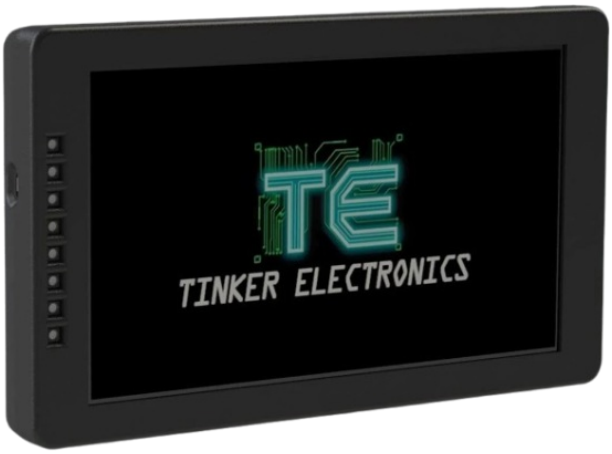
TINKER ELECTRONIC V2 Dash Digital Dash Display User Manual

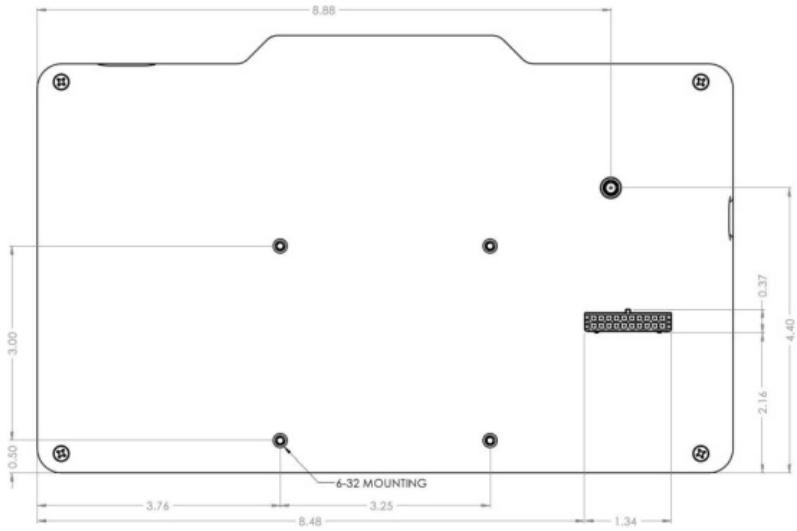


Contents [hide]

