ONVIF™ Member
The IP-based Security Standard

GUARDIANX SERIES
AI CAMERA

5MP Smart AI IP Camera
Facial Capture & Comparison
Size: 38mm*38mm

Meet the GuardianX Series AI Camera 5MP Metal Dome Camera — precision in simplicity. With high-res clarity and discreet design, it seamlessly fits indoor industrial spaces With high-res 5MP clarity, robust metal build, and advanced AI features like real-time alerts and adaptive tracking, it sets a new standard for professional-grade security. Elevate your industrial surveillance with Guardian X Series.

Model : TSCINS37VDMI5I606

Main Feature

FACE CAPTURE   **ARTIFICIAL INTELLIGENCE**   **IP 67**

- Ingenic ISP: T41LQ + 1/1.8" SmartClarity SC450AI Sensor Video: 5MP@30FPS/ 4MP@25FPS/ 3MP@25FPS/ Sub: 448P/ D1/ 360P/ CIF; H.265/H.264.

- Support dual stream output simultaneously: max 3 main stream & 3 sub stream connection.

- Image Adjust: Brightness, Saturation, Chrominance, Contrast Ratio, Sharpness.

- Two-Way-Talk; Audio_in/out; Code Standard: G.711U, G711A; Video/Audio synchronous.

- Day&Night Switch, WDR, 3D-NR, BLC, AWB, Private Mask, Mirror, OSD, Motion Detection.

- ONVIF,Private,Hik,CGI,P2P,FTP,HTTP,TCP/IP,IPv4,RTSP,UDP,NTP,DHCP,DNS,IP Filter.

- General: DC12V; -30℃～+70℃; RJ-45 10M/100M self-adaptive.

- Human shape, people Counting, electric fence, cross border, off duty, passenger flow statistics

- Facial Capture: Supports facial deduplication,fast capture and quality capture modes optional

- Facial quality adjustable, each frame support 6 face detect&tracking, Minimum pixel 20*20

- Facial Comparison: face database max 1000 photos, work with N310B, N316B, N336A NVR.

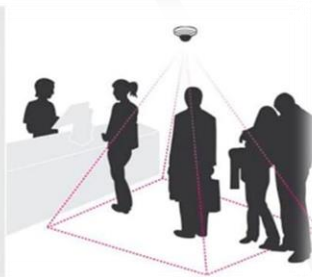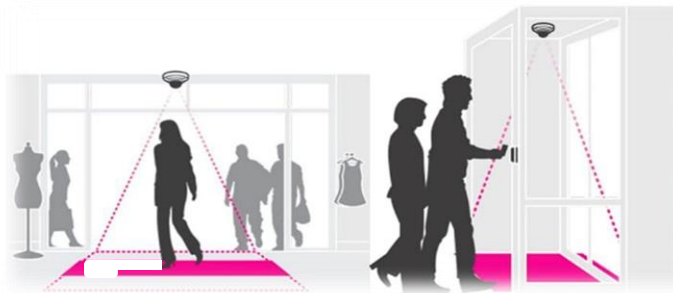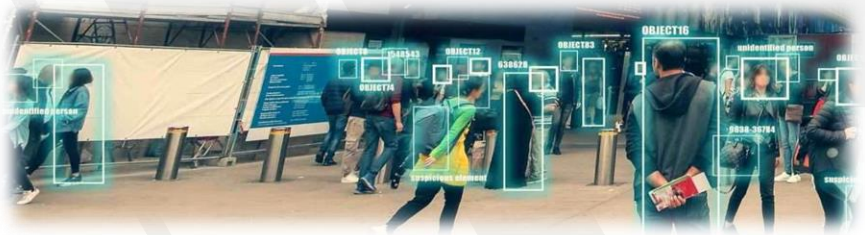- Support voice broadcast alarm.

