



Installation Manual Table of Contents

1. Tips and Tricks-----	Helpful tips and suggestions to ensure a successful installation and give you an accurate understand of what you are getting yourself into
2. Tools -----	Tool suggestions to prepare for the work ahead along with some friendly advice
2. System Overview -----	Diagram showing all of the various components, cables & connectors, detailing connections for each subsystem in the kit
3. Bill Of Materials-----	Complete bill of materials broken down by subsystem listing quantities, part numbers and descriptions with QR codes to link data sheets for major components
4. Installation: Inverter -----	Detail of the Inverter subsystem connections and components
5. Installation: Solar -----	Detail of the Solar Charging subsystem connections and components
6. Programming & Commissioning Your System --	How to program your Victron MPPT Smsrt Solar Charge Controller.



General Guidelines and Tips

Congratulations on your purchase of a power system designed by AM Solar! We have assembled this kit to take the guess work out of putting together a complete solar solution. Now the fun begins - It's time for installation. Please read the guidelines below to help ensure a smooth project completion.

Stay safe

Remember that you will be working with both AC and DC power, so whenever possible avoid working with "live" components. Always use caution when working with electricity. When this guide is followed, you'll have a safe and successful installation. Be careful, not frightful - The installation can be fun when following these instructions and not cutting corners.

Keeping a realistic time frame for installation is important

This installation might take 4 to 5 days for an experienced AM Solar technician. So, establishing a realistic goal for completing the installation is helpful and avoids rushing aspects of the project. You'll want to stay consistent with your work beginning to end, without the need to rush.



Don't rush the layout and planning of component placement

The design/layout part of your build is the most important thing you'll do. Skoolies, by design, are great since they start empty and give you many different installation options. Grab some chalk, cardboard, rope and a ball of string - We're going to make some component placement templates. Use chalk to outline spots for smaller items such as breakers and the fuse panel. Use the string to make the small wire runs, rope for heavy gauge, and label them (tape and stickers works well). Then layout the all the components that fit the interior of your rig to prepare for installation.

Keep it organized

Stay organized by making your work tidy and well planned. Read the included product guides / instructions and **ABC** (Always Be Checking). If you are installing and find that something was missed during your layout and planning and can't be installed correctly or safely, don't worry! Just backtrack to that stage in your layout design, and find an alternative placement before moving forward.



Making it last

No matter how long you plan on keeping this kit, it's only going to be useful and have value if it's in good order. This equipment doesn't react well to neglect or abuse. When planning and performing the installation, use proper technique and plan for the long run. Using duck tape to secure a part in place might be a good emergency fix, but you'll want to start as "clean" as possible from the beginning.



Component Proximity

Always keep high current lines as short as possible. The battery to inverter cable should be under 10 feet, 5 feet would be ideal. If you are mounting all the equipment in a very small area, be aware of the distance between all "connection points" - If a component comes loose and shifts for any reason, you will want to ensure it will not result in components touching each other and possibly causing a short.



