

# Indego Connector

- \* Connectors
- \* Sensors
- \* Bat Charger
- \* Indego UI (Button + LCD)
- \* STOP Button

File: indego\_connector.kicad\_sch

## Architecture:

- \* should work with Indego 1000, 1200 and 1300
- \* fit to original ALM mainboard dimensions
- \* support for all Indego Sensors
- \* AVR MeGa 128 used for low power/standby uC
- \* ESP32 S3 for connected processor (microROS)
- \* RPI4 or compatible linux/SBC (optional)
- \* RTK GPS (Ublox F9P or RTK-1010)
- \* onboard GPS L1/L2 antenna (LNA?)
- \* use low cost modules/parts much as possible (DC/DC converter, motor driver, ...)
- \* Support for Indego Charger
- \* Support for 36V PV Cell Charger
- \* HomeMatic transceiver
- \* LoRa WAN transceiver
- \* I2C Extension Bus
- \* SPI Extension Bus

# Motor Driver Sheet IMU

- \* VNH 3SP30 H Bridge

File: motor\_driver.kicad\_sch

## Power Supply

- \* LM2596HVS DC/DC

File: powersupply.kicad\_sch

- \* BNO055 IMU

File: imu.kicad\_sch

## GPS

- \* simpleRTK2B Lite
- \* RTK-1010
- \* GPS Antenna
- \* LNA

File: gps.kicad\_sch

# Processor

- \* AVR Mega128

File: processor.kicad\_sch

## RPI

- \* RPI 3/4
- \* RPI Zero 2W
- \* Banana PI Zero M2

File: rpi.kicad\_sch

## ESP32

- \* ESP32-S2/S3
- \* SDCard
- \* Camera (OV2640)

File: esp32.kicad\_sch

## Extension Bus

- \* I2C Bus
- \* SPI Bus

File: extension\_bus.kicad\_sch

Sheet: /  
File: IndegoMower.kicad\_sch

### Title:

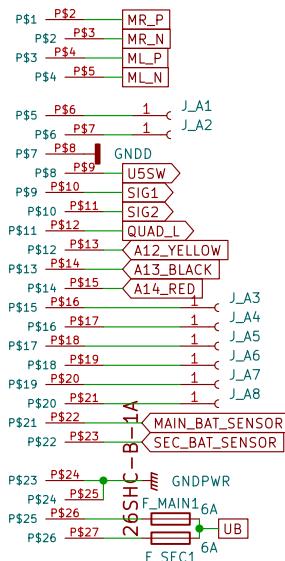
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KiCad E.D.A.	kicad 6.0.4-6f826c9f35-116-ubuntu20.04.1

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# Indego Connectors

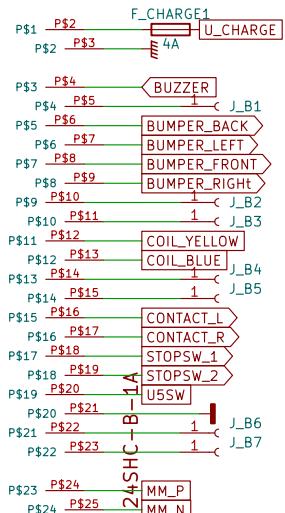
[ 1] { 3] 5 7 9 11 13 15 17 19 21 [23] [25]  
 [ 2] { 4] 6 8 10 12 14 16 18 20 22 [24] [26]

1 green+black motor right +?  
 2 white+black motor right -?  
 3 green motor left +?  
 4 white motor left -?  
 5 NC  
 6 NC  
 7 black+black gnd quadrature right  
 8 red+black +5V  
 9 blue+black sig1 (pull up 10k)  
 10 yellow-black sig2 (pull up 10k)  
 11 blue quadrature left  
 12 yellow  
 13 black  
 14 red  
 15 NC  
 16 NC  
 17 NC  
 18 NC  
 19 NC  
 20 NC  
 21 white+black main battery sensor  
 22 white secondary battery sensor  
 23 black+white main battery -  
 24 black secondary battery -  
 25 red+black main battery +  
 26 red secondary battery +



