✳ AnyConnect

Smarter AI™ Bio Thermal Camera High Density

AI-driven, high-accuracy and high-throughput mass fever, sickness, social distancing and mask detector.

Version 1.5 | May 2020

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Introduction

The world after COVID-19

COVID-19, like major events, such as 9/11, will transform society profoundly. The reopening of society will be on the ability to detect sick and infectious people. For that matter, AnyConnect is developing a new family of Smarter AI™ Camera products: Smarter AI Bio Thermal Cameras.

Smarter AI™ Bio Thermal Camera Family

The purpose of the Smarter AI Bio Thermal Camera family is to detect people with fever as well as detecting sickness patterns, e.g. coughing, sneezing. AnyConnect has Smarter AI Bio Thermal Camera models for private, public, indoor, and outdoor spaces of all crowd densities.

Smarter AI™ Bio Thermal Camera High Density

This high-density camera supports large entrances, dense crowds, and a large number of AI models. This camera is suitable for airports, hotels, stadiums, etc. This camera supports Wi-Fi, LTE/4G, and 5G, worldwide. This camera also supports facial recognition for specific applications. The Smarter AI Bio Thermal Camera High Density has supercomputer level edge AI capabilities to support multiple AI models running at the same time.

Smarter AI™ Bio Thermal Calibrator

For Smarter AI Bio Thermal Cameras to deliver the highest precision, AnyConnect offers a Smarter AI Bio Thermal Calibrator. Positioned in the camera's field of view, this device provides a reference point of pure heat. It enables Smarter AI Bio Thermal Cameras to calibrate themselves against this point of reference.

Specifications

Smarter AI™ Bio Thermal Camera	High Density		
Video Codecs	h.264, h.265, VP9		
Optical imager	4K+ with 4:3 aspect ratio, low light and WDR		
Optical Lens	Fixed Focus with Motorised IR Cut Filter		
Optical Lens FoV	~40 degrees horizontal		
Heating element	Heating element for cold start as well as against condensation.		
Thermal Imager Technology	Focal Plane Array (FPA), un-cooled Vanadium Oxide microbolometer		
Thermal imager	Resolution	348x288	
	Frequency	≤ 9Hz	
	Pixel Size	17 µm	
	Thermal Sensitivity (NEDT)	≤40 mK	
	Spectral Range	8 µm to 14 µm	
	FoV	~40 degrees horizontal	
	Lens	Athermalized Lens	
Thermography	Measures temperature on human face		
	Measurement Accuracy ±0.3°C / ±0.54°F with Smarter AI Calibrator		
Bluetooth	5.0 with BLE		
IR Illumination	940nm, adaptive, same FoV as the optical imager		
Enclosure	Outdoor-ready with optional mount		
USB Ports	1 x USB 3.1 (10 Gbps), 1xType USB 2.0 Type A		
Sun Shield	Yes, comes with optional outdoor kit		
Display Interface	1 x DisplayPort 1.4		

|		
Wi-Fi & Cellular	Options	Wi-Fi 6
		4G/LTE, Worldwide Coverage
		5G & 4G, Sub 6Ghz, Worldwide Coverage
	SIM Card	2 Micro SIM Slots (with switch)
	GNSS	Yes, as part of the Cellular module
Power Inputs	PoE	PoE 802.3bt Type 3 60W
	DC	9 to 52 VDC (+/-/Ground) and latch/screw. 60 W max
	Power Delivery	Power Delivery 3.0 @ 60W on the Type-C Port
	Power Redundancy	PoE & DC Power can be used redundantly with no power interruption during switching
Static Discharge Protection	Physical Contact	8 KV
	Via Air	15 KV
Storage	SD Card	One slot for Micro SDXC, UHS-1
	M.2 NVME SSD	Optional, M.2 NVME SSD 2280 (PCIe 3.0 4x)
Ethernet Connectivity		1 x Ethernet 1000Base-T with PoE
Sensors		Thermometer
		Hygrometer Sensor
		Magnetometer (compass)
		CO & PM2.5 detector
Microphones		4 microphones with noise suppression and beamforming
Ingress Rating		IP 67 with outdoor mount accessory
Impact Rating		IK10 with outdoor mount accessory
Temperature Rating		-20°C to +60°C / -4°F to 140°F Operating temperature
		Fever Detection System works between: -20°C to 50°C / -4°F to 122°F
		Temperature measurement accuracy changes slightly outside of 10°C to 35°C / 50°F to 95°F

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Anti-Tampering	Anti-Tampering switch & Anti-Tampering Screws
Mounting	1/4-20 UNC threads for temporary installations
	Optional - IP67 mounts for fixed installations
Standards	CE, FCC Class A

