

General recommendations for the selection of Trident contacts are listed below.

Platings: Tin is recommended for most applications. It is cost effective and matches well to most wires. Gold is preferred for special situations. Gold resists oxidation, has high surface conductivity, and has a low coefficient of friction. These features make gold the preferred plating for low level signals (a rule of thumb is <100 mA), corrosive environments (for unsealed connectors), and for increased mating cycles. The electrical performance of the contact is determined at the surface of the contact. For this reason, flash gold platings are suitable for applications with 50 or fewer mating cycles. Thicker gold platings are recommended for more than 50 mating cycles.

Stamped versus Machined: The two part stamped contacts are manufactured to precise tolerances and are field proven. They can be supplied on reels which lowers assembly costs for volume



production. Machined contacts offer improved precision and durability. They are recommended for applications with more than 200 mating cycles.

Crimp versus Solder: Crimp contacts offer improved electrical performance, strain relief and quality control compared to solder cup contacts. Solder cups contacts are recommended for low

volume and prototype applications where the added cost of crimp tools is not justified.

High Conductivity: These contacts use a different base material than the standard contacts. They are recommended for high current applications. These contacts will also reduce the derating of connectors with several high current lines.

Contact Performance Data

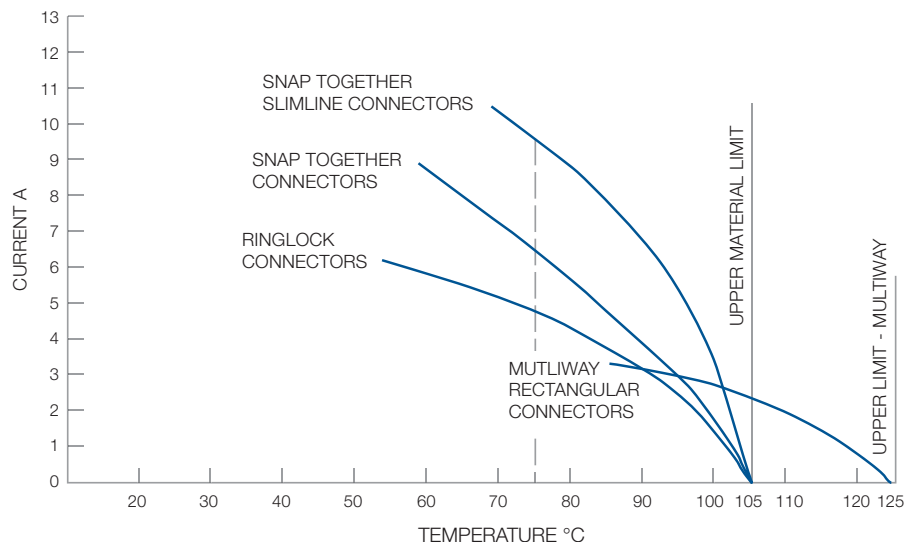
Characteristics	Formed (Stamped)		Machined	Solder Cup	Flow Solder (PCB)	30 A Power	Coaxial
	Standard	High Conductivity					
Body Material	Brass	Copper Alloy	Brass	Brass	Brass	Copper Alloy	Brass
Retention	Brass	Brass	Beryllium	Beryllium	Beryllium	Stainless Steel	Beryllium
Spring Material			Copper	Copper	Copper		Copper
Contact Retention (minimum)	67 N	67 N	67 N	67 N	67 N	100 N	67 N
Current Rating	13 A	16 A	13 A	13 A	13 A	30 A	N/A
Contact Resistance (initial)	5 mΩ	5 mΩ	5 mΩ	5 mΩ	5 mΩ	2.5 mΩ	2.5 m
Mechanical Endurance (minimum)	200 Insertions	200 Insertions	500 Insertions	500 Insertions	500 Insertions	200 Insertions	200 Insertions

For Tooling and Assembly instructions, see pages 51-58.

Temperature/Current Rating

30°C Temperature Rise

- Derived in accordance with IEC 512-3, Test 5b.
- Figures are for maximum wire sizes. Smaller wires will reduce rating.
- All contacts equally loaded.
- PCB mounted connectors will be limited by PCB performance.
- Bunched cables will further reduce values.
- Cable insulation type will affect temperature and loading.
- Figures are for maximum connector sizes in each range. Smaller connectors will increase rating.



