces loose package (Stamped & Formed contacts)



- 50 pieces bulk package (Machined contacts)



- 1,000 pieces bulk package (Machined contacts)



- 3,000 pieces reeled (Stamped & Formed contacts)



- 2,000 pieces reeled (Machined contacts)

Size contacts #12 (Ø2.4mm) & #8 (Ø3.6mm)



- 100 pieces bulk package (Machined contacts)

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

Crimp Contacts

Standard Version



Contact size	Type	Wire size		Part number		Max wire Ø	Max insulator Ø	Available plating see page 164
		AWG	mm ²	Male	Female			
#20 Ø1.0mm Ø0.039"	Machined	26-24	0.13-0.20	RM24W3K	RC24W3K	-	0.062" max	K
	Stamped & Formed	26-24	0.13-0.20	SM24W3-(1)	SC24W3-(1)	-	0.035"-0.062"	TK6 S25 (female) S26 (male)
				SM24WL3-(2)	SC24WL3-(2)			
	Machined	22-20	0.32-0.52	RM20W3K	RC20W3K	-	0.062" max	K
				SM20W3-(1)	SC20W3-(1)			
	Stamped & Formed	22-20	0.33-0.52	SM20WL3-(2)	SC20WL3-(2)	-	0.046"-0.081"	TK6 S25 (female) S26 (male)
				SM20W3-(1)	SC20W3-(1)			
	Machined	20-18	0.52-0.80	RM18W3K	RC18W3K	-	0.082" max	K
#16 Ø1.6mm Ø0.062"	Machined	30-28	0.05-0.08	RM28M1-	RC28M1-	0.021"	0.043"	K, J
	Machined	26-24	0.13-0.20	RM24M9-	RC24M9-	0.031"	0.062"	K, J
	Stamped & Formed	26-24	0.13-0.20	SM24M1-(1)	SC24M1-(1)	0.035"-0.050"	Insulation grip	S31, S18, TK6
				SM24ML1-(2)	SC24ML1-(2)			
	Machined	22-20	0.32-0.52	RM20M13-	RC20M13-	0.046"	0.070"	K, J
				RM20M12-	RC20M12-		0.086"	
	Stamped & Formed	22-20	0.35-0.52	SM20M1-(1)	SC20M1-(1)	0.046"-0.081"	Insulation grip	S31, S18, TK6
				SM20ML1-(2)	SC20ML1-(2)			
	Machined	20-16	0.52-1.31	RM16M23-	RC16M23-	0.070"	0.125"	K, J
	Stamped & Formed	18-16	0.80-1.31	SM16M1-(1)	SC16M1-(1)	0.118"	No insulation grip	S31, S18, TK6
SM16ML1-(2)				SC16ML1-(2)				
Stamped & Formed	18-16	0.80-1.31	SM16M11-(1)	SC16M11-(1)	0.078"-0.118"	Insulation grip	S31, S18, TK6	
			SM16ML11-(2)	SC16ML11-(2)				
Machined	16-14	1.31-20.8	RM14M30-	RC14M30-	0.089"	0.125"	K, J	
Stamped & Formed	14	2.08	SM14M1-(1)	SC14M1-(1)	0.125"	No insulation grip	S31, S18, TK6	
			SM14ML1-(2)	SC14ML1-(2)				
#12 Ø2.4mm Ø0.094"	Machined	22	0.32	82911457N-	82911456-	-	0.192"	A, K
		20	0.52	82911459N-	82911458-			
		18	0.80	82911461N-	82911460-			
		16	1.31	82911463N-	82911462-			
		14	2.08	82911465N-	82911464-			
		12	3.31	82911467N-	82911466-			
#8 Ø3.0mm Ø0.141"	Machined	16	1.31	82913601A	82913600A	-	0.255"	A
		14	2.08	82913603A	82913602A			
		12	3.31	82913605A	82913604A			
		10	5.26	82913607A	82913606A			
		8	8.37	82913609A	82913608A			

(1) contact reeled (2) loose contact
Example: RM24W3K - Size #20, Machined, AWG24 wire.

