



EOD

EOIR Rugged Day Night PTZ Surveillance Camera

Model: EOD-100-KREX-VPE

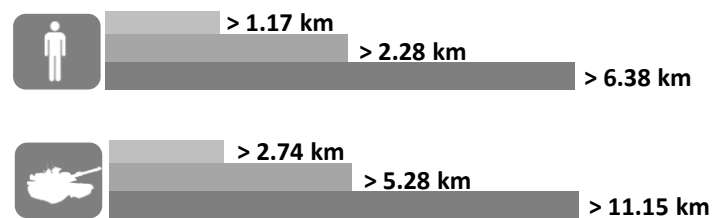
Features & Capabilities

- Integrated
 - Uncooled LWIR TI with Continuous Optical Zoom
 - HD Daylight Imager with Continuous Optical Zoom
 - Laser Range Finder
- Onboard Realtime Video Enhancement
 - Defog / Dehaze
 - Detail Enhancement
 - Electronic Image Stabilization
- Integrated Auto Video Target Tracking
- H.264 Compressed Video Over IP
- MIL-STD-810G Qualified
- ONVIF Profile S compliant

Application

- Coastal Surveillance
- Border Surveillance
- Perimeter Intrusion
- Mobile Surveillance Vehicles

DRI



IDENTIFICATION
 RECOGNITION
 DETECTION

Note:

Actual range may vary depending on environmental conditions and user experience.

DRI offered is based on Johnson's Criteria and STANAG 4347

Assumptions: Human Critical Dimension 0.95m², vehicle 2.3m² DRI as per 50% probability of achieving objective at specified distance given 2°C temperature difference and $\sigma = 0.2/\text{km}$ for atmospheric attenuation factor

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HOMELAND

EOD-100-KREX-VPE is a high-performance long-range electro-optical surveillance system incorporating an uncooled HD LWIR thermal imager, purpose-built for demanding border security and perimeter monitoring operations. The system integrates a high-resolution daylight camera and an uncooled area-scan thermal imager. It can optionally interface with a laser rangefinder and GPS – all within a compact, ruggedised housing.

The system can also function as a standalone pan/tilt unit for wide-area surveillance and reconnaissance tasks. All electro-optical subsystems, including the pan/tilt mechanism, are remotely controllable via Ethernet interface.

EOD-100-KREX-VPE is built to detect and monitor threats under diverse conditions – day, night, and through smoke, fog, or haze. When used with optional sensors, it can perform range-to-target measurements using an eye-safe laser and calculate precise grid coordinates based on its own GPS, elevation, and azimuth readings.

The system supports standard ONVIF compliant protocols, enabling seamless integration with existing security camera networks and central command infrastructure.

THERMAL IMAGER

SENSOR TYPE	Uncooled Vox Microbolometer
RESOLUTION	640x512
PITCH	12µm
SPECTRAL RANGE	8 - 14µm (LWIR)
SENSITIVITY	< 40mK at f/1.0
POLARITY	White Hot/ Black Hot / Color
FOCAL LENGTH	30-180 mm
FOV	14.6°-2.5°
OPTICAL ZOOM	Yes, 6X Continuous
DIGITAL ZOOM	Yes, Up to 8X
FOCUS	Auto / Manual (remote)
IMAGE PROCESSING	DDE, DNR, NUC, Contrast, Brightness,

DAYLIGHT CAMERA

SENSOR	1/1.9" CMOS
RESOLUTION	1920 x 1080
OPTICAL ZOOM	30X Continuous
DIGITAL ZOOM	8x Continuous
FOV	59° - 2.25°
Focus	Auto / Manual(remote)
MIN ILLUMINATION	Color: 0.001Lux @(F1.5, 25 fps) B&W: 0.0001Lux @(F1.5,25fps)
IMAGE PROCESSING	Defog, EIS, WDR, DNR, Auto/Manual WB, AGC

PAN TILT

PAN RANGE	nx360°
MATERIAL	Aluminium
TILT RANGE	±90°
ACCELERATION	30°/s2 Az & El
MIN SLEW RATE	0.001°/s Az & El
MAX SLEW RATE	60°/s Az & El
POSITIONING ACCURACY	± 0.02°
BRAKE	Self locking

