AeroVironment’s suite of micro-gimbals delivers lightweight, compact visual awareness solutions designed to satisfy demanding requirements for Intelligence, Surveillance, and Reconnaissance (ISR) operations. Combining high-resolution EO/IR sensors with multiple zoom levels and laser illuminator on select models, the Mantis line of compact payloads are designed to provide application flexibility and deliver superior imagery in any operational environment.
## Specifications

### Compatibility
- Wasp® AE
- Raven®
- Raven®
- Puma® AE, Puma® LE
- Puma® AE, Puma® LE

### Physical
- **Weight**
  - MANTIS™ i22: 7.7 oz (217 g)
  - MANTIS™ i23: 13.6 oz (385 g)
  - MANTIS™ i23 D: 13.4 oz (380 g)
  - MANTIS™ i45: 31.4 oz (890 g)
  - MANTIS™ i45 N: 32 oz (905 g)
- **Ball Diameter**
  - MANTIS™ i22: 2 in (5.1 cm)
  - MANTIS™ i23: 3.1 in (7.9 cm)
  - MANTIS™ i23 D: 3.15 in (8 cm)
  - MANTIS™ i45: 4.2 in (10.7 cm)
  - MANTIS™ i45 N: 4.2 in (10.7 cm)

### Environment
- **Operating Temperature**
  - MANTIS™ i22: -29 to 54 °C
  - MANTIS™ i23: -29 to 49 °C
  - MANTIS™ i23 D: -29 to 50 °C
  - MANTIS™ i45: -29 to 50 °C
  - MANTIS™ i45 N: -29 to 50 °C
- **Weatherization**
  - All environment (waterproof)
  - Water resistant
  - Water resistant
  - All environment (waterproof)
  - All environment (waterproof)

### Sensors
- **Electro/Optical (EO)**
  - MANTIS™ i22: Resolution: 5 MP
    - HFOV: 31.5° to 6.7°
    - Zoom: 4 levels; 4.8x
  - MANTIS™ i23: Resolution: 5 MP
    - HFOV: 31.5° to 6.7°
    - Zoom: 4 levels; 4.8x
  - MANTIS™ i23 D: Resolution: Dual 18 MP
    - HFOV: 53.1° to 2.4°
    - Zoom: 6 levels; 24x
  - MANTIS™ i45: Resolution: Dual 15 MP
    - HFOV: 56° to 1.2°
    - Zoom: 6 levels; 50x
  - MANTIS™ i45 N: --
- **Thermal IR**
  - MANTIS™ i22: Resolution: 640x512 px
    - HFOV: 31.9° to 14.1°
    - Zoom: 3 levels; 2.3x
  - MANTIS™ i23: Resolution: 640x512 px
    - HFOV: 31.5° to 14.1°
    - Zoom: 3 levels; 2.3x
  - MANTIS™ i23 D: --
  - MANTIS™ i45: Resolution: 640x512 px
    - HFOV: 21.4° to 10.8°
    - Zoom: 3 levels; 2x
  - MANTIS™ i45 N: Resolution: 640x512 px
    - HFOV: 40° to 5.3°
    - Zoom: 6 levels; 7.6x
- **Low Light (LL)**
  - MANTIS™ i22: --
  - MANTIS™ i23: --
  - MANTIS™ i23 D: --
  - MANTIS™ i45: Resolution: 1.2 MP
    - HFOV: 10.7° to 4.7°
    - Zoom: 3 levels; 4.6x
  - MANTIS™ i45 N: Resolution: 5 MP Monochrome
    - HFOV: 17.8° to 2.3°
    - Zoom: 6 levels; 7.6x
- **Laser Illuminator**
  - MANTIS™ i22: --
  - MANTIS™ i23: Yes
  - MANTIS™ i23 D: --
  - MANTIS™ i45: Yes
  - MANTIS™ i45 N: Yes

### Rotation Limits
- **Pan**
  - MANTIS™ i22: +/- 120
  - MANTIS™ i23: 360 rotation, continuous
  - MANTIS™ i23 D: 360 rotation, continuous
  - MANTIS™ i45: 360 rotation, continuous
  - MANTIS™ i45 N: 360 rotation, continuous
- **Tilt**
  - MANTIS™ i22: -95° to +5°
  - MANTIS™ i23: -95° to +10°
  - MANTIS™ i23 D: -90° to +30°
  - MANTIS™ i45: -90° to +30°
  - MANTIS™ i45 N: -90° to +30°

### Interface
- **Control**
  - MANTIS™ i22: High speed serial
  - MANTIS™ i23: High speed serial
  - MANTIS™ i23 D: High speed serial
  - MANTIS™ i45: High speed serial
  - MANTIS™ i45 N: High speed serial
- **Video**
  - MANTIS™ i22: SD @ 30 fps
  - MANTIS™ i23: SD @ 30 fps
  - MANTIS™ i23 D: SD @ 30 fps
  - MANTIS™ i45: SD @ 30 fps
  - MANTIS™ i45 N: SD @ 30 fps