# TRINITY F90+
# CAMERAS

QUANTUM-SYSTEMS | TRINITY F90+ | CAMERAS

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*quantum systems*
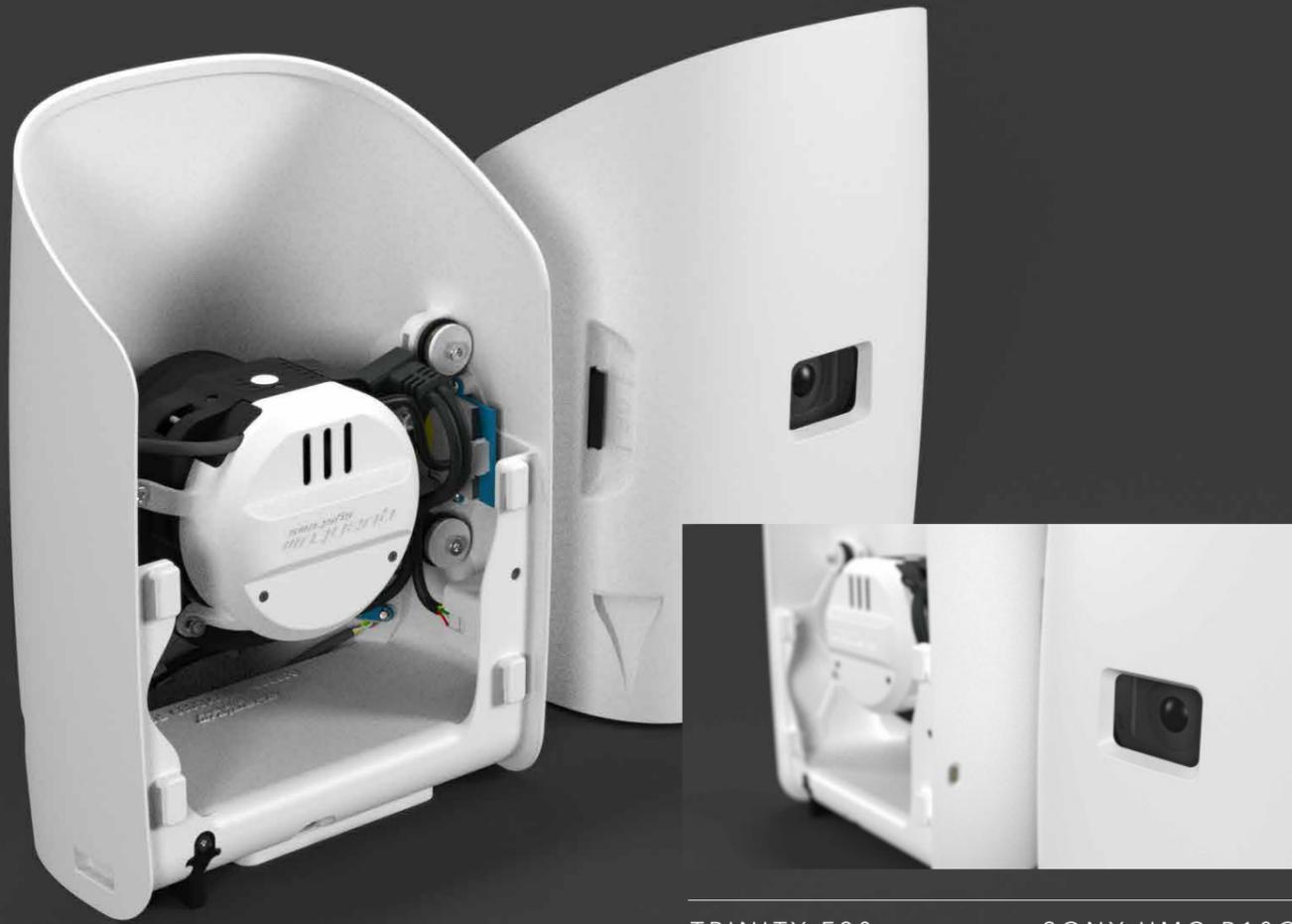
## Sony UMC-R10C
## Technical Specification

| | |
|---|---|
| Sensor resolution | 20.1 MP (5456 x 3632 px) |
| GSD | 2.66 cm @100m AGL |
| Trigger interval | 1.1 seconds |
| Sensor type | CMOS |
| Sensor format | APS-C |
| Sensor size | 23.2 x 15.4 mm |
| Lens | f=16 mm, F2.8 |
| Payload weight RTF (ready to fly) | 428,7 g |
| Shutter type | Focal plane |
| Storage | SD card (external slot) |

