

ELF Informer

Tonka Products, LLC

ELF Informer

User Manual



ELF Informer

The ELF Informer is an instrumentation gauge for the ELF bike from Organic Transit. This will allow you to monitor the battery, motor, solar panel and speed with an easy to use graphical user interface (GUI). In addition it will also automatically turn off the turn signals so you never have to worry about leaving them on again! The ELF Informer also adds a USB port so you can charge your portable devices.

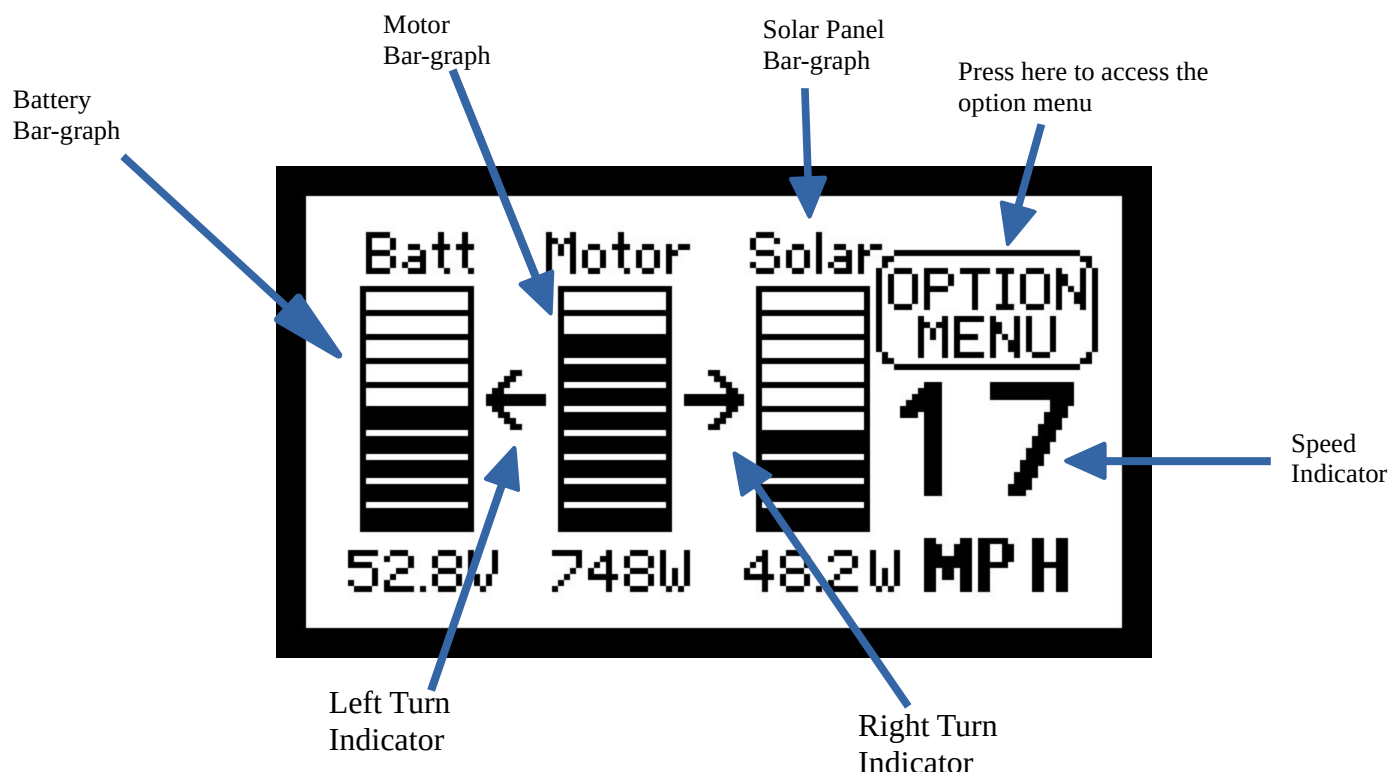
Feature List:

- Easy to use Graphical User Interface (GUI)
- Bar-graph indicators for Battery Voltage, Motor power and Solar Panel output
- Speedometer
- Double Blink Turn Signals
- Turn Signal indicators on the display
- Audible Turn Signal indicator
- Automatically turns off the Turn Signal
- Four way Hazard lights
- Flashing Brake Lights
- Adjustable brightness for the Headlights – Full power or Low power
- Odometer
- Trip Odometer
- Stopwatch
- Estimated Range before battery battery shuts down
- Adjustable units – MPH / KPH, Watts,Amps,Volts
- Select-able Horn output – Continuous, Single beep or Double Beep
- Back-lit display for night time viewing
- USB port for charging your external devices

ELF Informer

Main Screen

The operation of the ELF Informer is based on a Graphical User Interface. All menus and settings are accessed by the Touch Screen.



The Main screen is the default screen on power up. This will display the current status of the battery, motor, solar panel and speed. The units of measure can be changed in the UNITS screen in the CONFIG menu.

Main Screen features:

Battery bar-graph – Displays the battery voltage.

Motor bar-graph – Displays the wattage or current of the motor.

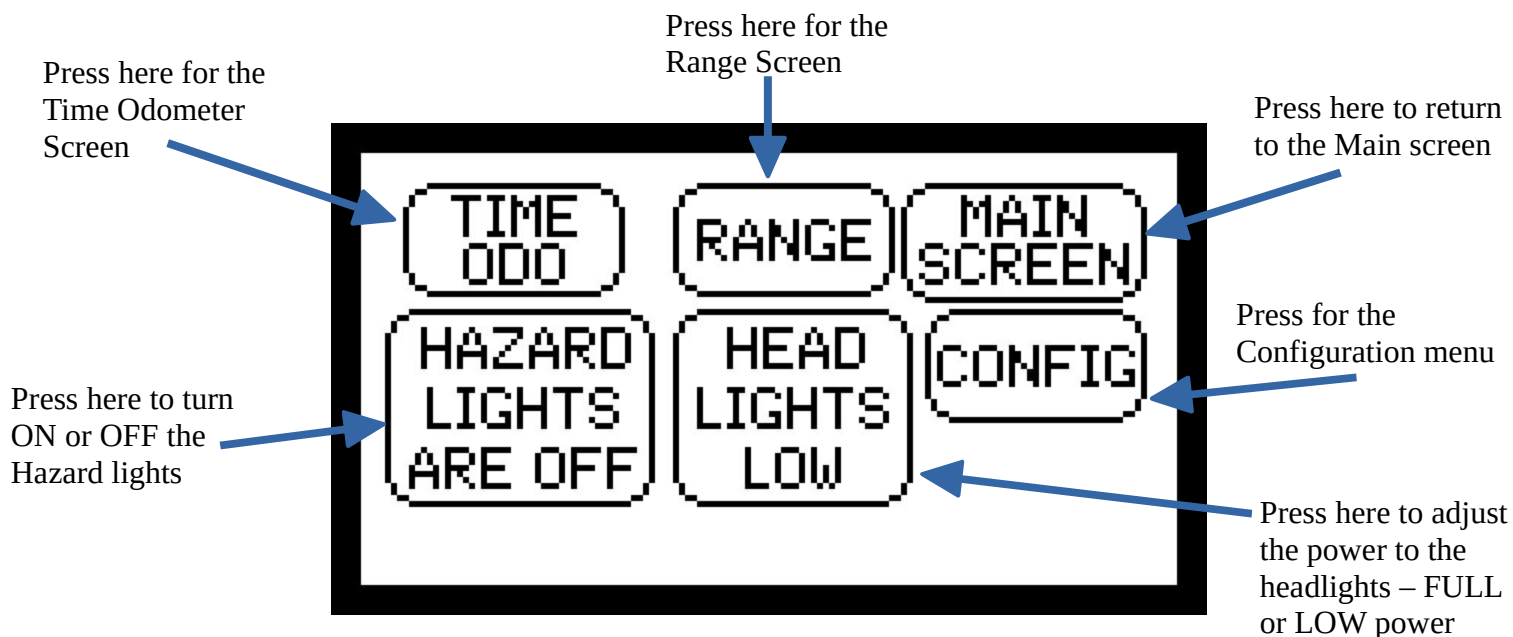
Solar panel bar-graph – Displays the wattage, current or voltage output of the solar panel. This does not measure the output of the solar converter / charger. The output of the solar converter / charger is the same as the Battery bar-graph.

