

Clip Lock Circular

CLC Clip Lock Circular connectors were designed to meet the most demanding requirements of under-the-hood applications but can be used anywhere you need a small, positive locking, two or four circuit sealed connection. These connectors are very easy to assemble and maintain.

Extremely user friendly, these connector feature an audible and tactile feedback and can be unmated simply by depressing the clip and pulling back on the connector body. The contacts will handle up to five amps continuous at fully rated temperature range -40°C to +150°C (-40°F up to +302°F) and can handle wire size from 20 AWG to 16 AWG.

Applications

- Sensors
- Automotive Harnesses
- Off Highway Vehicles
- Marine
- Valves
- Transmission Sensors
- Under Hood (Bonnet) Equipment
- Control Area Networks (CAN Buss)

Features

Clip Lock

Mating connectors are securely locked together by a stainless steel clip. Connector halves simply slide together until the clip snaps into place. To unmate the connectors just depress the clip and slide the connectors apart.

Extremely Small Size

CLCs are one of the smallest connector packages available, able to installed in tight places where larger bulkier connectors cannot be used.

Terminal Position Assurance (TPA) (optional)

The TPA system was design with the automotive market in mind. Crimped on contacts are inserted and extracted from the rear of the connector by hand without having to use insertion or extraction tools. Just insert the contact into the connector body until it snaps into place then depress the bright orange TPA lock and your contacts are locked into place and cannot be removed until the

TPA lock lifted to it's unlocked position, this allows the contact to be eased out the rear of the connector for repair or replacement. (Please note that the TPA lock will not permit a contact to be partially inserted.)

Strong Resistance to Environmental Contaminates

High performance thermoplastic bodies, silicone wire seals, and stainless steel clips withstand the rigors of under-the-hood contaminates including oils, fuels, greases, and salt spray along with many others contaminates.

Low Cost Design

CLCs are designed as a low applied cost connector. Several factors make this connector very cost efficient including high volume reeled contacts for use with stripper crimper machines, low per unit cost, no special insertion/extraction tools needed and they can be robotically assembled.

Technical Specifications

MATERIALS & FINISHES

Shell	High performance thermoplastic body, silicone wire seals with stainless steel locking clip
Contacts	Copper alloy
Plating	Selective gold over nickel plating on mating surface, tin/lead over nickel plating on wire crimp area.

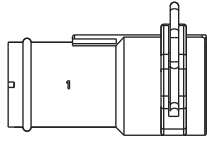
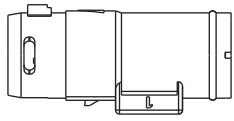
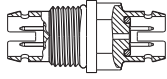
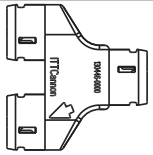


ELECTRICAL DATA

Dielectric Withstanding Voltage	1000 Vac rms at sea level
Current Rating	5 Amps continuous at 150°C
Wire Range Sizes	20-16 AWG
Contact Resistance	10 milliohms maximum
Insulation Resistance	20 megohms minimum (USCAR)










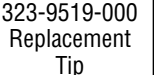
MECHANICAL

Operating Temperature	-40°C to 150°C (-40°F to 302°F)
Sealing	2-12 inches of 5% salt solution for 24 hours
Wire Sealing Range	.078"-.130" (1.98mm - 3.30mm)
Insulation Strip Length	.210" - .220" (5.33mm - 5.59mm)
Mating Life	25 cycles minimum
Salt Spray	5% solution 96 hours
Heat	150°C +/- 3° 1000 hours
Chemical Resistance	Resistant to most common automotive contaminants
Vibration	10.2 grms 20 hours radial and longitudinal axis
Shock	100 g's 12 shocks for 6 milliseconds
Contact Type	Crimp using automatic, semi-automatic or hand tooling
Number of Circuits	2 & 4
Contact Insertion	From rear no insertion tool needed
Contact Retention	25 lbs. (111N) minimum
Polarization	Molded key and keyway

How To Order

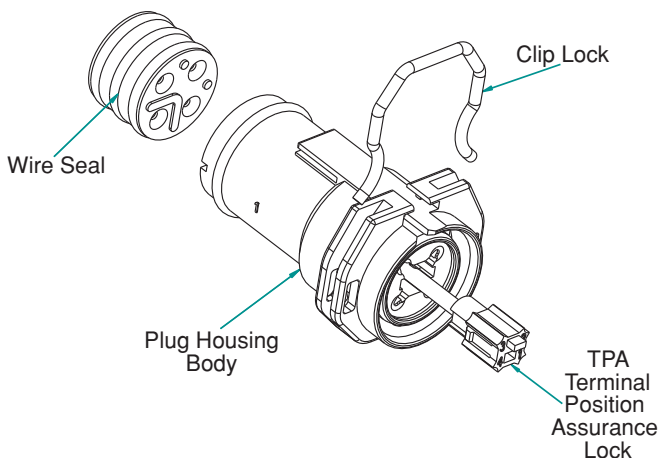
				
Number of Circuits	Plug For Sockets	Receptacle		
		Inline For Pins	Feed-Through	Y-Splice
2 	086-0058-000 086-0066-000 w/TPA	086-0061-000 w/TPA	086-0057-000	n/a
4 	086-0068-000 w/TPA 086-0068-002 w/TPA & 120Ω Resistor	086-0069-000 w/TPA	130453-0006	130446-0000