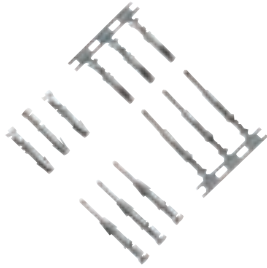
Dimensions shown in mm (inch)
Specifications and dimensions subject to change

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Contact Selection Guide

Formed (Stamped) Crimp Contacts



- Tin and gold plating available.
- Up to 200 mating cycles.
- Up to 13 A - Standard Contacts.
16 A - High Conductivity Contacts.
- Supports 14 AWG to 26 AWG wires.
- Brass and high conductivity material available.
- Full support tooling available.

For Part Numbers and Details, see page 46.

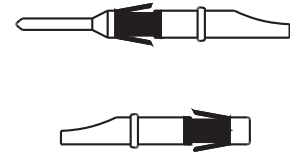
Machined Crimp Contacts



- Tin and gold plating available.
- Up to 500 mating cycles.
- Up to 13 A.
- Supports 16 AWG to 26 AWG wires.
- Full support tooling available.
- Earthing (First Mate/Last Break) versions available.

For Part Numbers and Details, see page 47.

Solder Cup Contacts



- Tin plating.
- Supports 14 AWG to 26 AWG wires.
- Ideal for prototypes and low volume production.
- Up to 13 A.

For Part Numbers and Details, see page 48.

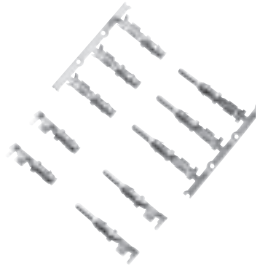
Flow Solder (PCB) Contacts



- Tin and gold plating available.
- Signal and Power versions available (13 A or 30 A).
- For use with the Multiway, Ringlock, and Neptune ranges.

For Part Numbers and Details, see page 48.

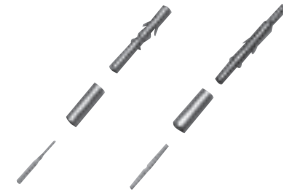
30 A Power Contacts



- Tin plating.
- For use with the Neptune Circular Connectors.
- Full support tooling available.
- High conductivity material.

For Part Numbers and Details, see page 48.

Coaxial Contacts



- Fits into standard Trident contact cavities.
- Up to 200 mating cycles.
- Full support tooling available.
- Supports a wide range of twisted pair and coaxial cables.

For Part Numbers and Details, see pages 49-50.

Connector/Contact Compatibility

Connector Series	Contacts					
	Formed (Stamped) Crimp	Machined Crimp	Solder Cup	Flow Solder (PCB)	30 A Power	Coaxial
Snap Together & Slimline	•	•	•	•*	—	•
Multiway	•	•	•	•	—	•
Ringlock	•	•	•	•	—	•
Neptune	•	•	•	•	•	•
TNM	•	•	•	—	—	•

• = Compatible
 * = Printed circuit contacts are pre-installed in Snap Together & Slimline connectors.
 For wire wrap contacts, contact Cannon.
 For discriminating (keying) pins, see page 50.

Dimensions shown in mm (inch)
 Specifications and dimensions subject to change

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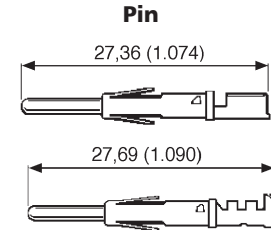
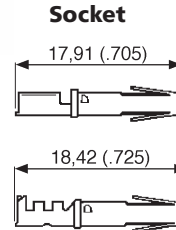
Formed (Stamped) Crimp Contacts — Standard Brass Material

- 13 A current rating.
- Three plating styles available.
- Separate retention spring.
- Up to 200 mating cycles.
- Wide range of wire sizes.
- Full support tooling available, see page 53.
- Two part design.



