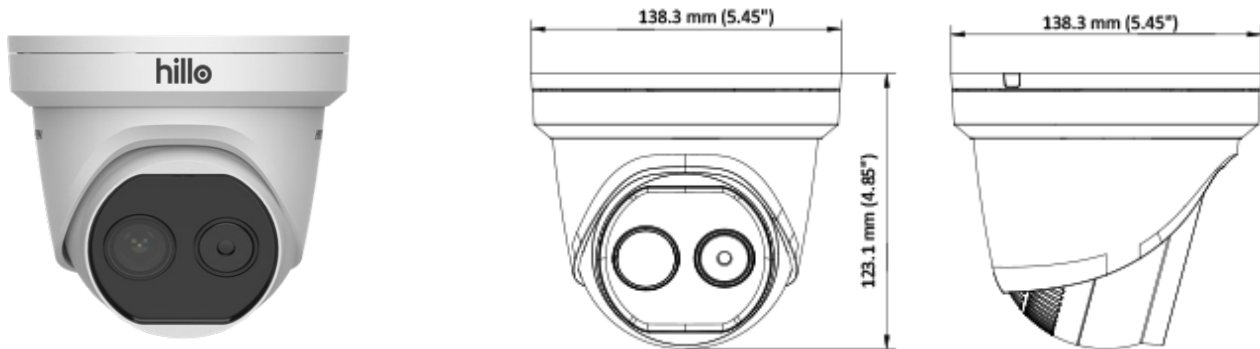


# HL-THPN4-6.0-1.0

## Thermal & Optical Network Turret Camera

### DIMENSIONS



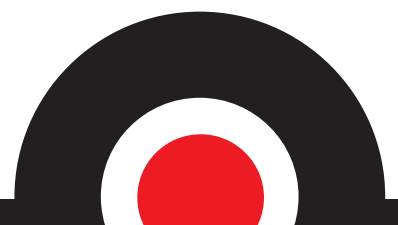
Hillo HL-THPN4-6.0-1.0 Thermal & Optical Network Turret Camera equipped with built-in GPU which supports intelligent behavior analysis algorithm, can realize high-precision VCA detection and real-time alarm. It is applied to fire-prevention purposes in indoor space such as engine room, ATM, conference room, warehouse, museum, train station, gem, power station, and so on. The pre-alarm system helps you discover unexpected events immediately and protects your property.

### SMART FUNCTION (THERMAL IMAGING)

- Image processing technology: adaptive AGC, DDE, 3D DNR, NETD less than 40 mK (25°C), F# = 1.1
- Behavior analysis function, based on deep learning algorithm: Line crossing, Intrusion, Region Entrance & Exit
- Temperature exception alarm function
- Fire detection algorithm
- Bi-spectrum image fusion, picture in picture preview

### THERMAL IMAGING MODULE FUNCTION

- 160 × 120 (the resolution of output image is 320 × 240) resolution sensor, high sensitivity sensor
- 3D DNR, 15 palettes of color adjustable, image detail enhancement and contrast adjustment
- Mirror image, digital zoom ×2, ×4, ×8



Thermal Module	
Image Sensor	Vanadium Oxide Uncooled Focal Plane Arrays
Max. Resolution	160 × 120 (the resolution of output image is 320 × 240)
Pixel Interval	17 μm
Response Waveband	8 μm to 14 μm
NETD	Less than 40 mK (25°C), F# = 1.1
Lens (Focal Length)	6.2 mm
IFOV	2.74 mrad
Field of View	25.0° × 18.7° (H × V)
Min. Focusing Distance	0.6 m
Aperture	F1.1
Optical Module	
Max. Image Resolution	2688 × 1520
Image Sensor	1/2.7" Progressive Scan CMOS
Min. Illumination	Color: 0.0089 Lux @ (F1.6, AGC ON), B/W: 0.0018 Lux @ (F1.6, AGC ON)
Shutter Speed	1s to 1/100,000s
Lens (Focal Length)	8 mm
Field of View	39.42° × 22.14°(H × V)
WDR	120 dB
Day & Night	IR cut filter with auto switch
Image Function	
Bi-spectrum Image Fusion	Fusion view of thermal view and overlaid details of the optical channel
Picture in Picture	Combines details of thermal and optical image PIP, overlay thermal image on optical image
Smart Function	
VCA (Video Content Analysis)	4 VCA rule types (Line Crossing, Intrusion, Region Entrance, and Region Exiting), up to 8 VCA rules totally.
Temperature Measurement	3 temperature measurement rule types, 21 rules (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 point detection, up to 10 fire points detectable.
Infrared	
IR Distance	Up to 15 m
IR Intensity and Angle	Automatically adjusted
Network	
Main Stream	Visible Light: 50Hz: 25fps (2688 × 1520), 25fps (1920 × 1080), 25fps (1280 × 720) Visible Light: 60Hz: 30fps (2688 × 1520), 30fps (1920 × 1080), 30fps (1280 × 720) Thermal: 1280 × 720, 704 × 576, 640 × 480, 352 × 288, 320 × 240



