



Smart Thermal



Perimeter
Protection



Fire
Prevention



Temperature
Measuring



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Smart Thermal Product Family



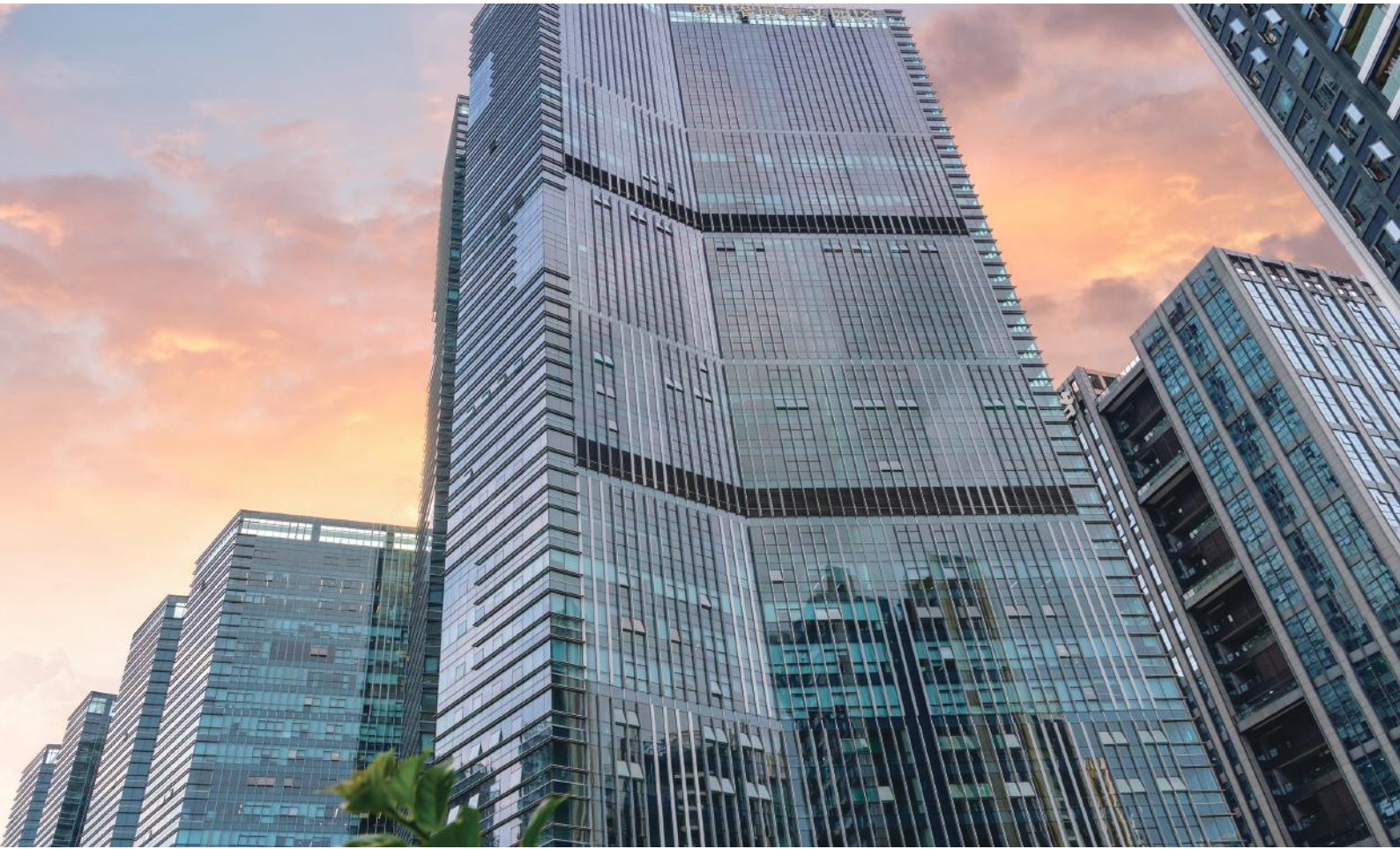
Sunell Company Profile

Sunell Technology is a leading provider of intelligent video solutions worldwide, headquartered in Shenzhen, China, with multiple branches established globally. Its products and solutions have served over 113 countries and regions worldwide.

In 2012, Sunell Technology launched its first thermal imaging camera and now has several product lines, including 640 x 512/400 x 300/256 x 192. Sunell's thermal imaging cameras not only meet high-precision temperature measurement needs but also support various deep learning algorithms to meet requirements for perimeter intrusion and indoor/outdoor fire prevention, truly achieving multi-functional use. For large-scale project demands, Sunell has a powerful management platform software that can provide customers with various industry-specific solutions.

Thanks to its powerful product strength and professional service team, Sunell's thermal imaging cameras have gained high recognition from customers at home and abroad, and have been widely used in scenarios such as electric power, petrochemicals, photovoltaics, airports, railways, and factories.

Sunell, "AI + Bi-spectrum" Intelligent Video Solution Provider!



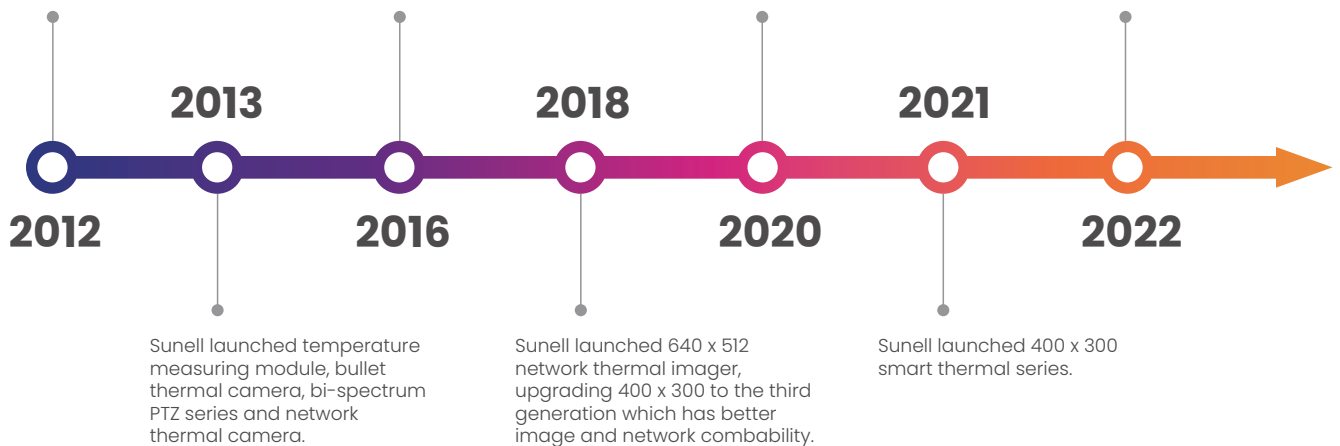
Sunell Thermal Development

Sunell launched the first self-developed thermal imaging module.

All series is upgraded with the image performance improving.

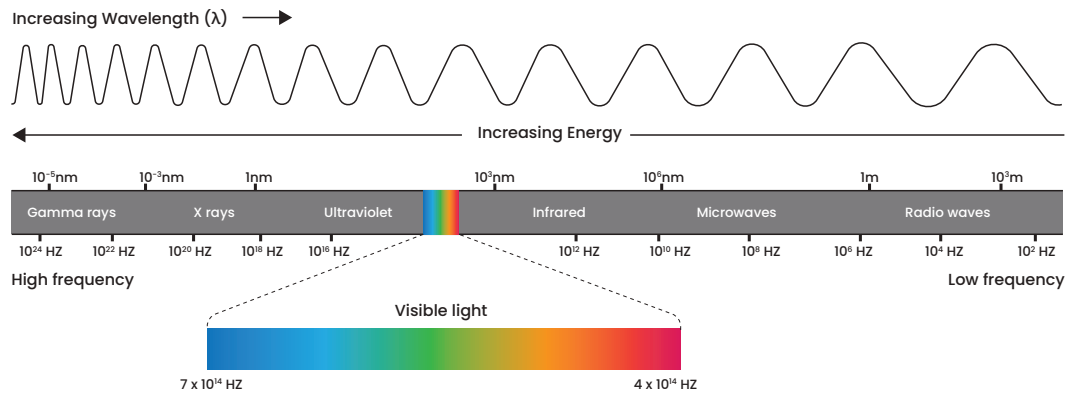
Sunell launched 256 x 192 smart thermal series.

Sunell launched 12 μ m 640 x 512 smart thermal series.



Thermal Imaging

Any object with a temperature above absolute zero (-273.15°C) emits a detectable amount of infra-red (IR) radiation, also called heat radiation. The higher an object's temperature, the higher intensity of emitted IR. Though human eyes cannot see it, the thermal imager is able to detect IR radiation of 8-14 μm and make the invisible IR "visible". The difference in image details corresponds to thermal distribution on the object's surface, which is "thermal imaging".



Features

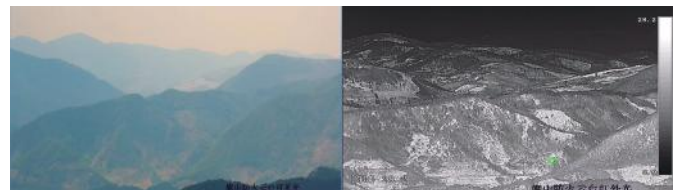
Sharp Image without Light Source

The thermal imager forms an image without any visible light with heat radiation from the environment. Long-distance target is detected by it clearly all day.



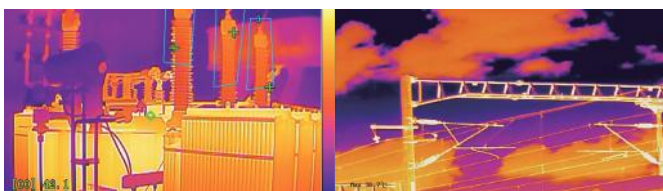
Excellent Cloud-and-Mist Penetration

Infrared thermal radiation has better penetration of rain, snow and haze than visible light, so it can take clear images even in bad weather.



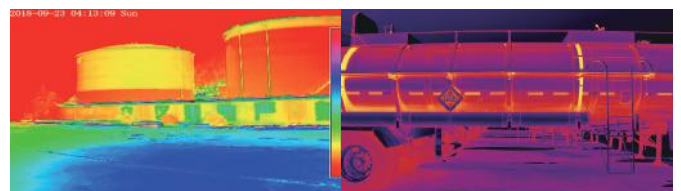
Non-contact Temperature Measurement

Thermal cameras measure accurately the surface temperature of the object by quantifying IR heat radiation without physical contact between sensor and the target.



Fault and Defect Detection

If there is malfunction occurred on the target, thermal imagers will find it out in a direct way using non-contact and long-distance temperature measurements.



