LOGIPIX ONE 328 MP

Dual-Vision Panorama Camera

The Logipix Dual Vision Panorama Camera delivers both visible-light and thermal images in high resolution, providing effective visual information in all lighting conditions. The camera's ability to sense a wider range of the electromagnetic spectrum allows for informative imaging during day and night, as well as in foggy, hazy, and dusty environments.

The visible-light panoramic module consists of 16 high-resolution sensors with wide dynamic range and high sensitivity, offering 320 MP image streams at 20 fps. Additionally, the camera housing contains a multi-sensor thermal array that produces images with a resolution of 7.8 megapixels.

From a single viewpoint, the camera efficiently covers large areas, offering an ultra-wide panoramic image and advanced zoom functionalities. Operators can continuously observe the entire monitored area through a single camera image without any redundant or hidden areas. Face recognition is possible at long distances. The camera housing features an integrated automatic self-cleaning system, including a water tank, a powered dispensing system, and wipers at every window, ensuring the best image quality in all circumstances.

KEY FEATURES

- 40° HFoV, 22.5° VFoV Thermal&Visible
- 20 FPS at full resolution
- Custom silicon for edge AI
- Image stabilization with 9-axis IMU sensor system
- Stitched panoramic images with white balance correction
- Synchronized imaging
- JPEG2000 wavelet-based, visually lossless compression
- 320 MP Visible image resolution

- 1" size, CMOS image sensors with extra high-sensitivity
- 7.8 MP Thermal image resolution
- 6x1280x1024 Uncooled Amorphous Silicon microbolometer
- 10 Gbps SFP+ socket
- All-metal construction of the camera housing
- Automatic self-cleaning system with built-in water-tank
- Active and passive cooling system
- Wide temperature range, -40 °C to +55 °C

SPECIALLY DEVELOPED FUNCTIONS IN THE LOGIPIX SOFTWARE

Precise panoramic image stitching in the software
White balance correction between the stitched camera images
Easy zooming on the panoramic image
Having multiple zoom windows on a single panoramic image
Interactive PTZ control on the panoramic image
Zone violation detection and immediate alarm
Individually compressed frames
Special optical filter and picture enhancement algorithm for foggy, rainy weather conditions
High Dynamic Range (HDR) technology to have visual information in both dark and bright areas in the same image
A user-friendly configuration of the automatic self-cleaning system
Support for Technical Monitoring, Control and Maintenance System (TMCMS)
Automatic object tracking - Optional
Object classification - Optional
Geofencing - Optional
Low Bandwidth operation

SPECIFICATIONS

GENERAL TECHNICAL SPECIFICATION

Part number	LPAN4-VT-326040
Description	Multi-megapixel Dual-Vision camera with sixteen pieces of 1" sensor and ICR function for Day/Night switching and six pices HD thermal sensor in weather-proof house with self-cleaning system
Resolution for visible camera	320 Megapixel
Resolution for thermal camera	7.8 Megapixel
Frame rate	20 fps at full resolution
Video compression	JPEG2000 - Wavelet
Compression engine	MPX24 Signal Processor
Field of View	Horizontal: 40° Vertical: 22.5°
Inputs/Outputs	1 programmable IO connections
Intelligence	Integrated motion detection
	Video Content Analysis - Optional
Ethernet connection	10 Gbps SFP+ socket
Network security	1500 bit public-key RSA; User authentication
Cooling system	Passive heatpipe
Heating system	Active automatic – optional
De-icing system	Active - optional
Cooling system	Wiper with washer, fluid pump and internal tank
Approvals	EN 55032:2015/AC:2016, EN 61000-3-2:2014, EN 61000-3-3:2013
	EN 50130-4:2011/A1:2015, IEC/EN 60529 IP66, IEC 60950-1

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VISIBLE LIGHT SENSOR

Resolution for visible camera	320 Megapixel
Frame rate	20 fps at full resolution
Video compression	JPEG2000 - Wavelet
Compression engine	MPX24 Signal Processor
Image sensor	1" WDR 20.48 Megapixel CMOS
Auto focus	Motorized back focus adjustment
ICR function	Day-Night switching
Scanning system	Progressive, no interlaced scanning
Shutter type	Electronic rolling shutter (ERS)
Shutter mode	1/10 - 1/20 000 s, 1/1 s low shutter mode
Sensitivity	0.02 lux F1.4 Day mode or 0.002 lux F1.4 Night mode
Gain control	Fix, auto, blur or noise priority
Backlight compensation	Whole picture or any area selectable

THERMAL SENSOR

Image sensor	Uncooled Amorphous Silicon (a-Si) microbolometer
Sensor resolution	6x1280 x 1024 pixel @ 20 FPS
Detector pitch	12 µm
Spectral response	8 - 14 µm
Thermal sensitivity	NETD < 50 mK
Non-conformity correction	1 point with shutter or through lens

