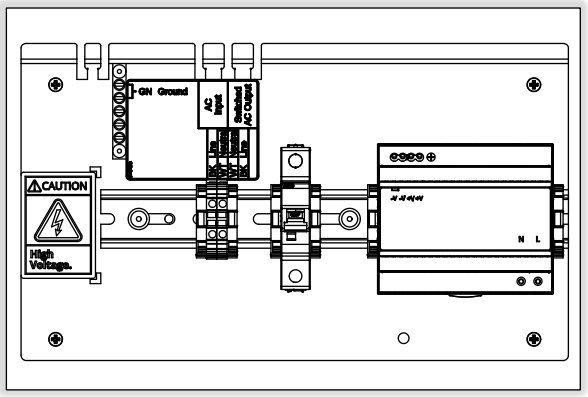
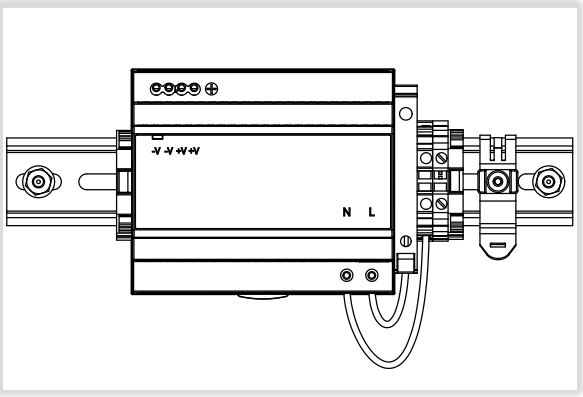
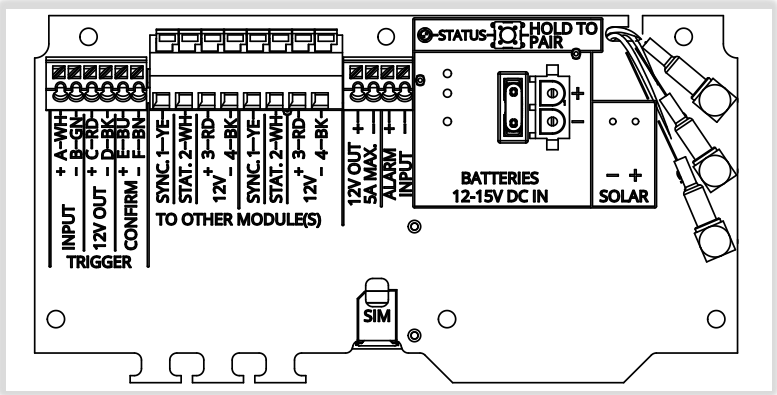
MX Series

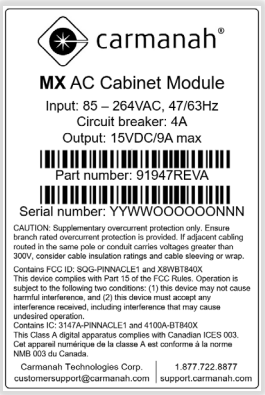
MX 300 & 400 SOLAR TO AC RETROFIT GUIDE

LEVEL 4







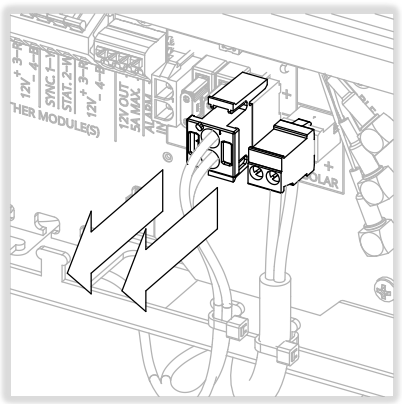


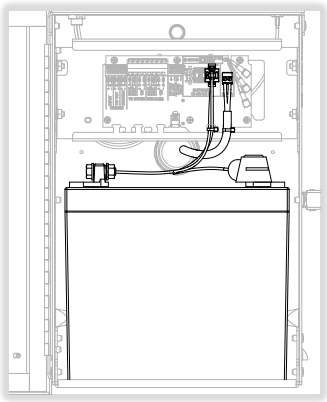
NOTE This document covers instructions for MX 300/400 solar to AC retrofits. A replacement AC power module circuit board is required for this retrofit.