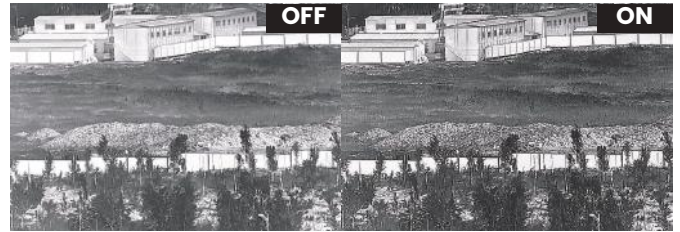
Core Technology

Excellent Image

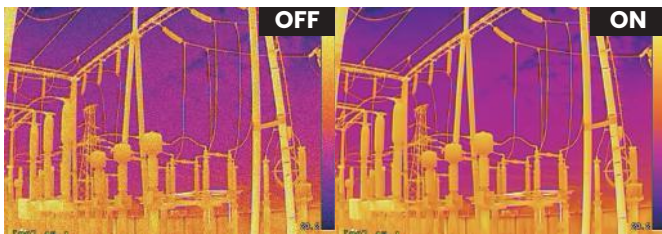
AGC (Automatic Gain Control)



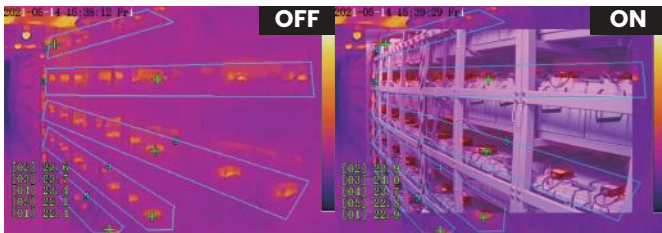
DDE (Digital Detail Enhancement)



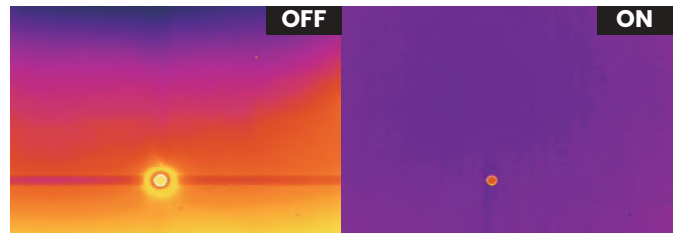
3D DNR (3D Digital Noise Reduction)



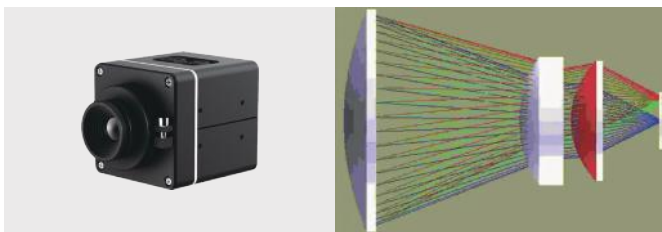
Bi-spectrum Image Fusion



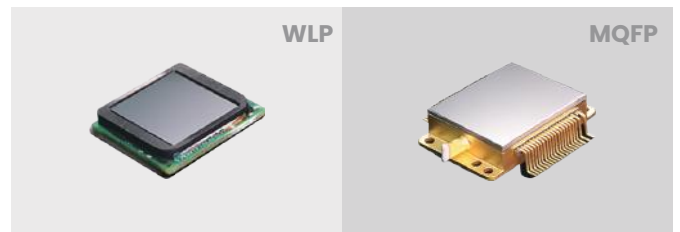
Auto Burning Prevention



Passive Athermalization

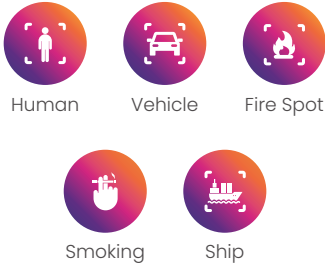


High-sensitivity Vox Detector



Intelligent Application

Deep Learning



Smart Event

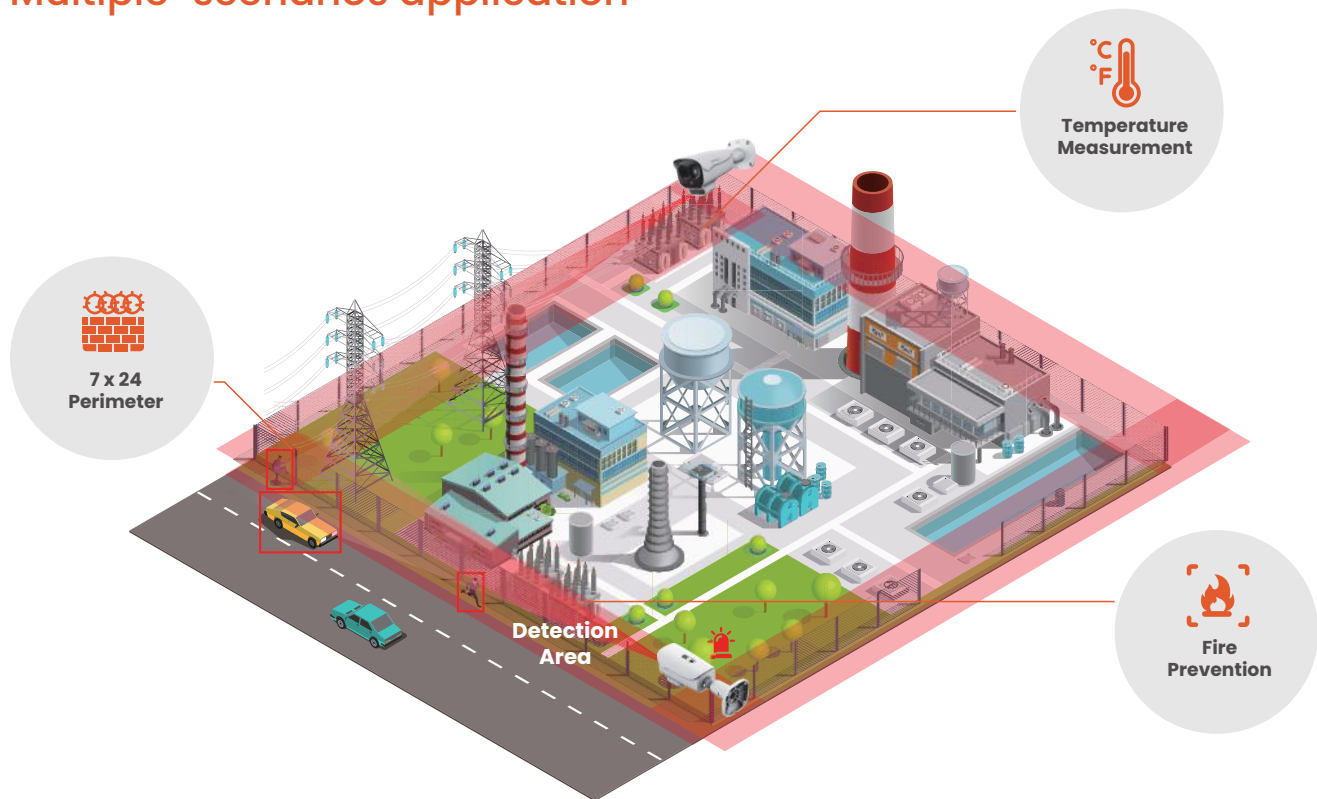


Active Deterrence



Built-in sound and strobe-light alarms, voice content can be customized

Multiple-scenarios application

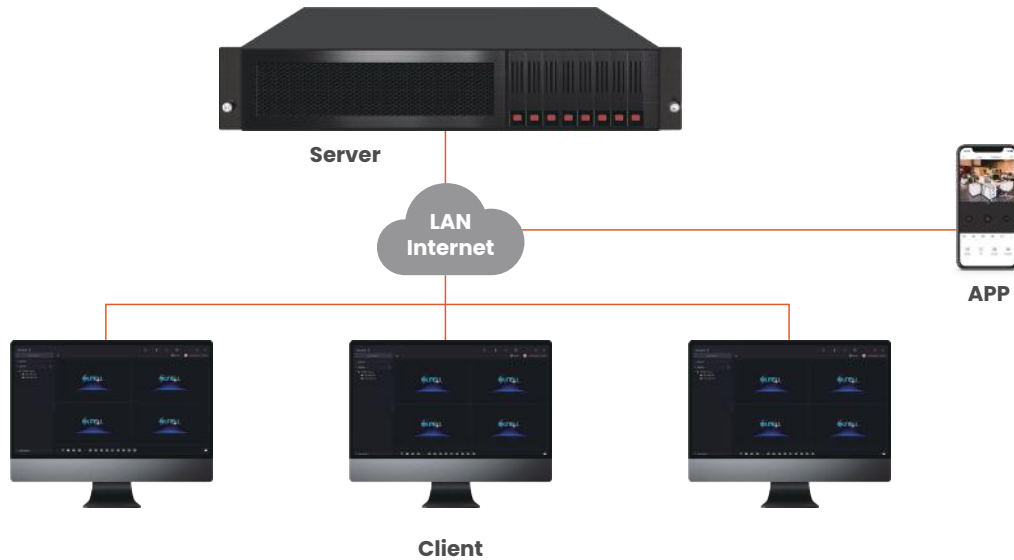


Compatibility

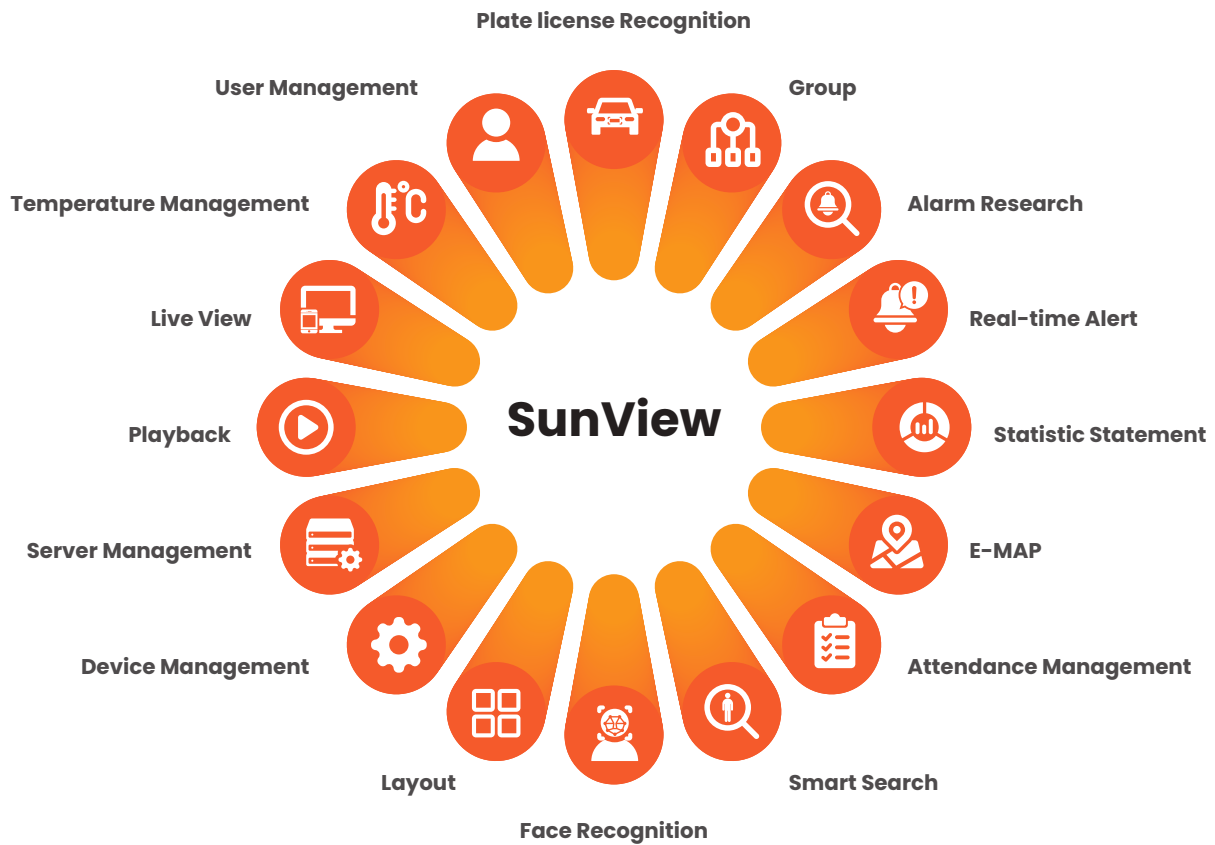


SunView Management Platform

SunView Composition



SunView Function Module



SunView Thermal Functions



Preview

Real time preview of thermal imaging image, statistics of the thermal imaging alarm, display of thermal imaging



Snapshots

Retrieve historical snapshot data from thermal imaging cameras



Historical Temperature Data

Retrieve historical data of thermal imaging camera area temperature measurement



Inspection Plan

Configure thermal imaging inspection plan, retrieve inspection records, generate inspection report, etc.