Speed indicator – Displays the speed in either MPH or KPH.

Option Menu – This will select the Option menu to quickly access frequently changed items and the Config Menu.

Turn Signals – These will indicate if the turn signals are on or if the hazard lights are on.

Option Menu



The Option screen is used to quickly access the commonly used features. The Option menu is also used to make changes to the operation of the ELF Informer through the Configuration screens.

Option Screen features:

Time Odo – Press this to go to the Time Odo screen.

Range – Press this to go to the estimated Range screen.

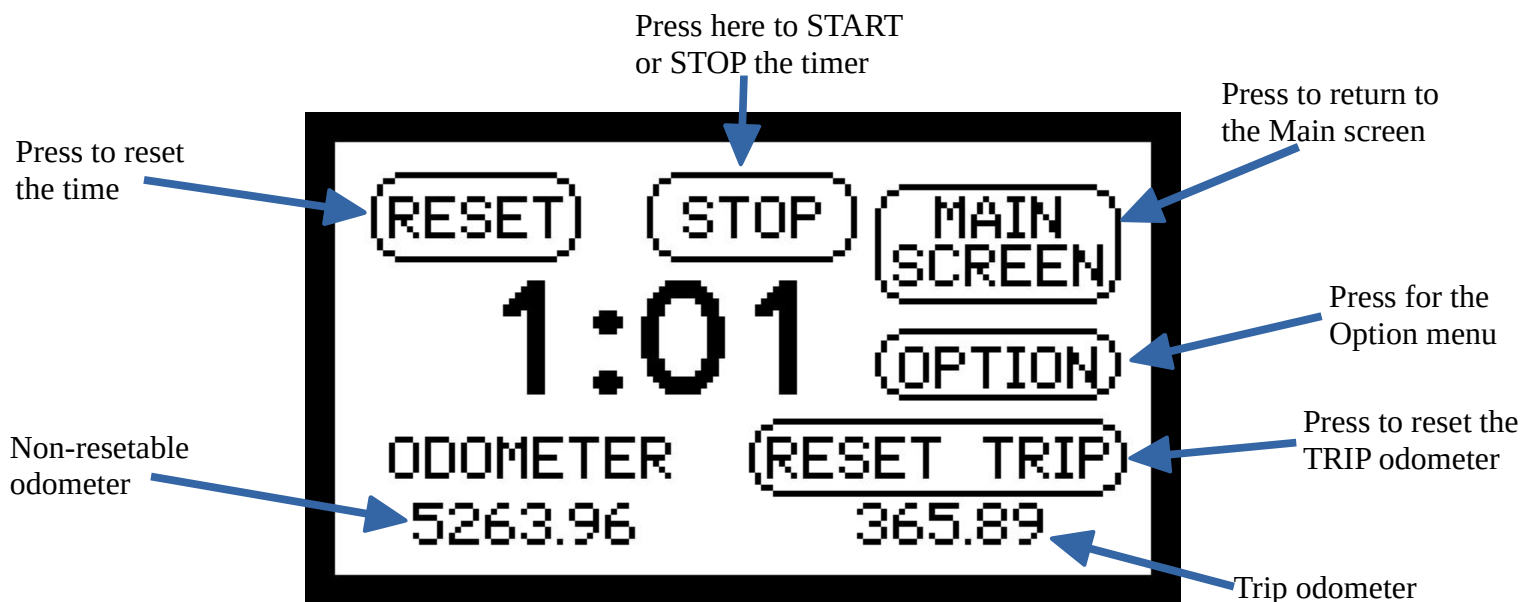
Main Screen – Press this to return to the Main screen.

Hazard Lights – Press this to toggle the Hazard lights on or off.

Head Lights – Press this to toggle the Head Lights from full power or reduced power. Some flickering of the headlights is normal when in the low power mode. This is a function of the headlights and can vary depending on the style of headlights.

Config – Press this to select the Config menu to make changes to the operation of the ELF Informer.

Time Odometer Screen



The Time Odometer screen displays the Stopwatch feature, Odometer and Reset-able Trip Odometer.

Time Odometer Screen features:

Reset – Press to reset the Stopwatch.