TPA = Terminal Position Assurance

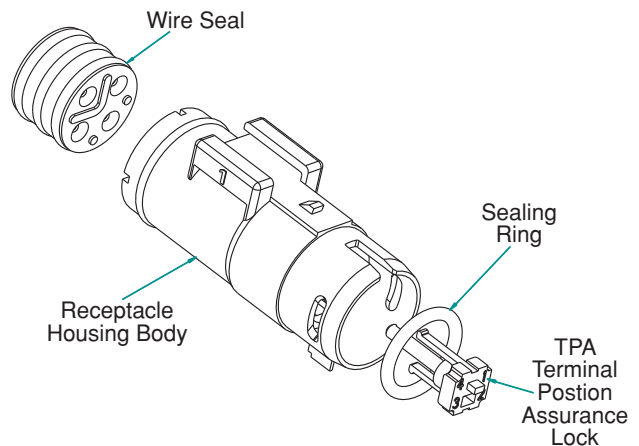
16-20 AWG	Pins For Receptacles	Sockets For Plugs	Crimp Tool	Strip Length	Wire Sealing Range	Wire Hole Filler	Extraction Tool
Loose	030-2464-007 	030-2480-000  030-2480-007 Hooded	112108-0007 	 .210 - .220 (5.33-5.99mm)	 .095 - .130 (2.42-3.30mm)		274-7068-001 
Reel of 4500 pcs.	110238-0446 	110238-0488  110238-1016 Hooded	Automatic/ Semi-Automatic Please Call				323-9519-000 Replacement Tip 