DIMENSION

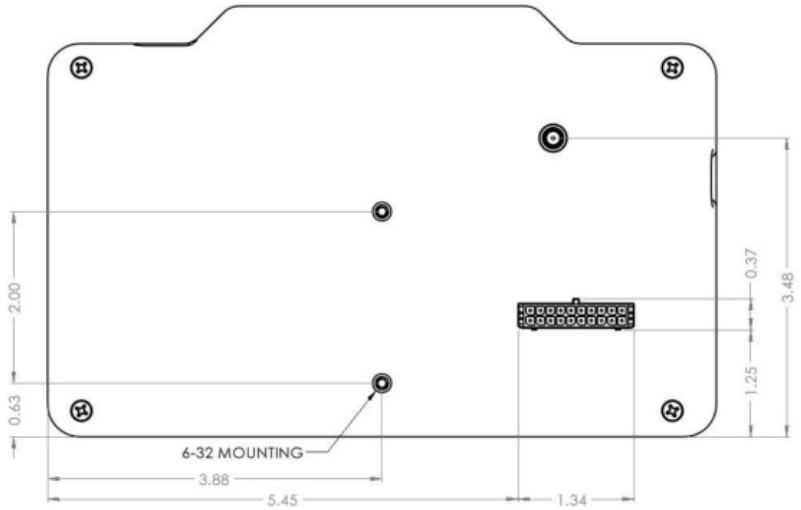
- **10” DASH**

- **10” DASH**



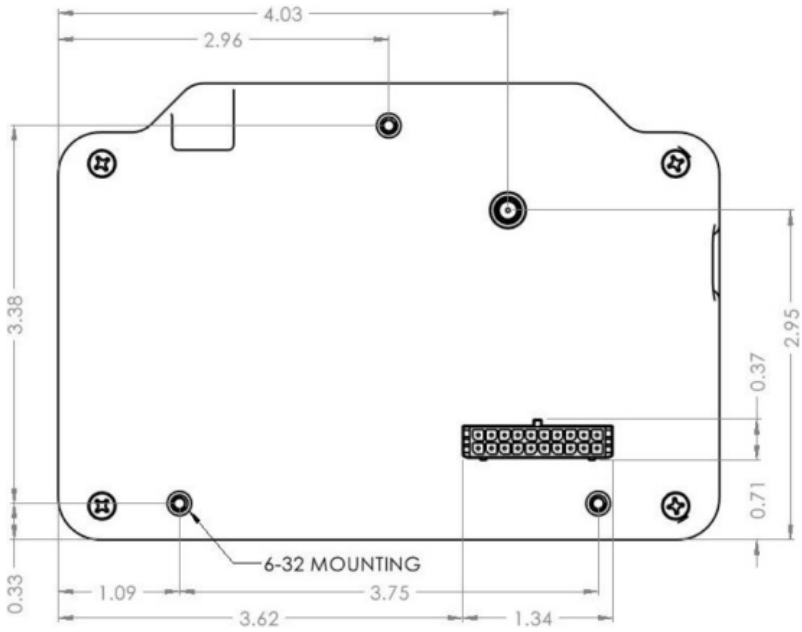
- **7” DASH**

- **7” DASH**



- 5” **DASH**

- 5” **DASH**

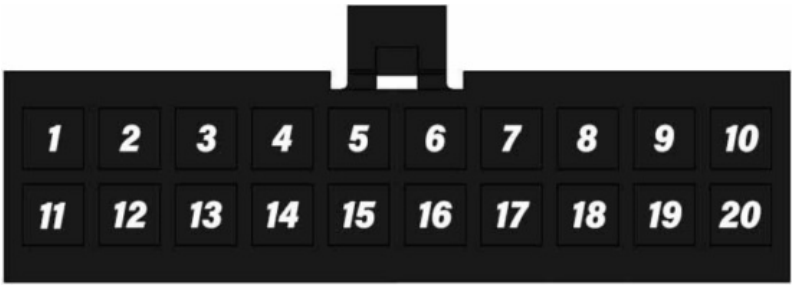


WIRING INFO

PIN	FUNCTION	COLOR	NOTES
1	5V	*	5v Reference
2	RESISTANCE INPUT 1	*	
3	RESISTANCE INPUT 2	*	
4	ANALOG INPUT 5	*	5v Max
5	ANALOG INPUT 4	*	5v Max
6	ANALOG INPUT 3	*	5v Max
7	ANALOG INPUT 2	*	5v Max
8	ANALOG INPUT 1	*	5v Max
9	CAN H	YELLOW	
10	CAN L	WHITE	
11	GROUND	*	
12	SWITCH 5 OUTPUT	*	SWITCHED GROUND
13	SWITCH 4 OUTPUT	*	SWITCHED GROUND
14	SWITCH 3 OUTPUT	*	SWITCHED GROUND
15	SWITCH 2 OUTPUT	*	SWITCHED GROUND
16	SWITCH 1 OUTPUT	*	SWITCHED GROUND
17	N/C	N/C	
18	GROUND	*	
19	GROUND	BLACK	
20	SWITCHED 12V	RED	

- Resistance pins to go to sending unit and configured within settings.
- Analog sensors powered with 5v wire and grounded with open ground pins. Configured via analog settings.
- CAN wires depending on ECU will have to be pinned into the ECU connector.
- **DO NOT** EXCEED 5V ON THE ANALOG INPUTS.
- **DO NOT** CONNECT 12V TO 5V WIRE OR CAN LINES.
- * = End user supplied wire.
- If driving relays with outputs, they cannot see 12v on the coil prior to dash switched 12v.

NOTE: Looking into wire end of connector



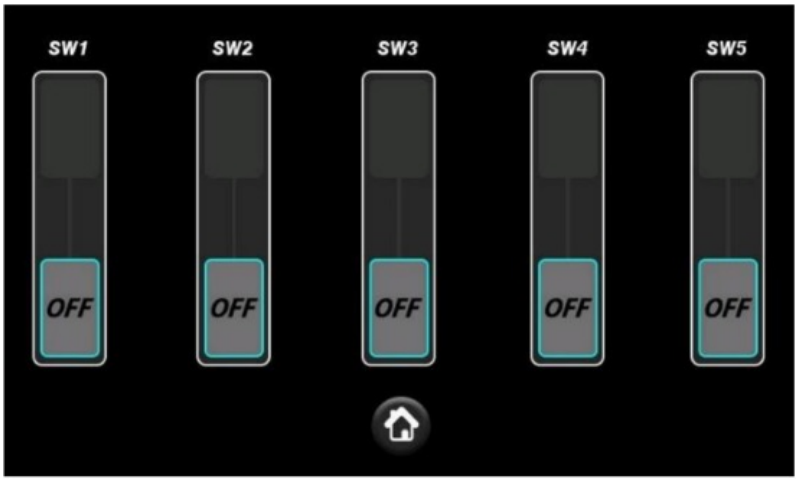
MAIN LAYOUTS

ALL 4 OF THE MAIN PAGES CONTAIN 3 OR 4 BUTTONS AND EACH REDIRECT TO ANOTHER PAGE.

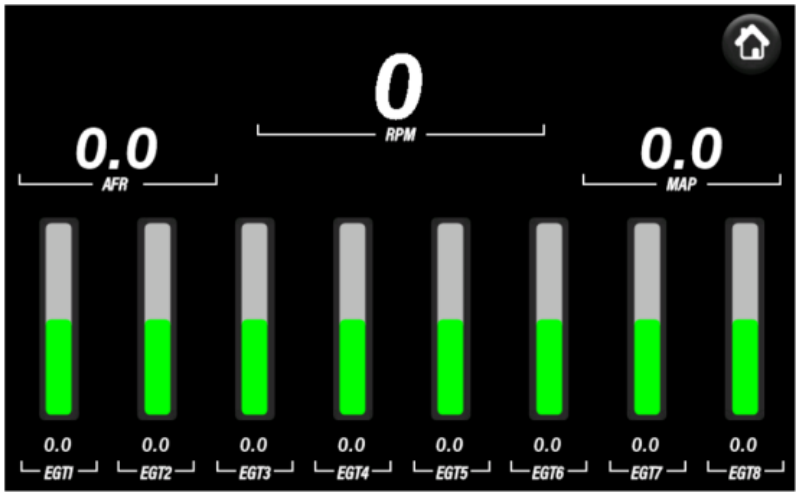
1. Button 1 will take you to the switches page.
2. Button 2 will take you to the extended data pages.
3. Button 3 will take you to the dedicated EGT page.
4. Button 4 will take you to all the various settings.
5. You can select any parameter to change it.

