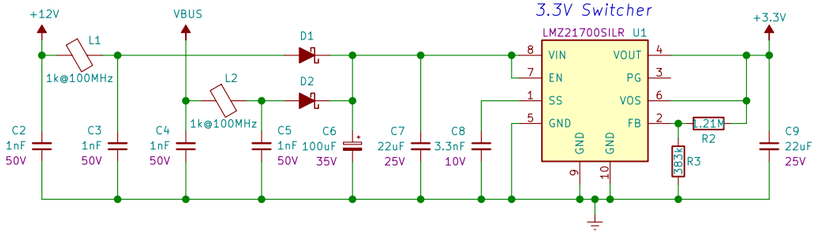
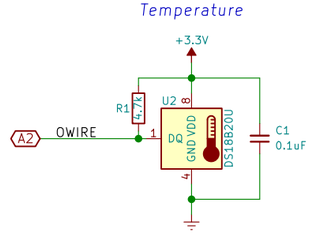
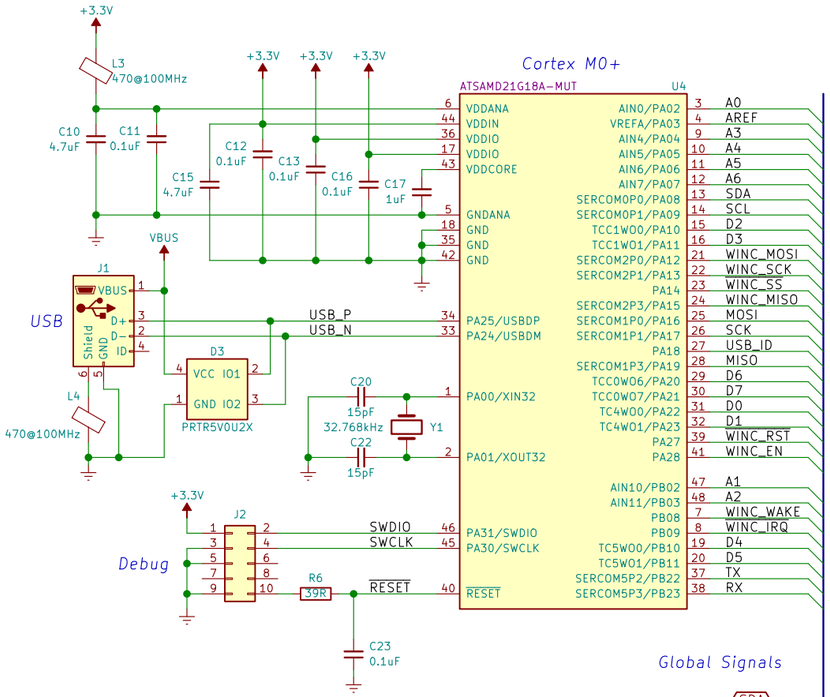
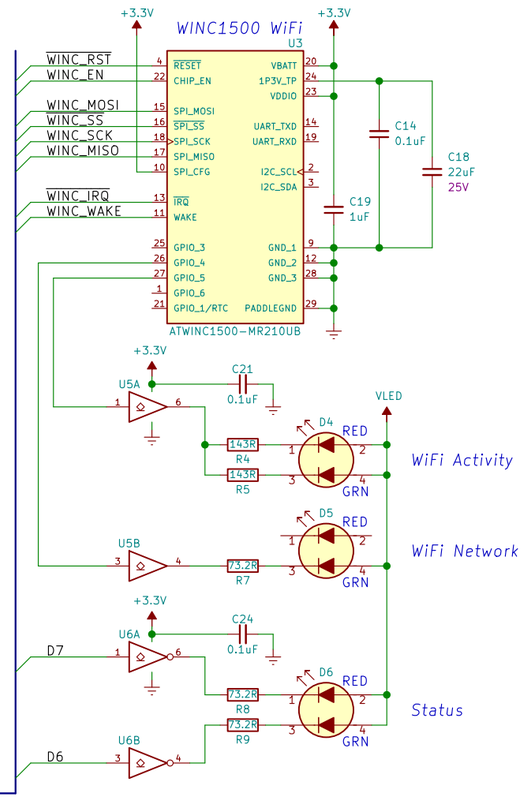








