



ST-P320TLR-TH

**320MP, Long Range, Visible
& Thermal Panoramic camera**

*Designed for hot, humid and
dusty climate*

Product description

SensorTec Panorama camera produces a hundred of megapixel large images on which every detail is clearly visible in all lighting conditions.

The camera provide wide dynamic range images, have an improved low-light performance and extra high sensitivity.

The camera housing contain a thermal camera for 6400 x 1024 pixel resolution. The thermal panoramic camera efficiently operates under several weather conditions. This camera is able to cover large areas with high resolution from a single viewpoint. The panoramic images ensure an expanded view. Operators can continuously observe the whole monitored area on one camera image without redundant or hidden areas. The huge resolution even makes it possible to recognize faces at a large distance. The camera house is completed with an automatic self-cleaning system that consists of a tank with cleaning liquid, a dispenser system and wipers at every window for the best images.

Features:

- 1" size, CMOS image sensors with extra high-sensitivity
- 320 MP Visible image resolution
- 6400x1024 Thermal image resolution
- Monitoring vast areas
- Stitched panoramic images with white balance correction
- Synchronized imaging
- 20 FPS at full resolution
- JPEG2000 wavelet-based, visually lossless compression
- 10 Gbps SFP+ socket
- All-metal construction of the camera housing
- Quality glass windows with glass heating
- Automatic self-cleaning system
- Active and passive cooling system

SPECIALLY DEVELOPED FUNCTIONS IN THE SENSORTEC CONTROL CENTER

- 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

RESOLUTION SPECIFICATION (INSTALLATION HEIGHT 8M)

Covered area	from 8 m to 5,400 m (12 ppm)	
Face identification (Identification by operator) distance	360 ppm	81 m
Face recognition (Recognition by operator) distance	235 ppm	301 m
Human detection (Detection by operator) distance	23 ppm	3000 m

TECHNICAL SPECIFICATION

Description	Multi-megapixel Auto Back Focus IP camera with five pieces of 1" sensor and ICR function for Day/Night switching in weatherproof house with self-cleaning system with Thermal camera extension
Resolution for visible camera	320 Megapixel
Resolution for thermal camera	6400x1024 pixel
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
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
Field of View	Horizontal: 40° Vertical: 22°
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

TECHNICAL SPECIFICATION

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

THERMAL SENSOR

Image sensor	Uncooled Amorphous Silicon (a-Si) microbolometer
Sensor resolution	6400 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
Protection classification	IP67

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

MECHANICAL SPECIFICATION

Operating temperature	-40 °C to +65 °C
Storage temperature	-40 °C to +65 °C
Humidity	up to 100% RH (condensing)
Protection classification	IP67



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