



# ICON 960 USER MANUAL

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## INDEX [\(CLICK TO NAVIGATE TO PAGE\)](#)

### PAGE

- [1 RECEIVER FEATURE IDENTIFICATION](#)
- [2 ITA FEATURE IDENTIFICATION](#)
- [3 RECEIVER/ITA ENGAGEMENT & DISENGAGEMENT](#)
- [4 RECEIVER MOUNTING](#)
- [5 ITA ENCLOSURE INSTALLATION & REMOVAL](#)
- [6 CABLE BUNDLE INSTALLATION & ADJUSTMENT](#)
- [7 ITA & RECEIVER MODULE INSTALLATION](#)
- [8 ITA & RECEIVER PROTECTIVE COVERS](#)
- [9 KEYING PIN KIT ASSEMBLY](#)
- [10 TROUBLESHOOTING](#)

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## RECEIVER FEATURE IDENTIFICATION

PART # 310 124 XXX

1. The top of the receiver can be identified by the the alpha keying receptacle and the polarizing feature receptacle. The numeric keying receptacle is located on the bottom (**Figure A**).
2. In addition to being on the top, the polarizing feature receptacle is only located on the front side. This feature prevents the ITA and receiver from being engaged upside down. The front of the receiver can also be identified by the presence of the latching feature (**Figure A**).
3. The front side mates with the ITA. Wires exit the receiver from the back side (**Figure B**).

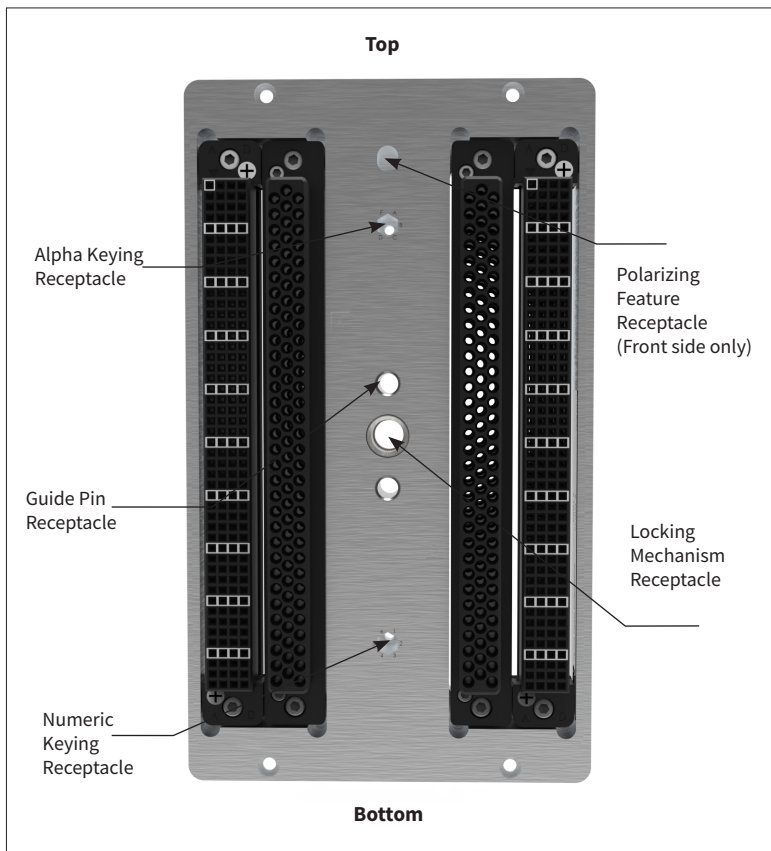


Figure A. iCon 960 Receiver front view.

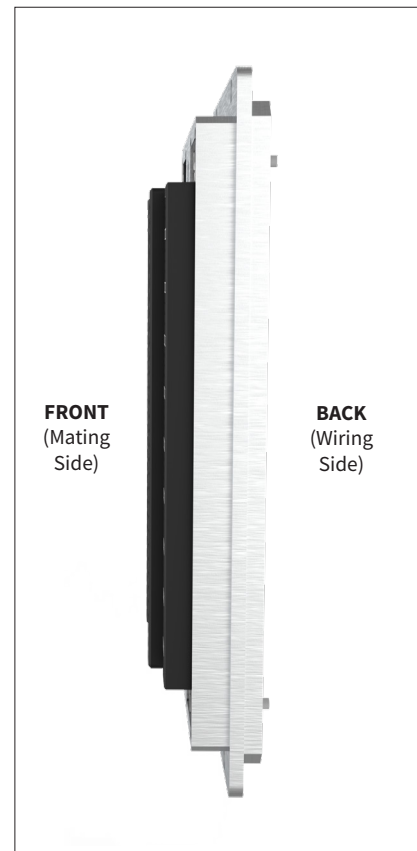


Figure B. iCon 960 Receiver side view.