THERMAL PROCESSING

Automatic Gain and level	User defined, persistent through power cycles
Digital zoom & pan	Region of interest; 1x – 4x
Picture inversion	Positive / Negative
Image Mirroring	Horizontal and Vertical image flip
Image control	Image contrast enhancement
	Black & White polarity
	Color tables
Symbology	256 grayscale and 256 colors

ENVIRONMENTAL SPECIFICATION

Operating temperature	-40 °C to +55 °C (-40°F to +131°F)
Storage temperature	-40 °C to +55 °C (-40°F to +131°F)
Humidity	up to 100% RH (condensing)
Protection classification	IP66

ELECTRICAL SPECIFICATION

Power supply	230 V AC
Inrush current	10 A
Current consumption	max. 2 A
Power consumption	170 W (+ 150 W heating optional)
Over voltage protection	LPIX-TOV-11 optional

MECHANICAL SPECIFICATION

Material	Full metal housing, Aluminum with corrosion protection coating
Camera window	Hardened coating
Connector	Mil-Spec, round connector, aluminum (MIL-DTL-26482 series 1)
Weight	65 kg (with sensors and lens)
Dimensions (W × D × H)	973 × 712 × 570 mm (with mounting bracket)
Package gross weight	95.5 kg
Package dimensions (W × D × H)	1020 × 760 × 610 mm

RESOLUTION SPECIFICATION (INSTALLATION HEIGHT 8M)

Covered area	from 81 m to 8,560 m (8 ppm)	
Human	23 ppm	3,000 m
Light Vehicle	12 ppm	5,900 m
Heavy Vehicle	8 ppm	8,860 m
Aircraft	2 ppm	35,400 m

RELATED COMPONENTS

Logipix NVR

Part number	Description
LNVR4-V16T5-16-I	Logipix NVR 4th rack-mount for Logipix thermal & visible cameras, 16 HDDs with VCA license
LNVR4-V16T5-16	Logipix NVR 4th rack-mount for Logipix thermal & visible cameras, 16 HDDs
LNVR4-SE-16-X	Logipix Expansion Unit
LNVR4-O-X	Logipix Outdoor NVR 4th for Logipix thermal & visible cameras, 16 HDDs with VCA license

Logipix SOFTWARE

Part number	Description
LAARS	Logipix Airside Augmented Reality Software
LC3S	Logipix Command & Control Center Software
LHS	Logipix Highway Software
CC+	Logipix Control Center Software

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## DIMENSIONS (all values are in mm)
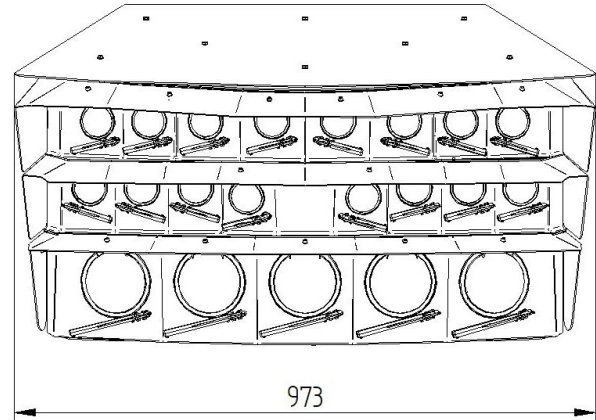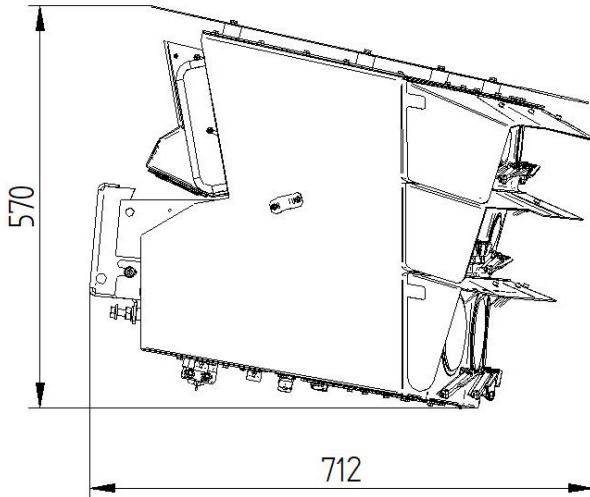
APPLICATION AREAS

The 326 MP Dual-Vision Panorama camera is the ideal device to observe large areas. Therefore, it is the core component of many Logipix surveillance solutions.

- **Airport Video Surveillance solution**
  All landside and airside areas of airports can be monitored easily with the Panorama camera.
- **Safe and Smart City solution**
  Large-scale city squares, parking lots or parks also can be observed with a single panorama camera.

- **Border Video Surveillance solution**
  Thanks to the Panorama camera even long sections of borders and wide areas can be covered.
- **Critical Infrastructure Video Surveillance solution**
  The Panorama camera is reliable so no crucially important activities or incidents go unnoticed.