



Overview & Technical Specifications



ABOUT

Est. 2018

KIT was founded in 2018 by our CEO Shane Lewis to create tooling solutions that would remove equipment technicians from high-risk locations whilst performing critical repairs on live equipment.

The Problem

Traditional hydraulic system tuning requires technicians to use hand tools on live equipment, surrounded by heat and high pressure oil. Exposing them to **extreme risk of injury**.



THE SOLUTION

HydraTune®

World's first patented universal remote hydraulic tuning tool.

The HydraTune® system was designed to eliminate the need to have hydraulic system technicians in hazardous locations during system tuning by replacing their physical input with universal remotely operable tools.

- ✓ Removes technicians from the line of fire
- ✓ Allows more efficient maintenance by tuning multiple circuits per isolation



Safe

Remove technicians from the line of fire, remotely tune your systems via tablet interface.



Efficient

Allows more efficient maintenance by tuning multiple circuits simultaneously.



Productive

Less machine downtime and increased machine output through optimal maintenance.



Reliable

Data trends aid preventative maintenance planning and maximise product life.

Comms System



Power Supply



Charging Station



Dimensions (approx.)	275 mm (H)* 125 mm (D) 120 mm (W)	190 mm (H) 125 mm (D) 120 mm (W)	190 mm (H) 75 mm (D) 120 mm (W)
Mass	2.1 kg	2.4 kg	1.7 kg
Material	Aluminium 6060-T6	Aluminium 6060-T6	Aluminium 6060-T6
Finish	Anodised (Raw)	Anodised (Raw)	Anodised (Raw)
IP Rating	IP66	IP66	IP30

**Antenna up; 220mm (H) when Antenna is stowed*

Actuator System

- Weight: 1.9kg
- Approx. dimensions: 210mm (H) x 70mm (D) x 80mm (W)
- IP Rating: IP54
- Max Torque: 50Nm
- Max RPM: ~30rpm
- Output Shaft: Standard 3/8" Square drive

Pressure Sensor

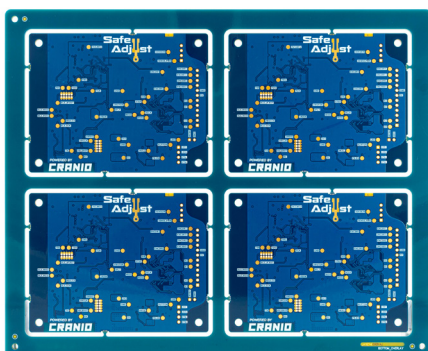
- Pressure range: 0 - 400Bar (0 - 5800Psi)
- Polling rate: 20kHz
- Stream rate: 1Hz



Satellite Pod
(Comms System + Power Supply)

Actuator System

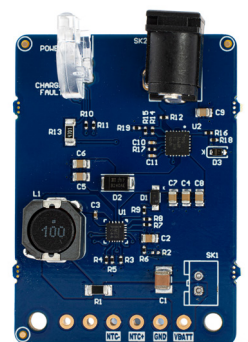
Frequency Range	2.4GHz
Power Supply	Internal Battery, Lithium Ion 18.5V 7000mAh
Current Consumption	3A Maximum
Transmit Power	+4dBm Maximum
Connectors	M23: Stepper Motor/Encoder M12: 4-20mA sensor SMA: RF Output (BLE)
Operating Temperature	-20°C to +50°C (Ambient)
Environmental Protection	IP66
Indicators	Power LED (Green)
Type Approvals	Includes: FCC ID SH6MDBT50Q Electrical Safety: EN 60950-1:2006 EMC: EN 301 489-1, EN 301 489-17
Cable Assembly	Cable Length: 3m Weight: Approximately 400g 12 Pin M23A IP Rating: IP67



Comms System



Power Supply



Charging Station

Minimum Supported Android Version

- SDK Version – 21 (LOLLIPOP – L) cumulative usage for worldwide users on this and newer version includes 99.3%.

Compatible platform

- Compatible with all android versions starting from LOLLIPOP (API Level 21).

Element Dependencies

- Element-UI Library: V 1.0.21
- Element-Sync Library: V 1.0.17

Safety Features

- Set Max Pressure Limit configuration.
- Trigger command to stop Actuator motor motion.
- Trigger command to Force Shutdown the hardware.
- Actuator motor motion stopped when connection to satellite pod is lost.

App Releases and Updates

- Uses Firebase App distribution manager to push newer version updates.

Bug Reporting

- Uses Firebase Crashlytics platform to track bugs and crashes within the app. Once fixed new updates can be pushed via firebase app distribution centre.



Wireless Communications	Bluetooth LE version 4.1
Safety Features	Shutdown on disconnect, Overtemperature detection, Stall detection
Software Update	Proprietary Bluetooth
Firmware System	Cranio Firmware 1.0.0 (version TBC)
Application Programming Interface	Cranio Protocol 1.1.2 (version TBC)
User Configuration	Bluetooth, SD Card Filesystem
Chipsets	Bluetooth: nRF52840 Motor Control: ATSAMS70