**Size 14 to 16 AWG,
No Insulation Grip**

**Size 16 to 26 AWG,
Insulation Grip**



Contact	Part Number Pack (100)			Part Number Reeled (3000)			Wire Range mm2	Wire Size	Insulation Diameter	Strip Length
	Tin Plating	Gold Flash	Gold Plating	Tin Plating	Gold Flash	Gold Plating				
Pin	192990-0020	192990-0080	192900-0448	192990-2510	192990-2650	192900-0406	0,08 - 0,25	26-24 AWG	0,89 (.035) - 1,58 (.062)	3,95 (.155)±0,25(.009)
Socket	192990-0030	192990-0090	192900-0452	192990-2550	192990-2690	192900-0410	0,08 - 0,25	26-24 AWG	0,89 (.035) - 1,58 (.062)	3,95 (.155)±0,25(.009)
Pin	192990-0040	192922-1460	192900-0447	192990-2500	192990-2640	192900-0405	0,30 - 0,50	22-20 AWG	1,17 (.046) - 2,08 (.081)	3,95 (.155)±0,25(.009)
Socket	192990-0050	192922-1470	192900-0451	192990-2540	192990-2680	192900-0409	0,30 - 0,50	22-20 AWG	1,17 (.046) - 2,08 (.081)	3,95 (.155)±0,25(.009)
Pin	192990-0060	192990-0100	192900-0446	192990-2490	192990-2630	192900-0404	0,75 - 1,50	18-16 AWG	2,00 (.078) - 3,00 (.118)	3,95 (.155)±0,25(.009)
Socket	192990-0070	192990-0110	192900-0450	192990-2530	192990-2670	192900-0408	0,75 - 1,50	18-16 AWG	2,00 (.078) - 3,00 (.118)	3,95 (.155)±0,25(.009)
Pin	192990-1240	192990-1220	192900-0445	192990-2480	192990-2620	192900-0403	1,50 - 2,50	16-14 AWG	Without insulation support	5,60 (.220)±0,25(.009)
Socket	192990-1250	192990-1230	192900-0449	192990-2520	192990-2660	192900-0407	1,50 - 2,50	16-14 AWG	Without insulation support	5,60 (.220)±0,25(.009)

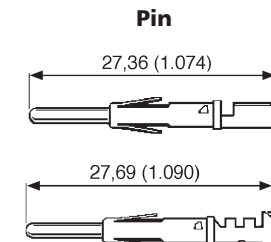
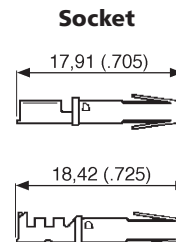
Formed (Stamped) Crimp Contacts — High Conductivity Material

- 16 A current rating.
- Recommended for elevated temperatures.
- High conductivity copper alloy with tin plating.
- For use with standard crimp tooling, see page 53.
- Two part design.



**Size 14 to 16 AWG,
No Insulation Grip**

**Size 16 to 26 AWG,
Insulation Grip**



Contact	Part Number		Wire Range mm2	Wire Size	Insulation Diameter	Strip Length
	Pack (100)	Reeled (3000)				
Pin	192900-0122	192900-0120	0,08 - 0,25	26-24 AWG	0,89 (.035) - 1,58 (.062)	3,95 (.155)±0,25 (.009)
Socket	192900-0123	192900-0121	0,08 - 0,25	26-24 AWG	0,89 (.035) - 1,58 (.062)	3,95 (.155)±0,25 (.009)
Pin	192900-0126	192900-0124	0,25 - 0,50	22-20 AWG	1,17 (.046) - 2,08 (.081)	3,95 (.155)±0,25 (.009)
Socket	192900-0127	192900-0125	0,25 - 0,50	22-20 AWG	1,17 (.046) - 2,08 (.081)	3,95 (.155)±0,25 (.009)
Pin	192900-0002	192900-0000	0,75 - 1,50	18-16 AWG	2,00 (.078) - 3,00 (.118)	3,95 (.155)±0,25 (.009)
Socket	192900-0003	192900-0001	0,75 - 1,50	18-16 AWG	2,00 (.078) - 3,00 (.118)	3,95 (.155)±0,25 (.009)
Pin	192900-0005	192900-0004	1,50 - 2,50	16-14 AWG	Without insulation support	5,60 (.220)±0,25 (.009)
Socket	192900-0007	192900-0006	1,50 - 2,50	16-14 AWG	Without insulation support	5,60 (.220)±0,25 (.009)



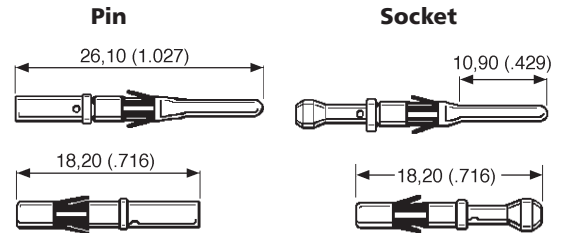
Machined Crimp Contacts

- 13 A current rating.
- Separate contact and retention spring.
- Up to 500 mating cycles.
- Variety of plating options.
- Full support tooling available, see page 53.



