



ASSEMBLY, INSTALLATION, AND REMOVAL OF CONTACTS AND MODULES

FOR MICRO POWER CONTACTS AND MODULES

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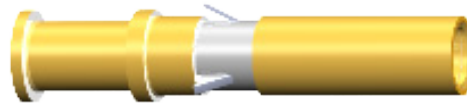
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For the most current information available, visit www.vpc.com.*

MICRO POWER RECEIVER CONTACT ASSEMBLY

PART # 610 142 101



TOOLS REQUIRED

- Crimp Tool, Part # 910 101 102
- Locator, Part # 910 104 145

CRIMP TOOL SETUP

1. Set up the Crimp Tool, Part # 910 101 102 (**Figure A**), by loosening the contact retainer latch assembly using the locking screw (turn counter-clockwise to loosen). Remove any previously used locator.
2. Insert the open end of the Locator, Part # 910 104 145 (**Figure B**), into the contact retainer assembly.
3. Slide the crimp tool retaining latch to the locator until the locator is securely held in place and tighten the latch locking screw.

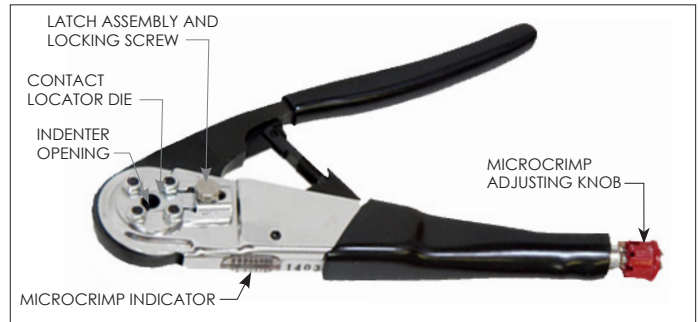


Figure A. Crimp Tool, Part # 910 101 102.

CRIMP TOOL ADJUSTMENT AND WIRE PREPARATION

1. Using **Table 1**, determine the appropriate crimp tool setting and wire strip length according to the wire gauge being used.
2. Pull and turn the microcrimp adjusting knob (clockwise to increase, counter-clockwise to decrease settings) to adjust the crimp tool until the appropriate setting is achieved (**Table 1**). Verify with pin gauge. For more information about gauge pins, visit vpc.com/gaugepins. See calibration instructions for Part # 910 101 102/103 for pin gauge verification instructions.
3. Strip wire to the appropriate length (**Table 1**).

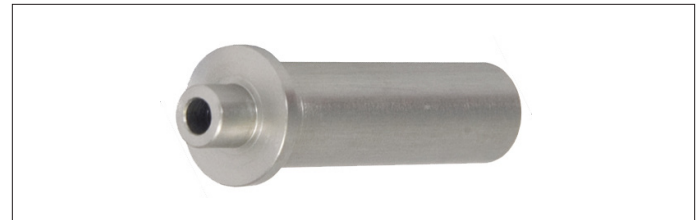


Figure B. Locator, Part # 910 104 145.

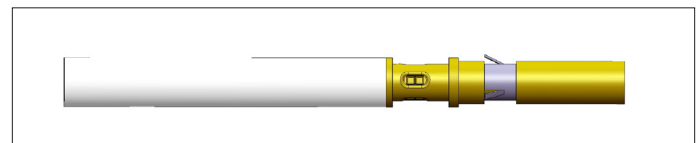


Figure C. Correctly assembled contact.

CONTACT SETUP AND CRIMPING

1. Insert the contact into the crimp tool.
NOTE: Contact will drop completely into the crimp tool.
2. Once the contact is properly inserted into the crimp tool, insert the stripped wire fully into the contact and squeeze the crimp tool handle fully until reaching a positive stop.
NOTE: Crimp tool will automatically release and return to open position when crimp is complete.
3. Remove the crimped contact (**Figure C**).



OBSERVE PRECISION RATCHET ACTION BY OPENING AND CLOSING CRIMP TOOL FULLY SEVERAL TIMES. NOTE THAT TOOL CANNOT BE OPENED WITHOUT COMPLETING A CYCLE. NEVER ATTEMPT TO DISASSEMBLE TOOL. NEVER TIGHTEN OR LOOSEN STOP NUTS ON BACK OF TOOL.

Table 1.

