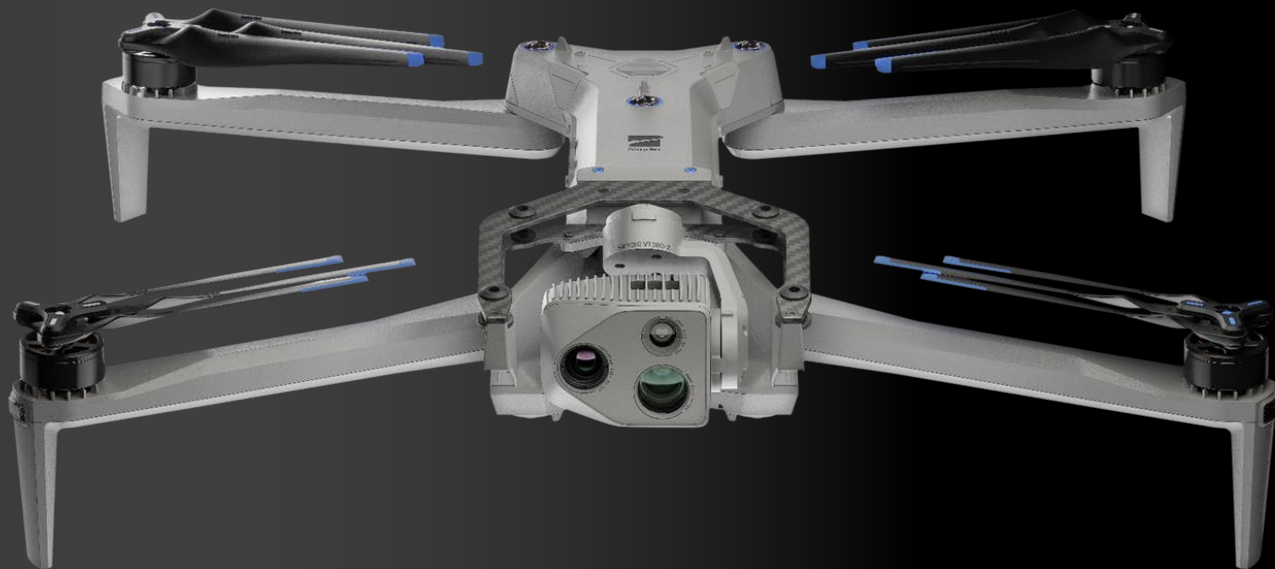




Sensor Operations





What You'll Learn

01

Sensor Packages

Explore sensor specifications, capture modes, record features and imaging tools

03

Media Management

Discuss media collection and storage locations. Learn to format SD card

02

Thermal Sensor

Understand the capabilities and settings of the thermal sensor.



01

Sensor Package



Sensor Package | VT300-Z

- **Narrow Camera** | 64 MP
- **Telephoto camera** | 48 MP
- **Radiometric Thermal camera** | 640 x 512
- **Zoom** | 128x (digital)





Sensor Package | VT300-L

- **Narrow Camera** | 64 MP
- **1" Wide camera** | 50 MP
- **Radiometric Thermal camera** | 640 x 512
- **Flashlight** | 10 ft effective Illumination
- **Zoom** | 64 x (digital)





Sensor Package | V100-L

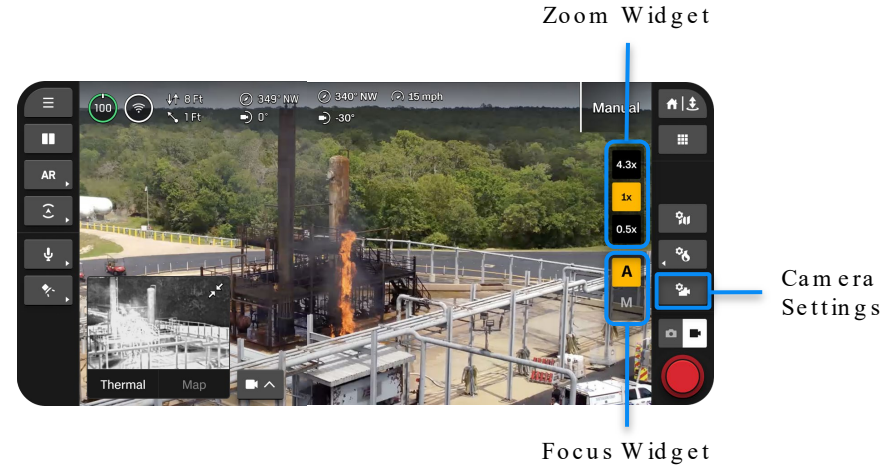
- **Narrow Camera** | 64 MP
- **1" Wide camera** | 50 MP
- **Flashlight** | 10 ft effective Illumination
- **Zoom** | 64x digital