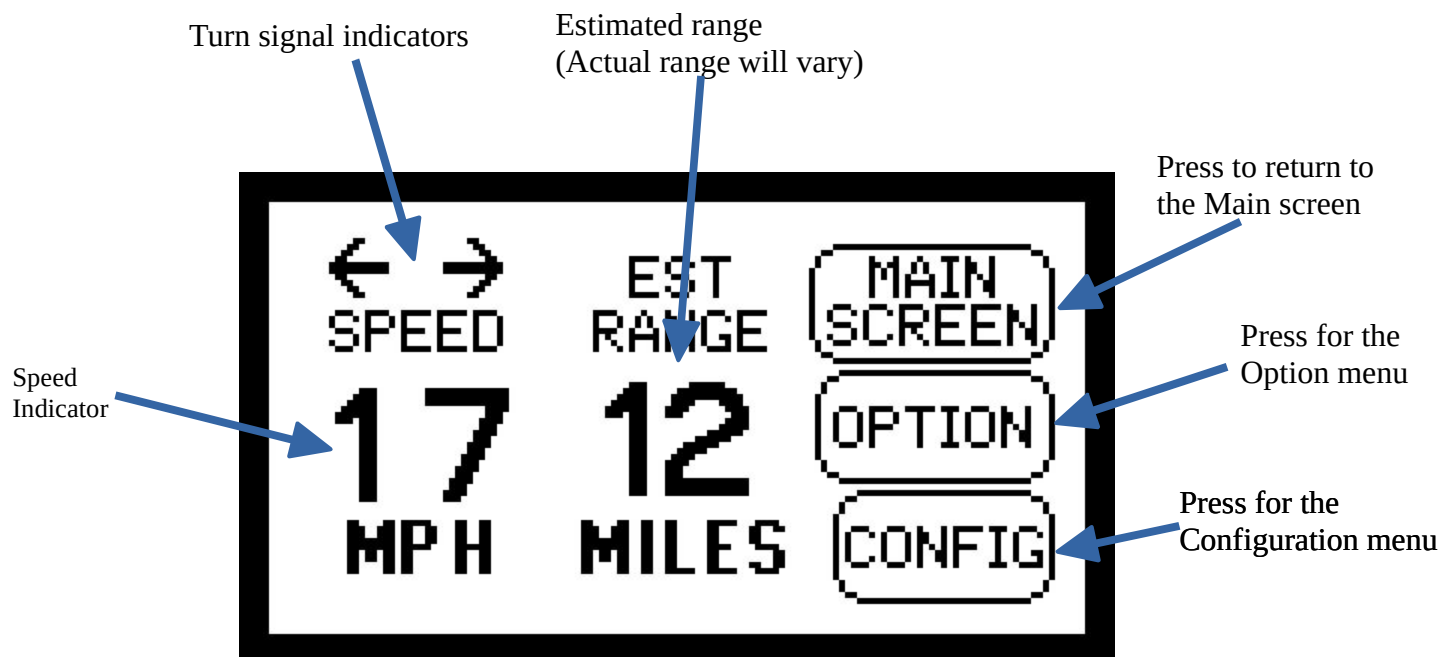
Start / Stop – This will start or stop the Stopwatch.

Main Screen – This will go to the Main screen.

Option Menu – This will select the Option menu to quickly access frequently changed items and the Config Menu.

Reset Trip – This will reset the Trip Odometer.

Estimated Range Screen



The Range screen will display the estimated range, speed and turn signals.

Range Screen features:

Turn Signals – These will indicate if the turn signals are on or if the hazard lights are on.

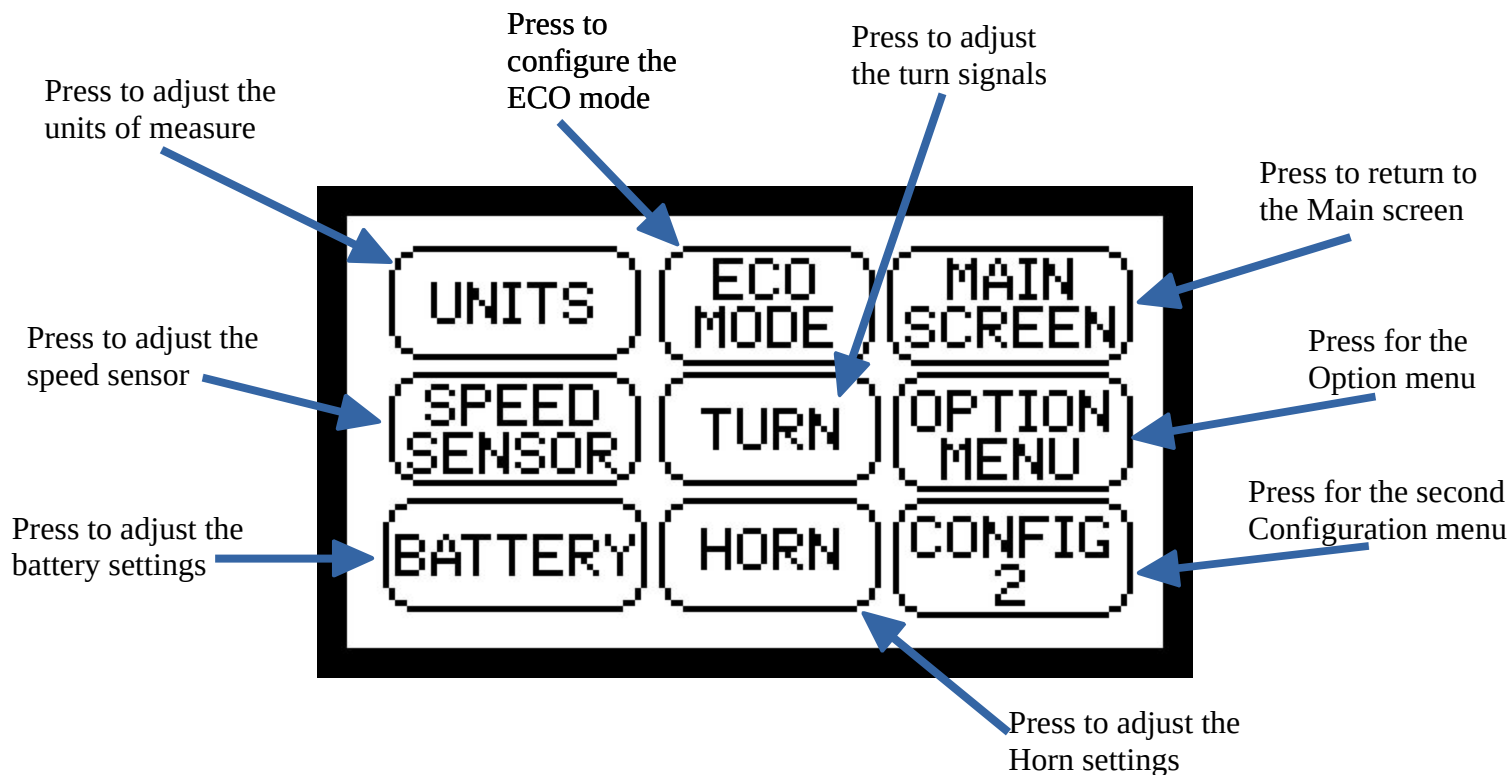
Speed indicator – This will display the speed in either MPH or KPH.

Estimated Range – This will display the estimated range. Actual range will vary depending on battery condition / age, temperature and riding style.

Option Menu – This will select the Option menu to quickly access frequently changed items and the Config Menu.

Config – This will select the Config menu to make changes to the operation of the ELF Informer.

Configuration Screen



The Configuration screen is used to adjust the settings of the ELF Informer.

Configuration Screen features:

Units Menu– Select this to adjust the units of measurement.

Eco Mode Menu – This feature is not implemented at this time.

Main Screen – This will go to the Main screen.

Speed Sensor Menu – Select this to adjust the speed sensor settings.