WIRE GAUGE	STRIP LENGTH (IN [MM])	CRIMP SETTING (IN [MM])		PULLOUT FORCE (LB [N])
		MAX	MIN	
12 (Stranded)	0.20 [5.08]	0.080 [2.03]	0.078 [1.98]	50 [222.4]
14 (Stranded)	0.20 [5.08]	0.070 [1.78]	0.068 [1.73]	50 [222.4]

NOTE: 12 and 14 AWG wire can be crimped or soldered. Smaller wire should be soldered only.

MICRO POWER ITA CONTACT ASSEMBLY

PART # 610 143 101



TOOLS REQUIRED

- Crimp Tool, Part # 910 101 102
- Locator, Part # 910 104 144

CRIMP TOOL SETUP

- Set up the Crimp Tool, Part # 910 101 102 (**Figure A**), by loosening the contact retainer latch assembly using the locking screw (turn counter-clockwise to loosen). Remove any previously used locator.
- Insert the open end of the Locator, Part # 910 104 144 (**Figure B**), into the contact retainer assembly.
- Slide the crimp tool retaining latch to the locator until the locator is securely held in place and tighten the latch locking screw.

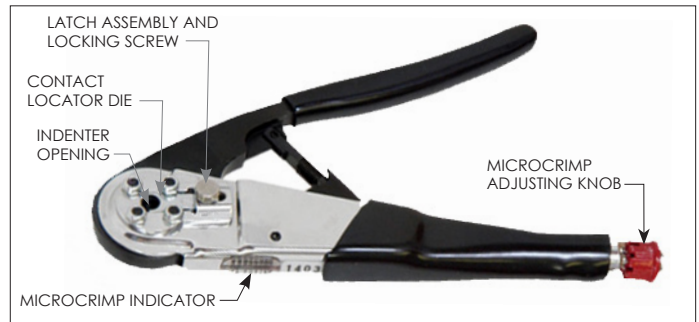


Figure A. Crimp Tool, Part # 910 101 102.

CRIMP TOOL ADJUSTMENT AND WIRE PREPARATION

- Using **Table 1**, determine the appropriate crimp tool setting and wire strip length according to the wire gauge being used.
- Pull and turn the microcrimp adjusting knob (clockwise to increase, counter-clockwise to decrease settings) to adjust the crimp tool until the appropriate setting is achieved (**Table 1**). Verify with pin gauge. For more information about gauge pins, visit vpc.com/gaugepins. See calibration instructions for Part # 910 101 102/103 for pin gauge verification instructions.
- Strip wire to the appropriate length (**Table 1**).

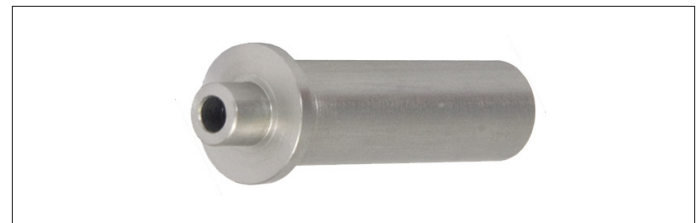


Figure B. Locator, Part # 910 104 144.

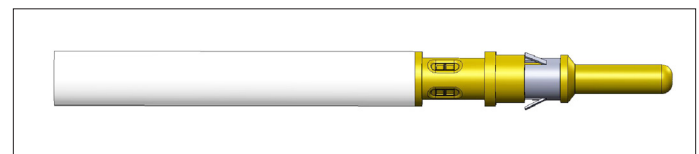


Figure C. Correctly assembled contact.

CONTACT SETUP AND CRIMPING

- Insert the contact into the crimp tool.
NOTE: Contact will drop completely into the crimp tool.
- Once the contact is properly inserted into the crimp tool, insert the stripped wire fully into the contact and squeeze the crimp tool handle fully until reaching a positive stop.
NOTE: Crimp tool will automatically release and return to open position when crimp is complete.
- Remove the crimped contact (**Figure C**).



OBSERVE PRECISION RATCHET ACTION BY OPENING AND CLOSING CRIMP TOOL FULLY SEVERAL TIMES. NOTE THAT TOOL CANNOT BE OPENED WITHOUT COMPLETING A CYCLE. NEVER ATTEMPT TO DISASSEMBLE TOOL. NEVER TIGHTEN OR LOOSEN STOP NUTS ON BACK OF TOOL.

Table 1.

