ULTRACAM EAGLE MARK 3

One system for endless possibilities

26,460 pixels across track

PROF. DI DR. HARALD MEIXNER
ULTRACAM EAGLE CUSTOMER

An ultra-large footprint coupled with a unique user-exchangeable lens system makes the UltraCam Eagle one of the most versatile aerial systems on the market.

"Without the UltraCam Eagle on board our aircraft, our operations would not be nearly as efficient. The state-of-the-art technology from Vexcel enables our teams to work more efficiently and economically than our competitors."

The UltraCam Eagle Mark 3 boasts an ultra-large footprint of 450 Megapixels. It is the only digital photogrammetric aerial sensor that features a user-exchangeable lens system, providing you with a "workhorse" sensor to serve all your aerial acquisition missions.

Thanks to the latest sensor technology, the UltraCam Eagle achieves an excellent minimum capture interval of one frame per 1.5 seconds. The exchangeable lens system offers the option of four lens kits at focal lengths of 80mm, 100mm, 120mm and 210mm — a groundbreaking enhancement in digital photogrammetry. A key modification to the new UltraCam Eagle M3 is a newly developed CCD sensor based on new 4.0µ technology, featuring outstanding signal/noise ratio and non-mechanical FMC by TDI. UltraCam operators are sure to appreciate the easy to configure and operate new user-focused interface panel with touchscreen technology for in-flight quality control of each image. The result is an ultra-efficient, ultra-flexible, ultra-reliable camera for streamlined image acquisition for all your mission needs.
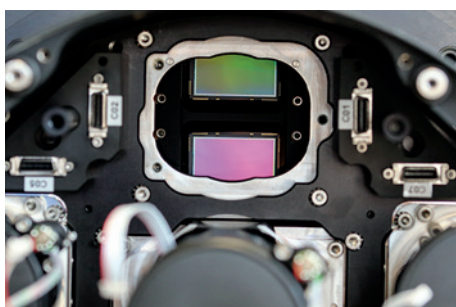
● FLEXIBILITY

With the UltraCam Eagle, customers can capture more data in less time to complete mapping projects in fewer flight lines and with greater efficiency than previously possible.

○ USER-EXCHANGEABLE

Exchange the lens kits on-site by trained personnel within 3-4 hours.

○ NO RECALIBRATION

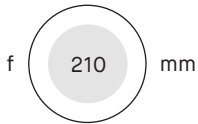Photogrammetric grade accuracy is maintained even after multiple lens exchanges.

○ 4 FOCAL LENGTHS

Take full advantage of the entire camera footprint of 26,460 pixels across the flight strip at different altitudes.
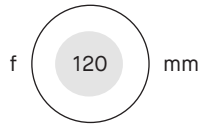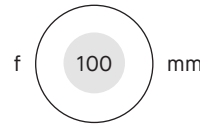
Specifications & details

f (210) mm

f (120) mm
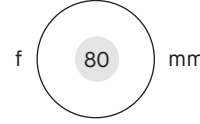
f (100) mm

f (80) mm

For regions with flight altitude restrictions when collection of high resolution images of highest quality is required.

For photogrammetric applications, optimizing usable footprint under lean restrictions at the image edges.

For photogrammetric applications, balancing flight altitude and footprint under lean restrictions at the image edges.

