G3/G4 USER MANUAL

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RECEIVER PART IDENTIFICATION

PART # 310104511

NOTE: The G3/G4 receiver can be configured with (3) 90 Series modules or (4) iCon modules, depending on the application.

NOTE: The G3/G4 receiver is intended for horizontal installation. For vertical orientation, turn receiver 90 degrees clockwise (Figure B).

1. When the receiver is placed in a horizontal orientation, module slot 1 for 90 series modules is located at the bottom of the mating face of the interface (Figure A). For iCon series modules, module slot 1 is located on the backside of the receiver closest to the handle actuation lever. When placed vertically, module slot 1 for 90 series application is located on the far left side of the receiver, while the first position for iCon series modules is located at the top of the receiver (Figure B).
2. Guide pins are located on opposite sides of receiver for precise alignment.
3. Keying pin slots are available to prevent operational mismatch.
4. The microswitch included in the receiver alerts users to the presence of an engaged ITA in the system.

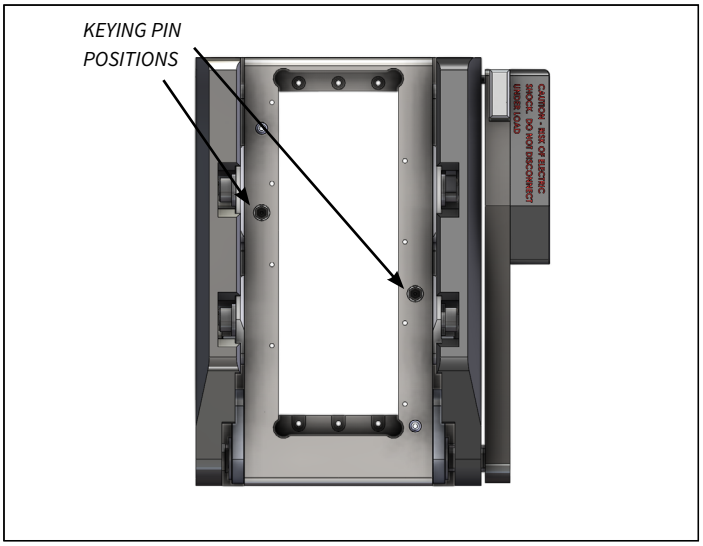


Figure B. G3/G4 receiver vertical orientation

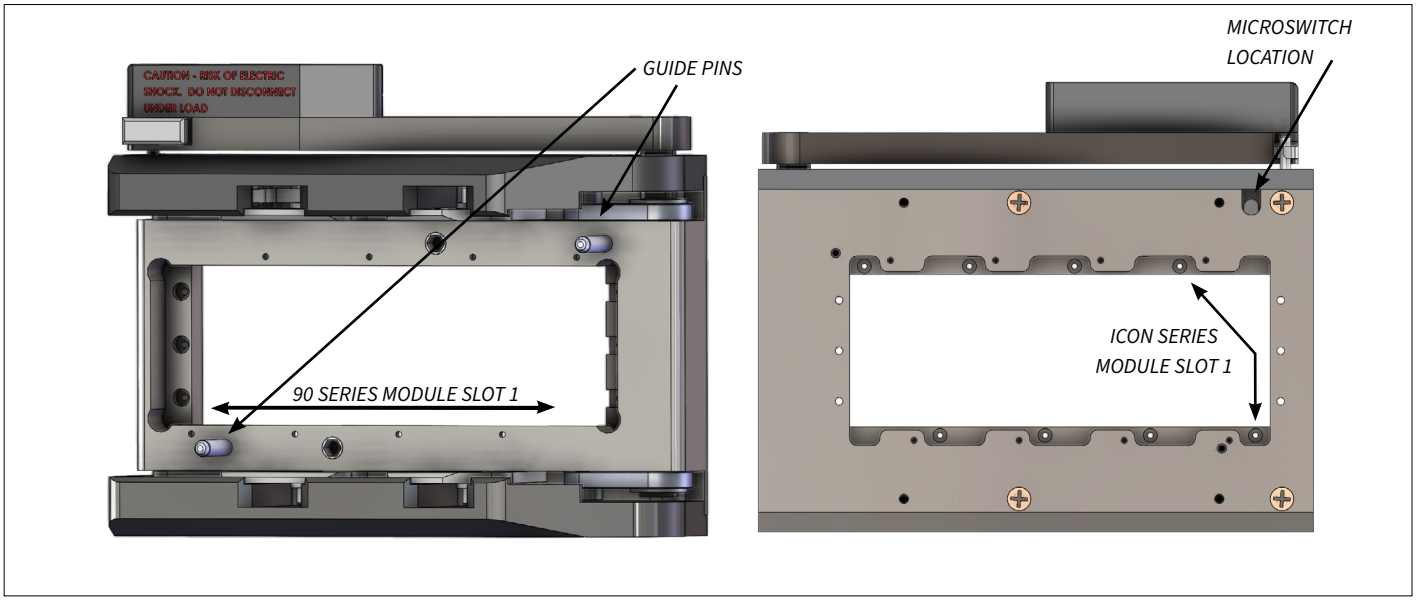


Figure A. G3/G4 horizontal orientation, mating-face and back view

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ITA PART IDENTIFICATION

PART # 410104062

NOTE: The G3/G4 ITA can be configured with (3) 90 Series modules or (4) iCon modules, depending on the application.