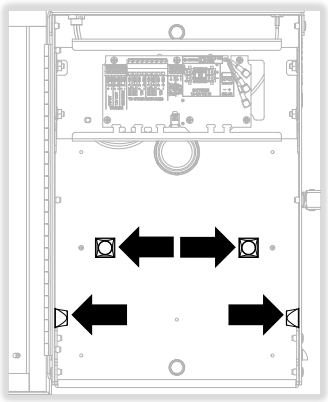
NOTE Contact Carmanah to have your MX Plus or MX Pro subscription, if applicable, transferred to the new power module.

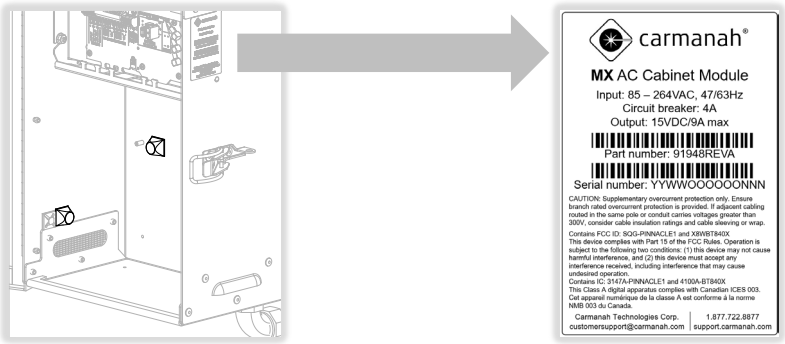
1.0 MX 300 Solar to AC Retrofit

1. Disconnect solar connector and then battery connector as shown.
2. Remove battery harness from battery. Remove battery, battery harness and solar harness from system and properly dispose.
3. Remove four battery bumpers shown and properly dispose.
4. Locate product label on outside of MX 300 cabinet. Apply new product label overtop existing product label.
5. Follow **LEVEL 4** Power Module Circuit Board Replacement Guide to replace existing solar circuit board with AC version supplied. Solar circuit board may be kept as a spare for solar powered systems or be properly disposed of.