SunView Live View

Device List

Find and switch device

Live Video

Choose live video or Temp. value

Alarm Record

Show information of thermal imaging snapshots



PTZ Control Panel & Sensor Setting

Layout Switch

Max. 64 channels

Temperature Curve

Different areas can be selected

Perimeter Protection



Solution Value

Thermal cameras are able to achieve all-weather monitoring for perimeter intrusion detection. Even in rain, snow, or fog weather, a target from a long distance does not easily hide from it. Built-in deep learning algorithm enables fewer thermal cameras to perform smart perimeter protection of large coverage and long range.



High Accuracy

With a built-in deep learning algorithm, thermal cameras can accurately detect humans, vehicles, and ships, and effectively reduce false alarms caused by animals, vegetation, and weather.



Hidden Target Detection

Thermal cameras effectively detect a target behind the vegetation or in the dark.



Bi-spectrum IVS

AI+ Bi-spectrum meets real all-weather monitor without blind spots.



Wider Range

Compared with optical lenses, thermal imaging does not require supplemental light. Therefore it is not affected by bad weather, making coverage wider and ranger longer.



Active Deterrence

There are alarm lights and speakers inside thermal cameras; Voice customizable; Real-time sound and light alarms to deter intruders.



Complete Category

Thermal product category is complete to meet short, medium and long perimeter.

Application Scenarios

Short Distance (within 100 m)

High cost-effective; Bi-spectrum: 256 x 192 Thermal+ HD optical;
All-weather smart perimeter protection; Accurate human and vehicle detection; Real-time sound and light alarm



SN-TPC2552CT



SN-TPC2553DRT



Apartments



Parking Lots



Factories



Warehouses

Medium Distance (100~ 500 m)

400 x 300 / 640 x 512 high thermal resolution; Flexible mix: One/ Dual/PTZ thermal cameras optional; Large coverage and all-weather smart perimeter protection



SN-TPC4203KT
SN-TPC6406KT



SN-TPC4203KT



SN-TPT4233LZ
SN-TPT6436LZ



Photovoltaic Power Stations



Rivers



Railways



Mine Fields

Long Distance (over 500 m)

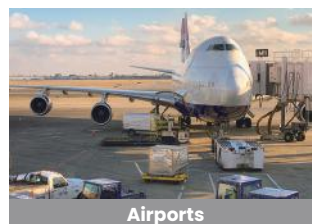
All-weather accurate monitor on large and beyond visual range coverage when deployed at commanding heights; Big scene, but also HD close-up target identification



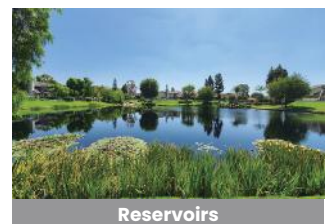
SN-TPT4233ZZ
SN-TPT6436ZZ



SN-TPT4233HZ
SN-TPT6436HZ



Airports



Reservoirs



Basements



Conservation Areas

Fire Prevention



Solution Value

With Fire Spot, Fire/Smoke, Temperature Threshold, and other temperature alarms, Sunell thermal cameras can give timely alerts to prevent the occurrence, development, or spread of a fire hazard. By giving an early warning signal, a fire hazard can be effectively avoided and the loss caused by it can be reduced.



Fire Spot Detection (Thermal)

By Fire Spot alarm algorithm, thermal cameras can locate fire spots in time and prevent fire from occurrence.



Fire/Smoke Detection (Optical)

Intelligent Fire/Smoke detection allows thermal cameras to activate the alarm as soon as possible when fire or smoke is identified.



Temp Anomalies Detection

Online temperature monitoring can detect the hot spot or quick temperature rising, effectively avoiding fires.



Smoking Detection

Thermal cameras detect cigarette smoking behavior and activate smoking alarms, lowering the fire risk.



Real-time Sound and Light Alarm

There are built-in alarm lights and speakers to notify the temperature alarm; Voice customizable.



Complete Category

Thermal product category is complete to meet short, medium and long fire prevention.

Application Scenarios

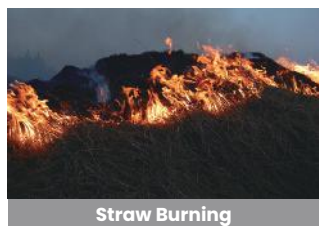
Short Distance

Multiple algorithms are supported by one of the above cameras, such as Fire Spot Detection, Fire/Smoke Detection, and Smoking Detection. It can also activate Temperature Threshold and Temperature Rise alarms. In this way, the occurrence of fires can be prevented in time.



Medium and Long Distance

Fires usually happen suddenly and are destructive, which are detrimental to the environment, therefore making fire extinction and rescue hard to proceed. Bi-spectrum PTZ thermal cameras can detect fire spots from a medium and long distance. The administrators can be notified in time with alarms before fires get developed and spread.



Temperature Measuring (Electrical Industry)



Solution Value

Most of the abnormalities and failures of power equipment are caused by the Heating Effect of Electric Current. If no measures are taken, it is very likely to cause safety accidents. Sunell thermal cameras are widely used in all aspects of electricity generation, transformation, transmission, and distribution in the electrical industry.



Temperature Accuracy

$\pm 2^{\circ}\text{C}$ ($\pm 3.6^{\circ}\text{F}$) / $\pm 2\%$



Temperature Range Customizable

Default: -20°C ~ 150°C (-4°F ~ 302°F)
Customizable: $\leq 900^{\circ}\text{C}$ (1652°F)



Temperature Areas

Support 3 temperature measurement rule types (spot, line, area)



Temperature Alarm Types

Temperature Threshold/Difference/Rise



Worm Gear and Worm Drive PTZ

Thermal PTZ cameras can always locate the position accurately. It will not be affected by external power.



Preset Temperature Monitoring

Thermal PTZ series can monitor the temperature of preset points, which meets the requirement of multi-object temperature measuring in a big scenario.



Inspection Plan

Configure thermal imaging inspection plan, retrieve inspection records, generate inspection report, etc.



Temperature Curve

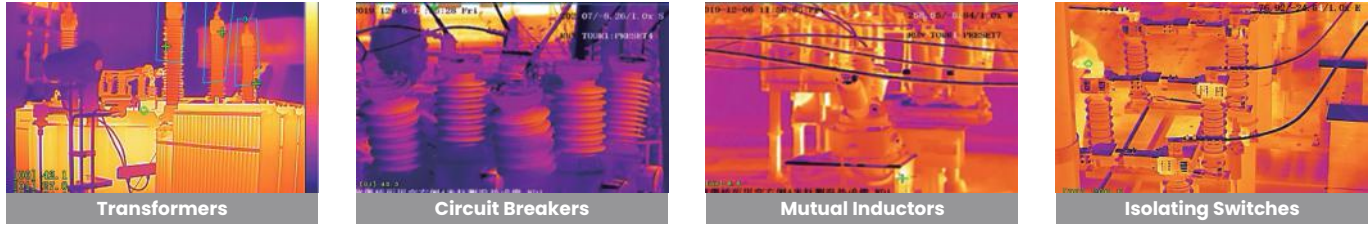
Sunell SunView platform can retrieve historical data of thermal imaging cameras and area temperature measurements in curves, which provides a basis for judging the operating status of equipment.

Application Scenarios

Transformer Substation



Online detection of common faults such as lack of oil in transformer bushings, poor contact of isolating switches and circuit breaker contacts, heating of transformers, capacitors, and lightning arrester joints, etc.



Electricity Generation

Online temperature measurement in coal yards, conveyor belts, coal mills, pulverized coal pipelines, transformers, etc.

Online temperature measurement of high-voltage electrical equipment such as hydroelectric generator sets and booster stations.

Online temperature measurement of engine room generator set, variable pressure, high voltage switch cabinet, etc.

Online temperature measurement of combiner boxes, inverters, booster stations, and other equipment, hot spot detection of photovoltaic modules.



Electricity Transmission



Detection of the thermometer abnormality caused by oxidation and corrosion of metal fittings or wire clips, loose bolts, poor contact, etc.

Electricity Distribution



Online temperature measurement of high-voltage switchgear busbars, cable joints, etc.



Photovoltaic Power

Solution Value

Photovoltaic power stations occupy a large area, which is generally located in remote areas and have relatively high operation and maintenance costs. By deploying Sunell thermal imaging cameras, management efficiency effectively improves, and long-distance fire points and perimeter intruders can be quickly found. By conducting online temperature measurements, Sunell thermal cameras can detect potential safety hazards of key equipment such as combiner boxes, inverters, transformers, and energy storage cabinets in a timely manner.



Application Scenarios

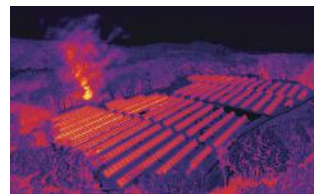
Perimeter Protection

Sunell thermal cameras can detect intruders (human, animal, etc.) in a long distance by sound and light alarms.



Fire Prevention

With Bi-spectrum PTZ series deployed in photovoltaic power stations where there are lots of weeds and trees, fire points can be found swiftly, the detection distance is long and the accuracy is high.



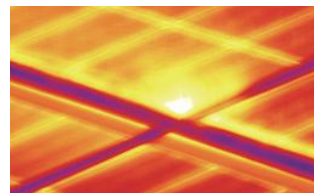
Real-time Temperature Measuring

By conducting online temperature measurements, Sunell thermal cameras can detect potential safety hazards of key equipment such as combiner boxes, inverters, transformers, and breakers in a timely manner.



Hot Spot Detection

The thermal imaging PTZ series automatically inspects and captures photos. By temperature difference alarm or manual review, it can help judge the hot spot situation.



Petrochemical Industry

Solution Value

The industrial chain of the petrochemical industry is very large, including oil exploration, pipelines, chemical plants, oil depots, gas stations, etc. Many places in this industry are characterized by high temperature, high pressure, flammability, and explosion. Sunell thermal imaging is able to monitor the status of equipment online, detect potential safety hazards of equipment in a more timely manner and play an important role in reducing the occurrence of accidents.



Application Scenarios

Perimeter Protection

Theft detection in oil fields and pipelines, etc.
Intrusion detection to prevent accidents in High-risk areas.



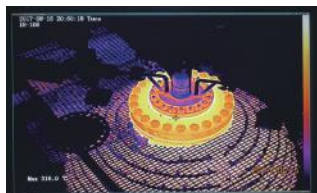
Fire Prevention

Real-time Fire Spot and Smoking alarms to find the potential fire risk and fire situation in hazardous chemical warehouses with raw materials and finished products, non-smoking factory areas, oil depot areas, oil tank areas, gas stations, and other scenarios.