EXTENDED DATA PAGES

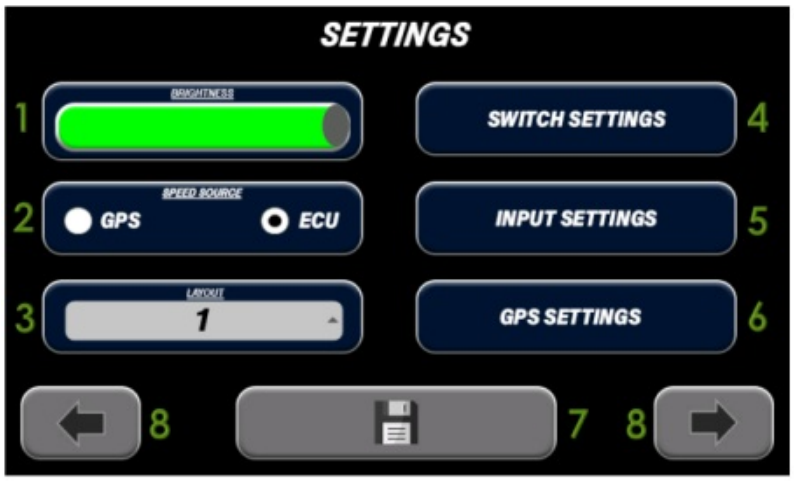
SWITCHES PAGE

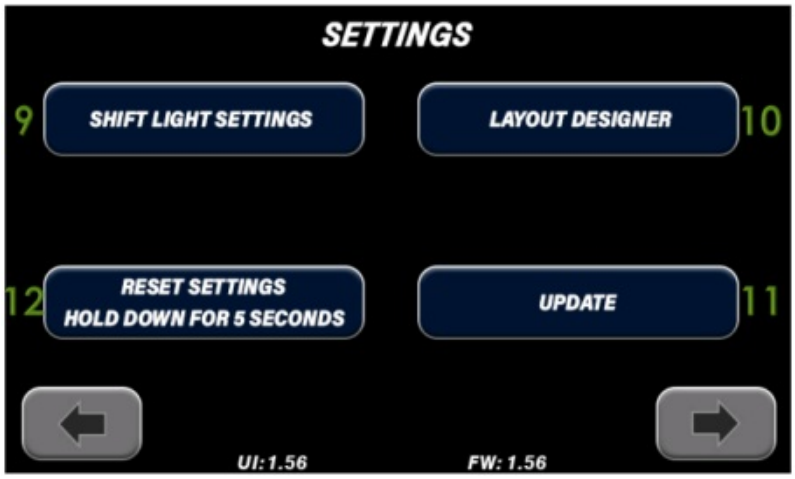


EGT PAGE



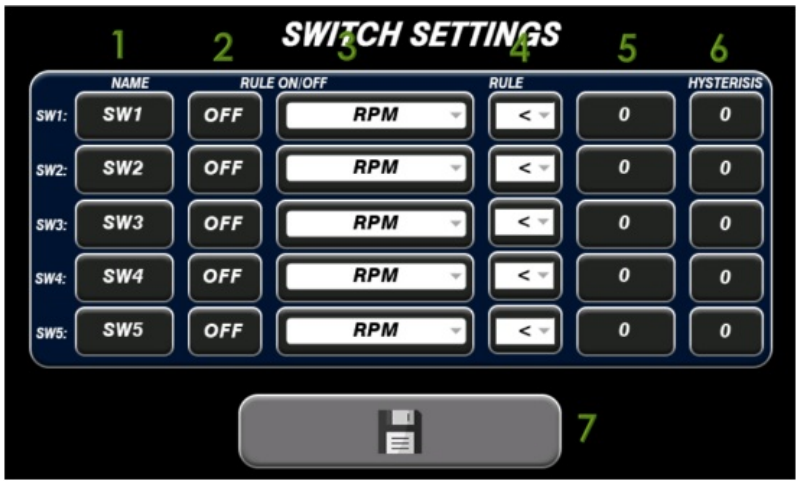
MAIN SETTINGS





1. Brightness slider.
2. Speed source to choose between ECU driven or GPS (if equipped). This uses speed from ecu if ecu source is selected.
3. Layout selector.
4. Button to take you to the switch settings.
5. Button to take you to the various input settings.
6. Button to take you to GPS Settings.
7. Save button to commit all changes to be used on startup.
8. Navigate through setting pages.
9. Button to take you to the shift light settings page.
10. Button to take you to the layout designer to customize the 5th layout.
11. Button used to update the dash when connected to a PC.
12. Button to reset the dash settings. Holding down will start the on screen counter and if released after 5 seconds a reset will begin.