Turn Menu – Select this to adjust the Turn signals

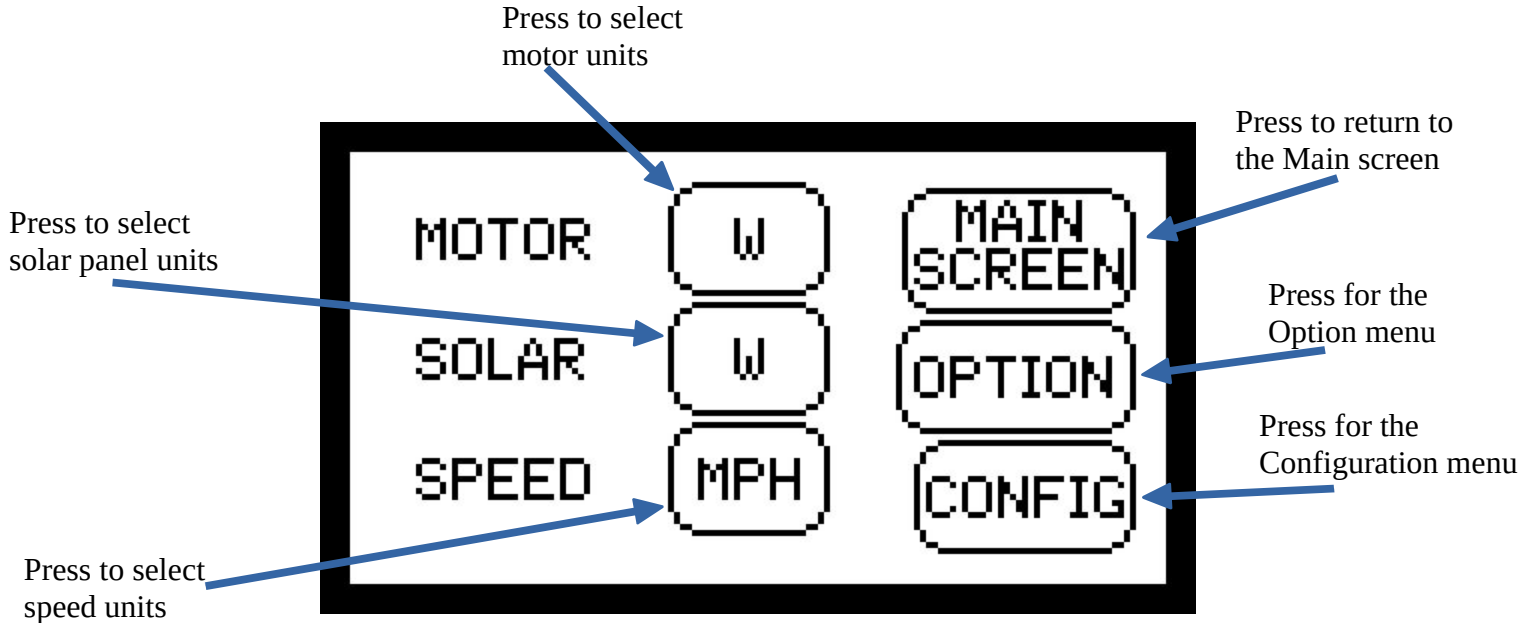
Option Menu – Select this to return to the Option menu to quickly access frequently changed items.

Battery Menu – Select this to adjust the battery settings.

Horn Menu – Select this to adjust the horn settings.

Config 2 Menu – This will select the second Configuration menu to make changes to the operation of the ELF Informer.

Units Screen



The Units screen is used to adjust the units of measure for the ELF Informer.

Units Screen features:

Motor – Press this to cycle between displaying Watts or Amps on the Main screen Motor bar-graph.

Solar – Press this to cycle between displaying Watts, Amps or Voltage on the Main Solar bar-graph.

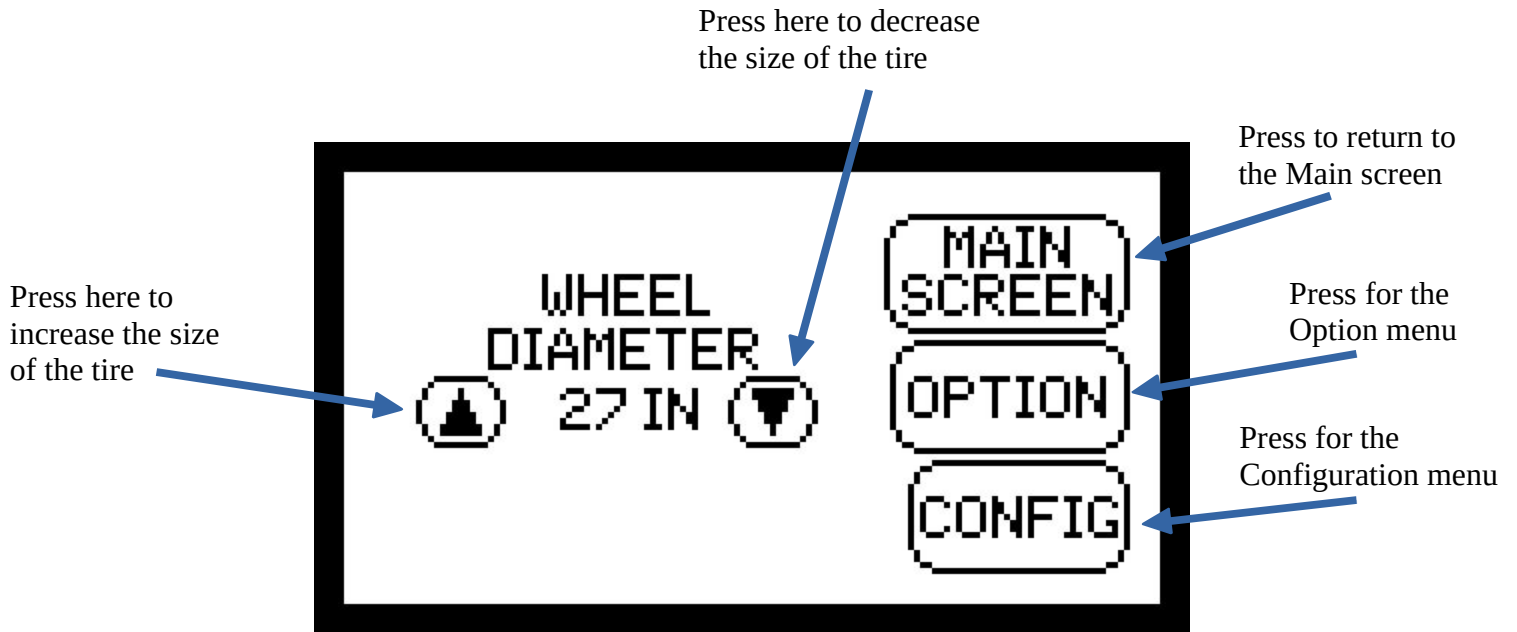
Speed – Press this to cycle between displaying English (MPH, Miles) or Metric (KPH Kilometers).

Main Screen – Press this to return to the Main screen.

Option Menu – Select this to return to the Option menu to quickly access frequently changed items.

Config – This will select the Config menu to make changes to the operation of the ELF Informer.

Speed Sensor Screen



The Speed Sensor screen is used to adjust the wheel diameter for the speed sensor. This is used to calculate the speed and odometer values. Measure the distance from the top of the front right tire to the bottom of the tire. Do not use the measurement that is printed on the tire.