Real-time Temperature Measuring

Online accurate temperature measurement of refining and chemical equipment, pipelines, station valve hall equipment, electrical equipment, etc.



Fault and Defect Detection

Oil storage tank liquid level line, fouling, tank damage, etc. detection.
Detection of pipeline corrosion, leakage, blockage, etc.



Metallurgical Industry

Solution Value

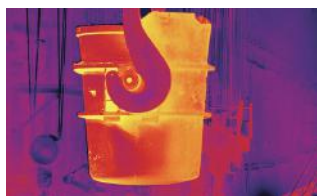
Temperature is an important indicator in many production chains in the metallurgical industry. Sunell Thermal cameras can perform real-time temperature measuring to monitor whether there is any abnormality in the production status. Hidden dangers of equipment can be quickly found by thermal imaging analysis, effectively ensuring normal production and increasing production efficiency.



Application Scenarios

Real-time Steel Ladle Protection

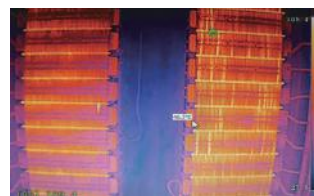
The thermal imager accurately measures the temperature of the steel ladle, and take clear thermal images, which can visually judge the defects of the ladle lining and analyze the degree of the defect.



SN-TPH4203DA

Electrolyzer Temp. Rise Monitor

Simultaneous temperature measurement of multiple groups of electrolytic cells; Online temperature changes monitoring of the electrolyte and the plate; Sound and light alarm linkage.



SN-TPH4203DA
SN-TPH6406DA

Detection of Hidden Dangers

Sunell thermal camera is able to detect hidden dangers of smoldering coal piles and high-temperature anomalies of conveyor belts, which can be linked with spraying for cooling.



SN-TPH4203DA

Electrical Equipment Temp. Measuring

Online temperature measurement of electrical equipment such as power transformation and distribution.



D2/D2L



SN-TPC6406KT

New Energy Industry

Solution Value

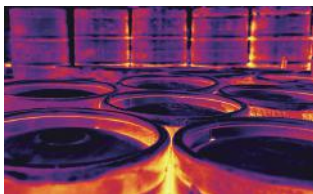
The proportion of sales of new energy vehicles is getting higher and higher, followed by more rapid expansion of power battery-related industrial chains and more frequent occurrence of spontaneous combustion accidents. Safety issues are becoming increasingly prominent. Thermal imaging cameras can increase the safety of upstream and downstream enterprises in the new energy industry chain.



Application Scenarios

Raw Material

The electrolyte is volatile and flammable while Sunell explosion-proof thermal imaging is able to perform the fire prevention.



SN-TPH4203DA
SN-TPH6406DA



SN-TPT4233PAR
SN-TPT6436PAR

Factories

During the charging and discharging process of the power battery, it may spontaneously ignite due to problems such as the quality of the battery cell and the PACK process. It is very important to know the temperature in real-time. Sunell thermal imager is applicable in production, aging, storage, and other chains to find battery quality defects in time.



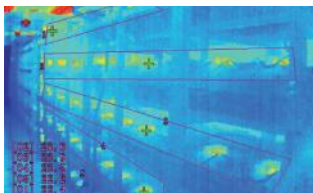
SN-TPC2553DRT



SN-TPT4233QF
SN-TPT6436QF

BESS

Real-time simultaneous temperature monitoring of the positive and negative poles of multiple sets of batteries to find abnormal batteries in time.



D2/D2L



SN-TPC2552CT

Charging & Battery Swap Stations

Electric vehicle fires frequently occur in areas with huge losses caused by them.

When abnormalities are found by real-time temperature monitoring, Sunell thermal imager can activate the alarm in time.



SN-TPC2552CT

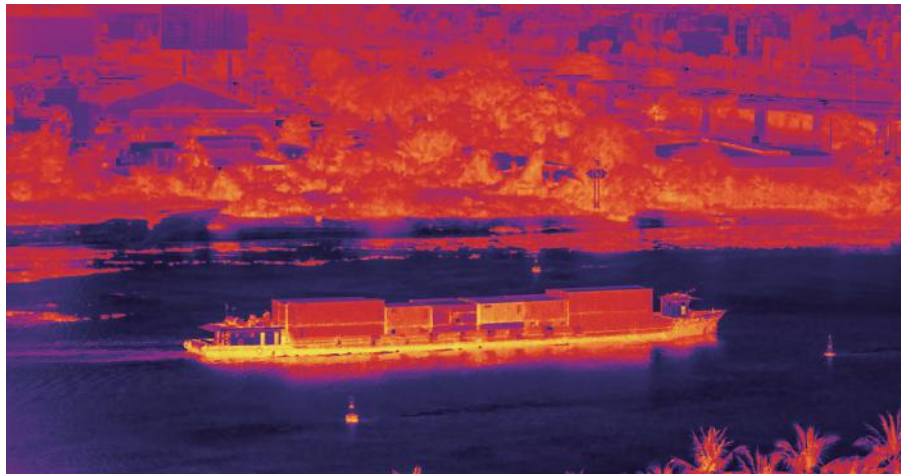


SN-TPC2553DRT

Water Conservancy Industry

Solution Value

Rivers and lakes are an important part of the natural ecology. The personnels can manage rivers better at night or in bad weather with the help of Sunell thermal cameras to stop environmental damage and crimes in a timely manner.



Application Scenarios

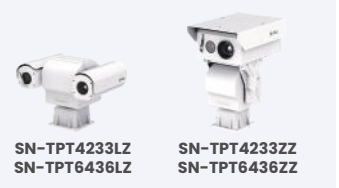
Illegal Intrusion

Ship illegal intrusion active deterrence for gates and other waters where ships are prohibited from traveling and stopping.



Illegal Sand Mining

Illegal sand mining destroys the ecology of the river channel. Sand mining causes uneven river beds and even affects the safety of flood control dams. Sunell thermal imaging can detect illegal mining at night. The detection distance is up to more than 5 kilometers.



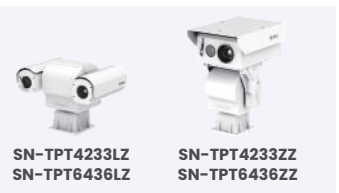
Illegal Fishing

Sunell thermal imaging is suitable for monitoring dangerous or illegal activities, such as illegal fishing during fishing bans, fishing and swimming in reservoirs, etc.



Illegal Rubbish Dumping

Real-time monitoring of illegal activities such as dumping garbage on the river bank at night. Real-time alarms of vehicles entering the defense area by vehicle shape algorithm.



Livestock & Poultry Industry

Solution Value

With the heat distribution pattern on the body surface of the individual obtained by Sunell thermal imager, it is helpful to analyze and judge the lesion location and lesion degree.

Non-contact temperature measurement helps avoid individual stress reactions.



Application Scenarios

Swine Fever Virus

Acute swine fever virus has the characteristics of a short incubation period, high fever, and rapid death. Sunell thermal cameras can monitor pig herd temperature on a daily basis, which can be seen as an early diagnostic tool for swine fever infection.



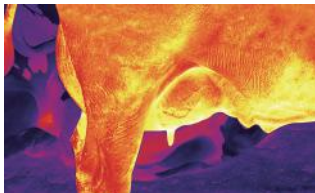
Foot-and-Mouth Disease (FMD)

Foot-and-mouth disease is an acute, febrile, and highly contagious infectious disease common to pigs, cattle, sheep, and other animals, with more than 70 susceptible animals. The disease spreads quickly through many routes. Sunell thermal imaging is believed to be able to detect FMD early by observing hyperthermia.



Bovine Mastitis Disease

Bovine mastitis is a major problem faced by the dairy industry, accounting for more than 40% of cattle morbidity. The disease leads to hypofunction of the mammary glands of dairy cows and even loss of the function of lactation. However, Sunell's thermal imaging camera can detect the disease at an early stage.



Bovine Respiratory Disease (BRD)

The bovine respiratory disease causes serious harm to the cattle industry every year. When the disease occurs, the temperature of the bull's eye will rise. Sunell thermal cameras can measure the temperature and monitor this disease.



Products

Thermal & Optical Bi-Spectrum Network Turret Camera

SN-TPC2553CT
SN-TPC2552CT

Parameters vary according to device models.

256×192



Human Detection



Vehicle Detection



Active Deterrence



Smoke/Fire Detection



Smoking Detection



Temperature Accuracy

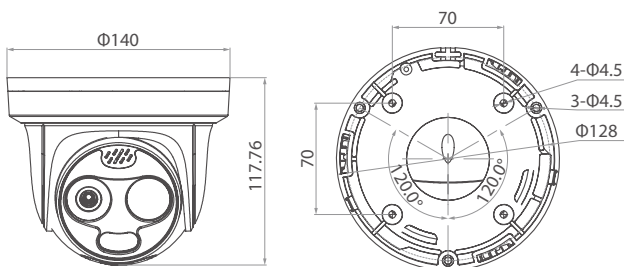


- Thermal: 256×192, 12 μm, 3.5 mm
- Optical: 5MP, 2880×1620, 4 mm
- Deep Learning: Human/Vehicle/Fire & Smoke/Fire Spot/ Smoking
- IVS: Intrusion, Single/Double Line Crossing, Loitering, Wrong-way, Enter Area, Leave Area, People Counting
- Built-in Microphone
- Built-in speaker & alarm light
- 35 m IR
- Temp. Accuracy: ±2°C / ±2%
- Temp. Range: -20°C~150°C
- Interface: 1 Audio In/Out, 1 Alarm In/Out, RS485, HDMI, Micro SD Card
- DC12V/DC24V/POE(802.3af)
- IP66

Application Scenarios

Perimeter Protection, Indoor Fire Prevention, Industrial Temperature Measuring...

Dimensions (mm)



Accessories



Products

Thermal & Optical Bi-Spectrum Network Cube Camera

SN-D2L

256*192



Super Wide Angle



Temperature Accuracy



White LED



Dual Image Fusion



IP66

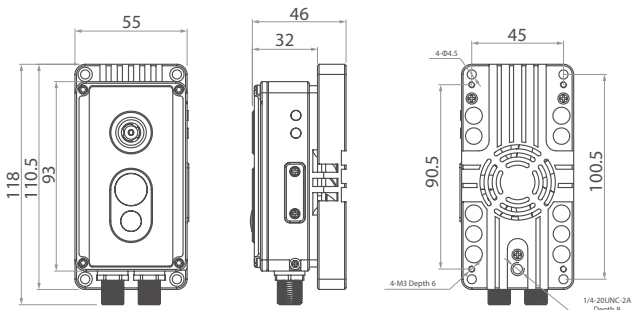


- Thermal: 256×192, 12 μm, 2.0 mm, H: 90°, V:65°
- Optical: 2MP, 1600×1200, 2.3 mm, H: 100°, V: 75°
- Dual Image Fusion
- White LED
- Temp. Accuracy: ±2°C / ±2%
- Temp. Pre-alarm & Alarm
- Temp. Threshold/Difference/Rise Alarm
- Support 3 temperature measurement rule types (spot, line, area)
- Temp. Range: -20°C~150°C
- Interface: 1 Alarm In/Out, RS485/232, Micro SD card
- DC10~30V/POE(802.3af)
- IP67

Application Scenarios

High voltage switch cabinet and other industrial temperature measurement scenarios with narrow space.