WIRE GAUGE	STRIP LENGTH (IN [MM])	CRIMP SETTING (IN [MM])		PULLOUT FORCE (LB [N])
		MAX	MIN	
12 (Stranded)	0.20 [5.08]	0.080 [2.03]	0.078 [1.98]	50 [222.4]
14 (Stranded)	0.20 [5.08]	0.070 [1.78]	0.068 [1.73]	50 [222.4]

NOTE: 12 and 14 AWG wire can be crimped or soldered. Smaller wire should be soldered only.

MICRO POWER RECEIVER CONTACT INSTALLATION AND REMOVAL

PART # 610 142 101 / 610 142 102

TOOLS REQUIRED

$\frac{3}{64}$ Allen Wrench
Phillips Head Screwdriver (for iCon modules)
Micro Coax/Power Receiver/ITA Extraction Tool, Part # 910 112 123

CONTACT INSTALLATION INSTRUCTIONS

- Assemble the contact to the respective wire.
NOTE: For more information concerning the contact assembly process please see contact assembly instructions in Section 1 of this User's Manual.
- Insert the terminated contact into the back (wiring side) of the assembled module. The contact can only go into one side. Once in place, pull the wire slightly to ensure that the contact is seated.

CONTACT REMOVAL INSTRUCTIONS

- Remove the module from the receiver frame.
NOTE: For more information concerning the process of removing the module from the receiver frame, see module installation and removal instructions in Section 4 of this User's Manual.
- Use a $\frac{3}{64}$ Allen wrench to remove the 0-80 screws (**Figure A**).
- Grasp the module halves and apply force in opposite directions, rocking the ends of the module while slightly pulling the top of the module away from the mating bottom section, until separated. Be sure to open both sides of the module simultaneously or contacts could be damaged.
- Place the Micro Coax/Power Receiver/ITA Extraction Tool, part # 910 112 123 (**Figure B**), over the contact to be removed/replaced. Use care to keep the tool perpendicular to the surface of the module, otherwise the tool or contact could be bent.
- Once the extraction tool is seated and the retaining tabs on the retaining ring are compressed, push the plunger. The contact will be pushed out of the rear of the module.
- Replace the module cap using both hands to push the separated halves together. Replace and tighten the module retaining screws to a maximum torque of .875 in-lbs [0.23 Nm].



DO NOT DEPRESS THE PLUNGER ON THE BACK OF THE EXTRACTION TOOL UNTIL THE TIP OF THE EXTRACTION TOOL HAS FULLY SEATED INTO THE MODULE AND COMPRESSED THE RETAINING RING TABS ON THE CONTACT, OTHERWISE THE RETAINING RING COULD BE DAMAGED.

NOTE: The process shown here uses standard/90 series modules. The same process is used for modules from other series.

NOTE: If you are using a hybrid module, you may need to reference the User's Manual for the other contact type for extraction instructions.

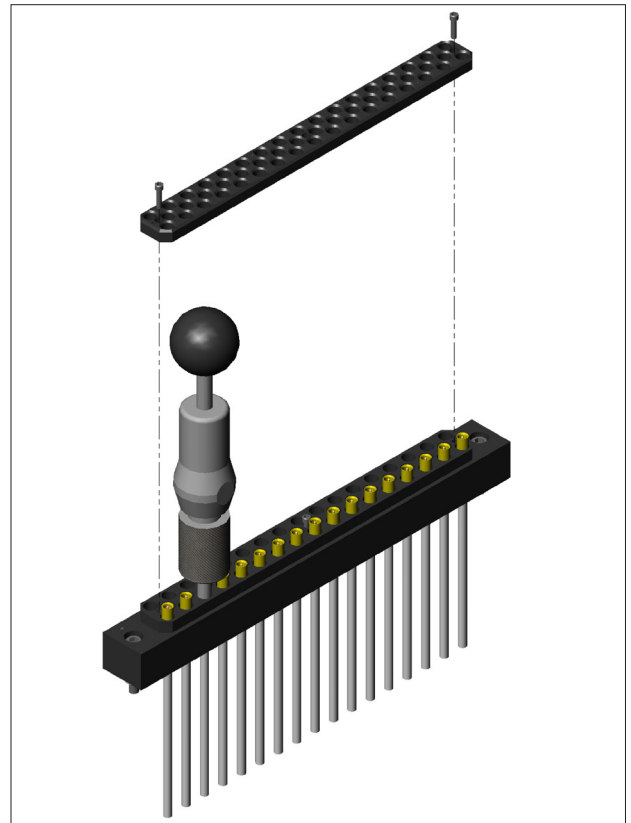


Figure A. The Micro Power module has three 0-80 screws to be removed.