Sub-Stream	Visible Light: 50Hz: 25fps (704 × 576), 25fps (352 × 288), 25fps (176 × 144) Visible Light: 60Hz: 30fps (704 × 480), 30fps (352 × 240), 30fps (176 × 120) Thermal: 704 × 576, 352 × 288, 320 × 240
Video Compression	H.265/H.264/MJPEG
Audio Compression	G.711u/G.711a/G.722.1/MP2L2/G.726/PCM
Protocols	TCP/IP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, RTCP, PPPoE, NTP, UPnP, SMTP, SNMP, IGMP, 802.1X, QoS, IPv6, UDP, Bonjour
Simultaneous Live View	Up to 20
User/Host Level	Up to 32 users, 3 levels: Administrator, Operator, User
Security Measures	User authentication (ID and PW), MAC address binding, HTTPS encryption, IEEE 802.1x access control, IP address filtering
<b>Integration</b>	
Alarm Input	1-ch inputs (0-5 VDC)
Alarm Output	1-ch relay outputs, alarm response actions configurable
Alarm Action	SD recording/relay output/smart capture/FTP upload/email linkage
Audio Input	1, 3.5 mm Mic in/Line in interface. Line input: 2 - 2.4 V [p-p], output impedance: 1 KΩ ± 10%
Audio Output	Linear level; impedance: 600 Ω
Reset	1 Reset Button
Communication Interface	1, RJ45 10M/100M Self-adaptive Ethernet interface. 1, RS-485 interface
SD Memory Card	Built-in MicroSD card slot, supporting MicroSD/SDHC/SDXC card (up to 256 G), supports manual/alarm recording
Analog Video Output	1.0 V [p-p]/75 Ω, PAL/NTSC
Application Programming	Open-ended API, supporting ISAPI, HIKVISION SDK, and third-party management platform
Client	iVMS-4200, Hik-Connect
Web Browser	IE9+, chrome31-44, Firefox 30-51, Safari 5.02+ (mac)
<b>General</b>	
Menu Language	32 languages 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 ± 20%, two-core terminal block PoE (802.3af, class 3)
Power Consumption	12 VDC ± 20%: 0.5 A, max. 6 W PoE (802.3af, class 3): 42.5 V to 57 V, 0.14 A to 0.22 A, max. 6.5 W
Working Temperature/Humidity	-40 °C to 65 °C (-40 °F to 149 °F) 95% or less
Protection Level	IP66 Standard, TVS 6000V Lightning protection, surge protection, voltage transient protection
Dimension	138.3 mm × 138.3 mm × 123.1 mm (5.45" × 5.45" × 4.85")
Weight	940 g (2.07 lb)



## DETECTION RANGE TABLE

\* The table is only for reference, and the performance may vary from camera to camera.

### Smart Functions Range

Different targets trigger the VCA events within different range limits.

VCA Range (Vehicles: 1.4 × 4.0 m)	VCA Range (Humans: 1.8 × 0.5 m)	Temperature Measurement (Object: 2 × 2 m)	Temperature Measurement (Object: 1 × 1 m)	Fire Detection (Object: 2 × 2 m)	Fire Detection (Object: 1 × 1 m)
126 m	42 m	132 m	66 m	360 m	180 m

### Wide Range Coverage

There is range limit for detecting, recognizing, and identifying human/vehicle targets.

Detection Range (Vehicles: 1.4 × 4.0 m)	Detection Range (Humans: 1.8 × 0.5 m)	Recognition Range (Vehicles: 1.4 × 4.0 m)	Recognition Range (Humans: 1.8 × 0.5 m)	Identification Range (Vehicles: 1.4 × 4.0 m)	Identification Range (Humans: 1.8 × 0.5 m)
559 m	182 m	140 m	46 m	70 m	23 m