MAKE IN INDIA

CE | RoHS Compliant

HIGHLIHTS

Facial Recognition

Human shape and people Counting Passenger Flow Statistics

Cross Border, Off Duty and People Counting

Facial Capture: Supports facial deduplication, fast capture and quality capture modes optional and Mask Detection

Electronic Fence

FACIAL RECOGNITION

If use common IPC, enable NVR(N310B) facial capture and recognition function, can achieve single channel general facial capture, black and white list alarm, quick search of facial recordings.

- Achieve facial capture& recognition for entrance position.
- White list&Black list, specific voice reminded and facial recording.
- User can import facial photos through a USB for image search (even strangers can support image search).
- can achieve multiple channels facial capture and comparion simultaneously.
- Enable to make 1 channel with (Door Opening + Voice Welcome + Facial Capture) monitoring performance, the other channels for Facial Capture monitoring.
- System - Voice Settings - Custom X, then upload the VIP facial pictures to face library, it will broadcast related welcome voice after VIP enter store.
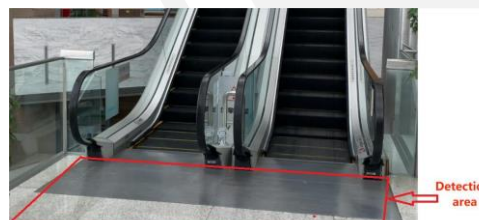
ELECTRONIC FENCE

Install AI cameras for sensitive area security monitoring. Alarm will be sent immediately once personal or vehicles enter this area.

- For the sensitive area security monitoring and set detect target, camera will broadcast voice alarm if the people or vehicles enter this specific area, and at the same time, NVR will linkage to a large screen pop ups and push sound reminder notifications to Security personnel
- Support custom alert sound, it based on what application scenarios the AI IPC/NVR working for.
- For the sensitive area security monitoring and set detect target for human shape, camera will broadcast voice alarm if the people stay over certain time, and at the same time, NVR will linkage to a large screen pop ups and push sound reminder notifications to Security personnel, but will ignore if people just passing by normally.
- For the no entry or no parking area, camera will broadcast voice alarm if the vehicles enter or stay over certain time, and at the same time, NVR will linkage to a large screen pop ups and push sound reminder notifications to Security personnel
- Camera will broadcast information when it triggers an AI alarm; At the same time, the NVR can linkage to a large screen display, broadcast sound to remind, and push alarms through app.

Store Entrance

Area for lift Up & Down

No Parking Area

BOUNDARY CROSSING DETECTION

Install AI cameras on the road or building for wrong direction detection. Alarm will be sent when personnel or vehicles doing a wrong way movement.
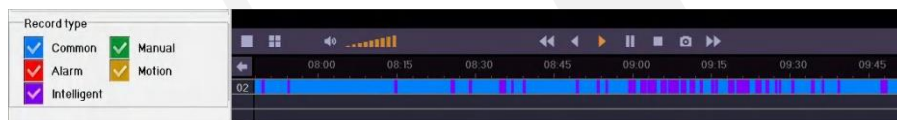

Roads under construction

Entry Only Entrance

Rooftop

- For the one-way traffic road or under construction road, camera will broadcast voice alarm if the vehicles trigger setting rules, and at the same time, NVR will linkage to a large screen pop ups and push sound reminder notifications to control centre.
- Camera will broadcast information when it triggers an AI alarm; At the same time, the NVR can linkage to a large screen display, broadcast sound to remind, and push alarms through app.
- On the recording playback page, there are different color markings on event recordings for convenient to retrieve video.

