FLIR® HDC

Long-range thermal imaging cameras for
border and coastal surveillance applications

Thermal imaging in
HIGH DEFINITION

FLIR® HDC

Thermal imaging cameras for ultra long range surveillance applications with cooled detector

The FLIR® HDC enables users to see more details at long range without losing situational awareness with twice the wide area coverage at any distance compared to 640x480 systems. The FLIR® HDC provides a 16:9, wide screen video to show more of the scene at a glance.

Using a cooled detector, the FLIR® HDC provides exceptional long range performance with detection of man-sized targets beyond 16km and vehicles beyond 20km. The system also supports continuous zoom to maintain situational awareness with target focus in both a wide field of view and during zoom for effective target assessment. This capability ensures users always have an optimized field of view for targets at any range.

The system also features the new FLIR Image Processing Engine with advanced algorithms developed to generate a perfect picture with minimal adjustment and includes patented features such as FLIR® DDE and CRISP. Auto perfect mode creates a clear image in any circumstance.

Developed under the unique FLIR® CDMQ™ process (Commercially Developed, Military Qualified), the FLIR® HDC delivers a military quality system, designed to work 24/7 with unmatched reliability.

Cooled detector
The HDC are equipped with a mid-wave, cooled detector. A thermal imaging camera with a cooled detector gives you the advantage that you can see and detect potential threats much farther away than with an uncooled detector. But there is more. Objects which are at a close distance can be seen with much more detail. You can see what people are carrying. There is no need anymore to send someone out in the field to take a closer look since small details can clearly be seen on the thermal image.

The FLIR® HDC is equipped with a cooled Indium Antimonide (InSb) detector.

High Definition 1280 x 720 Detector
See more details at long range without losing situational awareness. Twice as wide area coverage at any distance compared to 640x480 system.

It allows the user to see more detail and detect more and smaller objects from a farther distance. Coupled with high sensitivity, the HDC offer extremely long range performance and excellent image quality.

16:9 wide screen
Provides a 16:9 wide screen video that shows more of the important part of the scene and fits well on modern screens.

22x continuous optical zoom on the thermal image
The HDC thermal imaging camera is equipped with powerful continuous optical zoom capability on the thermal image. It offers excellent situational awareness but also the possibility to zoom-in, and see more detail, once a target has been detected. This way operators can see farther recognize more detail and react more quickly to security threats. The advantage of continuously zooming compared to other systems that are using a rotating lens system is that there is no switch or swapping between the different images. You can gradually zoom in while keeping your focus all the time.

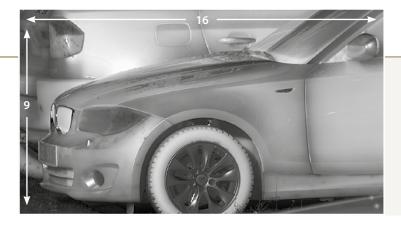All systems are also equipped with a 16x continuous digital zoom.

Continuous optical zoom on the thermal image

The benefits of thermal imaging in HD

- See more details at long range
- Twice as wide area coverage, compared to 640x480 systems
- 22x optical continuous zoom

Advanced image processing features

Auto perfect mode creates a perfect image, in any condition. Minimal operator adjustment is needed. Auto perfect mode provides better contrast scenes. This is possible thanks to FLIR's patented advanced image processing algorithms like:

- Advanced Digital Detail Enhancement (DDE)

FLIR Systems has developed a powerful algorithm that helps to overcome the problem of finding low contrast targets in high dynamic range scenes. Advanced Digital Detail Enhancement (DDE) assures clear, properly contrasted thermal images. DDE delivers a high contrast image even in extremely dynamic thermal scenes. It provides high quality thermal imaging in any night- or daytime environmental conditions.

- Clear regional image sharpness (CRISP)

Where DDE is designed for creating a perfect image in high contrast scenes, CRISP does the same in low contrast scenes.

Standard high definition thermal image

Optimized high definition thermal image

Auto focus

The FLIR® HDC contains an exclusive auto focus feature which delivers crisp, clear images at the press of a button. Focus is kept while zooming in or out. The system allows you to experience better situational awareness in the wide field of view, while maintaining detailed recognition capabilities in the narrow field of view.

Easy and fast to install

All cameras incorporate easily with common power and video interfaces found in existing and new security systems. They can be easily integrated into any existing infrastructure providing early detection and visibility 24/7 all the year round. The images from the 1280 x 720 pixels detector can be displayed as MPEG4-format or high end HD SDI format.