Sheet: Motor Driver

File: WiFi-Gate-Control-Board-Motor.sch

Sheet: Inputs

File: WiFi-Gate-Control-Board-Inputs.sch

Sheet: Outputs and LEDs

File: WiFi-Gate-Control-Board-Outputs.sch

Control Signals

PIN	NET	MCU Notes	Description
D0	LED_SW	Interrupt	LED Enable Pushbutton Input
D1	MEXT		Motor Extend
D2			Bootloader conflict
D3	MEN	PWM	Motor Enable
D4	MELIM	Interrupt	Motor Extend Limit Input
D5	MRLIM	Interrupt	Motor Retract Limit Input
D6	LED_GRN		Green Status LED
D7	LED_RED		Red Status LED
A0	IO_INT	Interrupt	IO Extender Interrupt
A1	OPEN_CLOSE_SW	Interrupt	Open-Stop-Close Pushbutton Input
A2	OWIRE		1-Wire
A3	LED_EN		Enable LEDs
A4			Unused
A5			Unused
A6	MIS	ADC	Motor Current Sense

Notes

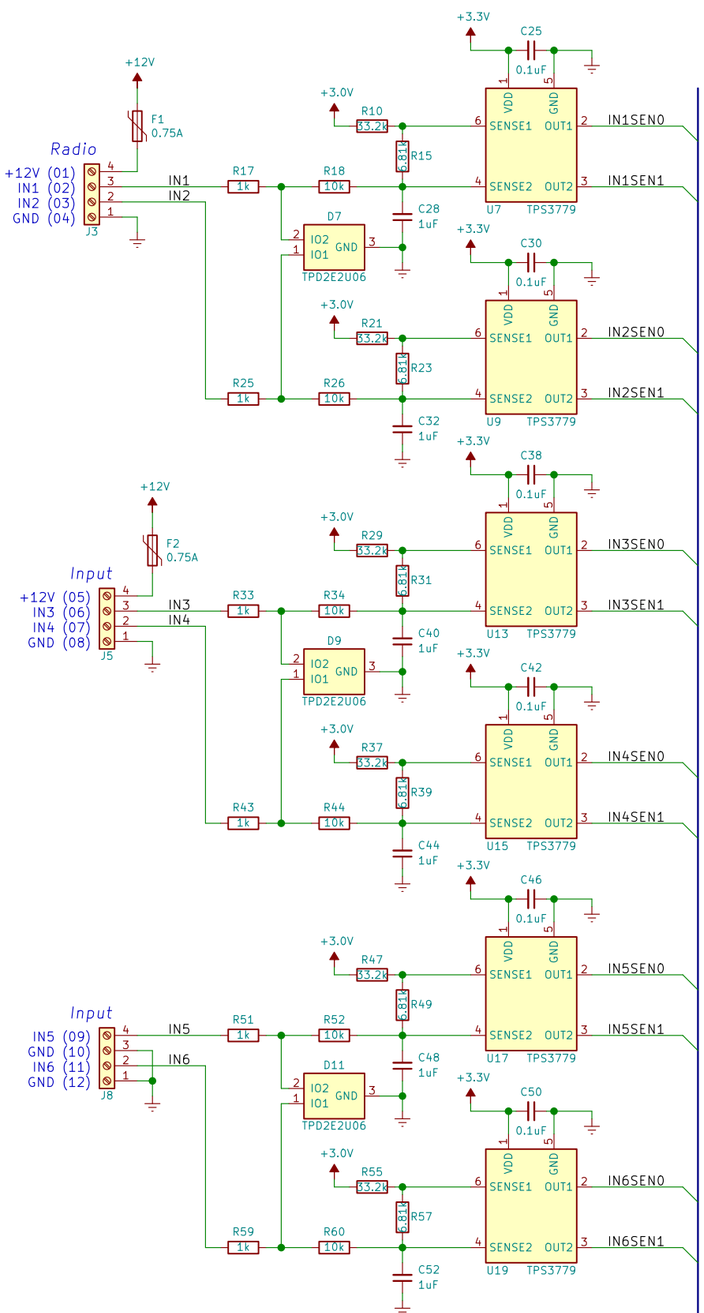
1. *This board is compatible with the Arduino MKR1000 board which directly supports the ATWINC1500.*
2. *When the bootloader is running D2 is turned into an output at a logic '1'.*

