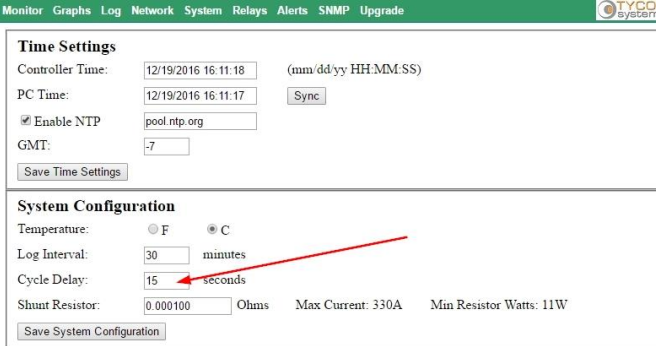


Starting a Generator with TPDIN-Monitor-WEB2

Background: Many customers want to use the TPDIN-Monitor-WEB2 to be able to sense the battery voltage and start a generator when the voltage gets too low. You can use the following method to accomplish this with the TPDIN-Monitor-WEB2.

1. Use one of the Normally Open Relays – Relay 3 or Relay 4.
2. On the System Page set the Cycle Delay which should equal the generator start time, normally 15-20seconds.



Monitor Graphs Log Network System Relays Alerts SNMP Upgrade

Time Settings

Controller Time: 12/19/2016 16:11:18 (mm/dd/yy HH:MM:SS)

PC Time: 12/19/2016 16:11:17 Sync

Enable NTP pool.ntp.org

GMT: -7

Save Time Settings

System Configuration

Temperature: F C

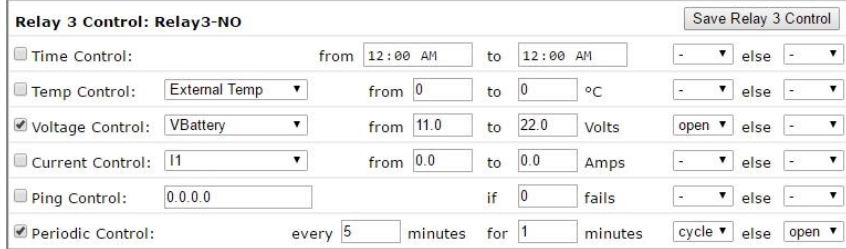
Log Interval: 30 minutes

Cycle Delay: 15 seconds

Shunt Resistor: 0.000100 Ohms Max Current: 330A Min Resistor Watts: 11W

Save System Configuration

3. On the Relays Page setup Relay 3 or Relay 4 controls.
 - a. Voltage Control
 - i. Select the Voltage channel that is monitoring the battery voltage in the drop down box.
 - ii. Set the voltage “From” to the low limit and the “To” to the upper limit. Normally the upper limit should be higher than any possible battery voltage.
 - iii. Set the action as “Open else –” (don’t care)
 - b. Periodic Control
 - i. Set the Periodic Control to control the retries. In the example below we have it set to retry every 5 minutes.
 - ii. Set the action as “Cycle else Open”



Relay 3 Control: Relay3-NO Save Relay 3 Control

Time Control: from 12:00 AM to 12:00 AM - else -

Temp Control: External Temp from 0 to 0 °C - else -

Voltage Control: VBattery from 11.0 to 22.0 Volts open else -

Current Control: I1 from 0.0 to 0.0 Amps - else -

Ping Control: 0.0.0.0 if 0 fails - else -

Periodic Control: every 5 minutes for 1 minutes cycle else open

4. In this example the functionality will be as follows:
 - a. When the Voltage is between 11.0V and 22.0V the relay will be held open.
 - b. If the voltage drops below 11.0V or exceeds 22.0V the periodic control will take over and the relay will cycle every 5 mins for 15seconds and it will continue to cycle until the battery voltage exceeds 11.0V.

- c. As soon as the generator turns on, the voltage will rise quickly about 11.0V and disable the Periodic Control.
 - d. You can adjust the limits to suit your specific application.
5. Some generators have a Start Switch and a separate Stop Switch. If you need another relay to turn off the generator use the other Normally Open Relay (Relay 3 or Relay 4). You will need to use I3 or the shunt input (using an external current shunt) to monitor current going into the battery from the charger.
6. On the Relays Page setup Relay 3 or Relay 4 controls.
- a. Current Control
 - i. Select I3 (+/- 10A capability) or Shunt Current (If using an external current shunt)
 - ii. Set current limits “From” 2.0 Amps “To” 20.0 Amps. You need to monitor battery current so you know when to disengage the generator. Normally when the battery charging current is around 2A, the batteries are fully charged. This number depends on your total load because your load will add to the battery current measured and it also depends on the size of your battery array. The “To” amps should be higher than any current you might encounter or the maximum current possible from your charger.
 - iii. Set the action as “Open else Cycle”

| Relay 4 Control: Relay4-NO | | Save Relay 4 Control | |
|------------------------------------------------------|-------------------------------------|----------------------|------------|
| <input type="checkbox"/> Time Control: | from 02:42 PM to 02:44 PM | - | else - |
| <input type="checkbox"/> Temp Control: | External Temp from 0 to 0 °C | - | else - |
| <input type="checkbox"/> Voltage Control: | VBattery from 11.0 to 15.0 Volts | - | else - |
| <input checked="" type="checkbox"/> Current Control: | Shunt Current from 2.0 to 20.0 Amps | open | else cycle |
| <input type="checkbox"/> Ping Control: | 0.0.0.0 if 0 fails | - | else - |
| <input type="checkbox"/> Periodic Control: | every 0 minutes for 0 minutes | - | else - |

7. In this example the functionality will be as follows:
- a. When the current is between 2.0A and 20.0A the relay will be held open.
 - b. When the current falls below 2.0A or exceeds 20.0A, the relay will cycle for 15seconds and will turn off the generator.
 - c. You can adjust the limits to suit your specific application.