



Iris Automation

Hedgehog Datasheet



Revision 1.3

2018-07-11

1 Description

The Iris Automation Hedgehog is the world's smallest, lightest, and lowest power long range Sense and Avoid solution for small UAS. Capable of detecting intruder aircraft and performing a safe maneuver before dangerous risk of collision.

2 Features

- Detects and avoids intruder aircraft
- Reports intruders to ground station in real-time
- Calculates and executes safe avoidance maneuvers to prevent collision
- Plug-and-play integration
- Supports common commercial autopilot platforms
- Patent pending vision-based technology

3 Specifications

Input Voltage	11V - 26V (3S - 6S LiPo)
Power	20W
Mass	350g
Dimensions	Compute Unit - 77mm (W) x 110mm (L) x 36mm (D) Camera Unit - 29mm(W) x 29mm(L) x 77.5mm (D)
Operating Conditions	Daytime Visual Meteorological Conditions (VMC)
Tracking Range	500m+ (for common GA aircraft and larger)
Interfaces	TTL Serial UART (3.3V)
Autopilots	MAVLink Based (ArduPilot, PX4) DJI

4 Quality

Designed, manufactured, and hand assembled in the USA.

Tested for environmental and electrical ruggedness.

5 Electrical

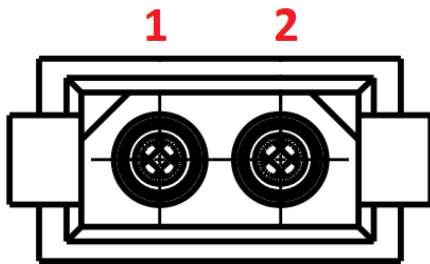
Power Input

Connector Series: Harwin Datamate

Mating Connector: M80-8980205

Female Crimp Pins: M80-0130005

Suggested Wire Gauge: 24-26 AWG



Pin	Type	Signal	Wire Color
1	Input	V+	Red
2	Ground	GND	Black

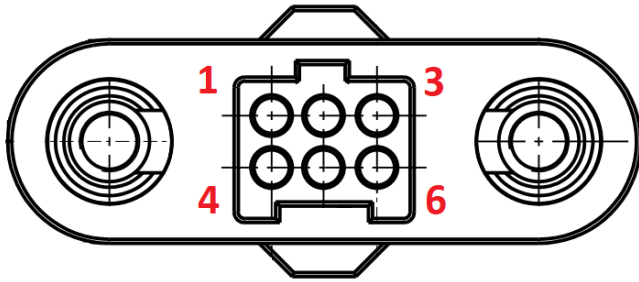
Autopilot Interface

Connector Series: Harwin Gecko

Mating Connector: G125-2240696F1

Female Crimp Pins: G125-0020005

Suggested Wire Gauge: 28-32 AWG



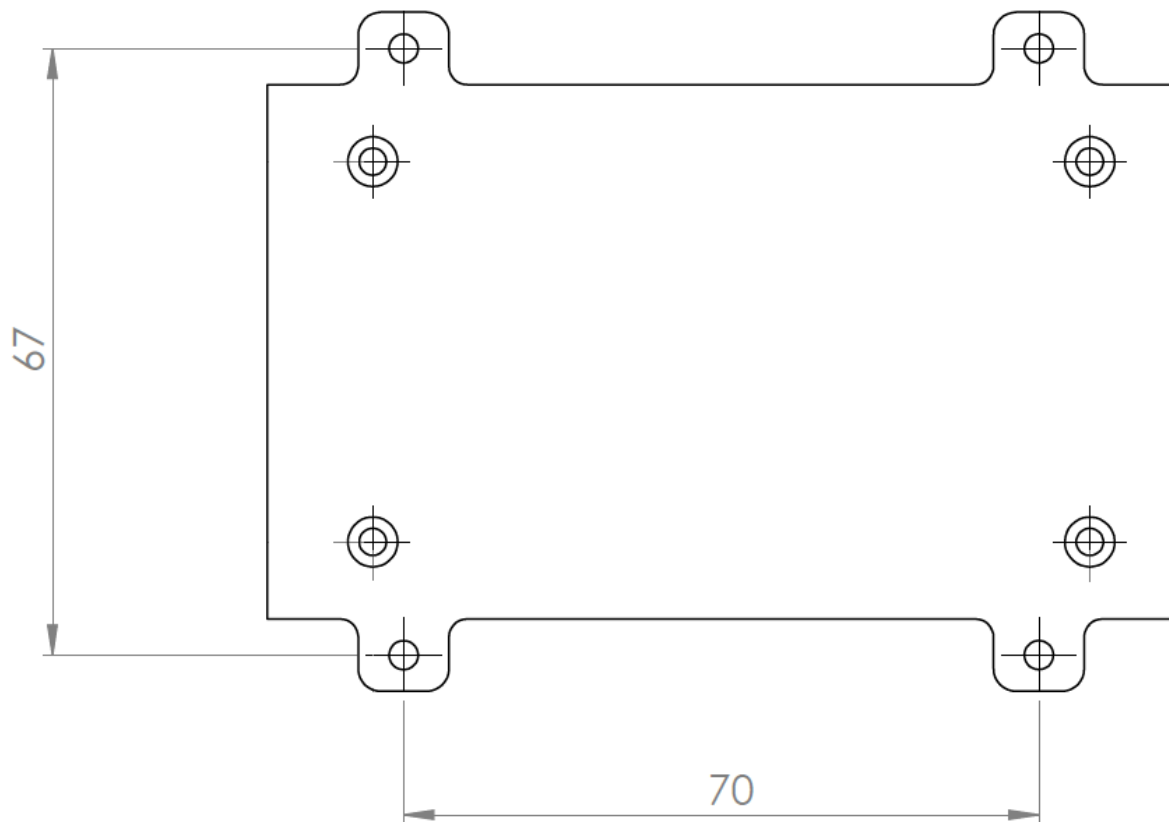
Pin	Type	Signal	Wire Color
1	Ground	GND	Black
2	Output	CTS	Brown
3	Output	TX	Yellow
4	Input	RX	Orange
5	Input	RTS	Green
6	Supply	5V Output	Not Connected

6 Mechanical

Compute Unit

Compute Unit: nVidia Jetson TX2

Supporting Hardware: Iris Automation Custom



Camera Unit

Camera Body: FLIR Blackfly S

Camera Lens: View-Z 3.5mm Wide-Angle

