



ASSEMBLY, INSTALLATION, AND REMOVAL

MINI POWER CONTACTS AND MODULES

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

RECEIVER CONTACT ASSEMBLY

PART # 610 116 112



Dimensions shown: [millimeters]
inches

ASSEMBLY INSTRUCTIONS

1. Strip wire per the dimensions shown (**Figure A**).
2. Add shrink tubing. 0.25" [6.35 mm] diameter, 1.00" [25.4 mm] length to the wire (**Figure A**).
3. Solder and clean (**Figure B**). VPC solders per IPC J-STD-001.
NOTE: Make sure the heat from the solder does not shrink the tubing.
4. Slide the shrink tubing over the soldered end, up to the inspection hole; make sure that the inspection hole is not covered (**Figure C**).
5. Shrink the tubing.

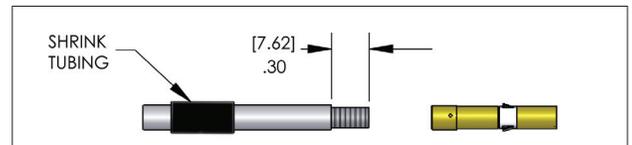


Figure A. Strip length.

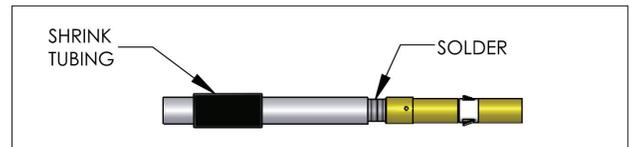


Figure B. Solder, taking care not to shrink the tubing.

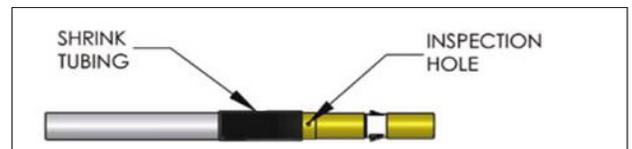


Figure C. Ensure inspection hole is not covered.

RECEIVER CONTACT INSTALLATION AND REMOVAL

PART # 610116112, 910112104

TOOLS REQUIRED

Flat Head Screwdriver
Phillips Head Screwdriver

INSTALLATION

1. Assemble the contact to the respective wire.
2. Insert the assembled contact into the back (wiring side) of the assembled module.
3. Once in place, pull the wire slightly to ensure that the contact is fully seated.

REMOVAL

1. Remove the module from the receiver frame.

NOTE: Some mini power receiver modules are one-piece modules. If your module does not have two flat head or Phillips screws or 3 sockethead cap screws holding the module together, skip to step 4.

2. Use the appropriate screwdriver to remove or loosen (if captive screws) the screws located at the top and bottom of the module or a 0.050" Allen wrench to remove sockethead cap screws.
3. 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.
4. Place the extraction tool, part # 910112104 (**Figure A**), 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 damaged.
5. Once the extraction tool is fully seated and the retaining tabs on the retaining ring are compressed, push the tool into the module (**Figure A**). The contact will be pushed out of the rear of the module.



Figure A. Extraction tool, part # 910112104.

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.

6. If necessary, 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 1.5 in-lbs [0.17 Nm] (not required for all mini power modules).



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 Manual for the other contact type for extraction instructions.

ITA CONTACT ASSEMBLY

PART # 610115124, 610115125

**ASSEMBLY INSTRUCTIONS**

1. Strip wire per the dimensions shown (**Figure A**).
2. Add shrink tubing. 0.25" [6.35 mm] diameter, 1.00" [25.4 mm] length to the wire (**Figure A**).
3. Solder and clean (**Figure B**). VPC solders per IPC J-STD-001.
NOTE: Make sure the heat from the solder does not shrink the tubing.
4. Slide the shrink tubing over the soldered end, up to the inspection hole; make sure that the inspection hole is not covered (**Figure C**).
5. Shrink the tubing.

Dimensions shown: [millimeters]
inches

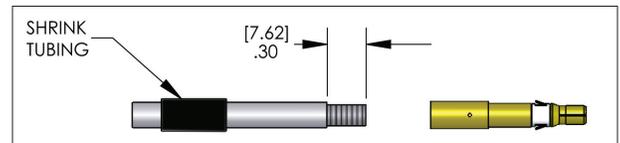


Figure A. Strip length.

