NTX

STAINLESS STEEL THERMAL CAMERA WITH RADIOMETRIC FUNCTIONS

NTX

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DESCRIPTION

The NTX is an IP68 stainless steel thermal camera, developed to provide an efficient and preventative surveillance system in the most critical environmental conditions.

The NTX thermal camera offers temperature detection based on the 4 central pixels of the image, and with the advanced version, the temperature of a specific object can be measured at any point in the image by means of defining a specific area. As well as this, the radiometric functions offer the option to set a temperature limit, beyond which an alarm will be raised.

These functions are necessary where fire prevention is required or in applications such as monitoring industrial processes or critical equipment, where the ability to identify something quickly and accurately, thus preventing problems or failures and keeping intervention times to a minimum, is essential.

The NTX can export all the data necessary for a centralised management of video feeds, data and alarms, and make it available to VMS via the ONVIF Profile T, Profile S and Profile Q communication protocols.

The NTX camera is made entirely from electropolished AISI316L stainless steel and stands out thanks to its compact design and light weight. This, and the fact that it can be connected quickly, makes installation and maintenance easier. The modular support for wall, ceiling or parapet is supplied as standard.

The NTX has obtained Lloyd's Register Marine Type Approval certification for the maritime and naval sector and complies with the standard for railway applications. The fact that the NTX is extremely sturdy and of high quality means it is ideal for the most demanding applications in the marine and industrial sectors, in critical infrastructures, power plants and transport sector, including railways and motorway tunnels.

CERTIFICATIONS

MAIN FEATURES

- Made of electropolished AISI 316L stainless steel
- Radiometric analysis
- Complies with ONVIF, Profile Q, Profile S and Profile T
- Digitally signed firmware
- Complies with ONVIF Security Service specifications
- Thermal camera
  - Image Device: Uncooled VOx microbolometer
  - Lenses: 35mm, 25mm, 19mm, 13mm, 9mm
  - Resolution: 336x256 or 640x512
  - Image update frequency: 7.5Hz or 30Hz
- 1 input for remote reset and 1 relay output
- Power supply: 24Vdc/24Vac, PoE+
- Operating temperature: from -40°C (-40°F) up to +65°C (149°F)
- Quick connectors
- Built-in modular support

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TECHNICAL DATA

GENERAL

Simple installation thanks to quick connectors

Quick configuration and setup

Radiometric analysis:

- on the 4 central pixels, if the thermal camera has radiometric functions
- definition of a specific area, if the thermal camera has advanced radiometric functions

Radiometric alarm activation: If the temperature is over the threshold set, under the threshold set, between two thresholds set or outside the two thresholds set.

MECHANICAL

AISI 316L stainless steel construction

Slot for safety chain

Unit weight:

4.9kg (10.8lb) (fastening support included)

4kg (8.8lb) (fastening support not included)

HOUSING'S WINDOW

Germanium window

- Thick: 1.5mm (0,06in)
- External treatment: antiscratch (Hard Carbon Coating - DLC), antireflection
- Internal treatment: antireflection
- Spectral range: from 7.5µm up to 14µm
- Medium transmittance (from 7.5µm up to 11.5µm): 91.2%
- Medium transmittance (from 11.5µm up to 14µm): 80.9%

ELECTRICAL

Supply voltage/Current consumption:

- 24Vac, 1.32A, 50/60Hz
- 24Vdc, 0.9A
- PoE+ (IEEE 802.3at)

Power consumption: 21W

NETWORK

Ethernet connection: 100 Base-TX

Connector: RJ45

CYBERSECURITY

Digitally signed firmware

Password restricted access (HTTP digest)

Support of various user access levels

Control of accesses IEEE 802.1X

HTTPS cryptography using TLS1.0, TLS1.1, TLS1.2 and TLS1.3

Centralised certificate management

Complies with ONVIF Security Service specifications

I/O INTERFACE

I/O alarm board

- Input for remote reset: 1
- Relay output: 1 (1A, 30Vac/60Vdc max)

VIDEO

Video encoder

- Communication protocol: ONVIF, Profile Q, Profile S and Profile T, ONVIF Thermal Service
- Device configuration: TCP/IPv4-IPv6, UDP/IPv4-IPv6, HTTP, HTTPS, NTP, DHCP, WSDISCOVERY, DSCP, IGMP (Multicast), SOAP, DNS
- Streaming: RTSP, RTCP, RTP/IPv4-IPv6, HTTP, Multicast
- Video compression: H.264/AVC, MJPEG, JPEG, MPEG4
- 3 independent video streams
- Image resolution: from 320x180pixel up to 720x480pixel in 4 steps
- Selectable frame rate from 1 to 30 images per second (fps)
- Web Server
- Motion Detection
- QoS: Differentiated DSCPs for streaming and device management
- SNMP and NTCIP protocols