[RETURN TO INDEX](#)

## ITA FEATURE IDENTIFICATION

PART # 410 124 XXX

1. The top of the ITA can be identified by the the alpha keying receptacle and the polarizing pin feature . The numeric keying receptacle is located on the bottom (**Figure A**).
2. In addition to being on the top, the polarizing pin feature receptacle is only located on the front side. This feature prevents the ITA and receiver from being engaged upside down. The front of the ITA can also be identified by the presence of protruding guide pins and the locking mechanism. The engagement handle/knob is installed on the back side (**Figure A**).
3. The front side mates with the receiver. Wires exit the ITA through the two 15° cable clamp exits (**Figure B**).



Figure A. iCon 960 ITA front view.

## RECEIVER / ITA ENGAGEMENT AND DISENGAGEMENT

PART # 310 124 XXX, 410 124 XXX

### ENGAGEMENT

1. Turn the engagement handle 180° counter- clockwise to the open position (**Figure A**). In the open position, the wide end of the handle will be on top.
2. Align the guide pins and gently push the ITA onto the receiver. There will be about a 0.20" gap. The iCon 960 is polarized to prevent upside down engagement.
3. Rotate the handle 180° clockwise to engage (**Figure B**).

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

### DISENGAGEMENT

1. Turn the engagement handle 180° counter - clockwise to the open position.
2. Remove the ITA.

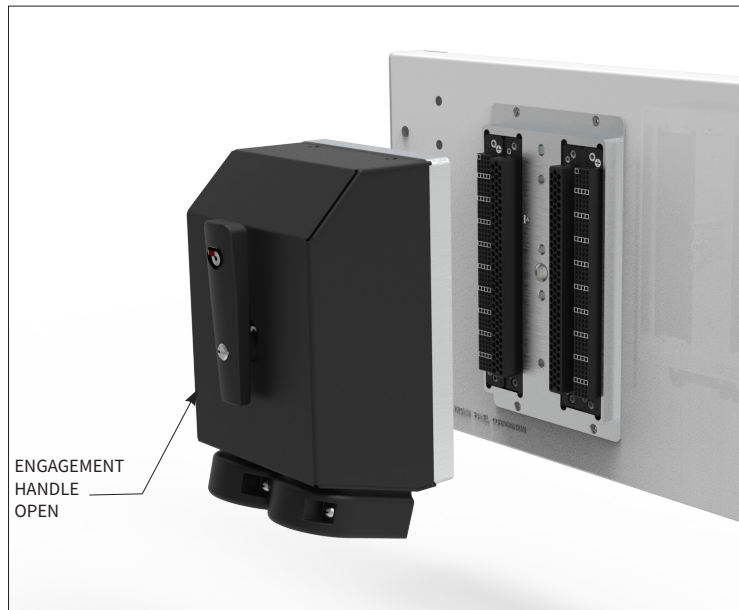


Figure A. Ensure that the ITA handle is in the up/open position before engaging with the receiver.

CONTACT TYPE	MAX. MATING FORCE (LBS)
QuadraPaddle	0.35
TriPaddle	0.57
Mini Power	3.37
Mini Coax	1.44
Micro Power	1.30
Micro Coax	1.82
75 Ohm HD Coax	1.87
20/26 GHz Coax	3
Twinax	3.5
Thermocouple	0.25
POF	2.07
Mini Multimode	2.07

