ThermTec

Thermal Imaging Cores
Customized Thermal Solutions

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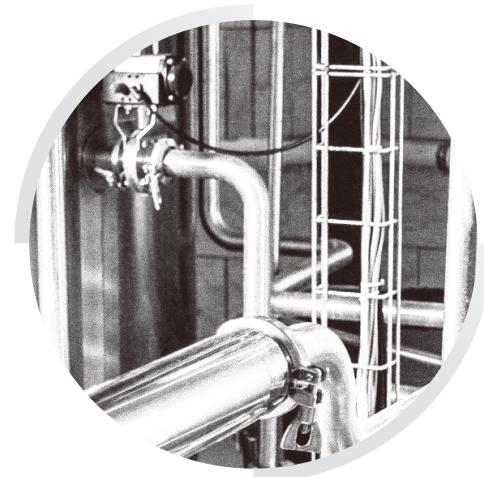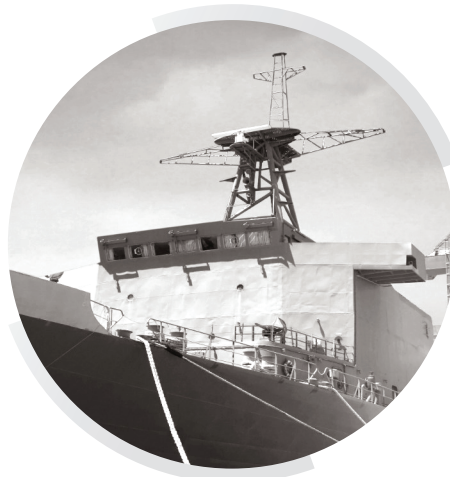
Applications
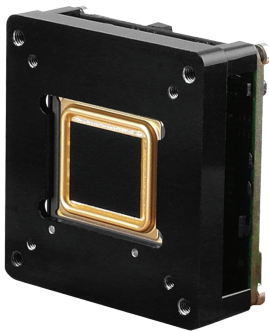
Fire Prevention
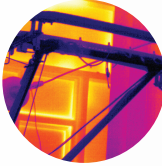
Intelligent Transportation

Security Monitoring

Smart Grid

Industrial Inspection

Maritime Search and Rescue

ThermEye
IP Thermal Imaging Core

Product Features

■ Multiple image process: IDE, HDR, 3DNR;

■ Support continuous digital zoom;

■ Professional photoelectric zooming technology;

■ Built-in video compression coding, easy for network transmission;

■ Easily integrated to third party platform.

Dimension
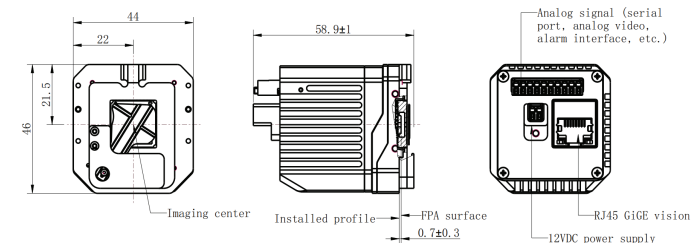
ThermEye3

ThermEye6

Model	ThermEye3	ThermEye6
Detector	Noncrystalline infrared FPA	
Resolution/ Pixel pitch	384x288/17μm	640x480/17μm
Spectral range	8～14um	
NETD	≤50mk@300K	
Focus Method	Athermalization&motorizated	
Digital zoom	1~8x Continuous	
Focal Length	Fixed lens: 9/15/19/25/35/40/50mm; Motorized: 25/35/40/50/75mm etc.	
Sun protection	Support, but as less as toward sun	

Image Effect

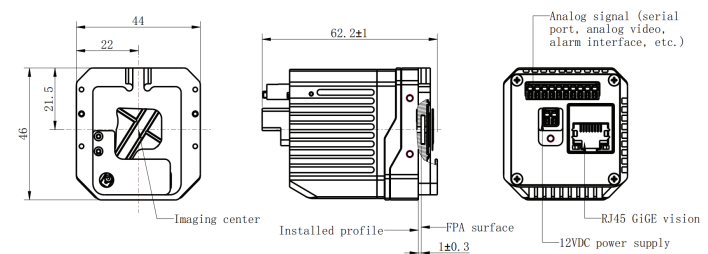|	
Image adjustment	Auto/manual adjustment for contrast ratio & brightness & acutance
Uniformity correction	Auto/manual shutter correction
Noise reduction	3DNR
Image process	IDE,HDR,sea-sky model etc
Palette	9 colors opted(rust, rainbow, white/black, etc.), palette customizable

Interface

Power Supply	DC12V（+9V～+15V）
Network interface	RJ45 10 M/100 M/1000M self-adaptive Ethernet port

