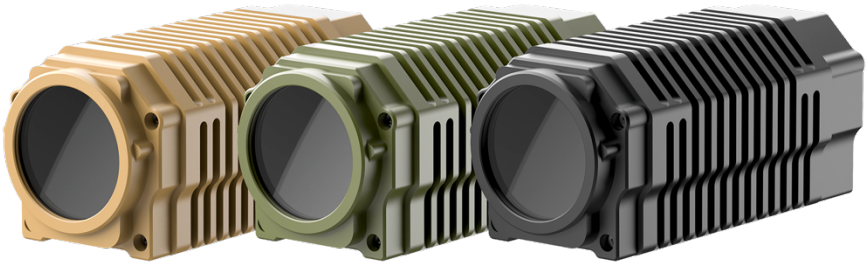
WORKSWELL®
INFRARED CAMERAS AND SYSTEMS



640PX THERMAL RESOLUTION

30MK SENSITIVITY

60HZ FRAME RATE

H264 RTSP

WORKSWELL TADAS

THERMAL ADVANCED DRIVING ASSISTANCE SYSTEM

ETHERNET (POE) VERSION

Datasheet

Release date: 9th of October 2025

Version: 251009

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TADAS Thermal Advanced Driving Assistance system

Workswell TADAS key features description

ITAR-free thermal advanced driving assistance system (TADAS) designed and produced in Europe with unmatched quality suitable for all types of demanding applications for unmanned vehicles (UGV), heavy trucks, defence vehicles, safety patrols and fire trucks for easy operation of a vehicle deployed in the field. Workswell TADAS helps, with other technologies, increasing safety and vision quality during the mission.

Advanced FPGA processing provides outstanding image quality and scene visualization with high **sensitivity of 30mK and resolution of the detector 640 x 480 px**. TADAS offers small dimensions in the robust IP67 housing including extended vibration resistance, low weight, Ethernet (PoE) & ONVIF communication interface including PELCO-D RS485 PTZ interface for direct integration.

TADAS Technical specification	
Detector type	Uncooled LWIR detector, microbolometer
Spectral band	8 – 14 µm
Detector resolution	640 x 480 px
Detector pixel size	17 µm (up to 30% higher sensitivity than 12 µm detector)
Detector sensitivity	<30 mK
Image frame rate	9 Hz or 60 Hz full frame rate
Scene temperature range	High Gain mode -50 °C to +160 °C (-58 °F to +320 °F) Low Gain mode -50 °C to 600 °C (-58 °F to 1 112 °F)
Non-uniformity correction (NUC)	Integrated, factory calibrated
Fixed focus lenses available	FOV 90° (H) x 70° (V), focal length 7 mm, f/1.0 or FOV 42° (H) x 32° (V), focal length 14 mm, f/1.2
Image orientation	Invert (Flip the image vertically), Mirror (Flip the image horizontally)
Control software	ONVIF or Webserver interface
Spatial image filter	Median full frame 60Hz spatial filter for improved image quality
Temporal image filters	Time-domain 2x, 4x moving average filter for improved image quality
AGC	Automatic Image Gain Control (Plateau Histogram equalization)
Temperature drift compensation	Factory calibrated for temperature drift compensation
TADAS video stream and camera control	
User management	Login and password 3 different user roles
Image palettes	14 image palettes
Video stream	RTSP, H264 encoded video via Ethernet Real-time stream in web-client
Remote update	Available via webserver, customized

Workswell TADAS Ethernet (PoE)

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PTZ control	PELCO D protocol via RS485 Baudrate and address configurable via webserver Relative and absolute positioning Continuous movement with speed control Presets
Network settings	Static IP or DHCP functionality MAC Address configuration HTTPS (importa self-signated/authority certificate)
Camera control	ONVIF supported for the third-party software inter-compatibility Web server camera interface ONVIF and web server is fully synchronized
Physical attributes	
Connector	Circular MIL MS3112E connector with 15 wires
Mounting holes	4 x M4 bottom side
Dimensions	70 (h) x 67 (w) x 155 (l) mm (2.75 x 2.64 x 6.1 in)
Weight	< 1 kg (35.3 oz)
Power supply	
Input voltage	External 12-24 VDC or PoE (IEEE 802.3af)
Power dissipation	Avg. 6W, 7.5 W peak (without deicing heater)
Environmental data	
IP rating (Encapsulation)	IP67
Housing color	Black (optional army green or army sand color)
Operating temperature	-32°C to +55°C (- 25.6 °F to 131 °F) according to MIL standard
Storage temperature	-50°C to +90°C (-58 °F to 194 °F)
Vibration	Operating Random Vibration Test 5-500Hz, 3.0Grms
Shock	Operating Shock Test 15G, 11ms duration
Front view	Integrated Germanium window with deicing system
Housing material	Durable aluminum body
ROHS, REACH, WEEE, CE	Compliant

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DRI information for TADAS lenses

The calculations are based on the "Johnson Criteria" that is used for DRI (Detection, Recognition, and Identification). According to the Johnson Criteria, the minimum resolution, pixels on target, required to achieve a 50% probability for an observer to discriminate an object are:

(D) Detection:
If a target is found in the field of view, the image of the target must account for more than 1.5 pixels in the critical dimension direction.
(R) Recognition:
The target is classified to identify whether the target is a car, truck or person, which means that the image of the target must occupy more than 6 pixels in the critical dimension direction.
(I) Identification:
The definition of identification is that the model and other characteristics of the target can be distinguished. The image of the target must occupy more than 12 pixels in the critical dimension direction.

Lens	Human (1.8 m x 0.5 m) (5.90 ft x 1.64 ft)			Vehicle (2.3 m x 2.3 m) (7.54 ft x 7.54 ft)			Drone (0.5 m x 0.5 m) (1.64 ft x 1.64 ft)		
	D	R	I	D	R	I	D	R	I
7 mm	280 m	70 m	35 m	675 m	170 m	85 m	150 m	35 m	25 m
14.25 mm	520 m	130 m	70 m	1 260 m	320 m	160 m	270 m	70 m	30 m

* Real values may vary based on environmental conditions and integration.

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