NOTE: The G3/G4 ITA is intended for horizontal installation. For vertical orientation, turn receiver 90 degrees clockwise.

1. When the ITA is horizontal, module slot 1 for 90 series modules is located at the bottom of the interface (Figure A). When facing the mating face of the ITA the right-most position is slot 1 for iCon series modules (Figure A). When vertical, module slot 1 for 90 series is located on the far left side of the ITA when ITA modules are facing away from operator. The first module slot for iCon modules is at the top of the ITA (Figure B).
2. Guide pins holes are located on opposite sides of the ITA for precise alignment.
3. Keying pin slots are available to prevent operational mismatch.

NOTE: For vertical G3/G4 applications, the cable exit will be located on the left side of ITA instead of the bottom. The cable will now exit at 90 degree angle (Figure B).

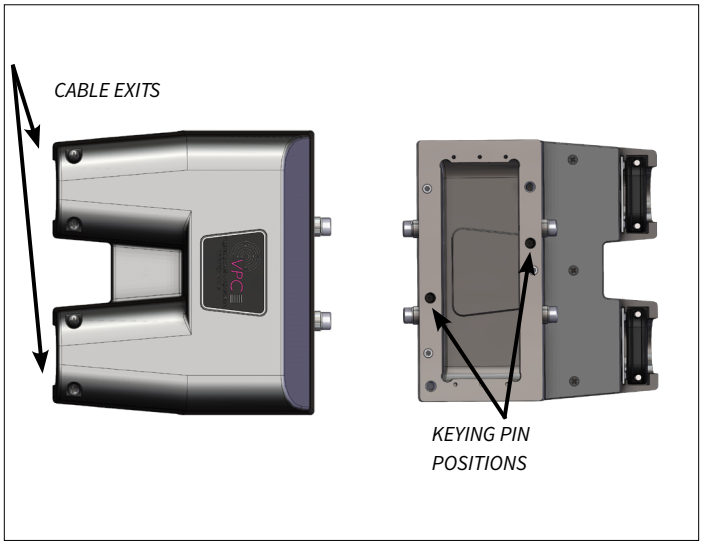


Figure B. G3/G4 ITA, mirrored and flipped in vertical orientation

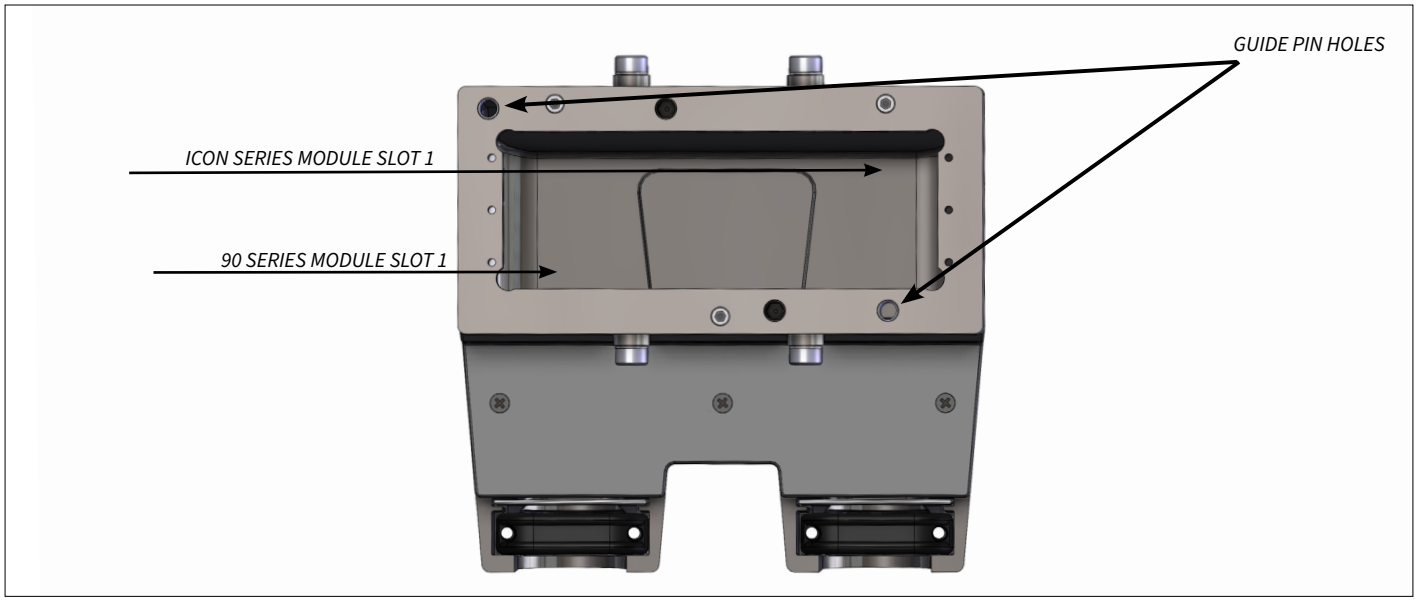


Figure A. G3/G4 horizontal orientation, mating face view

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REMOVING ITA BACKSHELL

PART # 410104062

TOOLS REQUIRED

3/32 Allen Wrench or balldriver
Phillips head screwdriver

1. Remove the (2) 6-32 x 2.0 screws in each cable clamp exit using a Phillips head screwdriver. Set cable clamps to the side (Figure A).
2. Turn the ITA over to the mating face and remove the (3) 4-40 x .312 screws for the cover using Phillips head screwdriver (Figure B). Set the cover to the side.
3. Then remove frame screws (3) 6-32 x .5 using a 3/32" Allen wrench or balldriver (Figure C).