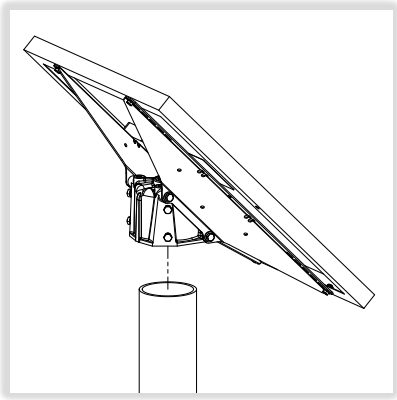


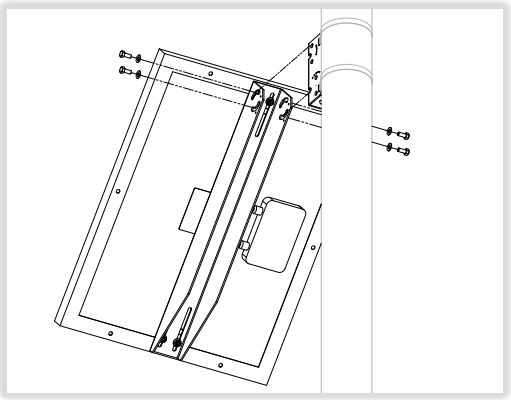




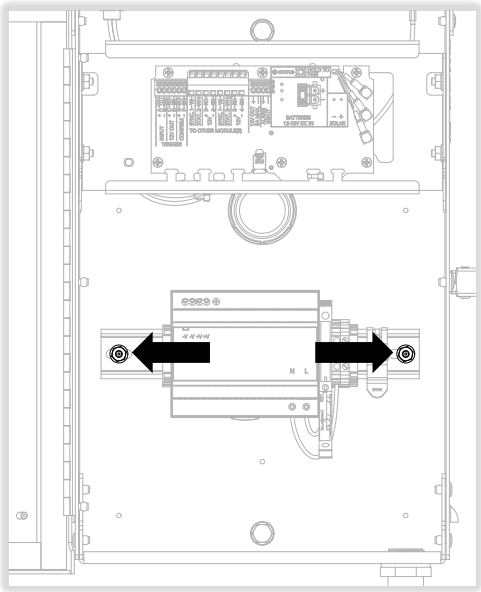


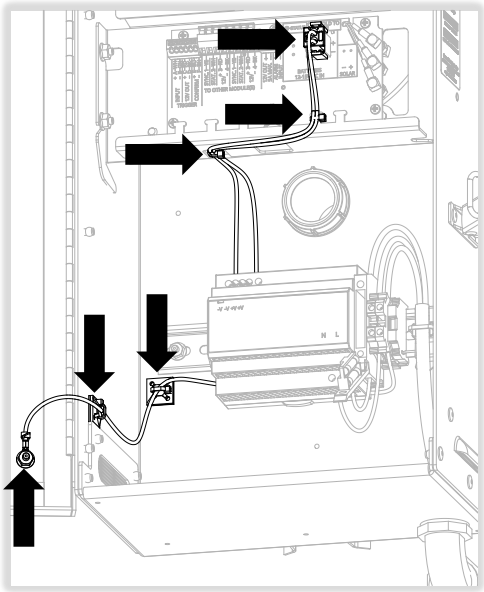
6. Remove solar panel and solar panel mount from system. Top of pole applications will require a pole cap.





7. Install power supply DIN rail assembly in orientation shown using supplied nuts.
8. Fasten ground ring terminal to door stud with supplied nut. Secure and route wire in location shown using supplied cable tie bases and cable ties.
9. Connect power supply output harness connector to circuit board shown. Secure and route harness using cable ties.

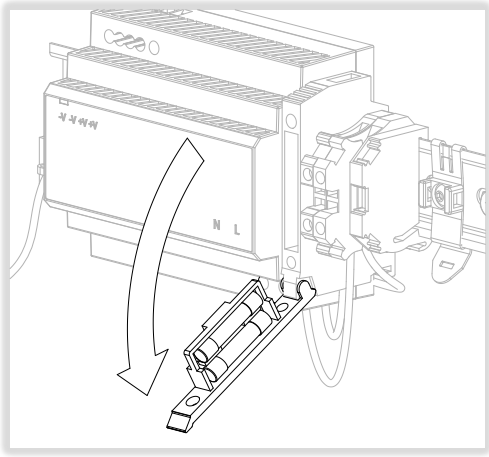


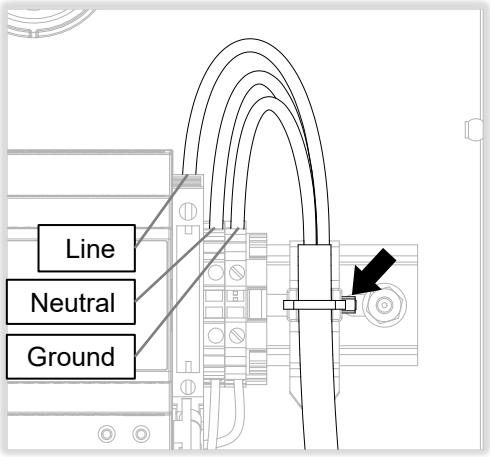


NOTE The MX 300 AC cabinet accepts nominal input voltages of 120 V or 240 V and is equipped with a 4 A input fuse.

CAUTION The MX 300 AC provides supplementary overcurrent protection only. Ensure branch-rated overcurrent protection is provided when installing.