Serial port	1xRS485, 1xRS232	
Alarm	1x ch input, 1x ch output	
Analog video	CVBS(75Ω)PAL	
Storage	Micro-SD(FT), up to 64GB	

Network

Video compression	H.264	
Main-Stream	25fps (720*576)	
Sub-stream	25fps (352*288)	
Protocols	TCP/IP,ICMP,HTTP,DHCP,DNS,RTP,RTSP,RTCP,IGMP,802.1X , ONVIF(ProfileS)	
API	SDK, third-party management platform, ONVIF	
Common function	Hearbet, multi-user access control	
Security	Support password protection, bonding MAC ID, IP filtration	
Simultaneous Live View	Up to 10 channels	
User/Host level	Up to 10 users, 3 levels: Administrator, Operator, General	

General

Storage temperature	−45°C ~ +65°C	
Work temperature & humidity	-40℃～+60℃，＜90%RH	
Power consumption	<3W	
Size	58.9mm*44mm*46mm	62.2mm*44mm*46mm
Weight	<110g (w/o lens)	

ThermEye 3V/6V
IP Thermal Imaging Core

Product Features

- High sensitivity uncooled Vox detector;

- Support continuous digital zoom;

- Professional photoelectric zooming technology;

- With ethernet and analog video interfaces;

- Easily integrated to third party platform.

Dimension

ThermEye3V

44
22
46
21.5
60.9±1
Analog signal (serial port, analog video, alarm interface, etc.)
Imaging center
Installed profile
FPA surface 1±0.3
RJ45 GiGE vision
12VDC power supply

ThermEye6V

44
22
46
21.5
61.4±1
Analog signal interface
Imaging center
Installed profile
FPA surface 1±0.3
RJ45 GiGE vision
power source
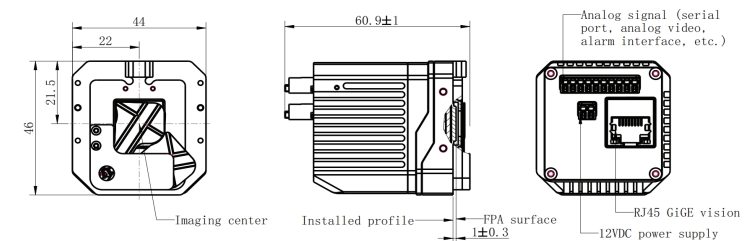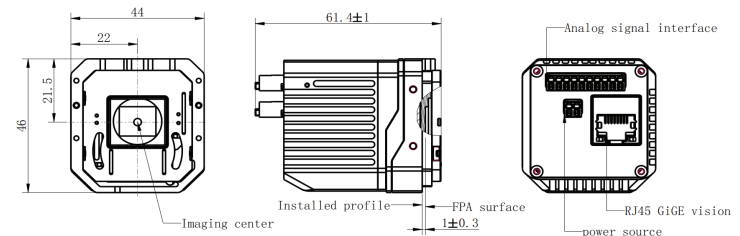
Model

Model	ThermEye3V	ThermEye6V
Detector	Uncooled VOx infrared FPA	
Resolution/ Pixel pitch	384x288/17μm	640x512/17μm
Spectral range	8~14um	
NETD	≤40mk@300K	
Focus Method	Athermalization&motorizated	
Digital zoom	1~8x Continuous	
Focal Length	Fixed lens: 9/15/19/25/35/40/50mm; Motorized: 25/35/40/50/75mm etc.	
Sun protection	Support, but as less as toward sun	

Image Effect

Image adjustment	Auto/manual adjustment for contrast ratio & brightness & acutance
Uniformity correction	Auto/manual shutter correction
Noise reduction	3DNR
Image process	IDE,HDR,sea-sky model etc
Palette	9 colors opted(rust, rainbow, white/black, etc.), palette customizable

Interface

Power Supply	DC12V （+9V~+15V）
Network interface	RJ45 10 M/100 M/1000M self-adaptive Ethernet port

Serial port	1xRS485, 1xRS232
Alarm	1x ch input, 1x ch output
Analog video	CVBS(75Ω)PAL
Storage	Micro-SD(FT), up to 64GB

Network

Video compression	H.264
Main-Stream	25fps (720*576)
Sub-stream	25fps (352*288)
Protocols	TCP/IP,ICMP,HTTP,DHCP,DNS,RTP,RTSP,RTCP,IGMP,802.1X , ONVIF(ProfileS)
API	SDK, third-party management platform, ONVIF
Common function	Hearbet, multi-user access control
Security	Support password protection, bonding MAC ID, IP filtration
Simultaneous Live View	Up to 10 channels
User/Host level	Up to 10 users, 3 levels: Administrator, Operator, General

General

Storage temperature	−45°C ~ +65°C	
Work temperature & humidity	-40℃~+60℃，＜90%RH	
Power consumption	<3W	
Size	60.9mm*44mm*46mm	61.4mm*44mm*46mm
Weight	<110g (w/o lens)	

ThermEye-D
IP Thermal Imaging Core

Product Features

■ Built-in video compression coding, easy for network transmission;

■ Intelligent high-temperature pre-alarming with variously adjustable grades;

■ Embedded intelligent analysis supports motion detection, line crossing detection, regional entry/exit detection;

■ Professional photoelectric zooming technology;

■ Abundant image algorithm: AGC, 3DNR, IDE.