Dimensions (mm)



Accessories



Gimbal Mount Bracket

Thermal & Optical Bi-Spectrum Network Cube Camera

SN-D2

256*192



Super Wide Angle



Temperature Accuracy



White LED



Dual Image Fusion



IP66

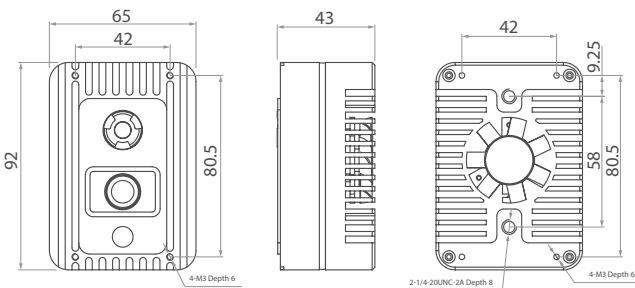


- Thermal: 256×192, 704×576, 12 μm, 1.9 mm, H: 95°, V:75°
- Optical: 2MP, 1920×1080, 2.1 mm, H: 136.2°, V: 77.3°
- Dual Image Fusion
- White LED
- Temp. Accuracy: ±2°C / ±2%
- Temp. Pre-alarm & Alarm
- Temp. Threshold/Difference/Rise Alarm
- Support 3 temperature measurement rule types (spot, line, area)
- Temp. Range: -40°C~150°C
- Interface: 1 Alarm In/Out, CVBS, RS485
- DC12V
- IP66

Application Scenarios

High voltage switch cabinet and other industrial temperature measurement scenarios with narrow space.

Dimensions (mm)



Accessories



Magnet Mount Bracket

Thermal & Optical Bi-Spectrum Network Bullet Camera



SN-TPC2553DRT

256×192



Human Detection



Vehicle Detection



Active Deterrence



Smoke/Fire Detection



Smoking Detection



Temperature Accuracy

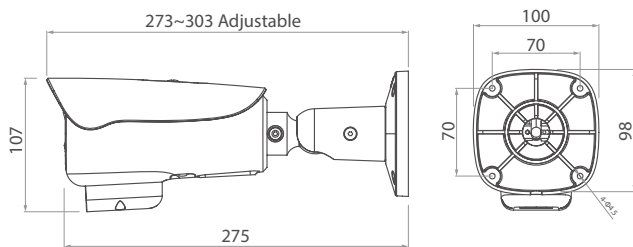


- Thermal: 256×192, 12 μm, 7/10 mm
- Optical: 4MP, 2880×1620, 8 mm
- Deep Learning: Human/Vehicle/Fire & Smoke/Fire Spot/ Smoking
- IVS: Intrusion, Single/Double Line Crossing, Loitering, Wrong-way, Enter Area, Leave Area, People Counting
- Built-in speaker & alarm light
- LED Temperature Display
- 35-55 m IR
- Temp. Accuracy: ±2°C / ±2%
- Temp. Range: -20°C~150°C
- Interface: 1 Audio In/Out, 2 Alarm In/Out, RS485, Micro SD card
- DC12V/DC24V/POE (802.3af)
- IP66

Application Scenarios

Perimeter Protection, Indoor/Outdoor Fire Prevention, Industrial Temperature Measuring...

Dimensions (mm)



Accessories



Junction Box
SN-CBK649B



Pole Mount Bracket
SN-CBK627D

Thermal & Optical Bi-Spectrum Network Bullet Camera



SN-TPC4233DJT



Human Detection



Vehicle Detection



Smoke/Fire Detection



Smoking Detection



POE+

400x300

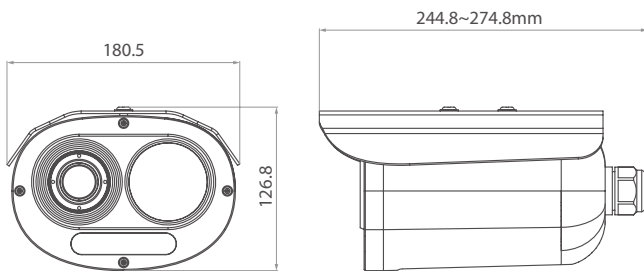


- Thermal: 400x300, 17 μ m, 8/15/25/35/50 mm
- Optical: 2MP, 1920x1080, Motorized Lens : 5~50 mm
- Deep Learning: Human/Vehicle/Fire & Smoke/Fire Spot/Smoking
- IVS: Intrusion, Single/Double Line Crossing, Loitering, Wrong-way, Enter Area, Leave Area, People Counting
- 100 m IR
- Temp. Accuracy: $\pm 2^{\circ}\text{C}$ / $\pm 2\%$
- Temp. Pre-alarm & Alarm
- Temp. Threshold/Difference/Rise Alarm
- Support 3 temperature measurement rule types (spot, line, area)
- Temp. Range: -40°C ~ 150°C , Customizable
- Interface: 1 Audio In/Out, 2 Alarm In/Out, RS485
- DC12V/POE+ (802.3at)
- IP66

Application Scenarios

Perimeter Protection, Indoor/Outdoor Fire Prevention, Industrial Temperature Measuring...

Dimensions (mm)



Accessories



Wall Mount Bracket

SN-BK346



Pendant Mount Bracket

SN-BK350

Thermal Network Bullet Camera



SN-TPC4203KT
SN-TPC4201KT

Parameters vary according to device models.



Human
Detection



Vehicle
Detection



IVS



Temperature
Accuracy



POE

400x300

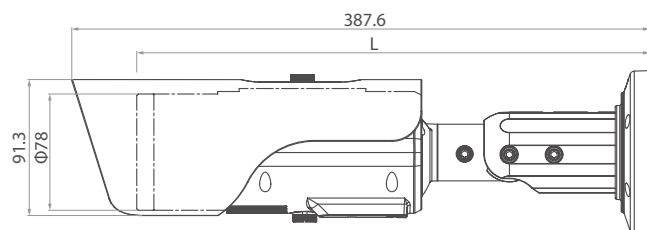


- Thermal: 400x300, 704x576, 17 μm, 8/15/25/35/50 mm
- Deep Learning: Human/Vehicle/Fire Spot/Smoking
- IVS: Intrusion, Single/Double Line Crossing, Loitering, Wrong-way, Enter Area, Leave Area, People Counting
- Temp. Accuracy: ±2°C / ±2%
- Temp. Pre-alarm & Alarm
- Temp. Threshold/Difference/Rise Alarm
- Support 3 temperature measurement rule types (spot, line, area)
- Temp. Range: -40°C~150°C, Customizable: ≤900°C
- Interface: 1 Audio In/Out, 2 Alarm In/Out, RS485, Micro SD Card
- DC12V/POE (802.3af)
- IP66

Application Scenarios

Perimeter Protection, Industrial Temperature Measuring...

Dimensions (mm)



Accessories



Junction Box
SN-CBK649B



Pole Mount Bracket
SN-CBK627D

Thermal Network Bullet Camera



SN-TPC6406KT

640×512



Human Detection



Vehicle Detection



Fire Spot



Temperature Accuracy



POE

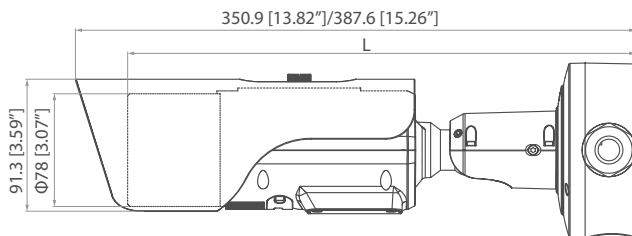


- Thermal: 640×512, 12 μm, 9/15/25/35/50 mm
- Deep Learning: Human/Vehicle/Fire Spot/Smoking
- IVS: Intrusion, Single/Double Line Crossing, Loitering, Wrong-way, Enter Area, Leave Area, People Counting
- Temp. Accuracy: ±2°C / ±2%
- Temp. Pre-alarm & Alarm
- Temp. Threshold/Difference/Rise Alarm
- Support 3 temperature measurement rule types (spot, line, area)
- Built-in Microphone
- Temp. Range: -20°C~150°C, Customizable: ≤ 550°C
- Interface: 1 Audio In/Out, 2 Alarm In/Out, CVBS, RS485, Micro SD Card
- DC12V/AC24V/POE (802.3af)
- IP66

Application Scenarios

Perimeter Protection, Industrial Temperature Measuring...

Dimensions (mm)



Accessories



Junction Box
SN-CBK649B

Thermal & Optical Mini Bi-Spectrum PTZ Camera



SN-TPT6436QF
SN-TPT4233QF



Human Detection



Vehicle Detection



Smoke/Fire Detection



Temperature Accuracy



White LED

640×512/400×300

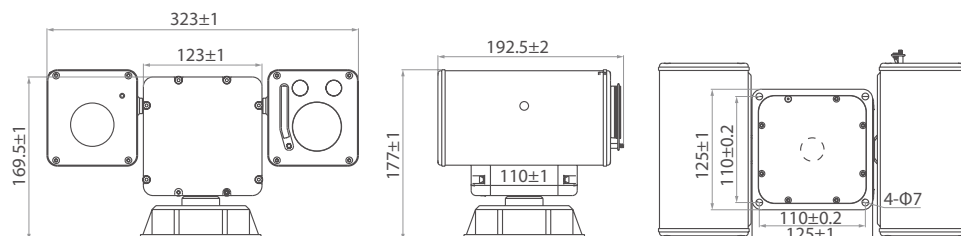


- Thermal: 640×512/400×300, 8/9/15/25 mm; Motorized Lens: 25 mm
- Optical: 4MP, 2592×1520, 30X, 5.3-159 mm
- Deep Learning: Human/Vehicle/Fire & Smoke/Fire Spot/Smoking
- IVS: Intrusion, Single/Double Line Crossing, Loitering, Wrong-way, Enter Area, Leave Area, People Counting
- Worm Gear and Worm Drive PTZ; Power off Self-locking
- Anti-frozen
- Pan: 360° Tilt: +90°~-90°
- White LED: 30 m
- Support 3 temperature measurement rule types (spot, line, area)
- Preset Point Temperature Measuring
- Temp. Accuracy: ±2°C / ±2%
- Temp. Range: -20°C~150°C, Customizable
- Interface: 1 Audio In/Out, 1 Alarm In/Out, CVBS, RS485
- DC24V
- IP66

Application Scenarios

Perimeter Protection, Indoor Fire Prevention, Industrial Temperature Measuring...

Dimensions (mm)



Thermal & Optical Medium Bi-Spectrum PTZ Camera



SN-TPT6436LZ
SN-TPT4233LZ



Human Detection



Vehicle Detection



Ship Detection



Smoke/Fire Detection



Wiper

640×512/400×300

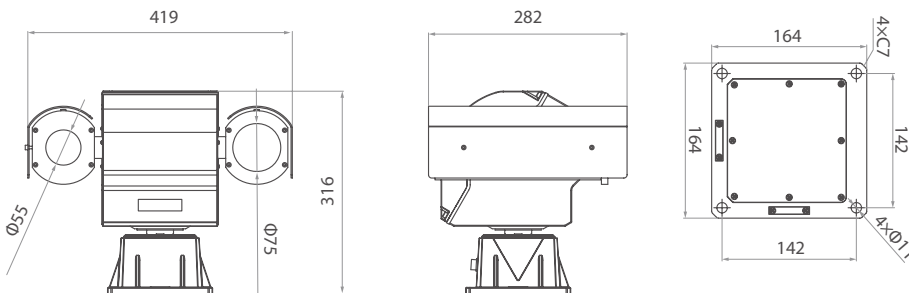


- Thermal: 640×512/400×300, 8/9/15/25/35/50 mm, Motorized Lens: 25/50 mm
- Optical: 4MP, 2592×1520, 30X, 5.3-159 mm
- Deep Learning: Human/Vehicle/Fire & Smoke/Fire Spot/Smoking
- IVS: Intrusion, Single/Double Line Crossing, Loitering, Wrong-way, Enter Area, Leave Area, People Counting
- Worm Gear and Worm Drive PTZ; Power off Self-locking
- Anti-frozen
- Pan: 360° Tilt: +90°--90°
- Support 3 temperature measurement rule types (spot, line, area)
- Preset Point Temperature Measuring
- Temp. Accuracy: ±2°C / ±2%
- Temp. Range: -20°C~150°C, Customizable
- Interface: 2 Audio In/Out, 9 Alarm In/4 Alarm Out, CVBS, RS485
- DC36V
- IP66

Application Scenarios

Perimeter Protection, Indoor Fire Prevention, Industrial Temperature Measuring...

