Flowchart

Left column:

START

↓

Clear LCD

↓

Display logotype and fw version

↓

Check temperature sensor connection

↓

Temp sensor connection ok

— NO → Display "BME Fail" → Delay 6s → (to Initialise UART)

YES ↓

Display "BME OK"

↓

Initialise UART comunication with the ESC

↓

Inisialisation sucesfull

— NO → Display "ESC connection failed" → Delay 1s → (back to Initialise UART)

YES ↓

Display "ESC com ok"

↓

(1)

↓

Display "Calibration ok"

↓

Read Gdig, Bdig. Map these values from 0 to 100 using Gmin Gmax Bmin Bmax.
Gdig->Gprc
Bdig->Bprc

↓

Bprc>5 → THR=Bprc*-1

Right column:

(1)

↓

Read Gmax and Bmax values from flash

↓

Display gassmax and brakemax values

↓

Read brake lever value (Bdig).

↓

Bdig>2000 → (branch right)

↓

Display "Push to max in x " and count down to 0 from 3 (1s delay betveen increments, x is updated to represent the increment)

↓

Display "Calibrating max"

↓

Read brake and gass lever value (Bdig, Gdig)

↓

Display "Push to min in x " and count down to 0 from 3 (1s delay betveen increments, x is updated to represent the increment)

↓

Display "Calibrating min"

↓

Read brake and gass lever value (Bdig, Gdig)

↓

Update Gmax and Bmax values.
(Gmin=Gdig Bmin=Bdig)

↓

(1)

THR=Gprc

Send THR value to
ESC.

Read ERPM, TMOS,
VB, IM from the ESC

Display ERPM, TMOS,
VB, IM.

Bdig- brake lever analog output read value, 0<Bdig≤4096.
Gdig- throttle lever analog output read value, 0<Gdig≤4096.
Bmax- adc read value when brake lever is fully pressed.
Gmax- adc read value when throttle lever is fully pressed.