VEXCEL
IMAGING

ULTRACAM EAGLE MARK 3

One system for endless possibilities

ULTRACAM EAGLE MARK 3

26,460 pixels across track

PROF. DI DR. HARALD MEIXNER
ULTRACAM EAGLE CUSTOMER

"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."

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.

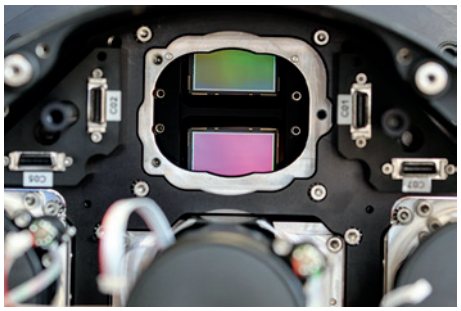
The UltraCam Eagle Mark 3 boasts an ultra-large footprint of 450 Megapixels. It is the only digital photogrammetric aerial sensor that features a user-exchangeable lens system, providing you with a "workhorse" sensor to serve all your aerial acquisition missions.
Thanks to the latest sensor technology, 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 4.0 µm 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

ULTRACAM EAGLE MARK 3 - PAN FOCAL LENGTH (MM)

f 210 mm

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

f 120 mm

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

f 100 mm

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

f 80 mm

For photogrammetric applications requiring minimal flight altitude.

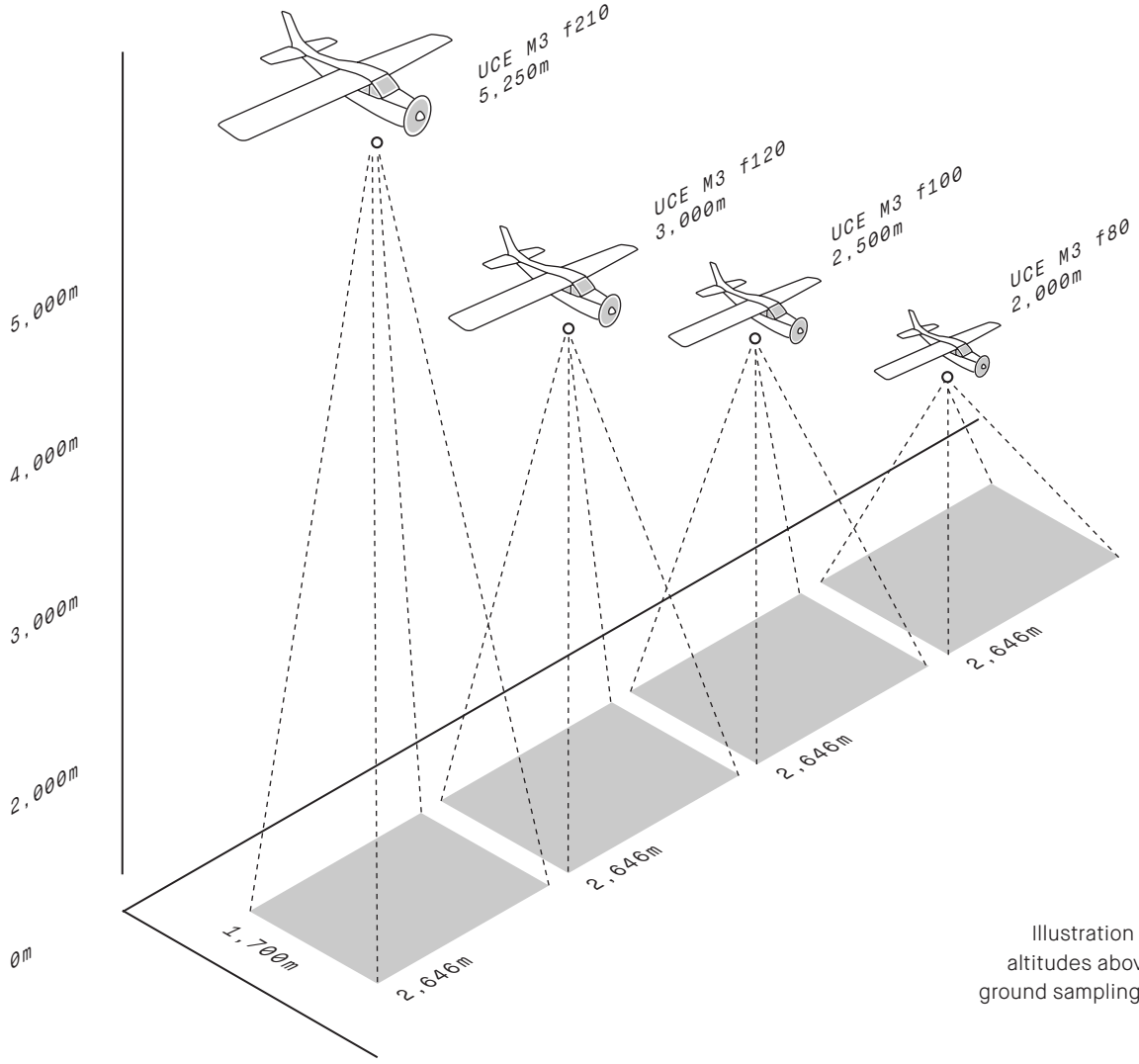
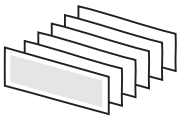
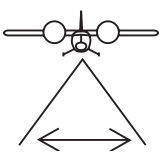


