Primary Controller

Inputs from user

System START button

Terminal

START UP

Control flags

Safety check 1

System active flag set?

FALSE

TRUE

Enable USART RX

MAIN LOOP

Safety check 2

Reset flag set?

FALSE

TRUE

Enable timers

HALT SYSTEM

ADC

USART TX

Commands

HALT / RESET

PWM

Safety check 3

Abnormal reading?

NO

YES

Process commands

FALSE

TX flag set?

TRUE

System outputs

Terminal

Terminal

SET DUTY

PWM