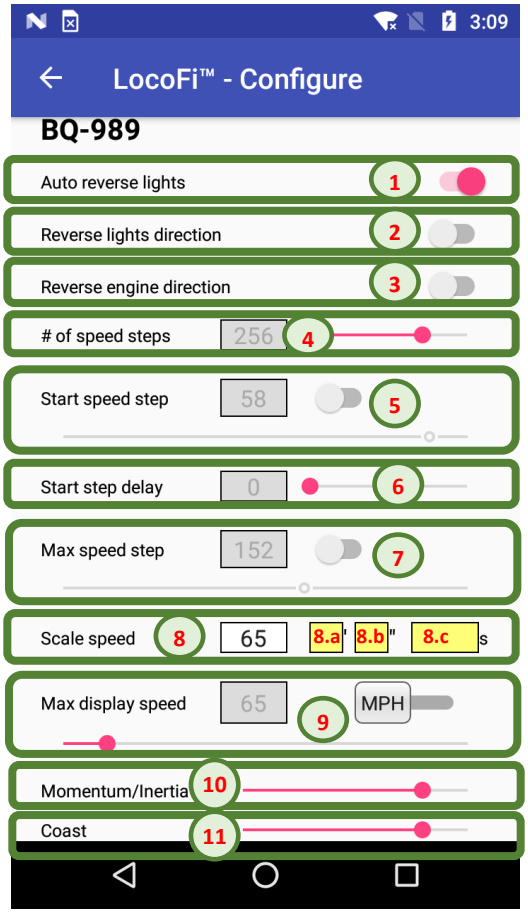

LocoFi™ locomotive configuration

App update 2.20
Firmware Version: 0420
Released: March 25, 2019

1	Auto reverse lights: Enables automatic change of direction of lights based on change of direction of locomotive.
2	Reverse lights direction: Enables direction of lights opposite to that as wired. This is helpful in case the locations of front and rear lights are reversed by mistake, or where the shell has been put on in the reverse direction by mistake, and can save the effort and time required to undo these mistakes and having to redo the assembly.
3	Reverse engine direction: Enables direction of motor opposite to that as wired. This is helpful in case of reverse soldering connections by mistake, or where the shell has been put on in the reverse direction by mistake, and can save the effort and time required to undo these mistakes and having to redo the connections or assembly.
4	# of speed steps: Select the desired number of speed steps on the throttle, ranging from 8 to 1,023 in increments of 2x (i.e. 8 -> 16 -> 32 -> 64 -> 128 -> 256 -> 512 -> 1,023). While 8 is the default number of notches for typical American diesel locomotives, as well as the LocoFi™ app, selecting higher number of speed steps helps with finer control of the throttle.
5*	Start speed step (ranges between 0 to 64): Use the slider to mark the "Start speed step" i.e. the speed step at which the locomotive barely begins to move. This effectively sets the scale speed to 0 MPH / KMPH.
6	Start step delay: Use the slider to select the "Start step delay" i.e. the delay before which the locomotive starts moving. This delay has a value ranging from 0 (i.e. immediate start) to a maximum possible value of the "Start speed step" as determined in "5. Start speed step" above. The actual delay will depend on: • "5. Start speed step" setting above, and • "10. Momentum/Inertia" setting below and can be used to achieve the desired prototypical behavior during startup and acceleration.
7*	Max speed step (ranges between 65 and 255): use the slider to mark the "Max speed step" i.e. the speed step corresponding to desired maximum speed as observed on the track. This will be later used to calculate the scale speed below in "8. Scale speed". Alternatively, scale speed can be defined first in "8. Scale speed" below and then "Max speed step" can be adjusted to achieve the "Scale speed".
8	Scale speed (maximum of 250): Use this setting to define or calculate the scale speed corresponding to the max speed step defined above in "7. Max speed step". If you define this setting first (e.g. to achieve maximum prototypical behavior), calculate the amount of time it takes to cover the test track length and then adjust the "max speed step" in "7. Max speed step" above. We have provided a tiny calculator to aid with this in 8.a, 8.b and 8.c as described below: a. Length of track in feet and inches, to be entered in 8.a and 8.b respectively b. Average time taken for 1 loop run, to be entered in 8.c [an average of reasonable number of observations is preferred] Once you enter 8.a, 8.b and 8.c, scale speed will be calculated automatically or if you want to start with scale speed, enter 8.a and 8.b and then enter trial values for 8.c until the scale speed box shows the desired scale speed. Then go back to "7. Max speed step" to adjust the slider until the test track length is covered in time shown in 8.c. **Please note that this combined with max speed step and start speed step is the most important parameter before setting up consisting. Entering inaccurate values in these fields here will lead to incorrect speed matching and damage to equipment may result.**
9	Max display speed (maximum of 600, in multiples of 5): Use the slider to mark the "Max display speed" on the speedometer. This corresponds to the "Max speed step" as selected in "7. Max speed step" above. Ideally, this should be set in conjunction with the "Scale speed" as determined in "8. Scale speed" above to achieve the desired prototypical behavior. Use the toggle to select MPH or KMPH as desired on the speedometer and "Scale speed" calculations above.
10	Momentum/Inertia: Use the slider to achieve the desired prototypical behavior during startup and acceleration. Use in conjunction with "6. Start step delay" to ensure you have not left any parameters unchecked when it comes to prototypical behavior.
11	Coast: Use the slider to achieve the desired prototypical behavior during deceleration.

* WARNING: While adjusting the speed steps the loco may take off suddenly. Please make sure that the loco is on an isolated track (a circular track is preferred) before performing speed calibration. Please make sure to set the turnouts and remove any rolling stock in the way to avoid collision. It is ideal to have the test track setup on a flat surface.