Sensor Package | Color Sensor

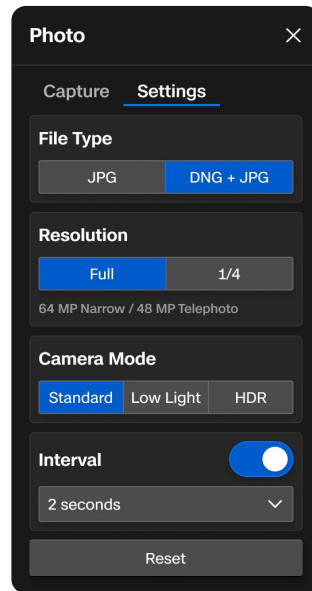
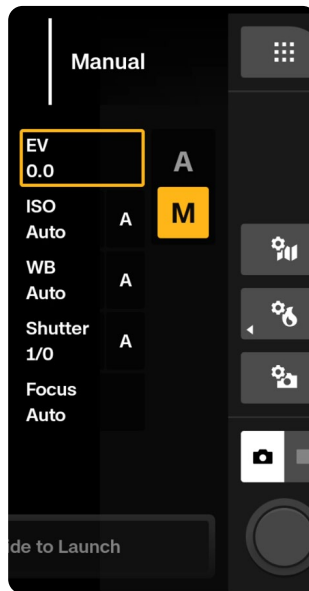
- Quickly adjust between zoom presets using on-screen widgets
 - 1x (narrow camera)
 - 4.3x (telephoto camera)
 - Surround Vision
- Access Surround Vision
- PiP displays map or opposite sensor
- Adjust camera settings in flight





Sensor Package | Color Photo Settings

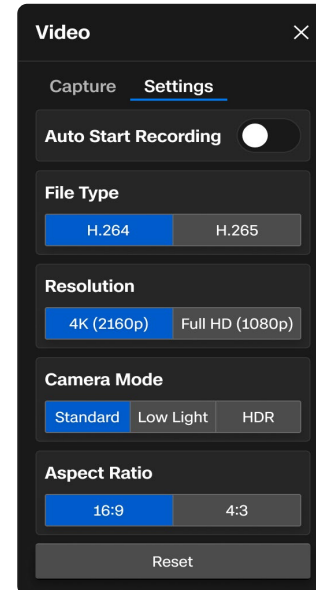
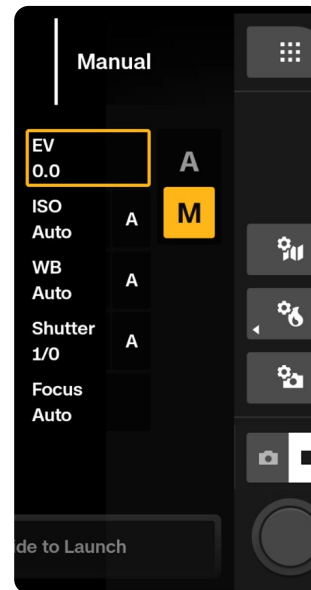
- Brightness, White Balance, ISO, Shutter
- JPG vs JPG + DNG
- Resolution (Full vs 1/4)
- Camera Mode (presets)
- Interval photo (2-60 sec)
- Capture in color only, thermal only, or both
- Toggle on shutter sound when taking photos
- Create custom folders for your media