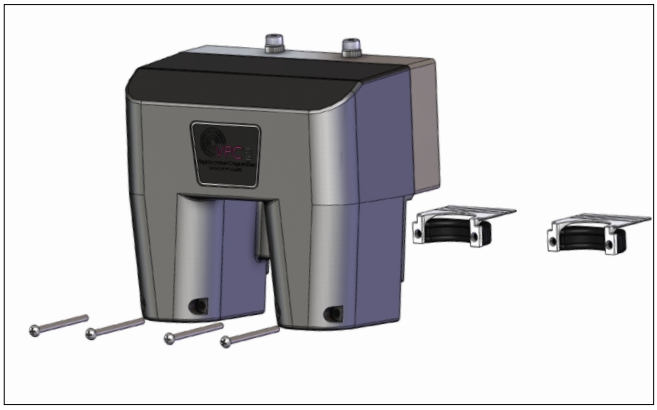


Figure A. Cable clamp removal

ITA BACKSHELL INSTALLATION

1. To reinstall the backshell, simply reverse the removal process and tighten the screws.

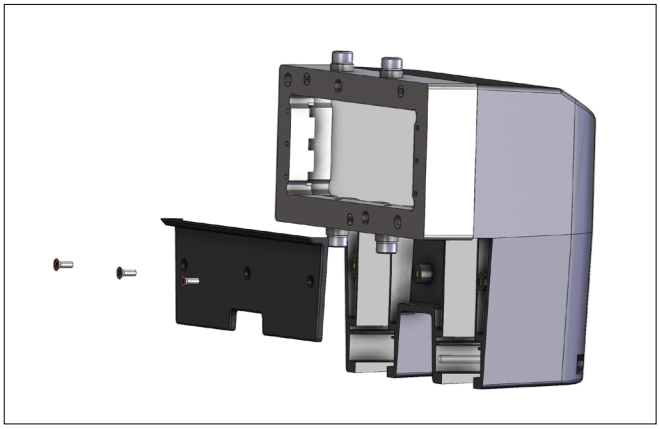


Figure B. Backshell cover removal

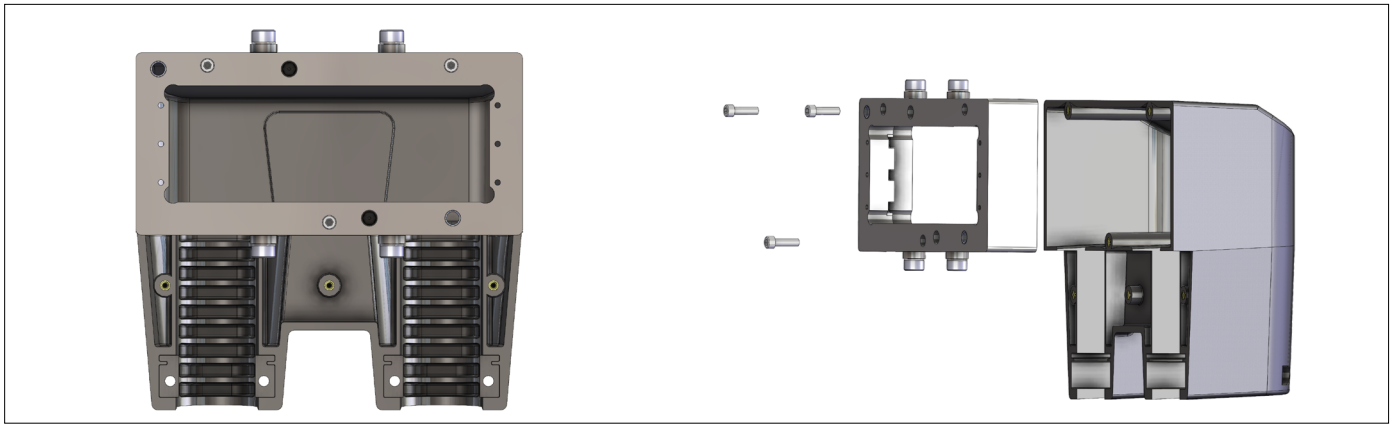


Figure C. Frame removal for module and wire access

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90 SERIES MODULE INSTALLATION AND REMOVAL

PART # 410104062, 310104511

TOOLS REQUIRED

3/32" Allen wrench or balldriver

ITA MODULE INSTALLATION

1. For ITA, while the frame is removed from the backshell (Refer to pg. 4 for removal instructions) place up to (3) 90 series modules onto the back of the receiver frame in appropriate screw holes (Figure A).