Dimension

44
22
21
53
Imaging center

65.6±0.6
Installed profile
FPA surface
1±0.2

Wiring interface

Specifications
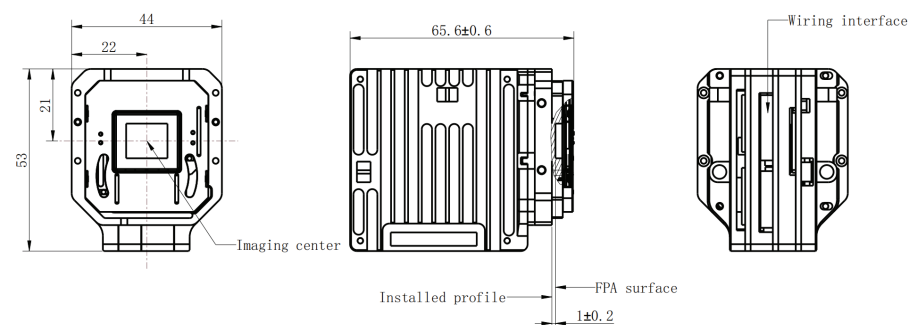
Model	ThermEye-D32	ThermEye-D62	ThermEye-D67
Detector	Uncooled VOx infrared FPA		
Resolution/ Pixel pitch	384x288/12μm	640x512/12μm	640x512/17μm
Spectral range	8～14um		
NETD	≤35mk@ 300K		
Focus Method	Motorized/Athermalized		
Focal Length	Fixed lens: 9/15/19/25/35/40/50mm; Motorized:25/35/40/50/75mm etc.		
Sun protection	Support, but as less as toward sun		

Image Effect

Image adjusting	Auto/manual adjustment for contrast ratio & brightness & acutance
Uniformity correction	Auto/manual shutter & background correction
Noise reduction	3DNR
Image process	IDE
Palette	9 colors opted(rust, rainbow, white/black, etc.), palette customizable
Intelligent functions	Motion detection, cross line, intrusion, area entry and exit. Automatic detection(human, vehicle and vessel), tracking, PIP

Measurement Temperature

Temperature Range	-20℃~+150℃
Accuracy of measurement	±8℃
Measurement method	3 temperature measurement rule types (points, areas, lines).
Common function	password protection, access control with multi-user

Smart Function

High temperature alarm	Yes, support rule to be set
VCA	4 VCA types for ThermEye-D32 only (motion detection, cross line, intrusion, area entry and exit)
AI	Human&vehicle, fire detection Fire detection

Network

Video compression	H.264/H.265
Main-Stream	25fps (768*576,384*288) 25fps (640*512) 25fps (640*512)
Sub-stream	25fps (384*288) 25fps (384*288) 25fps (384*288)
Protocol	IPv4/IPv6,HTTP,HTTPS,,FTP,DNS,NTP,RTSP,TCP,UDP,DHCP
API	SDK, third-party management platform, ONVIF ,CGI,ISAPI
Common function	Hearbet, password protection, multi-user access control
Security	Authorized user, bonding MAC ID, IP filtration
Simultaneous Live View	Up to 10 channels
User/Host level	Up to 9 users, 3 levels: Administrator, Operator, General

Interface

Power port	DC12V
Ethernet port	RJ45 10 M/100 M self-adaptive Ethernet
Serial port	Dual TTL or 1x TTL with 1x RS485
Alarm	1x ch input, 1x ch output
Storage	Embedded EMMC 16GB

General

Working temperature & humidity	-40℃～+60℃，＜90%RH
Storage temperature	－45°C ~ +75°C
Power consumption	<2W
Protection level	Anti-static protection, ESD contact 2KV, air contact 4KV
Size	65.6mm*44mm*53mm
Weight	<130g (w/o lens)

ThermEye-V
## IP Thermal Imaging Core

Product Features

- Lower power consumption;
- Intelligent high-temperature pre-alarming with various adjustable grades;
- Embedded intelligent analysis supports motion; detection.
- Line crossing detection, regional entry/exit detection;
- Abundant image algorithm: AGC, 3DNR, IDE;
- Support ONVIF protocol, easy to be integrated to third party and maintenance;
- Higher accuracy of measurement ±8℃ (max).