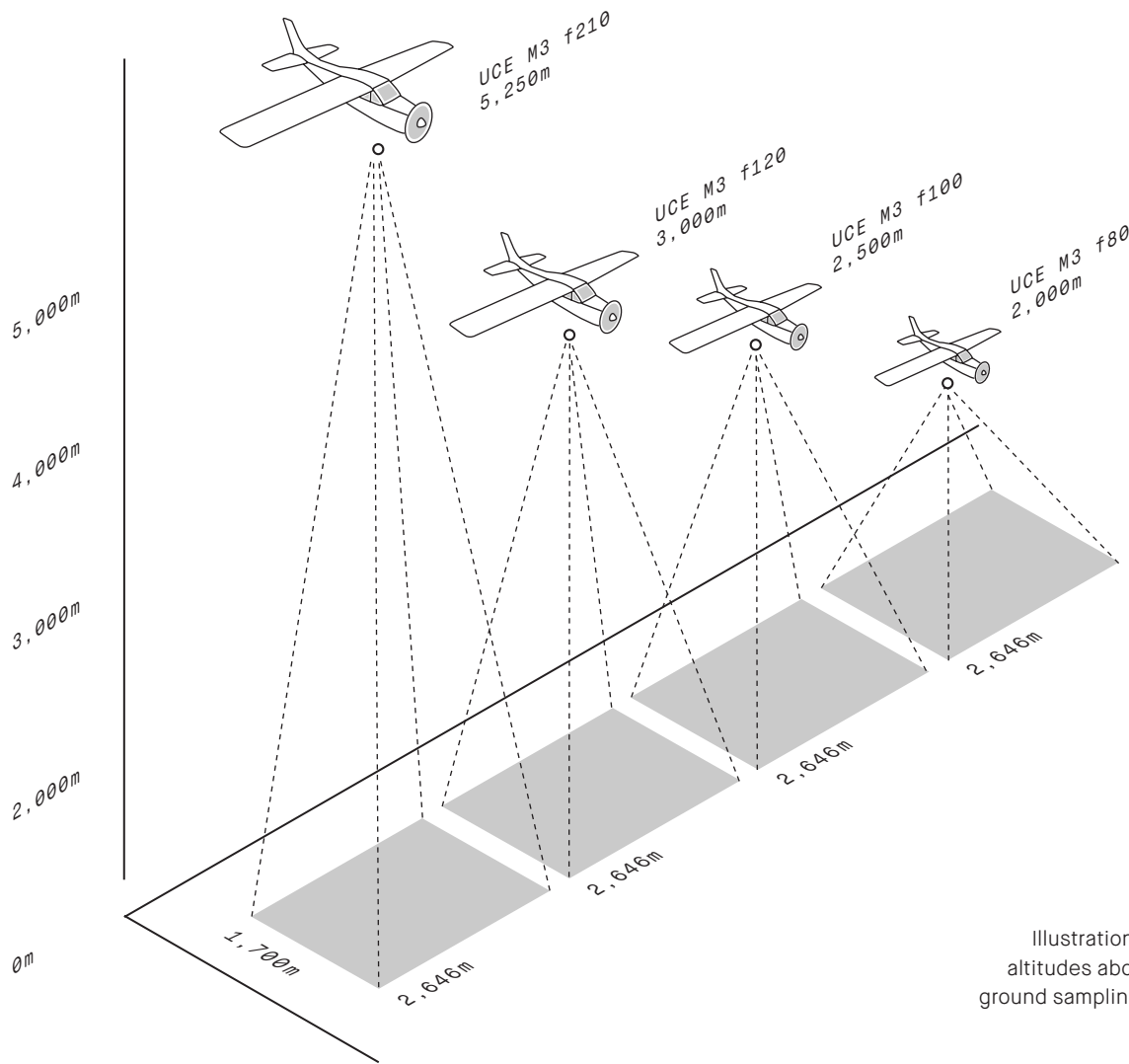For photogrammetric applications requiring minimal flight altitude.

UCE M3 f210
5,250m

UCE M3 f120
3,000m

UCE M3 f100
2,500m

UCE M3 f80
2,000m

5,000m

4,000m

3,000m

2,000m

0m

1,700m
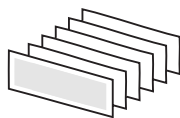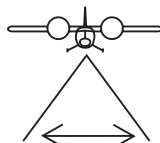
2,646m

2,646m

2,646m

2,646m

Illustration of respective flight altitudes above ground level at a ground sampling distance of 10 cm.
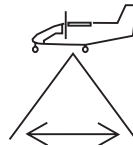
Max. 440 kts flight speed for 10 cm GSD at 80% forwardlap

1 frame per 1.5 seconds

26,460 pixels across flight strip

17,004 pixels along flight strip

Max. 94 % forwardlap for 10 cm GSD at 140 kts

Technical changes, printing errors, mistakes and amendments reserved.

