30x OPTICAL ZOOM

800px THERMAL RESOLUTION

W WIRIS OS

35 mm IR LENS

INTEL FPGA

MADE IN EU
EU
QUALITY GUARANTEED

# WORKSWELL WIRIS SECURITY

## SEARCH & RESCUE DRONE THERMAL CAMERA

Datasheet

**Release date:** 10th January 2019

**Revision Number:** 1.5

# 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** | **Advanced Noise Reduction Technology**<br>- filters noise from the image for clearer results in low-light conditions<br>- the de-fog feature allows clearer viewing in foggy or misty scenes<br>- when the feature is activated, the camera detects the haze level and automatically applies the required effects.<br>**Auto IR-cut Filter Function**<br>- in low-light conditions, the camera automatically switches from Day to Night vision mode<br>- the IR-cut filter function allows to boost sensitivity for clear pictures in darkness.<br>**Wide-D Image Processing Technology**<br>- 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<br>- operating system ensures the full access to all camera functions<br>- 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<br>External slot for Micro SD card & USB 2.0 for USB stick for taking images |

**Workswell WIRIS Security**

| Image and video formats | |
|---|---|
| **Image and video formats** | Digital camera Full HD JPEG images<br>Digital camera h.264 encode video HD recording<br>Infrared camera h.264 encode 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<br>CAN bus (compatible with DJI M600 and A3 controllers)<br>MavLink<br>External GPS connectivity<br>External trigger |
| **Ethernet (RJ-45) port** | SDK & RTSP video streaming and camera control |
| **Micro USB 2.0 port** | USB 2.0 Mass storage<br>Camera control and video streaming (optional on request only) |
| **Remote control system** | WIRIS OS ensures real-time control of all camera functions during the flight |
| **Remote control options** | S.BUS protocol<br>CAN bus for real-time control on DJI M600 and GPS geo-tagging<br>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:** 19 changeable pallets for different flying conditions<br>**Multi-camera modes:** Full screen mode, IR only, VIS only, Picture in Picture<br>**Periodic capturing:** From 1s, IR and VIS images simultaneously<br>**DDE function:** Digital Detail Enhancement for high dynamic range imagery<br>**NUC control settings:** Automatic or manual |
| **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** | < 780 grams |
| **Dimensions (L x W x H)** | 111 mm x 80 mm x 103 mm |
| **Mounting** | 3 x 1/4-20 UNC threads around the camera |
| **Housing material** | Durable aluminium body with ABS parts |
| **Environmental** | |
| **Operating temperature range** | -20 °C to +55 °C |
| **Storage temperature range** | -30 °C to +60 °C |

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