



800PX
THERMAL
RESOLUTION

30x
OPTICAL
ZOOM

W
WIRIS OS

35 MM
IR LENS

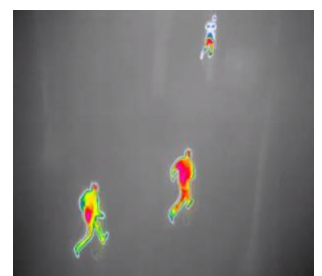
INTEL
FPGA

IP
STREAM



WORKSWELL WIRIS SECURITY

SEARCH & RESCUE DRONE THERMAL CAMERA



Datasheet

Release date: 26th January 2021

Revision Number: 210126

WIRIS Security technical specification

WIRIS Security Key feature specification	
800px Infrared UAV camera	800 x 600px IR sensor with 25 Hz frame rate (Worldwide shipping)
High sensitivity Night vision modes in visual Full HD camera	<p>Advanced Noise Reduction Technology</p> <ul style="list-style-type: none"> - filters noise from the image for clearer results in low-light conditions - the de-fog feature allows clearer viewing in foggy or misty scenes - when the feature is activated, the camera detects the haze level and automatically applies the required effects. <p>Auto IR-cut Filter Function</p> <ul style="list-style-type: none"> - in low-light conditions, the camera automatically switches from Day to Night vision mode - the IR-cut filter function allows to boost sensitivity for clear pictures in darkness. <p>Wide-D Image Processing Technology</p> <ul style="list-style-type: none"> - gives the ability to see clear, detailed images in high-contrast or backlit environments
Operating onboard system	WIRIS OS for full real-time data streaming and control during the flight <ul style="list-style-type: none"> - operating system ensures the full access to all camera functions - easy camera control via S.Bus, CAN bus, MavLink, RJ-45 or Trigger
30x Optical Antivibration zoom	Full HD 30x optical zoom camera with anti-vibration compensation
Thermal camera specification	
IR camera resolution	800 x 600 pixels
Scene range	-20 °C to +150 °C
Temperature sensitivity	Extra sensitivity of 0.04 °C (40 mK)
Frame rate	25 Hz or 9 Hz
Spectral range / detector	7.5 – 13.5 μm / Uncooled VOx microbolometer
Available lenses	35 mm (21.2° x 16.2°), visit FOV calculator
Digital zoom	1 – 12x continuous
Digital visual camera	
Resolution	1 920 x 1 080 pixels (Full HD), 1/2.8" EXMOR R CMOS sensor
Optical zoom	30x optical zoom with vibration compensation and image stabilization
Minimum illumination	0.0008 lux (ICR on, Slow shutter 1/4s, High sensitivity on)
View angle / Focal length	Ultra zoom 2.3° - extra wide 63.7° / 129.0 mm – 4.3 mm
Focus and exposure time	Autofocus with automatic or manual exposure time control
Image enhancement	Auto-white balance, WDR, IR cut filtering, DEFOG, 3D Noise reduction
Memory and data recording	
Memory	Internal high-speed SSD 256GB or 512GB for image and video recording External slot for Micro SD card & USB 2.0 for USB stick for taking images



Image and video formats	
Image and video formats	Digital camera Full HD JPEG images Digital camera h.264 encode video HD recording Infrared camera video Full frame 25 Hz recording
GPS geo-tagging (image & video)	
GPS tagging (image & video)	MavLink or External GPS or DJI A3 controllers compatible via CAN bus
Interfaces & real-time remote control	
10-pin digital port	S.BUS CAN bus for DJI M600 and A3 controllers MavLink CANbus & UART External GPS connectivity & External trigger
Ethernet (RJ-45) port	Video streaming and camera control (optional on request)
Micro USB 2.0 port	USB 2.0 Mass storage
Remote control system	WIRIS OS ensures real-time control of all camera functions during the flight
Remote control options	S.BUS protocol Mavlink protocol CANbus & UART protocol CAN bus for real-time control on DJI M600 and GPS geo-tagging RJ-45 for wireless uplink installation (video streaming and camera control)
Micro HDMI video output	1 280 x 720 pixels (720p), Aspect ratio 16:9, Micro HDMI video output.
Camera functions	Pallets: More than 10 changeable pallets for different flying conditions Multi-camera modes: Full screen mode, IR only, VIS only, Picture in Picture Periodic capturing: From 1s, IR and VIS images simultaneously
Software & SDK	
SDK libraries	Stream SDK, CANbus & UART SDK
Power supply, weight & dimensions	
Input supply voltage	9 – 36 VDC, Coaxial 2.1 x 5.5 mm, outer shell - GND
Power dissipation (avg.)	19 W
Weight	< 720 grams
Dimensions (L x W x H)	110 mm x 75 mm x 102 mm
Mounting	3 x 1/4-20 UNC threads around the camera
Housing material	Durable aluminium body
Environmental	
Operating temperature range	-15 °C to +50 °C
Storage temperature range	-30 °C to +60 °C



Contact information

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SALES DEPARTMENT

Website: www.workswell.eu

E-mail: sales@workswell.eu

Mobile: +420 737 547 622

COMPANY CONTACT

Website: www.workswell.eu

E-mail: info@workswell.eu

Mobile: +420 725 877 063

OFFICE LOCATIONS

Europe - Prague

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