

## GO SOLO Thermal

4G LTE Solar Power Camera Kit with thermal + optical Bi-spectrum Camera



### Outstanding Features

- Complete solar power camera kit, easy to install and setup
- 600Wh high capacity lithium battery to keep system running around 72 hrs in raining days
- Built-in unlocked industrial 4G LTE router, compatible to AT&T, T-Mobile and Verizon (SIM Card is not included)
- Powered by deep learning technology
- Support thermal + optical Bi-spectrum
- Built-in temperature and fire detection function
- Come with strobe light and audio alarm
- Thermal view: VOx UFPA 160×120 pixels, 3mm lens
- Optical view: 4MP Resolution (2688×1520), 132ft IR, 4mm lens
- Support Bi-spectrum Image Fusion, picture-in-picture, VCA analysis
- Onboard 256GB storage for one month continuous recording
- Free mobile App for both Android & iOS (App name: Guarding Vision)
- Optional API document for 3rd party system integration

### What is included in this camera:

- Solar panel 100W and pole mount bracket
- 600WH lithium battery with built-in charge controller
- One Thermal + Optical Bi-spectrum Camera (IPC-TO56C-A3)
- Built-in 4G LTE cellular router (SIM card needs to purchase separately)
- 256GB SD Card

## Camera Specification

|  |   |
|--|---|
| <b>Thermal Module</b>                          |   |
| Image Sensor                                   | Vanadium Oxide Uncooled Focal Plane Arrays  |
| Resolution                                     | 160 × 120 (the resolution of output image is 320 × 240)   |
| Pixel Interval                                 | 17μm  |
| Response Waveband                              | 8 μm to 14 μm   |
| NETD (Noise Equivalent Temperature Difference) | ≤ 40 mk (25 °C, F# = 1.1)   |
| Focal Length                                   | 3.1 mm  |
| I FOV  | 5.48 mrad   |
| Field of View                                  | 50° × 37.2° (H × V)   |
| Min. Focusing Distance                         | 0.2 m   |
| Aperture                                       | F 1.1   |
| Digital Zoom                                   | ×2, ×4, ×8  |
| <b>Optical Module</b>                          |   |
| Image Sensor                                   | 1/2.7" Progressive Scan CMOS  |
| Resolution                                     | 2688 × 1520   |
| Min. Illumination                              | Color: 0.0089 Lux @(F1.6, AGC ON), B/W: 0.0018 Lux @(F1.6, AGC ON)  |
| Shutter Speed                                  | 1 s to 1/100,000 s  |
| Focal Length                                   | 4 mm  |
| Field of View                                  | 84° × 44.8° (H × V)   |
| Aperture                                       | F1.6  |
| WDR  | 120 dB  |
| <b>Image Effect</b>                            |   |
| Picture in Picture                             | Display partial image of thermal channel on the full screen of optical channel  |
| Bi-spectrum Image Fusion                       | Display the details of optical channel on thermal channel   |
| Target Coloration                              | Yes. Supported in white hot and black hot mode.   |
| <b>Smart Function</b>                          |   |
| VCA (Video Content Analysis)                   | 4 VCA rule types (line crossing, intrusion, region entrance, and region exiting), up to 8 VCA rules in total.                               |
| Temperature Measurement                        | 3 temperature measurement rule types, 21 rules in total (10 points, 10 areas, and 1 line).  |
| Temperature Range                              | -20 °C to + 150 °C (-4 °F to + 302°F)   |
| Temperature Accuracy                           | ± 8 °C (± 14.4 °F)  |
| Fire Detection                                 | Dynamic fire detection, up to 10 fire points detectable.  |
| <b>Illuminator</b>                             |   |
| IR Distance                                    | Up to 40 m  |
| IR Intensity and Angle                         | Automatically adjusted  |
| <b>Audible and Visual Alarm</b>                |   |
| White Light Range                              | Up to 40 m  |
| Visual Alarm                                   | Yes. White light used as the visual alarm, flashing frequency adjustable  |
| Audio alarm                                    | Yes. 6 audio alarms are supported to cover all kinds of alarm.  |
| <b>Video &amp; Audio</b>                       |   |
| Main Stream                                    | Optical channel<br>50 HZ: 25 fps (2688 × 1520, 1920 × 1080, 1280 × 720)<br>60 HZ: 30 fps (2688 × 1520, 1920 × 1080, 1280 × 720)             |
|  | Thermal channel<br>25fps (1280 × 720, 704 × 576, 640 × 480, 352 × 288, 320 × 240)   |
| Sub-stream                                     | Optical channel<br>50 HZ: 25fps (704 × 576, 352 × 288, 176 × 144)<br>60 HZ: 30fps (704 × 480, 352 × 240, 176 × 120)                         |
|  | Thermal channel<br>25fps (704 × 576, 352 × 288, 320 × 240)  |
| Video Compression                              | Main Stream: H.265/H.264<br>Sub-Stream: H.265/H.264/MJPEG   |
| Audio Compression                              | G.711u/G.711a/G.722.1/MP2L2/G.726/PCM   |
| <b>Network</b>                                 |   |
| Protocols                                      | IPv4/IPv6, HTTP, HTTPS, 802.1x, Qos, FTP, SMTP, UPnP, SNMP, DNS, DDNS, NTP, RTSP, RTCP, RTP, TCP, UDP, IGMP, ICMP, DHCP, PPPoE              |
| Network Storage                                | MicroSD/SDHC/SDXC card (up to 256 G) local storage, and NAS (NFS, SMB/CIFS), auto network replenishment (ANR)                               |
| API  | Open-ended API, supporting ISAPI, HIKVISION SDK, and third-party management platform, open network video interface                          |
| Simultaneous Live View                         | Up to 20 channels   |
| User/Host Level                                | Up to 32 users, 3 levels: Administrator, Operator, User   |
| Security                                       | User authentication (ID and PW), MAC address binding, HTTPS encryption, IEEE 802.1x(EAP-MD5, EAP-TLS), access control, IP address filtering |
| Client   | Guarding Vision   |
| Web Browser                                    | IE 11, Chrome 41-44, Firefox 30-51  |