Mike Lawrence

Sheet: /
File: WiFi-Gate-Control-Board.sch

Title: WiFi Gate Control Board

Size: B	Date: Oct 2019	**Rev: 1.0**
KiCad E.D.A. kicad (5.1.4-0-10_14)		Id: 1/4



Idle Currents

Description	Current
All IC's	40uA
10k Monitored Input	49uA
Normally Open Input	0uA
Normally Closed Input	59uA

Notes

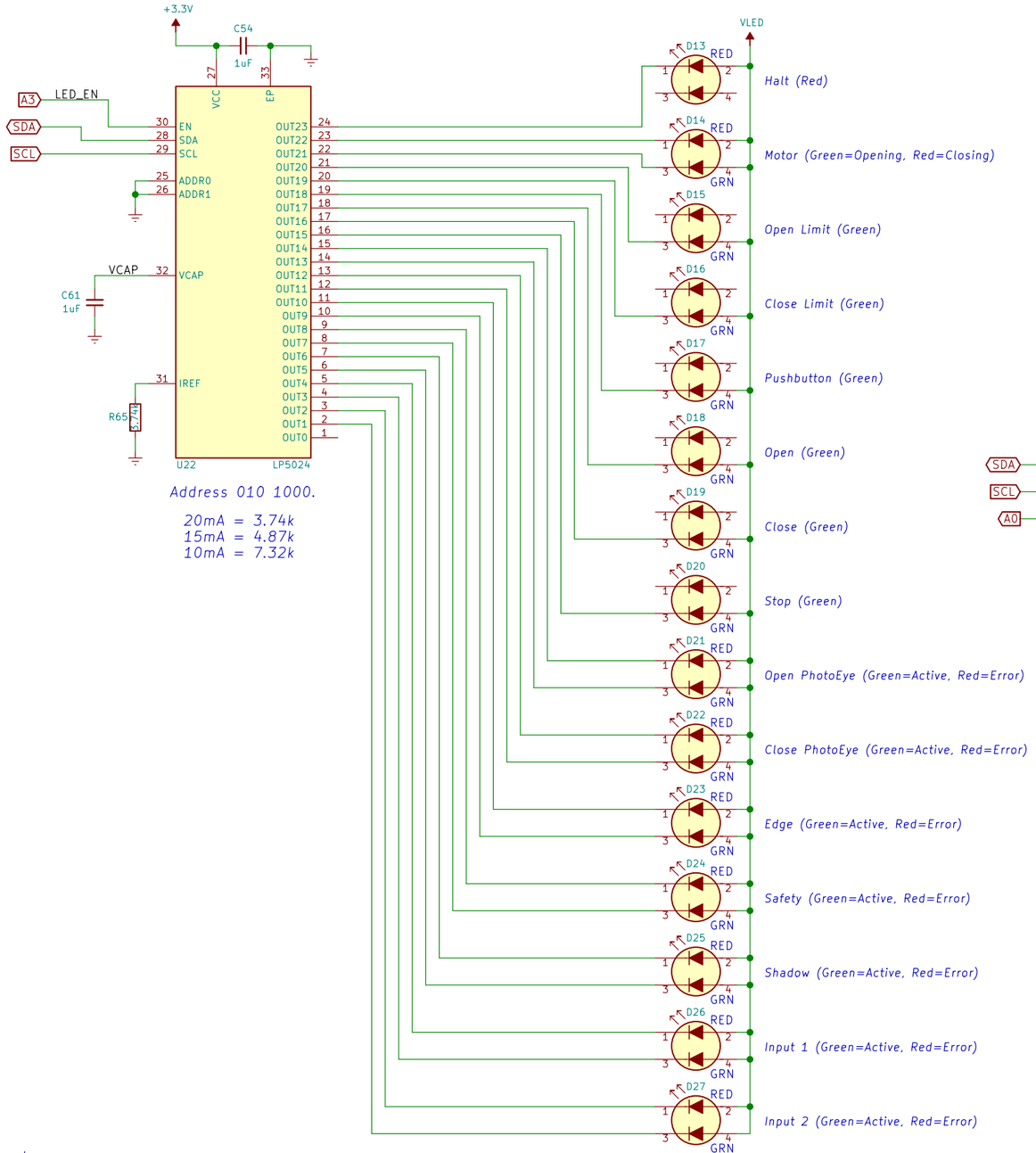
1. Each input supports Normally Open, Normally Closed, and 10k Monitered connections.