Dimension
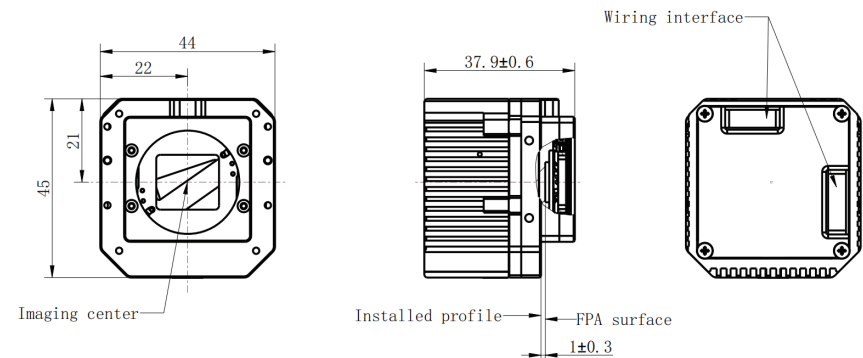
Item	ThermEye-V32	ThermEye-V62
Detector	Uncooled VOx infrared FPA	
Resolution/ Pixel pitch	384x288/12μm	640x512/12μm
Spectral range	8～14um	
NETD	≤35mk@ 300K	
Focus Method	Athermalization&motorizated	
Focal Length	Fixed lens: 9/15/19/25/35/40/50mm; Motorized:25/35/40/50/75mm etc.	
Sun protection	Support, but as less as toward sun	

Image Effect		
Image adjustment	Auto/manual adjustment for contrast ratio & brightness & acutance	
Uniformity correction	Auto/manual shutter & background correction	
Noise reduction	3DNR	
Image process	IDE	
Palette	9 colors opted(rust, rainbow, white/black, etc.), palette customizable	

Smart Function		
Temperature Range	-20℃~+150℃	
Accuracy of measurement	±8℃	
Measurement method	3 temperature measurement rule types (points, areas, lines).	

Smart Function		
High temperature alarm	Yes, support rule to be set	
VCA	4 VCA types for ThermEye-V32 only (motion detection, cross line, intrusion, area entry and exit)	
AI	Human&vehicle, fire detection	Fire detection

Network		
Video compression	IH.264/H.265	
Main-Stream	30fps (768*576,384*288)	30fps (640*512)
Sub-stream	30fps (384*288)	30fps (384*288)
Protocol	IPv4/IPv6,HTTP,HTTPS,,FTP,DNS,NTP,RTSP,TCP,UDP,DHCP	
API	SDK, third-party management platform, ONVIF ,CGI,ISAPI	
Common function	Hearbet, password protection, multi-user access control	
Security	Authorized user, bonding MAC ID, IP filtration	
Simultaneous Live View	Up to 10 channels	
User/Host level	Up to 9 users, 3 levels: Administrator, Operator, General	

Interface	
Power port	DC12V
Ethernet port	RJ45 10 M/100 M self-adaptive Ethernet
Serial port	1x RS485
Alarm	1x ch input, 1x ch output
Storage	Embedded EMMC 16GB

| General	
Working temperature & humidity	-20℃～+60℃，＜90%RH
Storage temperature	−45°C ~ +75°C
Power consumption	<1.5W
Size	37.9mm*44mm*45mm
Weight	<100g (w/o lens)

iThermal-T
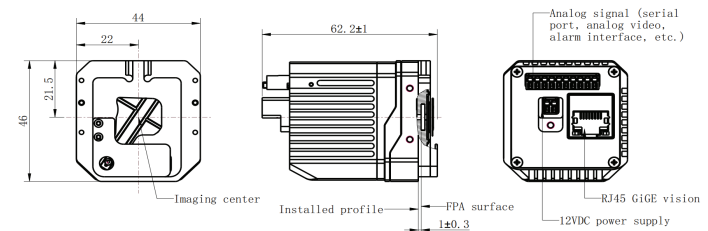## IP Thermographic Core

Product Features

- Full screen measurement function;

- Support event analysis of temperature image;

- Compact module design, convenient integration;

- Powerful image process: AGC, 3DNR, IDE;

- With original data for analysis.