OFF-DUTY DETECTION

Install AI cameras in important positions can enable personnel departure detection and identification. Alarm will be sent when personnel leave for a certain time to prevent no one on-duty in the post.
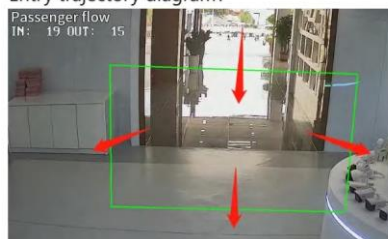
AI monitoring for key post, when personnel leave for a certain time, camera can provide voice broadcast reminders, and at the same time, NVR will linkage to a large screen pop ups and push sound reminder notifications.
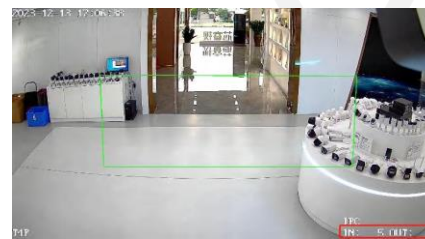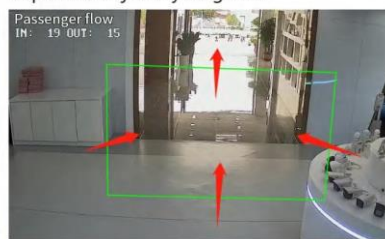

SMART PASSENGER FLOW STATISTICS

Install IP cameras at the entrance and set up Entry&Exit detection zone.
When people enter or leave, they can be counted and a statistical record will be generated. Corresponding voice reminder functions can be set when people enter or leave.

Support OSD real-time displaying daily entry & exit number.

SPECIFICATIONS

CAMERA	
Model No	TSCINS37VDMI5I606
Image Sensor	ISP: T41LQ + 1/1.8" SC450AI Sensor
Min.Illumination	Color: 0.01 Lux @ F1.2, AGC ON; Color: 0.04 Lux @ F2.2, AGC ON; 0 lux with IR
Lens	2.8mm to 12mm Varifocal lens
D&N	Support D/N switching (IR-CUT optional)
Shutter Speed	1 s to 1/100,000 s
White balance	Support auto white balance
Wide dynamic	Support digital
S/N Ratio	≥52 dB
Angle Adjustment	Pan : 0°-355°, Tilt : 0°-67°, Rotation : 0°-355°
Focal Length	2.8 mm to 12mm @ F2.0
Iris Type	Fixed Iris and Warm LED
Field of View	2.8 mm @F2.0, horizontal field of view:110°,Vertical: 77.6°
D-WDR	Support D-WDR
IR Led Control	IR, auto/manual/off, support 0-100 brightness adjust
Digital Noise Reduction	3D DNR
3D DNR	Off/Low/Middle/High/Higher
Defog	Off/Low/Middle/High
Mirror	Off/horizontal mirror/vertical mirror/180° flip
Lens Type	2.8mm to 12mm Varifocal lens
INTELLIGENT FUNCTION	
Humanoid detection	• Can detect human shape for intelligent alarm and number of people statistics. • Extended applications: E-fence, crossing detection, departure detection, and passenger flow statistics
Face capture	• Supports facial de-duplication, and can set fast capture and quality capture modes. • Quick capture: Quickly push facial images that appear • Quality capture: Push the best facial image in the time period of facial appearance • Adjustable facial quality, supporting 6 person face detection and tracking per frame. • Simultaneously capture 6 people, with a minimum facial pixel size of 20 * 20
Electronic fence	Support humanoid and vehicle detection, when enter into warning area, camera will be alarm
Cross-border detection	Support humanoid and vehicle detection, Support A→B、B→A、A↔B direction

	detection
Departure detection	Set the detection area, the device will alarm after the personnel leave for a certain period of time, and the alarm will stop after returning
Passenger flow statistics	Supports the detection of the number of people entering and leaving
Voice broadcast	Support linkage voice broadcast, voice content can be customized recording
Light alarm	Support linkage equipment lighting alarm function
NVR linkage	Support large-screen linkage video recorder, local voice, AI recording, push and other functions

