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AWSOM™ CIRCUIT DIAGRAM

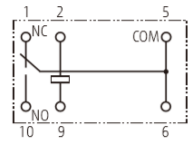
(A Well System for Ongoing Maintenance)

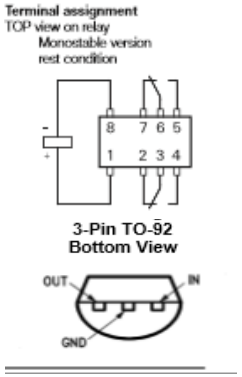
The part numbers in BLUE are from RS-Components. Other blue components descriptions are from ebay and are search-terms

NB-1: All parts (except solar cells) **to fit inside housing:**

v20200610-1

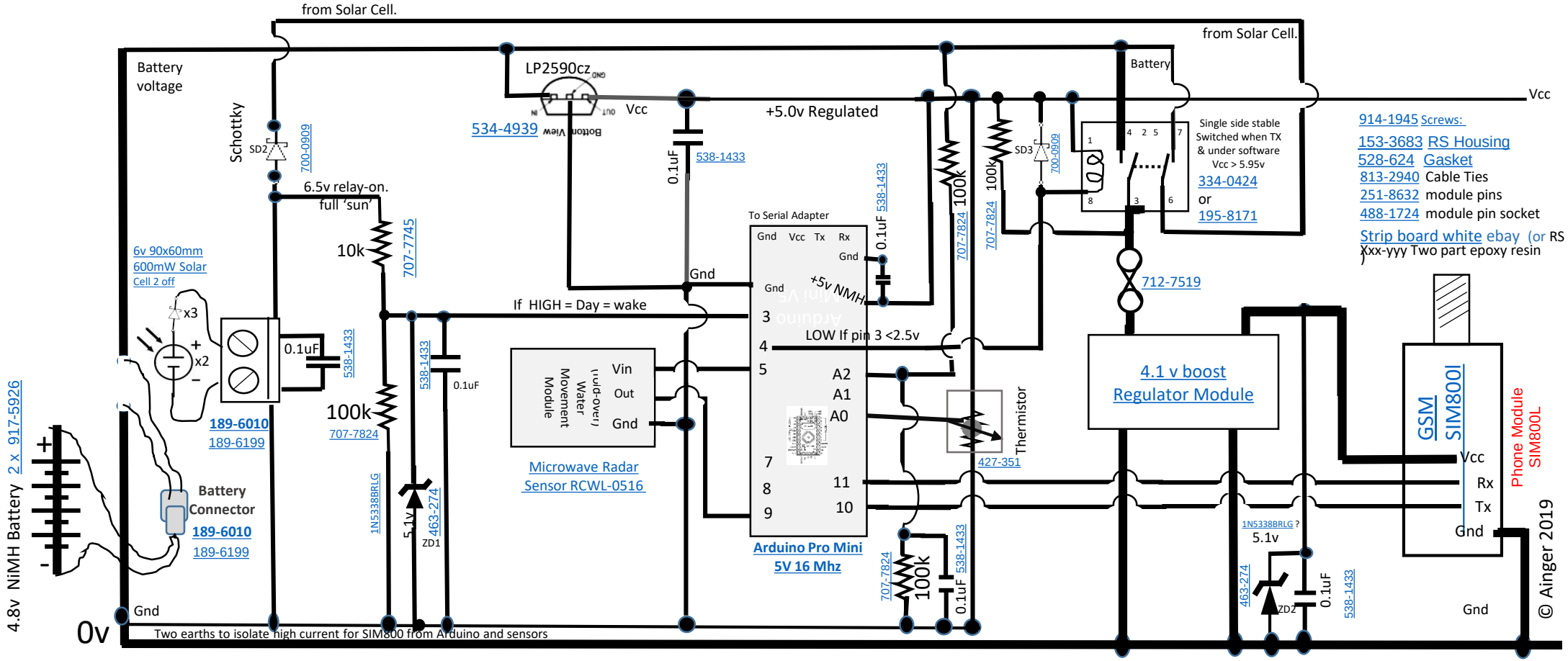
- Schematics (BOTTOM VIEW)





5v
100ma
regulator

914-1945 Screws:
153-3683 RS Housing
528-624 Gasket
813-2940 Cable Ties
251-8632 module pins
488-1724 module pin socket
Strip board white ebay (or RS No. **292-6881**)
Xxx-yyy Two part epoxy resin)



NB: Cable Ties 813-2940 for holding batteries on each side of the PCB on to the Vero/PCB:

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Things to remember when setting up:

1. De-solder the Arduino Mino Vcc-ON LED (2mA x 24hrs)
2. Check if the Arduino is a Mino or a Nano software wise. (try loading with mini & nano to see which works)
3. Check the PORT to load the sketch from in the Arduino options
4. Check the type of BOOTLOADER (old) in the Arduino options too.
5. Make sure the Vcc on the Arduino is the same voltage as the USB port otherwise it won't load.
6. Check and adjust Arduino sketch Loop-Count is 30.0 seconds
7. Check credit on the SIM card!
8. Make sure the solar cell wired are screwed in tightly & makes a good connection
9. **Calibrate** the Voltage and temperature calculation or they could be out by 4c / 200mV respectively.
10. Have NO push connections as they get loose and cause havoc!

Total on battery during 24 hrs = 60mAh during the day + 9mAh at night = 70 mAh
100mA for 60secs SMS = 2mAh (plus 1500mA start-up for 250mS)
2.6.mA sleep 26sec/30sec plus 19 mA 4secs =4/30 =
5mA average during **day** = 60mAh
Total on battery during 12 hr **Night** 0.75mA = 9mAh
NB: Current drain increases under Software by 100mA if Vbattery >5.95v

NB: The 5v regulator enables the 4.8v battery to charge up to more capacity. Just 300mV equates to increasing the max charge from 13% to over 60% of the battery's capacity.
NB: The Zener's are acting as protective devices only.

NB-2: Phone Module SIM800L takes
1.5 Amps for 250 milliseconds about
1.25 seconds after start up (hence fat-tracks)
Take care with the PCB and do not let this part of the cct impart this voltage dip to the Arduino or it will reset itself.