Dimension

iThermal-T3
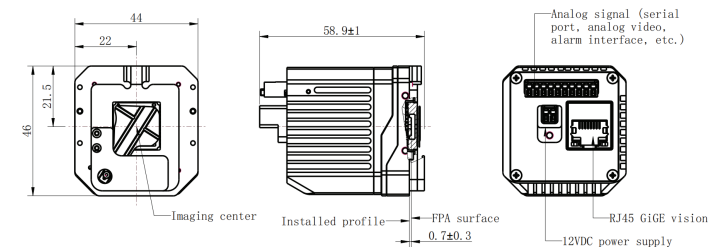
iThermal-T6

Item	iThermal-T3	iThermal-T6
Detector	Uncooled a-Si infrared FPA	
Resolution	384x288/17μm	640x480/17μm
Spectral range	8~14μm	
NETD	≤50mk@300K	
Focus method	Athermalization&motorizated	
Focal Length	6.6mm（iThermal-T3 only),9.6mm,15mm,19mm,25mm etc,. Motorized：25mm， 35mm,50mm etc,.	
Sun protection	Support, but as less as toward sun	

Image Effect

Image adjustment	Auto/manual adjustment for contrast ratio & brightness & acutance	
Uniformity correction	Auto/manual shutter correction	
Noise reduction	3DNR	
Image process	IDE,HDR,Linear model	
Palette	9 colors opted(rust, rainbow, white/black, etc.), palette customizable	

Measurement temperature

Temperature Range	-20℃~+400°C	
Accuracy of measurement	±5°C/±5%（max）	
Measurement method	Point/Line/Area/Frame etc,.	
Raw data	Yes	

Temperature Measurement

Video compression	H.264	
Main-Stream	25fps (720*576)	25fps (640*480)
Sub-stream	25fps (352*288)	25fps (352*288)
Protocol	TCP/IP,ICMP,HTTP,DHCP,DNS,RTP,RTSP,RTCP,IGMP,802.1X , ONVIF(ProfileS)	
API	SDK, third-party management platform, ONVIF	
Common function	Hearbet, multi-user access control	
Security	Support password protection, bonding MAC ID, IP filtration	
Simultaneous Live View	Up to 10 channels	
User/Host level	Up to 10 users, 3 levels: Administrator, Operator, General	

Interface

Power port	DC12V（+9V～+15V）	
Ethernet port	RJ45 10 M/100 M/1000 M self-adaptive Ethernet	
Serial port	1x RS232, 1x RS485	
Analog video	CVBS(75Ω)PAL	
Alarm	1x ch input, 1x ch output	
Storage	Micro-SD(FT) up to 64GB	

General

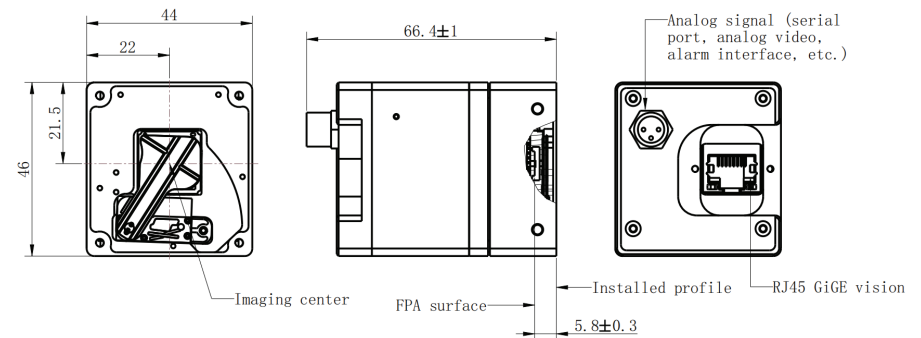|		
Working temperature & humidity	-20℃～+60℃，＜90%RH	
Storage temperature	－45°C～+65°C	
Power consumption	<3W	
Size	58.9mm*44mm*46mm	62.2mm*44mm*46mm
Weight	<110g （w/o lens）	

iThermal-S
Stable Thermomgraphic Core

Product Features

- High frame frequency image for rapid object;

- High accurate temperature measurement range;

- High range ability temperature measurement scale;

- Rapid response stabilization measurement, well-adapted environment.

Dimension

44
22
21.5
46
66.4±1
5.8±0.3
Imaging center
FPA surface
Installed profile
RJ45 GiGE vision
Analog signal (serial port, analog video, alarm interface, etc.)

Item	iThermal-S3	iThermal-S6
Detector	Uncooled a-Si infrared FPA	
Resolution/Pixel pitch	384x288/17μm	640x480/17μm
Spectral range	8~14μm	
NETD	≤50mk@300K	
Focus method	Athermalization&motorizated	
Focal Length	6.6mm（iThermal-S3 only),10mm， 15mm,19mm,25mm etc,. Motorized： 25mm， 35mm,50mm etc,.	
Sun protection	Support, but as less as toward sun	

Image Effect

Image adjustment	Auto/manual adjustment for contrast ratio & brightness & acutance
Uniformity correction	Auto/manual shutter correction
Noise reduction	3DNR
Image process	IDE,HDR,Linear model
Palette	9 colors opted(rust, rainbow, white/black, etc.), palette customizable

Thermometry

Temperature Range	-20℃~+400°C
Accuracy of measurement	±2°C/±2% (max.)
Measurement method	Point/Line/Area/Frame, etc.
Raw data	Yes