Speed Sensor Screen features:

Up Arrow – Press this to increase the size of the tire.

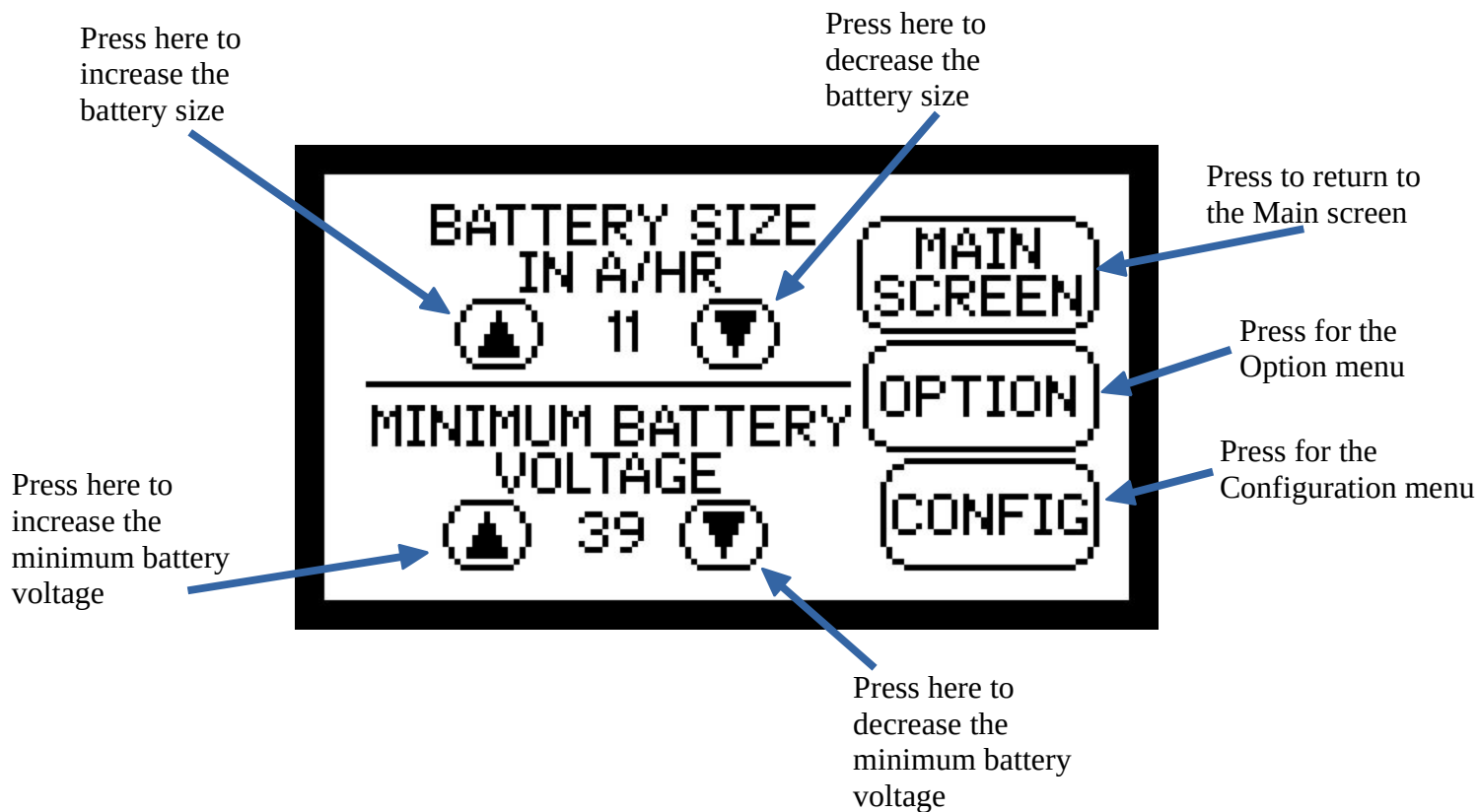
Down Arrow – Press this to decrease the size of the tire.

Main Screen – Press this to return to the Main screen.

Option Menu – Select this to return to the Option menu to quickly access frequently changed items.

Config – This will select the Config menu to make changes to the operation of the ELF Informer.

Battery Screen



The Battery screen is used to adjust the settings for the features that require the battery size (Eco mode) and minimum battery level (Battery bar-graph scale, Eco mode, Low Voltage Safety mode).

Speed Sensor Screen features:

Battery Size Up Arrow – Press this to increase the size of the battery.

Battery Size Down Arrow – Press this to decrease the size of the battery.

Minimum Battery Voltage Up Arrow – Press this to increase the minimum operating voltage of the battery pack.

Minimum Battery Voltage Down Arrow – Press this to decrease the minimum operating voltage of the battery pack.

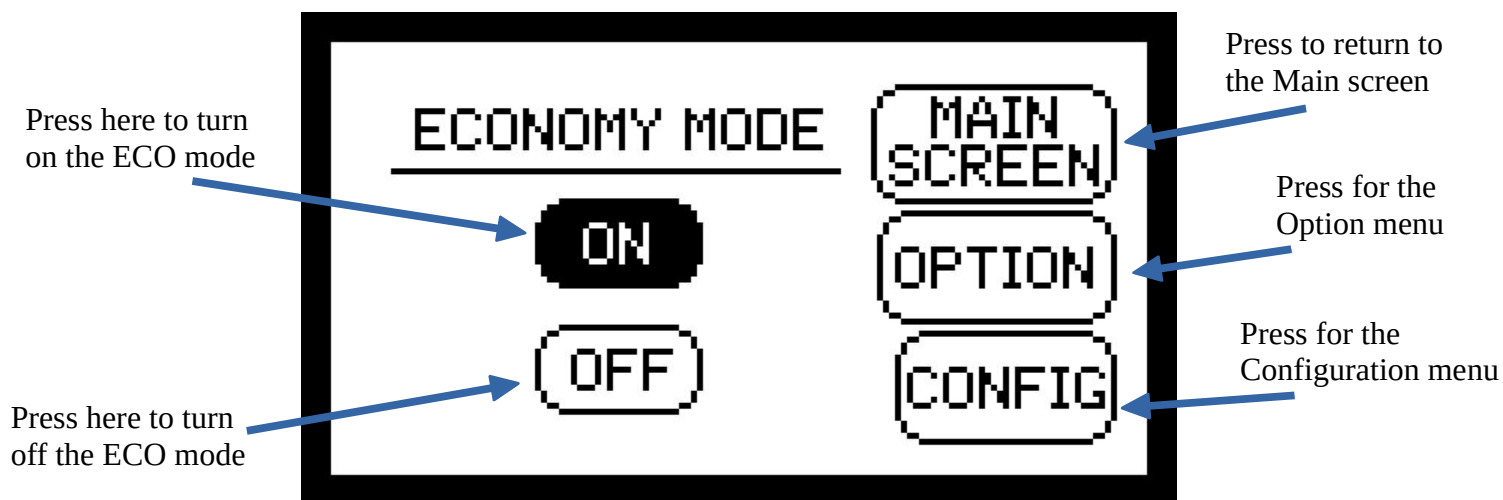
Main Screen – Press this to return to the Main screen.

