

LED Information

While Idle the LED will flash showing the current mode.

- .- = Mode 1 (High Sensitivity Smart Mode)
- ..- = Mode 2 (Medium Sensitivity Smart Mode)
- ...- = Mode 3 (Low Sensitivity Smart Mode)
-- = Mode 4 (Standard Mode)
-- = Mode 5 (Disabled Amp Sensor)

Green = No Sensor Detected (Control is not responding to a sensor trigger)

Blue = Sensor Detected (Control is detecting a sensor, this is for both sensors)

Red = Motor Start Failure (Control received a direction trigger but didn't see a response from the motor, this is only when the sensor is not active for the direction the user is trying to run the cover.)

While Running the LED will show current load (This will not be an indication of the Smart Mode shut off, just the overall load on the motor).

Green = Low Torque

Yellow = Medium Torque

Red = High Torque

If no response from motor while activating direction and LED turns RED, the sensor is triggered for that direction stopping the motor from running.

Auto Adjust is able to automatically switch the Smart Modes to reduce sensitivity and even switch to standard mode if needed.

This is done when the user perform the following procedure.

1. Overloads the amp sensor, shutting down the motor.
2. Reverses the cover for a short time (about 1-5 seconds) to unlock the original direction.
3. Runs the cover for at least as long as the cover was reversed to show the cover is able to continue to run the original direction.
4. Performing this procedure at least 3 times.

Note: This procedure was design to the natural response of the user, this keep it invisible to the user that he is making the change.

To manually change modes perform the following procedure.

1. Cut power to the control/motor
2. Connect the Direction 1 (Red) and Direction 2 (Black) to the Common (Green) wires leaving them connected for the next step.
3. Re Power the control/motor
4. Disconnect the direction wires.

Each time this procedure is done the mode will cycle to the next mode. (Mode 1, Mode 2, etc...)

If switching more than one mode it is not necessary to disconnect the direction wires, just cycle power on and off until the mode is reached, then disconnect the direction wires.

To manually change modes with key switch turn the key for less then 2 seconds in the following patterns.

O,c,O,O,c,c,O,O,O,c,c,c = Cycle to next mode

O,O,c,c,O,O,c,c,O,O,c,c = Reverse key switch direction

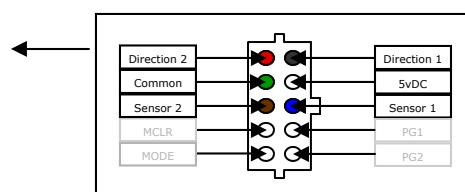
O,O,O,c,c,O,O,O,c,c,c = Reverse sensor direction

O,O,O,O,O,c,c,c,c,c,c = Auto Adjust Enabled (Purple) / Disabled (Lt Blue)

O,O,O,O,c,c,c,c,O,O,O,O = To Clear Sensor Direction

O = Open, c = Close

Direction not important, work either O or C. Just follow pattern.



Voltage	= 100-240 AC
Continuous Amps	= 20
Peak Amps	= 100
DC Output	= 5vDC
Auto Stops	= Magnetic Sensor
Electronic Clutch	= Smart Mode, Standard Mode

Smart Mode vs. Standard Mode

How does smart mode work?

Smart Mode requires 3 steps in order to work correctly.

Step 1. Record the raw current data several times a millisecond.

Step 2. Filter out the peaks to remove unwanted spikes that would throw off the readings.

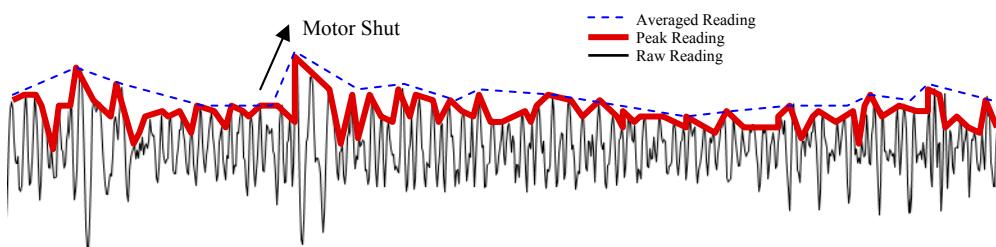
Step 3. Average the peaks to filter the information to further improve the readings.

Step 4. Compare the averaged readings to the next few spikes, if the spikes are not within the acceptable range the motor shuts off.

Modes 1-3 are considered smart mode, mode 1 being the most sensitive and mode 3 being the least sensitive.

Although the smart mode can work on most size pool there are some that the standard mode would be required, the reason is as the load increases the signal become noisier and is harder to get a good reading from, in most cases this would be on large pools and the standard mode would be perfect for.

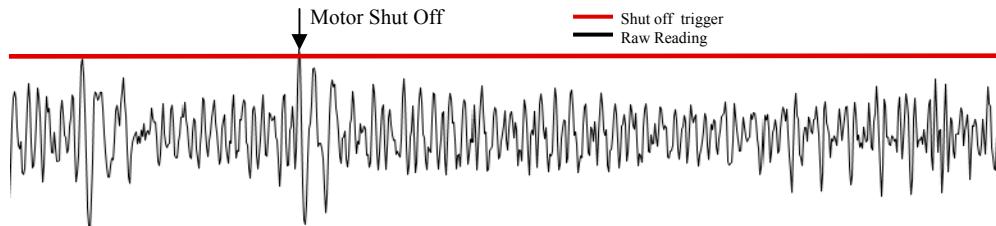
Smart Mode Graph

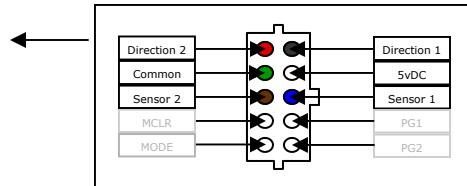


How does standard mode work?

Standard Mode is a much simpler way to shut down the motor but is not flexible for different size pools, it's primarily just to protect the motor. This would be similar to a mechanical slip clutch, basically it reads the current of the motor and if the current goes over a set amount (about 19.5 amps) the motor shuts off.

Standard Mode Graph





As of 7/1/2013 or version 1.2 firmware.

The firmware version is now displayed at power up, as soon as the control powers up you will see a number of red flashes and green flashes. The red flash is the major version and the green flash is the minor version. For example for version 1.2 you should see 1 red flash and 2 green flashes, if it was 2.2 you would see 2 red flashes and 2 green flashes.

A new gesture has been added to make setup of the sensor easier, you install the cover and run to the middle of the pool or anywhere between the two sensors (open and close). The middle is a good place to make sure you are not tripping either sensor.

Now enter “OOOO CCCC OOOO” or “CCCC OOOO CCCC” to clear the sensor direction. Now run the cover in either direction, the first sensor tripped will become the sensor for that direction.

Step 1. install the cover and run to the middle

Step 2. Clear the sensor with “OOOO CCCC OOOO” or “CCCC OOOO CCCC”

Step 3. Run the cover until it hits the sensor.

Easy as that...