## Specification

| Interface                    |  |
|------------------------------|--|
| Alarm Input                  | 2-ch inputs (0-5 VDC)  |
| Alarm Output                 | 2-ch relay outputs, alarm response actions configurable  |
| Alarm Action                 | SD record/relay output/smart capture/FTP upload/email linkage/audio alarm/white light alarm  |
| Audio Input                  | 1, 3.5 mm Mic in/Line in interface<br>Line input: 2 to 2.4 V [p-p], output impedance: 1 K $\Omega$ $\pm$ 10%   |
| Audio Output                 | Linear level, impedance: 600 $\Omega$  |
| Communication Interface      | 1, RJ45 10 M/100 M self-adaptive Ethernet interface<br>1, RS-485 interface   |
| General                      |  |
| Menu language                | 32 languages<br>English, Russian, Estonian, Bulgarian, Hungarian, Greek, German, Italian, Czech, Slovak, French, Polish, Dutch, Portuguese, Spanish, Romanian, Danish, Swedish, Norwegian, Finnish, Croatian, Slovenian, Serbian, Turkish, Korean, Traditional Chinese, Thai, Vietnamese, Japanese, Latvian, Lithuanian, Portuguese (Brazil) |
| Power                        | 12 VDC $\pm$ 20%, two-core terminal block<br>PoE (802.3af, class 3)  |
| Power Consumption            | 12 VDC $\pm$ 20%: 0.65 A, max. 7.5 W<br>PoE (802.3af, class 3): 42.5 V to 57 V, 0.14 A to 0.22 A, max. 8 W   |
| Working Temperature/Humidity | Temperature: -40 $^{\circ}$ C to 65 $^{\circ}$ C (-40 $^{\circ}$ F to 149 $^{\circ}$ F)<br>Humidity: 95% or less   |
| Protection Level             | IP66 Standard<br>TVS 6000V lightning protection, surge protection, voltage transient protection  |
| Dimensions                   | 358.3 mm $\times$ 113.5 mm $\times$ 115.2 mm (14.10" $\times$ 4.47" $\times$ 4.53")  |
| Weight                       | Approx. 1.76 kg (3.88 lb)  |

## DRI Range Table

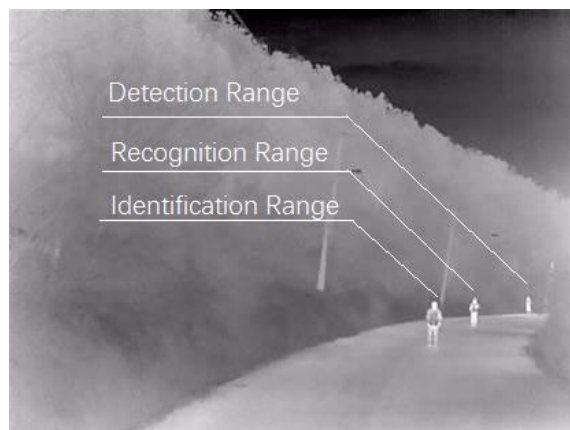
\* The table is only for reference and the performance may vary according to different environment.

\* The optimal human detection, recognition, and identification distances are calculated according to Johnson's Criteria.

Detection Range: In order to distinguish an object from the background, the object must be covered by 1.5 or more pixels.

Recognition Range: In order to classify the object (animal, human, vehicle, etc.), the object must be covered by 6 or more pixels.