**Size 16 AWG,
No Insulation Grip**

**Size 20 to 26 AWG,
Insulation Grip**



Contact	Part Number			Wire Range mm2	Wire Size	Insulation Diameter	Strip Length	Color Band
	Pack (100) Gold Plating†	Pack (100) Gold Plating*	Pack (100) Tin Plating					
Pin	192991-0101	192991-0100	192991-0102	0,08 - 0,23	26 AWG	0,90 (.035) - 1,40 (.055)	5,08 (.200)±0,25 (.009)	Black
Socket	192991-0054	192991-0042	192991-0048	0,08 - 0,23	26 AWG	0,90 (.035) - 1,40 (.055)	5,08 (.200)±0,25 (.009)	Black
Pin	192991-0093	192991-0092	192991-0094	0,20 - 0,24	24 AWG	1,05 (.041) - 1,60 (.062)	5,08 (.200)±0,25 (.009)	Blue
Socket	192991-0055	192991-0043	192991-0049	0,20 - 0,24	24 AWG	1,05 (.041) - 1,60 (.062)	5,08 (.200)±0,25 (.009)	Blue
Pin	192991-0097	192991-0096	192991-0098	0,25 - 0,50	22 AWG	1,60 (.062) - 2,15 (.084)	5,08 (.200)±0,25 (.009)	Red
Socket	192991-0056	192991-0044	192991-0050	0,25 - 0,50	22 AWG	1,60 (.062) - 2,15 (.084)	5,08 (.200)±0,25 (.009)	Red
Pin	192991-0089	192991-0088	192991-0090	0,44 - 0,64	20 AWG	1,60 (.062) - 2,10 (.082)	5,08 (.200)±0,25 (.009)	Green
Socket	192991-0058	192991-0046	192991-0052	0,44 - 0,64	20 AWG	1,60 (.062) - 2,10 (.082)	5,08 (.200)±0,25 (.009)	Green
Pin	192991-0085	192991-0084	192991-0086	0,60 - 1,51	16 AWG	Without insulation support	7,11 (.279)±0,25 (.009)	Black
Socket	192991-0059	192991-0047	192991-0053	0,60 - 1,51	16 AWG	Without insulation support	7,11 (.279)±0,25 (.009)	Black

* Gold plating Pin: 0,4 µm (16 µ in.). Gold plating Socket: 0,75 µm (30 µ in.).

† Gold plating Pin & Socket: 0,30 µm (120 µ in.).

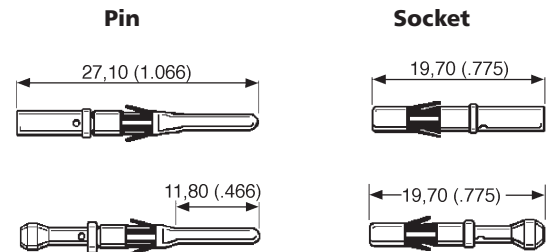
Machined Earth (First Mate/Last Break) Contacts

- 13 A current rating.
- Separate contact and retention spring.
- Up to 500 mating cycles.
- Variety of plating options.
- Full support tooling available, see page 53.



**Size 16 AWG,
No Insulation Grip**

**Size 20 to 26 AWG,
Insulation Grip**



Contact	Part Number		Wire Range mm2	Wire Size	Insulation Diameter	Strip Length	Color Band
	Pack (100) Gold Plating*	Pack (100) Tin Plating					
Pin	192991-0164	192991-0160	0,44 - 0,64	20 AWG	1,60 (.062) - 2,10 (.082)	5,08 (.200)±0,25 (.009)	Green
Socket	192991-0207	192991-0208	0,44 - 0,64	20 AWG	1,60 (.062) - 2,10 (.082)	5,08 (.200)±0,25 (.009)	Green
Pin	192991-0160	192991-0160	0,60 - 1,51	16 AWG	Without insulation support	7,11 (.279)±0,25 (.009)	Black
Socket	192991-0208	192991-0208	0,60 - 1,51	16 AWG	Without insulation support	7,11 (.279)±0,25 (.009)	Black

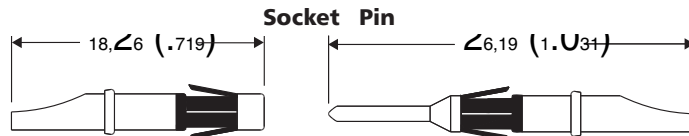
* Gold plating Pin: 0,4 µm (16 µ in.). Gold plating Socket: 0,75 µm (30 µ in.).

