Change of Course:

Peace of Mind on the Mooring



By Scott Monroe, *Southern Yankee* #409, North Kingstown, RI • C350

This article describes a fun project for the upcoming season for all those who worry when separated from their floating homes. Enjoy.

Everyone else, please remember to keep your C350 community informed when you've got a project. Please keep the articles coming! Feel free to reach out to me and I will be happy to guide you through the process. –**Scott Monroe**, Scott_Monroe@Verizon.net



When it comes to my "home on the water" I have been a slip kind of guy for as long as I had owned the Southern Yankee. A couple of seasons ago I made the move from slip to mooring. While I have come to love the peace and serenity, and have perfected the packing of the tender, I had developed a separation anxiety when I am away. The "what if's" would keep me up at night, if I forgot to turn everything off will the batteries will be dead when I get back out there again, what if the sink drain hose springs a leak how long will the batteries last while running the bilge pumps, and how strong is the mooring pendant anyway?

I have always been a proponent for all things digital and given that I do keep tabs on my children through their phones, I decided to do the same with the Southern Yankee and install the Siren Marine system.

If you are not familiar with it, it utilizes global 3G connectivity and a smart phone app to report back bilge pump activity, battery levels, GPS position, and remote control over select circuits in the boat (more on that later), plus many other bits of information. For me the overall cost of the unit and seasonal service plan was fair for the peace of mind.

What I wanted most was to keep track of the charge state of the batteries, I have a solar panel installed on the dodger and am a little concerned with both over and under charged batteries, and more importantly I wanted to know if my bilge pump was active. Didn't want the surprise of tendering out to my mooring only to find a mast sticking out of the water.

I installed the simplest package which includes the MTC device (SM-MTC-A) shown mounted behind the DC distribution panel. The unit configuration is very simple, as it has a single control module and a smart phone app. It is shipped with a single fused power cable and mounting bracket.

I opted to mount the unit behind and above the power distribution panel in the main salon. The connections are straight forward. Each device (battery, bilge pump, etc.) is connected to the MTC Terminal Board via screw terminals under an access cover. I used crimped ferrules over all the bare wires to avoid loose strands (picked up the tool and ferrules on Amazon). To monitor the battery voltages, I wanted to pull voltage from as close to the batteries as possible. I opted to connect to the back of the battery selector switch as opposed to directly to the battery posts themselves. The entire battery switch panel needed to be unscrewed and pulled out far enough to access the battery switch posts. I liken it to trying to pull a family of pythons from their nest. I connected fused conductors from the battery switch (within 7 inches from the power source per ABYC standards) to the BATT 1 + and BATT 2 + of the screw terminal on the MTC Terminal board.





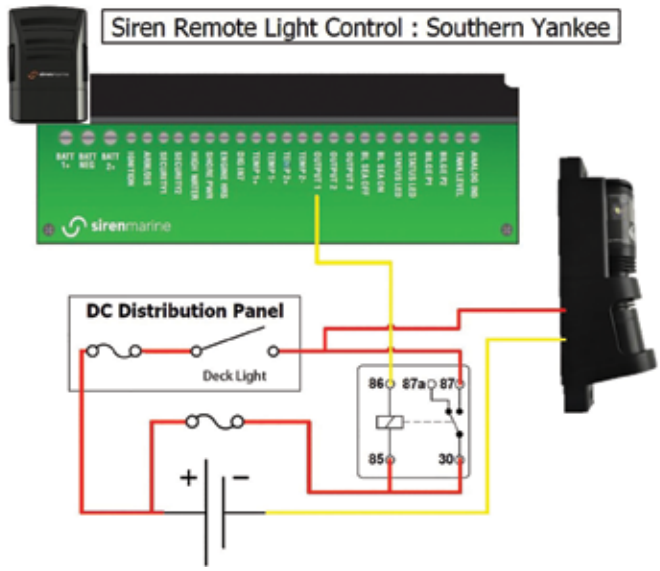
To monitor the bilge pump activity, I simply connected the power to the bilge light to the MTC unit. The light is powered when the bilge pump is activated sending a signal to the MTC unit. Besides requiring a ground connection, that was it for the critical connections. Overall, quite simple.

The phone app is quite useful. Besides real time monitoring of battery states it will also give the where-abouts of your vessel, which I found very useful to find out when she got pulled out for the winter (see lower Siren screen shot). The app also alerts you if the bilge pump turns on. I have it set to alert me with a single cycle, if I see two, I'm in my car quickly.

While the unit is great for peace of mind, I also took advantage of the digital outputs on the unit for more of a convenience. These outputs allow you to turn on and off electrical devices on your boat remotely via your cell phone. This idea originated from a trip to Block Island when I am tad bit embarrassed to say that returning from a shore visit late one evening, I lost track of the Southern Yankee in a very busy anchorage. Vowing not to let that happen again I utilized the remote switching option on the unit to turn my deck light on and off remotely via my cell phone, which makes my home on the water stand out among the many anchor lights in busy anchorage.

To utilize this function, you need to use a standard relay with enough amperage capacity to handle the deck light, or whatever device you are powering. The MTC unit internal ground switches can handle less than 1 amp through its circuitry so using a relay allows you to switch higher amperage devices, like a deck light, with low amperage switching. The relay only draws 1.8 W or 0.15 amps so well within range for the MTC. I purchased a thirty-amp relay from Amazon, which was more than enough to handle the LED deck light I have installed.

I included the wiring diagram that I worked up for the project. The overcurrent protection and switch depicted on the DC distribution panel is just the breaker on the panel. I pulled power directly off the feed to the distribution panel and then used a 5-amp inline fuse for the power to the switching coil on relay (85) as well as the power to the common on the relay (30). The normally open connection (87) on the relay was then wired to the output of the deck light breaker on the distribution panel. So, when I send a command to the MTC unit via my phone the output #1 ground switch closes allowing current to flow through the relay coils thereby causing the switch to close between 30 and 87, which then powers the deck light independent of whether the deck light switch on the distribution panel is on or off. Walla, I get a warm welcome of well-lit boat without having to leave the deck light on the full time I'm gone.



The cost of the project wasn't too bad considering the peace of mind and the coolness of turning on the deck light while motoring in the inflatable. The MTC unit (SM-MTC-A) was $599 with a $125 / season subscription for the 3G service. The relay was $5 and around $25 for wire, fuse holders and fasteners, and $27 for the ferrule crimper and ferrules. And all said and done, couple of hours of my time. Well worth it!

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