Illustration of respective flight altitudes above ground level at a ground sampling distance of 10 cm.

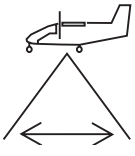
Max. 440 kts flight speed for 10 cm GSD at 80% forwardlap



1 frame per 1.5 seconds



26,460 pixels across flight strip



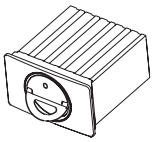
17,004 pixels along flight strip

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

SENSOR SYSTEM

PAN image size	26,460 x 17,004 pixels
PAN physical pixel size	4.0 µm
Color capability (multi-spectral)	4 channels - R, G, B & NIR
Color image size	8,820 x 5,668 pixels
Color physical pixel size	4.0 µm
Pansharpen ratio	1 : 3

Imaging sensor	CCD
Shutter (longlife central leaf)	1/1000 to 1/64
Forward-motion compensation (FMC)	TDI controlled
Maximum FMC capacity	50 pixels
Frame rate (minimum inter-image interval)	1 frame per 1.5 seconds
Dynamic range	> 72 db
Analog-to-digital-conversion at	14 bits



DATA STORAGE SYSTEM

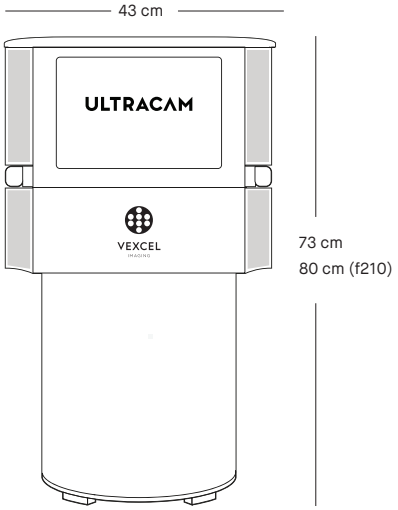
- In-flight exchangeable & redundant storage system: Solid state disk pack
- Data unit storage capacity: 10 TB (up to 4,600 images)[1]
- Input data quantity per image: 1780 MB
- Weight of data unit: 2.2 kg

Power consumption: max. 350 W

Weight: 61 kg / 68 kg (f210)

Configuration: Integrated housing concept[2]

Cylinder Diameter: 325 mm



[1] Due to configuration and change in SSD technology, usable storage size may vary and can not be guaranteed.
[2] 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[3]

GNSS/INS/FMS system support: UltraNav (Applanix POSTrack OEM) and most current third party systems[3]

Data processing: UltraMap processing suite including data export in standard formats

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

Gleisdorf, Austria · 2017

BENEFIT FROM OUR TECHNOLOGY

When you partner with Vexcel Imaging,
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.

Vexcel Imaging GmbH · Anzengrubergasse 8 · 8010 Graz · Austria
www.vexcel-imaging.com

Foto © Croce & Wir.