Solder Cup Contacts

- 13 A current rating.
- Ideal for prototypes and small volume applications.
- Fits into all Trident connectors.
- Simple solder, then insert design. Socket/Pin.



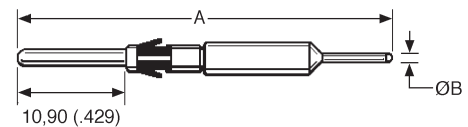
Description	Part Number	
	Tin Plating	Gold Plating*
Socket	192900-0634	192900-0635
Pin	192900-0632	192900-0633



*Gold plating 0,4 μm (16 μ in.)

Flow Solder (PCB) Contacts

- 13 A current rating.
- Available in different lengths depending on connector.
- Socket versions available.
- High Volume packaging available.
- 30 A power version available.



Connector Series	Part Number Pack of 100			
	Tin Plating	Gold Flash Plating	A ±1,07 (.003)	ØB
Ringlock Multiway	192991-0122	192991-0119	34,70 (1.366)	0,76 (.030)
Neptune	192900-0465	192900-0356	40,75 (1.604)	0,71 (.028)
Neptune Power**	192991-0617	192991-0618	40,60 (1.598)	1,50 (.059)

** Note appearance differs slightly from the picture.

Power Contacts

- 30 A current rating.
- For use with Neptune connectors.



Contact	Part Number		Wire Range mm2	Wire Size	Insulation Diameter	Strip Length
	Loose (100) Tin Plated	Reeled (3000) Tin Plated				
Pin	031-8717-020	121668-0000	0,50 - 1,00	20-18 AWG	1,40 (.055) - 2,00 (.078)	5,00 (.196)±0,25 (.009)
Socket	031-8717-120	121668-0100	0,50 - 1,00	20-18 AWG	1,40 (.055) - 2,00 (.078)	5,00 (.196)±0,25 (.009)
Pin	031-8717-021	121668-0001	1,50 - 2,50	16-14 AWG	2,00 (.078) - 2,90 (.114)	5,00 (.196)±0,25 (.009)
Socket	031-8717-121	121668-0101	1,50 - 2,50	16-14 AWG	2,00 (.078) - 2,90 (.114)	5,00 (.196)±0,25 (.009)
Pin	031-8717-022	121668-0002	2,50 - 4,00	14-12 AWG	2,90 (.114) - 3,60 (.141)	5,00 (.196)±0,25 (.009)
Socket	031-8717-122	121668-0102	2,50 - 4,00	14-12 AWG	2,90 (.114) - 3,60 (.141)	5,00 (.196)±0,25 (.009)



Dimensions shown in mm (inch)
Specifications and dimensions subject to change

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Coaxial Contacts

- Up to 200 mating cycles.
- Fits all Trident contact cavities.
- Full range of tooling available.
- For twisted pair and coaxial cable use.
- All contact assemblies sold in packs of 100.



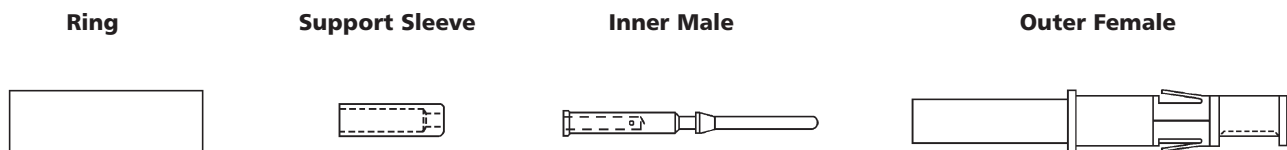
Performance Specifications

Temperature Range	-55°C to 125°C
Operating Voltage	230 V dc

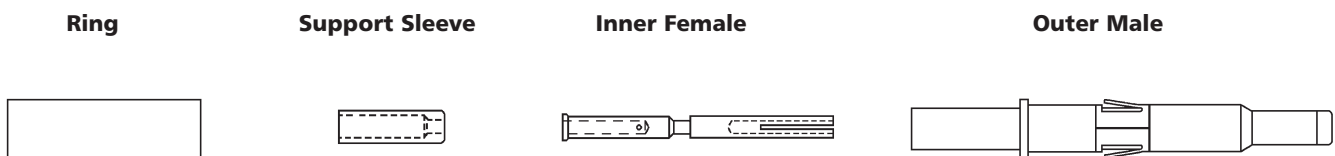
Materials and Finishes

Description	Material	Finish
Inner Contact	Brass	0,75 μ m (30 μ in.) Gold
Outer Contact	Brass	0,40 μ m (16 μ in.) Gold