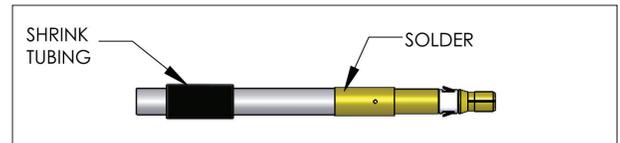


Figure B. Solder, taking care not to shrink the tubing.

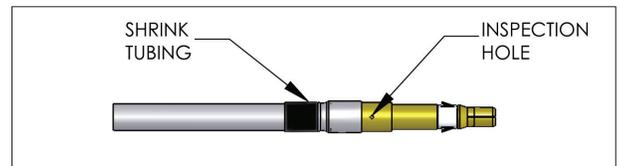


Figure C. Ensure inspection hole is not covered.

ITA CONTACT INSTALLATION AND REMOVAL

PART # 610 115 124 / 610 115 125 / 910 112 104

INSTALLATION

1. Assemble the contact to the respective wire.
2. Insert the assembled contact into the back (wiring side) of the module. Once in place, pull the wire slightly to ensure the contact is fully seated.

REMOVAL

1. Remove the module from the ITA frame.
2. Place the extraction tool, part # 910 112 104 (**Figure A**), over the contact to be removed. Use care to keep the tool perpendicular to the surface of the module as not to bend the tool or the contact. Rotate the tool slightly while pushing it into the counter bore on the mating side of the module.
3. Once the extraction tool is seated properly and the tabs on the retaining ring are compressed (**Figure B**), push the tool into the module. The contact will be pushed out of the rear of the module.

DO NOT DEPRESS THE PLUNGER INTO 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.



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 Manual for the other contact type for extraction instructions.

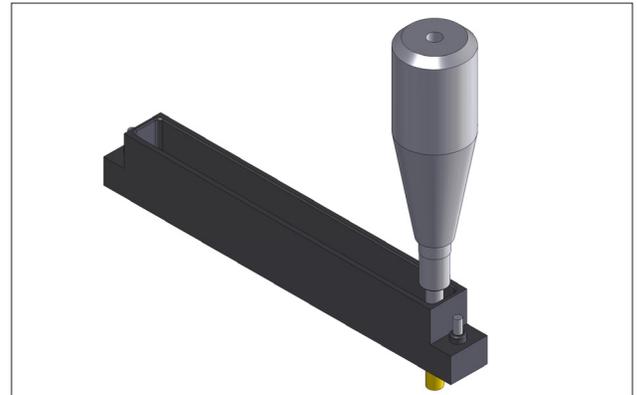


Figure A. Extraction tool, Part # 910 112 104.

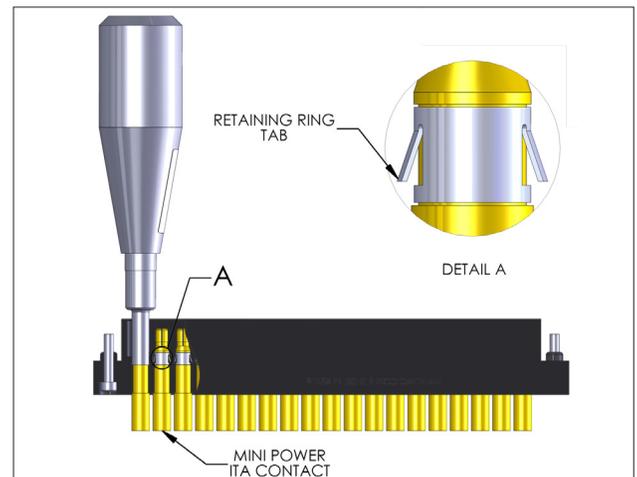


Figure B. Fully seat extraction tool before depressing.

90 SERIES MODULE INSTALLATION AND REMOVAL

RECEIVER PART # 510104123, 510104206

ITA PART # 510108115, 510108178

TOOLS REQUIRED

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

INSTALLATION

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 - 2 full revolutions, while pushing lightly against the face of the module.
3. Maintain this pressure while tightening the bottom screw 1 - 2 full revolutions.
4. Repeat this sequence until the module is seated. Torque the screw to 4 in-lbs [0.45 Nm].