ENVIRONMENT

For indoors and outdoors installation

Operating temperature

- Version with 24Vac or 24Vdc power supply: from -40°C (-40°F) up to +65°C (149°F)
- Version with PoE+ power supply: from -40°C (-40°F) up to +60°C (140°F)
- Temperature test complies with NEMA-TS 2-2003 (R2008) par. 2.1.5.1, test profile fig. 2-1 (from -34°C (-29.2°F) to +74°C (165.2°F))

Surge immunity: up to 1kV line to line, up to 2kV line to earth (Class 3)

Relative humidity: from 5% up to 95%

CERTIFICATIONS

Electrical safety (CE): EN60950-1, IEC60950-1, EN62368-1, IEC62368-1

Electromagnetic compatibility (CE): EN61000-6-4, EN50130-4, EN55032 (Class A), FCC Part 15 (Class A), ICES003

Outdoor installation (CE): EN60950-22, IEC60950-22

IP protection degree (EN60529): IP66, IP67, IP68 (2h30min, 2m (6.56ft)), IP69

UL certification: cULus Listed, TYPE 4X, TYPE 6P

EAC certification

CERTIFICATIONS - RAILWAY APPLICATIONS

Compliance to railway application standard: EN50121-4 (only with 24Vac or 24Vdc power supply)

CERTIFICATIONS - MARINE APPLICATIONS

Lloyd's Register Marine Type Approval

- Test Specification Number 1 (ENV1, ENV2, ENV3, ENV5)

Electromagnetic compatibility: EN60945

Salty fog resistance: EN60068-2-52

Tested at 70°C (158°F) for 16 hours in compliance with EN60068-2-2

ACCESSORIES

NVXTUB	Dust protection frontal shield
OHEPOWINJ	PoE+ Power Injector, 1 channel, for indoor installations

BRACKETS AND ADAPTORS

UEAP	Pole adaptor in stainless steel AISI 316L
UEAC	Corner adaptor in stainless steel AISI 316L
UEAW	Counter-plate in stainless steel AISI 316L

PACKAGE

Model Number	Weight	Dimensions (WxHxL)	Master carton
NTX2ERR00A	6.2kg (13.7lb)	36x35x23cm (14x14x9in)	-

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THERMAL CAMERAS (RESOLUTION 336X256)					
	Lens 9mm	**Lens 13mm**	**Lens 19mm**	**Lens 25mm**	**Lens 35mm**
Image Device	Uncooled VOx microbolometer	Uncooled VOx microbolometer	Uncooled VOx microbolometer	Uncooled VOx microbolometer	Uncooled VOx microbolometer
Interpolated resolution	720x480	720x480	720x480	720x480	720x480
Pixel dimensions	17µm	17µm	17µm	17µm	17µm
Spectral response - long wave infrared (LWIR)	from 7.5µm to 13.5µm	from 7.5µm to 13.5µm	from 7.5µm to 13.5µm	from 7.5µm to 13.5µm	from 7.5µm to 13.5µm
Internal shutter (only for sensor compensation)	Video stop < 1sec.	Video stop < 1sec.	Video stop < 1sec.	Video stop < 1sec.	Video stop < 1sec.
Digital Detail Enhancement (DDE)	✓	✓	✓	✓	✓
Digital Zoom	2x, 4x	2x, 4x	2x, 4x	2x, 4x	2x, 4x
Image updating frequency	7.5fps	7.5fps	7.5fps	7.5fps	7.5fps
Image updating high frequency	30fps	30fps	30fps	30fps	30fps
Scene range (High Gain)	-40°C ÷ +160°C (-40°F ÷ +320°F)	-40°C ÷ +160°C (-40°F ÷ +320°F)	-40°C ÷ +160°C (-40°F ÷ +320°F)	-40°C ÷ +160°C (-40°F ÷ +320°F)	-40°C ÷ +160°C (-40°F ÷ +320°F)
Scene range (Low Gain)	-40°C ÷ +550°C (-40°F ÷ +1022°F)	-40°C ÷ +550°C (-40°F ÷ +1022°F)	-40°C ÷ +550°C (-40°F ÷ +1022°F)	-40°C ÷ +550°C (-40°F ÷ +1022°F)	-40°C ÷ +550°C (-40°F ÷ +1022°F)
Horizontal field of view	35°	25°	17°	13°	9,3°
Vertical field of view	27°	19°	13°	10°	7,1°
F-number	F/1.25	F/1.25	F/1.25	F/1.1	F/1.2
Thermal sensitivity (NETD), standard camera	< 50mK at f/1.0	< 50mK at f/1.0	< 50mK at f/1.0	< 50mK at f/1.0	< 50mK at f/1.0
Thermal sensitivity (NETD), radiometric camera	< 30mK at f/1.0	< 30mK at f/1.0	< 30mK at f/1.0	< 30mK at f/1.0	< 30mK at f/1.0
Person (detection / recognition / identification)	285m / 71m / 36m (935ft / 233ft / 118ft)	440m / 112m / 56m (1443ft / 2368ft / 183ft)	640m / 160m / 80m (2099ft / 524ft / 262ft)	930m / 230m / 116m (3051ft / 754ft / 380ft)	1280m / 320m / 160m (4199ft / 1050ft / 525ft)
Car (detection / recognition / identification)	880m / 220m / 108m (2887ft / 722ft / 354ft)	1340m / 340m / 170m (4396ft / 1115ft / 557ft)	1950m / 500m / 250m (6397ft/ 1640ft/ 820ft)	2800m / 710m / 360m (9186ft / 2329ft / 1181ft)	3850m / 950m / 295m (12631ft / 3116ft / 967ft)