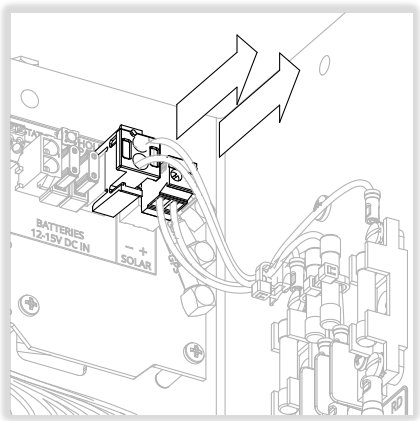
10. Open fuse holder as shown.
11. Strip jacket of incoming AC cable by 5 – 6". Strip insulation 0.35 – 0.40" on the three wires.
12. Loosen terminal block and fuse holder screws and insert wires into terminals. Tighten to 6 in-lb. Pull test wires to ensure they are secure. Install cable tie to incoming cable jacket.
13. Go to Section 2.0.

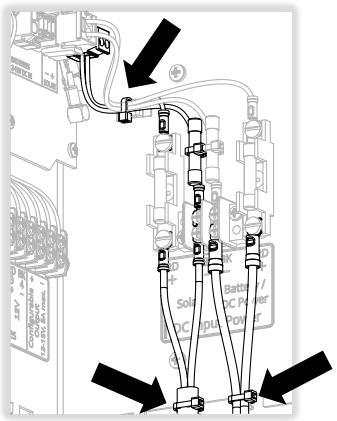


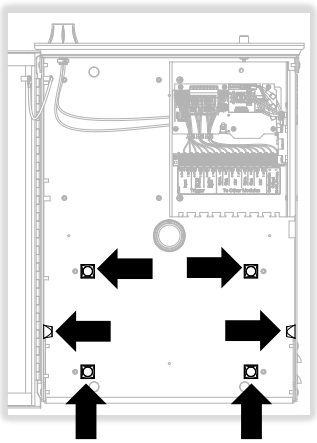


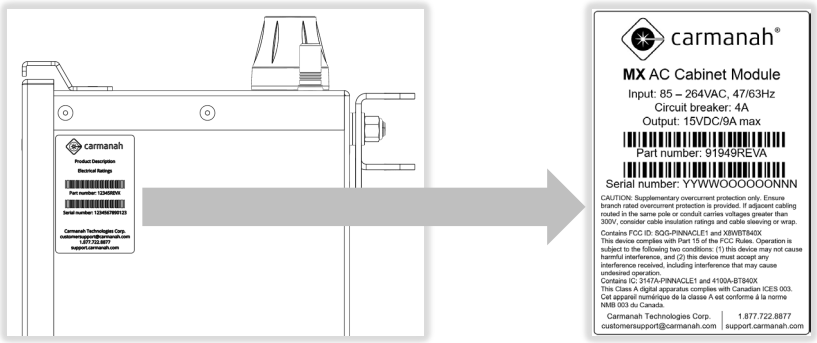
1.1 MX 400 Solar to AC Retrofit

1. Disconnect solar connector and then battery connector as shown. Battery/DC power harness on top of fuse holder will be reused in Section 2.0.
2. Remove battery harness from battery. Remove battery, battery harness and solar harness (both top and bottom of fuse holder) from system and properly dispose. Leave battery/DC power harness on top side of fuse holder installed.
3. Remove six battery bumpers shown and properly dispose.
4. Locate product label on outside of MX 400 cabinet. Apply new product label overtop existing product label.
5. Follow LEVEL 4 Power Module Circuit Board Replacement Guide to replace existing solar circuit board with AC version supplied.

