SPECIM AFX10

A Konica Minolta Company



FEATURES

- All in one HSI solution for UAVs
- Spectral range VNIR from 400 to 1000 nm
- Supports gimballed or gimballess mounting
- Multiple spectral ROI enables both hyperspectral and application-specific multispectral configurations
- Fore lens aberrations are fully characterized
- Significantly less smile and keystone
- Ability to collect more light
- Full real-time and post-mission position and orientation solution for direct georeferencing

GNSS/IMU PERFORMANCE

- Specim AFX10 system acquires GNSS/IMU data in real-time
- Position @ 10 Hz
- Attitude @ 50 Hz
- PPS synced time stamps @ 1 Hz
- Higher accuracy post-processed data with POSPAC UAV

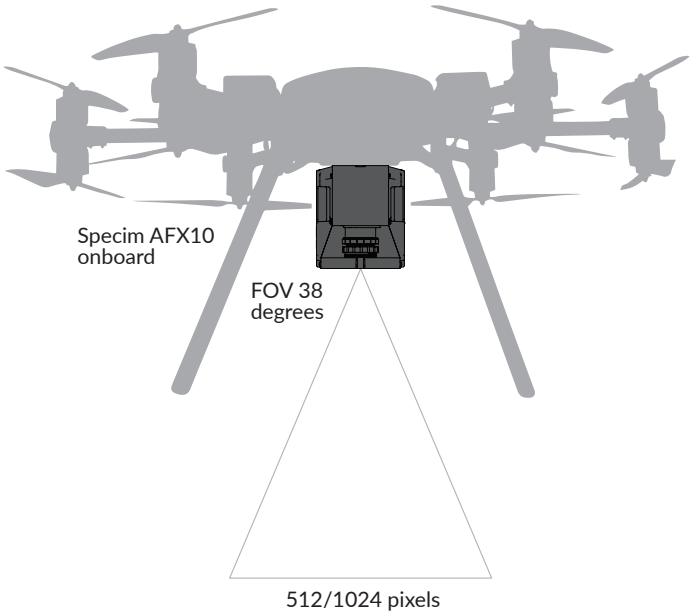
	SPS	Post-Processed
Position (m)	1.5 - 3.0	0.02 - 0.05
Velocity (m/s)	0.05	0.015
Roll & Pitch (deg)	0.04	0.025
True Heading (deg)	0.30	0.080

CaliGeo PRO can use both real-time and post-processed data.

COMPACT ALL-IN-ONE SOLUTION

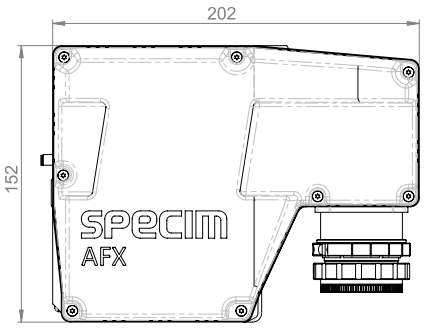
Specim AFX10 is a VNIR hyperspectral imaging solution with an HSI camera, a small and powerful computer and a high-end GNSS/IMU unit in one compact enclosure. It is a state-of-the-art solution weighing only 2.1 kg that can be used on multiple drone types – multirotor or fixed-wing, with or without a gimbal. Data is acquired automatically following the waypoints on a flight plan, making the Specim AFX10 easy to operate.

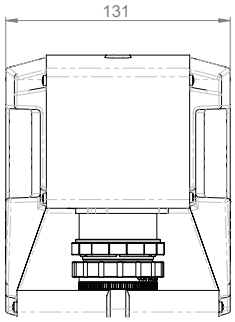
IMAGE COVERAGE AND RESOLUTION

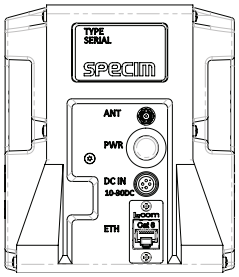


Ground coverage and sampling distance (resolution) scale with altitude

Height	Swath	GSD (when spatial binning is 1)	GSD (when spatial binning is 2)
50 m	36 m	3.5 cm	7 cm
100 m	72 m	7.0 cm	14 cm
150 m	108 m	10.5 cm	21 cm







Spectral Range	400 – 1000 nm	
Spectral sampling	2.68 nm	
Spectral resolution FWHM (typical mean)	5.3 nm +/- 0.3 nm (2 sigma)	
Fore lens focal length	15 mm	
Field of view	38 deg	
F/#	1.7	
Spectral bands	224	With 2 binning
Spatial pixels	1024	
Spectral binning options	2, 4, 8	
Spatial binning options	1, 2	
Multiple ROI	User-selectable	
Frame rate	Max. 150 fps Recommended 100 fps	Full frame
Dynamic range	1420	
SNR	420:1	2 spectral binning, 1 spatial binning
Power input	10-30 VDC	Use separate battery or UAV/gimbal power
Power consumption	17 W	Typical
Connectors	ANT, DC IN, ETH	GPS Antenna, Power In, Web UI / Data download
Storage temperature	-20 … +50C	
Operating temperature	+5 … +40C	
Relative humidity	5 – 90 %	Non-condensing
Drone options	Multirotor with gimbal Multirotor, no gimbal Fixed Wing UAV	Any drone with adequate payload capacity can be used
Gimbal	Optimized for MoVI pro	Other suitable gimbals may also be used
Gimbal weight	2.2 – 2.7 kg	Typical gimbal solution
Operating height	15 – 150 m	Typical, local limitations may apply
GNSS/IMU	Trimble APX-15	
GPS Antenna	Trimble AV 14	
Internal Memory	512GB SSD	
Dimensions (W x H x L)	131 x 152 x 202 mm	
Weight (without gimbal)	2.1 kg	
Weight (with gimbal)	4.8 kg	Typical gimbal solution

Specim, Spectral Imaging Ltd. ▪ A Konica Minolta Company ▪ POB 110, FI-90591 Oulu Finland ▪ Elektroniikkatie 13, Oulu Finland
VAT Identification number FI10079234 ▪ info@specim.com ▪ www.specim.com

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