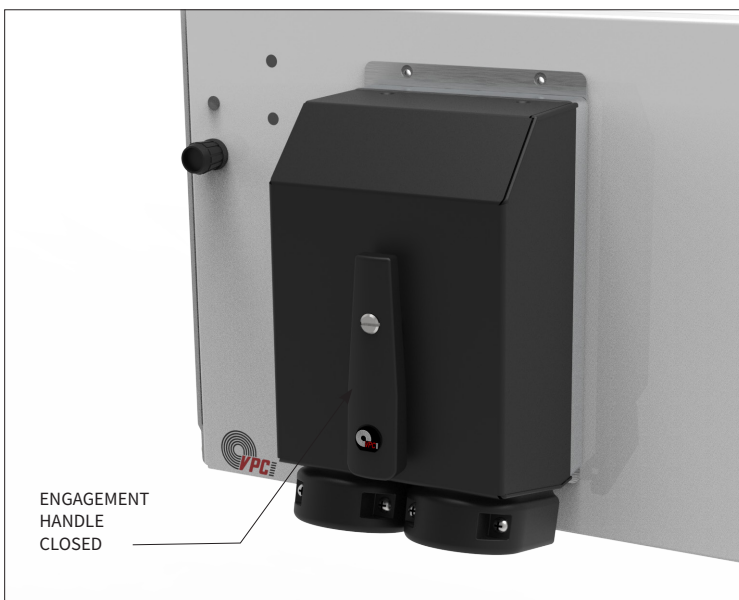


Figure B. ITA handle in the closed/engaged position.

[RETURN TO INDEX](#)

## RECEIVER MOUNTING

PART # 310 124 XXX

1. Prepare the mounting surface using the recommended panel cutout dimensions (**Figure A**).
2. Attach the iCon960 receiver to the panel with the provided 4-40 x .375 socket head cap screws, washers and hex nuts (**Figure B**). Torque screws to 2 in-lbs [0.23 Nm]. If the mounting surface has threaded holes, the nuts will not be needed.

**NOTE:** For backplane PCB applications replace mounting screws in modules with 4-40 x .625 socket head cap screws included.

**NOTE:** M3 hardware can be used in place of the provided 4-40 hardware.

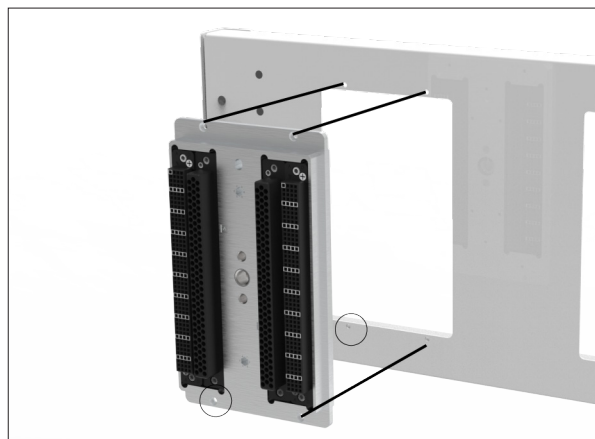


Figure B.