[ 1] 3 5 7 9 11 13 15 17 19 21 [23]  
 [ 2] 4 6 8 10 12 14 16 18 20 22 [24]

1 red charger +  
 2 black charger -  
 3 white+black buzzer  
 4 NC  
 5 green bumper back (positive if contact)  
 6 red+black bumper left  
 7 white bumper front  
 8 yellow bumper right  
 9 NC  
 10 NC  
 11 yellow coil  
 12 blue coil  
 13 NC  
 14 NC  
 15 brown left wheel (+5v = contact, pull down)  
 16 orange right wheel  
 17 black stop switch  
 18 brown stop switch  
 19 red +5V  
 20 black gnd  
 21 NC  
 22 NC  
 23 black mow motor  
 24 red



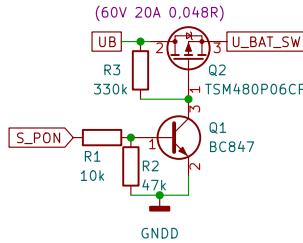
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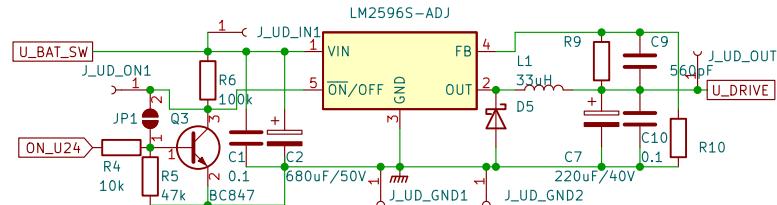
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KiCad E.D.A. kicad 6.0.4-6f826c9f35-116-ubuntu20.04.1		Id: 2/10

1 2 3 4 5 6

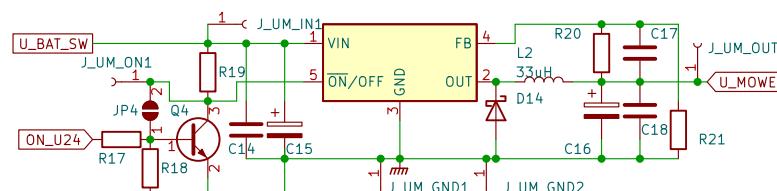
### Main Power Switch



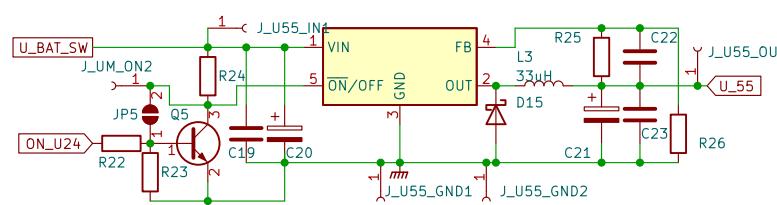
### Drive Motor Power Supply (24V,3A)



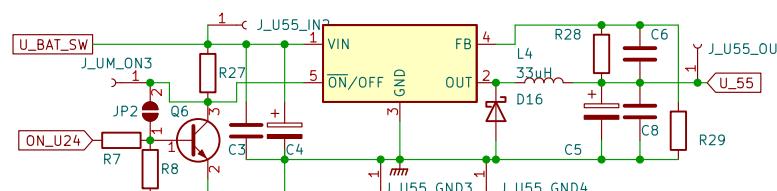
### Mower Motor Power Supply (24V,3A)



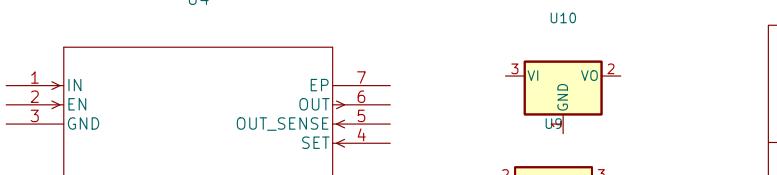
### Main CPU (RPI) Power Supply (5.5V,3A)



