



TEMPESTINI GROUP

Thermal imaging cameras for security and surveillance applications

Portable thermal imaging cameras
for security and law enforcement applications



TMP-H-Series



TMP-HS-324 with 2X extender

TMP-HS-324





The TMP- H-Series are portable shock-resistant thermal imaging cameras. They produce a crisp image in the darkest of nights. Thanks to the TMP-H-Series, security professionals and law enforcement officers can see suspects in total darkness, through smoke, and light foliage. The TMP-H-Series are excellent tools for walking patrols that need to secure industrial sites or borders, customs and law enforcement officers and all others that need to see what is happening in total darkness, in all weather conditions, without being seen themselves.

Extremely affordable

The TMP-H-Series are extremely affordable units. From now on, everyone can afford thermal night vision. Price is no longer an issue. There is no need anymore to use less effective night vision technologies.

Crisp thermal images

The TMP-H-Series produce thermal images of 320 x 240 pixels on which the smallest of details can be seen. Advanced internal camera software delivers a crisp image without the need for user adjustments.

Choice of lenses

The TMP-HS-324 is equipped with a 19 mm lens providing a 24° field of view. It offers an excellent combination of range performance and situational awareness.

For longer range performance, the TMP-HS-324 can be equipped with a 2X extender which offers a 12° field of view.

Users that want to see farther can choose for the TMP-HS-307. Equipped with a 65 mm lens, providing a 7° field of view, it allows the user to spot a man-sized target at a distance of up to 1.5 kilometer.

Digital zoom

A 2X digital zoom allows you to have an even closer look at the situation when necessary.

Extremely portable and rugged

Weighing 660 grams, batteries included, the TMP-H-Series are extremely compact and extremely light systems. They are ideal for go-anywhere operations, in all circumstances. They are IP67 rated and operate between -20°C and +60°C.





Easy-to-operate

Ergonomic and easy-to-use, the TMP-H-Series are fully controlled with just 5 buttons on top of the unit. Conveniently placed, all buttons are right underneath your fingertips.

Ideal for covert operations

In operation, the TMP-H-Series are totally silent units. A shuttered eye-piece allows the operator to remain fully covert, in total darkness.



Hot shoe

The TMP-H-Series comes standard with a "hot shoe" which can easily be mounted on the camera. The "hot shoe" has a power in and video-out connection. This means that the TMP-H-Series can be fully operational on a tripod while charging the batteries.

Long battery life

The TMP-H-Series have an operating time of over 5 hours on a single charge.

They work on 4 rechargeable AA NiMH batteries. The TMP-H-Series can also run on standard commercial off the shelf non rechargeable Alkaline or Lithium Ion AA batteries.

Different versions available

Both the TMP-HS-324 and TMP-HS-307 are available in different versions:

The standard version of the TMP-H-Series contains all necessary features for covert surveillance. To see without being seen, in all weather conditions, in the darkest of nights.

The Pro version of the TMP-HS-324 and TMP-HS-307 comes with a number of useful features such as:

- **Image storage for evidence gathering:** Allows storing thermal images in JPEG format on a removable SD-card by the touch of a button. A 1 GB SD-card holds up to 20,000 images.
- **Video storage:** By holding a button, the Pro version of the TMP-H-Series has the ability to record full frame rate MPEG-4 video. The TMP-H-Series can record more than 2 hours of video on a 1 GB SD-card. This video can be used as evidence afterwards.
- **USB2 connection:** Can be used to transfer the saved images to a PC and to set the realtime clock.
- **Real-time clock:** Encodes the date and time on captured still images and video.



TMP-H-Series: also in broad daylight

The TMP-H-Series are not only excellent tools for spotting intruders in total darkness. Thermal contrast is extremely difficult to mask so people trying to camouflage themselves or trying to hide in bushes or shadows, will become immediately visible on a thermal image.





TMP-H-Series: The power of thermal imaging in the palm of your hand

1 POWER button

Initial powering takes 60 seconds. Once on, the system is set to stand-by with a single quick press on the power button. The battery lifetime in this standby mode is more than 120 hours. Another quick press on the power button returns to ON mode. To preserve battery power in the "ON Status", auto stand-by is initiated if no buttons are pressed for 3 minutes.

2 RECORD button

Operational on the Pro version only. A single fast press of the RECORD button records a single frame of data to the SD-card. During this operation the image is frozen for approximately 1 second. If the operator presses and holds the RECORD button for more than 2 seconds video recording is started and continued until the operator releases the button. During video recording a "record icon" is visible in the viewfinder.

