UTGX:
The next generation of bayonet connectors for harsh environments

F·A·T·N

Powering Business Worldwide

Typical applications

Off-road vehicles

Heavy equipment

Energy

Power

Metal work

Instrumentation

Measurement

Robotic

Building automation & control

Infrastructure

Machinery

A versatile, ruggedized solution for industrial applications

Waterproof, shock-proof and UV resistant, the UTGX series can withstand continuous underwater immersion, routine pressure washing, dirt and dust and other harsh conditions.

Ideal for both indoor and outdoor applications with a lifespan of up to 27 years in-application, the UL/IEC certified UTGX series connectors are **a safe and reliable solution.**
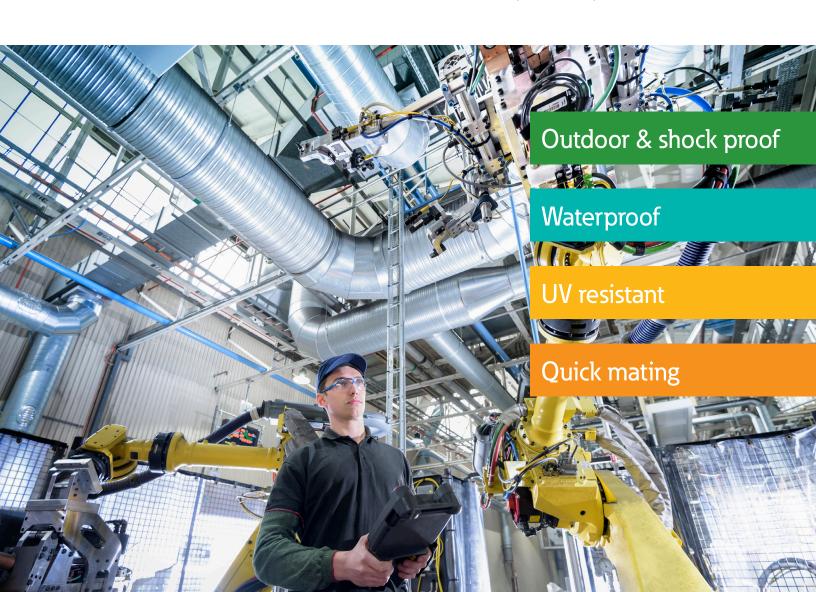
Improve efficiency with lightweight, versatile and quick mating connectors

The UTGX series can be used in a wide range of configurations and electrical layouts, allowing you **to save space on your equipment.**

While the bayonet locking mechanism ensures a quick and secure connection and disconnection, other updates to the lightweight design make the UTGX series connectors easier than ever for operators to handle quickly. Especially in high-mating cycle applications, **UTGX will save time and money for your business.**

Upgrading has never been easier

The new Souriau UTGX Series uses Trim Trio® contacts. A single design for machined, stamped and formed and highspeed contacts, making **it quicker, easier and more cost effective to upgrade.** By using the same contacts, the switch from one connector series to another doesn't require tool or panel cut-out modifications.

Outdoor & shock proof

Waterproof

UV resistant

Quick mating

UTGX range overview

UTGX series

Cable sealed

UTGX standard

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

Corrosion-proof
Plastic housing

Contacts supplied separately

UTGX backshells

Cable sealing

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

Plug

Contacts loaded
Handsolder

UTGX sealed unmated

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

Corrosion-proof
Plastic housing

**Overmolded cable
assembly**

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

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UTGX standard receptacle

Jam nut

Square flange

Contacts supplied separately

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

In-line

Square flange

Contacts supplied separately

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

UTGX backshells

Cable sealing

UTGX sealed unmated receptacle

Jam nut

Square flange

Contacts loaded
PCB
Handsolder

UTGX PCB contacts

Stand-offs to allow cleaning after soldering

Metal hold down clips lock the connector easily on the PCB and release stress on solder joints. They are also suitable for soldering the connector to the PCB through metal holes.