Outer Female Contact Assembly



Outer Male Contact Assembly



Description	Part Number (Pack of 100)	Nomenclature	Cable Type*
Outer Female Contact Assembly	192945-4380	TC1FCLY	A**
Outer Male Contact Assembly	192945-4390	TC1MCLY	A**
Outer Female Contact Assembly	192945-4930	TC2FCLY	B and Twisted Pair
Outer Male Contact Assembly	192945-4530	TC2MCLY	B and Twisted Pair

Note: Sold as complete sets. Please contact Cannon for other packaging options.
 *For Cable Type, see page 50.
 **Support sleeve not used.

Coaxial Contacts — Cable Type and Cable Strip Length

Cable Type — A

T3203	T3306	RG174
T3204	T3385	RG179
T3264	T3388	RG187
T3289	T3390	RG188
		7528A/31

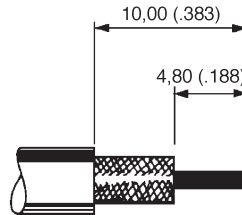
Cable Type — B

T3201	T3293	RG178
T3202	T3294	RG196
T3261	T3386	7530A/1114
T3263	UR94	5088A/1317
		LN00029
		7530D/1114
		C06C030
		LGRZ/4016

Cable Type — Twisted Pair Insulation

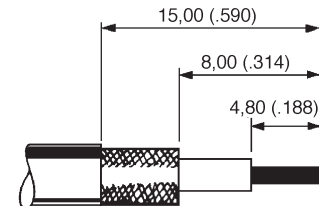
Diameter	Dimension	
	X	Y
0,56 (.022) - 1,12 (.044)	4,80 (.189)	6,30 (.248)
Less than 0,56 (.022)	5,10 (.200)	13,00 (.512)

Outer Male Contact Assembly



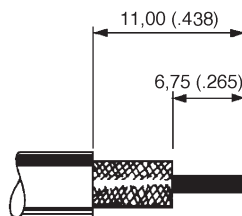
Part Number: 192945-4580

Outer Male Contact Assembly



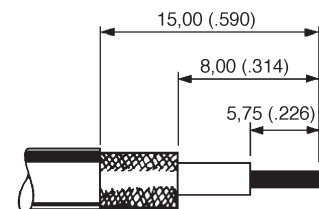
Part Number: 192945-4590

Outer Male Contact Assembly

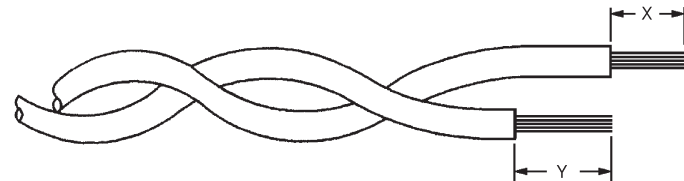


Part Number: 192945-4530

Outer Male Contact Assembly



Part Number: 192945-4530



Part Number: 192945-4930 & 192945-4530



Discriminating (Keying) Pins and Caps

Discriminating (Keying) Pins are used to prevent cross-mating of similar connectors. These pins are used in place of a pin contact. The corresponding socket cavity must be left open. If a socket contact is present, the discriminating pin will prevent mating. There are two types of discriminating pins. Board Mount PCB connectors have caps and pegs. All other connectors have signal or power pins.

Description	Part Number	Pack Size
Discriminating (Keying) Pin, Signal Contacts	192990-0000	Bulk Pack (25)
Discriminating (Keying) Pin, Power Contacts	192900-0189	Bulk Pack (25)
Discriminating (Keying) Pin, Pin Contacts	192990-0010	Bulk Pack (100)
Discriminating (Keying) Cap, Socket Contacts	192990-7650	Bulk Pack (100)