Option Menu – Select this to return to the Option menu to quickly access frequently changed items.

Config – This will select the Config menu to make changes to the operation of the ELF Informer.

The minimum battery voltage is the voltage when the battery pack will automatically shut itself down to prevent damage to the battery pack.

ECO Screen



The ECO mode is not currently implemented.

The Eco screen is used to turn on or off the Eco mode. Turning on the Eco mode will reduce the throttle when the battery voltage approaches the minimum battery voltage in order to prevent the battery from shutting down unexpectedly. Eco mode will also automatically control the power to the motor when the speed remains constant for 10 seconds and the throttle is not changed. This is the Power Saver feature. The Power Saver mode will automatically use the minimum amount of power required in order to maintain the set speed. Any change in the throttle position will automatically cancel the Power Saver mode.

ECO Screen features:

ECO ON – Press this turn on the ECO mode.

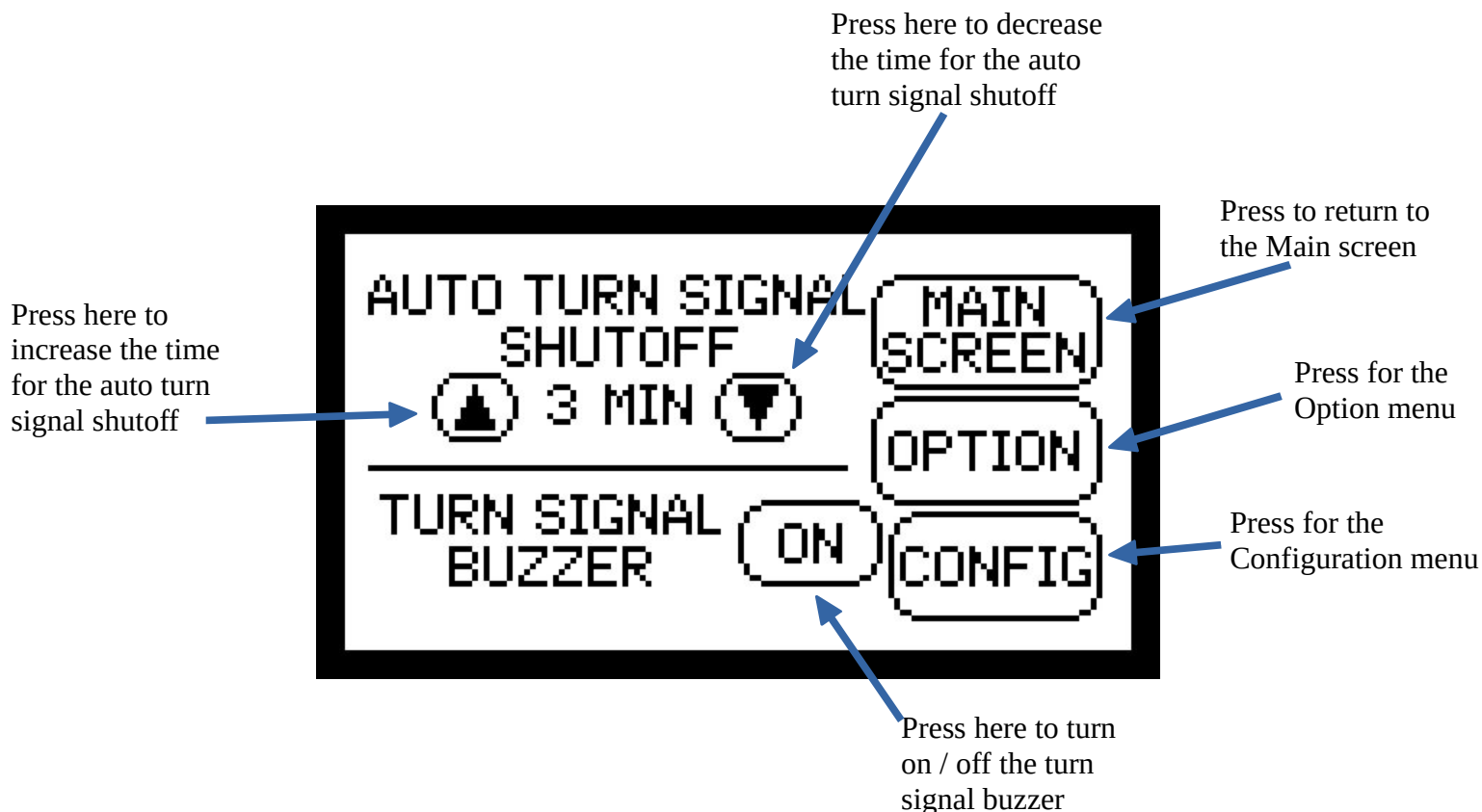
ECO OFF – Press this to turn off the ECO mode

Main Screen – Press this to return to the Main screen.

Option Menu – Select this to return to the Option menu to quickly access frequently changed items.

Config – This will select the Config menu to make changes to the operation of the ELF Informer.

TURN Screen



The Turn screen is used to adjust the amount of time before the turn signal will automatically shutoff when the brake is applied. This screen is also used to turn on or off the buzzer for the turn signals. The turn signal will automatically turn off when the handle bars turn sufficiently or 10 seconds after the front brakes have been released. The turn signals will also turn off if the brake is applied longer then the time set for the Auto Turn Signal Shutoff.

Turn Screen features:

Up Arrow – Press this to increase the auto turn signal shutoff.

Down Arrow – Press this to decrease the auto turn signal shutoff.