## Sample Data

**FLIGHT ALTITUDE**
100 m | 328 ft AGL

**FLIGHT SPEED**
17 m/s

**GSD**
2.66 cm/px

TRINITY F90+          SONY UMC-R10C

# Sony UMC-R10C
## RGB Camera

The Sony
level RGB

ⓘ

The Sony UMC-
images to creat
type image sen
images even in
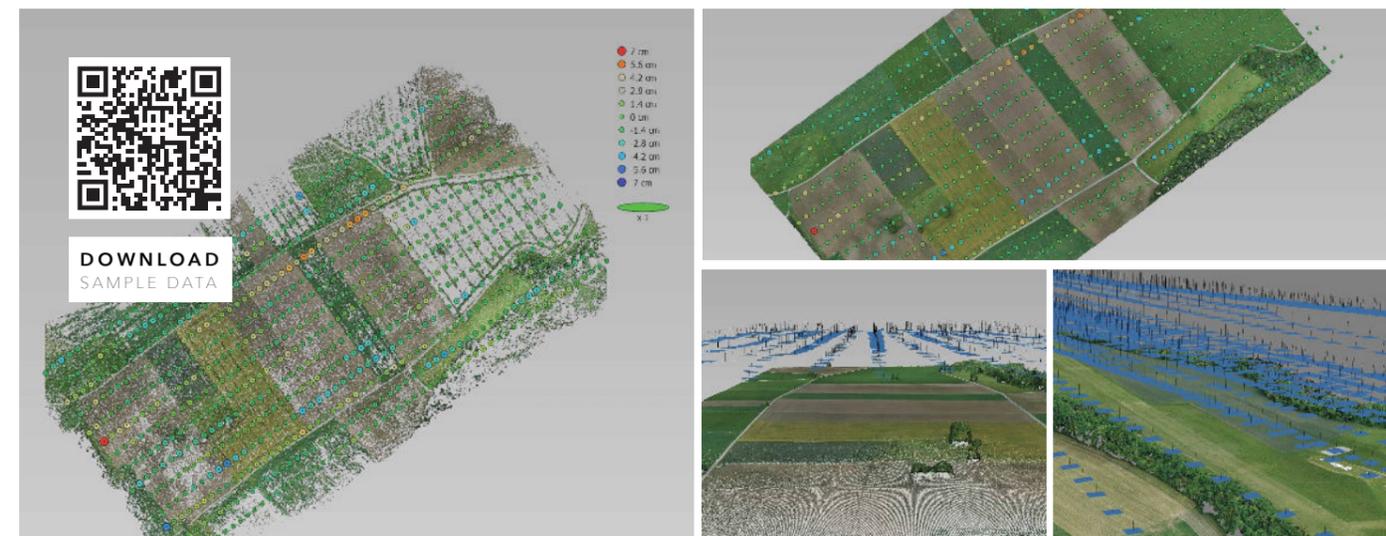
DOWNLOAD
SAMPLE DATA

TRINITY F90+                    SONY RX1 RII

# Sony RX1 RII
## Technical Specification



| | |
|---|---|
| Sensor resolution | 42.4 MP (7952 × 5304 px) |
| GSD | 1.29 cm @100m AGL |
| Trigger interval | 1.4 seconds |
| Sensor type | CMOS |
| Sensor format | Full frame |
| Sensor size | 35.9 mm × 24.0 mm |
| Lens | f=35 mm, F2.0 |
| Payload weight RTF | 693,7 g |
| Storage | SD-Card (internal slot) |