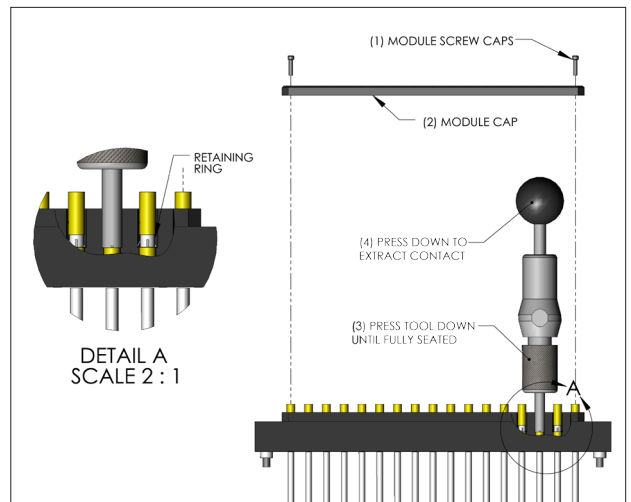


Figure B. Fully seat the extraction tool before depressing.

MICRO POWER ITA CONTACT INSTALLATION AND REMOVAL

PART # 610 143 101

TOOLS REQUIRED

Micro Coax/Power Receiver/ITA Extraction Tool, Part # 910 112 123
 Micro Coax/Power ITA Extraction Tool for i2 Micro iCon, Part # 910 112 127

CONTACT INSTALLATION INSTRUCTIONS

- Assemble the contact to the respective wire.
NOTE: For more information concerning the contact assembly process please see contact assembly instructions in Section 2 of this User's Manual.
- Insert the assembled contact into the back (wiring side) of the module. Push the contact forward until the crimp is inside the module housing. Once in place, pull the wire slightly to ensure the contact is seated.

CONTACT REMOVAL INSTRUCTIONS

- Remove the module from the ITA frame.
NOTE: For more information concerning the process of removing the module from the receiver frame, see module installation and removal instructions in Section 5 of this User's Manual.
- Place the Micro Coax/Power Receiver/ITA Extraction Tool, part # 910 110 123 (**Figure A**), over the contact to be removed/ replaced. Use care to keep the tool perpendicular to the surface of the module as not to bend the tool or the contact to be removed. Rotate the tool slightly while pushing it into the counter bore on the mating side of the module.
- Once the extraction tool is seated properly and the tabs on the retaining ring are compressed (**Figure B**), push the plunger. The contact will be pushed out of the rear of the module.



DO NOT DEPRESS THE PLUNGER ON THE BACK OF THE EXTRACTION TOOL UNTIL THE TIP OF THE EXTRACTION TOOL HAS BEEN FULLY SEATED INTO THE MODULE AND COMPRESSED THE RETAINING RING TABS ON THE CONTACT, OTHERWISE THE RETAINING RING COULD BE DAMAGED.

NOTE: The process shown here uses standard/90 series modules. The same process is used for modules from other series.

NOTE: If you are using a hybrid module, you may need to reference the User's Manual for the other contact type for extraction instructions.

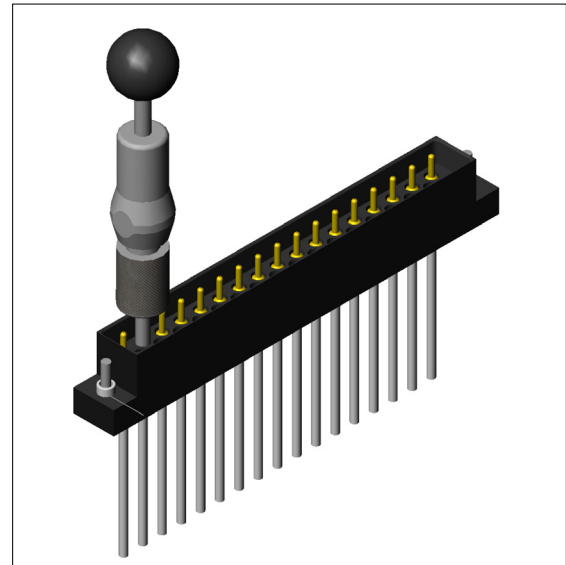


Figure A. Extraction tool, Part # 910 110 123.