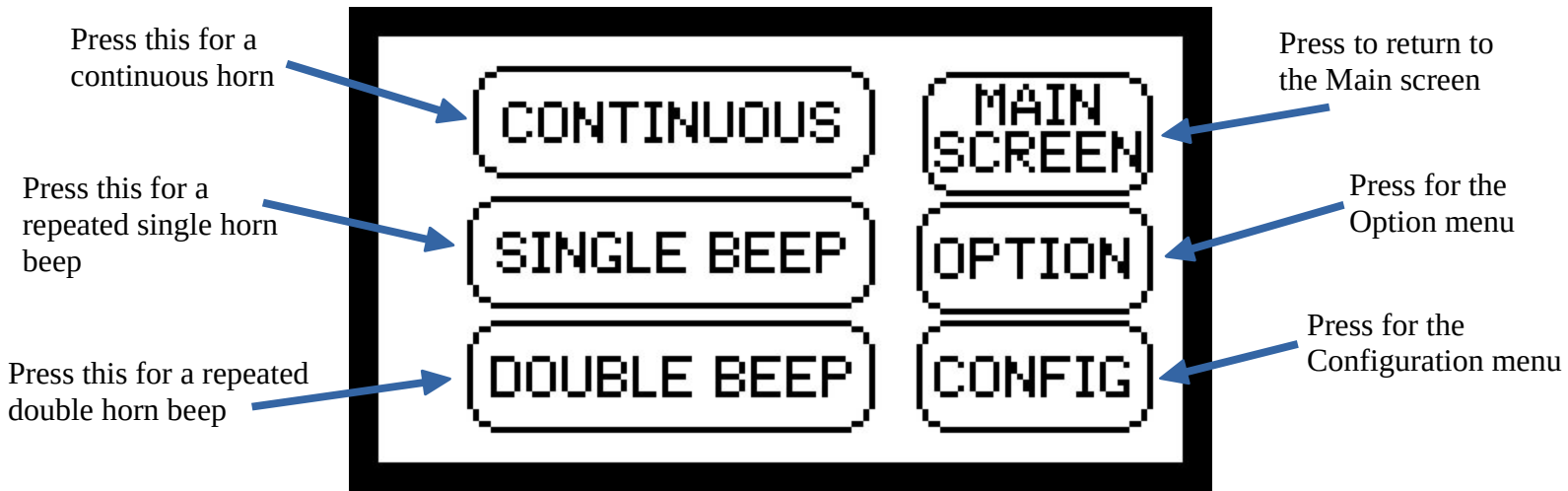
Turn Signal Buzzer – Press this to toggle the turn signal buzzer on or off.

Main Screen – Press this to return to the Main screen.

Option Menu – Select this to return to the Option menu to quickly access frequently changed items.

Config – This will select the Config menu to make changes to the operation of the ELF Informer.

HORN Screen



The Horn screen is used to adjust the functionality of the horn. The horn can be set to sound continuously when the horn button is pressed, a repeated single beep or a repeated double beep.

Horn Screen features:

Continuous – Press this to set the horn to sound continuously when the horn button is pressed.

Single Beep – Press this to set the horn to sound a repeated single beep when the horn button is pressed.

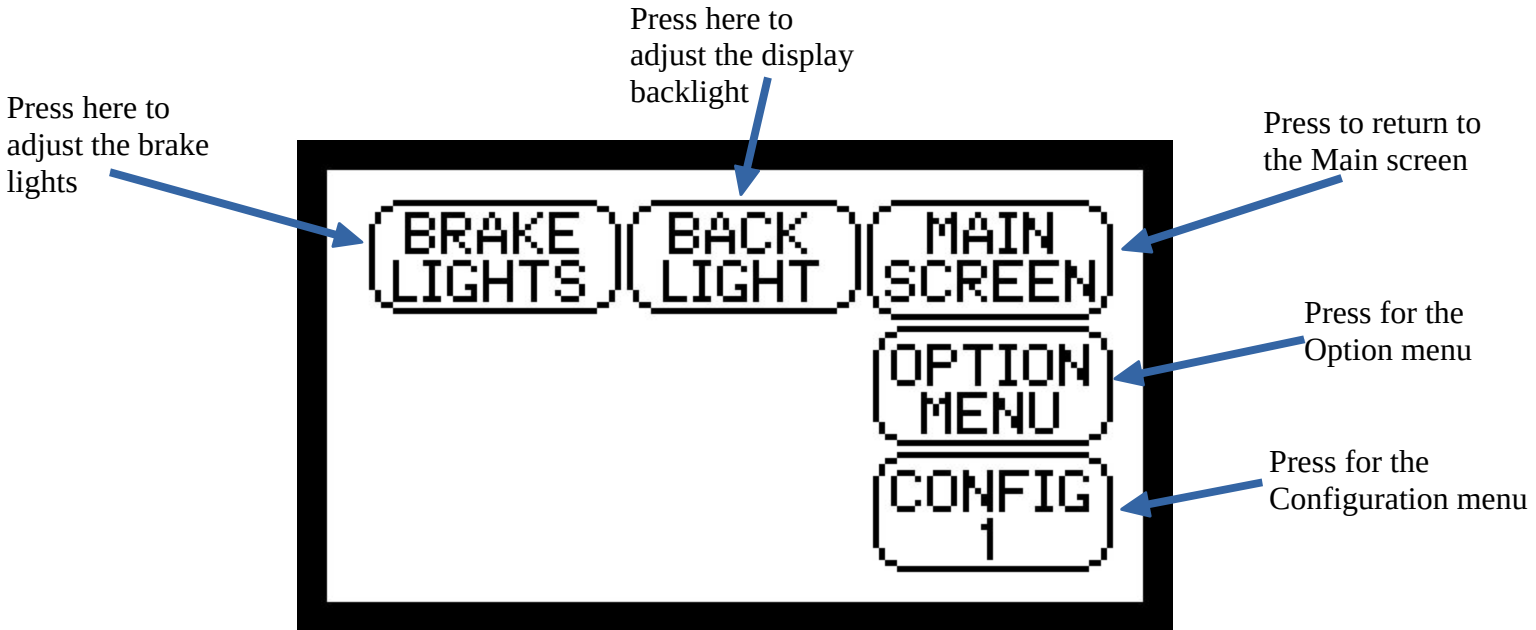
Double Beep – Press this to set the horn to sound a repeated double beep when the horn button is pressed.

Main Screen – Press this to return to the Main screen.

Option Menu – Select this to return to the Option menu to quickly access frequently changed items.

Config – This will select the Config menu to make changes to the operation of the ELF Informer.

CONFIG 2 Screen



The Config 2 screen is used to adjust the settings of the ELF Informer.

Config 2 Screen features:

Brake Lights – Press this to adjust the brake light features.