SWITCH SETTINGS

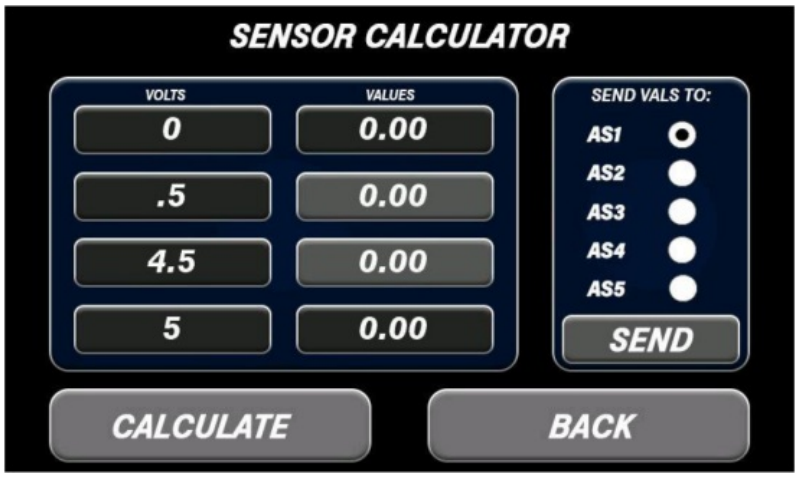


1. Each of these buttons allows you to change the name of the switch that is shown on the switch page.
2. On/Off toggle to let you choose whether you want the output to be manual on/off or tied to a parameter and rule.
3. Drop down to let you choose a parameter to tie the output to.
4. Drop down to choose the argument.
5. Set the value for the argument.
6. Setting to choose how you want the automatic on/off act. Setting the hysteresis adds a gap between the on/off point.
7. Save switch settings.
    - Note the switches on the switch page will override the logic.

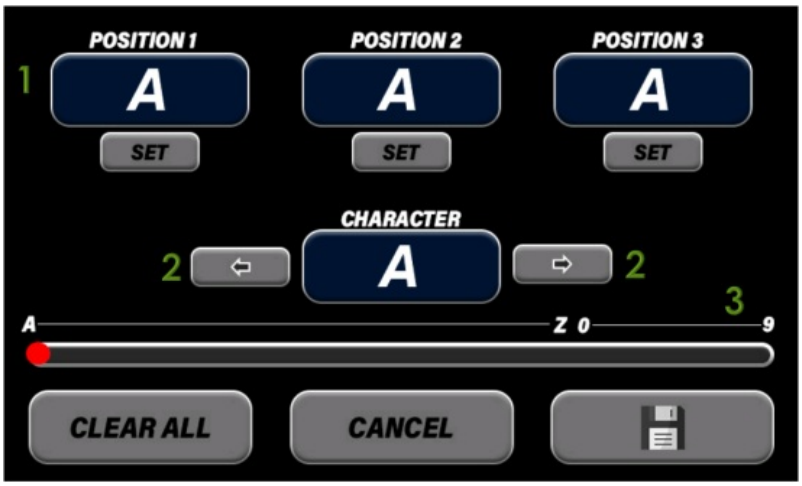
INPUT SETTINGS

1. Button to take you to the sensor calculator.
2. Name column for each analog input.
   Selecting one of the name boxes will take you to the character entry to name that input (3 characters).
3. Ov value column for each input.
4. 5v value column for each input.
5. Scrolls through the input settings pages.
6. Commit the entered values.
7. Allow input 4 and 5 to be used as turn signals inputs. See reference schematic.

- Input settings button loads to analog inputs.
- Each box is a button that will take you to an entry screen for either numbers or text.
- Sensor calculator can be used for .5v-4.5v sensors.
- Sensor calculator requires you to enter the .5v value and the 4.5v value into the light gray boxes.
- Calculate button will calculate the 0v and 5v values.
- Send will send the calculated values to the selected analog input on the analog input page.



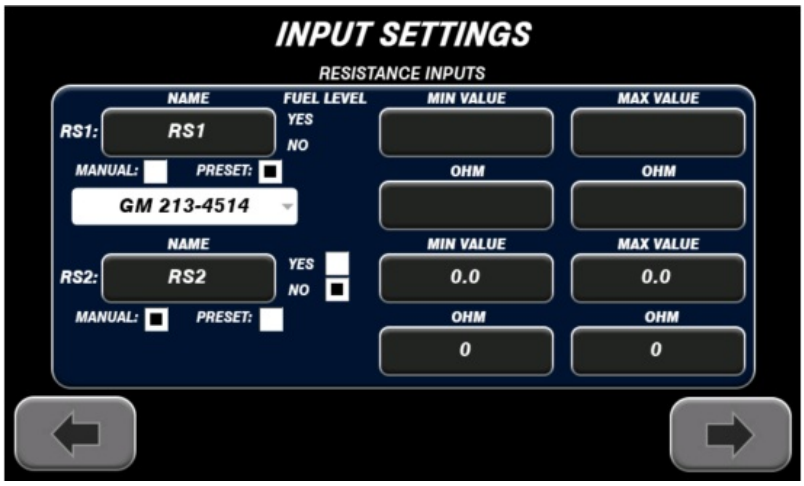
1. Characters to be used in each position of the 3 character input name.
2. Arrows to increment letter/number by 1.
3. Slider to rapidly scroll through available values.
4. Clear all will set all positions back to “A”.
5. Cancel will return to input settings committing no name changes.
6. Save button commits the naming.