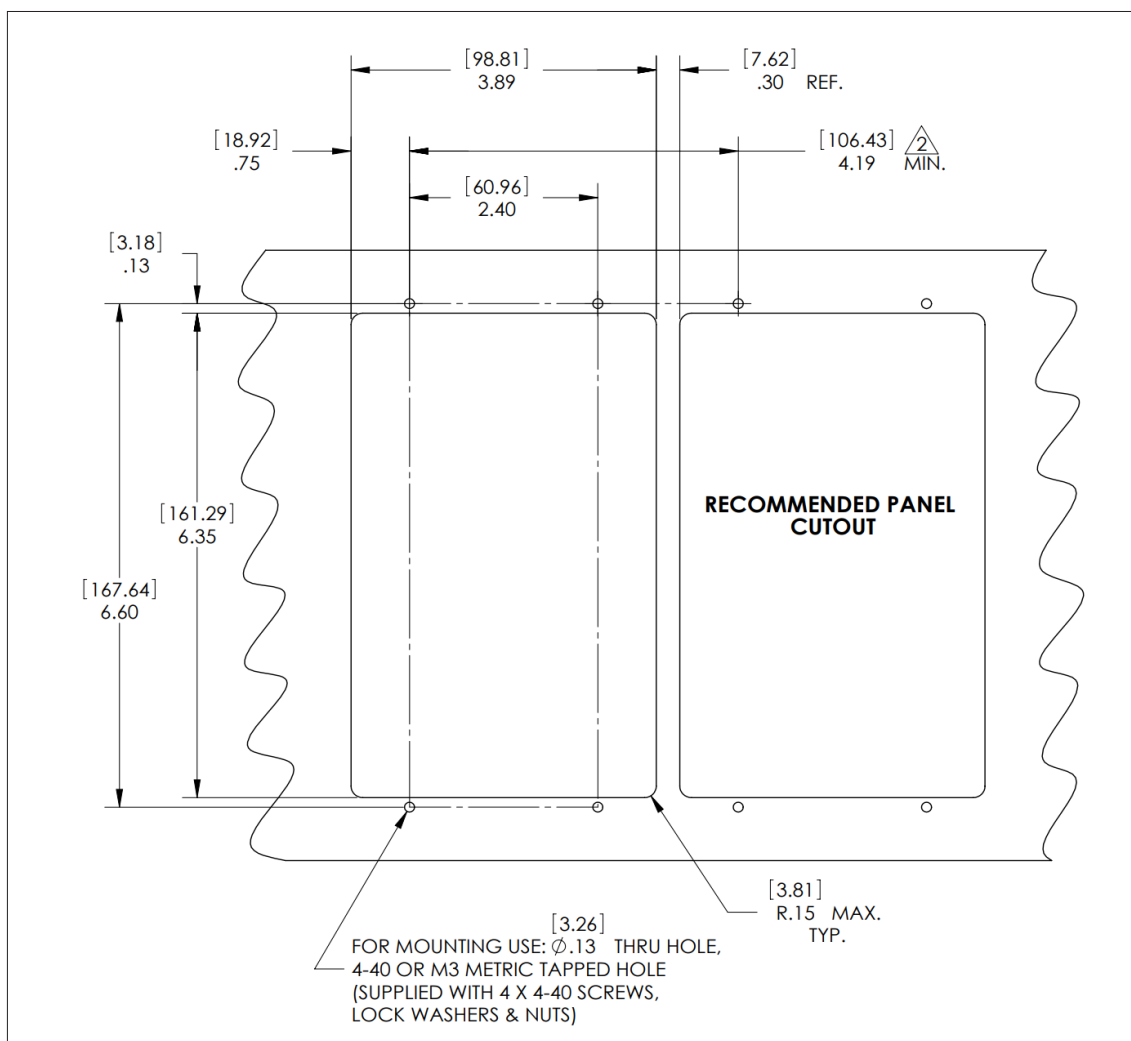


Figure A.

Dimensions shown: inches [millimeters]

[RETURN TO INDEX](#)

## ITA ENCLOSURE INSTALLATION AND REMOVAL

PART # 410 124 XXX, 410 112 775

### INSTALLATION

1. Be sure the ITA is disengaged from the receiver. Place the cover onto the iCon 960 ITA (**Figure A**). Make sure all wires are routed and divided between the two cable clamp slots.
2. Using a forward motion, mount the cover onto the ITA frame until it is fully seated against it.
3. Place the handle into the enclosure in the up/disengaged position (**Figure A**).
4. Position the supplied 6-32 shoulder screw into the handle and tighten with a flat head screwdriver (**Figure B**).
5. Tighten the two screws located at the top of the ITA and three screws located at the bottom of the ITA.

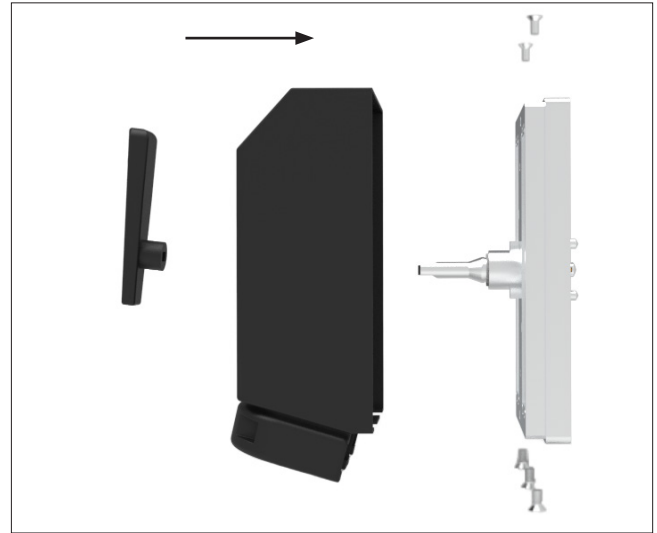


Figure A.