LASER RANGE FINDER

TYPE	1540nm, eye-safe Class I
RANGE	50m – 32000m
PRECISION	0.5-1.5m (depending on the distance and target reflectivity)
DIVERGENCE	0.35 mrad
REPETITION RANGE	10 meas. per min ((up to 40 meas. per min with reduced power / range)

AUTO VIDEO TARGET TRACKER

MODES	Moving Target Indicator, Area/Phase Correlation Centroid, BPP
MIN CONTRAST	4%
MIN TARGET SIZE	3x3 pixels (10TVL)

INTERFACE

OUTPUT TYPE	Daylight & LWIR
VIDEO OUT	HD-SDI/Analog /Ethernet H.264
VIDEO STREAM	RTSP / ONVIF Profile S
CONTROL INTERFACE	Ethernet/ RS232
PROTOCOL	Tonbo TNBID/ ONVIF
RADAR INTEGRATION	NMEA0183
VOLTAGE	18-32V DC
POWER	75 W (Without heaters) 200W (with heaters)

PHYSICAL DIMENSIONS

WEIGHT	< 45kg
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ENVIRONMENTAL

SHOCK & VIBRATION	MIL-STD-810G
ENCAPSULATION	IP67
HUMIDITY	<95%RH
OPERATING TEMP	-32°C to +55°C

The information furnished is believed to be accurate and reliable but is subject to change without notice. No liability is assumed by Tonbo for its use. Performance data represents typical characteristics as individual product performance may vary. Customers should verify that they have the most current Tonbo product information before placing orders. Pictures are for representation and may not be considered as contractually binding. Tonbo products are not subject to US ITAR control. However, they may require export approval as per applicable regulation depending on the end-user country and specification.

INDIA

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CONSOLE WITH JOYSTICK

JOYSTICK

TYPE	USB
CONTROLS	3-axis, 2 buttons
BUTTONS	10 Programmable Buttons

CONSOLE

PROCESSOR	Intel Core i7 -14700 (2.1 - 5.3GHz) 33MB 20 each/ 28niti, vPro Enterprise and analog
OS	Windows 11 Pro 64
RAM	32 GB DDR5 4800 MHz (1x32GB)
SSD	1TB PCIe-4x4 2280 NVMe TLC
VIDEO PROCESSOR	nVidia T1000 8 GB GDDR6 PCIe, 4x mDP (3x adapter mDP to DP) sau analog
CASE TYPE	Tower (TWR)
CHIPSET	Intel Q670 or similar
POWER SUPPLY	550W
FRONT CONNECTORS	1x USB-C 3.2; 4x USB 3.2 Gen2 (one with charging); 1x audio input/output combo
REAR CONNECTORS	HDMI 1.4; 2x DP 1.4a; 3x USB 3.2 Gen1; 3x USB 2.0; 1x RJ-45; 1x audio output.
CARD READER	SD 4 in 1
EXTENSIONS	1x M.2 2230; 1x PCIe Gen4 x16; 1x PCIe Gen4 x16 (wired as x4); 2x M.2 2230/2280; 2x PCIe 3.0 x1
DRIVE BAYS	2x 3,5"
KEYBOARD AND MOUSE	included
LOUDSPEAKER	internet 2 W
WIRELESS CONNECTIONS	Realtek 8852BE Wi-Fi 6 + Bluetooth 5.3 WW WLAN-4H0E9AV

WIRED CONNECTIONS	Gigabit Network
OPTICAL DRIVE	DVD-RW slim
RAID	Yes
SECURITY	TPM 2.0 module, Kensington lock slot

MONITOR

SIZE	24-inch FHD monitors
IPS	YES
ANTI GLARE	YES
LOW BLUE LIGHT	YES
BRIGHTNESS	≥250 cd/m ²
RESOLUTION	1920 x 1080
CONTRAST	≥1000:1
HDMI	YES
DISPLAY PORT	YES
MOUNT	VESA

SOFTWARE- FEATURES

- Image fusion, Complete EO system management
- Programmable keyboard, mouse, joystick buttons
- Touch support and optimisation
- Status report
- EO camera controls
- Pantilt control
- Picture in picture
- Zoom sync
- Secondary camera control
- Panorama photos
- Presets
- Bit
- System information
- Recording and snapshot
- Full screen mode
- Video tracking, electronic image stabilisation