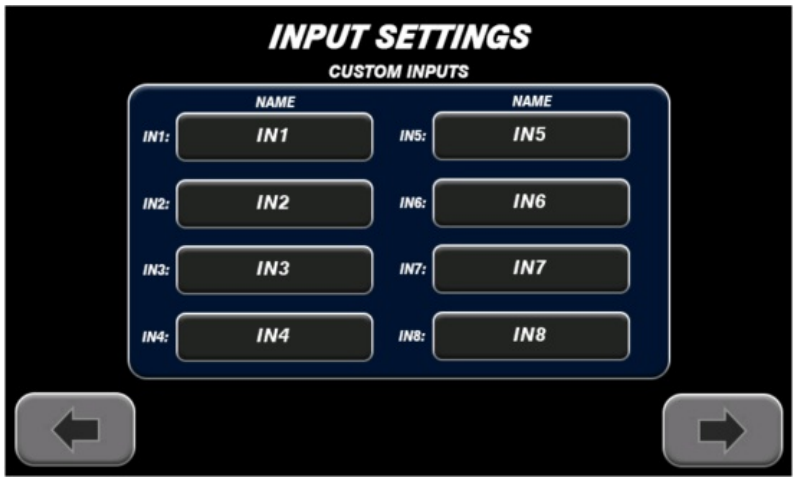
- Name changes go into effect on all main pages as well as limit pages. For example if AS1 (analog sensor 1) name is changed to “OIL” it will appear as “OIL” everywhere used.

1. Select to enter values in front of decimal point.
2. Select to enter values behind decimal point.

- All number input buttons will take you to the value entry page.
- CL will set the value back to 0.00.
- +/- will toggle the value from positive to negative.
- Cancel will not commit values and return to page where the value was selected.
- Save will commit value and return to the page where the value was selected.

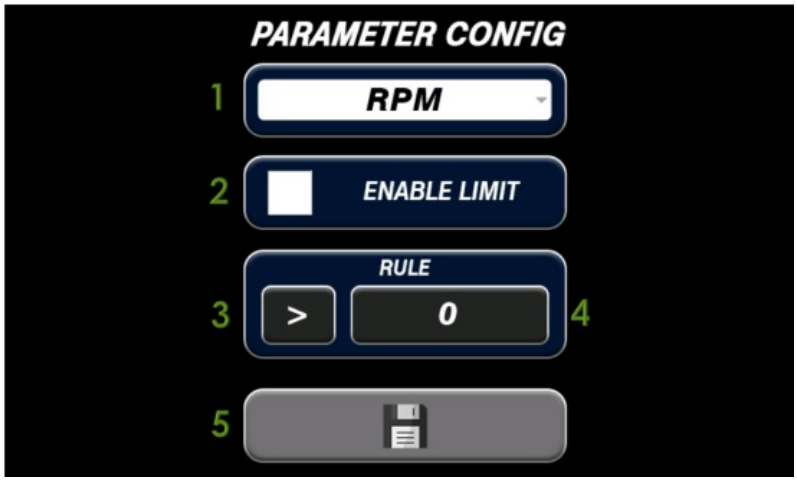


- Like the analog input page the resistance inputs are also nameable.
- The inputs are configured to the sending unit and its values.
- **For example a 10-95Ω fuel sending unit will be configured as:**
  - **MIN OHM** = 10
  - **MAX OHM** = 95
  - **MIN VAL** = 0
  - **MAX VAL** = 100
- This can also be configured in other manners to work with various sensors and sending units.
- You can choose the preset checkbox to select from supported sending units

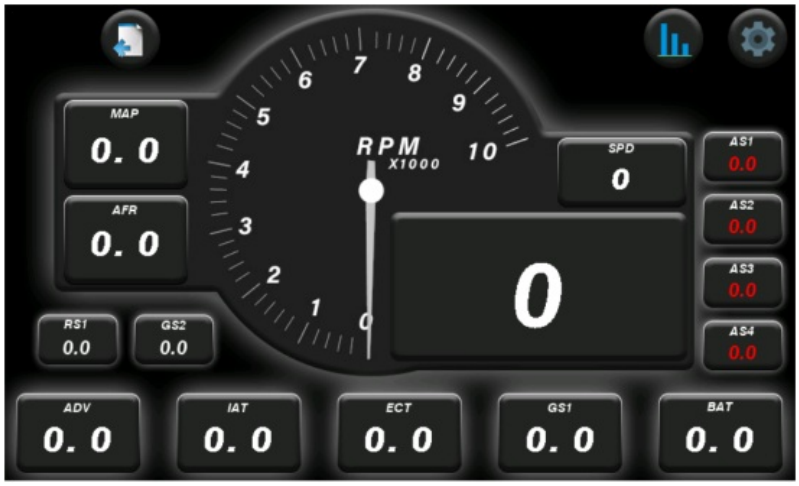


- The Custom Input page is strictly to name the custom ECU inputs that are coming over from the ECU.
- For example if custom input 1 on the ecu is setup for fuel pressure you can rename that value on screen to “FPR” or something of the like.

