#### **Bug History for TM-2030:**

1)

-Watts Error

\*discovered 04-27-14

present in versions 1.0 thru 1.2, with serial numbers <150

2)

-Unstable charging error

\*discovered 05-25-14 by Robert Shearer

present uo to version 1.3, serial numbers <150

3)

-Overvoltage

\*discovered 06-17-14

modification to P8 added around 06-22-14

present up to version 1.5, serial numbers <800

4)

-Days since equalized and charged error

\*discovered late June, prior to 06-30-14

present up to version 1.4, serial numbers <450

5 & 6)

-History data and L4 (days since charged) errors

\*discovered around 08-25-14

present up to version 1.7, serial numbers <1130

7)

-Setpoint parameters error with SC-2030:

\*discovered October 15th, 2014

present up to version 1.8, serial numbers <1496

8)

-Initialization with first full charge error

present up to version 1.9 serial numbers <1657

# **Bug History for SC-2030:**

Yellow LED error. present up to version 1.0 serial numbers <160

The yellow light on the controller is supposed to be "ON" when solar current is present. It was discovered that the yellow light did not go on. However the "SOL" display on the TM-2030 correctly showed the incoming amps on the display to supply this information.

## \*\*Dates below indicate date units were programmed and first shipped

# **Version history:**

v 1.3 fixed watts display bug -- 04/28/2014

v 1.4 fixed unstable charging with SC-2030 bug -- 05/27/2014

v 1.5 contains P8 modification for overvoltage -- 06/23/2014

v 1.6 fixed days since equalized/charged error -- 07/15/2014

v 1.7 no fixes-- 08/07/2014

#### 2 modifications:

- 1) Increased the speed of response on the "current limit" slightly compared with the modification made in version 1.4.
  - 2) Greatly increased the P8 over-voltage protection.
- v 1.8 fixed history data L4 (days since charged) errors -- 09/02/2014
- v 1.9 fixed incorrect setpoint parameters with SC-2030, rpC reset errors. **Ver. display upon initial power up added**. -- **10/22/2014**
- v 2.0 fixed initialization with first full charge error. -- **11/12/2014** Units with this error did not register a % full reading w/ first charge.

#### Version 2.1 and later absent of firmware issues (as far as we know)

- v 2.1 added 2 12 v profiles (no fixes). -- 11/14/2014
- 1) Charges AGM battery up to voltage 14.3. Holds for 4 hours, or when 107% of previous charge is returned, whichever is first.
  - 2) Voltage is 14.7 for liquid electrolyte and goes up to 112%.
- v 2.2 has two updates (no fixes): -- 01/23/2015
- 1) Added manual equalization feature. It allows someone to up the voltage to the max (P15) for a two hour period, then it shuts off. It also doesn't allow the current to exceed 5% Capacity (5% of P3 value) while above the usual "absorb" volts. To make it go longer one would need to run it again. It can be terminated early, also. This for someone who finds specific gravity of the electrolyte low and wants to boost it up.
- 2) Just as before you go to rPC and look at the usual % value, but now you can now also hold down the RESET key and look at the discharge minimum that is being used as a base for that number.

### **Version History for SC-2030:**

Fixed SC-2030 Yellow LED Bug (did not change version #)-- 08/26/2014

v 1.1 contains firmware modification to clamp voltage (no fixes) -- **10/29/2014**Modification to more efficiently clamp the voltage in the SC-2030. Beneficial in cases where there is a voltage limit in inverters for RV use to shut off at conservative number (15.5 in some cases). fixed for serial numbers >200

Modification for green LED to flash 8 times to indicate version # (did not change version #) -- 03/15/2015