## Sample Data

**FLIGHT ALTITUDE**
120 m | 393 ft AGL

**FLIGHT SPEED**
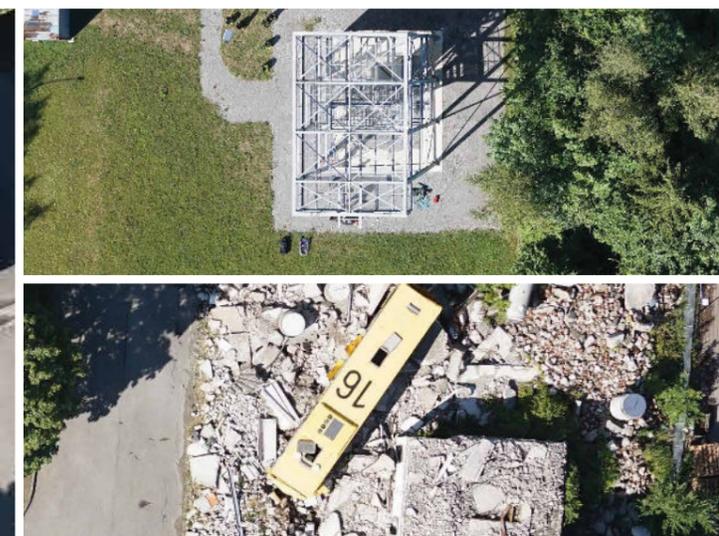17 m/s

**GSD**
1.55 cm/px
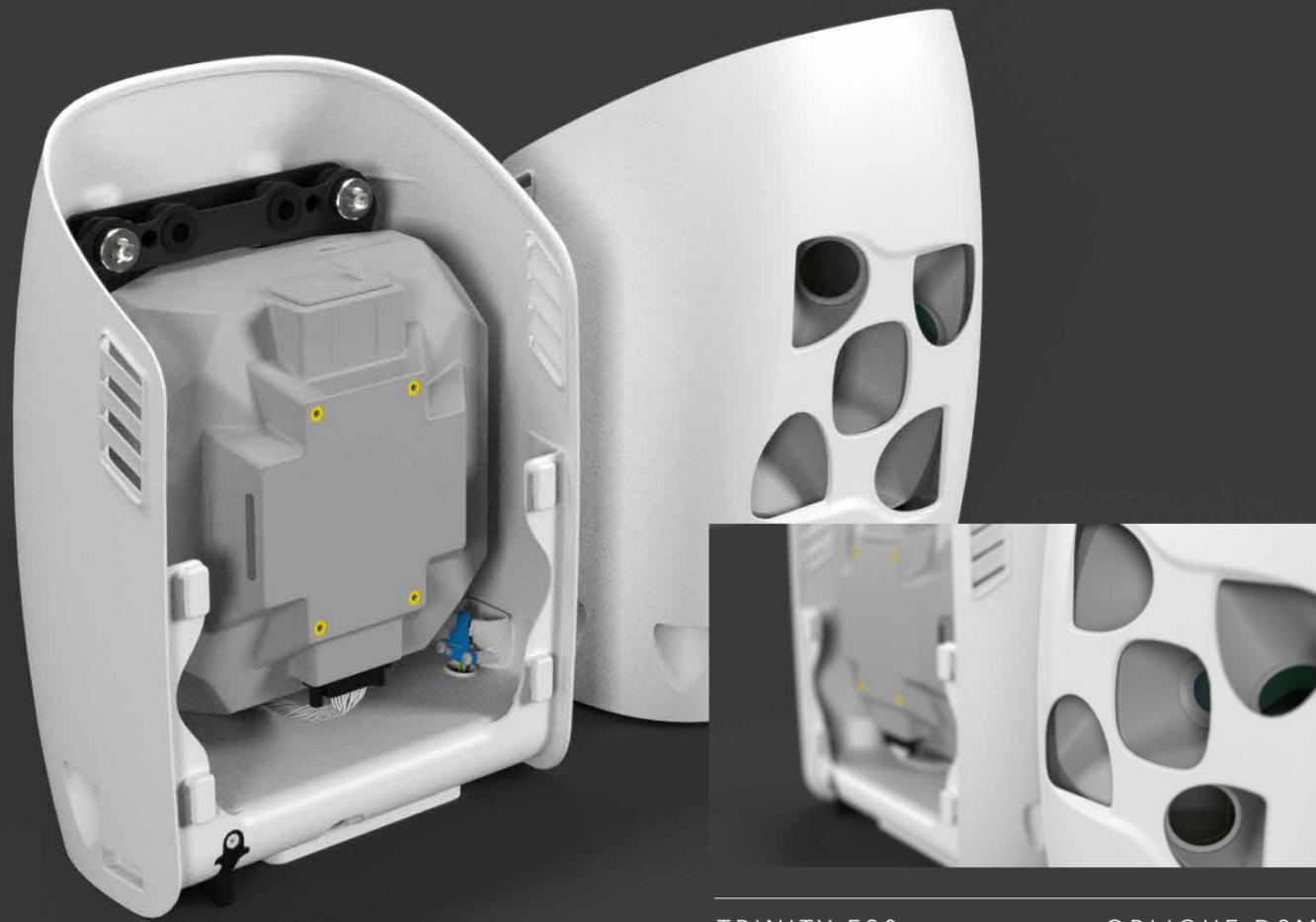
# Sony RX1 RII
## RGB Camera

The Sony RX1 RII meets the highest demands for RGB image quality and resolution in everyday surveying and monitoring applications, especially in the mining, civil survey, and agriculture sector.

ⓘ

With its resolution of 42.4 megapixels, the Sony RX1RII is ideal for all applications where the highest requirements are placed on the images. The output possibilities vary from precise data sets like digital ortho photos (DOP), digital terrain models (DTM), digital surface models (DSM), high-resolution point clouds and detailed 3D models.



**DOWNLOAD**
SAMPLE DATA

TRINITY F90+       OBLIQUE D2M

| | |
|---|---|
| Focal length | 25 mm NADIR, 35 mm (oblique) |
| Payload weight RTF | 833,7 g |
| Flight time | 60 minutes |
| Storage | High speed data storage device (640 GB) |