Radiometric analysis does not affect camera performance.

THERMAL CAMERAS (RESOLUTION 640X512)					
	Lens 9mm	**Lens 13mm**	**Lens 19mm**	**Lens 25mm**	**Lens 35mm**
Image Device	Uncooled VOx microbolometer	Uncooled VOx microbolometer	Uncooled VOx microbolometer	Uncooled VOx microbolometer	Uncooled VOx microbolometer
Interpolated resolution	720x480	720x480	720x480	720x480	720x480
Pixel dimensions	17µm	17µm	17µm	17µm	17µm
Spectral response - long wave infrared (LWIR)	from 7.5µm to 13.5µm	from 7.5µm to 13.5µm	from 7.5µm to 13.5µm	from 7.5µm to 13.5µm	from 7.5µm to 13.5µm
Internal shutter (only for sensor compensation)	Video stop < 1sec.	Video stop < 1sec.	Video stop < 1sec.	Video stop < 1sec.	Video stop < 1sec.
Digital Detail Enhancement (DDE)	✓	✓	✓	✓	✓
Digital Zoom	2x, 4x, 8x	2x, 4x, 8x	2x, 4x, 8x	2x, 4x, 8x	2x, 4x, 8x
Image updating frequency	7.5fps	7.5fps	7.5fps	7.5fps	7.5fps
Image updating high frequency	30fps	30fps	30fps	30fps	30fps
Scene range (High Gain)	-40°C ÷ +160°C (-40°F ÷ +320°F)	-40°C ÷ +160°C (-40°F ÷ +320°F)	-40°C ÷ +160°C (-40°F ÷ +320°F)	-40°C ÷ +160°C (-40°F ÷ +320°F)	-40°C ÷ +160°C (-40°F ÷ +320°F)
Scene range (Low Gain)	-40°C ÷ +550°C (-40°F ÷ +1022°F)	-40°C ÷ +550°C (-40°F ÷ +1022°F)	-40°C ÷ +550°C (-40°F ÷ +1022°F)	-40°C ÷ +550°C (-40°F ÷ +1022°F)	-40°C ÷ +550°C (-40°F ÷ +1022°F)
Horizontal field of view	69°	45°	32°	25°	18°
Vertical field of view	56°	37°	26°	20°	14°
F-number	F/1.4	F/1.25	F/1.25	F/1.1	F/1.2
Thermal sensitivity (NETD), standard camera	< 50mK at f/1.0	< 50mK at f/1.0	< 50mK at f/1.0	< 50mK at f/1.0	< 50mK at f/1.0
Thermal sensitivity (NETD), radiometric camera	< 30mK at f/1.0	< 30mK at f/1.0	< 30mK at f/1.0	< 30mK at f/1.0	< 30mK at f/1.0
Person (detection / recognition / identification)	250m / 63m / 31m (820ft / 207ft / 102ft)	390m / 95m / 47m (1280ft / 312ft / 154ft)	570m / 144m / 72m (1870 / 472 / 236ft)	820m / 210m / 104m (2690ft / 689ft / 341ft)	1140m / 280m / 142m (3740ft / 919ft / 466ft)
Car (detection / recognition / identification)	720m / 175m /88m (2362 / 574 / 289ft)	1080m / 275m / 140m (3543ft / 902ft / 459ft)	1550m / 400m / 200m (5085ft / 1312ft / 656ft)	2200m / 580m / 290m (7218ft / 1903ft / 951ft)	3000m / 800m / 200m (9843ft / 2625ft / 656ft)

Radiometric analysis does not affect camera performance.