Pre-assembled PCB contacts
- machined or Stamped versions available
- different solder tail lengths possible
- different plating options

Low profile housing to limit space between panel and PCB

UTGX technical specifications

Technical features

Materials

- Body connector and backshell: Thermoplastic
- Insert:
  - UTGX Standard, UTGX Single Wire Sealed, UTGX Screw Termination Contacts: Thermoplastic
  - UTGX Sealed Unmated Handsolder & UTGX Sealed Unmated with PC Tails Contacts: Elastomer
- Nut: Metal
- Contacts: See page 12
- Halogen free
- RoHS compliant & conforms to the Chinese standard SJ/T1166-2006 (Chinese RoHS equivalent)

Environmental

- Temperature class: **IEC61984** from -40°C to +105°C
- Flammability rating:
  - **UL94 V-0** for UTGX standard
  - **UL94 HB** for UTGX Hi-seal
  - R22 HL2 / R23 HL2 according to NF EN 45545 for UTGX standard only
- Salt spray: Per EIA-364-26: 500 hours
- UV resistant: Connector made with (f1) material according to **UL746C**
- Outdoor used following level 6/6P according to UL50/UL50E
- Aging validation: **ISO 21207 Method B, 5 cycles**. Corresponding to 27 years in an industrial environment
- Sealing:
  - UTGX Standard: **IP68/IP69K** dynamic (mated)
  - UTGX Sealed Unmated version: **IP68/IP69K** dynamic (unmated)
  - UTGX Single Wire Sealed: **IP67/69K** (up to IP68 with double sealing backshell)
  - UTGX Screw Termination Contacts: IP68/IP69K dynamic (mated)

Note: IP68=10 m underwater during 1 week

- Fluid resistance:
  - Gas and oil
  - Mineral oil
  - Acid bath
  - Basic bath
  - Chlorine

Electrical

- In accordance with:
  - **UL 1977**: Category ECBT2 File number: E169916
  - **C22.2 n°182.3**: Category ECBT8 File number: E169916
  - **IEC61984**

Notes: Scan the QR code to download the certificate.

- Voltage and current information available on page 7

Mechanical

- Durability: 500 matings and unmatings according to **IEC 60512-9a**
- Vibration Sinus from 10 to 2000Hz ; 20grms according to **IEC60512-6-4**
- Thermal shock: According to **MIL-DTL-26482** and **EIA364 32**
- IK resistors: See table below for shock resistance

Connector type	Size 10	Size 12	Size 14
UTGX0 / UTGX6JC	IK05 (0.7J) according to IEC62262	IK06 (1J) according to IEC62262	IK06 (1J) according to IEC62262
UTGX7 / UTGX6JC	IK06 (1J) according to IEC62262	IK07 (2J) according to IEC62262	IK07 (2J) according to IEC62262
UTGX1JC / UTGX6JC	Impact test (6.8J) according to UL746C	Impact test (6.8J) according to UL746C	Impact test (6.8J) according to UL746C

Layouts face male contact

Electrical parameter according to IEC61984 for a pollution degree IV and overvoltage category III.
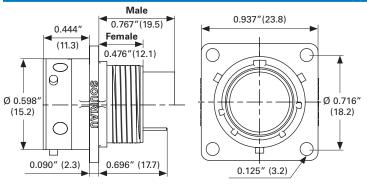
A higher voltage can be applied by selecting the appropriate connectors and contacts. Please consult us for more information.
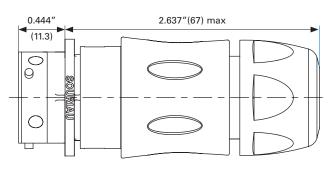
Connector size	Contacts	Description			
10	Contact #16 (Ø 1.6mm)	**103** 16A/300V - 2+ground	**104** 13A/150V - 4 contacts		
	Contact #20 (Ø 1.0mm)	**106 – 10E6/10D6** 7A/32V - 6 contacts	**10E98/10D98** 7A/50V - 6 contacts	**10E7/10D7** 7A/50V - 7 contacts	
	Hybrid & others	**102W2** 25A/150V - 4 contact 2xØ2.4 (#12) + 2xØ1.0 (#20)	**103W3** 5A/32V - 6 contacts 3xØ1.6 (#16) + 3xØ1.0 (#20)		
12	Contact #16 (Ø 1.6mm)	**12E2/12D2** 16A/150V - 2 contacts	**12E3/12D3** 16A/150V - 3 contacts	**124 – 12E4/12D4** 16A/150V - 3 + ground	**128** 10A/80V - 8 contacts
	Contact #20 (Ø 1.0mm)	**12E8/12D8** 6A/32V - 8 contacts	**1210 – 12E10/12D10** 6A/50V - 10 contacts	**12E14/12D14** 5A/32V - 14 contacts	
14	Contact #16 (Ø 1.6mm)	**14E5/14D5** 16A/150V - 5 contacts	**147 – 14E7/14D7** 7A/150V - 6+ground	**1412** 10A/63V - 12 contacts	**1492** 10A/63V - 12 contacts
	Contact #20 (Ø 1.0mm)	**14E18/14D18** 5A/50V - 18 contacts	**1419 – 14E19/14D19** 5A/32V - 19 contacts		
	Contact #8 (Ø 3.6mm)	**142G1** 40A/300V - 2 + ground			
	Mixed power	**148** 17A/230V - 8 contacts 4xØ1.6 (#16) + 3xØ2.4 (#12) + ground	**14E12/14D12** 4A/50V - 12 contacts 4xØ1.6 (#16) + 8xØ1.0 (#20)	**14E15/14D15** 4A/50V - 15 contacts 1xØ1.6 (#16) + 14xØ1.0 (#20)	

