

Tooling

Crimp Tool Table

Standard contacts

Contact size	Part number	Head*	Handles*	Extraction tools
#20 Ø0.039"	RM/RC 24W3K	S2ØRCM	SHANDLES	RX2ØD44
	RM/RC 2ØW3K			
	RM/RC 18W3K			
	SM 24WL3S*(1)	S2ØSCM2Ø		
	SC 24WL3S*(1)			
SM/SC 2ØWL3S*(1)	S16RCM2Ø	RX2Ø25GE1		
RM/RC 28M1*				
RM/RC 24M9*				
RM/RC 2ØM13*				
RM/RC 2ØM12*				
RM/RC 16M23*		S16RCM16		
RM/RC 14M3Ø*		S16RCM14		
SM/SC 24ML1*(1)		S16SCM2Ø		
SM/SC 2ØML1*(1)		S16SCML1		
SM/SC 16ML1*(1)				
SM/SC 14ML1*(1)				
SM/SC 16ML11*(1)	S16SCML11			

(1) loose contact * endurance of SHANDLES & Head tools = 50,000 cycles

Contact size	Part number	Tool with separate locator			Extraction tools
		Hand tool	Positioner + locator setting		
#12 Ø0.094"	82911457N* / 82911456*	M317	VGE1ØØ77A	1-2	51Ø6Ø21Ø924
	82911459N* / 82911458*			2	
	82911461N* / 8291146Ø*			2	
	82911463N* / 82911462*			3	
	82911465N* / 82911464*			3	
	82911467N* / 82911466*			4	
#8 Ø0.141"	829136Ø1A / 829136ØØA	M317	VGE1ØØ78A	3	51Ø6Ø21Ø936
	829136Ø3A / 829136Ø2A			3	
	829136Ø5A / 829136Ø4A			4	
	829136Ø7A / 829136Ø6A			5	
	829136Ø9A / 829136Ø8A			6/7	

* see page 165 for plating options and other contact details

Specific contacts (First mate Last break contacts)




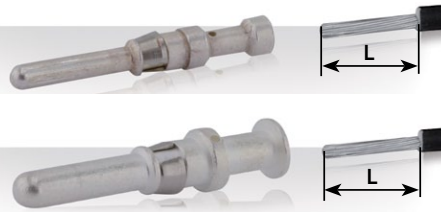
Contact size	Part number*	Hand tools (SHANDLES) head	Tool with separate locator			Extraction tools			
			Hand tool	Positioner + locator setting					
#16 Ø0.062" Longer RM contact	RM28M1GE1K	S16RCM2Ø	-	-	-	RX2Ø25GE1			
	RM24M9GE1K								
	RM2ØM13GE1K								
	RM16M23GE1K	S16RCM16					MH86Ø	MH86186	6/8
	RM2ØM12GE1K	S16RCM14					-	-	-
RM14M3ØGE1K	S16RCM2Ø	MH86Ø	MH86164G	4/6					
RC28M1GE7K				5/6					
RC24M9GE7K				5/7					
RC2ØM13GE7K				6/8					
RC2ØM12GE7K				S16RCM16	M317		UH25	3	
RC16M23GE7K									
RC14M3ØGE7K	S16RCM14								

* see page 164 for plating options and other contact details



Coaxial contacts

See coax contacts details on page 167 and cabling notice pages 202 to 206.

Stripping & Crimping Instructions

Wire Stripping Crimp Version			
	Part number		Stripping length L (inches)
	Male	Female	
Machined contact	#20 (Ø0.039")		
	RM24W3- / RM20W3- RM18W3-	RC24W3- / RC20W3- RC18W3-	0.188"
	#16 (Ø0.062")		
	RM28M1- / RM24M9- RM20M13- / RM20M12-	RC28M1- / RC24M9- RC20M13- / RC20M12-	0.188"
	RM16M23- / RM14M30-	RC16M23- / RC14M30-	0.279"
	#8 (Ø0.141")		
	82913601- / 82913603- 82913605- / 82913607- 82913609-	82913600- / 82913602- 82913604- / 82913606- 82913608-	0.255" to 0.295"
Stamped & Formed	#16 (Ø0.062")		
With insulation support	SM24M1- / SM24ML1- SM20M1- / SM20ML1-	SC24M1- / SC24ML1- SC20M1- / SC20ML1-	0.157"
	SM16M11- / SM16ML11-	SC16M11- / SC16ML11-	0.183"
	#20 (Ø0.039")		
	SM24W3- / SM24WL3- SM20W3- / SM20WL3-	SC24W3- / SC24WL3- SC20W3- / SC20WL3-	0.157"
Without insulation support	#16 (Ø0.062")		
	SM16M1- / SM16ML1-	SC16M1- / SC16ML1-	0.250"
	SM14M1- / SM14ML1-	SC14M1- / SC14ML1-	0.250"
Power Contacts Machined	#12 (Ø0.094")		
	82911457- / 82911459- 82911461- / 82911463- 82911465- / 82911467-	82911456- / 82911458- 82911460- / 82911462- 82911464- / 82911466-	0.275" to 0.314"
	#8 (Ø0.141")		
	82913601- / 82913603- 82913605- / 82913607- 82913609-	82913600- / 82913602- 82913604- / 82913606- 82913608-	0.255" to 0.295"