PARAMETER CONFIG

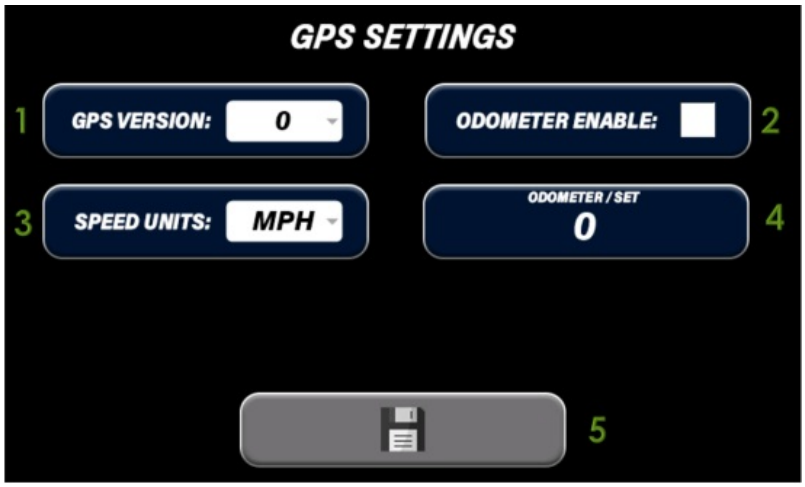


1. Drop down to choose what parameter is shown in the selected position.
2. Enable/Disable the limit warning for the selected parameter. When on it will change parameter to red when rules are satisfied.
3. Argument for the limit rule.
4. Value for the limit rule.
5. Commit parameter changes.



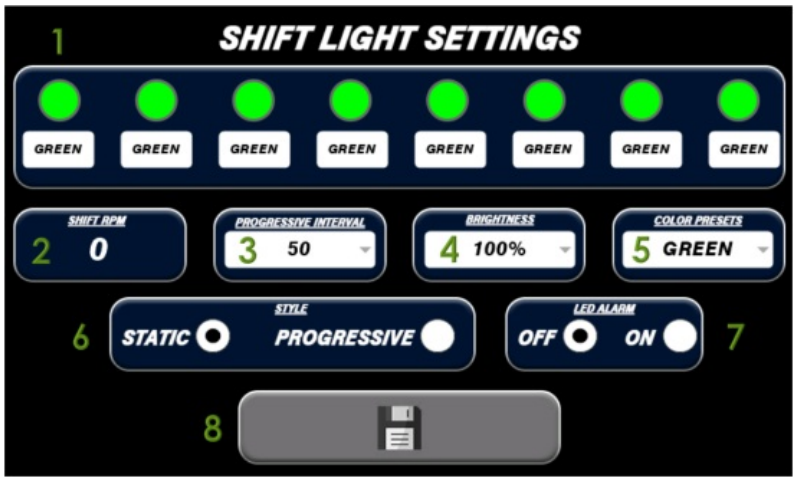
- Example showing the triggered analog input parameters.

GPS SETTINGS



1. GPS Version setting.
2. Odometer enable for GPS 0. Enabling this will add odometer value to each default layout.
3. Speed and distance units.
4. Set Odometer value. You will set this to set odometer and it will continue counting from that point as the dash is used. You can use this to correct or set miles at any time.
5. Save GPS settings.
6. The speed on main layouts will read “404” as it is searching for satellites.

SHIFT LIGHT SETTINGS



1. Set each individual LED color.
2. RPM setting to activate shift light.
3. Progressive interval will set the RPM gap between each LED when the style is progressive.

4. LED brightness setting.
5. Color Preset. This will change all led colors to the preset color.
6. Static or progressive options. Static activates all the LEDS at once while progressive starts a LED sweep at a lower value depending on interval and works its way to fully lit and eventually flashing.
7. This will enable a warning LED when any of the limit settings are triggered.
8. Save shift light settings.

LAYOUT DESIGNER

- The 5th layout is customized via the layout designer.
- The 5th layout uses a background named “BACKGROUND.jpg” at the root of the SD card.
- Size for background is 800×480 for the 5” / 7” and the 10” is 1024×600.
- The names are generic on this list as once in the positioning page you can choose the parameter for that position

1. Button that will take you to the placement screen provided the checkbox for the

parameter is checked.
2. Check box to enable/disable parameter.
3. Save configured layout.
4. Fine adjustment for the position of the parameter or button.
5. Example of the parameter based on all of the current setting. This can also be moved by dragging it with a finger.
6. Parameter font size.
7. Parameter font color.
8. Reset parameter to default location/font/color.
9. Parameter config to set value, limit, etc.
10. Save parameter information for custom layout.

BOOT SCREEN

- Custom boot images can be used. The SD card needs to have an image called "BOOT.jpg" at the root of the SD card and that will display on startup.
- Size for boot image is 800×480 for the 5" / 7" and the 10" is 1024×600.

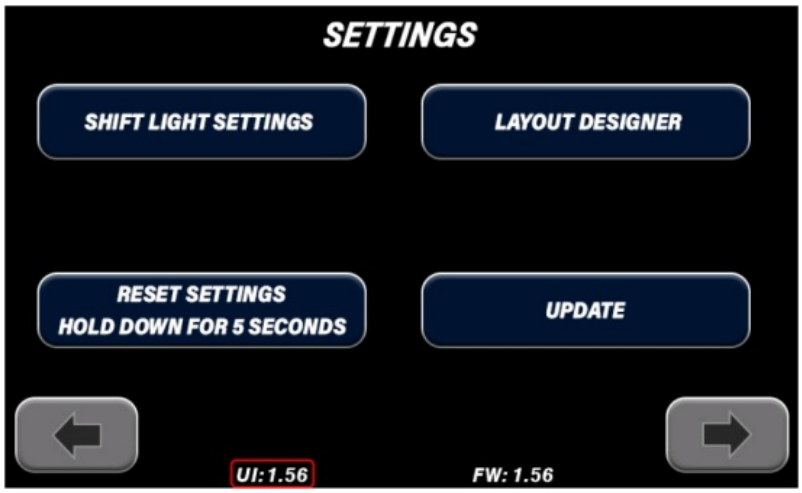
UPDATING THE DASH

When upgrading from 1.55 or prior it is easiest to use the reset button on page 2 of the settings after both sections are complete. This will give clean slate for new features.