Note: Layouts in blue text are UTGX sealed in unmated condition
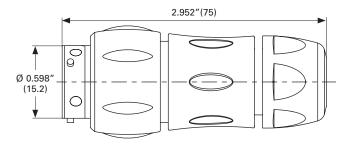
UTGX dimensions size 10

Square flange receptacle - UTGX0 and UTGX0JC

Male
0.767"(19.5)

0.444"
(11.3)

Female
0.476"(12.1)

0.937"(23.8)

Ø 0.598"
(15.2)

SOURIAU

0.090" (2.3)   0.696" (17.7)

Ø 0.716"
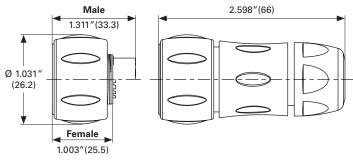(18.2)

0.125" (3.2)

0.444"
(11.3)

2.637"(67) max

SOURIAU

Cable diameter acceptance: standard seal from 0.098" (2.5) to 0.315" (8), reduced seal from 0.059" (1.5) to 0.196" (5).
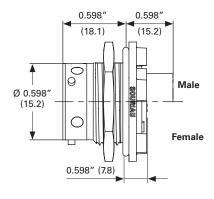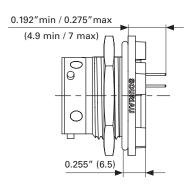
Free hanging - UTGX1JC

2.952"(75)

Ø 0.598"
(15.2)

Cable diameter acceptance: standard seal from 0.098" (2.5) to 0.315" (8), reduced seal from 0.059" (1.5) to 0.196" (5).
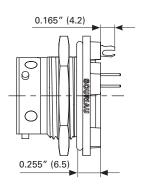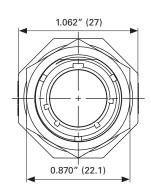
Plug - UTGX6 & UTGX6JC

Male
1.311"(33.3)

2.598"(66)

Ø 1.031"
(26.2)

Female
1.003"(25.5)

Cable diameter acceptance: standard seal from 0.098" (2.5) to 0.315" (8), reduced seal from 0.059" (1.5) to 0.196" (5).
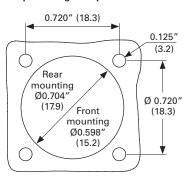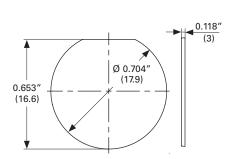
Jam nut receptacle - UTGX7

0.598"
(18.1)

0.598"
(15.2)

Ø 0.598"
(15.2)

SOURIAU

Male

Female

0.598" (7.8)

0.192"min / 0.275"max
(4.9 min / 7 max)

SOURIAU

0.255" (6.5)

0.165" (4.2)

SOURIAU

0.255" (6.5)

1.062" (27)

0.870" (22.1)

Panel cut out

Square flange receptacle - UTGX0

0.720" (18.3)

0.125"
(3.2)