Suggested Tools For Installation

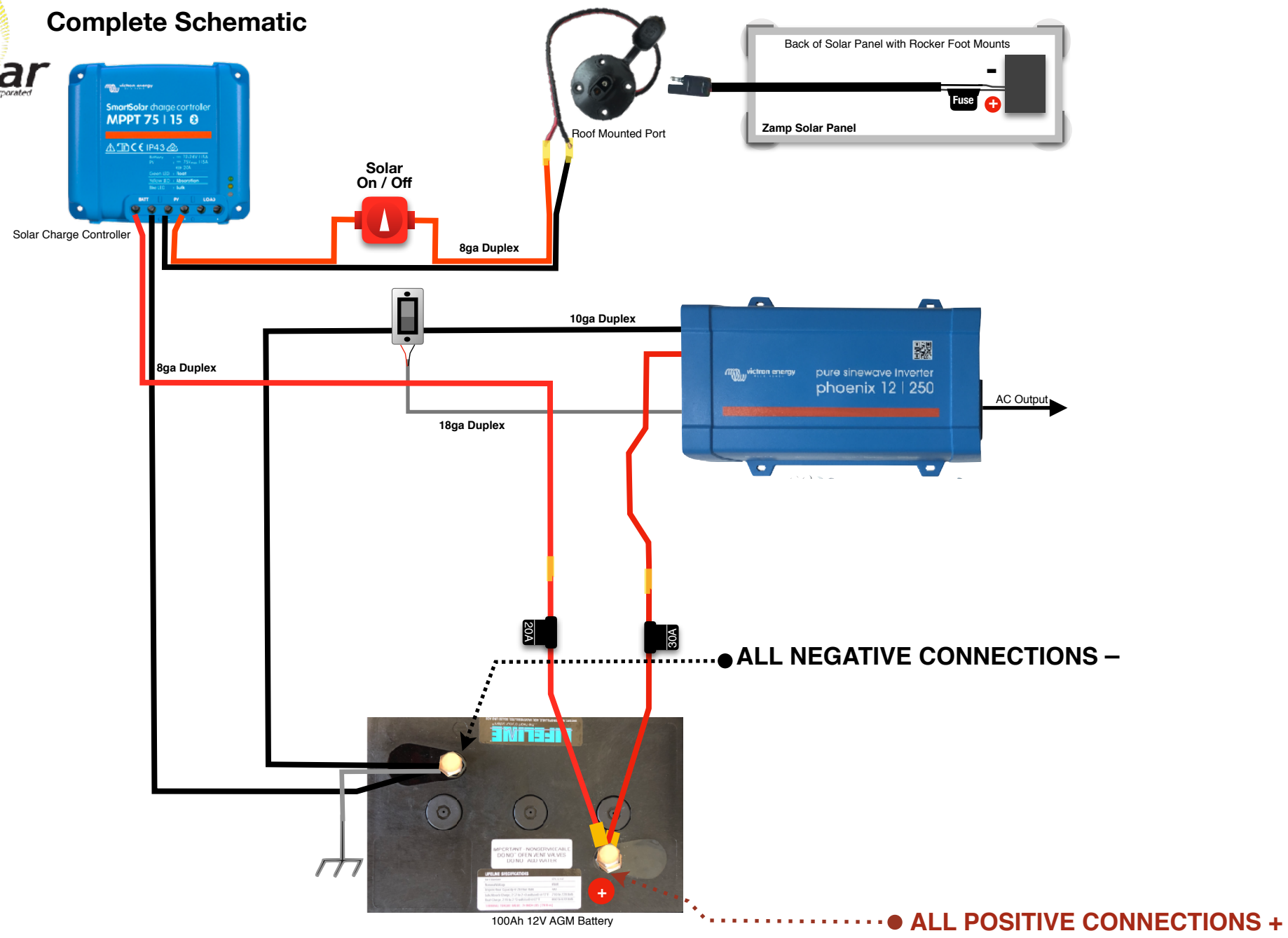
Here is a list of some of the tools that might be needed for your installation. If you feel this list is too ambiguous or potentially intimidating, now would be a great time to schedule your installation work with the professionals at AM Solar.

- Sturdy Ladder
- Hammer Crimper
- Hammer
- Heat Gun
- Wire Crimper
- Wire stripper
- Cable Cutter
- Multimeter
- Screwdriver
- Smartphone
- PC
- Drill
- Box knife
- 91% Isopropyl Alcohol
- Cleaning rags
- Crescent wrench
- Safety glasses