Dimensions (mm)



Thermal & Optical Medium Bi-Spectrum PTZ Camera

SN-TPT4233LPZ



Human Detection



Vehicle Detection



Ship Detection



Smoke/Fire Detection



Laser IR

400×300

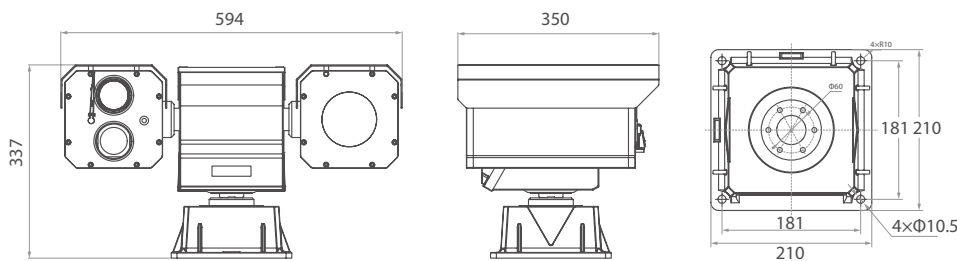


- Thermal: 400×300, Motorized Lens: 75/100 mm
- Optical: 5MP, 2560×1920, 40x, 4.98-199.2 mm
- Deep Learning: Human/Vehicle/Fire & Smoke/Fire Spot/Ship
- IVS: Intrusion, Single/Double Line Crossing, Loitering, Wrong-way, Enter Area, Leave Area, People Counting
- Worm Gear and Worm Drive PTZ; Power off Self-locking
- Anti-frozen
- Pan: 360° Tilt: +90°~-90°
- 800m IR
- Support 3 temperature measurement rule types (spot, line, area)
- Preset Point Temperature Measuring
- Temp. Accuracy: ±2°C / ±2%
- Temp. Range: -40°C~150°C, Customizable
- Interface: 2 Audio In/Out, 9 Alarm In/4 Alarm Out, CVBS, RS485
- DC36V
- IP66

Application Scenarios

Medium Perimeter Protection, Fire Prevention...

Dimensions (mm)



Products

Thermal & Optical Medium Bi-Spectrum PTZ Camera

SN-TPT6436ZZ
SN-TPT4233ZZ



Human Detection



Vehicle Detection



Ship Detection



Smoke/Fire Detection



Wiper

640×512/400×300

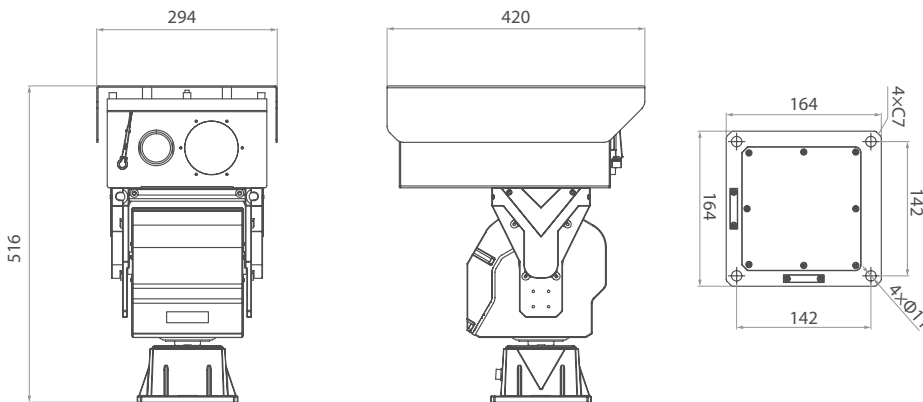


- Thermal: 640×512/400×300, Motorized Lens: 50/75/100 mm
- Optical:
 - 2MP, 1920×1080, 37X, 6~222 mm
 - 4MP, 2592×1520, 40X, 4.98~199.3 mm
- Deep Learning: Human/Vehicle/Fire & Smoke/Fire Spot/Ship
- IVS: Intrusion, Single/Double Line Crossing, Loitering, Wrong-way, Enter Area, Leave Area
- Worm Gear and Worm Drive PTZ; Power off Self-locking
- Anti-frozen
- Pan: 360° Tilt: +40°~-75°
- Interface: 2 Audio In/Out, 9 Alarm In/4 Alarm Out, CVBS, RS485
- DC36V
- IP66

Application Scenarios

Medium Perimeter Protection, Fire Prevention...

Dimensions (mm)



Products

Thermal & Optical Large Bi-Spectrum PTZ Camera

SN-TPT6436HZ

SN-TPT4233HZ

Parameters vary according to device models.



Human
Detection



Vehicle
Detection



Ship
Detection



Smoke/Fire
Detection



Wiper

640×512/400×300

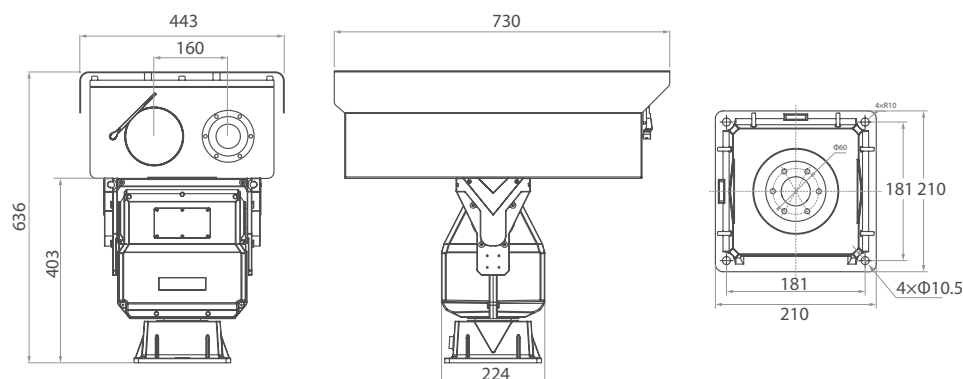


- Thermal: 640×512/400×300, Motorized Lens: 75/100mm, 30~150mm
- Optical:
 - 4MP, 2592×1520, 32X, 12.5~400 mm
 - 4MP, 2592×1520, 32X, 15.6~500 mm
 - 4MP, 2592×1520, 60X, 12.5~750 mm
 - 4MP, 2592×1520, 60X, 16.7~1000 mm
 - 4MP, 2592×1440, 86X, 10~860mm
- Deep Learning: Human/Vehicle/Fire & Smoke/Fire Spot/Ship
- IVS: Intrusion, Single/Double Line Crossing, Loitering, Wrong-way, Enter Area, Leave Area
- Worm Gear and Worm Drive PTZ; Power off Self-locking
- Anti-frozen
- Pan: 360° Tilt: +40°~-45°
- Interface: 2 Audio In/Out, 3 Alarm In/Out, CVBS, RS485
- DC36V
- IP66

Application Scenarios

Medium Perimeter Protection, Fire Prevention...

Dimensions (mm)



Products

Thermal & Optical Large Bi-Spectrum PTZ Camera

SN-TPT6436MZ

SN-TPT4233MZ

Parameters vary according to device models.



Human
Detection



Vehicle
Detection



Ship
Detection



Smoke/Fire
Detection



Thermal
30-150mm

640×512/400×300

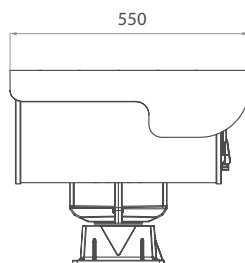
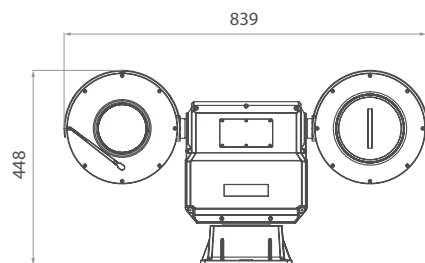


- Thermal: 640×512/400×300, Motorized Lens: 30~150 mm
- Optical: 4MP, 2560×1440, 86X, 10~860 mm
- Deep Learning: Human/Vehicle/Fire & Smoke/Fire Spot/Ship
- IVS: Intrusion, Single/Double Line Crossing, Loitering, Wrong-way, Enter Area, Leave Area
- Worm Gear and Worm Drive PTZ; Power off Self-locking
- Anti-frozen
- Pan: 360° Tilt: +40°~ -75°
- Interface: 2 Audio In/Out, 6 Alarm In/ 4 Alarm Out, CVBS, RS485
- DC48V, Max 300W
- IP66

Application Scenarios

Medium Perimeter Protection, Fire Prevention...

Dimensions (mm)



Explosion-proof Bullet Camera

SN-TPH6406DA
SN-TPH4203DA

Parameters vary according to device models.



Explosion Proof



Material



IVS



Temperature Accuracy



IP68

640×512/400×300

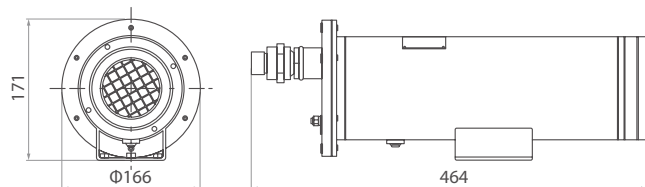


- 316L Stainless Steel
- Ex d II C T6 Gb / Ex tD A21 IP68 T80°C W
- Thermal: 640×512/400×300, 8/9/15/25/35/50 mm
Motorized Lens: 25/50 mm
- Deep Learning: Human/Vehicle/Fire Spot/Smoking
- IVS: Intrusion, Single/Double Line Crossing, Loitering, Wrong-way, Enter Area, Leave Area, People Counting
- Temp. Pre-alarm & Alarm
- Support 3 temperature measurement rule types (spot, line, area)
- Temp. Accuracy: $\pm 2^{\circ}\text{C}$ / $\pm 2\%$
- Temp. Range: -20°C ~ 150°C (-4°F ~ 302°F), Customizable
- IP68

Application Scenarios

Perimeter Protection, Indoor/Outdoor Fire Prevention, Industrial Temperature Measuring...

Dimensions (mm)



Accessories



Wall Mount Bracket
SN-BK401-SS



Junction Box
SN-BK400



Flexible Tube



Gland Box

Products

Explosion-proof Bi-spectrum PTZ Camera

SN-TPT6436PA
SN-TPT4233PA

Parameters vary according to device models.