3 ZOOM button

Each press on the ZOOM button cycles between 2X zoom and normal view. A zoom icon is presented in the viewfinder during zoom.

4 Black hot / White hot button

Each press on the Black Hot /White Hot button cycles between Black Hot and White Hot modes.

5 BRIGHTNESS button

Each press on the BRIGHTNESS button increments to the next of 5 display brightness levels. When the maximum display brightness is reached, subsequent button presses decrement the display brightness until the minimum brightness level is reached. Thanks to this adjustable brightness, you will be able to keep your night-sight capabilities.

6 Shuttered eye-piece

Avoids light coming out of the viewfinder. It allows the operator to stay fully covert.

7 Rugged design

Ready for go-anywhere operations. In all weather conditions.

8 Different lens options available

According to your needs you can choose for the TMP-HS-324 with a 24° field of view or TMP-HS-307 with 7° field of view.

9 Hand strap

The TMP-H-Series have a hand strap on both sides of the camera for both left- or right handed use.

10 SD-card slot

The Pro version allows images and video, which can later be used as evidence, to be stored on a removable SD-card.

11 USB2 connection

Allows for fast transfer of images from the TMP-H-Series Pro to a PC. 12 Battery compartment Contains 4 AA batteries.





Features and accessories

Shuttered eye-piece

The TMP-H-Series have a bellows eye cup. It prevents light from coming out of the viewfinder, helping the operator to stay covert.



Lens protection

A lens cap, able to open 180°, assures that the lens is protected when the TMP-H-Series are out in the field but not in use. It does not hinder the operator when the TMP-H-Series are in operation.

Hot shoe

The TMP-H-Series come standard with a "hot shoe" which can easily be attached to the camera. It allows to charge the camera and connect the camera to a PC while the camera is mounted on a tripod.



Extender lens

The TMP-HS-324 can be equipped with a 2X extender lens. It offers a 12° field of view for longer range performance.

Carrying bag

The Pro version of the TMP-H-Series comes standard with a robust carrying bag that protects the TMP-H-Series when out in the field.



Car power adaptor

Both versions of the TMP-H-Series come standard with a car power adaptor to charge the batteries of the TMP-H-Series thermal imaging cameras on the road.



Thermal imaging versus image intensification (I2)

Image intensification, also referred to as I₂ technology, amplifies small amounts of visible light thousands of times so that objects can be seen at night. Image intensification does require a certain level of ambient light, but even starlight can produce an image on a cloudless night. Because the system requires at least a minimum level of ambient light, conditions such as heavy overcast can limit its effectiveness. Similarly, too much light may overwhelm the system and reduce its effectiveness.

Thermal imaging cameras like the TMP-H-Series offer substantial benefits over image intensification. They work by detecting the heat energy being radiated and need no light at all to produce a clear image in the darkest environments. Thermal imaging cameras are not affected by the amount of light so that you will not be blinded when looking at a light source.



Image intensification: image is saturated by looking directly to a light source.



Thermal imaging: is not affected by the light and produces a clear image.

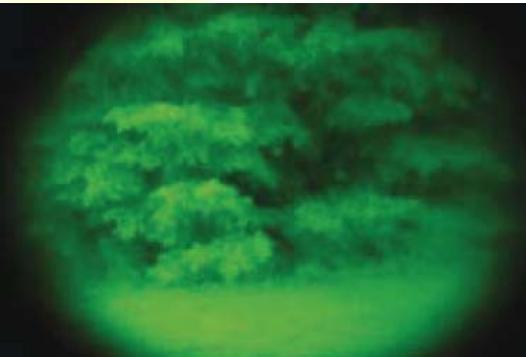


Image intensification: suspect hiding in bushes is practically invisible.



Thermal imaging: suspect hiding in bushes is clearly visible since thermal contrast is practically impossible to mask

A large number of applications

Thanks to the extremely affordable TMP-H-Series, more and more users can now benefit from the power of thermal imaging cameras.



A flashlight illuminates only a small part of the scene. It also makes you a potential target.



The H-Series gives you complete overview of the situation while you will stay fully covert.



Security & Surveillance

Security patrols at ports, airports, nuclear plants, petrochemical facilities, warehouses, ... need to see in the darkest of nights.



Border patrols

If a threat is detected, border patrols are sent to the scene to further evaluate the situation. Seeing clearly in total darkness is a considerable advantage.



Law enforcement

Police, customs and other law enforcement officers want to see without being seen. Day and night.