Identification Range: In order to identify the object and describe it in details, the object must be covered by 12 or more pixels.



| Detection Range<br>(Vehicles: 1.4 $\times$ 4.0 m) | Detection Range<br>(Humans: 1.8 $\times$ 0.5 m) | Recognition<br>Range (Vehicles:<br>1.4 $\times$ 4.0 m) | Recognition<br>Range (Humans:<br>1.8 $\times$ 0.5 m) | Identification<br>Range (Vehicles:<br>1.4 $\times$ 4.0 m) | Identification<br>Range (Humans:<br>1.8 $\times$ 0.5 m) |
|---|---|--|--|---|---|
| 280 m   | 91 m  | 70 m   | 23 m   | 35 m  | 11 m  |

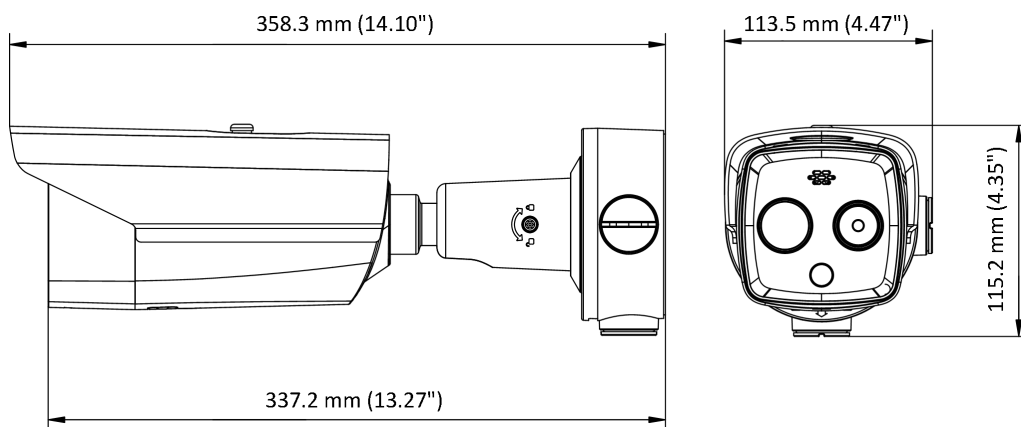
\*Disclaimer: Design and specifications are subject to changes without prior notice.

## Smart Function Table

\* The table is only for reference and the performance may vary according to different environment.

| VCA Range<br>(Vehicles: 1.4 × 4.0 m) | VCA Range<br>(Humans: 1.8 × 0.5 m) | Temperature<br>Measurement<br>(Object: 2 × 2 m) | Temperature<br>Measurement<br>(Object: 1 × 1 m) | Fire Detection<br>(Object: 2 × 2 m) | Fire Detection<br>(Object: 1 × 1 m) |
|--------------------------------------|------------------------------------|---|---|-------------------------------------|-------------------------------------|
| 43 m                                 | 15 m                               | 66 m  | 33 m  | 180 m                               | 90 m                                |

## Dimension



## 4G LTE Router Specification

|              |   |
|--------------|---|
| 4G LTE Bands | US Version: B2/B4/B5/B12/B13/B14/B66/B71@FDD LTE (For North America, AT&T, T-Mobile, Verizon) |
|              | EU Version: B1/B3/B5/B7/B8/B20/B28A@FDD LTE (For European Countries)                          |
|              | AU Version: B1/B2/B3/B4/B5/B7/B8/B28@FDD LTE, B40@TDD LTE (For Australia)                     |

## Battery Specification

|                                    |  |
|------------------------------------|--|
| SKU                                | Solar-S1250  |
| Battery Type                       | Lithium Solar Battery (Li-ion Battery) with built-in charge controller |
| Nominal Voltage                    | 11.1V  |
| Rated Capacity                     | 50Ah   |
| Energy                             | 555Wh  |
| Charge Voltage Cut0off             | 12.5V  |
| Maximum Continuous Charge Current  | 10A  |
| Discharge Under-Voltage Protection | 9V   |
| Reconnect Voltage                  | 10.5V  |
| Dimension                          | 330 x 160 x 90 mm (12.99" x 6.3" x 3.54")                              |
| Weight                             | 4.5kg (9.92 Lbs)   |

## Solar Panel Specification

|                                 |  |
|---------------------------------|--|
| Solar Panel Type                | Monocrystalline solar panels, 36 cells |
| Maximum Power at STC            | 100W                                   |
| Optimum Operating Voltage (Vmp) | 20.4V                                  |
| Open-Circuit Voltage (Voc)      | 24.3V                                  |
| Optimum Operating Current (Imp) | 4.91A                                  |
| Short-Circuit Current (Isc)     | 5.21A                                  |
| Operating Temperature           | -40°F to 176°F                         |
| Panel Leads (Pair)              | 14 AWG (1.96 ft)                       |
| Weight                          | 14.1lbs/6.4kg                          |
| Dimension                       | 41.8 x 20.9 x1.38 in                   |