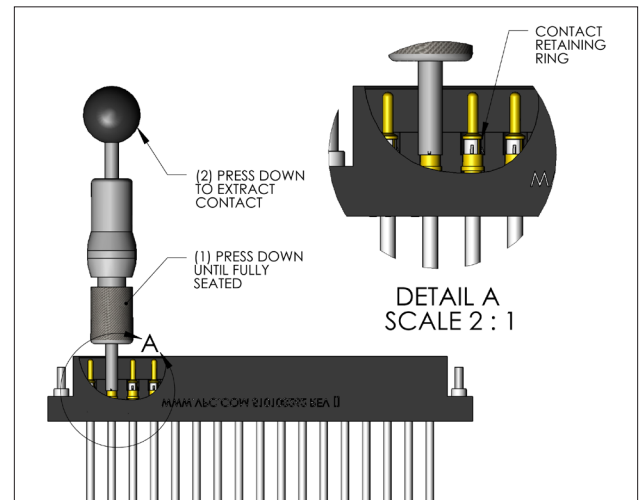


Figure B. Fully seat the extraction tool before depressing.

MICRO POWER STANDARD/90 SERIES MODULE INSTALLATION AND REMOVAL

TOOLS REQUIRED

$\frac{3}{32}$ Allen Wrench

INSTALLATION INSTRUCTIONS

1. Place the module in the receiver or ITA until the upper and lower module screws touch the mating holes in the inner frame. Ensure that Position 1 is located at the top for systems in which the modules are oriented vertically or to the left for systems in which the modules are oriented horizontally.
2. Using a $\frac{3}{32}$ Allen wrench, tighten the top screw 1 to 2 full revolutions, while pushing lightly against the face of the module.
3. Maintain this pressure while tightening the bottom screw 1 to 2 full revolutions.
4. Repeat this sequence until the module is seated. Torque the screw to 4 in-lbs [0.45 Nm].

REMOVAL INSTRUCTIONS

1. To remove, loosen the top screw 1 to 2 full revolutions. Loosen bottom screw 1 to 2 full revolutions.
2. Repeat this sequence until the module is separated from the receiver or ITA.

NOTE: For optimum performance and system longevity, distribute the contact load evenly throughout the module.

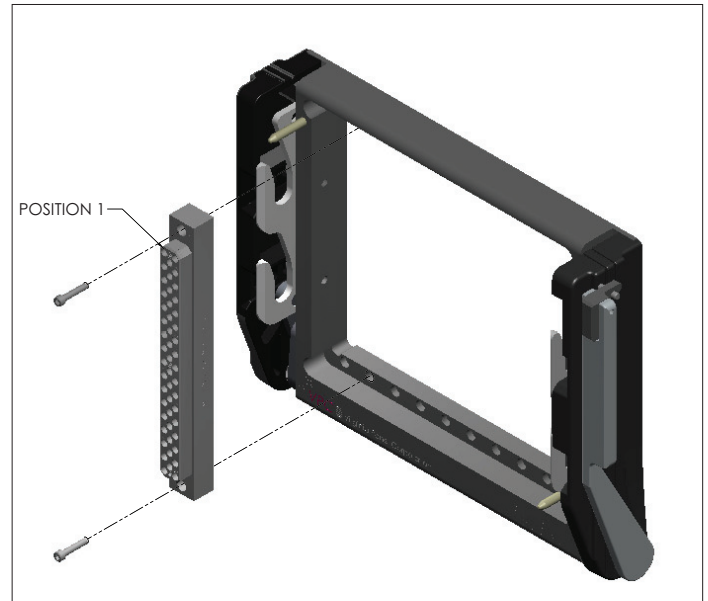


Figure A. Receiver Module.



Figure B. ITA Module.

MICRO POWER ICON MODULE INSTALLATION AND REMOVAL

TOOLS REQUIRED

Phillips Head Screwdriver

INSTALLATION INSTRUCTIONS

NOTE: The receiver strain relief plate or the ITA cover may need to be removed prior to installing or removing an iCon module. Please refer to the appropriate User's Manual for instructions on how to perform these steps.

1. Place the module in the receiver or ITA until the upper and lower module screws touch the mating holes in the inner frame. Install modules such that Position 1 is located at the top of the ITA/ receiver frame.
2. Using a Phillips head screwdriver, tighten the top screw 1 to 2 full revolutions, while pushing lightly against the face of the module.
3. Maintain this pressure while tightening the bottom screw 1 to 2 full revolutions.
4. Repeat this sequence until the module is seated. Torque the screw to 1.5 in-lbs [0.16 Nm].

