

```

1  /*****
2  * foamcutter_setup.h
3  *****/
4
5  #ifndef FOAMCUTTER_SETUP
6  #define FOAMCUTTER_SETUP
7
8  #include <pthread.h>
9  #include <signal.h>
10 #include <unistd.h>
11 #include <wiringPi.h>
12 #include <stdio.h>
13 #include <stdlib.h>
14 #include <stdint.h>
15 #include <string.h>
16 #include <dirent.h>
17 #include <time.h>
18 #include <errno.h>
19 #include <math.h>
20 #include <sys/resource.h>
21 #include <sys/types.h>
22
23 // Cutter Width
24 #define CUTTERWIDTH (36.0*IN2MM) // inches
25
26 // Unit Conversion
27 #define IN2MM 25.4
28 #define MM2IN (1.0/25.4)
29 #define IN2REV 10.0 // Lead screw 10 TPI
30 #define REV2PULSE 400.0 // depend on the switch settings on the motor drive
31 #define MM2PULSE ( IN2REV / IN2MM * REV2PULSE) // 157.48 PULSE = 1 mm
32
33 // Settings
34 #define FEEDRATE 0.8 // unit: mm/s
35 #define FEEDRATE_PUL (FEEDRATE*MM2PULSE)
36
37 // position of limit switch relative to cutter origin
38 #define LIM2ORIGIN_LX -4100
39 #define LIM2ORIGIN_RX -3550
40 #define LIM2ORIGIN_LY -2500
41 #define LIM2ORIGIN_RY -2400
42
43 // Motor Drive Pins
44 #define PIN_LX_DIR 14
45 #define PIN_LX_PUL 15
46 #define PIN_LY_DIR 18
47 #define PIN_LY_PUL 23
48 #define PIN_RX_DIR 24
49 #define PIN_RX_PUL 25
50 #define PIN_RY_DIR 8
51 #define PIN_RY_PUL 7
52
53 // Limit Switches
54 #define PIN_LX_LIM 6
55 #define PIN_LY_LIM 13
56 #define PIN_RX_LIM 19
57 #define PIN_RY_LIM 26
58
59 // Relay
60 #define PIN_RELAY 12
61
62 // Buttons
63 #define PIN_PAUSE 17
64 #define PIN_STOP 27
65
66 // Motor Polarity
67 // set to +1 or -1
68 // reverse the setting if the wire moves away from the limit switch during homing.
69 #define POLARITY_LX +1
70 #define POLARITY_LY -1
71 #define POLARITY_RX +1
72 #define POLARITY_RY -1
73
74 // MAX cut area
75 #define X_MAX (29.0*IN2MM) // 29 in
76 #define Y_MAX (16.0*IN2MM) // 16 in
77
78 #endif //FOAMCUTTER_SETUP

```