Note: all dimensions are in inches, other wise noted

Crimp Contacts (Continued)

First Mate Last Break Contacts

Contact size	Type	Wire size		Part number		Max wire Ø (mm)	Max insulator Ø (mm)	Color band		Available plating see p. 164
		AWG	mm ²	Male	Female			Front	Rear	
#16 Ø0.062" Longer male contact (+0.039")	Machined	30-28	0.05-0.08	RM28M1GE1K	-	0.021"	0.043"	-	Red	K
		26-24	0.13-0.20	RM24M9GE1K		0.031"	0.062"	Red	Red	
		22-20	0.32-0.52	RM20M13GE1K		0.046"	0.070"	Black	Red	
				RM20M12GE1K			0.086"	Blue	Red	
		20-16	0.52-1.31	RM16M23GE1K		0.070"	0.125"	-	Red	
		16-14	1.31-2.08	RM14M30GE1K		2.28	-	-	Red	
#16 Ø0.062" Shorter female contact (-0.027")	Machined	30-28	0.05-0.08	-	RC28M1GE7K	0.021"	0.043"	-	Blue	K
		26-24	0.13-0.20		RC24M9GE7K	0.031"	0.062"	Red	Blue	
		22-20	0.32-0.52		RC20M13GE7K	0.046"	0.070"	Black	Blue	
					RC20M12GE7K		0.086"	Blue	Blue	
		20-16	0.52-1.31		RC16M23GE7K	0.070"	0.125"	-	Blue	
		16-14	1.31-2.08		RC14M30GE7K	0.089"	-	-	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	✓		✓ FMLB
Shorter female contact	✓ LMFB		

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



Ground symbol

Note: all dimensions are in inches

#16 Coaxial Contacts

Coaxial Contact Range

SOURIAU provides 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 0.070" to 0.120"
Inner conductor up to 0.096" diameter



- For jacket diameter from 0.025" to 0.057"
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 200	See pages 204 & 205
Monocrimp	RMDX60xxD28	RCDX60xxD28		See page 206

Contacts for twisted pairs cable summary

Contact type	Contact range		Contact part number with cable combination	Cabling notice
	Male contact	Female contact		
Multipiece	RMDXK10D28 + YORK090	RCDXK1D28 + YORK090	See page 201	See page 202
Monocrimp	RMDX60xxD28	RCDX60xxD28		See page 203

PCB Contacts

PCB Contacts Supplied Separately - UTS Standard Series

PCB soldering

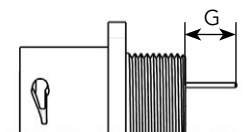
The UTS Series can be used in a wave soldering process, but not reflow soldering process. All high temperature processes are prohibited.



Contact size	Part number		Plating see page 164
	Male	Female	
#20 Ø0.039"	RMW50A7K RMW5016K	RCW50A7K RCW5016K	K
#16 Ø0.062"	RM20M12E8K RM20M12E83K RM20M12E84K	RC20M12E8K RC20M12E83K RC20M12E84K RC20M12E85K RC20M12E86K RC20M12E87K	K
#8 Ø0.141"	82911685NPC	82911684NPC	2 µm Ni

Nominal length G (inches)

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



UTS0 with PCB contacts #16

Connector size	Pin contact			Socket contact			
	RM20M12E8K*	RM20M12E83K*	RM20M12E84K*	RC20M12E8K*	RC20M12E83K*	RC20M12E84K*	RC20M12E87K*
10	0.165"	0.370"	0.507"	0.165"	0.370"	0.507"	0.255"
12	0.141"	0.346"	0.484"	0.165"	0.370"	0.507"	0.255"
14	0.129"	0.334"	0.472"	0.102"	0.307"	0.444"	0.192"
18	0.165"	0.366"	0.507"	0.165"	0.370"	0.507"	0.255"

UTS7 with PCB contacts #20 and #16

Connector size	Pin contact				Socket contact		
	RM20M12E83K*	RM20M12E84K*	RMW50A7K*	RMW5016K*	RC20M12E84K*	RCW50A7K*	RCW5016K*
10	0.287"	0.425"	0.330"	0.366"	0.141"	0.330"	0.366"
12	0.287"	0.425"	0.330"	0.366"	0.153"	0.330"	0.366"
14	0.287"	0.425"	0.330"	0.366"	0.141"	-	-
18	0.318"	0.456"	0.330"	0.366"	0.141"	-	-

UTS7 with PCB contacts #16 and #8

Connector type	Pin contact		Socket contact	
	RM20M12E83K*	82911685NPC*	RC20M12E87K*	82911684NPC*
UTS7142G1P	-	0.251"	-	-
UTS7142G1S	-	-	-	0.322"
UTS7142G1SNPT	-	0.228"	-	0.212"
UTS718X2M3	0.192"	0.177"	0.114"	0.204"
UTS7183G1SNPT	-	-	-	0.164"