Note: See page 165 for plating options and other contact details

Wire Stripping Solder and Screw Versions		
		Stripping length L
Solder contact delivered with connector	#16 (Ø0.062") & #20 (Ø0.039")	
		0.196"
Screw contact delivered with connector	#16 (Ø0.062")	
		0.228"

Note: all dimensions are in inches

Crimping

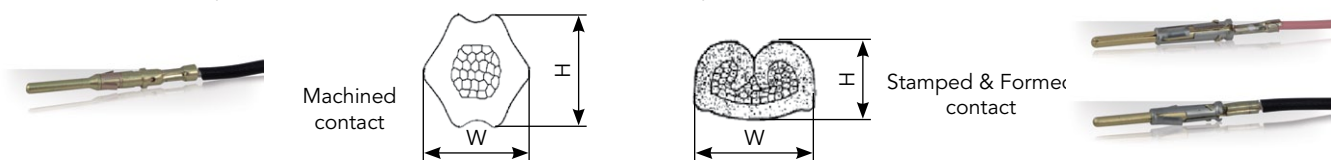
One of the key factors which affects the performance of a connector is the way contacts are terminated. Crimped connections are nowadays seen as the best solution to ensure quality throughout the lifetime of the product. Here are some reasons why we recommend this method of termination for UTS connectors:

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 pull forces are indicated in the tables below:



Active contact part	Contact type	Die location on heads	Wire section range	Section (inches ²)	Tensile straight test (mini)	Height (inches) H (±0.002")	Width (inches) W (±0.002")	Tooling head p/n		
Machined contacts size #20 Ø0.039"	RM24W3K RC24W3K	26/24	AWG 26	0.004" min	15 N	0.037"	0.050"	S20RCM		
			AWG 24	0.009" max	32 N					
	RM20W3K RC20W3K	22/20	AWG 22	0.012" min	40 N	0.049"	0.070"			
			AWG 20	0.019" max	60 N					
	RM18W3K RC18W3K	20/18	AWG 20	0.019" max	60 N	0.053"	0.073"			
			AWG 18	0.032" max	90 N					
S & F contacts size #20 Ø0.039"	SM24WL3TK6* SC24WL3TK6*	26/24	AWG 26	0.004" min	15 N	0.031"	0.058"	S20SCM20		
			AWG 24	0.009" max	32 N					
	SM20WL3TK6* SC20WL3TK6*	22/20	AWG 22	0.012" min	40 N	0.039"	0.060"			
			AWG 20	0.019" max	60 N					
	Machined contacts size #16 Ø0.062"	RM28M1K* RC28M1K*	30/28	AWG 30	0.001" min	11 N	0.044"		0.055"	S16RCM20
				AWG 28	0.08 max	11 N				
RM24M9K* RC24M9K*		26/24	AWG 26	0.004" min	15 N	0.045"	0.055"			
			AWG 24	0.009" max	32 N					
RM20M13K* RC20M13K*		22/20	AWG 22	0.012" min	40 N	0.049"	0.069"			
			AWG 20	0.019" max	60 N					
	AWG 20		0.012" min	40 N						
RM20M12K* RC20M12K*	20	AWG 20	0.019" max	60 N	0.065"	0.085"				
		AWG 18	0.032" max	90 N						
		AWG 16	0.059" max	150 N						
RM16M23K* RC16M23K*	18	AWG 18	0.032" max	90 N	0.070"	0.089"	S16RCM16			
		AWG 16	0.059" max	150 N						
RM14M30K* RC14M30K*	16	AWG 16	0.059" min	150 N	0.082"	0.105"	S16RCM14			
		AWG 14	0.098" min	230 N						
S & F contacts size #16 Ø0.062"	SM24ML1TK6* SC24ML1TK6*	26/24	AWG 26	0.004" min	15 N	0.033"	0.059"	S16SCM20		
			AWG 24	0.009" max	32 N					
	SM20ML1TK6* SC20ML1TK6*	22/20	AWG 22	0.012" min	40 N	0.040"	0.060"			
			AWG 20	0.019" max	60 N					
	SM16ML11TK6* SC16ML11TK6*	18	AWG 18	0.032" min	90 N	0.051"	0.082"	S16SCML11		
			AWG 16	0.059" max	150 N					
	SM16ML1TK6* SC16ML1TK6*	18	AWG 18	0.032" min	90 N	0.058"	0.079"	S16SCML1		
			AWG 16	0.059" max	150 N					
	SM14ML1TK6* SC14ML1TK6*	16	AWG 16	0.059" max	150 N	0.066"	0.080"			
			AWG 14	0.098" max	230 N					