AUDIO & VIDEO ENCODING

Max. Resolution	4K (3840*2160)
Main Stream	4K (3840*2160)/5MP (2880*1624)/4MP (2560*1440)/3MP (2304*1296)/ 2MP (1920*1080)
Sub Stream	720P(1280*720)/448P(800*448)/D1(704*576)/360P (640*360)/ (Default 448P) Sub-stream 2: 360P (640*360)/CIF (352*288)
Max Framerate	5MP 30fps
Video Compression	H.265 / H.264
H.264 Compression Standard	Base Line / Main Profile / High Profile
H.265 Compression Standard	Main Profile @ Leve4.1 High Tier
Video Bit Rate	64Kbps - 5 Mbps
Video adjustment	Brightness, saturation, chroma, contrast and sharpness adjustment
Video Code Rate	Fixed code rate, variable code rate (main stream:160Kbps-4000kbps)
Image Setting	time stamp, text overlay, flip & mirror, ROI, Saturation, Brightness, Chroma, Contrast, Wide Dynamic, Sharpen, white balance, video rotation, Scheduled profile settings, AGC
Image Features	Defog, BLC, HLC, 2D/3D DNR
Corridor Pattern	**Corridor Pattern**
Audio Standard	G.711, support bidirectional talk, audio video synchronization
Voice Announcements	Support voice broadcast after human detection.
Bit Rate Control	CBR/VBR

NETWORK

Network protocol	TCP/IP, UDP, DHCP, NTP, RTSP, PPPoE, DDNS, SMTP, FTP, UPnP, Unicast, Multicast, ICMP, HTTP, HTTPS, DNS, DDNS, RTP, RTCP, IGMP, 802.1X, QoS, Ipv4, Ipv6
Access protocol	Support ONVIF/private protocol/CGI
Security Mode	Authorized user name and password, HTTPS encryption, AES connecting encryption, RTSP verification
Cyber Security	HTTPS / IP Filter / IEEE 802.1X / Blacklist & whitelist / account security / serial

	password
Online Connection	Support simultaneous monitoring for up to 4 users; Support multi-stream real time transmission P2P, and access individually through App
API	ONVIF Profile (S & G)
Max users	4 (2 main stream，2 sub stream)
Motion Detection	Set detection area, can set multi-level sensitivity
Privacy Mask Alarm	Password protection, complicated password, HTTPS encryption, IP address filter, Security Audit Log, basic and digest authentication for HTTP/HTTPS, TLS 1.2, WSSE and digest authentication for ONVIF
Privacy Mask	Support 4 areas
Schedule Linkage	Snapshot, email
Device Abnormal Inspection	Support network broken alarm, IP conflict alarm, illegal visiting alarm
Network Storage	Support 1 area
Client	VMS, Android, IOS, Windows
Connectivity	Wifi Support Camera can assessed Without NVR P2P, Through Application
Web Browser	Plug-in required live view: IE8+, Chrome 41.0-44, Firefox 30.0-51, Safari 8.0-11 Plug-in free live view: Chrome 57.0+, Firefox 52.0+

INTELLIGENT (TRADITIONAL ALGORITHM)

Basic Event	Support WEB, OSD, live video transmission, motion detect and IO alarm, front-endstorage/playback/download, and center reminder and image linkage, support JPEG
Human detection	It supports human detection and can detect human shape for intelligent alarm.

GENERAL

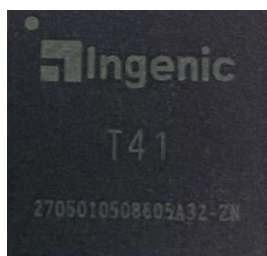|	
Storage Conditions	-30 °C to 60 °C (-22 °F to 140 °F). Humidity 95% or less (non-condensing)
Power Supply	DC12V /PoE (option)
Startup and Operating Conditions	-30 °C to 60 °C (-22 °F to 140 °F). Humidity 95% or less (non-condensing)
Power Supply	12 VDC ± 25%, reverse polarity protection
Power Consumption and Current	12 VDC, 0.9 A, max. 10.8 W
Material	Metal
Software Reset	Yes
Address	India	1. Techno Support Al-Ameen 2nd gate Opp, Ground, 13, Athani Road, Vijayapura, Karnataka, 586108 2. Techno Support, Polymer shapes , Railway Parallel Rd, 4th Block, Kumara Park West, Sampangiram Nagar, Bengaluru, Karnataka 560020 3. Techno support, Tilak Nagar, Krishna Park,old Mahavir Nagar, Galli no 8, beside Singh Gurudwara, Delhi -110018
	Taiwan	Taiwan - Techno Support, 8F., No.172, Sec. 2, Linghang N. Rd. Zhongli Dist,. #124 Taoyuan City, 320014 Taiwan