Explosion Proof



Material



IVS



Temperature Accuracy



IP68

640×512/400×300

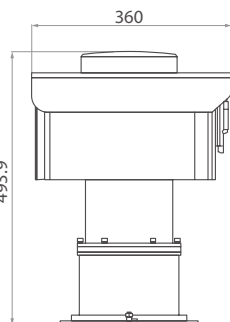
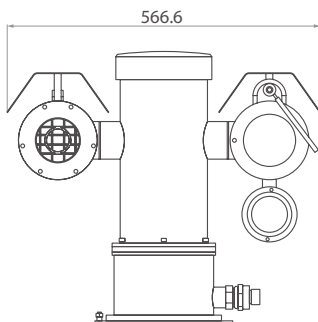


- 316L Stainless Steel
- Ex d II C T6 Gb / Ex tD A21 IP68 T80°C
- Thermal: 640×512/400×300, 8/9/15/25/35/50 mm
Motorized Lens: 25/50 mm
- Optical: 4MP, 2592×1520, 30X, 5.3 mm -159 mm
- Deep Learning: Human/Vehicle/Smoke & Fire/Fire Spot/Smoking
- IVS: Intrusion, Single/Double Line Crossing, Loitering, Wrong-way, Enter Area, Leave Area, People Counting
- Pan: 360° Tilt: +90°~-90°
- IR: 200 m
- Temp. Pre-alarm & Alarm
- Support 3 temperature measurement rule types (spot, line, area)
- Temp. Accuracy: ±2°C / ±2%
- Temp. Range: -20°C ~ 150°C (-4°F ~ 302°F), Customizable
- IP68

Application Scenarios

Perimeter Protection, Indoor/Outdoor Fire Prevention, Industrial Temperature Measuring...

Dimensions (mm)



Accessories



Wall Mount Bracket
SN-BK402-SS



Junction Box
SN-BK400



Flexible Tube



Gland Box

Small Intelligent Thermal Module



SN-TPC6406VT



Human Detection



Vehicle Detection



Ship Detection



Smoke/Fire Detection



Anti-burning

640 × 512

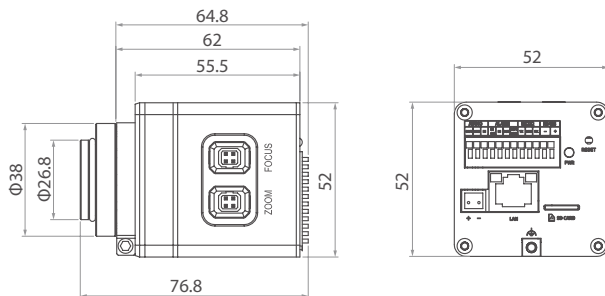


- Thermal: 640 × 512, 12 μm, 8-14 μm, 9/15/25/35/50 mm
Motorized Lens: 25/50/75/100 mm
Motorized Zoom Optional
- Deep Learning: Human/Vehicle/Smoke & Fire/Fire Spot/Smoking/Ship
- IVS: Intrusion, Single/Double Line Crossing, Loitering, Wrong-way, Enter Area, Leave Area, People Counting
- Focus-free (Fixed Lens)
- Anti-burning
- Temp. Pre-alarm & Alarm
- Support 3 temperature measurement rule types (spot, line, area)
- Temp. Accuracy: ±2°C / ±2%
- Temp. Range: -20°C ~ 150°C (-4°F ~ 302°F) Customizable: ≤550°C (1022°F)
- Interface: Alarm I/O, Audio I/O, RS485, Micro SD card
- 64.8 × 52 × 52 mm (2.55 × 2.05 × 2.05 inch) without lens
- DC12V

Application Scenarios

Suitable for equipment integration such as shields/ptz, inspection robots, track robots, etc.

Dimensions (mm)



Small Intelligent Thermal Module

SN-TPC4201VT



Long Wave



Pixel Pitch



Temperature Accuracy



Anti-burning



Auto Focus

400 × 300

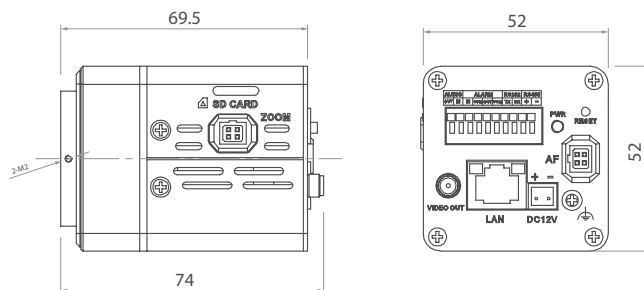


- Thermal: 400 × 300, 17 μm, 8/9/15/25/35/50 mm
- Motorized Lens: 25/50/75/100 mm
- IVS: Intrusion, Single/Double Line Crossing, Loitering, Wrong-way, Enter Area, Leave Area, People Counting
- Anti-burning
- Temp. Pre-alarm & Alarm
- Support 3 temperature measurement rule types (spot, line, area)
- Temp. Accuracy: ±2°C / ±2%
- Temp. Range: -20°C ~ 150°C (-4°F ~ 302°F)
- Customizable: ≤900°C (1652°F)
- Interface: Alarm I/O, Audio I/O, RS485, CVBS, Micro SD card
- 74 × 52 × 52 mm (2.91 × 2.05 × 2.05 inch)
- DC12V

Application Scenarios

Suitable for equipment integration such as shields/ptz, inspection robots, track robots, etc.

Dimensions (mm)



Intelligent Thermal Module



SN-TPC4203AT
SN-TPC4201AT



Human Detection



Vehicle Detection



Ship Detection



Smoke/Fire Detection



Anti-burning

400x300

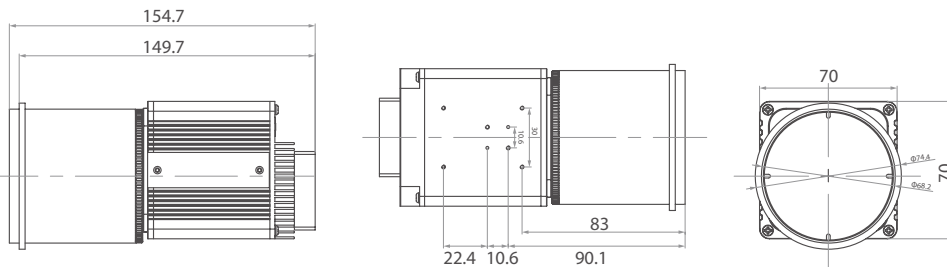


- Thermal: 400 × 300, 17 μm, 8-14 μm, 8/15/25/35/50 mm
Motorized Lens: 25/50/75/100 mm
- Deep Learning: Human/Vehicle/Smoke & Fire/Fire Spot/Smoking/Ship
- IVS: Intrusion, Single/Double Line Crossing, Loitering, Wrong-way, Enter Area, Leave Area
- People Counting
- Anti-burning
- Temp. Pre-alarm & Alarm
- Support 3 temperature measurement rule types (spot, line, area)
- Temp. Accuracy: ±2°C / ±2%
- Temp. Range: -20°C ~ 150°C (-4°F ~ 302°F)
Customizable: ≤900°C (1652°F)
- Interface: Alarm I/O, Audio I/O, RS485, Micro SD card
- DC12V

Application Scenarios

Suitable for equipment integration such as shields/PTZ, inspection robots, track robots, etc.

Dimensions (mm)



Effective Coverage

The Johnson Criterion is the field of infrared thermography used to determine the minimum resolution required to detect objects. The Johnson Criteria levels for infrared thermography are as follows:

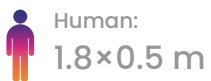
Detection: At least 1.5 pixels are required to distinguish objects in the background and in the image.

Recognition: At least 6 pixels are required to classify objects (people, vehicles, animals, etc.).

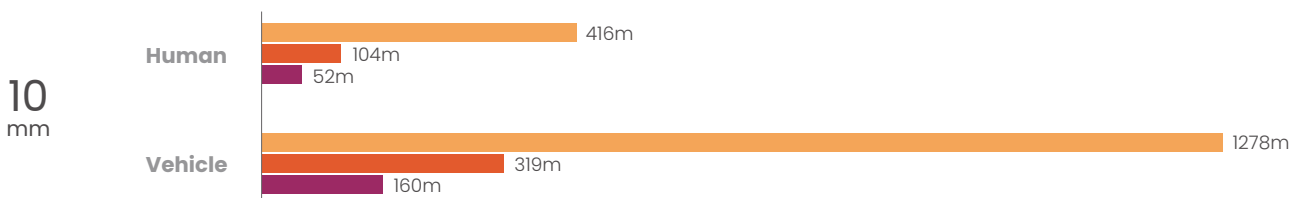
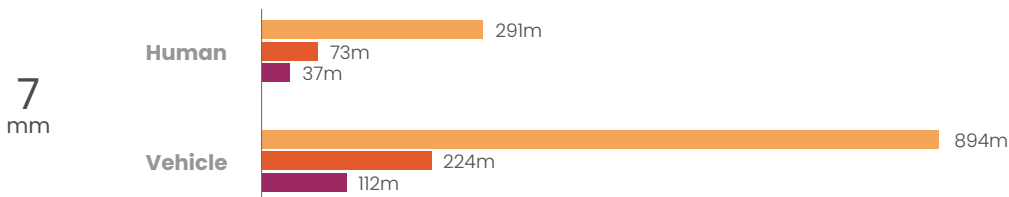
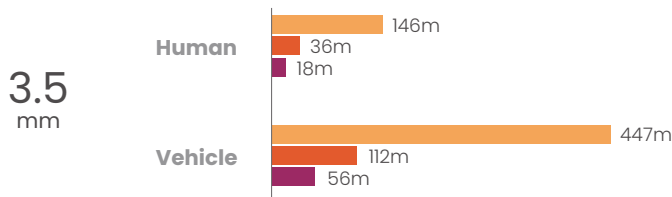
Identification: At least 12 pixels are required to identify an object and its features, for example, a human holding a wooden stick.