* example of plating options, for other plating see page 164

Handle & Interchangeable Heads

User Guide

- 1) Fully close then release the tool, keep it open.
Open the 2 pins.



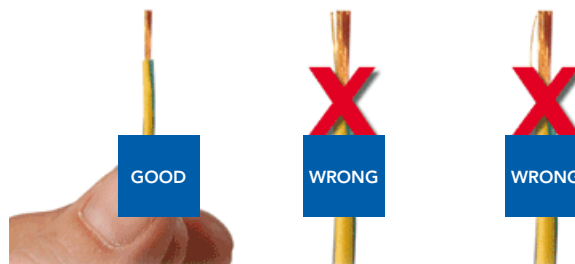
- 2) Choose the adapter head (sold separately), keep vertical and slide it into the handle until the mechanical end.



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



- 4) Strip the cable properly check the recommended size in the catalog on page 180.



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



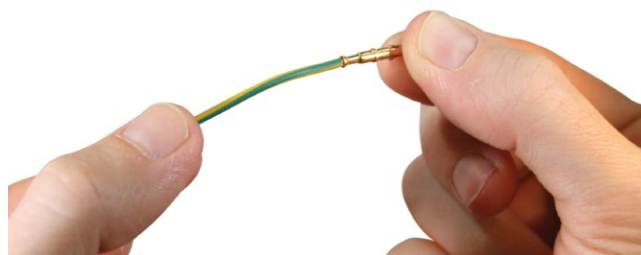
- 6) Position the contact in the bottom of the tool by checking its orientation.



- 7) To crimp contact assembly-cable, tighten sharply the clip to the end of the mechanism (maxi 175N).



- 8) To control crimp quality, slightly pull cable with two fingers to control retention.



Insertion & Extraction Tools

Contact size	Insertion tool
#20 Ø0.039"	RTM205
#16 Ø0.062"	RTM205

Contact size	Extraction tools
#20 Ø0.039"	RX20D44
#16 Ø0.062"	RX2025GE1
#12 Ø0.094"	51060210924
#8 Ø0.141"	51060210936

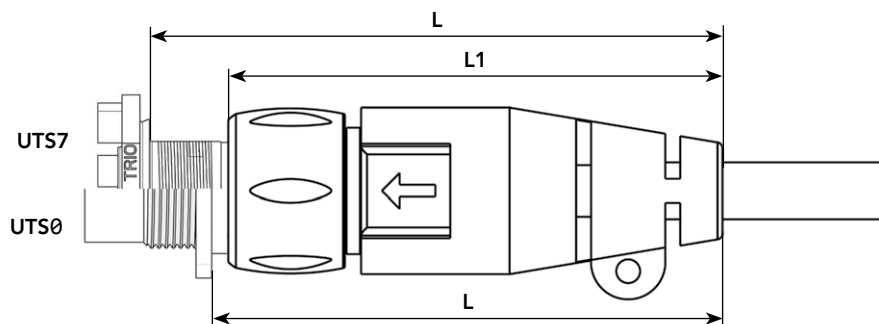


Contact extraction instruction

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



Overmolded Cable Assembly Dimensions



Shell size	UTS0		UTS7	
	L max	L1 max	L max	L1 max
10	3.44"	3.2"	3.67"	3.2"
12	3.55"	3.3"	3.79"	3.3"
14	3.85"	3.6"	4.08"	3.6"

Note: all dimensions are in inches