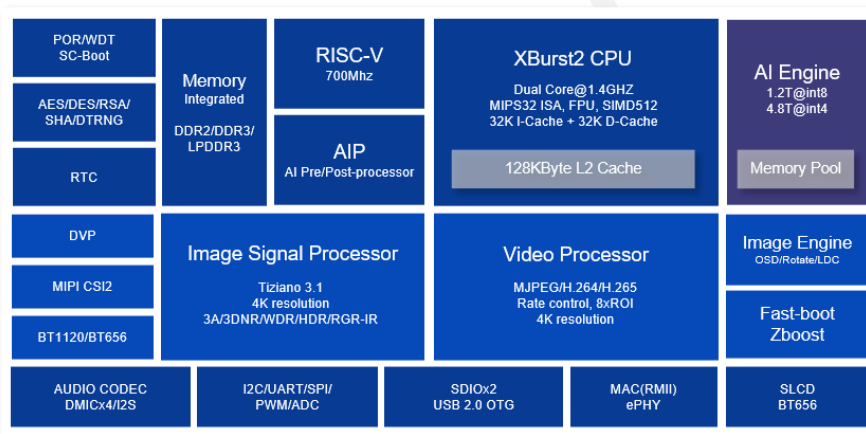| APPROVAL	
EMC	FCC (FCC/23M02012); CE
Safety	UL/23M02014; BIS IS 13252(PART 1):2010/ IEC 60950-1: 2005: IP67
Environment	CE-ROHS, REACH
Ingress Protection	Weather Proof IP67; IK10
WARRANTY	
Product Warranty	5 Years

IC T41 – T41NQ

Low Power AI Video Processor

- 1.0~1.4GHz XBurst2 Dual-core CPU
- 4K (2160P) H.264/H.265/JPEG Encoder
- 1.2T@int8/4.8T@int4 AIE (NPU) hardware computing power
- Professional ISP with multi-Level NR(2DNR/3DNR) and sharpening
- Integrated the RTC, POR, DMIC and Audio Codec
- Magic2.0 AI algorithm develop platform available.

Chip Block Diagram

T	P	3A
Higher craftsmanship	Stronger computing power	Atlas(45~60<10mw)
12nm	1.2T@int8 4.8T@int4	All time, all color, and all

T41 key features:
1.2T@int8, professional ISP and video coding, cost-effective, extreme low

power consumption, next-generation battery product application. T41 series provide rich version selection to meet different product requirements.