SENSOR SYSTEM

PAN image size	26,460 x 17,004 pixels	Imaging sensor	CCD
PAN physical pixel size	4.0 µm	Shutter (longlife central leaf)	1/1000 to 1/64
Color capability (multi-spectral)	4 channels - R, G, B & NIR	Forward-motion compensation (FMC)	TDI controlled
Color image size	8,820 x 5,668 pixels	Maximum FMC capacity	50 pixels
Color physical pixel size	4.0 µm	Frame rate (minimum inter-image interval)	1 frame per 1.5 seconds
Pansharpen ratio	1 : 3	Dynamic range	> 72 db
		Analog-to-digital-conversion at	14 bits

DATA STORAGE SYSTEM
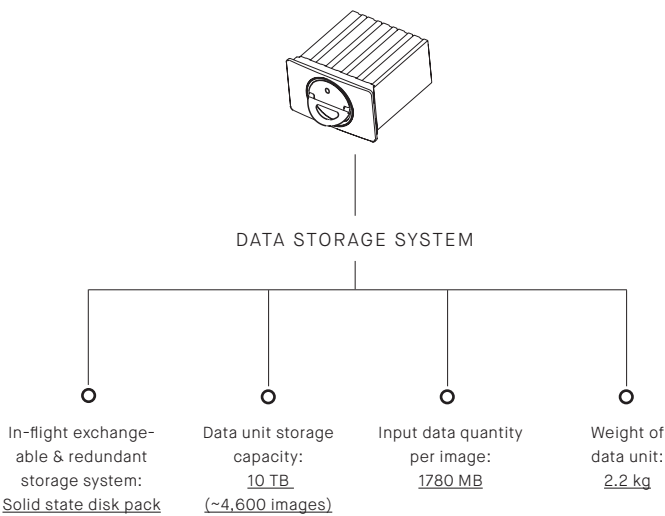
Power consumption:
max. 400 W

Weight:
61 kg
68 kg (f210)

Configuration:
Integrated housing concept[1]

43 cm

ULTRACAM

VEXCEL IMAGING

73 cm
80 cm (f210)

In-flight exchange-able & redundant storage system: Solid state disk pack	Data unit storage capacity: 10 TB (~4,600 images)	Input data quantity per image: 1780 MB	Weight of data unit: 2.2 kg
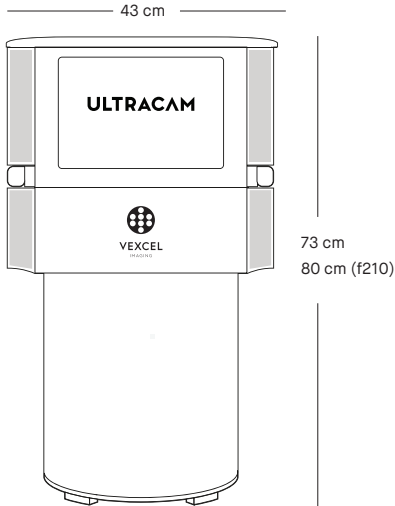
[1] For separated housing concept options please contact our sales team.

LENS SYSTEM

	f80	f100	f120	f210
PAN lens system focal length	80 mm	100 mm	120 mm	210 mm
PAN lens aperture	f=1/5.6	f=1/5.6	f=1/5.6	f=1/7.8
Color (R, G, B & NIR) lens system focal length	27 mm	33 mm	40 mm	70 mm
Color (R, G, B & NIR) lens aperture	f=1/4.8	f=1/4.8	f=1/4.8	f=1/5.6
PAN total field of view, across track (along track)	67,0° (46,1°)	55,8° (37,6°)	47,6° (31,6°)	28,3° (18,4°)
Flying height for PAN pixel size @ 10 cm GSD	2,000 m	2,500 m	3,000 m	5,250 m
Footprint for lean restriction of 1 m lean @ 5 m height (across x along)	8,000 x 8,000	10,000 x 10,000	12,000 x 12,000	21,000 x 17,004

OPERATIONAL SPECIFICATION

Flight altitude: ≤ 7000 m above sea level	Humidity: 5 % to 95 % no condensation	Temperature: 0 °C to +45 °C (operation, computer stack) -20 °C to +45 °C (operation, sensor stack) -20 °C to +65 °C (storage)	Mounting: UltraMount (GSM 4000 & GSM 3000) and most current third party mounts[2]	GNSS/INS/FMS system support: UltraNav (Applanix POSTrack OEM) and most current third party systems[2]	Data processing: UltraMap processing suite including data export in standard formats

[2] Please contact our sales team for detailed information.

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you get more than a camera.
You get cutting-edge technology combined with a progressive
service concept for constant product upgrades, world-class
support and one-stop solutions.
Today and tomorrow.

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