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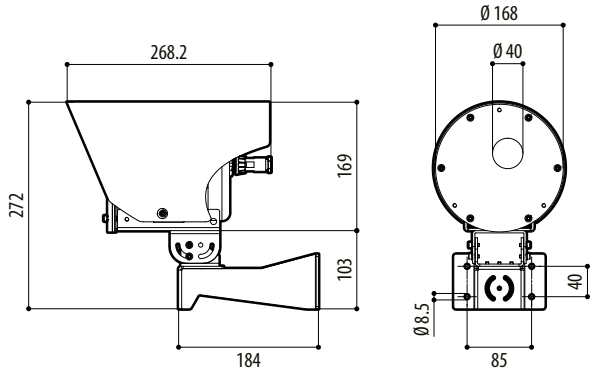
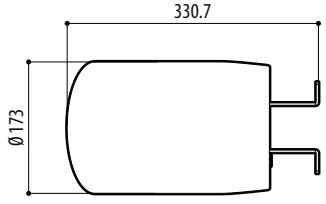
NTX - CONFIGURATION OPTIONS								
	Voltage	Camera	Radiometry	Version				Thermal camera frequency
NTX	2 24Vac/24Vdc/ PoE+	D Thermal camera 35mm, 640x512	0 Thermal camera with radiometric functions	R Germanium window	0	0	A	- 7.5Hz
		E Thermal camera 25mm, 640x512	R Thermal camera with advanced radiometric functions					H 30Hz
		U Thermal camera 19mm, 640x512						
		G Thermal camera 13mm, 640x512						
		H Thermal camera 9mm, 640x512						
		I Thermal camera 35mm, 336x256						
		L Thermal camera 25mm, 336x256						
		Z Thermal camera 19mm, 336x256						
		M Thermal camera 13mm, 336x256						
		Q Thermal camera 9mm, 336x256						

TECHNICAL DRAWINGS

The indicated measurements are expressed in millimetres.





NTX, WALL MOUNTING

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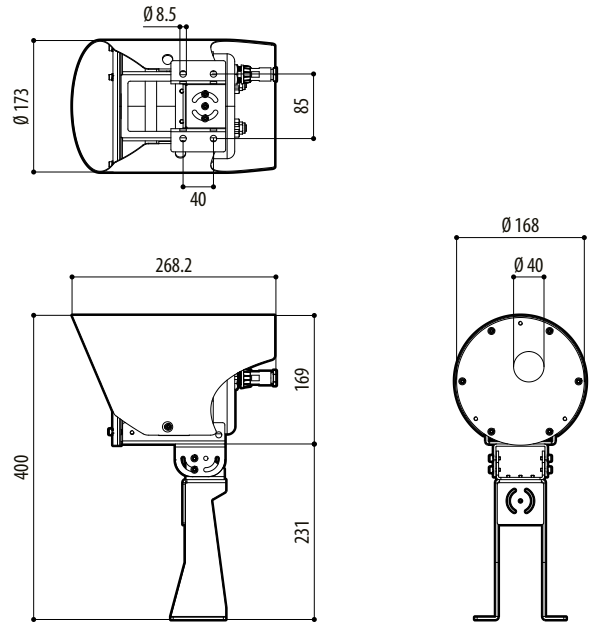
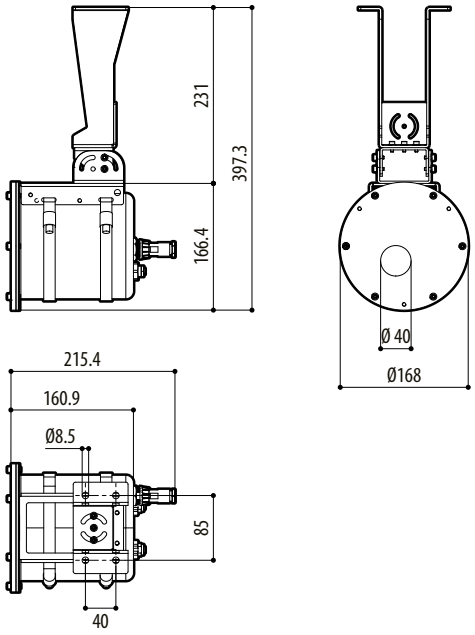


NTX, PARAPET MOUNTING



NTX, CEILING MOUNTING

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