Rear
mounting
Ø0.704"
(17.9)

Front
mounting
Ø0.598"
(15.2)

Ø 0.720"
(18.3)

Jam nut receptacle - UTGX7

0.118"
(3)

Ø 0.704"
(17.9)

0.653"
(16.6)
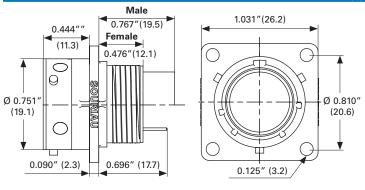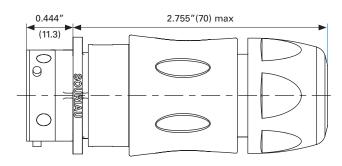
Dimensions: in (mm)

Square flange receptacle - UTGX0 and UTGX0JC

Male
0.767"(19.5)
Female
0.476"(12.1)
0.444""
(11.3)
1.031"(26.2)

Ø 0.751"
(19.1)

Ø 0.810"
(20.6)

0.090" (2.3)
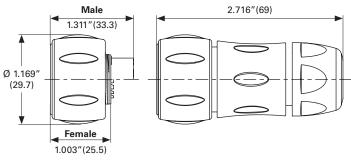0.696" (17.7)
0.125" (3.2)

0.444"
(11.3)
2.755"(70) max

Cable diameter acceptance: standard seal from 0.098" (2.5) to 0.472" (12), reduced seal from 0.118" (3) to 0.354" (9).

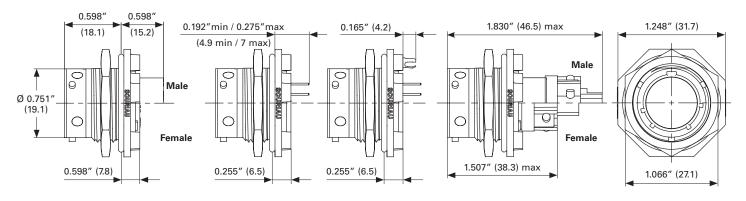## Free hanging - UTGX1JC

3.070"(78)

Ø 0.751"
(19.1)

Cable diameter acceptance: standard seal from 0.098" (2.5) to 0.472" (12), reduced seal from 0.118" (3) to 0.354" (9).

Plug - UTGX6 & UTGX6JC

Male
1.311"(33.3)
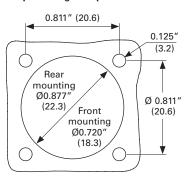2.716"(69)

Ø 1.169"
(29.7)

Female
1.003"(25.5)

Cable diameter acceptance: standard seal from 0.098" (2.5) to 0.472" (12), reduced seal from 0.118" (3) to 0.354" (9).
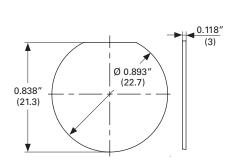
Jam nut receptacle - UTGX7

0.598"
(18.1)
0.598"
(15.2)
0.192"min / 0.275"max
(4.9 min / 7 max)
0.165" (4.2)
1.830" (46.5) max
1.248" (31.7)

Ø 0.751"
(19.1)
Male

Female
0.598" (7.8)
0.255" (6.5)
0.255" (6.5)
1.507" (38.3) max
1.066" (27.1)

Male

Female

Panel cut out

Square flange receptacle - UTGX0

0.811" (20.6)

0.125"
(3.2)

Rear
mounting
Ø0.877"
(22.3)
Front
mounting
Ø0.720"
(18.3)

Ø 0.811"
(20.6)

Jam nut receptacle - UTGX7

0.118"
(3)

0.838"
(21.3)

Ø 0.893"
(22.7)

Dimensions: in (mm)

9
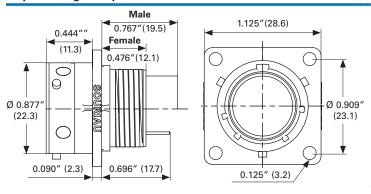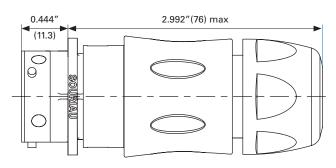
UTGX dimensions size 14