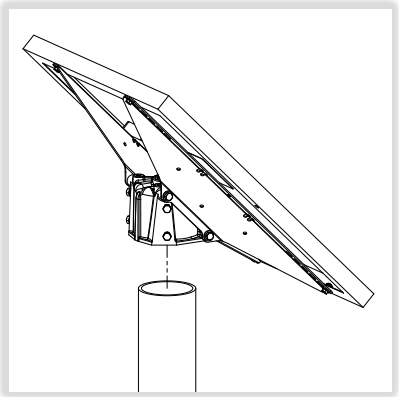


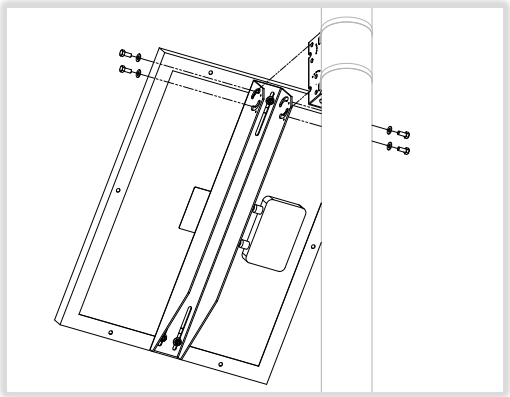




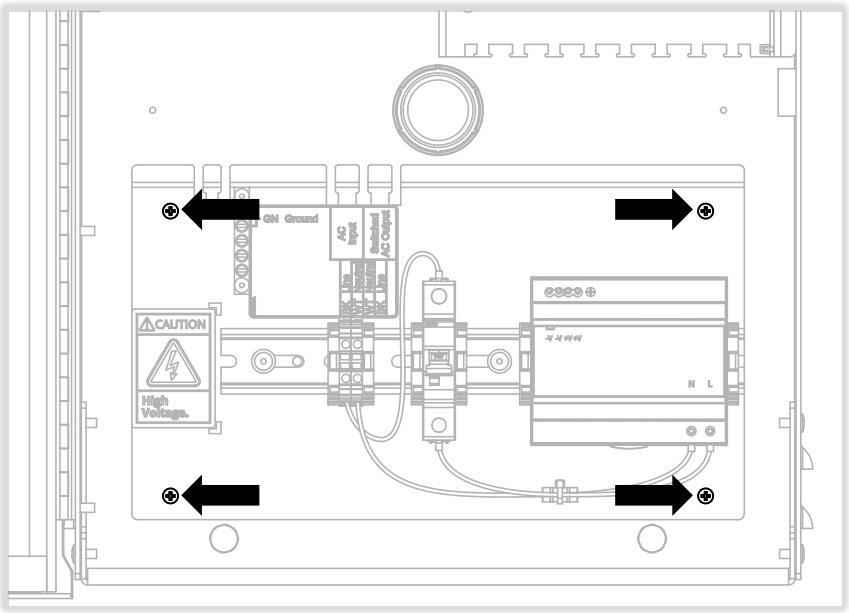


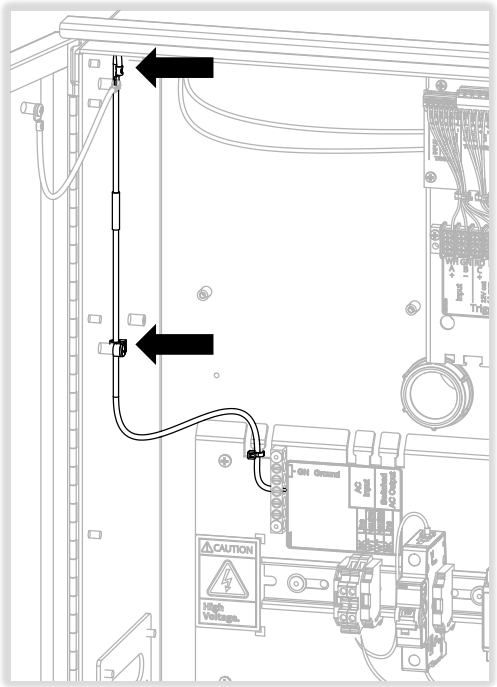
6. Remove solar panel and solar panel mount from system. Top of pole applications will require a pole cap.