Complete Schematic



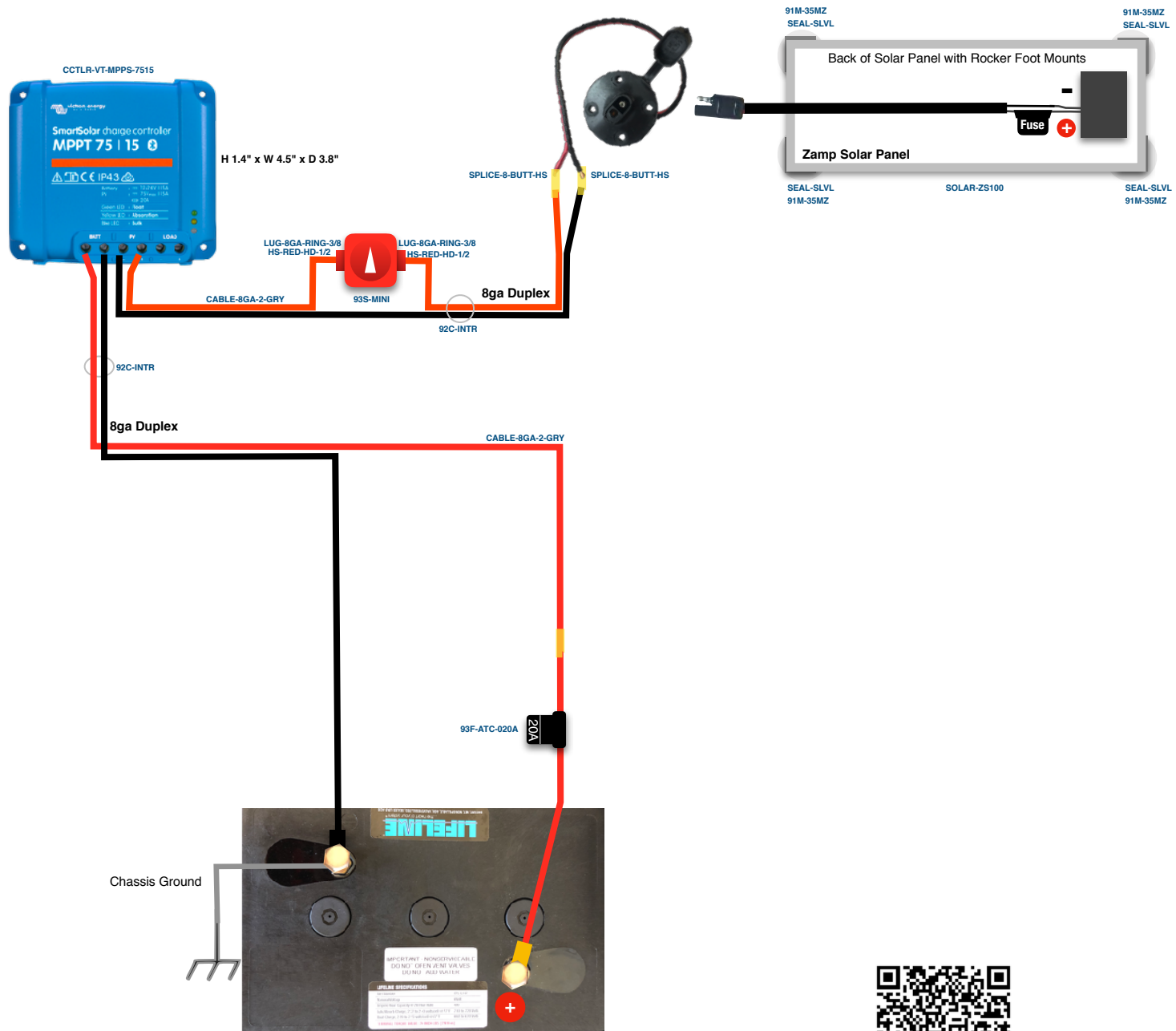


Bill of Materials

	QTY AMS PN	Description
	1 SOLAR-ZS100	Solar Panel Z98
	1 91M-35MZ	Mount Set - 35mm Zamp
	1 30s-VT-MPP-15A	SunRunner Victron MPPT 15A
	2 SPLICE-8-BUTT-HS	8 ga. Butt HS
	1 PLUG-2POLEFLAT-ROOF/WALL	2 Pole Plug, Roof/wall
	6 HS-BLK-DWALL-1/2	Heat Shrink 1/2" Black
	1 SEAL-SLVL	Dicor Self Leveling Sealant
	1 BATTAGM-12-100AH	AGM-GPL-27 12V 100Ah
	1 INV-VT-250	Victron Phoenix 12/250-120V VE.D I
	4 FSTSCW-1034Z	Screw-#10x3/4" PHP SMS Z
	4 FSWASH-FLT-1/2	Flat Washer 1/2" OD- #10 ID Z
	5 CABLE-10GA-2-WHT	Duplex-10/2 600V
	1 LUG-10GA-RING-HS	10-12 ga. Ring-H.S.
	1 93F-ATC-030A	30A ATC Fuse Kit
	1 SWITCH-WALL	12V Wall Switch, Chrm
	2 FSTSCW-612-SS	Screw-#6x1/2" PHP SS
	2 LUG-18GA-DISC-F	Female Disconnect 18 ga.
	20 CABLE-18GA-2-GRY	Duplex-18/2