### VCC Power Supply (5V,3A)



### Standby Power Supply (3.3V, 50mA, low Iq)



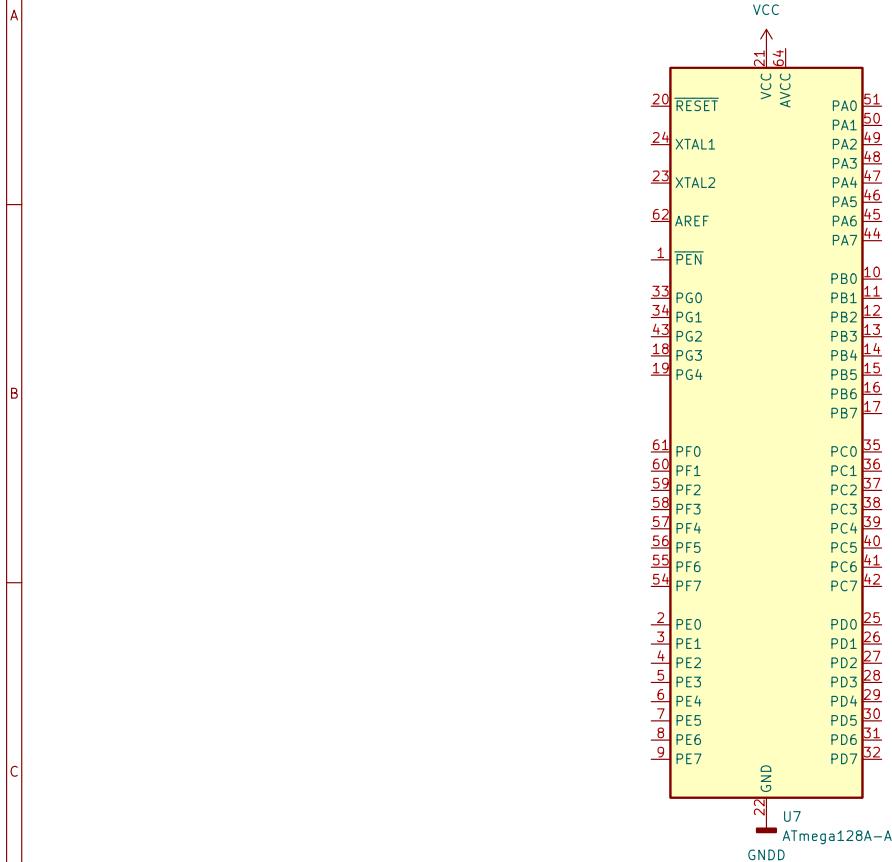
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File: powersupply.kicad\_sch