* Plating indication see page 164

Note: all dimensions are in inches

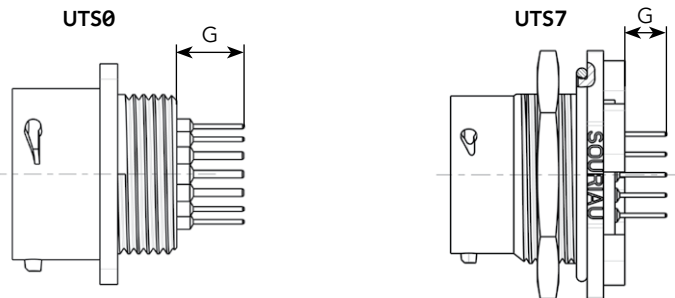
PCB Contacts Loaded - UTS Sealed Unmated Series

PCB soldering

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

Nominal length G (inches)

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



UTS0

Connector size	Connector Part Number	Pin contact		Socket contact	
		G mini	G maxi	G mini	G maxi
8	8D2 - 8D3 8D4	0.283"	0.362"	0.275"	0.354"
	8D3A/8D98 8D33	0.318"	0.409"	0.318"	0.397"
10	10D6 - 10D98 10D7	0.318"	0.401"	0.318"	0.405"
12	12D2 - 12D3 12D8 - 12D10	0.318"	0.401"	0.318"	0.405"
	12D4	0.322"	0.393"	0.318"	0.405"
	12D14	0.283"	0.354"	0.279"	0.362"
14	14D5 - 14D12 - 14D15 14D18 - 14D19	0.318"	0.401"	0.318"	0.405"
	14D7	0.322"	0.393"	0.318"	0.405"

UTS7

Connector size	Connector Part Number	Pin contact		Socket contact	
		G mini	G maxi	G mini	G maxi
8	8D2 - 8D3 8D4	0.149"	0.240"	0.145"	0.232"
	8D3A/8D98 8D33	0.185"	0.287"	0.185"	0.275"
10	10D6 - 10D98 10D7	0.185"	0.287"	0.185"	0.275"
12	12D2 - 12D3 12D8 - 12D10	0.185"	0.287"	0.185"	0.275"
	12D4	0.192"	0.279"	0.185"	0.275"
	12D14	0.149"	0.232"	0.149"	0.232"
14	14D5 - 14D12 - 14D15 14D18 - 14D19	0.188"	0.287"	0.192"	0.275"
	14D7	0.192"	0.279"	0.192"	0.275"

Note: all dimensions are in inches

Fiber Optic Contacts

Description

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

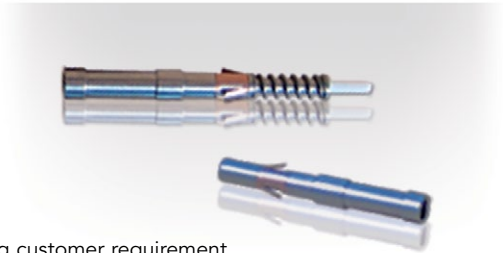
Size 16 fiber optic contacts are designed for the integration of optical links in UTS and other TRIM TRIO® cable connectors.

The Fiber optic contacts are designed to accommodate:

- Plastic Optical Fiber (POF) 0.039" core and 0.086" 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

- Fiber type: POF
- Wave length: 650 nm
- Optical insertion loss (typ.): 2 dB max.
- Jacketed external diameter: 0.086"
- Temperature range: -25°C to +70°C
- Cable retention: 49N
- 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, UTL.

Ordering Information

POF Contacts (Plastic Optical Fiber)

Male contact RMPOF1000

Female contact RCPOF1000B

POF Contact (Plastic Optical Fiber)

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 0.019", 0.023", 0.027" & 0.149"
80WM0006	Ruler
80WP0005	Polishing plate
80WP0013	Non slip base (to hold the polishing plate)
80WP0014	Polishing disk (grain size 9µm)
80WP0018	Polishing tool
80WP0019	Polishing disk (grain size 30µm)
80WS0002	Crimping plier

SPECIFIC TOOLING LIST - Can only be ordered separately

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

UTS SERIES