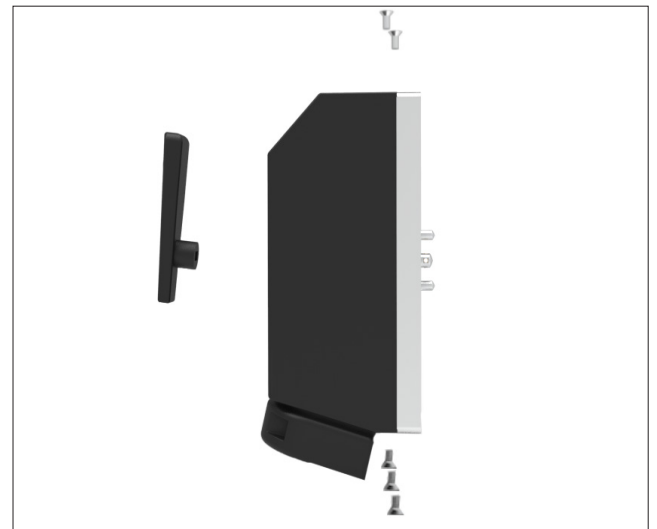


Figure B.

### REMOVAL

1. Place the iCon 960 ITA in a face down position with the protective cover installed. Use a flat head screwdriver to remove the shoulder screw located in the center of the engagement handle (**Figure C**).
2. Remove the engagement handle by pulling it upward.
3. Loosen the enclosure screws with a Phillips screwdriver (**Figure D**). There are two screws located at the top and three screws located at the bottom.
4. Gently lift the enclosure up to remove it.
5. Use care to move any wiring through the cable exits.

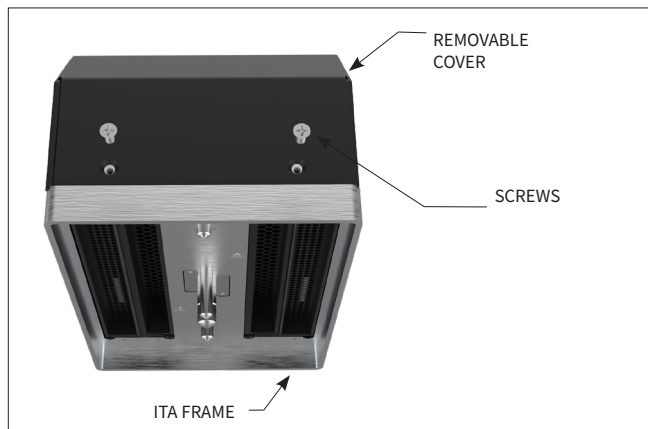


Figure D.

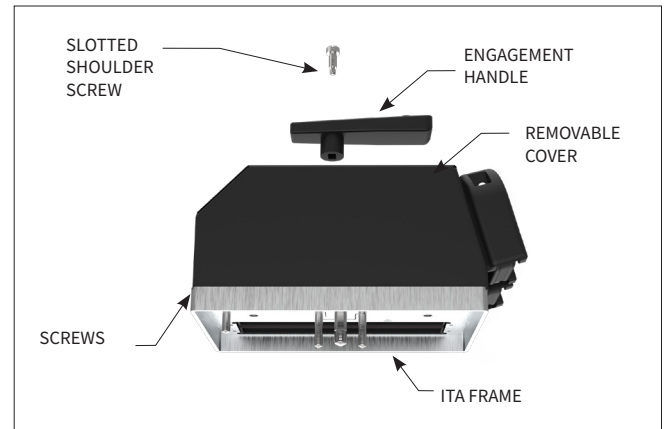


Figure C.

[RETURN TO INDEX](#)

CABLE BUNDLE INSTALLATION AND ADJUSTMENT

PART # 410 124 XXX

1. Remove the engagement handle and enclosure per the instructions on page 5.
2. Loosen the (4) 6-32 x 1.75" screws to allow the cable(s) to slide freely within each clamp (**Figure A**).
3. For large cable bundles unscrew the (8) 4-40 x .375" screws holding the clamps to the ITA enclosure. Afterwards, if necessary, entirely remove the 1.75" screws to allow the wire(s) or cable(s) to be removed.