## Sample Data

**FLIGHT ALTITUDE**
120 m | 393 ft AGL
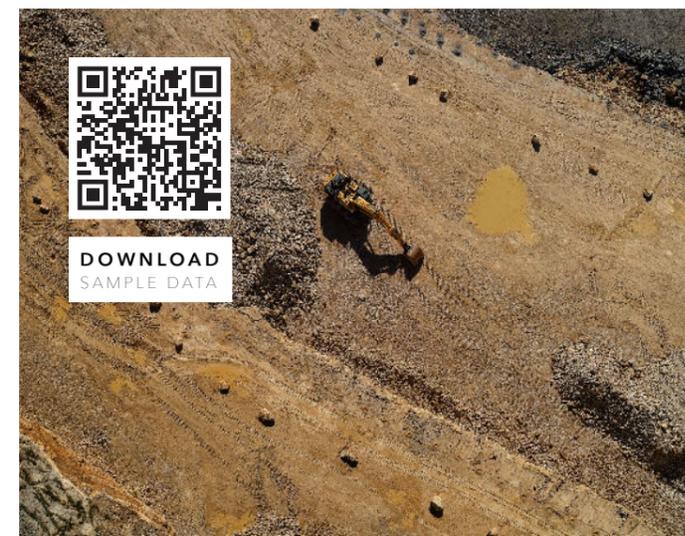
**FLIGHT SPEED**
17 m/s

**GSD**
1.8 cm/px

# Oblique D2M
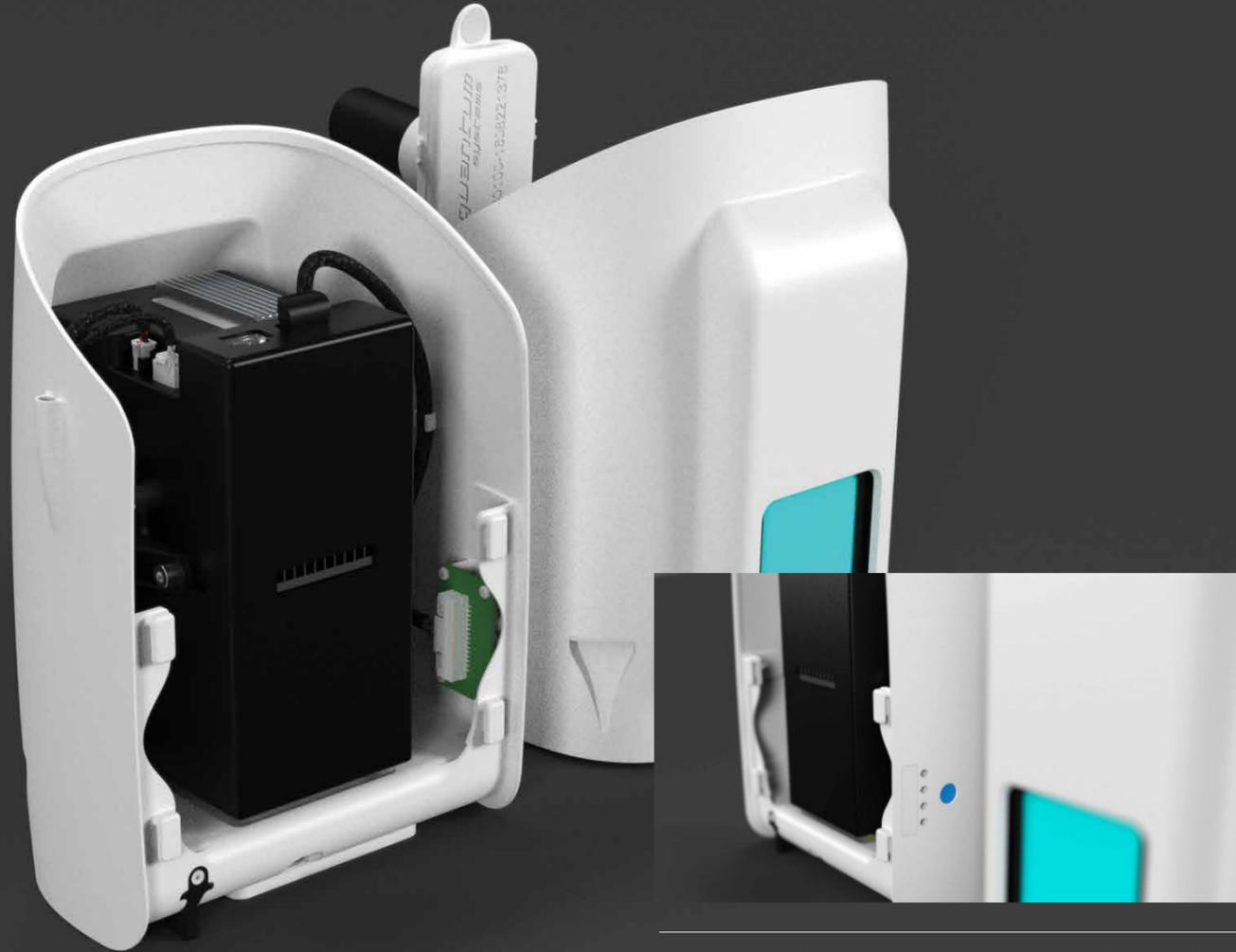## Five-lens RGB Camera

The Oblique D2M is a powerful oblique imaging system consisting of five high-resolution multidirectional cameras, making it the ideal tool for large scale 3D photogrammetry.

ⓘ

A fast trigger interval along with custom high-speed storage provides class-leading time efficiency without compromising data quality. The payload combines four oblique and one NADIR camera to capture complex geometries with ease.