Exploded View

CLC 4 Plug

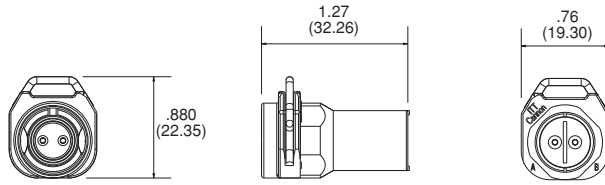


CLC 4 Inline Receptacles

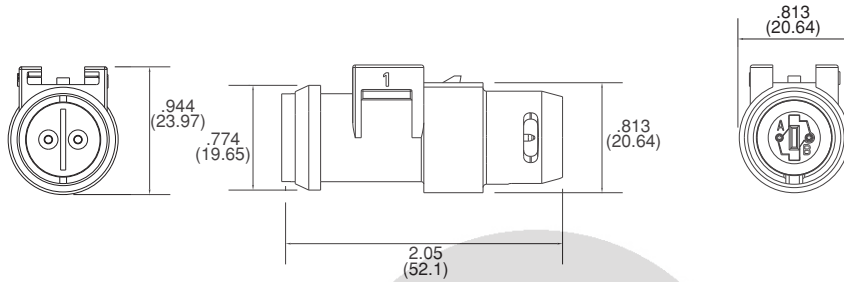


Dimensions

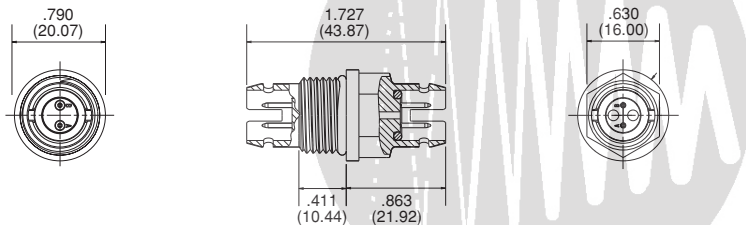
CLC 2 Plug



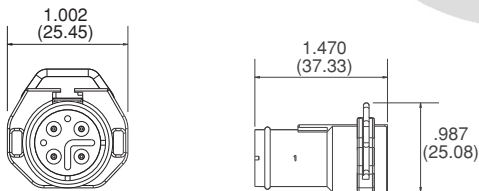
CLC 2 Inline Receptacle



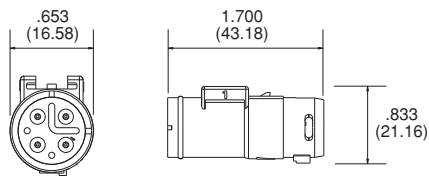
CLC 2 Feed-Through Receptacle



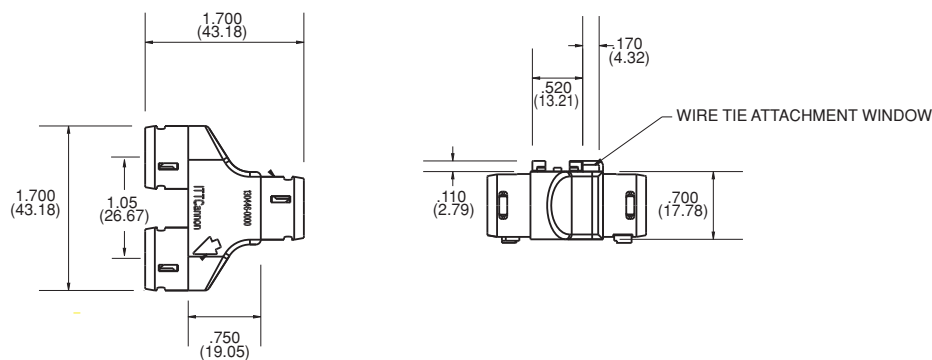
CLC 4 Plug



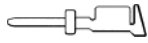
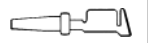







CLC 4 Inline Receptacle







CLC 4Y-Splice



Contacts & Tools

16-20 AWG	Pins For Receptacles	Sockets For Plugs	Crimp Tool	Strip Length	Wire Sealing Range	Wire Hole Filler	Extraction Tool
Loose	030-2464-007 	030-2480-007  030-2480-007 Hooded	112108-0007 	 .210 - .220 (5.33-5.99mm)	 .095 - .130 (2.42-3.30mm)	225-0093-000 	274-7068-001 
Reel of 4500 pcs.	110238-0446 	110238-0488  110238-1016 Hooded	Automatic/ Semi-Automatic Please Call				323-9519-000 Replacement Tip

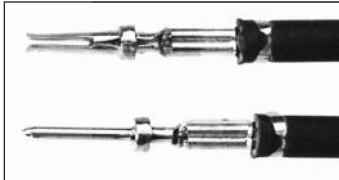
Crimping

- Squeeze handles until tool has gone through a complete cycle and opens easily.
- Select the proper cavity for the wire size to be crimped.
- Using your thumb or forefinger, raise the spring-loaded locator on the back of the lower jaw by pushing up. 
- While the locator is in the up position, place the contact into the front of the crimp tool (crimp side up) in the proper crimp cavity (16 AWG or 20 AWG).
- Release the locator. The locator should rest comfortably in the indent in the contact just above the crimp area. 
- Insert the stripped wire into the crimp area until it bottoms. 
- Firmly squeeze the handle, crimp jaw, ratchet will release. 
- Using your thumb or forefinger, raise the spring-loaded locator and remove the crimped contact and wire.

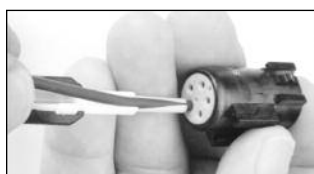
Insertion

- Move to the rear of the connector so that the contact cavities can be identified.
- Insert a crimp terminated assembly into a selected cavity.
- Continue the forward movement until an audible snap can be felt and heard. Slight pull in the opposite direction will confirm complete insertion.
- For TPA version:** Depress orange TPA lock and verify terminal location. Note: The TPA lock will not permit a contact to be partially inserted. If the contact has been pushed back when the TPA was depressed, simply pull the TPA tab forward, reinsert the contact and depress the TPA again to lock in the contact.

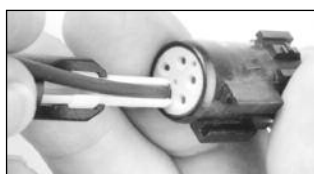
Crimp Inspection

- Note that there are no un-terminated wire strands, and that some strand ends can be seen at the forward edge of the crimp. Also note the insulation is gripped by the smaller secondary crimp. Distortion is at a minimum, both axially and laterally – no sharp edges. Enlargement of micro section allows for final judgement of crimp quality. This test is recommended whenever new tools or new types of wire are used. 

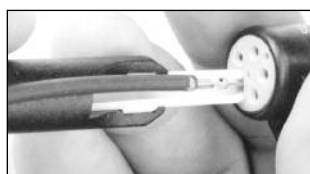
Extraction without TPA



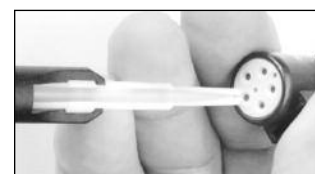
- Open the CET - SLC extraction tool and place it over the insulation of the wire.



- Using a straight motion forward, insert the tool along the wire until it bottoms against the connector. (Do not use a screwing motion - damage will result.)



- While the CET - SLC is bottomed, simply pull the wire/contact assembly out.



- Remove the CET - SLC. Extraction is complete.

For TPA Contact Extraction. Lift orange TPA lock and gently remove contact from rear. No extraction tool is required.

Note: SLC shown.