Chip Specifications

CPU	• XBurst2 Dual Core 1.0~1.4GHz • 512bit SIMD ISA • 128KB L2 cache
MCU	• 700MHz RISC-V coprocessor • RV32IM instruction set
AI Engine	• 1.2Tops@int8, 4.8Tops@int4 • Support int16/int8/int4/int2 bit width. • Magik AI algorithm develop platform available
AI Pre/Post-Processing	• Color conversion, Resize. • Hardware matrix operations
Video Encoder	• H.264/H.265/JPEG Encoder • Maximum performance:3840x2160@20fps • Support CBR/VBR/SVBR control, 8 ROIs • JPEG snapshot at 8 megapixels
Image Signal Processor	• 3A(AE,AWB,AF) function λ BLC, LSC, CSC, DPC, Gamma, Defog • Adaptive Dynamic Range Compression • 2 frames WDR (DOL/frame) • Adaptive Edge-Based Demosaic • Adaptive Local Contrast Enhancement • Multi-Level NR(2DNR/3DNR) and sharpening • X+Y Lens Distortion Correction • Scaler, Clip, Flip and Mirror, 90/270 rotation
Video Input Interface	• DVP interface • BT601/BT656/BT1120 interface • MIPI-CSI interface
Video Output Interface	• Smart LCD interface 6800 and 8080 • BT656 interface
Audio System	• Integrated Audio Codec • Audio 3A function(AEC/ANR/AGC) • Max 4 channel DMIC
Security Engine	• AES, DES , RSA and HASH • Digital True Random Number Generator
Memory Interface	• DDR2/DDR3/DDR3L/LPDDR2/LPDDR3 • SPI Nor Flash/SPI Nand Flash • MSC/SD Card interface • eMMC interface
Peripherals	• I2C, SPI, UART, GPIO, PWM, SDIO • USB 2.0 OTG • Ethernet MAC, RMII • High-Precision RTC

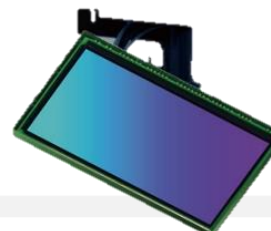| Physical Specifications	• Package: 0.65 pitch BGA / 0.35pitch QFN96 • Low power consumption

T41version selection brief introduction:

PRODUCT	Version
Low-cost AI IPC	T41LQ
Cost-effective Professional AI IPC	T41LQ, T41NQ, T41N, T41XQ
Next-generation Battery Camera	T41ZL, T41ZN, T41ZX
AIoT/SVIoT	T41A

CMOS SC450AI
SMART SENS CMOS IMAGE Sensor

- Full 4MP 1/1.8" advanced security surveillance & AIoT image sensor
- With ultra-high sensitivity, full-color high-definition night-vision images can be captured without infrared sensors
- Achieving color saturation and brilliant imaging effects comparable to SLR cameras

The SC450AI from SmartSens Technology is a 4 Megapixel CMOS Image Sensor that is designed for 24/7 AI cameras. It has a 1/1.8-inch optical format, 2.9 µm pixel size and a sensitivity of 7020 mV/lux*s. This image sensor features BSI-enabled PixGain tech

FEATURES

- Ultra High Sensitivity and Dynamic Range
- High Max SNR and Low Noise
- Excellent Color Saturation
- Excellent High Temperature Performance Capable of High-Quality Even at 80°C

SPECIFICATIONS

Product Details	
Part Number	SC450AI
Manufacturer	Smart Sens Technology
Description	4 MP, 60 Frames/sec, 2704 x 1536 Resolution Image Sensor
General Parameters	
Resolution	2704 (H) x 1536 (V)
Mega Pixels	4 MP
Supply Voltage	2.8 V (Analog), 1.2 V (Digital), 1.8 V (I/O)
Optical Format	1/1.8 Inch
Package Type	CSP
Chroma	RGB
RGB	Rolling Shutter
Frame Rate	60 Frames/sec
ADC Resolution	8 Bit, 10 Bit, 12 Bit

Pixel Size	2.9 µm x 2.9 µm
Pixel	4 MP
Dynamic Range	87 to 100 dB
Sensitivity	7072 mV/Lux-s
SNR	42 dB
Sensor Technology	Smart Clarity TM
Note	Output Format: RAW RGB, CRA: 9 Degrees

Connections & Interface

Interface	MIPI, DVP, LVDS

Applications

Application	Security Monitoring, Wearable Smart Cameras, IoT Cameras, Mobile Device Cameras
Application Type	Security

Physical Properties

Package	70-pin CSP package
Dimensions	8.63 mm x 5.46 mm

Temperature

Operating Temperature	-30 to 85 Degree C

Please note : That the camera's casing will be varies; however, all specifications will remain the same.