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Smarter AI™ Bio Thermal		Calibrator
Temperature Resolution		0.1° C
Temperature Accuracy		±0.2° C
Effective Emissivity		0.97
Enclosure		Outdoor-ready with optional mount
Sun Shield		Yes, comes with outdoor mount
Wi-Fi		Wi-Fi 5
Bluetooth		5.0 with BLE
USB Ports		1 x USB 2.0 Type-C
Power Inputs	PoE	802.3bt Type 3 60W within 10°C to 35°C / 50°F to 95°F
		802.3bt Type 4 100W outside of this range of 10°C to 35°C / 50°F to 95°F
	DC	9 to 52 VDC at 60 W within 10°C to 35°C / 50°F to 95°F
		9 to 52 VDC at 100 W outside of this range of 10°C to 35°C / 50°F to 95°F
	Power Delivery	Power Delivery 3.0 @ 60W within 10°C to 35°C / 50°F to 95°F
		Power Delivery 3.0 @ 100W outside of this range of 10°C to 35°C / 50°F to 95°F
	Power Redundancy	PoE & DC Power can be used redundantly with no power interruption during switching
Static Discharge Protection	Physical Contact	8 KV
	Via Air	15 KV
Ethernet Connectivity		1 x Ethernet 100Base-T with PoE
Sensors		Thermometer
		Hygrometer
Mounting		1/4-20 UNC threads for temporary installations
		Optional - IP67 mounts for fixed installations
Temperature Rating		-20°C to +60°C / 4°F to 140°F Operating temperature
Ingress Rating		IP67 with outdoor mount accessory

| Impact Rating	IK10 with outdoor mount accessory
Standards	CE, FCC Class A

Installation Specifications

Here is the recommended installation setup. For optimal measurement precision, the camera has to have a small angle (5 degrees or more) of the surface measured.
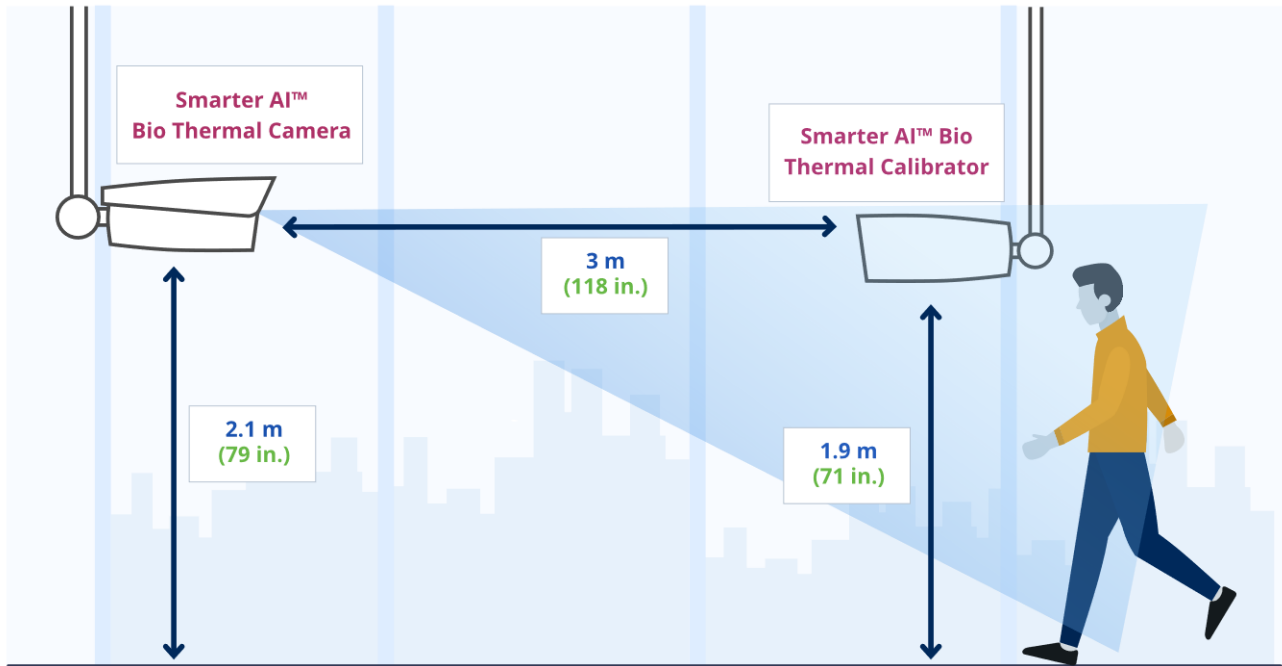
Performance Specifications

The Smarter AI™ Bio Thermal High Density has specifically been designed as a high-throughput product to address mass fever detection on multiple channels with supercomputer AI capabilities. Here are the processing capabilities* of the Smarter AI™ Bio Thermal High Density.