REMOVAL

1. To remove, loosen the top screw 1 - 2 full revolutions. Loosen bottom screw 1 - 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.

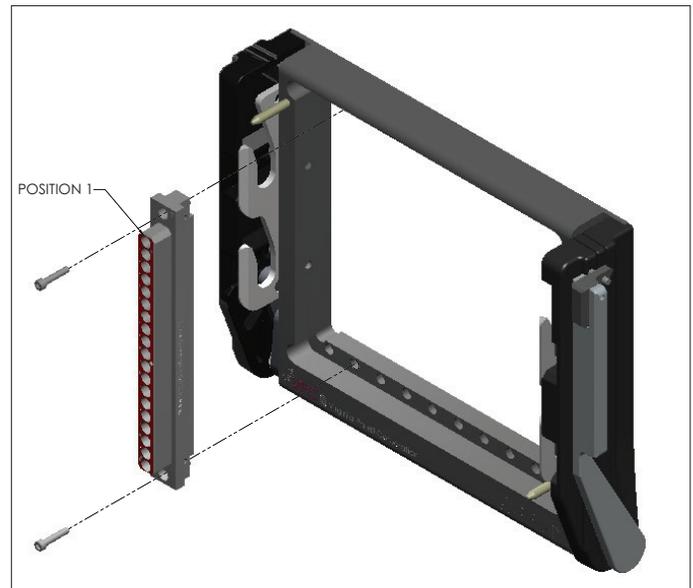


Figure A. Receiver Module.

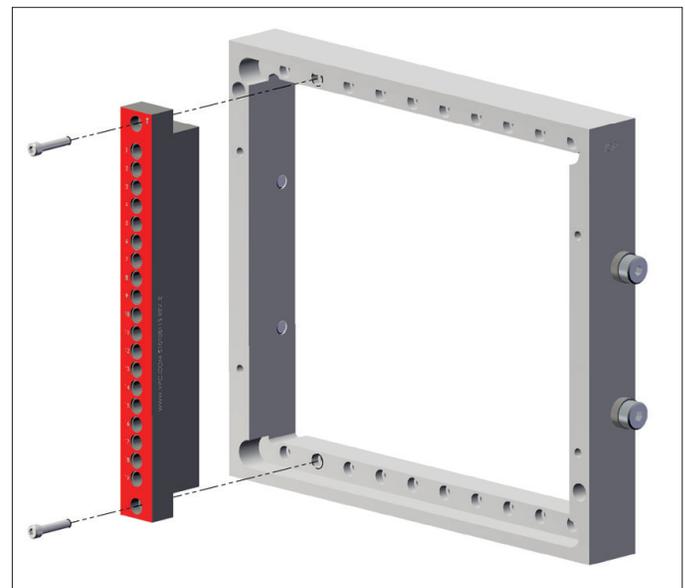


Figure B. ITA Module.

ICON/I1 MODULE INSTALLATION AND REMOVAL

RECEIVER PART # 510160102, 510160103, 510160104

ITA PART # 510161102, 510161103, 510161104

TOOLS REQUIRED

Phillips Head Screwdriver

INSTALLATION

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 iCon or i1 User 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 - 2 full revolutions, while pushing lightly against the face of the module.
3. Maintain this pressure while tightening the bottom screw 1-2 full revolutions.
4. Repeat this sequence until the module is seated. Torque the screw to 1.5 in-lbs [0.16 Nm].

REMOVAL

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.

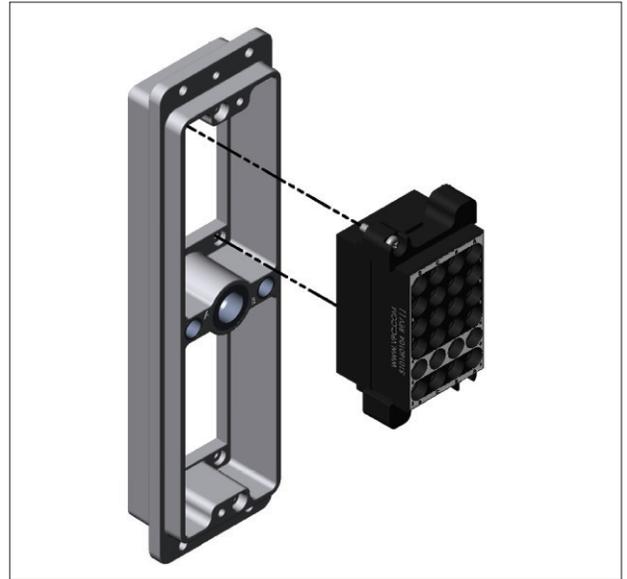


Figure A.

