



## 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.

## 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

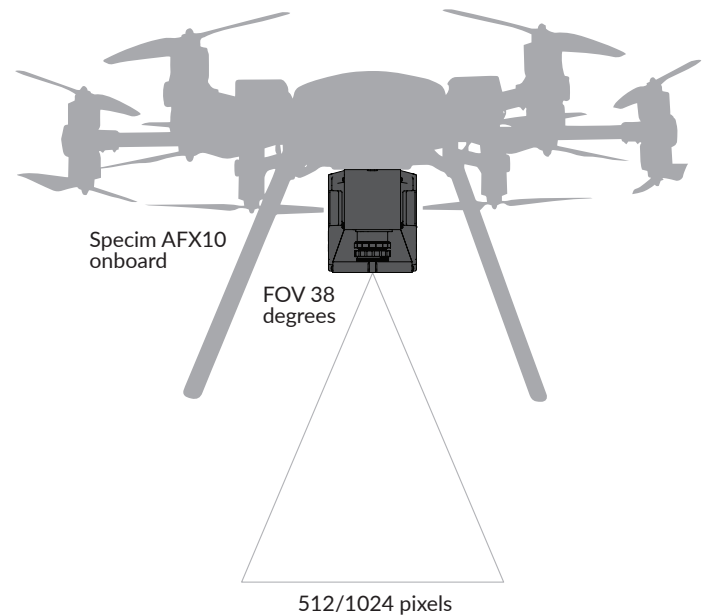
## GNSS/IMU PERFORMANCE

- Specim AFX10 system acquires GNSS/IMU data in real-time
- Position @ 1 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.

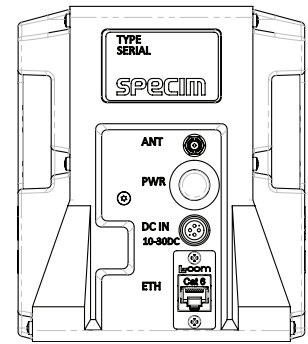
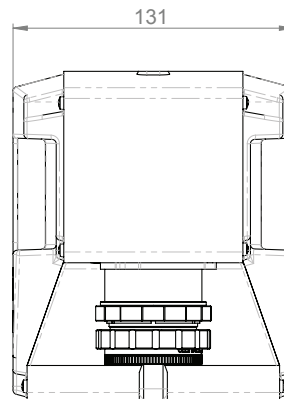
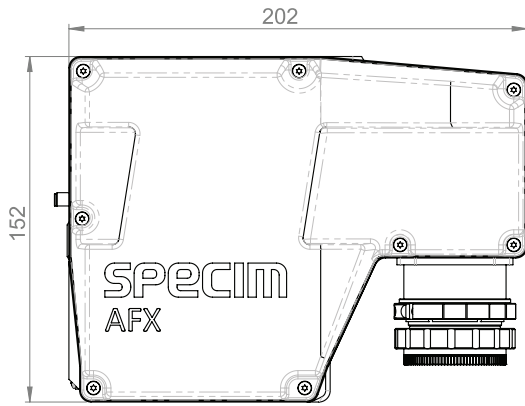
## IMAGE COVERAGE AND RESOLUTION



### 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

## SIZE



## TECHNICAL SPECIFICATIONS

<b>Spectral Range</b>	400 – 1000 nm	
<b>Spectral sampling</b>	2.68 nm	
<b>Spectral resolution</b>	5.5 nm	
<b>Fore lens focal length</b>	15 mm	
<b>Field of view</b>	38 deg	
<b>F/#</b>	1.7	
<b>Spectral bands</b>	224	Binned by 2
<b>Spatial pixels</b>	1024	
<b>Spectral binning options</b>	2, 4, 8	
<b>Spatial binning options</b>	1, 2	
<b>Multiple ROI</b>	User-selectable	
<b>Maximum frame rate</b>	330 fps	Full frame
<b>Dynamic range</b>	1420	
<b>SNR</b>	400:1	2 spectral binning, 1 spatial binning
<b>Power input</b>	10-30 VDC	Use separate battery or UAV/gimbal power
<b>Power consumption</b>	17 W	Typical
<b>Connectors</b>	ANT, DC IN, ETH	GPS Antenna, Power In, Web UI / Data download
<b>Storage temperature</b>	-20 ... +50C	
<b>Operating temperature</b>	+5 ... +40C	
<b>Relative humidity</b>	5 – 90 %	Non-condensing
<b>Drone options</b>	Multirotor with gimbal Multirotor, no gimbal Fixed Wing UAV	Any drone with adequate payload capacity can be used
<b>Gimbal</b>	Optimized for MoVI pro	Other suitable gimbals may also be used
<b>Gimbal weight</b>	2.2 – 2.7 kg	Typical gimbal solution
<b>Operating height</b>	15 – 150 m	Typical, local limitations may apply
<b>GNSS/IMU</b>	Trimble APX-15	
<b>GPS Antenna</b>	Trimble AV 14	
<b>Dimensions (W x H x L)</b>	131 x 152 x 202 mm	
<b>Weight (without gimbal)</b>	2.1 kg	
<b>Weight (with gimbal)</b>	4.8 kg	Typical gimbal solution