

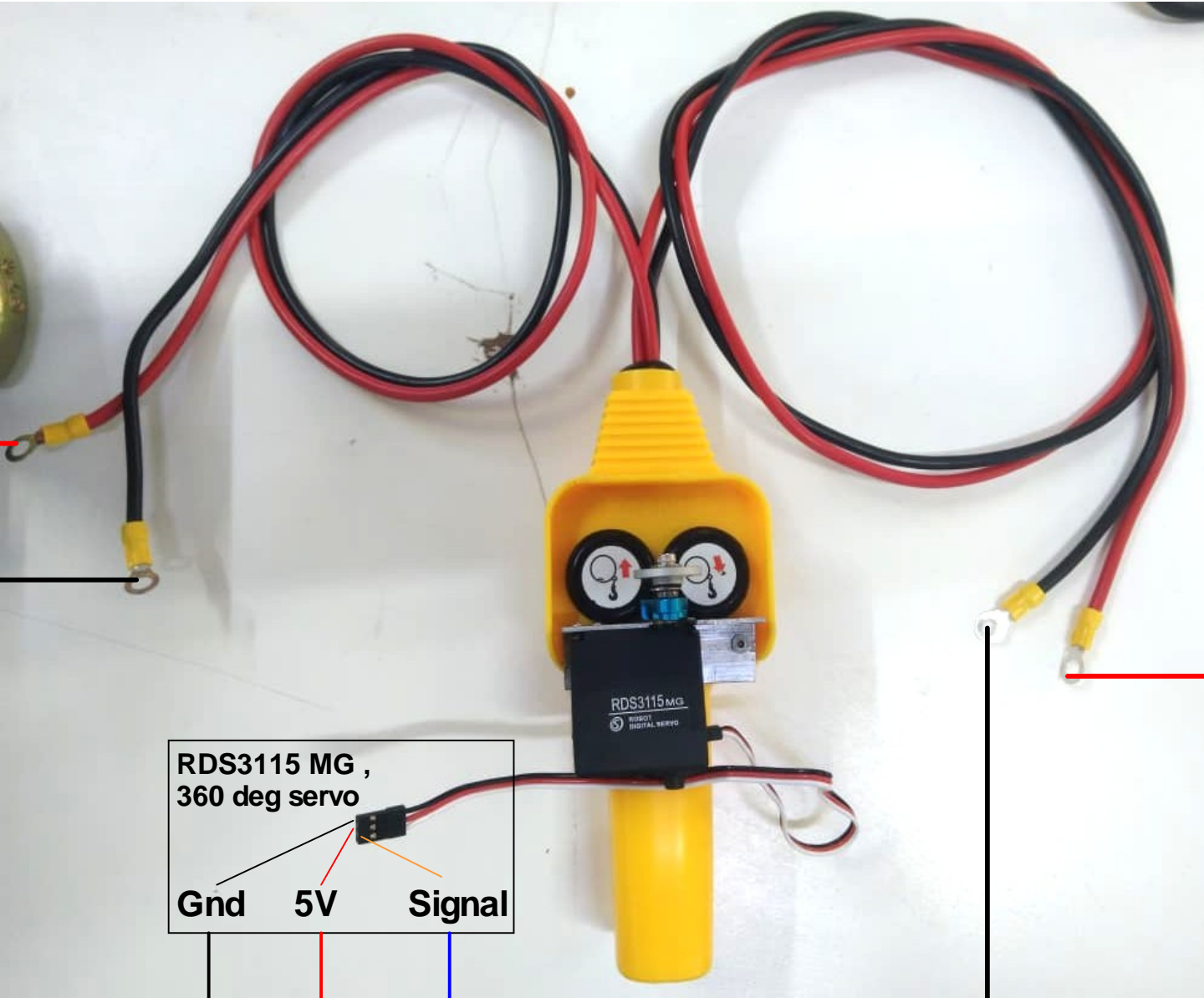


Make Sure to this
Knob is ENGAGED

Winch Control System

Short Wire To Motor Side

Long Wire To Battery Side



RDS3115 MG ,
360 deg servo
Gnd 5V Signal

Winch Remote



FS-i6 Tx

Control Switch on Tx

1000 pwm (Press "Rope Up" Button of Winch Remote)