Interface Update

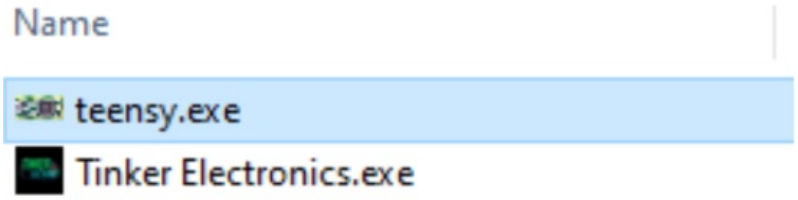
1. The interface update requires a Micro SD card less than 32gb and formatted as FAT32

2. Download the appropriate update zip file from the repository update section to an accessible location on your windows PC.
   Extract contents of the zip file. DOWNLOAD LINK. **There is also a link posted on the facebook page.**
3. The SD card should be empty and copy the correct .tft file to the SD card at the root of the SD card. The file name ends with the size of the dash (_5 for 5”, _7 for 7”, _10 for 10”).
4. With the dash off insert the SD card in the SD card slot at the top of the dash.
5. Power the dash on and the screen should go white and update the interface.
6. Once complete turn off the dash and remove the SD card.
7. Power the dash back on and check for the new UI number on page 2 of the settings indicating the interface was updated.
   Example of FW and UI numbers on next page.

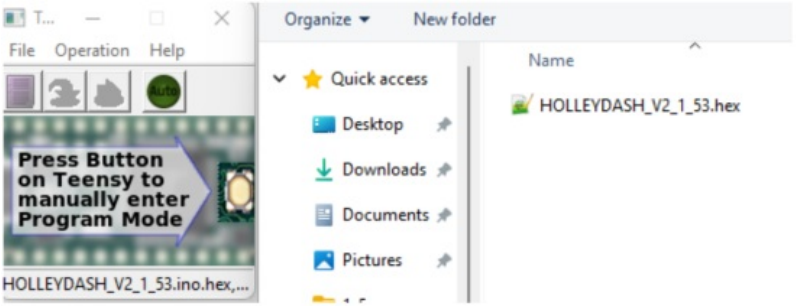


Firmware Update

1. Download the tools from the tools section of the repository. Extract the contents to your PC.
2. Download the update zip file from the repository to an accessible location on your windows PC. Extract contents of the zip file.
   (These files will already exist if you did the interface update). DOWNLOAD LINK.
   There is also a link posted on the facebook page.
3. Launch teensy.exe from the tools provided

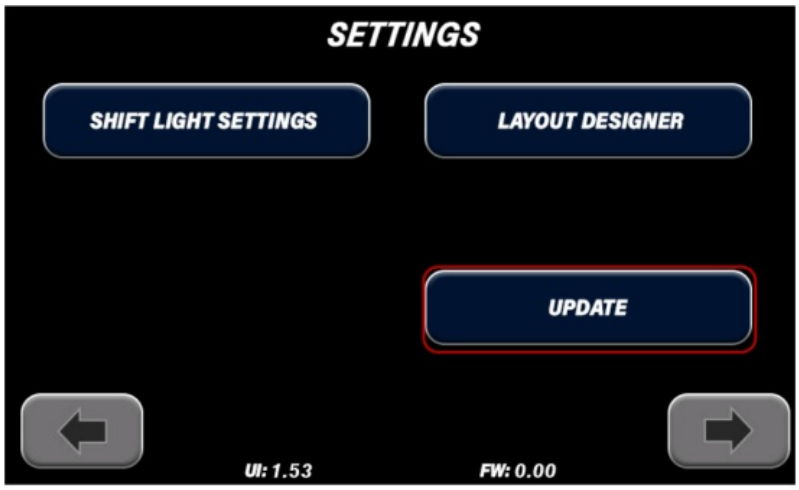


4. Once open you can click file, open, and find the hex file provided in the email that was extracted in step 2. You do not have to worry about pressing a button like stated as long as automatic mode is on.

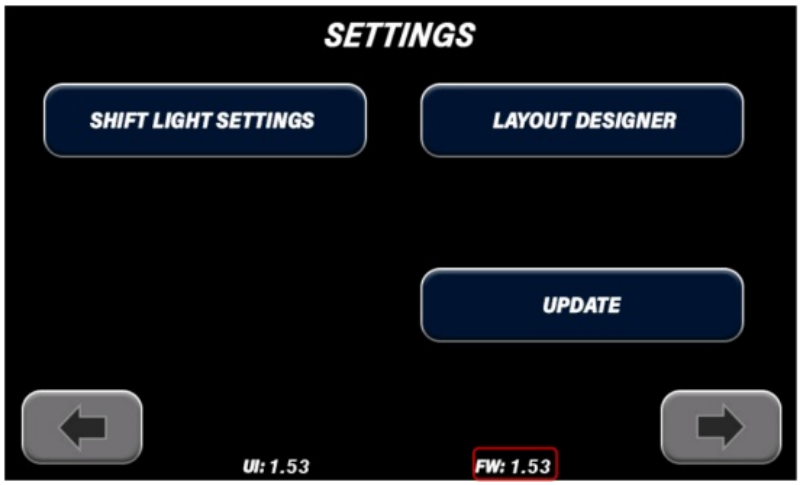


5. Once the update is selected and open you can plug a micro USB data cable from windows PC to the dash. You can also verify the tool is in auto mode by making sure the auto button is green. If it is not, you can click it and it will go green as shown below.

