Maaratech Tree/Plant Reconstruction Rover : Genie Electrical Architecture

Module

Specs/descr:

Model:

Contactor box

Specs/descr: Contains 12V coil contactor and battery bus bar. 25 Ohm high power resistor to limit current through coil?

Model: Littlefuse DCNI-EV100-BS

16V Power supply

Specs/descr: DCDC converter

Model: TDK-Lambda i7a DCDC converter

Flash Modules

Specs/descr: 6 camera flash modules

Model: Inhouse design

2.4 GHz Antenna

Specs/descr: High spec 2.4 GHz Wifi anatenna

Model: ?

GPS Antenna

Specs/descr: High spec GPS anatenna

Model: ?

25 Ohm

E-stop

Specs/descr: Emergency stop button

Modem Router

Specs/descr: 4G + WiFi + BT + Gigabit Eth

Model: RUTX12

Recon Cameras

Specs/descr: Main 6 reconstruction cameras

Model: Computar?

GPS Module

Specs/descr: Depth camera

Model: XSENS GNSS RTK or Drotek DPO601

Battery Switch

19V Power supply

Specs/descr: DCDC converter

Model: TDK-Lambda i7a DCDC converter

Payload NUC

Specs/descr: Camera processing

Model: ?

PAYLOAD

PLATFORM

IMU Module

Specs/descr: Depth camera

Model: XSENS? or Vectornav VN100-S

Motor controller

Specs/descr: 4 BLDC motor controllers.

Model: O-Drive?

Motors

Specs/descr: Four wheel drive BLDC motors

Model: Kimbrough J60BLS99-430A (www.chinajingbo.com)

Platform NUC

Specs/descr: Navigation processing

Model: ?

360deg Camera

Specs/descr: 360 degree view action camera

Model: ONE-R Insta360

48V Battery

Specs/descr: 4 x 12.8 V, Lithium deep cycle

Model: Powertech

Depth Camera

Specs/descr: Depth camera

Model: Intel D455

Maaratech Tree/Plant Reconstruction Rover: Matilda
Electrical Architecture

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2.4 GHz Antenna

Specs/descr: High spec 2.4 GHz Wifi anatenna

Model: ?

GPS Antenna

Specs/descr: High spec GPS anatenna

Model: ?

Modem Router

Specs/descr: 4G + WiFi + BT + Gigabit Eth

Model: RUTX12

Recon Cameras

Specs/descr: Main 6 IP cameras for image reconstruction.

Model: ?

E-stop

Specs/descr: Emergency stop button

25 Ohm

Ethernet Switch Box

Specs/descr: Ethernet switch box for IP cameras.

Model: Mikratik Cloud Switch

Battery Switch

19V Power supply

Specs/descr: DCDC converter

Model: TDK-Lambda i7a DCDC converter

Payload NUC

Specs/descr: Camera processing

Model: ?

GPS Module

Specs/descr: Depth camera

Model: XSENS GNSS RTK or Drotek DPO601

ROBOT ARM

Power Supply

Specs/descr:

Model: ?

Arm Control Box

Specs/descr:

Model: ?

Robot Arm

Specs/descr: 6 DoF, ~5kg payload robot arm. 20.6kg or 12.2kg

Model: UR5 or xArm6

PAYLOAD

PLATFORM

19V Power supply

Specs/descr: DCDC converter

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IMU Module

Specs/descr: Depth camera

Model: XSENS? or Vectornav VN100-S

Platform NUC

Specs/descr: Navigation processing

Model: ?

360deg Camera

Specs/descr: 360 degree view action camera

Model: ONE-R Insta360

Motor controller

Specs/descr: 4 BLDC motor controllers.

Model: O-Drive?

Motors

Specs/descr: Four drive BLDC motors

Model: ?

Depth Camera

Specs/descr: Depth camera

Model: Intel D455

48V Battery

Specs/descr: Lithium deep cycle

Model: ?

BMS Module

Specs/descr: Battery monitoring system

Model: ?