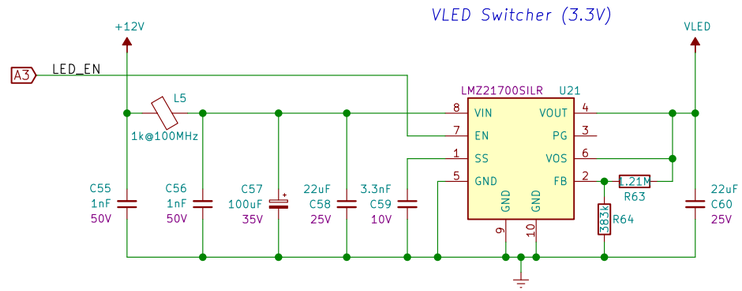
Mike Lawrence

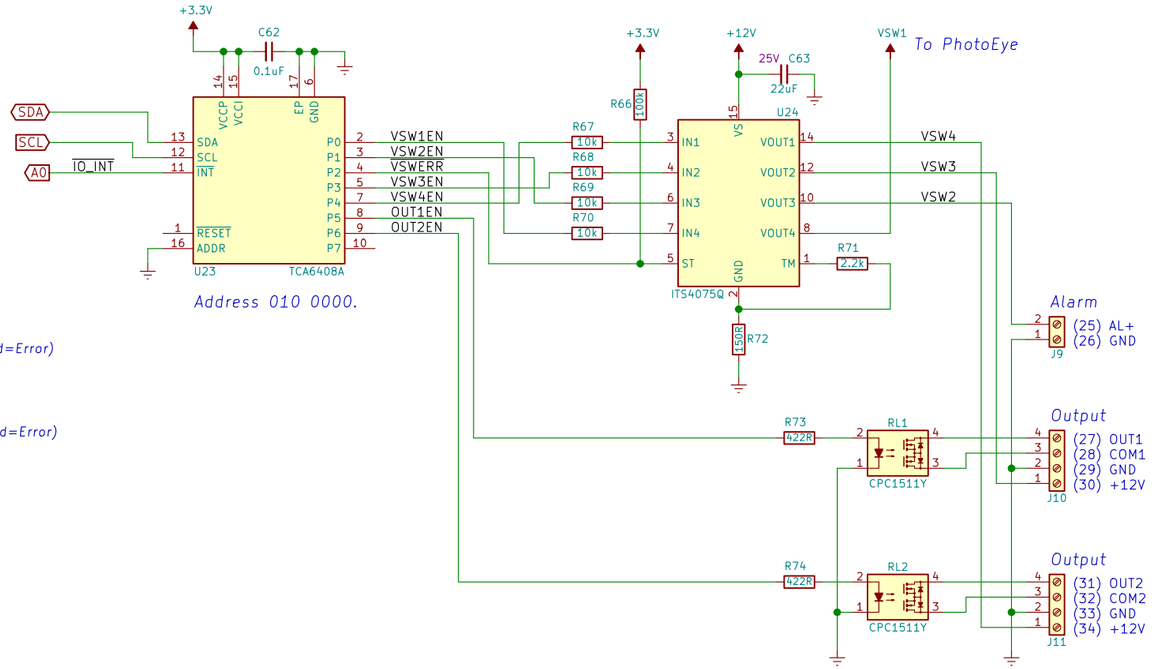
Sheet: /Inputs/
File: WiFi-Gate-Control-Board-Inputs.sch

Title: WiFi Gate Control Board Inputs

Size: B	Date: Oct 2019	**Rev: Rev 1.0**
KiCad E.D.A. kicad (5.1.4-0-10_14)		Id: 2/4