Portability

All systems are configured to be either fixed mounted or field transportable for fast deployment. They can be mounted on a standard tripod. A single operator can set up the system in minutes, making it ideal for mobile operations and quick deployments.

Designed for use in harsh environments

All systems are extremely rugged. Their vital core is well protected against humidity and water. It operates between -32°C to +55°C.

Multiple installation options

The FLIR® HDC comes with a TCP/IP interface that supports Nexus™ and multiple common standard protocols to provide video over IP. The IRIG B synchronization enables integration into demanding applications where accurate time stamping video is required. The video can be syncronized with external sources.
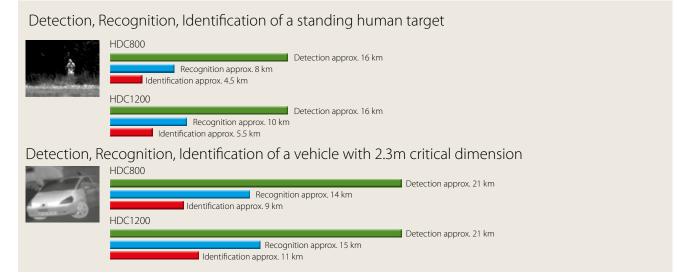
Easy upgradable

The HDC can easily be upgraded with new software features and developments in the future. This can be done from the control room, no need to open up the camera. This makes the HDC a state-of-the-art system for many years to come.

Technical specifications

	HDC800	HDC1200
IMAGING PERFORMANCE		
Detector type	1280x720 InSb focal plane array	
Spectral range	3 to 5 µm	
Narrow field of view	1.4° x 0.8°	0.95° x 0.55º
Wide field of view	30° x 17°	20.9° x 11.75º
Focus	Automatic or Manual	
Continuous Zoom options	Optical 22x, digital zoom 16x	
Image processing	IP Engine, incl. auto DDE, CRISP, High performance	
Frame rates	50/60Hz (100Hz with windowing)	
SYSTEM INTERFACES		
System interface	38999 Series III connectors	
Video	HD SDI according to SMPTE 292M, GigE IP: MPEG4/H-264	
Command and Control	TCP/IP, Gigabit Ethernet 1000 BASE-T, Nexus, and multiple standard protocols, RS485 - 4 wire	
POWER REQUIREMENTS		
Input power	18-32 VDC. MIL-STD 1275D (Normal Operating mode)	
Power Consumption	80W (approx. 180W with heaters)	
ENVIRONMENTAL SPECIFICATIONS		
Operating temperature range	-32℃ to +55℃	
Storage temperature range	-45℃ to +70℃	
Automatic Window defrost	Yes	
EMC / EMD	CE tested which requires compliance with the following procedures: Emission: EN61000-6-4 Immunity: EN61000-6-2 FCC 47 CFR part 15 Class B	
Rain	MIL STD 810G, 506.5	
Humidity	Mil-Std-810F, 507.5 procedure II	
Sand/dust	Mil-Std-810F, 510.5, procedure II	
Shock	Mil-Std-810F, 516.6, procedure I	
Vibration	Mil-Std-810C, 514.2 - procedure VIII, Sinus Min. of 10mm and 1.0 g, 514.¤ procedure ISaw tooth, 20g (peak)/11ms	
Solar radiation	Mil-Std-810F, 505.5 - procedure I, cycle A1	
IP rating	IP66	
DIMENSION & WEIGHT		
Size	625 x 260 x 315 mm	
Weight	20 kg	

Detection, Recognition, Identification of a standing human target

HDC800
Detection approx. 16 km
Recognition approx. 8 km
Identification approx. 4.5 km

HDC1200
Detection approx. 16 km
Recognition approx. 10 km
Identification approx. 5.5 km

Detection, Recognition, Identification of a vehicle with 2.3m critical dimension

HDC800
Detection approx. 21 km
Recognition approx. 14 km
Identification approx. 9 km

HDC1200
Detection approx. 21 km
Recognition approx. 15 km
Identification approx. 11 km

Actual range may vary depending on camera set-up, environmental conditions, user experience and type of monitor or display used. Assumptions: 50 % probability of achieving objective at specified distance given approximately 2℃ temperature difference and 0.82 / km atmospheric attenuation factor. DRI according to Johnson Criteria.

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