This ensures remarkable detail even on slanted surfaces and makes Oblique D2M destined for 3D mesh generation of high-rise areas, industrial environments, archaeological sites and alike.



**DOWNLOAD**
SAMPLE DATA

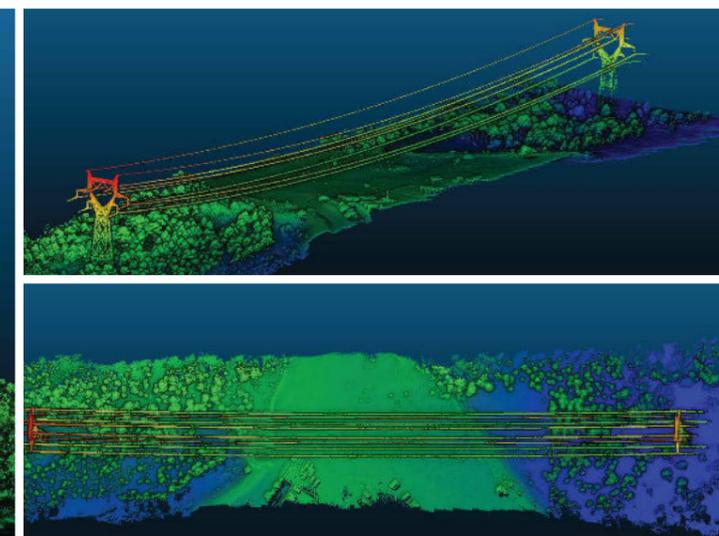TRINITY F90+                                    QUBE 240

# Qube 240
## LiDAR Scanner

The Qube 240 is a geomatics grade LiDAR providing essential information by generating an accurate point cloud of the processed environment through 240,000 distance measurements per second.