Idle Currents

Description	Current
All IC's	288uA

Notes

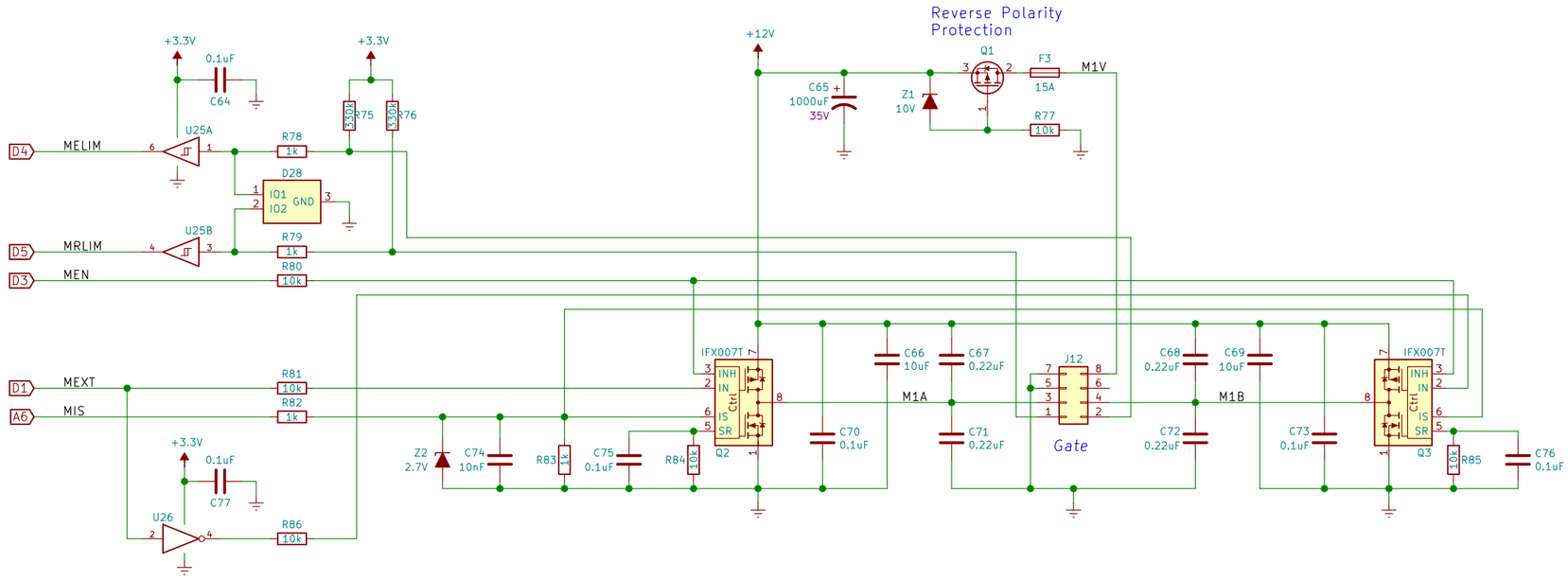
1. All LEDs are normally off. Pushing the LED button will temporarily turn them on.

Mike Lawrence

Sheet: /Outputs and LEDs/
File: WiFi-Gate-Control-Board-Outputs.sch

Title: WiFi Gate Control Board Outputs and LEDs

Size: B	Date: Oct 2019	**Rev: Rev 1.0**
KiCad E.D.A. kicad (5.1.4-0-10_14)		Id: 3/4



Motor Truth Table

MEN	MEXT	Motor Action
L	X	Motor Off
H	L	Motor Retracting
H	H	Motor Extending

Idle Currents

Description	Current
All IC's	47uA

Notes

1. *When M1A is positive and M1B is negative actuator extends.*

Mike Lawrence

Sheet: /Motor Driver/
File: WiFi-Gate-Control-Board-Motor.sch

Title: WiFi Gate Control Board Motor Driver

Size: B	Date: Oct 2019	**Rev: Rev 1.0**
KiCad E.D.A. kicad (5.1.4-0-10_14)		Id: 4/4