Network

Video compression	H.264	
Main-Stream	25fps (720*576)	25fps (640*480)
Sub-stream	25fps (352*288)	25fps (352*288)
Protocol	TCP/IP,ICMP,HTTP,DHCP,DNS,RTP,RTSP,RTCP,IGMP,802.1X , ONVIF(ProfileS)	
API	RJ45 10 M/100 M/1000M self-adaptive Ethernet port	
Common function	Hearbet, multi-user access control	
Security	Support password protection, bonding MAC ID, IP filtration	
Simultaneous Live View	Up to 10 channels	
User/Host level	Up to 10 users, 3 levels: Administrator, Operator, General	

Interface

Power port	DC12V（+9V～+15V）
Ethernet port	RJ45 10 M/100 M/1000 M self-adaptive Ethernet
Serial port	1x RS232, 1x RS485
Analog video	CVBS(75Ω)PAL
Alarm	1x ch input, 1x ch output
Storage	Micro-SD(FT) up to 64GB

General

Working temperature & humidity	-20°C～+60°C; <90%RH
Storage temperature	-45℃～+65℃
Power consumption	<3W
Size	66.4mm*44mm*46mm
Weight	<300g （w/o lens）

Quantum500D/700D
## Security Analog Thermal imaging Core
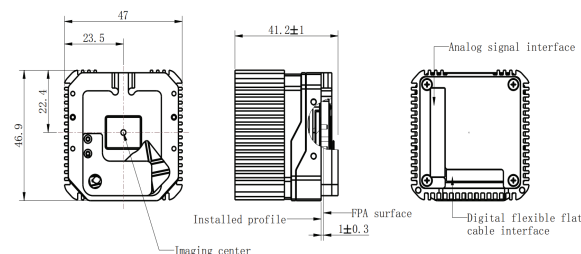
Product Features

- Powerful IDE image detail enhancement algorithm;
- Leading HDR (Wide Dynamic Range) processing technology;
- Professional photoelectric zooming technology;
- Support digital video output;
- Extensible interfaces for further development;
- Various uncooled infrared detector: a-Si and Vox.

Dimension

Quantum700D

Quantum500D

Specifications
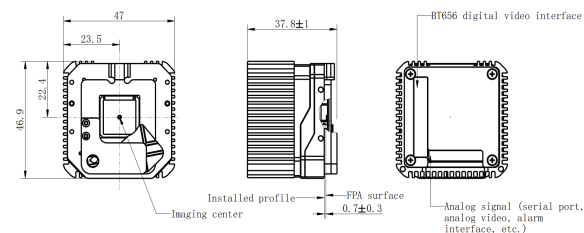
Item	Quantum700-D	Quantum500-D
Detector	Noncrystalline infrared FPA	
Resolution/Pixel pitch	384x288/17μm	640x480/17μm
NETD	≤50mk@300K	
Spectral range	8~14μm	
Focus Method	Athermalization&motorizated	
Focal length	Fixed lens: 9/15/19/25/35/40/50mm; Motorized:25/35/40/50/75mm etc.	
Digital zoom	1~8x Continuous	

Image Effect

Image adjustment	Auto adjustment for contrast ratio & brightness & acutance	
Uniformity calibration	Manual/Auto shutter	
Noise reduction	3DNR	
Image process	IDE,HDR	

Palette	9 Pseudo color palettes changeable	
Analog video	720*576,PAL	

Interface

Power interface	DC:12V（+9~+15V）	
Analogue video	CVBS（75Q） PAL/NTSC （Optional）	
Series port	RS485/RS232/RS422	
Digital video	BT656	

General

	Quantum700-D	Quantum500-D
Working temperature/humidity	-40℃～+60℃,＜90%RH	
Storage temperature	-45℃～+65℃	
Power Consumption	≤1.5w	≤1.8w
Size(L×W×H)	37.8mm*47mm*46.9mm	41.2mm*47mm*46.9mm
Weight	＜105g	

Quantum700V-D/500V-D

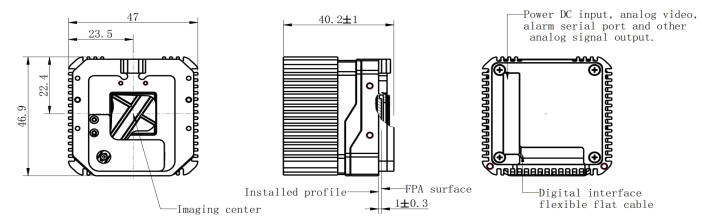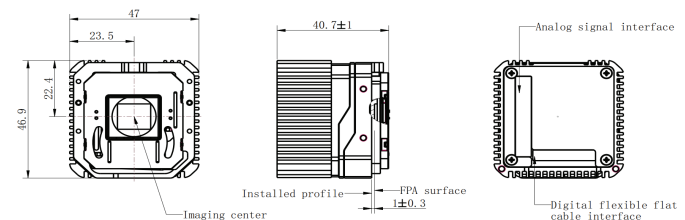## High Sensitivity Analog Thermal Imaging Core

Product Features

- Leading HDR (Wide Dynamic Range) processing technology;

- Professional photoelectric zooming technology;

- Support digital video & analog video output;

- Various types of uncooled infrared detectors: a-Si and Vox.