Square flange receptacle - UTGX0 and UTGX0JC

Male
0.767"(19.5)

Female
0.476"(12.1)

0.444"" (11.3)

1.125"(28.6)

Ø 0.877" (22.3)

Ø 0.909" (23.1)

0.090" (2.3)   0.696" (17.7)

0.125" (3.2)

0.444" (11.3)

2.992"(76) max
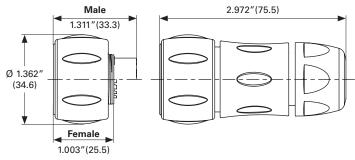
Cable diameter acceptance: standard seal from 0.275" (7) to 0.551" (14), reduced seal from 0.196" (5) to 0.472" (12).
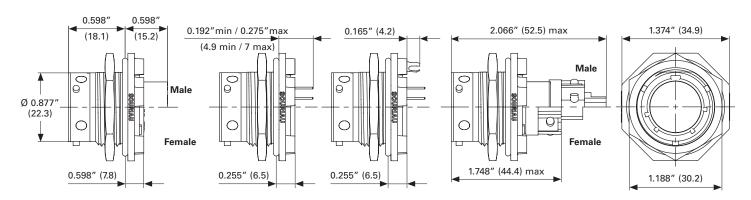
Free hanging - UTGX1JC

3.307"(84)

Ø 0.877" (22.3)

Cable diameter acceptance: standard seal from 0.275" (7) to 0.551" (14), reduced seal from 0.196" (5) to 0.472" (12).

Plug - UTGX6 & UTGX6JC

Male
1.311"(33.3)
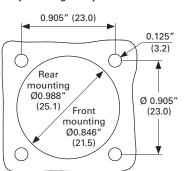
2.972"(75.5)

Ø 1.362" (34.6)

Female
1.003"(25.5)

Cable diameter acceptance: standard seal from 0.275" (7) to 0.551" (14), reduced seal from 0.196" (5) to 0.472" (12).
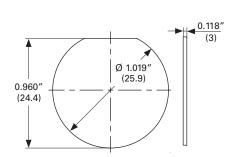
Jam nut receptacle - UTGX7

0.598" (18.1)   0.598" (15.2)

0.192"min / 0.275"max (4.9 min / 7 max)

0.165" (4.2)

2.066" (52.5) max

1.374" (34.9)

Ø 0.877" (22.3)

Male

Female

Male

Female

0.598" (7.8)

0.255" (6.5)

0.255" (6.5)

1.748" (44.4) max

1.188" (30.2)

Panel cut out

Square flange receptacle - UTGX0

0.905" (23.0)

0.125" (3.2)

Rear mounting Ø0.988" (25.1)

Front mounting Ø0.846" (21.5)

Ø 0.905" (23.0)

Jam nut receptacle - UTGX7

0.118" (3)

Ø 1.019" (25.9)

0.960" (24.4)

Dimensions: in (mm)

Jam nut & free hanging receptacle sealing caps

Connector size	Description	Part number
10	IP68/69K	**UTGX10DCG**
	IP68/69K - Metal terminal	**UTGX10DCGR**
12	IP68/69K	**UTGX12DCG**
	IP68/69K - Metal terminal	**UTGX12DCGR**
14	IP68/69K	**UTGX14DCG**
	IP68/69K - Metal terminal	**UTGX14DCGR**

Square flange sealing cap

Connector size	Description	Part number
10	IP68/69K - Metal terminal	**UTGX10DCGE**
12	IP68/69K - Metal terminal	**UTGX12DCGE**
14	IP68/69K - Metal terminal	**UTGX14DCGE**

Plug sealing cap

Size 10 and 12

Size 14

Connector size	Description	Part number
10	IP68/69K	**UTGX610DCG**
12	IP68/69K	**UTGX612DCG**
14	IP68/69K	**UTS614DCG133**

Plastic protective cap

Connector size	Part number receptacle cap	Part number plug cap
10	**85005586A**	85005595
12	**85005587A**	85005596
14	**85005588A**	85005597