2. Apply light pressure to the face of the module. Using the provided screws with a 3/32" Allen wrench or balldriver, tighten the top screw until it is seated.

3. Maintain light pressure while tightening the bottom screw until it is seated.

4. Torque both screws on each module to 1.5 in-lbs. [0.16Nm].

5. Place ITA frame back into backshell , secure backshell.

Receiver Module Installation

6. When installing 90 series modules into the G3/G4 receiver, place modules onto the front of frame and secure using an Allen wrench or balldriver (Figure B).

7. Maintain even pressure on the module. Torque both screws on each module to 1.5 in-lbs. [0.16Nm].

MODULE REMOVAL

1. To remove the module, simply reverse the installation process by loosening the screws.

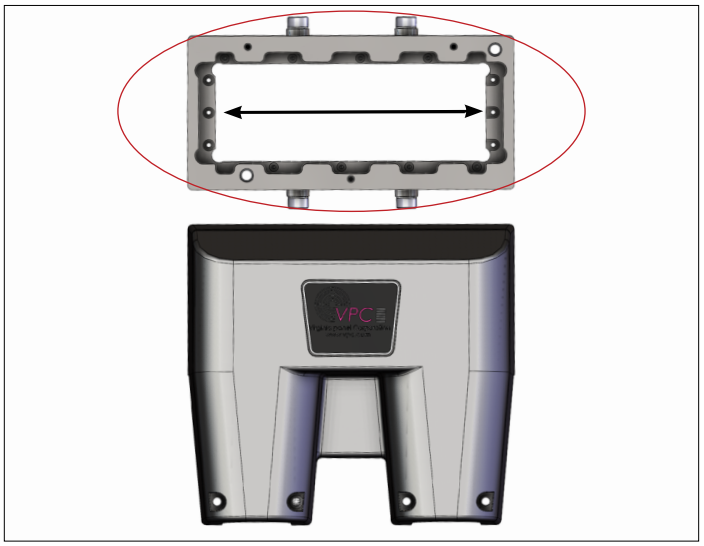


Figure A. ITA frame 90 series module positions

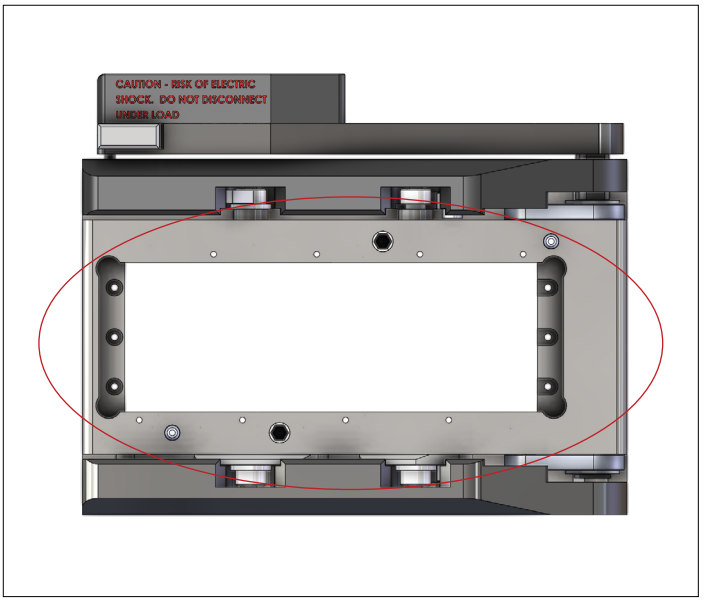


Figure B. Receiver 90 series module positions

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ICON SERIES MODULE INSTALLATION AND REMOVAL

PART # 410104062, 310104511

TOOLS REQUIRED

Phillips Head Screwdriver

ITA MODULE INSTALLATION

1. For ITA, while the frame is removed from the backshell (Refer to pg. 4 for removal instructions), place up to (4) iCon series modules onto the back of the receiver frame in the appropriate screw holes.

2. Apply light pressure to the face of the module. Using the provided screws with a Phillips head screwdriver, tighten the top screw while it is seated (Figure A).

3. Maintain light pressure while tightening the bottom screw until it is seated.

4. Torque both screws on each module to 1.5 in-lbs. [0.16Nm].

5. Place the ITA frame back into backshell , secure backshell.

Receiver Module Installation

6. When installing iCon series modules into G3/G4 receiver, flip the receiver, around to the backside. Then place modules onto the back of frame and secure using a Phillips head screwdriver (Figure B).