FORMULA=CALCULATING MAX # WIRES IN A CABLE BUNDLE

$$B = 1.2 \sqrt{(N_1 d_1^2 + N_2 d_2^2 + \dots + N_n d_n^2)}$$

WIRE TYPE	Ø [in]	# WIRES	BUNDLE Ø [in]
26AWG 16878/4	0.043	549	1.21
24AWG 16878/4	0.048	441	1.21
22AWG 16878/4	0.054	348	1.21
M27500-26ml2t08	0.114	78	1.21
M27500-24ml2t08	0.126	64	1.21
M27500-22ml2t08	0.140	52	1.21
M27500-22ml1t08	0.087	134	1.21
22AWG 16878/4 T/P	0.108	87	1.21
24AWG 16878/4 T/P	0.096	110	1.21

**NOTE:** Acceptable bundle dimension must be reduced when using sleeving and shrink tubing.



ITA Parts Identification

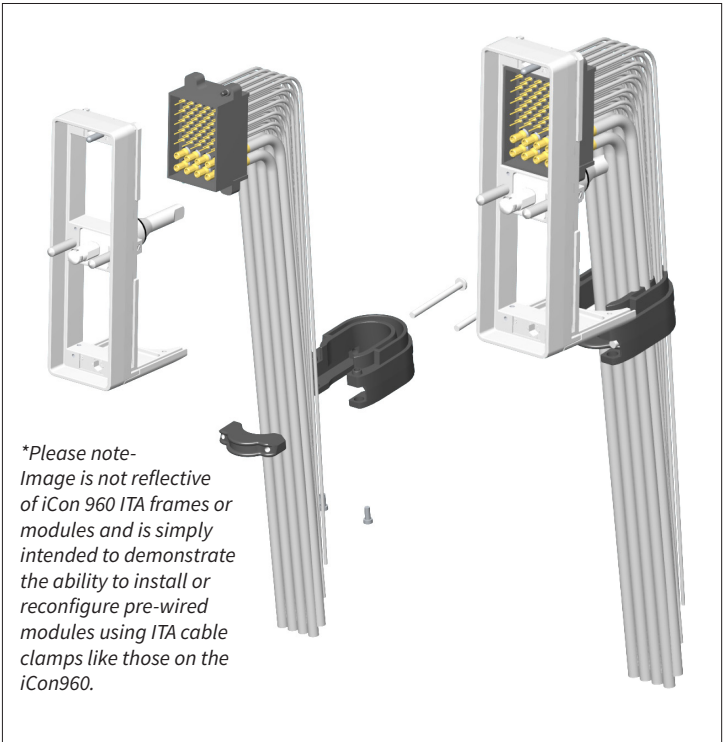


Figure A.

## ITA AND RECEIVER MODULE INSTALLATION

PART # 310 124 XXX, 410 124 XXX

The iCon 960 accepts VPC's 90 Series modules. For optimum performance and system longevity, distribute the contact load evenly throughout the module.

### RECEIVER MODULE INSTALLATION

1. Place the module in the receiver frame until the upper and lower module screws touch the mating holes in the frame. Install modules so that Pin Position 1 is located at the top of the receiver frame (**Figure A**).
2. Using a hex wrench, tighten the top screw 1-2 full turns, while pushing lightly against the face of the module.
3. Repeat until the module is seated. Torque the screw to 1.5 in-lbs [0.16 Nm].

### ITA MODULE INSTALLATION

1. Remove the engagement handle and enclosure per the instructions on page 5.
2. Place the module in the ITA until the upper and lower module screws touch the mating holes in the frame. Make sure Pin Position 1 on the ITA module aligns with Pin Position 1 on the receiver module.
3. Tighten the top screw while applying light pressure to the face of the module.
4. Maintain pressure while tightening the bottom screw.
5. Repeat this sequence until the module is seated.
6. Reinstall the ITA enclosure (**Figure B**).

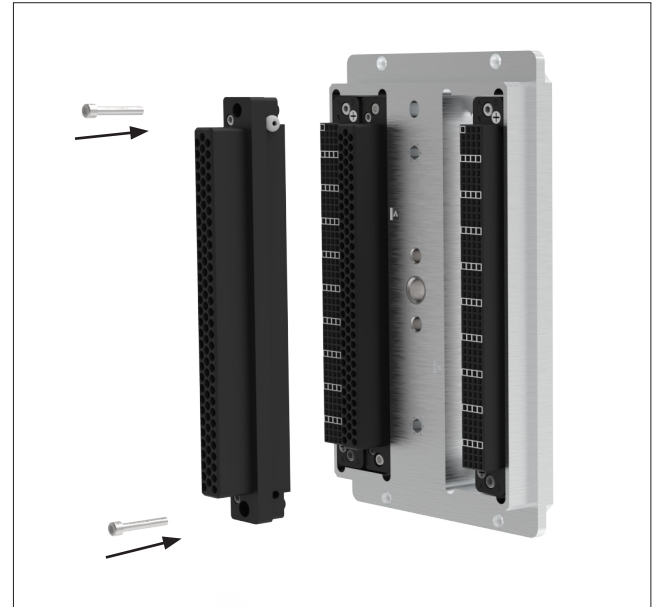


Figure A. Receiver module installation.