Gasket

Connector size	Part number
10	**UTFD12B**
12	**UTFD13B**
14	**UTFD14B**

Color coding rings

Connector size	Description	Part number receptacle	Part number plug
10	G for Green	**UTGX710CCRG**	**UTGX610CCRG**
	Y for Yellow	**UTGX710CCRY**	**UTGX610CCRY**
	R for Red	**UTGX710CCRR**	**UTGX610CCRR**
12	G for Green	**UTGX712CCRG**	**UTGX612CCRG**
	Y for Yellow	**UTGX712CCRY**	**UTGX612CCRY**
	R for Red	**UTGX712CCRR**	**UTGX612CCRR**
14	G for Green	**UTGX714CCRG**	**UTGX614CCRG**
	Y for Yellow	**UTGX714CCRY**	**UTGX614CCRY**
	R for Red	**UTGX714CCRR**	**UTGX614CCRR**

UTGX contacts

Machined contacts

Stamped & Formed contacts

Coaxial contacts

PCB contacts

Description

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

Please note that the **UTGX series** is delivered with solder or PCB contacts for Hi-seal versions and without contacts for standard crimp versions.

The benefit of this standardization is to drastically reduce inventory costs. In addition, it eliminates the need for additional tooling and simplifies the assembly process. Souriau Trim Trio® contacts are designed for simple snap-in installation and further eliminate the need for an insertion tool.

Packaging

Trim Trio® contacts are available in a wide variety of packaging from very small quantities (small bulk packaging) to very large quantities (reeled parts).

Contact selector guide

Machined contacts

Contact size	Contact type	Active area
#20 **Ø1mm**	K	0.4µm Gold over 2µm Nickel min
#16 **Ø1.6mm**	K	0.4µm Gold over 2µm Nickel min
	J	Gold flash over Nickel 2µm min
	T	Tin 3µm (-0/+2) over 1.3µm Nickel min
	D28 for Coax contacts only	0.75µm min Gold over 2µm Nickel min
#12 **Ø2.4mm**	A	2µm Nickel + 2µm Ag
	K	0.4µm Gold over 2µm Nickel min
#8 **Ø3.6mm**	A	2µm Nickel + 2µm Ag

Stamped & Formed contacts

Contact size	Plating code	Plating description	
		Active area	**Inactive area**
#20 **Ø1mm**	S25 (female)	0.75µm Gold min over Nickel	Gold flash over Nickel
	S26 (male)	0.75µm Gold min over Nickel	Gold flash over Nickel
	TK6	0.5µm - 2.5µm Sn pre-plated	-
#16 **Ø1.6mm**	S31	Gold flash over Nickel	Crimped area: 1.3µm Tin min over Nickel Other areas: 1.3µm Tin min
	S18	0.75µm Gold min over Nickel	
	D70	0.13µm Gold min over Nickel	Gold flash over Nickel
	TK6	0.5µm - 2.5µm Sn pre-plated	-

Extraction tool

RX20D44

RX2025GE1

51060210924

51060210936

RX2031J

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

Crimp tooling

Tooling

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

Crimp tooling
(without Shandles)

Contact size	Contacts	Part number of head
Standard contacts #16 Ø 1.6mm	RM/RC 28M1K[1]	S16RCM20*
	RM/RC 24M9K[1]	S16RCM20*
	RM/RC 20M13K[1]	S16RCM20*
	RM/RC 20M12K[1]	S16RCM20*
	RM/RC 16M23K[1]	S16RCM16*
	RM/RC 14M30K[1]	S16RCM14*
	SM/SC 24ML1TK6[1]	S16SCM20*
	SM/SC 20ML1TK6[1]	S16SCM20*
	SM/SC 16ML1TK6[1]	S16SCML1*
	SM/SC 14ML1TK6[1]	S16SCML1*
	SM/SC 16ML11TK6[1]	S16SCML11*
Standard contacts #20 Ø 1mm	RM/RC 24W3K[1]	S20RCM*
	RM/RC 20W3K[1]	S20RCM*
	RM/RC 18W3K[1]	S20RCM*
	SM/SC 24WL3[1][2]	S20SCM20*
	SM/SC 20WL3[1][2]	S20SCM20*

Crimp tooling #12 and #8

Contact size	Part number hand tool	Part number positioner + locator setting
Standard contacts #12 Ø 2.4mm	M317	VGE10077A
Standard contacts #8 Ø 3.6mm	M317	VGE10078A

Notes