7. Maintain even pressure on the module. Torque both screws on each module to 1.5 in-lbs. [0.16Nm].

MODULE REMOVAL

1. To remove the module, simply reverse the installation process by loosening the screws.

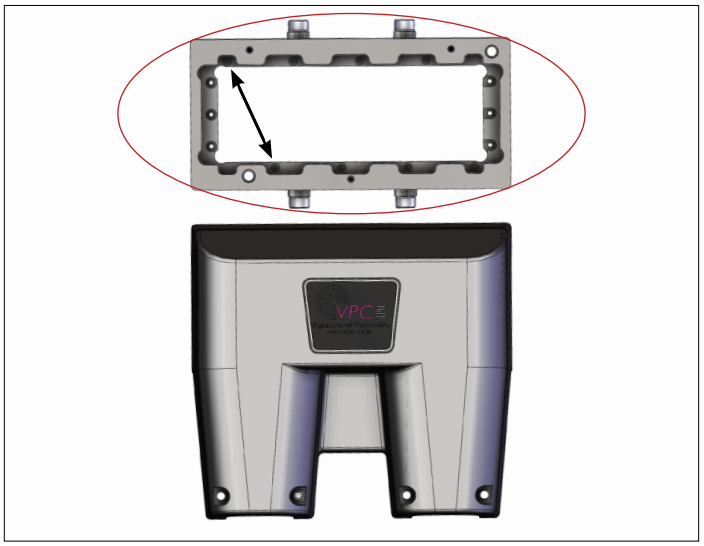


Figure A. ITA frame iCon series module positions

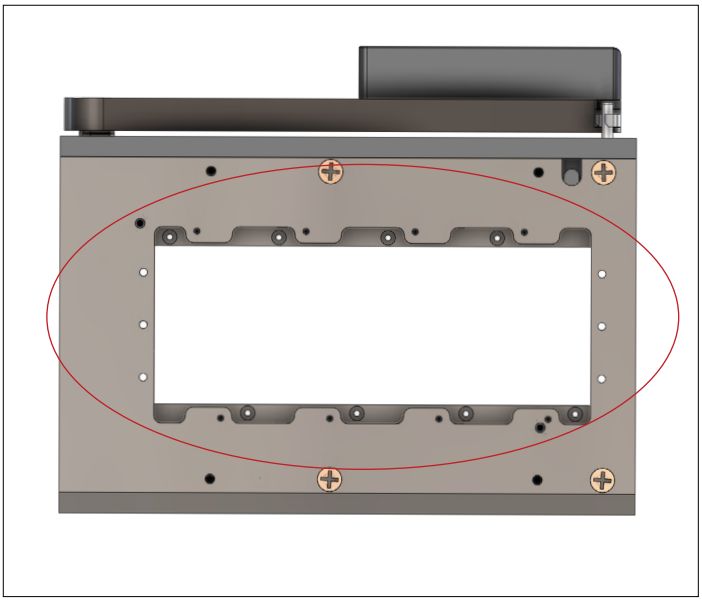


Figure B. Receiver iCon series module positions (Back of receiver)

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ENGAGING ITA WITH RECEIVER

PART # 410104062, 310104511

WHEN ENGAGING AN ITA TO A RECEIVER, ENSURE THAT THE ITA IS PARALLEL WITH RECEIVER AND THAT ITA GUIDE PINS ARE ENGAGED AT THE SAME TIME. ALL POWER SUPPLIES FOR THE SYSTEM SHOULD BE DISCONNECTED PRIOR TO HANDLING. WHEN ENGAGING, BE SURE THAT ALL FOREIGN OBJECTS AND DEBRIS ARE CLEARED FROM THE SYSTEM.

1. Prior to engaging an ITA to a receiver, it is good practice to check that all modules (ITA and receiver) have been installed properly. This involves inspection of module ends to ensure even height relative to one-another. While checking this, the user should also verify the positioning of the modules. Pin 1 should always be at the top of both ITA and receiver modules. It is crucial for all modules to be installed properly. Improper installation will cause damage to modules, and possibly to the ITA and/or receiver. All ITA modules must match receiver module locations. Upon engagement, ITA modules will mate with their respective receiver modules.

2. With the ITA in the upright position and the receiver handle open, align guide pins with bushings on the ITA and mate.

3. The handle may now be moved to the closed position to engage contacts.

NOTE: For G3/G4, receiver handle engagement motion is right to left for horizontal orientation, down to up for vertical orientation.

4. If there is any resistance when engaging, STOP. Double-check module alignment and check for debris.
   If still experiencing difficulty engaging, contact VPC and speak to a VPC Engineer for assistance. Proceeding or using force may cause damage to the system that voids any warranty.

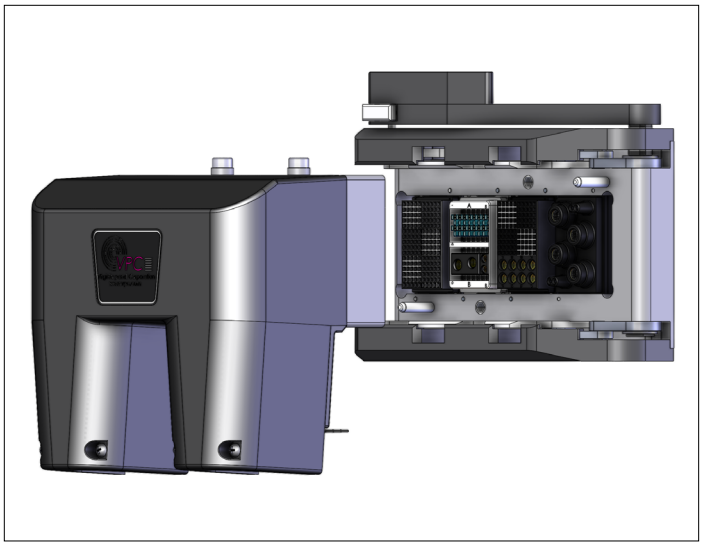


Figure A. Horizontal engagement



Figure B. Vertical engagement

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CABLE BUNDLE WIRE INFORMATION