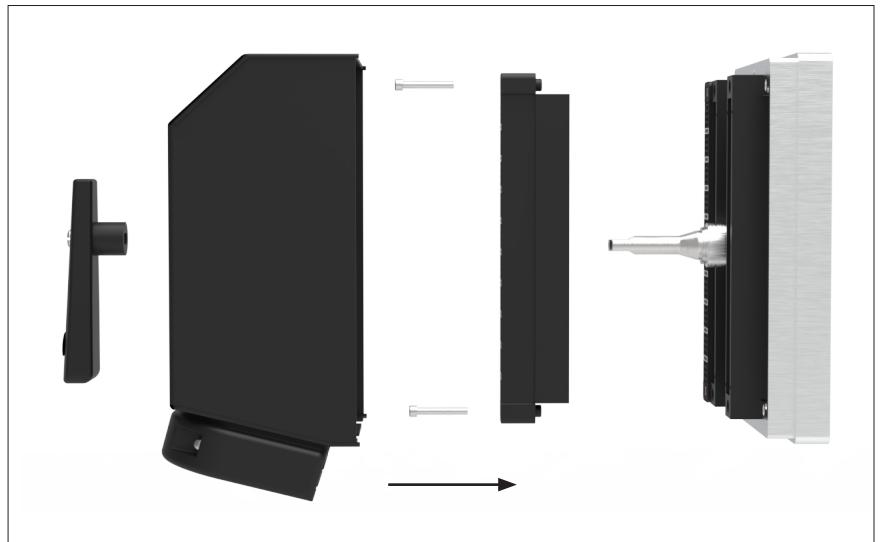


Figure B. ITA module installation.



## ITA AND RECEIVER PROTECTIVE COVERS

PART # 310 113 489, 410 112 804

### RECEIVER COVER

1. Align the center boss of the iCon 960 protective cover with the center bushing on the receiver (**Figure A**).
2. Push the cover on, ensuring that the center boss mates properly with the center bushing.
3. Press the cover until it is seated fully against the receiver.

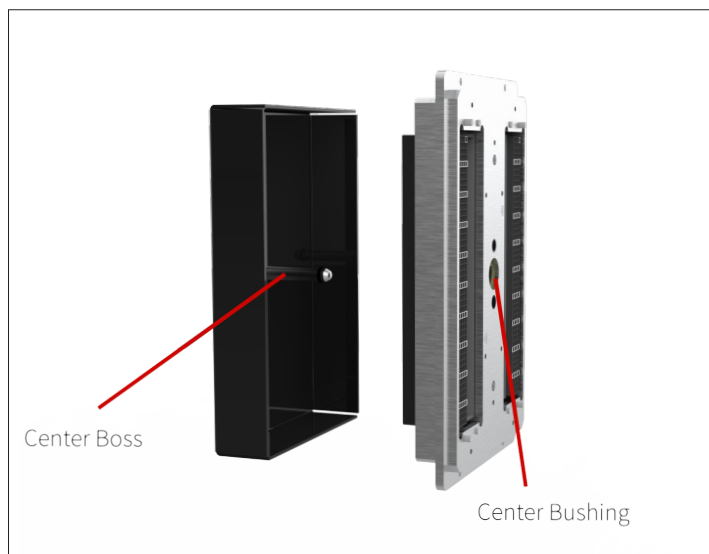


Figure A. Make sure to align the center boss of the protective cover with the center bushing of the receiver.

### ITA COVER

1. Move the engagement handle to the up/open position.
2. Place the cover on the engagement mechanism (**Figure B**).
3. When the engagement handle is in the up/open position it will accept the protective cover using the center boss.
4. Turn the engagement handle to the down/closed position to fully mate the ITA with the protective cover (**Figure C**).