Sensor Package | Color Video Settings

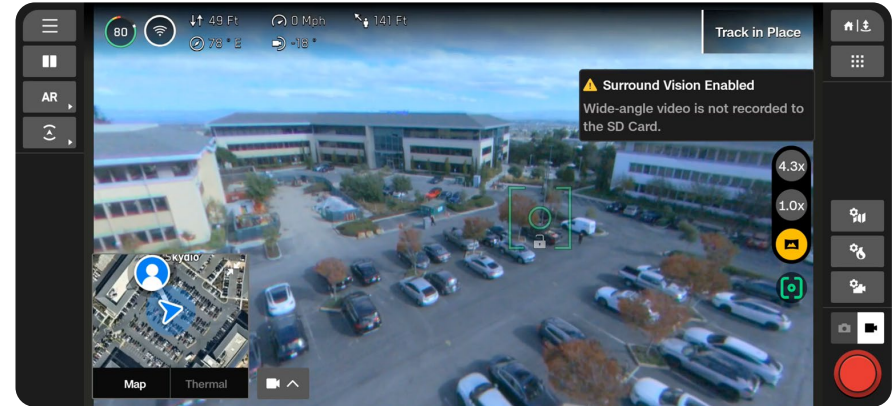
- Brightness, White Balance, ISO, Shutter
- Auto record at launch
- Choose file type and resolution
- Modify light balance with Camera Mode presets
- Define aspect ratio





Sensor Package | Surround Vision

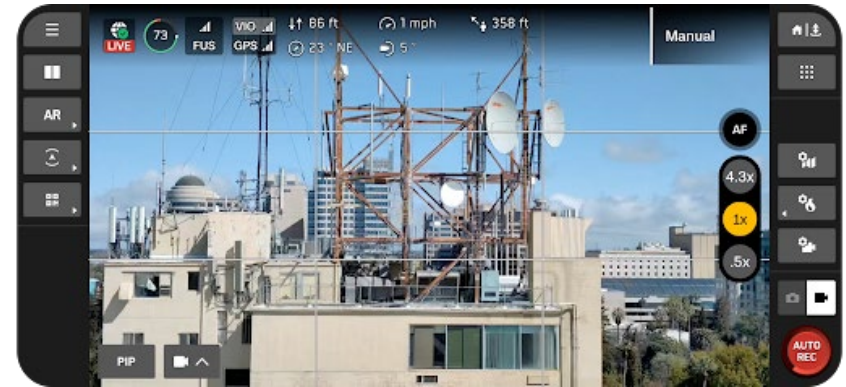
- Uses the nav cams to generate an ultra-wide FOV
- Provides greater situational awareness
- Recorded photos and videos will be saved at the 1x zoom level
- Most useful when scanning broad areas at a hover or low speed





Sensor Package | Image Framing

- On-screen framing guides to improve image composition
- **Centerpoint** | Displays a crosshair in the center of the screen
- **Gridlines** | Adds a rule of thirds overlay for balanced framing
- **Diagonal** | Displays two intersecting diagonal lines from opposite corners, aiding in angular alignment