PART# 410104062

Max Oblong Cable Opening Diameter= 1.59”

Formula

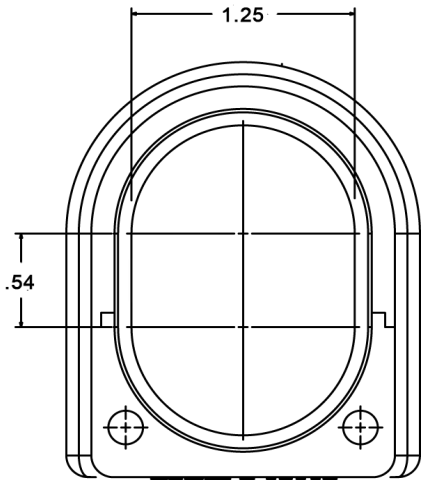
1. The formula below can be used to calculate the maximum number of wires recommended for a cable bundle used with a max cable exit of 1.59”.

$N=\{D/d - 1)^2(.907)$		
N=Number of Wires	D=Diameter of Converted Oblong Bushing	d=Outside Diameter of Wire

Calculations

Wire Type	Outside Diameter of Wire (d)	Number of Wires (N)
20 AWG Signal - Teflon	.056	683
10 AWG Power - PVC	.160	72
RG316 Coax - 50 OHM	.100	202

NOTE: The addition of shrink tubing or braid will reduce maximum number of wires through cable exit.

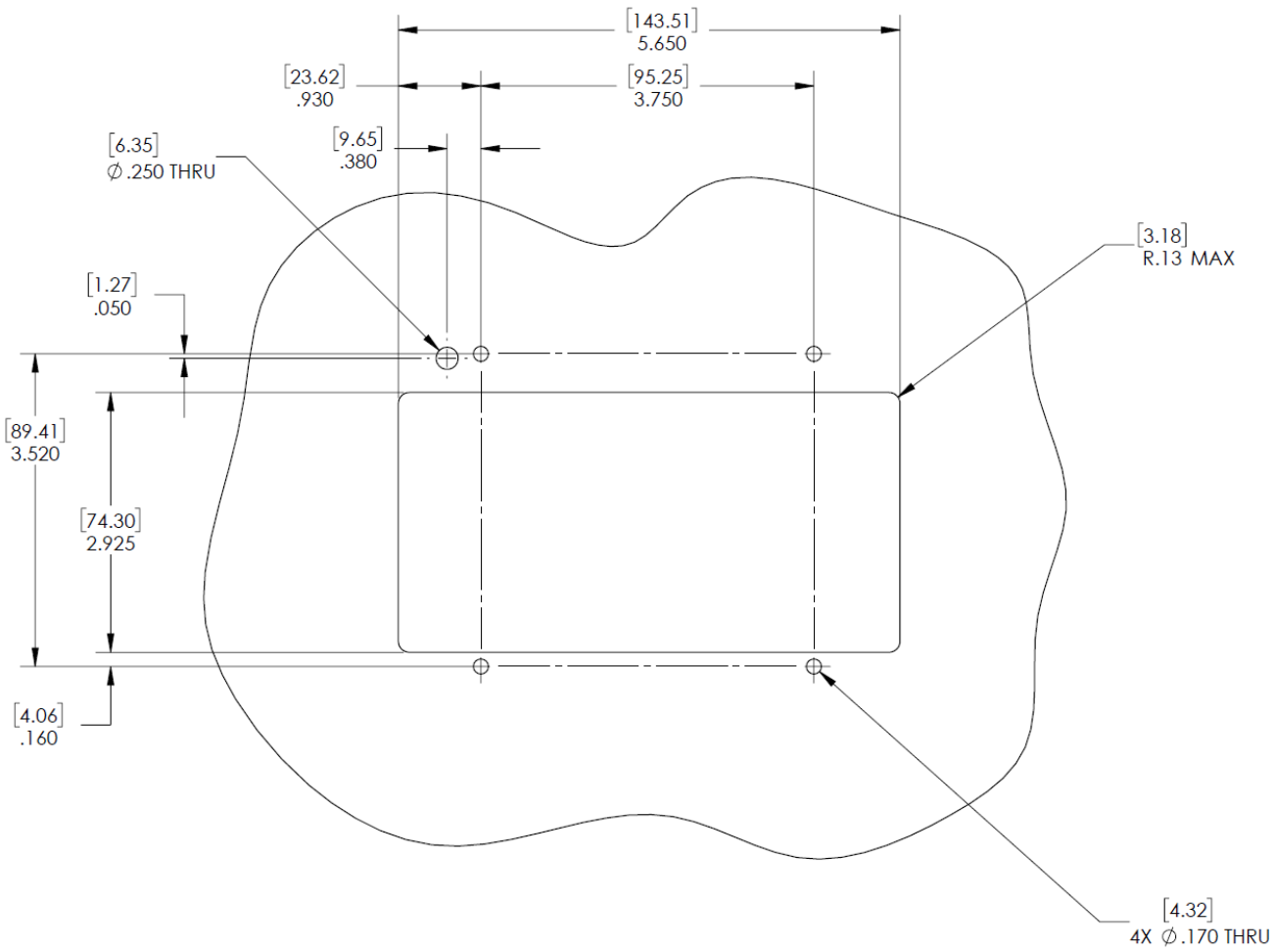


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RECEIVER MOUNTING CUTOUTS

PART # 310104511

*For the most up-to-date and detailed information consult the product drawing available at vpc.com