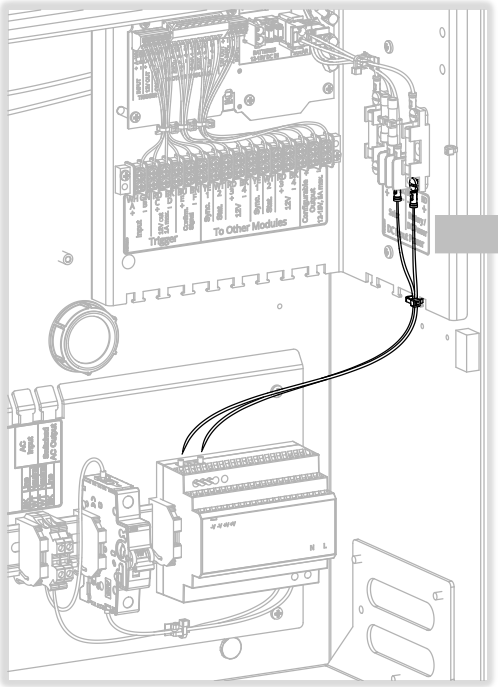


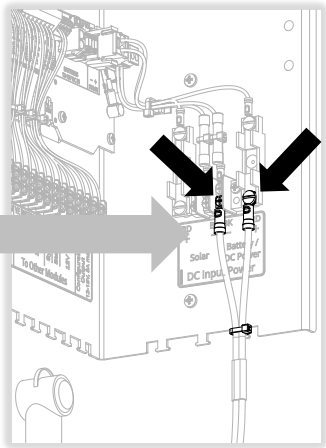


7. Install power supply backplane assembly in orientation shown using supplied screws.
8. Connect ground wire to cabinet. Secure and route wire in location shown using supplied screw mount cable tie.
9. Connect power supply output harness to fuse holder shown. Secure and route harness using a cable tie.
   - Red wire = Battery/DC Power + terminal (fuse).
   - Black wire = Battery/DC Power – terminal.





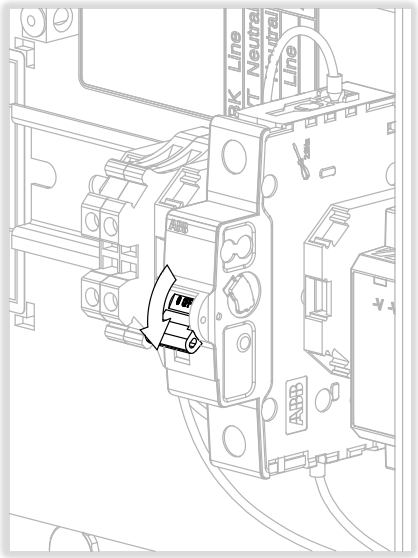


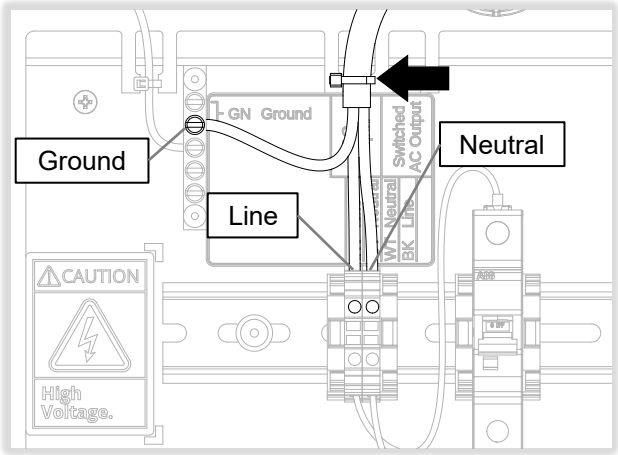


NOTE The MX 400 AC cabinet accepts nominal input voltages of 120 V or 240 V and is equipped with a 4 A circuit breaker.

CAUTION The MX 400 AC provides supplementary overcurrent protection only. Ensure branch-rated overcurrent protection is provided when installing.