Dimension

Quantum700V-D


```
47
23.5
46.9   22.4
Imaging center

40.2±1
Installed profile      FPA surface
                       1±0.3

Power DC input, analog video,
alarm serial port and other
analog signal output.
Digital interface
flexible flat cable
```

Quantum500V-D


```
47
23.5
46.9   22.4
Imaging center

40.7±1
Installed profile      FPA surface
                       1±0.3

Analog signal interface
Digital flexible flat
cable interface
```

Specifications

Item	Quantum700V-D	Quantum500V-D
Detector	Uncooled Vox infrared FPA	
Resolution/Pixel pitch	384x288/17μm	640x512/17μm
NETD	≤40mk@300K	
Spectral range	8~14μm	
Focus Method	Athermalization&motorizated	
Focal length	FFixed lens: 9/15/19/25/35/40/50mm; Motorized:25/35/40/50/75mm etc.	
Digital zoom	1~8x Continuous	

Image Effect

Image adjustment	Auto adjustment for contrast ratio & brightness & acutance	
Uniformity calibration	Manual/Auto shutter	
Noise reduction	3DNR	
Image process	IDE,HDR	

Palette	9 Pseudo color palettes changeable	
Analog video	720*576,PAL	

Interface

Power interface	DC:12V（+9~+15V）	
Analogue video	CVBS（75Q） PAL/NTSC（Optional）	
Series port	RS485/RS232/RS422	
Digital video	BT656	

General

Working temperature/humidity	-40℃～+60℃,＜90%RH	
Storage temperature	-45℃～+65℃	
Power Consumption	≤1.5w	≤1.8w
Size(L×W×H)	40.2mm*47mm*46.9mm	40.7mm*47mm*46.9mm
Weight	＜105g	

M702C/M502C
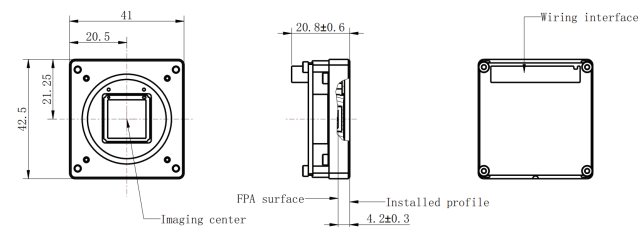
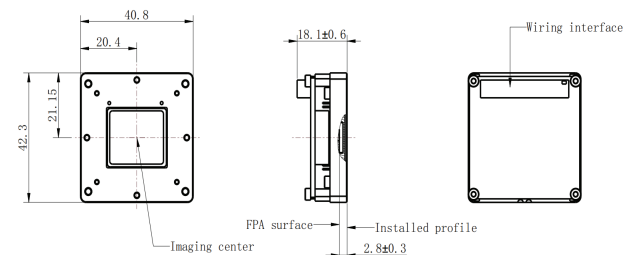## Analog NST Thermal Imaging Core
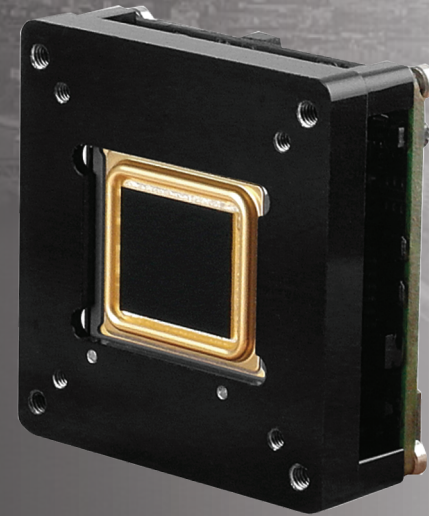
Product Features

- No shutting with non-uniformity calibrating technology (NUC);
- Super low power consumption less than 0.8W;
- Compact design and light weight;
- High performance of temperature impact and environmental adaptability.