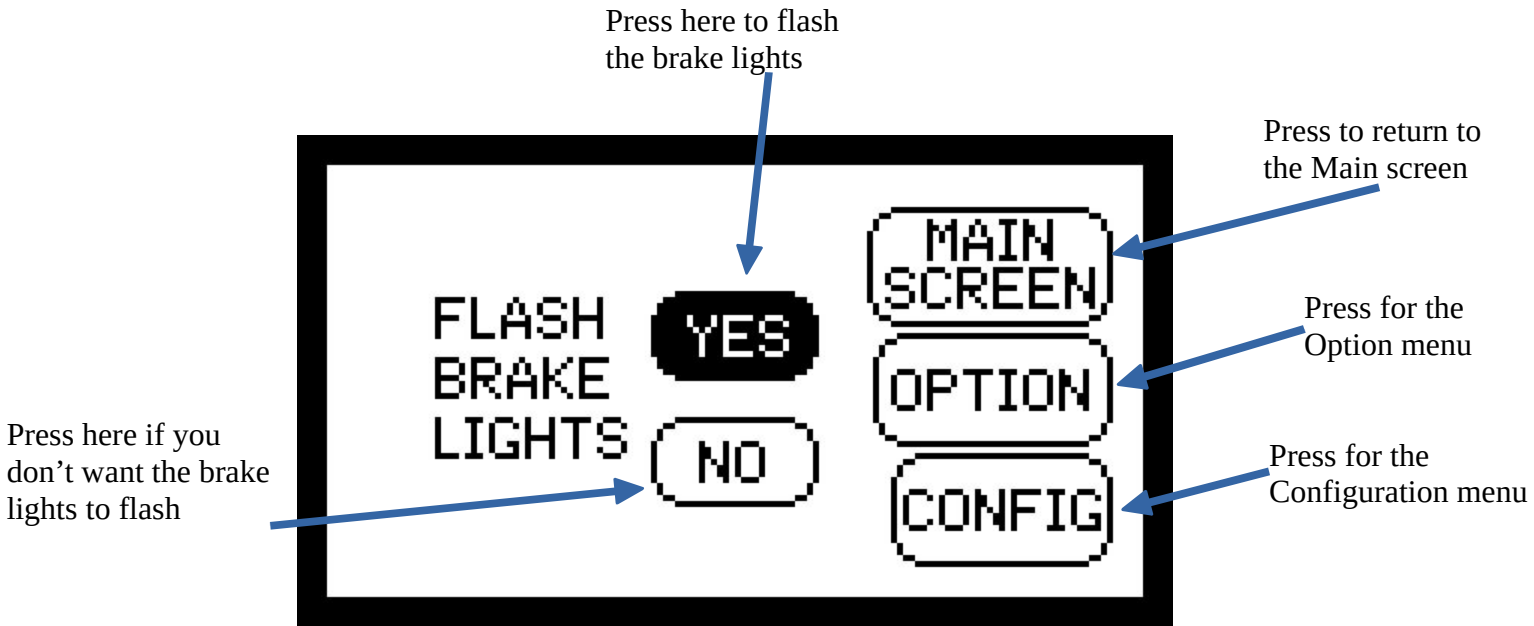
Back Light – Press this to adjust the display backlight.

Main Screen – Press this to return to the Main screen.

Option Menu – Select this to return to the Option menu to quickly access frequently changed items.

Config – This will select the Config menu to make changes to the operation of the ELF Informer.

BRAKE LIGHTS Screen



The Brake Lights screen is used to adjust the settings for the brake lights.

Brake Lights Screen features:

Yes – Press this to flash the brake lights when the front brakes are applied.

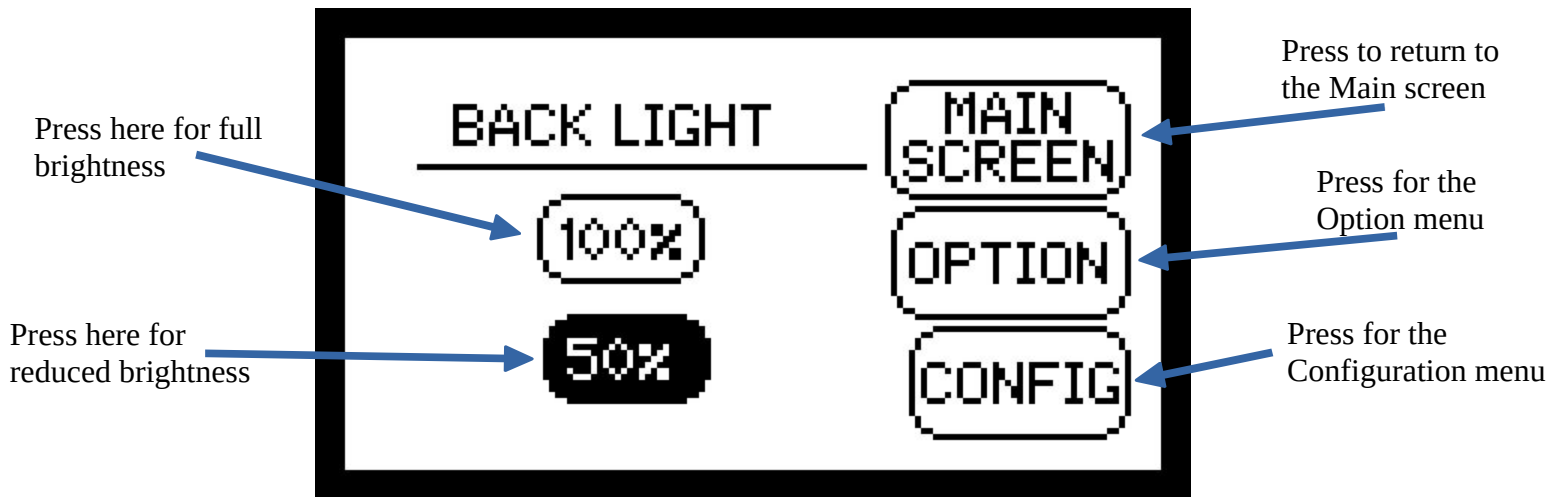
No – Press this if you don't want the brake lights to flash when the front brakes are applied.

Main Screen – Press this to return to the Main screen.

Option Menu – Select this to return to the Option menu to quickly access frequently changed items.

Config – This will select the Config menu to make changes to the operation of the ELF Informer.

BACK LIGHT Screen



The Back Light screen is used to adjust the brightness of the display back light.

Brake Lights Screen features:

100% – Press this for full brightness on the display back light.

50% – Press this for reduced brightness on the display back light.

Main Screen – Press this to return to the Main screen.

Option Menu – Select this to return to the Option menu to quickly access frequently changed items.

Config – This will select the Config menu to make changes to the operation of the ELF Informer.

Programming Screen



The firmware for the ELF Informer can be updated by inserting a USB flash drive with the updated file into the USB connector. The ELF Informer must be off when the USB flash drive is inserted. Power on the ELF Informer and the above screen will appear. Do not remove the flash drive or turn off the ELF Informer while the message above is displayed.

Programming Complete Screen



Once the programming has been completed the above screen will appear. The ELF Informer can now be powered down. After the power has been removed the flash drive can be removed.

ELF Informer

Specifications:

The ELF Informer is NOT water resistant or water proof. Do not allow the ELF Informer to get wet.

Operating Temperature Range: 10°F – 110°F

At temperatures below 45°F the display will respond slower. This is normal and does not effect the operation of the ELF Informer

Power Input Voltage Range: 14 VDC – 58 VDC

Power Enable Voltage Range: 0 VDC – 58 VDC

Input Signals Voltage Range: 0 VDC – 58 VDC

Turn

Brake

Light

Speed Sensor

Horn

Motor Current Sense Input Max Differential Voltage: 0.150 VDC

Solar Current Sense Input Max Differential Voltage: 0.150 VDC

USB Port: 5 VDC @ 200mA

Output Signals Voltage: 12 VDC

Left Turn

Right Turn

Brake

Headlight

Output Signals Current:

Left Turn 1 Amp

Right Turn 1 Amp

Brake 1 Amp

Headlights 2 Amps

Horn 1 Amp

Speed Pot Output Range: 0 VDC – 5 VDC

Power OFF Current Draw: 60uA

Warranty

90 days parts and labor.