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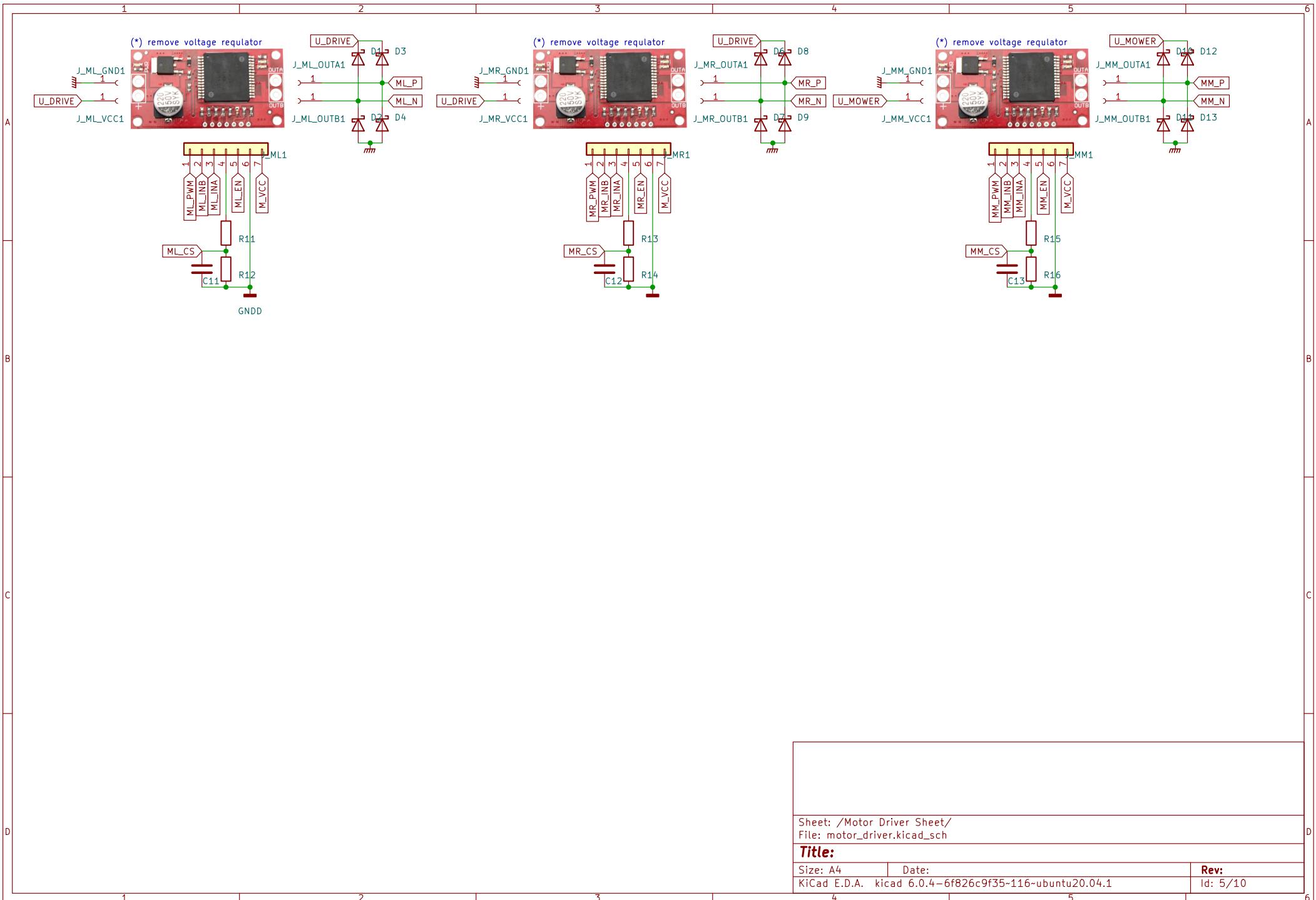
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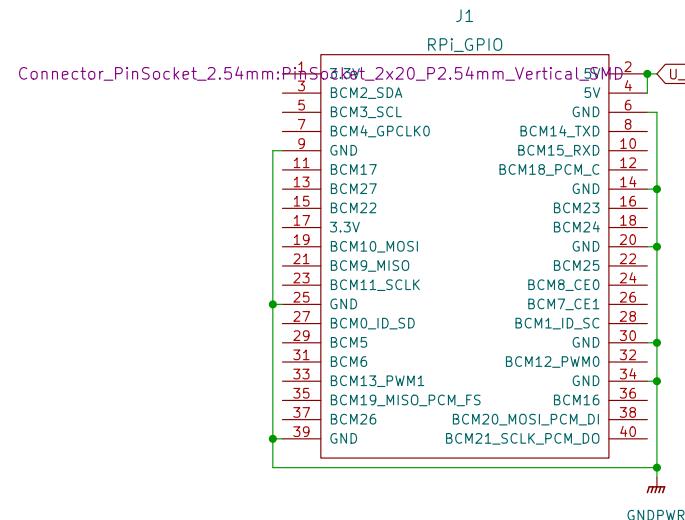
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**Rev:**  
Id: 7/10

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Sheet: /IMU/  
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Size: A4 Date:  
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**Rev:**  
Id: 8/10

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KiCad E.D.A. kicad 6.0.4-6f826c9f35-116-ubuntu20.04.1

**Rev:**  
Id: 9/10

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1 2 3 4 5 6

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Sheet: /Extension Bus/  
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**Title:**

Size: A4	Date:	Rev:
KiCad E.D.A.	kicad 6.0.4-6f826c9f35-116-ubuntu20.04.1	Id: 10/10

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