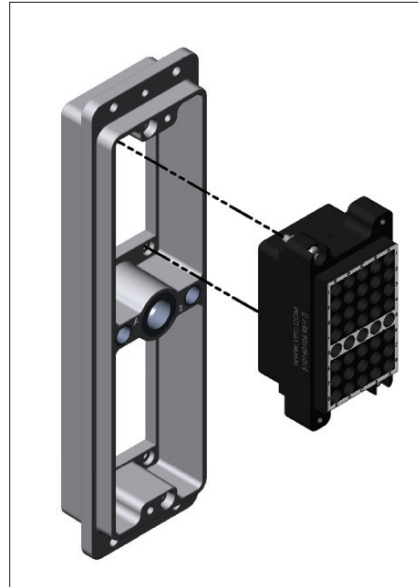


Figure A. Receiver Module.

REMOVAL INSTRUCTIONS

1. To remove, loosen the top screw 1 to 2 full revolutions. Loosen bottom screw 1 to 2 full revolutions.
2. Repeat this sequence until the module is separated from the receiver or ITA.

NOTE: For optimum performance and system longevity, distribute the contact load evenly throughout the module.

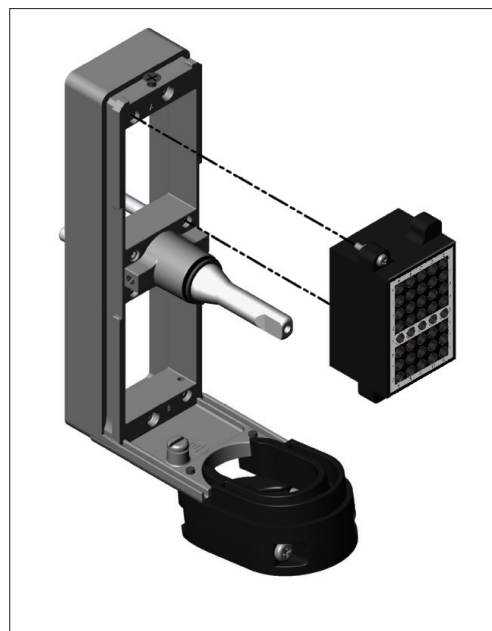


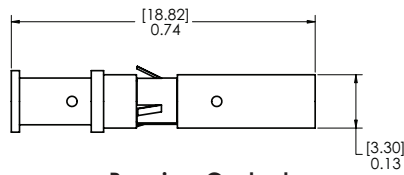
Figure B. ITA Module.

CROSS REFERENCE TABLES

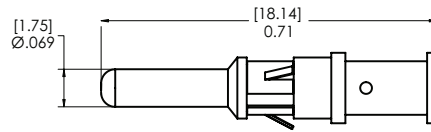
RECEIVER CONTACTS	STANDARD/ 90 SERIES RECEIVER MODULES		ICON RECEIVER MODULES				CRIMP TOOL	LOCATOR	EXTRACTION
	510 104 267	510 104 270	510 160 106	510 160 107	510 160 111	510 160 112	910 101 102	910 104 145	910 112 123
610 142 101	X	X	X	X	X	X	X	X	X
610 142 102	X	X	X	X	X	X			X

ITA CONTACT	STANDARD/ 90 SERIES ITA MODULES		ICON ITA MODULES			CRIMP TOOL	LOCATOR	EXTRACTION
	510 108 262	510 108 263	510 161 106	510 161 107	510 161 111	910 101 102	910 104 144	910 112 123
610 143 101	X	X	X	X	X	X	X	X

MICRO POWER CONTACT ELECTRICAL SPECIFICATIONS



Receiver Contact
Part # 610 142 101



ITA Contact
Part # 610 143 101

Dimensions shown: [millimeters]
inches

Electrical Specifications

CURRENT RATING	21 AMP Continuous
DIELECTRIC WITHSTANDING VOLTAGE (DWV)	1500 VDC Min.
CONTACT RESISTANCE	1.5 mOhms Max.

Mechanical Characteristics

CYCLE LIFE	10,000
MATING FORCE	2.0 lbs max [0.91 kg]

Material

CONTACT BODY	Brass per ASTM - B-16 / .000050" Au over .000100" Ni
RETAINING RING	BeCu per ASTM - B-196 / .000050" Au over .000100" Ni