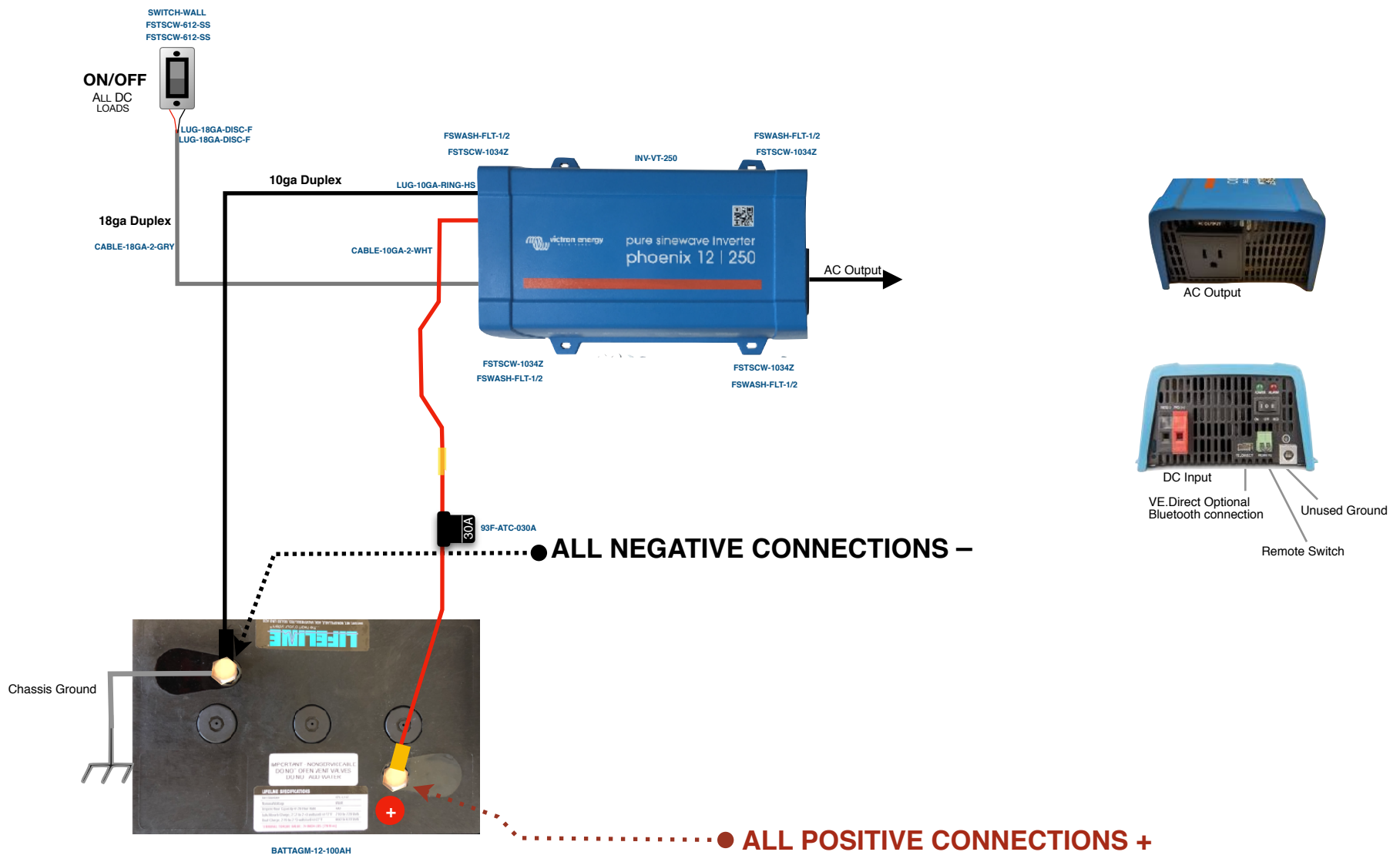
Solar



If the connections seem tight on the MPPT, that is normal. Scan here for assistance.



AC Power





Programming / Commissioning Your System - The Charge Controller

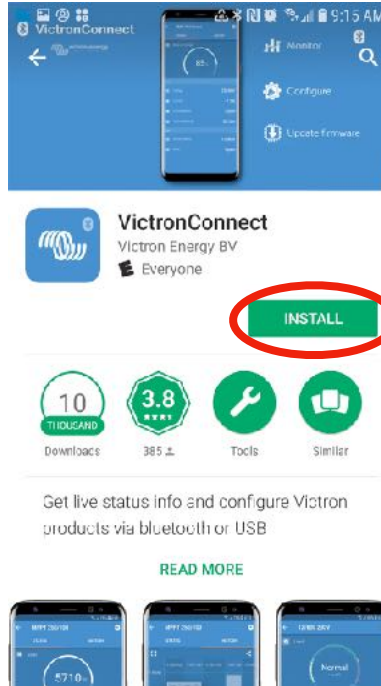


Victron Blue Solar MPPT with Bluetooth or MPPT Control

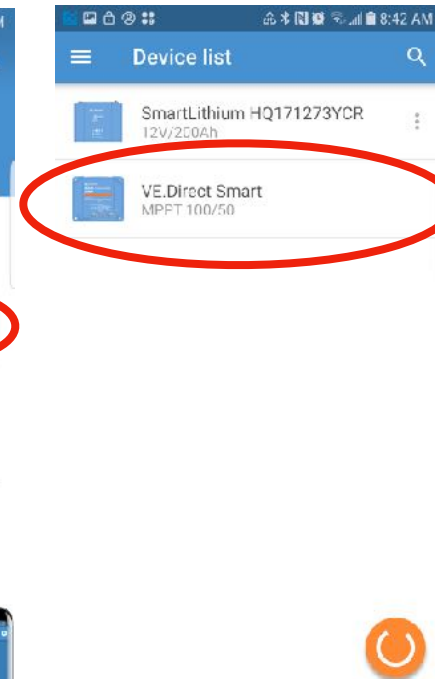
Lifeline AGM
14.40V
2:00
13.30V
15.20V
OFF
ON
-20.00mV/°C

Charge Control Settings for AGM Batteries:

1. Download the "VictronConnect" App to your phone.
2. Open the App.
3. You'll see a selection for your SmartSolar MPPT Charger, select it.
4. Type **000000** to login for the first time.
NOTE: To change the PIN code, go back one step to the main screen. Click on the 3 buttons to the right of the controller image, and select "Reset PIN Code".
5. Click on the **gear** in the top right corner.
6. Click on "Battery".
7. Click on the settings and adjust them accordingly to match below:
 - Battery voltage: 12V
 - Max charge current: 15A (In this example)
 - Use default charge settings: OFF
 - Charger: ON
 - Absorption voltage: 14.40 V
 - Absorption Time Limit: 02:00
 - Float voltage: 13.30 V
 - Equalization voltage: 15.20 V
 - Auto Equalization: DISABLE (OFF)
 - Temperature Compensation: ON
 - Temperature Compensation: -20.00



Download VictronConnect In App Store



Device List within VictronConnect



MPPT Charge Controller Screen