6. With the dash connected to the PC and the update loaded into the tool you can power on the dash.
7. Once the dash is on go to settings, hit the arrow for page 2, and hit the update button.



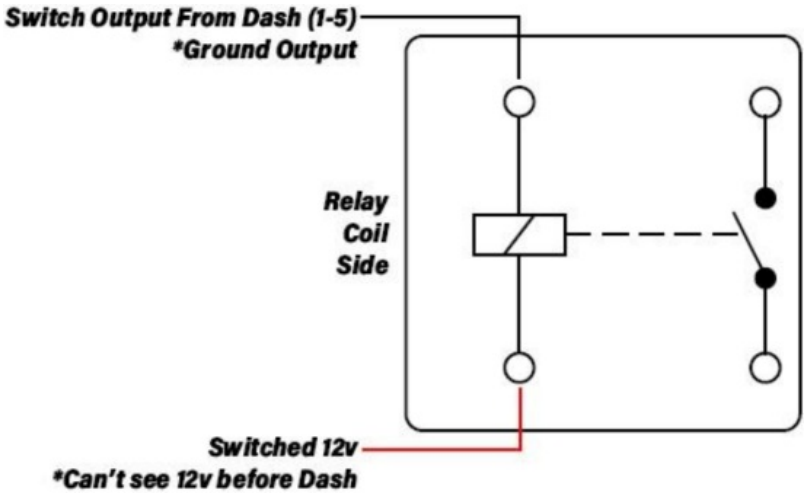
8. At this point if you are watching the PC you will see the update is being sent to the dash and once the update is complete the shift light will sweep. You can also go to page 1 of settings and back to page 2 and the FW number will be updated with the new version.



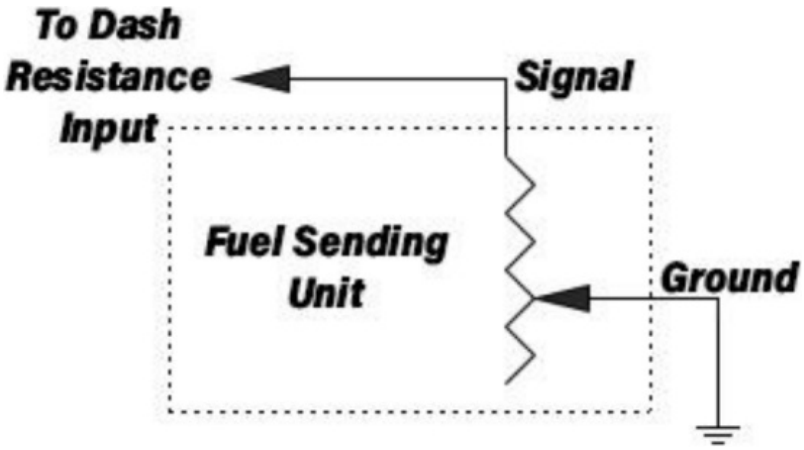
9. At this point the dash can be powered off, you can disconnect all cables, and the update is complete.

WIRING EXAMPLES

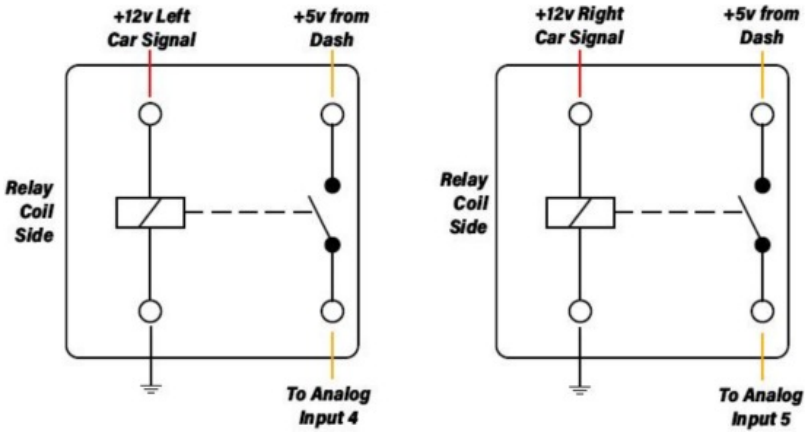
Switch Ouput Wiring Example



Fuel Gauge Wiring Example



Turn Signal Relay Example



Using a pair of relays will let the 12v car turn circuits switch a 5v circuit that the dash can handle.

Documents / Resources

	TINKER ELECTRONIC V2 Dash Digital Dash Display [pdf] User Manual V2, V2 Dash Digital Dash Display, V2 Dash, Digital Dash Display, Dash Display, Display

References

- User Manual

TINKER ELECTRONIC

Dash Display, Digital Dash Display, Display, TINKER ELECTRONIC, V2, V2 Dash, V2 Dash Digital Dash Display

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