Precise results with leaf-level resolution

MicaSense Series
ALTUM-PT™

Synchronized, high-resolution RGB, thermal and multispectral bands



THERMAL BY FLIR

Key Benefits

- Simultaneous capture of up to six different spectral bands, enabling outputs such as RGB color, crop vigor and high-resolution panchromatic
- More accurate radiometric results at resolutions that enable entirely new remote sensing workflows: 1.2 cm (0.47 in) pan-sharpened ground resolution when flying at 60 m (200 ft)
- Distinguish plant-level issues, even at early growth stages, including early-stage stand counts
- Sensor optimized for tasks that require ultra-high resolution and compatible with fast in-field workflows for on-site decision making
- The integrated thermal model features patented technologies that enable more accurate thermal maps, with repeatability better than 2 degrees in measurements, at twice the resolution of the current Altum
- Thermal images have twice the ground resolution of the Altum, down to 17 cm when flying at 60 m, meaning the thermal imager captures an area as small as 17 cm at 60 m altitude. The higher the resolution, the smaller the object that can be detected. Altum-PT offers better detail and image quality, enabling more demanding irrigation, soil moisture and inspection tasks
- Synchronized thermal and multispectral cameras for pixel-aligned results across multiple bands at incredibly high resolutions

Key Features

- Professional, removable CFexpress storage of up to 2 TB, allowing 2 captures per second
- Ultra-high-resolution panchromatic imaging for data outputs at 2.49 cm resolution from 120 m, more than 2x the resolution of today's comparable multispectral cameras
- Integrated 320 x 256 radiometric thermal camera, achieving twice the ground resolution of the current Altum

Applications

Plant surface temperature changes quickly under stress conditions. Applications include, but are not limited to:

- Irrigation planning
- Disease detection
- Phenotyping
- Fruit yield estimation
- Fruit maturity assessment and damage detection
- Water stress forecasting
- Detection of pressure or clogging problems in irrigation systems

Altum-PT Technical Specifications

	Altum-PT
Weight	577 g (20.35 oz) Altum-PT + Wi-Fi + CFexpress card + DLS2 & cables
Dimensions	11.0 x 8.0 x 6.9 cm (4.3 x 3.1 x 2.7 in)
External power	7.0 V – 25.2 V
Power input	5.5 / 7.0 / 10 W (standby, average, peak)
Spectral bands	Blue: 475 nm center, 32 nm bandwidth Green: 560 nm center, 27 nm bandwidth Red: 668 nm center, 14 nm bandwidth Red Edge: 717 nm center, 12 nm bandwidth NIR: 842 nm center, 57 nm bandwidth
Thermal	FLIR LWIR thermal infrared 7.5–13.5 µm, radiometrically calibrated
Sensor resolution	2064 x 1544 (3.2 MP per MS band) 4112 x 3008 (12 MP panchromatic band) 320 x 256 thermal infrared
Multispectral GSD @ 120 m (per MS band)	5.28 cm per pixel
Panchro & pan-sharpened GSD @ 120 m	2.49 cm per pixel
Thermal GSD @ 120 m	33.5 cm per pixel
Capture rate (all bands, RAW DNG)	Up to 2 captures per second
Field of view	50° HFOV x 38° VFOV (MS) 46° HFOV x 35° VFOV (PAN) 48° HFOV x 40° VFOV (thermal)
Storage	CFexpress card
IP rating	IP4X
Interfaces	3 GPIO: trigger input, top-of-frame output, PPS output, host button. USB 2.0 port for Wi-Fi, serial, 10/100/1000 Ethernet and CFexpress storage

MicaSense®
AN EAGLENXT COMPANY

AUTHORIZED DISTRIBUTOR
MOBILE/WHATSAPP: +6281 11909 0099
EMAIL: SALES@HALOROBOTICS.COM
WWW.HALOROBOTICS.COM

HALO ROBOTICS