ALTUM-PT™ Sensor Comparison Sheet

	Altum	Altum-PT	Altum-PT Advantages
Weight	406.5 g (14.34 oz.) Altum + DLS2	460 g (16.2 oz.) Altum-PT + DLS2	Pan-sharpening the data instead of using higher resolution sensors for each multispectral band results in a lighter overall camera, ensuring integration onto a variety of UAVs and minimizing flight time due to payload weight.
Dimensions	8.2 cm x 6.7 cm x 6.75 cm (3.2 in x 2.6 in x 2.7 in)	11.0 x 8.0 x 6.9 cm (4.3 in x 3.1 in x 2.7 in)	Altum-PT provides more than double the multispectral and thermal resolution of Altum, with only a slight increase in form factor.
External Power	4.9 V - 25.2 V	7.0 V - 25.2 V	
Power Input	5.5/7.0/10W (standby, average, peak)	5.5/7.0/10W (standby, average, peak)	
Spectral Bands	Blue 475(32), Green 560(27), Red 668(14), Red Edge 717(12), NIR 842(57)	Blue 475(32), Green 560(27), Red 668(14), Red Edge 717(12), NIR 842(57)	
RGB Output	High-resolution, global shutter, aligned with all bands	12.4 MP (global shutter, aligned with all bands)	The RGB composite from Altum was previously 9.6MP, now with the panchromatic sensor on Altum-PT the RGB composite is 12.4MP.
Thermal	FLIR LWIR thermal infrared 8-14um radiometrically calibrated	FLIR LWIR thermal infrared 7.5-13.5um radiometrically calibrated	
Sensor Resolution	2064 x 1544 (3.2 MP per EO band) 160 x 120 thermal infrared	2064 x 1544 (3.2MP per MS band) 4112 x 3008 (12MP per PAN band) 320 × 256 thermal infrared	The panchromatic sensor enables higher resolution without large lenses and imagers for each of the multispectral bands, optimizing camera weight and keeping down data volume. Altum-PT uses a FLIR Boson 320, compared to the FLIR Lepton previously used with Altum. The higher resolution thermal with the Altum-PT enables more detailed insights for assessing water stress at the plant level.
Multispec GSD (per multispec band)	5.28 cm per pixel at 120 m	5.28 cm per pixel at 120 m	For Altum-PT, this is the multispectral resolution before pan-sharpening.
Thermal GSD	81 cm per pixel (thermal) at 120 m	33.5 cm per pixel at 120 m	The higher resolution thermal with the Altum-PT enables more detailed insights for assessing water stress at the plant level.
Panchro & Pansharpened GSD		2.49 cm per pixel at 120 m	Pan-sharpened outputs from Altum-PT are the highest spatial resolution offered by MicaSense. Ground sample distance has a linear relationship with the flight altitude, so flying lower will enable even higher resolution. For instance, flying at 60m will result in a GSD of 1.2 cm per pixel.
Capture Rate	1 capture per second (all bands), 12-bit RAW*	2 capture per second raw DNG*	Due to the faster capture rate Altum-PT can keep up with faster flight speeds, enabling more efficient flight time.
Interfaces	Aircraft: Trigger input, top of frame out, 1 PPS out. 3.3V isolated IO 2x USB 3.0 SuperSpeed ports for WiFi or Ethernet and USB 3.0 Storage.	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. CFexpress for storage	
Field of View	50° x 38° (multispectral) 57° x 44° (thermal)	50° HFOV x 38° VFOV (multispectral) 46° HFOV x 35° VFOV (panchromatic) 48° x 39° (thermal)	Use of a panchromatic sensor means higher resolution, pan-sharpened multispectral outputs without sacrificing for a narrow field of view that will result in longer flight times.
Storage	USB 3.0 compatible storage devices	CFexpress Card	CFexpress cards are swappable in the field and have a much faster write speed than SD cards or USB storage devices. This enables efficient flight times, from small to large projects, and cuts down on card-to-computer transfer time when it comes to getting ready to process.

*RGB output with appropriate post-processing
*Specifications are subject to change without notice
*Capture rates vary based on write speed of USB storage device

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