ⓘ

The Qube 240 produces outstanding absolute accuracy that is achieved with the help of the integrated Applanix APX15 INS. It generates precise, three-dimensional information about the shape of the earth and its surface characteristics, which is crucial for example for mine operators when calculating stock volumes, for energy companies when inspecting power lines, elevation models of ground under dense vegetation, or for feed biomass calculation. LiDAR technology allows for mapping infrastructure and surveying large areas also at night.

# Qube 240
# Technical Specification



| | |
|---|---|
| Wavelength | 905 nm |
| Maximum altitude | 140 m AGL |
| Suggested altitude | 100 m AGL |
| Precision | 1.8 - 2.5 cm* |
| Accuracy | < 3 cm** |
| Scanner field of view | 70° |
| Shots per second | 240,000 |
| Point density @100 m | 50 - 100 points/m² |
| Multi-echo technology | up to 3 echoes per shot |
| Payload weight RTF | 948,7 g |
| Flight time | 60 minutes |

– Class 1 (Eye Safe)
– Applanix POSPacTM UAV, GNSS and INS software for PPK (license for one year included)
– YellowScan Cloudstation Software to generate survey grade LAS files (license must be bought separately)

\* Precision, also called reproducibility or repeatability, accounts for the variation in successive measurements taken on the same target. Depends on altitude AGL
\*\*Accuracy is the degree of conformity of a measured position to its actual (true) value.

# Sample Data

**FLIGHT ALTITUDE**
80 m | 262 ft AGL

**FLIGHT SPEED**
18 m/s

**GSD**
118 pts/sqm



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SAMPLE DATA

TRINITY F90+    MICASENSE REDEDGE-P

# MicaSense RedEdge-P

## RGB and Multispectral Data

The RedEdge-P is the ultimate premium solution for high-res RGB and multispectral data applicable for agriculture, forestry, environmental monitoring and more.

ⓘ

The RedEdge-P is the premium multispectral camera for general plant health monitoring plus plant counting, early weed detection and other tasks requiring machine learning. With pan-sharpening.

# RedEdge-P
# Technical Specification

| | |
|---|---|
| Sensor resolution | 1456 x 1088 (1.6MP per MS band), 2464 x 2056 (5.1MP panchromatic band) |
| Wavelength | Blue (475 nm center, 32 nm bandwidth), Green (560 nm center, 27 nm bandwidth), Red (668 nm center, 14 nm bandwidth), RedEdge (717 nm center, 12 nm bandwidth), near-IR (842 nm center, 57 nm bandwidth) |
| RGB color output | 5.1 MP (global shutter, aligned with all bands)* |
| GSD | 7.7 cm per pixel (per MS band) at 120m (393 ft) AGL 3.98 cm per pixel (panchromatic band) at 120m (393 ft) AGL |
| Trigger interval | 0.8 seconds |
| Interfaces | 3 configurable GPIO  / select from trigger input, PPS input, PPS output, and top of frame signals. Host virtual button. USB 2.0 port for WiFi. Serial. 10/100/1000 Ethernet. |
| Field of view | 50° HFOV x 38° VFOV (MS), 44° HFOV x 38° VFOV (PAN) |
| Storage | CFexpress Card |
| Payload weight RTF | 503,7 g |
| Dimensions | 8.9 x 7.0 x 6.7 cm (3.5in x 2.8in x 2.6in) |
| External Power | 7.0 V - 25.2 V |
| Power input | 5.5/7.0/10W (standby, average, peak) |