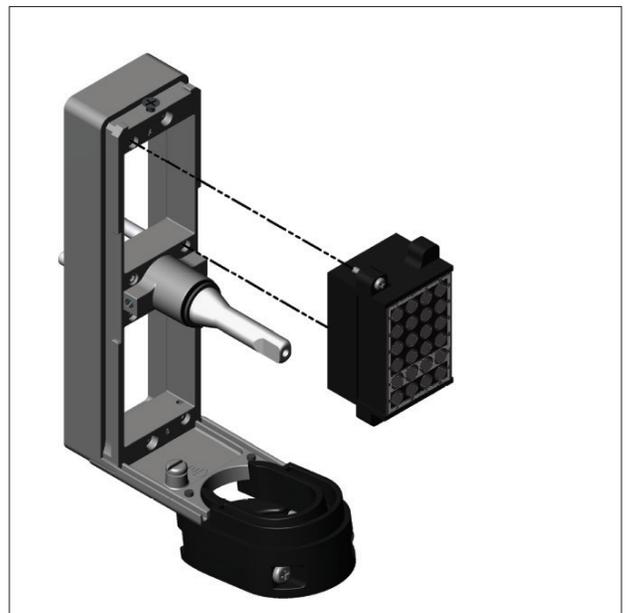


Figure B.

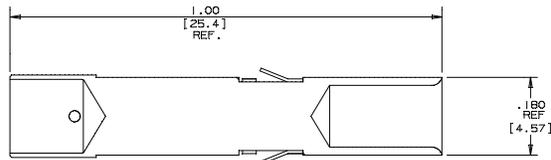
CROSS REFERENCE TABLES

	STANDARD/ 90 SERIES RECEIVER MODULES		CASS/ 80 SERIES RECEIVER MODULE	ICON RECEIVER MODULES			EXTRACTION
	510104123	510104206	510113120	510160102	510160103	510160104	910112104
RECEIVER CONTACTS							
610116112	X	X	X	X	X	X	X

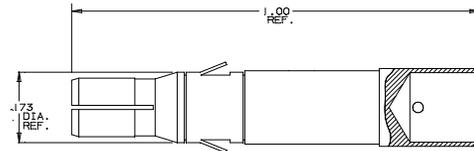
	STANDARD/ 90 SERIES ITA MODULES		CASS/ 80 SERIES ITA MODULE	ICON ITA MODULES			EXTRACTION
	510108115	510108178	510114107	510161102	510161103	510161104	910112104
ITA CONTACTS							
610 115 124	X	X	X	X	X	X	X
610 115 125	X	X	X*	X	X	X	X

*Navy Part Number does not exist for Part # 610115125

CONTACT PERFORMANCE SPECIFICATIONS



Receiver Contact
Part # 610116112



ITA Contact
Part # 610115124 & 610115125

Electrical Specifications

CONTACT RESISTANCE	Rated at 50 Amps for 5 min w/ a min drop of 4 Milliohms to a max drop of 10 Milliohms
OPERATING VOLTAGE & CURRENT	480 V AC, 50 Amps

Mechanical Characteristics

LIFE EXPECTANCY (CYCLES)	20,000 cycles
MATING FORCE	5.4 lbs max. [2.45 kg]
WIRE SIZE	8 AWG Max

Material

ITA CONTACT	BeCu alloy M25 0.000030 (610115124) or 0.000050 (610115125) Au per MIL-G-45204 over 0.0001 Ni per QQ-N-290
RCVR CONTACT	360 Brass alloy, half-hard 0.000050 Au per MIL-G-45204, over 0.0001 Ni per QQ-N-290
RETAINING RING	BeCu alloy M25 0.0001 Ni per QQ-N-290