WORKSWELL®
INFRARED CAMERAS AND SYSTEMS

640PX THERMAL RESOLUTION

30MK SENSITIVITY

60HZ FRAME RATE

CVBS

# WORKSWELL TADAS

## THERMAL ADVANCED DRIVING ASSISTANCE SYSTEM

## CVBS (ANALOG VIDEO) VERSION

# Datasheet

**Release date:** 17th of September 2025

**Version:** 250917

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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 the car and road safety 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, variety of lenses and interfaces for 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, 30 Hz or 60 Hz full frame rate |
| **Scene temperature range** | High Gain mode -50 °C to +160 °C, Low Gain mode -50 °C to 600 °C)<br>High Gain mode -58 °F to +320 °F, Low Gain mode -58 °F to 1 112 °F) |
| **Non-uniformity correction (NUC)** | Integrated, factory calibrated |
| **Fixed focus lenses available** | FOV 91° (H) x 74° (V), focal length 7.5 mm, f/1.2 or<br>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** | Control software WEOM GUI |
| **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) |
| **MGC** | Manual Gain Control function (Brightness, Contrast) |
| **Temperature drift compensation** | Factory calibrated for temperature drift compensation |
| **TADAS video output and control** | |
| **Circular MIL connector** | MIL-KPT02E10-6P connector with 6 wires<br>- CVBS video output<br>- Power supply<br>- RS-485 camera control |
| **Image palettes** | 14 image palettes available in total (2 definable by the user) |

Workswell TADAS

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| | |
|---|---|
| **Dead Pixel Correction** | User Dead Pixel correction wizard |
| **Time to start** | < 6 sec |
| **Physical attributes** | |
| **Mounting holes** | 4 x M4 each side<br>4 x M3 front and back side<br>14 x M5 bottom side |
| **Dimensions** | 70 (h) x 65 (w) x 114 (l) mm (2.76 x 2.56 x 4.49 in) |
| **Weight** | 0,6 kg (21.2 oz) |
| **Power supply** | |
| **Input voltage** | 12-24 VDC |
| **Power dissipation** | Typically 3 W, 3.5 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 +65°C (- 25°F to 149 °F) according to MIL |
| **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 Heater** | Integrated Germanium window with deicing heater |
| **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 |
| **7.5 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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# Contact information

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