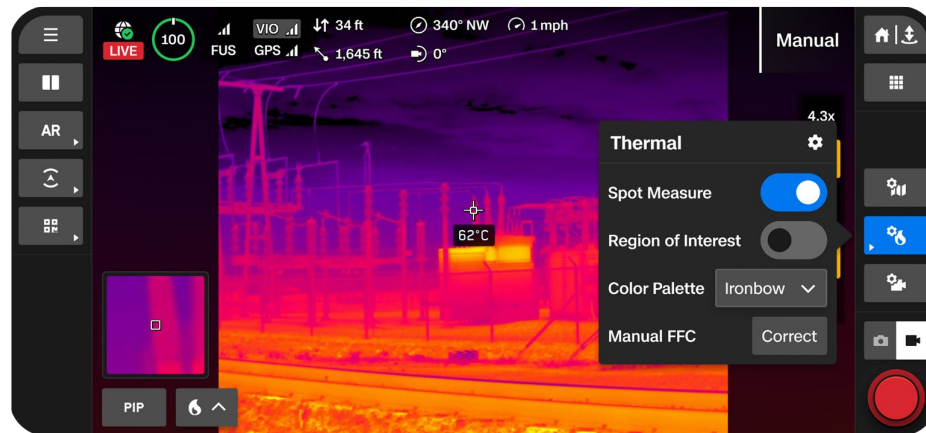
03

Thermal Sensor



Sensor Package | Thermal Sensor

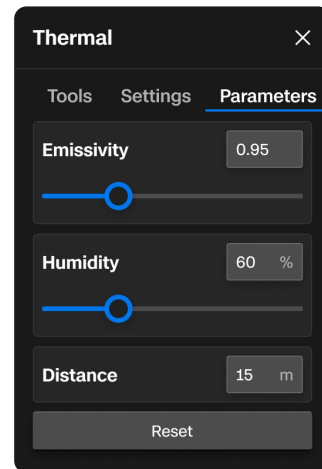
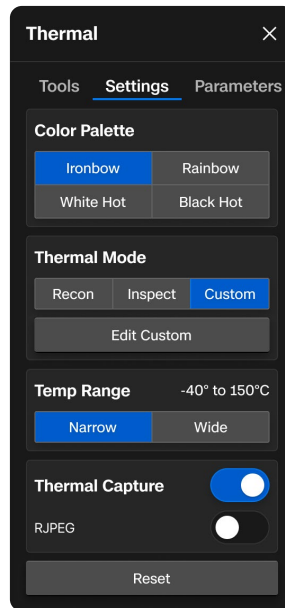
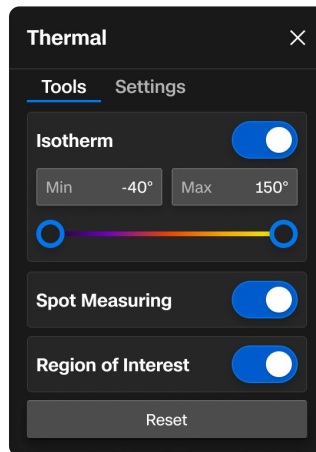
- Radiometric
- 640 x 512 resolution
- Black Hot, White Hot, Ironbow, Rainbow
- Adjust settings for best picture quality
 - Spot Meter
 - ROI
 - Isotherm
 - FFC





Sensor Package | Thermal Sensor Settings

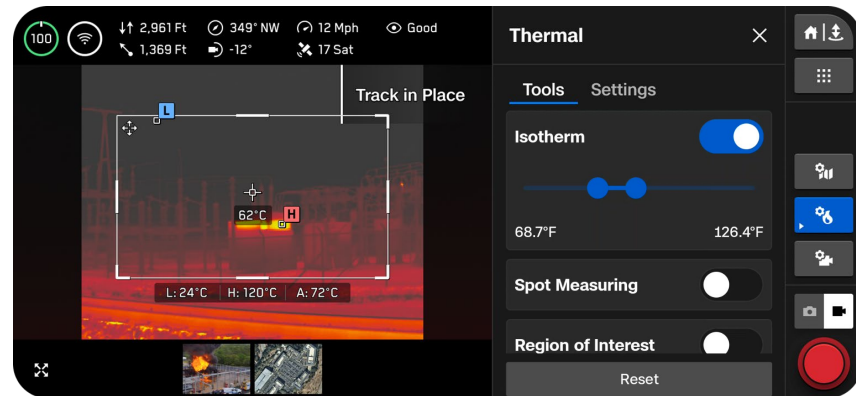
- Make custom adjustments for precise temperature measurement
- Identify temperature ranges for easier detection
- Capture radiometric JPEGs for post analysis
- Capture IR media alongside your color media
- Enter environmental data to improve picture quality and radiometric accuracy





Sensor Package | Isotherm

- Isotherm allows users to define a temperature range to detect
- The temps defined will appear as the selected palette
- Temperatures outside of that range will appear as Black Hot
- If Black Hot or White Hot are currently selected, the temperatures in that range appear in Rainbow





Sensor Package | Spot Meter & Region of Interest

Spot Meter

- Obtain a temperature reading from a specific item or region on the screen
- PiP to magnify Spot locations for more accurate measurements

Region of Interest

- Toggle on ROI for High/Low temperature markers
- Low, average, high temps displayed under window
- ROI window is adjustable





Sensor Package | Flat Field Correction

- Mitigates and compensates for errors that build up over time during the thermal camera operation
- Performed in the background automatically
- Can perform manually at any time, on ground or in flight
- Actuation of the shutter may be noticeable at higher zoom levels

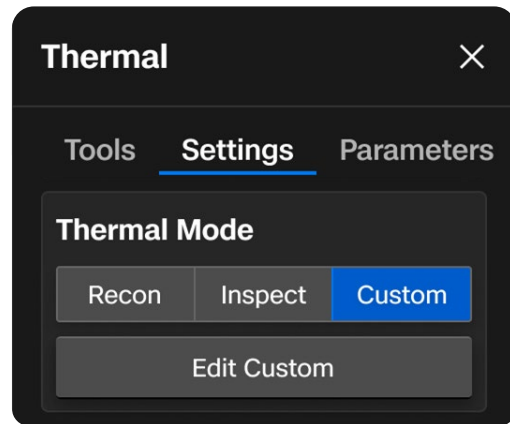




Sensor Package | Thermal Mode

Thermal Modes

- Tuning presets to enhance your thermal image for the desired use
- **Recon** | Optimized for SAR and Reconnaissance
- **Inspect** | Optimized for inspection use cases
- **Custom** | Allows fine tuning of Gain, High Tail, and Low Tail

