WORKSWELL®
INFRARED CAMERAS AND SYSTEMS

640PX THERMAL RESOLUTION

30MK SENSITIVITY

60HZ FRAME RATE

ONVIF RTSP

WORKSWELL WEOM ONVIF

ITAR-FREE THERMAL IMAGING CAMERA CORE

Datasheet

Release date: 15th of April 2025

Version: 250415

WORKSWELL®
INFRARED CAMERAS AND SYSTEMS

WEOM ONVIF thermal imaging core

WEOM ONVIF thermal imaging camera core key features description

ITAR-free thermal imaging camera module designed and produced in Europe with unmatched quality suitable for all types of demanding applications such an unmanned vehicle (UAV/UGV), thermal fixed industrial and security cameras, maritime thermal cameras, machine vision thermal cameras, monitoring and intelligent systems, driving systems, defence, security and many more.

Advanced FPGA processing provides outstanding image quality and scene visualization with high performance **sensitivity of 30mK and resolution of 640 x 480 px**. WEOM ONVIF thermal imaging core offers compact dimensions, weight, Ethernet RJ45 ONVIF camera communication and PELCO-D RS485 PTZ interface.

Technical specification and key features

Detector type	Uncooled LWIR sensor
Spectral band	8 – 14 µm
Detector resolution	640 x 480 px, microbolometer
Detector pixel size	17 µm (up to 30% higher sensitivity than 12 µm detectors)
Detector sensitivity	<30 mK or <50 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) 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 (M25)	FOV 42° (H) x 32° (V), focal length 14 mm, f/1.2 FOV 24° (H) x 18° (V), focal length 25 mm, f/1.2 FOV 17° (H) x 13° (V), focal length 35 mm, f/1.1
Fixed focus lenses (M34)	FOV 91° (H) x 74° (V), focal length 7.5 mm, f/1.2 FOV 44° (H) x 33° (V), focal length 14.25 mm, f/1.2 FOV 24° (H) x 18° (V), focal length 25 mm, f/1.2 FOV 17° (H) x 13° (V), focal length 35 mm, f/1.2 FOV 12° (H) x 9° (V), focal length 50 mm, f/1.2 FOV 8° (H) x 6° (V), focal length 73.1 mm, f/1.05
Image palettes	14 image color palettes, palettes inversion function
Image orientation	Invert (Flip the image vertically), Mirror (Flip the image horizontally)
Image gain control	Automatic Image Gain Control function Manual Image Gain Control function (Brightness, Contrast)
Communication interface	Ethernet, RJ45 (PoE), 1Gb/s (100Mb/s compatible) 2-pin power supply connector Harting 14110213001000 8-pin AUX connector Pheonix 1780837 (DI, DO, RS485, Termination)
Temperature drift compensation	Factory calibrated for temperature drift compensation
Spatial image filter	Median full frame 60Hz spatial filter for improved image quality

All pictures are only for illustration.
Real values may vary.

Temporal image filters	Time-domain 2x, 4x moving average filter for improved image quality
Digital zoom	1x, 2x, 4x additional digital zoom function
Video stream, camera control and PTZ control interface	
Video stream	RTSP, H264 encoded video via Ethernet Real-time stream in web-client
Camera control	ONVIF compliant for the third-party software inter-compatibility Web server camera interface ONVIF and web server is fully synchronized
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)
User management	Login and password 3 different user roles
Remote update	Available via webserver, customized
Physical attributes	
Dimensions	110 mm (4.3 in) x 41 mm (1.6 in) x 41 mm (1.6 in) without the lens
Weight	< 157 g (5.53 oz) without the lens
Power supply	
Independent input voltage	9 - 36 VDC, 2-pin connector
PoE	Power over Ethernet function available, RJ45 connector
Environmental data	
Operating temperature	-30 °C (-22 °F) to +70°C (+158 °F)
Storage temperature	-40°C (-40 °F) to +80°C (+176 °F)
Humidity	5% to 95% non-condensing
Housing material	Durable aluminum and metal body
ROHS, REACH, WEEE, CE	Compliant

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DRI information for WEOM 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
25 mm	930 m	230 m	120 m	2 250 m	560 m	280 m	490 m	120 m	60 m
35 mm	1 300 m	330 m	160 m	3 160 m	790 m	390 m	690 m	170 m	90 m
50 mm	1 860 m	470 m	230 m	4 510 m	1 130 m	560 m	980 m	250 m	120 m
73.1 mm	2 720 m	680 m	340 m	6 580 m	1 650 m	820 m	1 430 m	360 m	180 m

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

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Contact information

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