1500 pwm (Will Not press any Button of Winch Remote)

2000 pwm (Press "Rope Down" Button of Winch Remote)

SWC Switch on Tx

Co-Pilot Note:-

- 1) Check the Knob on Winch is set to ENGAGED Position
- 2) Make sure to set SWC (3pos Toggle Switch) to Channel 6 on Tx (Fly sky FS-i6)
- 3) Always set the SWC Switch to middle position when not in use
- 4) When Powering on the Tx Make sure to switch SWC immediately to middle position
- 5) You dont have any electrical or mechanical cutoff when Rope is stucked or completely wounded, Hence you need to operate the winch by observing rope hook position.
- 6) Control System will only be active after 10 seconds from powering on the winch system (Note :- this is the Time given to you to set the SWC switch to middle position)

4500LBS Winch

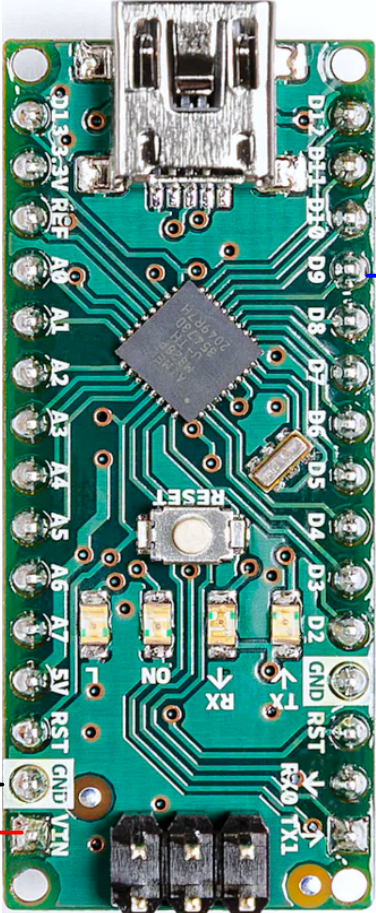
MARUT
- DRONES -

Circuit Details :- Ver1
Developed On :- 02-02-2026
Developed By :- K Madhu Mohan Chary
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It is compatible with FS-i6 FS-i6S FS-i10 transmitters, etc

FS-iA10B

CH6 -Signal



Nano

Readytosky UBEC

Set to 5v output

UBEC

3S LiPo Battery

5200mAh

3s Battery Selection Based on Weight Need to be Lifted

4500LBS. WINCH SPECIFICATIONS			
Rated line pull	4500lbs(2041kgs) single line		
Motor	Permanent magnet,1.4kw/1.9hp		
Gear reduction ratio	135:1		
Gear train	3 Stage Planetary		
Cable (Dia x L)	Diameter0.21"(5.4mm)Length41.3'(10.5m)		
Control	Remote switch		
Drum size (Dia x L)	Diameter2.0"(51mm)Length2.9"(74mm)		
Clutch	Sliding Ring Gear		
Braking action	Automatic In-The-Drum		
Overall dimensions(L X W X H)	340mmx110mmx112mm		
Mounting bolt pattern	120mm*76mm,Ø9		
Weight	N.W. 11 kg	G.W. 12 kg	
Packing size	410mmx340mmx210mm 1PC/CTN		

PULL SPEED, AMPERES, VOLTS		
Line pull lbs(kgs)	Line speed ft/min(m/min)	Current A
0	24(7.3)	28
1500(680)	22.5(6.9)	78
2500(1134)	15.6(4.8)	115
3500(1588)	9.5(2.9)	147
4500(2041)	7.2(2.2)	176

LINE PULL AND ROPE CAPACITY IN LAYER		
Layer	Rated Line Pull lbs(kgs)	Total Rope on Drum ft(m)
1	4500(2041)	4.9(1.5)
2	3520(1597)	14.4(4.4)
3	2600(1179)	19(5.8)
4	2050(930)	26.6(8.1)
5	1630(739)	34.4(10.5)

- 1) Battery Selecting For 680kg Lift
- 2) Current Draw at 680kg is 78 Amp
- 3) So Battery need to Handle two times more 2*78 = 156Amp
- 4) Selecting 5.2Ah , 35C rate, 3S Bonka Battery
- 5) 5.2Ah * 35C = 182A (182Amp > 156Amp)