WORKSWELL WIRIS AGRO

CROP WATER STRESS INDEX CAMERA
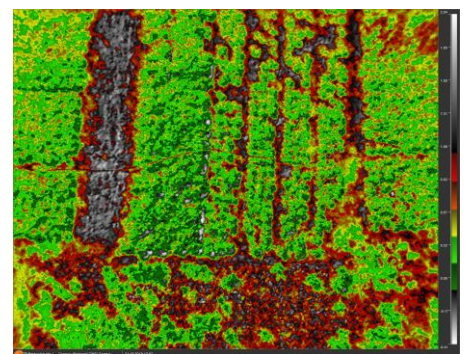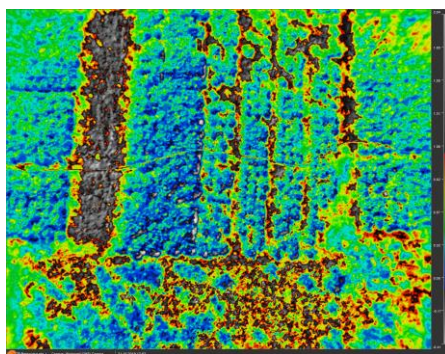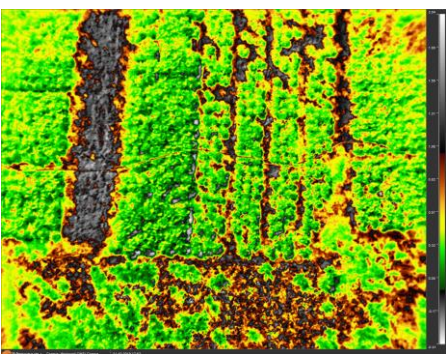
Datasheet

![WORKSWELL]

| WIRIS Agro Camera key features description	
CWSI onboard processing	Evaluation of Crop Water Stress Index (CWSI) onboard in real-time

Operating onboard system	WIRIS OS for full real-time data streaming and evalution during the flight
	   - operating system ensures the full access to all camera functions
	   - easy camera control via S.Bus, CAN bus, MavLink, RJ-45 or Trigger

Biomass cover index in %	Real-time percentage calculation of the mass of the vegetation in RGB
WIRIS Agro specification	
Sensor resolution	640 x 512 pixels
Real-time CWSI evaluation	**Workswell patented WIRIS Agro camera technology** based on crop water stress index (normalized to value from 0 to 1) brings information about the crop stress and crop water management on large areas. The information can then be used to determine yield maps, manage irrigation or implement water management related remedies.
FPA active sensor size	1.088 x 0.8705 cm
Type of sensor	LWIR band sensor
CWSI evaluation range	0 – 100% (100% means very stressed)
Temperature sensitivity	0.03 °C (30 mK)
Field of view of the lens	45°
Color maps	4 color maps for CWSI and Water management evaluation
CWSI Range settings	Automatic or manual
CWSI digital zoom	1 – 14x continuous
Software CorePlayer	Yes, included in the package 2 licenses
3D mapping SW compatibility	Agrisoft and Pix4D
10x optical zoom RGB	
Resolution	1 920 x 1 080 pixels (Full HD), 1/3" sensor, Auto white balance, Wide dynamic range, Backlight compensation, Exposure and Gamma control
Optical zoom	10x optical zoom with vibration compensation
View angle	ultra zoom 6.9° - extra wide 58.2°, focal 33.0 mm – 3.3 mm
Biomass cover index	Calculation of the index in real-time with Threshold function
Focus	Autofocus with Direct Focus Zoom synchronization
Memory and data recording	
Memory	Internal high-speed SSD 128GB for image and video recording External slot for Micro SD card & USB 2.0 for USB stick for taking images
Image and video formats	CWSI JPEG images, TIFF and Digital camera Full HD JPEG images Digital camera h.264 encode video HD recording Full-frame CWSI video recording (raw data recording)

Workswell WIRIS Pro

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 (compatible with DJI M600 and A3 controllers) MavLink External GPS connectivity External trigger
Ethernet (RJ-45) port	Video streaming and camera control (optional on request only)
Micro USB 2.0 port	Mass storage Camera control and video streaming (optional on request only)
USB 2.0 port	Keyboard connection for in-house WIRIS camera control
Remote control system	WIRIS OS ensures real-time control of all camera functions during the flight
Remote control options	S.BUS 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)
Protective filter on lens	Filter protects the lens against external damage during the flight
Camera functions	**Measurement functions:** - online CWSI evaluation including 4 different color maps - spot CWSI evaluation (Centre) with temperature information - biomass index evaluation in percentage in real-time **Periodic capturing:** - capturing CWSI image, CWSI video and Visible image simultaneously
Camera modes visualization	Picture-in-Picture, Full Screen RGB with segmentation, Dual-screen
Micro HDMI video output	1 280 x 720 pixels (720p), Aspect ratio 16:9, Micro HDMI video output

Software & SDK	
Desktop software	Advanced Worswell CorePlayer for offline CWSI data analysis

Power supply, weight & dimensions	
Input supply voltage	9 – 36 VDC, Coaxial 2 x 6.4 mm, outer shell - GND
Power dissipation (avg.)	12 W
Weight	< 430 grams
Dimensions (L x W x H)	83 mm x 85 mm x 68 mm
Mounting	2 x 1/4-20 UNC thread (1x bottom side, 1x upper side)
Housing material	Durable aluminium body for long-time measurement stability

Environmental	
Operating temperature range	-10 °C to +50 °C
Storage temperature range	-30 °C to +60 °C

Workswell WIRIS Pro

Contact information

Sales Department

Mobile: +420 737 547 622

E-mail: sales@workswell.eu

Headquarters

Workswell s.r.o.

U Albrechtova vrchu 12

155 00, Prague 13

Czech Republic, EUROPE

Partners Worldwide

Visit our partner list online

Company contact details

Mobile: +420 725 877 063

E-mail: info@workswell.eu

Web: **www.workswell.eu**