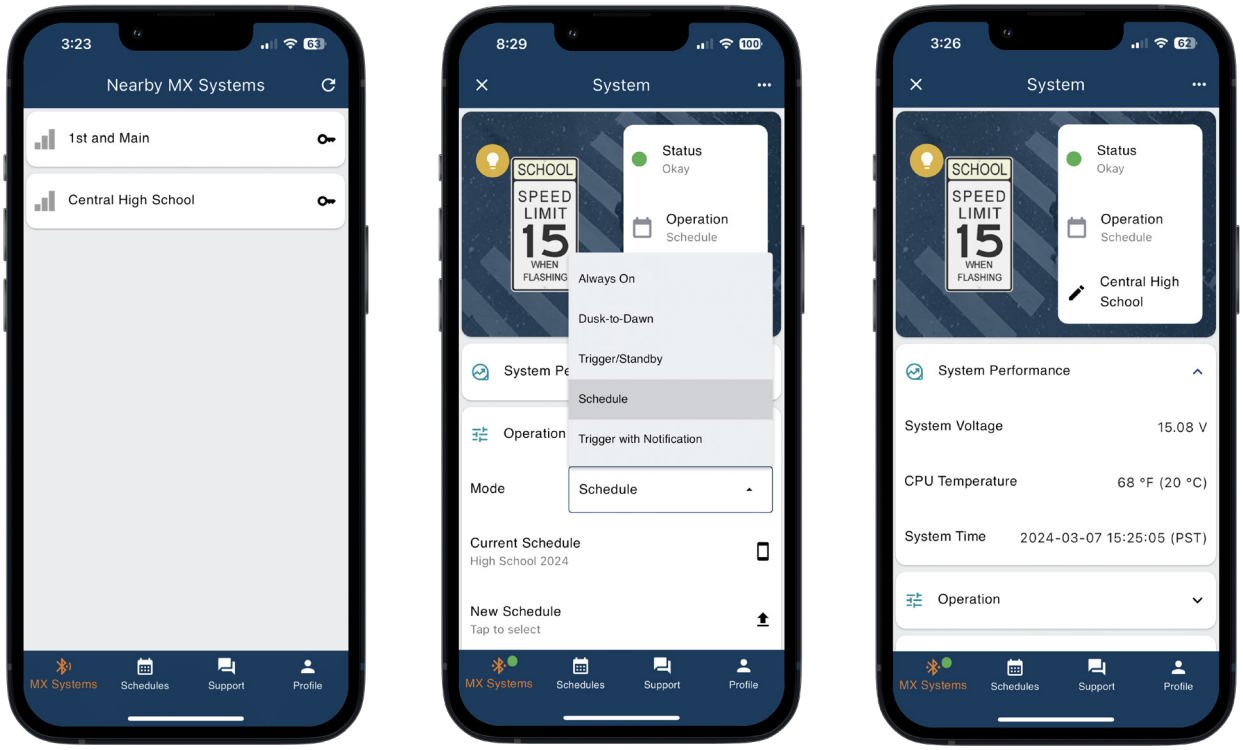
10. Ensure breaker is in off position.
11. Strip jacket of incoming AC cable by 5 – 6". Strip insulation 0.35 – 0.40" on the three wires.
12. Loosen terminal block and ground bus bar screws and insert wires into terminals shown. Tighten terminals and pull test wires to ensure they are secure. Install cable tie to incoming cable jacket.
13. Go to Section 2.0.





2.0 Final Connections and System Test

1. Ensure flasher module or other peripheral device installation and wiring is completed (if applicable).
2. Reapply power to system:
   - MX 300 – close fuse holder.
   - MX 400 – reconnect DC power connector from fuse holder to circuit board. Turn on circuit breaker.
3. Check the MX Field App to ensure system voltage is outputting 14.8 – 15.2 V.
4. Adjust settings as required:
   - Change operation mode.
   - Adjust trigger duration.
   - Upload a schedule.
   - Link system with others at crosswalk.
5. See the MX Field App guide for more information.



NOTE Once the new power module has been installed it will begin to report into MX Cloud. Authorized MX Cloud users can contact Carmanah to have the old power module removed from your MX Cloud account if this is not a warranty replacement.