

KARASU™ intelligent HD thermal cameras are compatible with a wide range of video surveillance systems such as border, port, coastal, airport protection; private security; marine, field, airborne & drone operations.

The high-tech skillset of the *Karasu™* series include laser target designator & rangefinder, target tracking, target positioning, distance & coordinates calculations, image stabilization, weather, terrain and temperature awareness, auto zoom & focus, broadcasting and remote control.



Ravens are very unique in nature due to their role in an extremely hard-to-come-by *inter-species collaboration*. Flocks of ravens hunt together with wolf packs. Ravens lead the way and show the pack where the prey is headed, and in return, the wolves protect the feeding ground in the aftermath of the hunt so that the ravens can eat the leftovers safely. Inspired by this one-of-a-kind relationship, *Karasu* (literally "raven" in Japanese) gave its name to the high-tech pan-tilt camera series of **ARM Technique**, that are specifically designed to support armed security and military defense operations through tactical surveillance from higher ground stations and from the air.

KARASU

OPTICAL ZOOM: 30x
DIGITAL ZOOM: 16x

OPERATING TEMP: -32°C - 55°C

THERMAL SENSITIVITY: 30mK

CAMERA WEIGHT: 9kg

PAN-TILT WEIGHT: 25kg

-110° / +110° VERTICAL TILT
360° HORIZONTAL PAN

LASER RANGE FINDER: 100m - 11 km*

MILITARY STANDARD***
SHOCK, RAIN, ICE, DUST,
AND SOLAR RADIATION
RESISTANCE

PAN / TILT MAX. TORQUE: 70Nm

TOTAL UNIT WEIGHT: 45kg**

* Optional Feature

** Including the camera, the Sowa pan-tilt mechanism and the Sowa field tripod.

*** Mil-Std Specifications for above-mentioned features:

Rain: Mil-Std-810F, 506.4 - procedure II

Sand/dust: Mil-SAtd-810F, 510.4 - procedure II

Ice/ freezing rain: Mil-Std-810F, 521.2 - procedure I

Shock: Mil-Std-810F, 516.5 - procedure I

radiation: Mil-Std-810F, 505.4 - procedure I, cycle A1

TECHNICAL SPECIFICATIONS

Thermal Imaging:

SG-TCM06N2-M25225

Field of View; Continuous Optical Zoom:

2° (H) x 1.6° (V) to 17.5° (H) x 14° (V) with 25 x 225 mm lens

Spatial Resolution (IFOV):

0.48 mrad for 25 mm lens -
0.053 mrad for 275 mm lens

Thermal Sensitivity:

30 mK

Detector Type:

Uncooled Vox

Array Format :

640x512

Spectral Range:

8 to 14 µm

Field of View:

9x continuous zoom and four preset positions

Focus:

One shot auto focus and manual focus

Continuous Digital Zoom:

Yes, up to 16x

Image Processing:

Tunable Digital Detail Enhancement (DDE),
Histogram Equalization

SYSTEM FEATURES

Built-in Test (BIT)

Window Defrost

Auto Front Lens Cover When Parked

Remote Control:

RS-232, RS485-R422 and Ethernet

PHYSICAL CHARACTERISTICS

Camera Weight: 9 kg

Camera Size (L x W x H):

215x200x200

DAYLIGHT CAMERA

Image Sensor:

Type 1/2.8" CMOS Color Sensor 2.13 Megapixel
digital video H.265/H.264/H.264B

Focal Length (Wide to tele)

4.7 mm to 141 mm

F-number (Wide to tele) : 1.5 to 4.5

Field of View (H) digital video: 2.2°x61.2°

Optical Zoom: 30x

Digital Zoom: 16x

Min. Sensitivity: Color: 0.005 Lux/F1.5

PAN & TILT UNIT

Az Range; Az velocity:

n x 360°; 0.05° - 75° /sec continuous

El Range; El velocity:

± 75°; 0.05° - 75° / sec

Accuracy: 1mrad

Resolution: 0.1 mrad

Parking Position: Yes

Programmable Search

Pan Axis Maximum Torque: 70Nm

Tilt Axis Maximum Torque: 70 Nm

Communication Protocols:

Ethernet, RS485, RS422, USB

Number of Sliding Lines: 24 channels

360 Degree Movement Ability Horizontally

Vertical -110/+110 Degree Movement Ability

Pan-tilt Mechanism Weight : Approx. 25 kg

IMAGE PRESENTATION

Video output (Optional) :

NTSC or PAL composite video

Connector types: BNC

Video Over IP :

H.264, IR + TV digital videos /HD LR-TV option:
Full HD 1080p digital video (H.264)

Power: DC 9-12(Recommend: 12V)

Input Voltage:

220 VAC veya 24-40 VDC

Power Consumption: ~50w

POWER

Input Voltage: 220 VAC veya 24-40 VDC

Power Consumption: ~140W

ENVIRONMENTAL

Operating Temperature Range:

-32°C to 55°C

Storage Temperature Range:

-45°C to 70°C

PHYSICAL CHARACTERISTICS

System (camera, pan-tilt, tripod) Weight:

Approx. 40 kg-50 kg

Automatic Window Defrost

EMC/EMD

CE tested (compliance with the following
procedures) :

Emission: EN61000-6-4:2007 / Immunity:

EN61000-6-2:2005

FCC 47 CFR part 15 Class B

Rain:

Mil-Std-810F, 506.4 - procedure II

Humidity: Mil-Std-810F, 507.4

Sand/dust:

Mil-Std-810F, 510.4 - procedure II

Ice/ freezing rain:

Mil-Std-810F, 521.2 - procedure I

Shock:

Mil-Std-810F, 516.5 - procedure I

Vibration:

Mil-Std-810C, 514.2 - procedure VIII, Sinus Min.
of 10 mm and 1.0 g, 1-5-1 Hz

Solar Radiation:

Mil-Std-810F, 505.4 - procedure I,
cycle A1

IP Rating: IP67

INTERFACES

Ethernet

RS-485/422

Bluetooth (Optional)

Wi-Fi (Optional)

RF (Optional)

OPTIONS AVAILABLE

Laser Range Finder (LRF) : 100m - 11 km

Geo Positioning (GPS)

Digital Magnetic Compass (DMC)

Automatic Video Tracker including

Electronic Stabilization

Automatic Video Tracker

including Electronic Stabilization

Humidity Sensor

Temperature Sensor

Anemometer (Optional)

Raven Compass: AI-Supported HD Visually

Integrated Relative Positioning System: - 0.1°