*with appropriate post-processing



# Sample Data

**FLIGHT ALTITUDE**
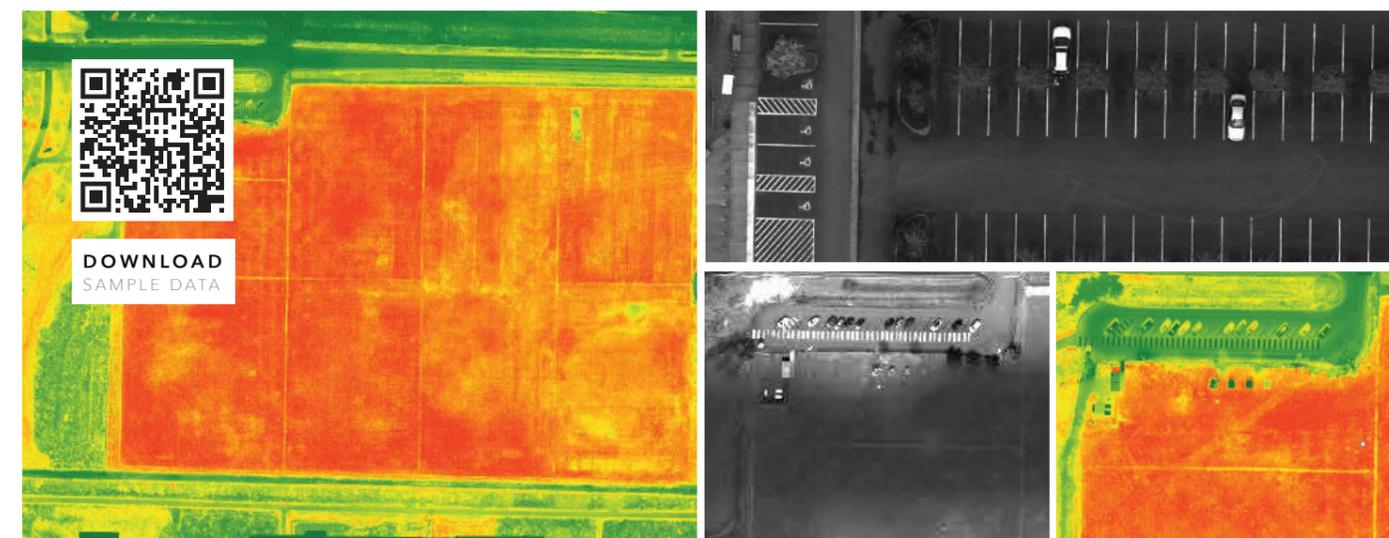120 m | 393 ft AGL

**FLIGHT SPEED**
17 m/s

**GSD**
4.01 cm/px



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SAMPLE DATA

TRINITY F90+    MICASENSE ALTUM-PT

| Property | Value |
|---|---|
| **Orthomosaic** | |
| Size | 17,338 x 10,861 |
| Coordinate system | WGS 84 (EPSG::4326) |
| Colors | 6 bands, uint16 |
| **Reconstruction parameters** | |
| Blending mode | Mosaic |
| Surface | DEM |
| Enable hole filling | Yes |
| Enable ghosting filter | No |
| Processing time | 1 hours 39 minutes |
| Memory usage | 2.34 GB |
| Date created | 2022:07:01 17:10:51 |
| Software version | 1.8.3.14331 |
| File size | 23.23 GB |

Workspace    Reference

51.6 m

Photos

IMG_0000_1    IMG_0001_1    IMG_0002_1    IMG_0003_1    IMG_0004_1    IMG_0005_1    IMG_0006_1

# MicaSense Altum-PT

## RGB, Multispectral and Thermal Camera

The Altum-PT is the best-in-class multispectral camera with synchronized thermal images applicable for production agriculture, phenotyping, and environmental monitoring.

ⓘ

The MicaSense Altum-PT captures synchronized multi-spectral, thermal, and panchromatic data for pixel-aligned outputs at incredibly high resolutions for advanced vegetation research applications.

These comprise plant health monitoring from early emergence and on, with thermal for water stress and irrigation system monitoring as well.

## Sample Data

**FLIGHT ALTITUDE**
60 m | 197 ft AGL

**FLIGHT SPEED**
17 m/s

**GSD**
1.27 cm/px

**DOWNLOAD**
SAMPLE DATA