RECEIVER MOUNTING PANEL DIMENSIONS
RECOMMENDED MINIMUM
PANEL THICKNESS .12" [3.0mm]

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RECEIVER MOUNTING

PART # 310104511, 310113807, 310104515

*For the most up-to-date and detailed information consult the product drawing available at vpc.com

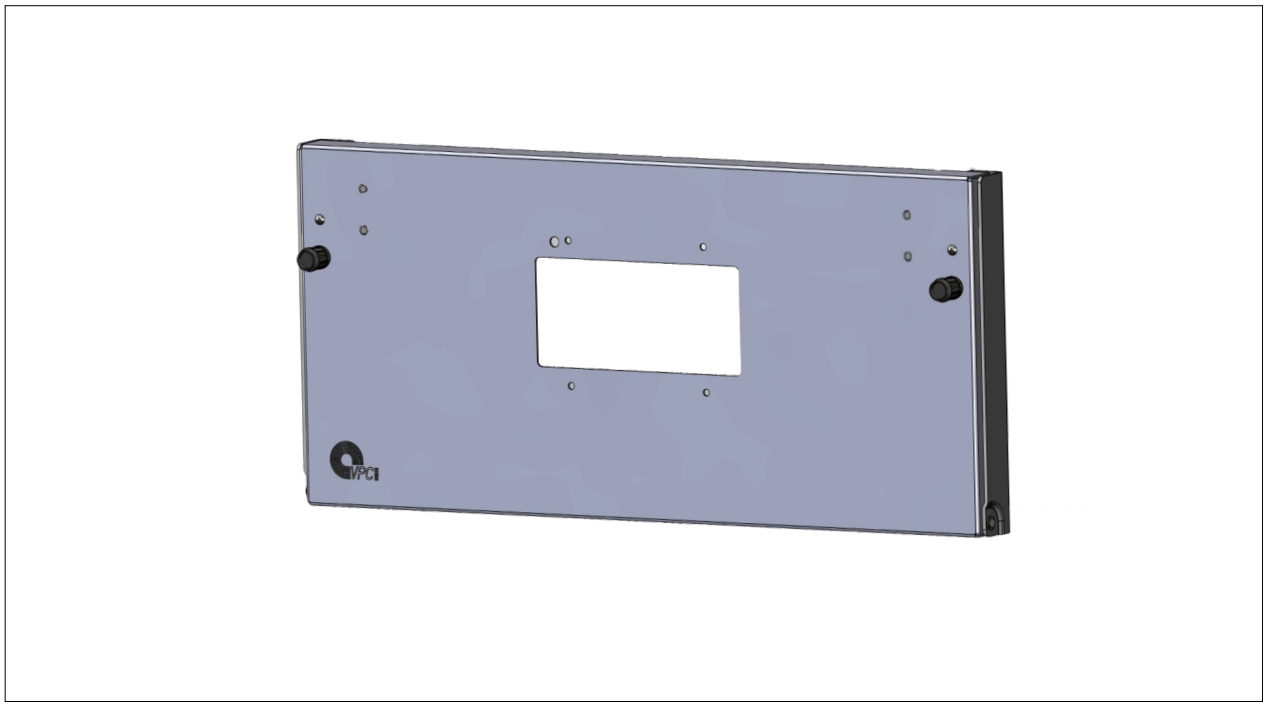


Figure A. (p/n 310113807) VHMF 5U.