Dimension

M702C

M502C

Item

| Item	M702C	M502C
Detector	Noncrystalline infrared FPA	
Resolution/Pixel pitch	384x288/17μm	640x480/17μm
NETD	≤50mk@300K	
Spectral range	8~14μm	
Focus Method	Fixed lens	
Focal length	9/15/19/25/40/50mm etc	

Image Effect

Image adjustment	Auto adjustment for contrast ratio & brightness & acutance	
Uniformity calibration	NST	
Noise reduction	Digital filter	
Palette	9 Pseudo color palettes changeable	
Resolution	768*576	640*480

Interface

Power interface	DC:+2.5V～5.5V
Analogue video	Double channels
Series port	RS232
Digital video	BT656(29.5MHz)
Keyboard	4 buttons keyboard

General

|		
Working temperature /humidity	-20℃～+60℃, for special using:-40℃～+60℃,5%～95%RH	
Storage temperature	-45℃～+65℃	
Power Consumption	≤0.8w	≤1.1w
Protection level	Shock resistance, vibration:GJB150-16 2.3.1, shock:GJB150-18, testing 7 100g/6ms	
Size(L×W×H)	20.8mm*41mm*42.5mm	18.1mm*41mm*42.3mm
Weight	<40g	

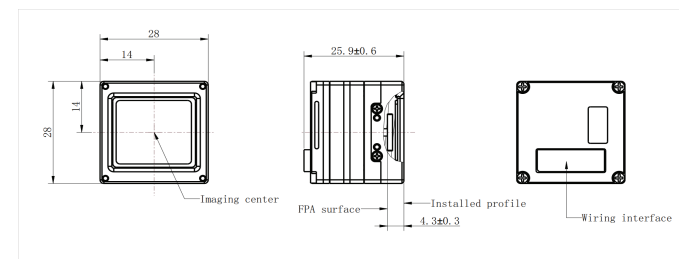# ATOM502C

Mini Analog Thermal Imaging Core
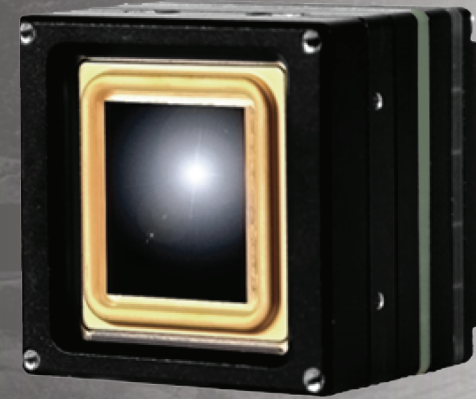
Product Features

- No shutting with non-uniformity calibrating technology;
- Super low power consumption: ≤0.9W;
- Compact design;
- Instantaneous boot: <4S;
- Real time with no delaying image output;
- High performance of temperature impact and environmental adaptability;
- Strengthen structure, high anti-vibration&anti-shock level.

Dimension

ATOM702C
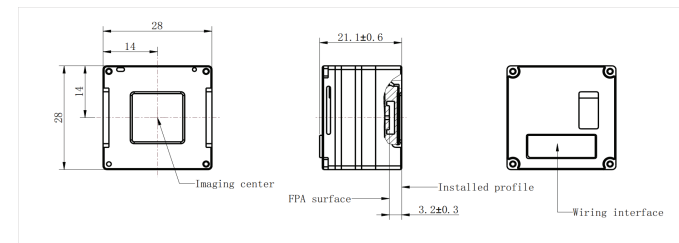
ATOM502C

Item

Item	ATOM702C	ATOM502C
Detector	Noncrystalline infrared FPA	
Resolution/Pixel pitch	384x288/17μm	640x480/17μm
NETD	≤50mk@300K	
Spectral range	8~14μm	
Focus Method	Fixed lens	
Focal length	9/15/19/25/40/50mm etc	

Image Effect

Image adjustment	Auto adjustment for contrast ratio & brightness & acutance	
Uniformity calibration	NST	
Noise reduction	Digital filter	
Palette	9 Pseudo color palettes changeable	
Resolution	768*576	640*480

Interface

Power interface	DC:+2.5V～5.5V
Analogue video	Double channels
Series port	RS232
Digital video	BT656(29.5MHz)
Keyboard	4 buttons keyboard

General

Working temperature /humidity	-20℃～+60℃, for special using:-40℃～+60℃,5%～95%RH	
Storage temperature	-45℃～+65℃	
Power Consumption	≤0.9w	
Protection level	Shock resistance, vibration:GJB150-16 2.3.1, shock:GJB150-18, testing 7 100g/6ms	
Size(L×W×H)	21.1mm*28mm*28mm	25.9mm*28mm*28mm
Weight	<32g	

Lens Indexes for Detectors

Athermalized Lens

Focal Length (mm)	Effective Measuring Distance (m)
6.6mm	1.0m - 5.0m
10mm	2.0m - 9.0m
15mm	2.0m - 13.0m
19mm	2.0m - 16.0m
25mm	2.0m - 24.0m

Motorized Lens

Focal Length (mm)	Effective Measuring Distance (m)
15mm	2.0m - 15.0m
25mm	2.0m - 25.0m
35mm	2.0m - 35.0m
50mm	2.0m - 40.0m

Notes: The table is for reference only, and the performance may vary according to different environments.

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