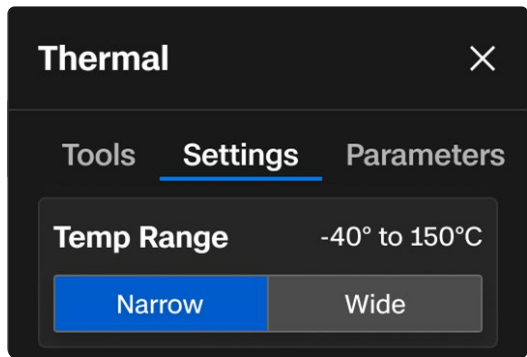




Sensor Package | Temp Range

Temp Range

- Range of temperatures the X10D will detect
 - **Narrow | -40° - 302° F** (-40° - 150° C)
 - **Wide | -40° - 662° F** (-40° - 350° C)





Sensor Package | Thermal Parameters

- Allows pilots to correct for environmental factors
 - **Emissivity** | How efficiently an object emits thermal radiation
 - **Humidity** | Moisture content in the air
 - **Distance** | Range between the aircraft and the target

Thermal

Tools Settings **Parameters**

Emissivity 0.95

Humidity 60 %

Distance 15 m

Reset

Material	Emissivity Value
Aluminum Anodized	.77
Aluminum Polished	.05
Red Brick	.92
Cement	.54
Concrete	.92 - .97
Glass	.92
Gravel	.28
Dry Mortar	.94
Sand	.90
Human Skin	.95-.98
Soil	.93



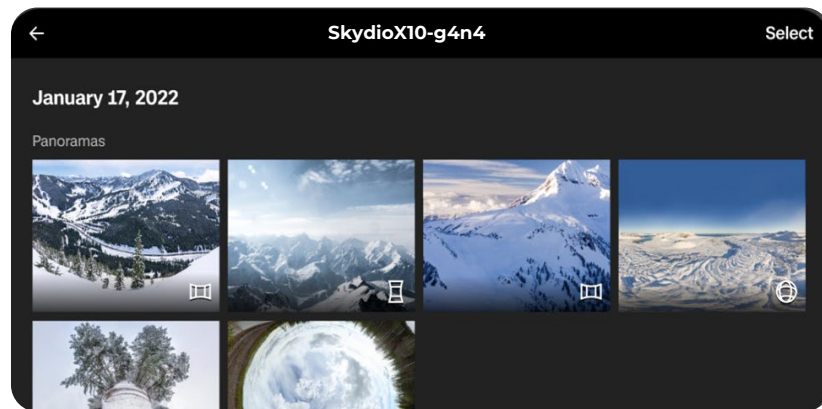
04

Media Management



Data Management | Viewing Unencrypted Media

- **Recorded media cannot be viewed in flight**
- Use Media menu to review or delete videos and photos captured
- JPGs and LRVs only
- Offload media to review DNG photos and HD video
- New MicroSD Cards must be formatted in the aircraft





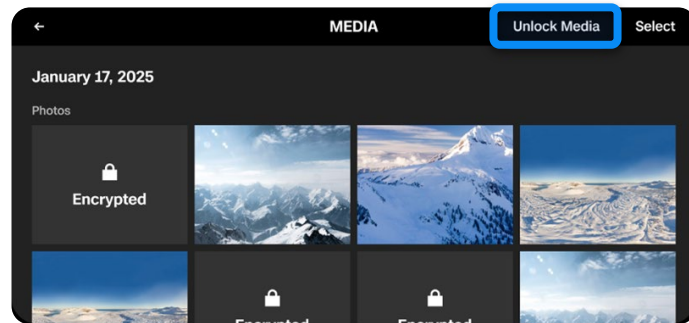
Data Management | Decrypting Your Media

Controller-Based Decryption

- Media must be unlocked in order view on the controller
- Global Settings > Media > Unlock Media > Unlock

Fleet Manager-Based Decryption

- Used to decrypt SD card files without the drone
- Skydio Fleet Manager Settings > Security > File Decryption





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Questions