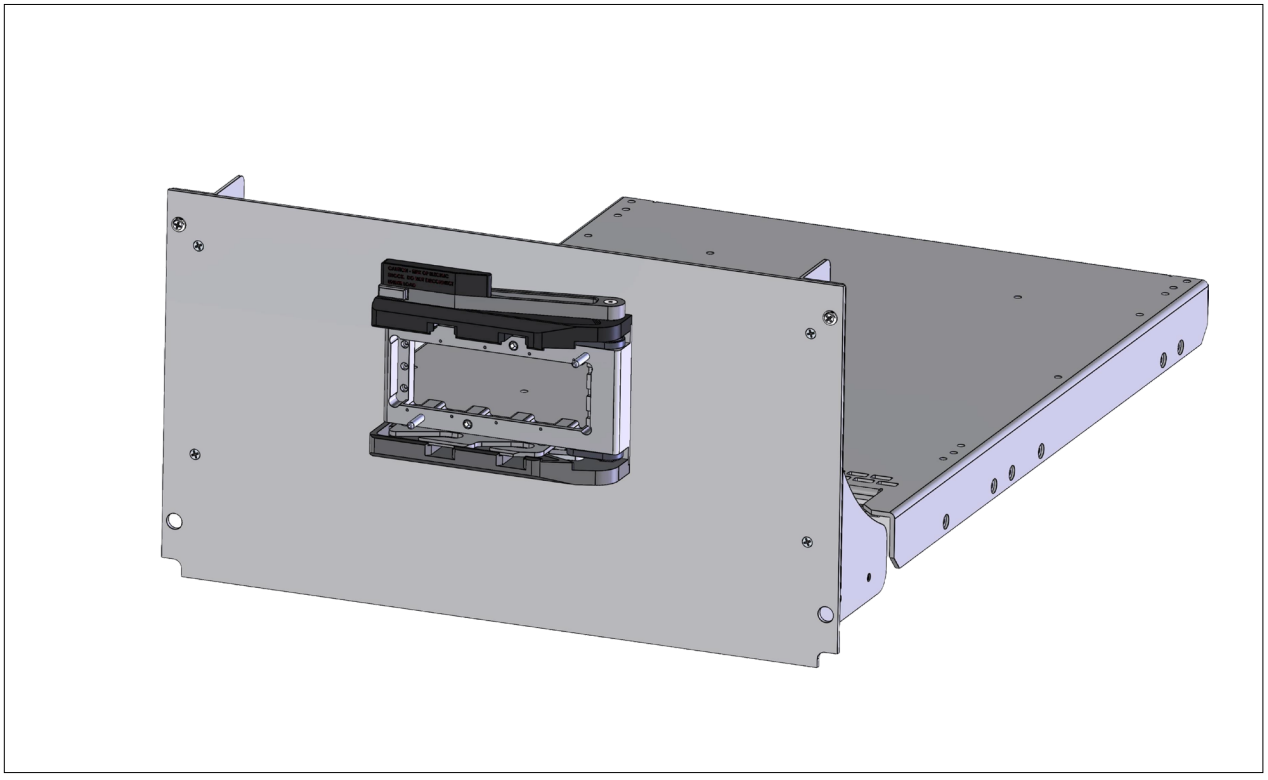


Figure B. (p/n 310104515) For slide mounting 6U. 310104511 included.

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PRECAUTIONARY NOTES

- It is advisable that power to the interface system be disconnected prior to handling and maintenance.
- Never probe a contact without using a mating patchcord as a test lead.
- Never forcefully engage a system if there is an excessive amount of resistance on the handle.
- Never allow an ITA to drop as this may cause misaligned engagement and/or irreparable damage.
- When engaging the ITA with the receiver, caution must be taken to ensure that the ITA is parallel with the receiver upon engagement and that the ITA rollers are engaged ***at the same time!***
- Caution should always be used when engaging, making sure that all foreign objects and debris are removed from the system.
- Use care when hinging a receiver down. Always maintain hand contact to prevent receiver from dropping suddenly, resulting in damage to the system.

TROUBLESHOOTING

ITA engagement bearings/studs are not lining up with the engagement slots of the receiver

- Check the alignment of the ITA Frame. There is a possibility that the ITA Frame will have misaligned itself if it was dropped. Contact VPC - user adjustments to system, unless authorized, will void warranty.
- Forceful engagement of the receiver and the ITA will result in serious damage to multiple parts of the system (modules, receiver, ITA and contacts).

ITA frame is not lined up when engaging with receiver

- May indicate ITA was dropped and is out of alignment or a module is not mating properly. Remove and inspect the ITA for damage. Contact VPC - user adjustments to system, unless authorized, will void warranty.
- Check for foreign objects/tools that may be obstructing proper engagement.
- Verify the orientation of the receiver and ITA modules.
- Inspect the mating modules to ensure they match. Power ITA module is mating with power receiver module, etc.
- Forceful engagement of the receiver and the ITA will result in serious damage to multiple parts of the system (modules, receivers, ITA and contacts).

Excessive force is needed upon engaging the handle

- Damaged contact(s) can cause noticeable resistance when trying to engage and mate. Inspect all contacts for damage. If a contact is replaced, the mating contact on the opposite side should also be inspected and replaced if necessary.
- Follow all steps above for an unaligned ITA frame, if force is still needed please contact VPC for assistance.

ITA will not engage with the receiver after diagnosing the above problems

- Contact VPC - user adjustments to the system, unless authorized, will void the warranty.

No continuity upon engagement

- If replacing a contact on the ITA, the mating contact on the receiver side should also be inspected and replaced if necessary.
- Check wiring - replace if necessary.
- Check that all contacts are secured in modules.
- Verify that any 50 OHM ITA contacts are not engaged with 75 OHM receiver contact. This will damage the 75 OHM contact.
- Any 75 OHM ITA contact engaged with 50 OHM receiver contact will not create continuity/contact.

A "short" in the wiring upon engagement

- A damaged contact(s) can cause noticeable resistance when trying to engage and mate. Inspect all contacts for damage. If a contact is replaced, the mating contact on the opposite side should also be inspected and replaced if necessary.
- Check wiring - replace if necessary.

Receiver and ITA will not disengage

- This may indicate that the engagement mechanism within the receiver is faulty - contact VPC immediately. User adjustments to system, unless authorized, will void the warranty.

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