256x192

12 μm



● Detection ● Recognition ● Identification



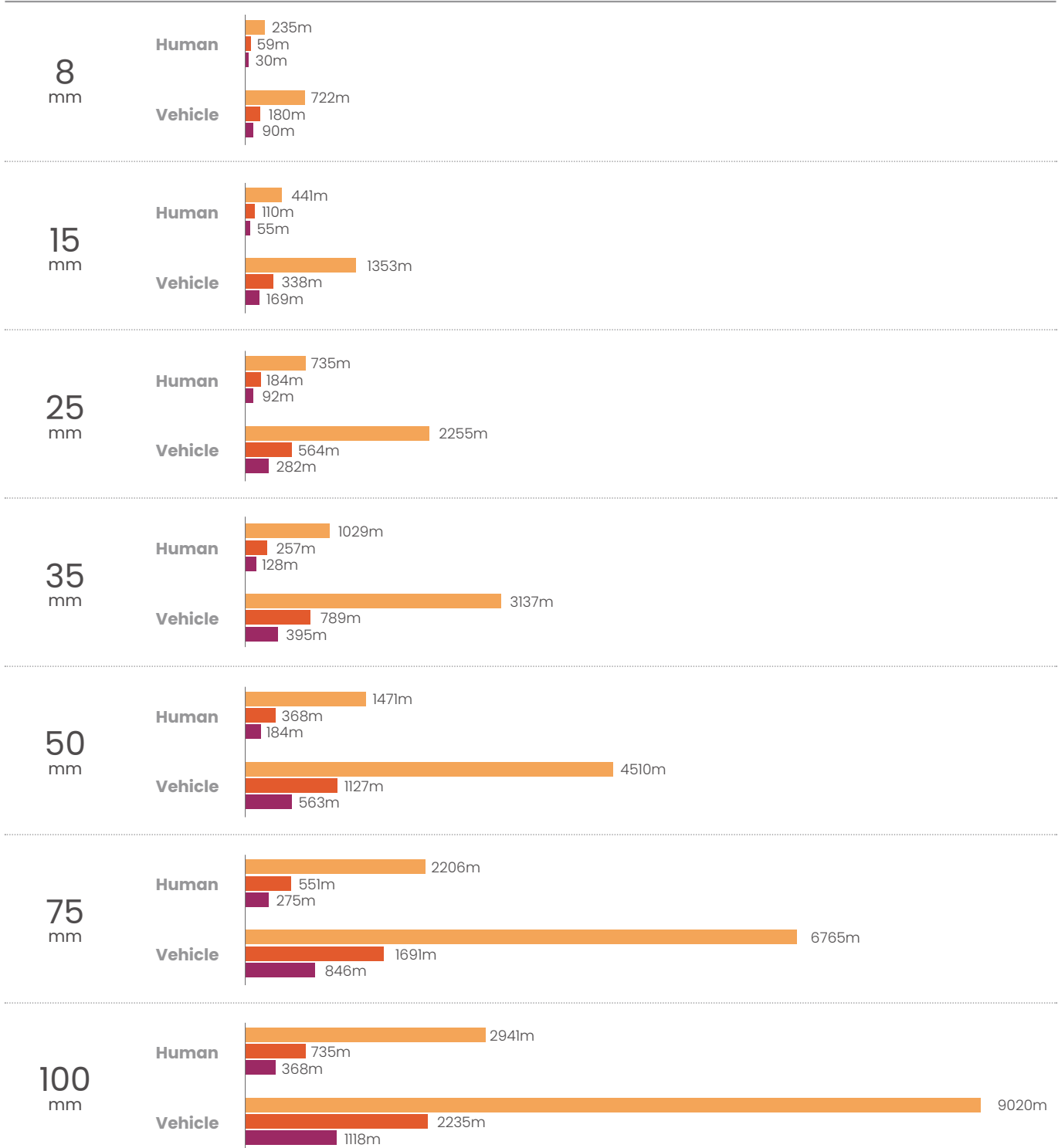
400x300

17 μm

Human:
1.8×0.5 m

Vehicle:
4×1.5 m

● Detection ● Recognition ● Identification



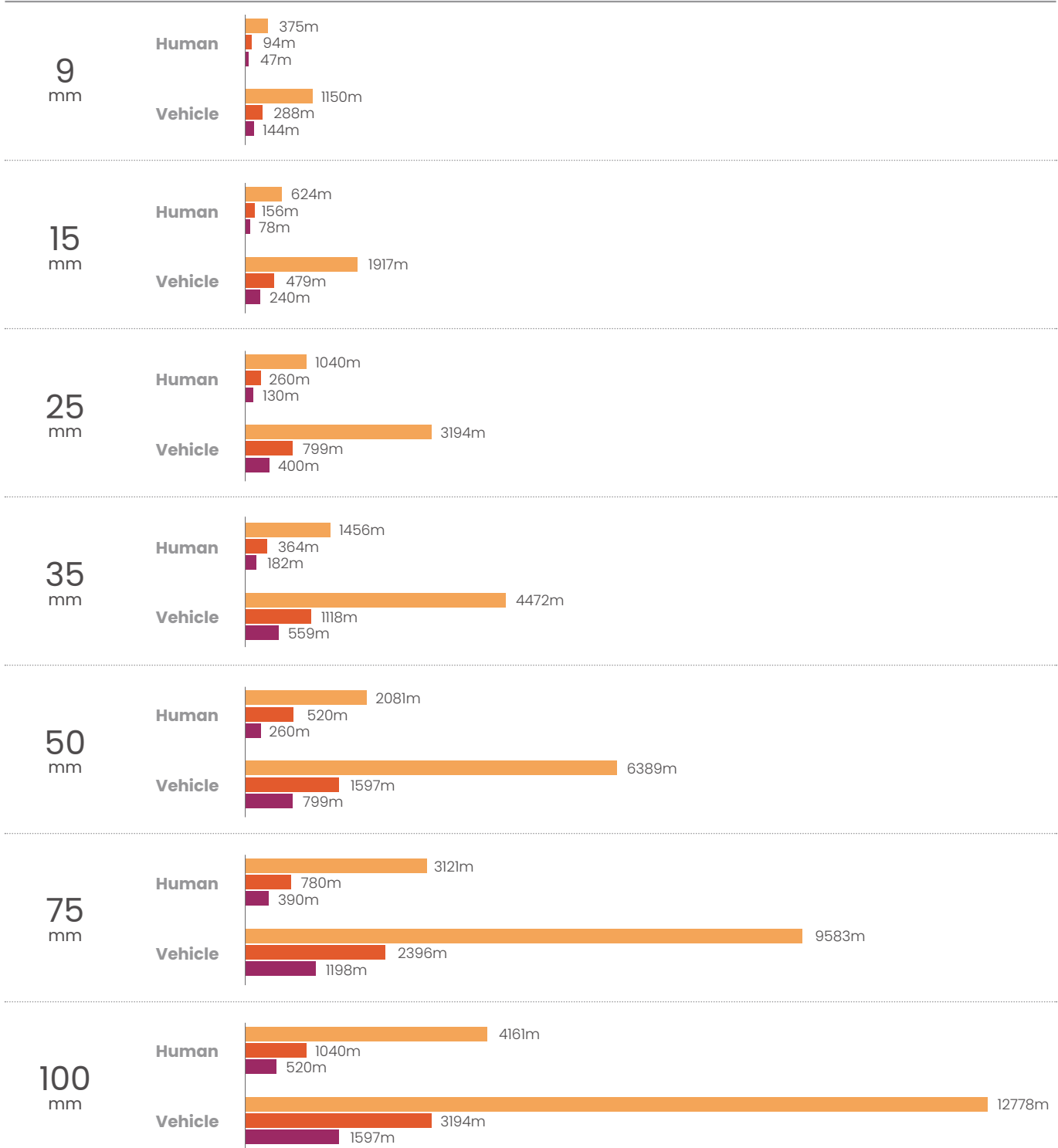
640x512

12 μm

Human:
1.8×0.5 m

Vehicle:
4×1.5 m

● Detection ● Recognition ● Identification





Fire Spot:

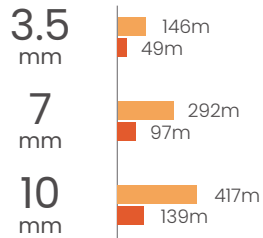
1x1 m

● Detection

● Recognition

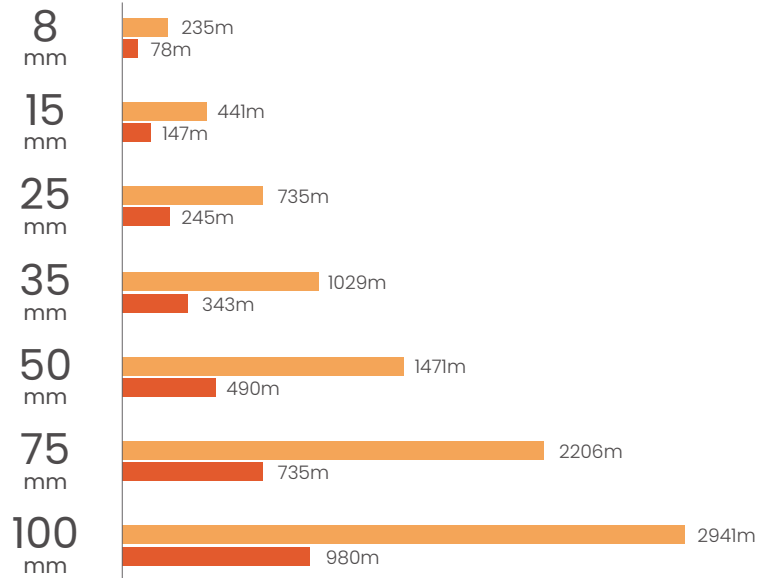
256x192

12 μm



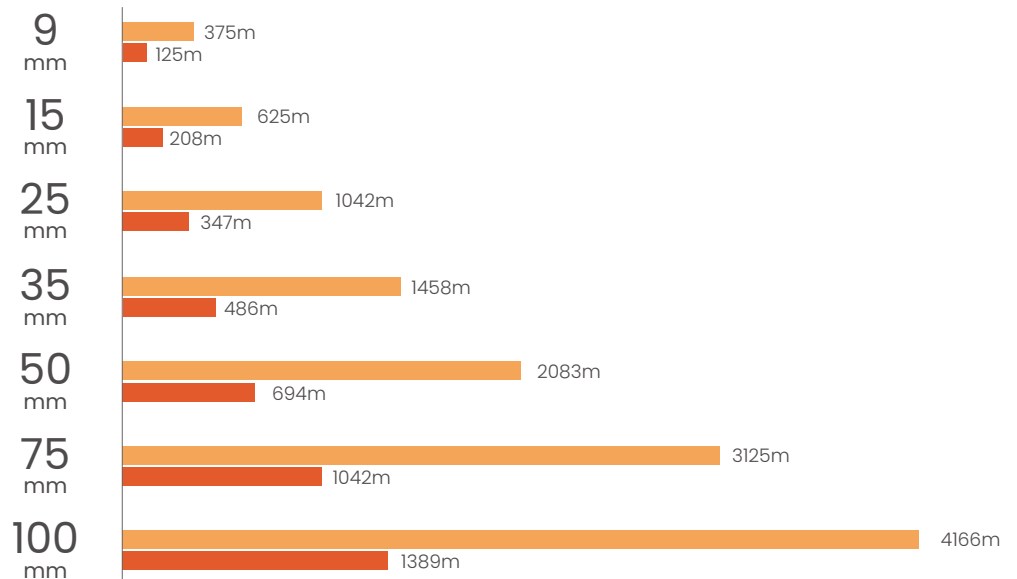
400x300

17 μm



640x512

12 μm



Smart Thermal Product Family

640	 Module SN-TPC6406VT	 Bullet SN-TPC6406KT	 Bi-spectrum PTZ SN-TPT6436QF	 Bi-spectrum PTZ SN-TPT6436LZ	 Bi-spectrum PTZ SN-TPT6436ZZ	 Bi-spectrum PTZ SN-TPT6436HZ	 Bi-spectrum PTZ SN-TPT6436MZ
400	 Module TPC4201VT	 Module TPC4203AT TPC4201AT	 Bi-spectrum PTZ TPT4233QF	 Bi-spectrum PTZ SN-TPT4233ZZ	 Bi-spectrum PTZ SN-TPT4233HZ	 Bi-spectrum PTZ SN-TPT4233MZ	
	 Bullet SN-TPC4203KT SN-TPC4201KT	 Bi-spectrum Bullet SN-TPC4233DJT	 Bi-spectrum PTZ SN-TPT4233LZ				
256	 Bi-spectrum Cube SN-D2	 Bi-spectrum Cube SN-D2L	 Bi-spectrum Turret SN-TPC2553CT SN-TPC2552CT	 Bi-spectrum Bullet SN-TPC2553DRT			
Explosion Proof	 Bullet SN-TPH6406DA SN-TPH4203DA	 Bi-spectrum PTZ SN-TPT6436PA SN-TPT4233PA					



Independent Development



Complete Category




Customized Service



Shenzhen Sunell Technology Corporation

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