Technical specifications

TMP-HS-324

IMAGING PERFORMANCE

Detector type
Spectral range
Field of view
Field of view with 2X extender
Thermal sensitivity
Image frequency
Focus
Electronic zoom
Image processing

IMAGE PRESENTATION

Viewfinder
Video output
Image Polarity

POWER

Requirements
Battery life

ENVIRONMENTAL SPECIFICATIONS

Operating temperature range
Storage temperature range
Humidity non condensing
Encapsulation
Drop

PHYSICAL CHARACTERISTICS

Camera weight incl. Lens and batteries
Camera size (L x W x H)
Shipping weight (camera + packaging)
Shipping size (camera + packaging) (L x W x H)
Shipping weight (2X extender + packaging)

PRO Version only

IMAGE STORAGE

Format
Storage functions

VIDEO STORAGE

Format
Storage functions

TMP-HS-307

Focal plane array, uncooled Vanadium Oxide (VOx) Microbolometer: 320 x 240 pixels
Spectral range: 7.5 to 13.5 μm
Field of view: 24° (H) x 18°(V) with 19 mm lens / 7° (H) x 5°(V) with 65 mm lens
Field of view with 2X extender: 12.0° (H) x 9°(V) with 19 mm lens / NA
Thermal sensitivity: <50 mK at f/1.0 at +25°C
Image frequency: 8.3 Hz Pal / 7.5 Hz NTSC
Focus: TMP-HS-324: Fixed - TMP-HS-324 with 2X extender and TMP-HS-307: Manual 2X
Image processing: Digital Detail Enhancement (DDE)

Built-in display - Color QVGA LCD
NTSC or PAL composite video; RCA jack
White hot / black hot; selectable
NTSC or PAL composite video; RCA jack
White hot / black hot; selectable

4 AA Batteries; rechargeable NiMH, non rechargeable Li-Ion or Alkaline
> 5 hours on NiMH batteries - 120 hours in stand-by with NiMH batteries

-20°C to +60°C
-40°C to +75°C
5% to 95%
IP67
Operational after 1 meter drop onto concrete

TMP-HS-324

660 grams
240 mm x 85 mm x 60 mm
2 kg
420 mm x 155 mm x 250 mm

TMP-HS-324 with extender

970 grams
265 mm x 85 mm x 75 mm
2 kg
420 mm x 155 mm x 250 mm

The 2X extender is being shipped in a separate box of approx. 1 kg

Standard JPEG - 1 GB SD-card
Single image

MPEG4 -1 GB SD-card
9Hz, full frame up to limit of SD-card, approx. 8 seconds / MB



INTERFACES

| | |
|---------|----------------------|
| SD-card | 1 slot |
| USB2 | Image transfer to PC |

PHYSICAL CHARACTERISTICS (PRO)

| | TMP-HS-324 Pro | TMP-HS-324 with extender Pro |
|--|--------------------------|--|
| Camera weight incl. Lens and batteries | 660 grams | 970 grams |
| Camera size (L x W x H) | 240 mm x 85 mm x 60 mm | 265 mm x 85 mm x 75 mm |
| Shipping weight (camera + packaging) | 3 kg | 3 kg |
| Shipping size (camera + packaging) (L x W x H) | 420 mm x 265 mm x 250 mm | 420 mm x 265 mm x 250 mm |
| Shipping weight (2X extender + packaging) | - | The 2X extender is being shipped in a separate box of approx. 1 kg |

Standard Package:

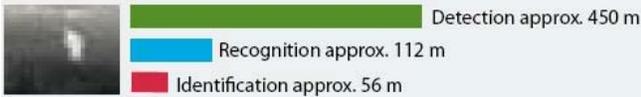
TMP-HS-307 or TMP-HS-324 handheld thermal imaging camera, 4 rechargeable batteries, hot shoe charging and video output attachment, Car power adaptor, Video output cable, AC charger, lanyard, manual

Optionally available:

Extra for Pro Version: 1 GB SD-card, USB cable, carrying bag
2X extender ring (for TMP-HS-324 only), pelican case upgrade

TMP-HS-324: range performance 19 mm lens

Man: 1.8 m x 0.5 m

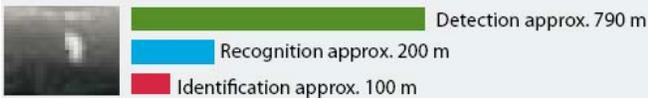


Object: 2.3 m x 2.3 m



TMP-HS-324: range performance 19mm lens + 2X extender lens

Man: 1.8 m x 0.5 m



Object: 2.3 m x 2.3 m



TMP-HS-307: range performance 65 mm lens

Man: 1.8 m x 0.5 m



Object: 2.3 m x 2.3 m