Figure B. ITA

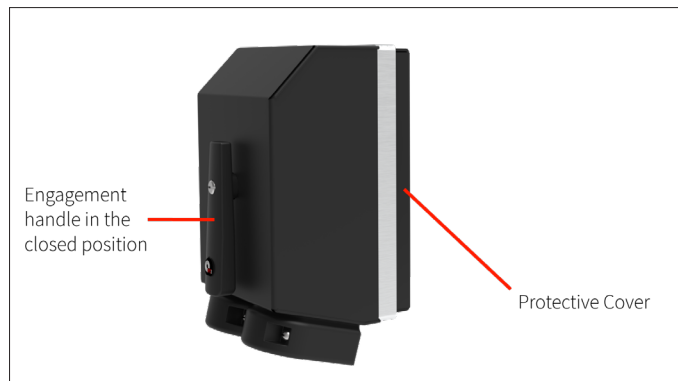
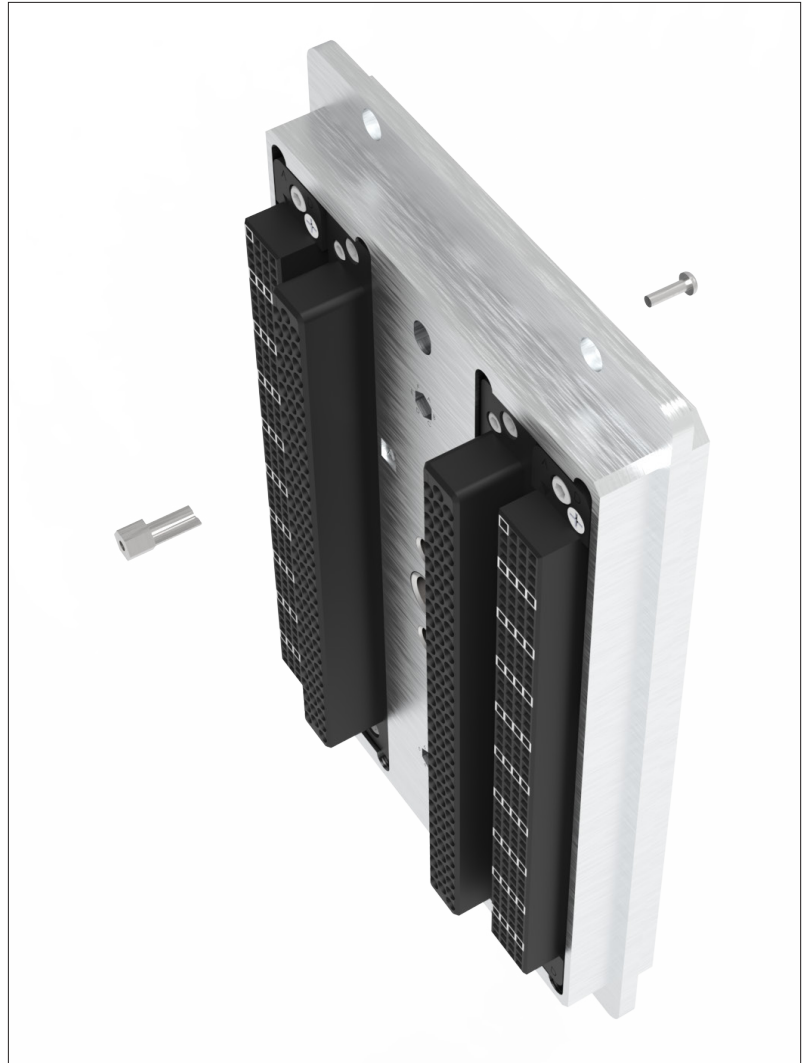


Figure C. ITA

## KEYING PIN KIT ASSEMBLY

PART # 310 113 461

1. The keying kit includes two pins and two screws which provide six different keying options. The iCon960 system is designed to accept two kits which increase the keying options to 36.
2. In the receiver, align the keying pin to the desired location in the hexagonal opening.
3. Secure the keying pin with the 2-56 Phillips head screw.
4. Place the other keying pin in the corresponding location in the ITA.
5. In order to mate the connector, the keying pin must be in the same alphabetical and/or numeric position in both the receiver and ITA.



[RETURN TO INDEX](#)

## TROUBLESHOOTING

**ITA will not engage with receiver.**

- Remove and inspect the ITA for alignment.
- Check for foreign objects/tools obstructing engagement.
- Inspect the matching of modules (i.e. power ITA module is mating with power receiver module, etc.).
- Check that keying pin locations match.
- Make sure handle is installed correctly.

For further troubleshooting assistance, please [Contact Us](#).



**Forceful engagement when attempting to mate the receiver and ITA will result in serious damage to multiple parts of the system (modules, receiver, ITA and contacts).**