Dual Channel with 2m / 6 feet social distancing	3600 people/hour
Dual Channel with 1m / 3 feet social distancing	7200 people/hour
Single Channel with no social distancing	15000 people/hour
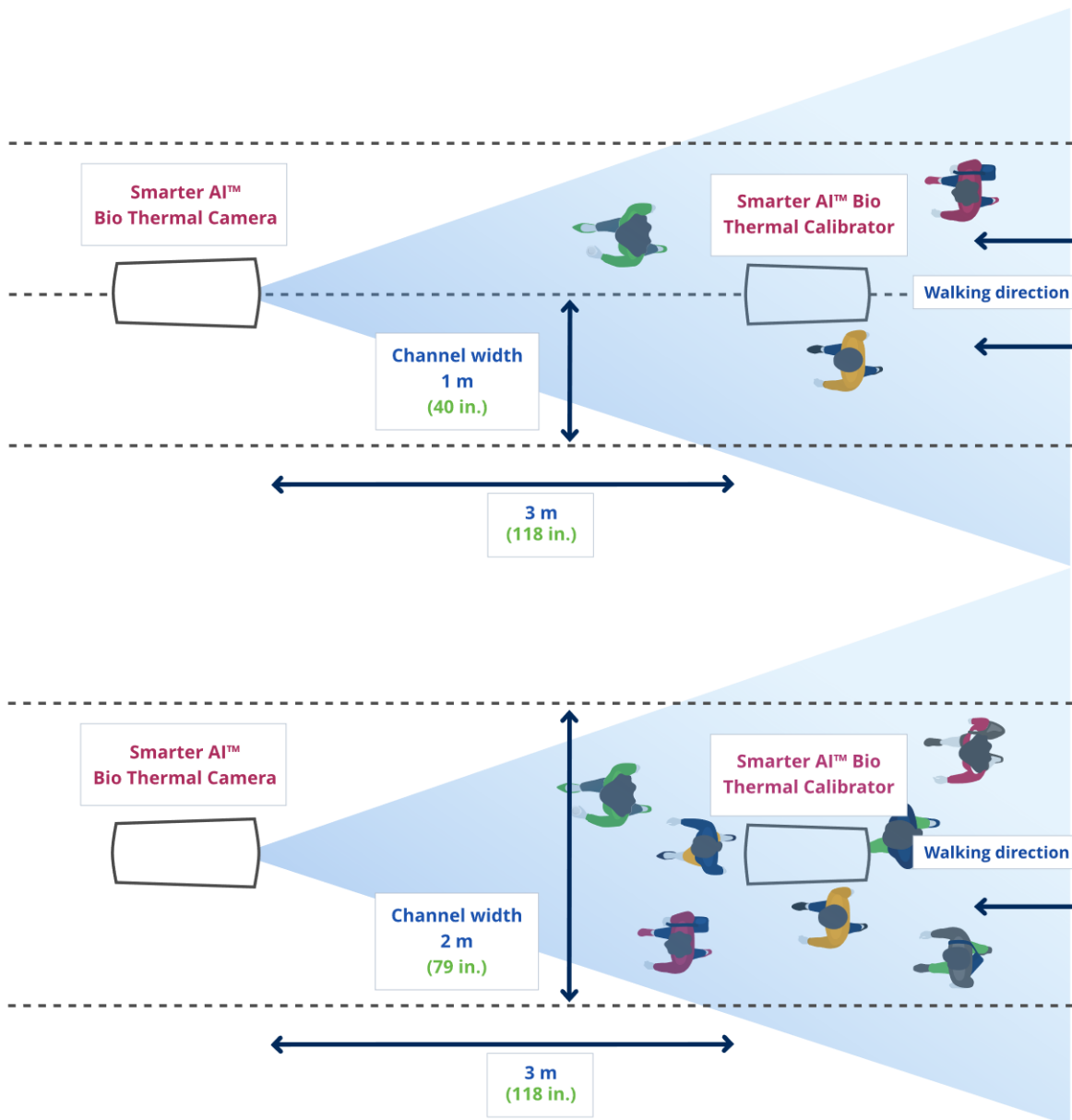
* Assumptions are that people are walking through at 3.6 km/h / 3.3 ft/s, without interruption in ideal conditions.

Smarter Camera Platform Features

AnyConnect is a software platform for smart cameras such as bodycams, dashcams, and security cameras. Our platform enables deep learning, computer vision, and sensor fusion, in a secure manner over wireless networks. AnyConnect's APIs enable access control, streaming, computer vision, and other smart video features, powered by our patented STUN, TURN, and ICE technologies.
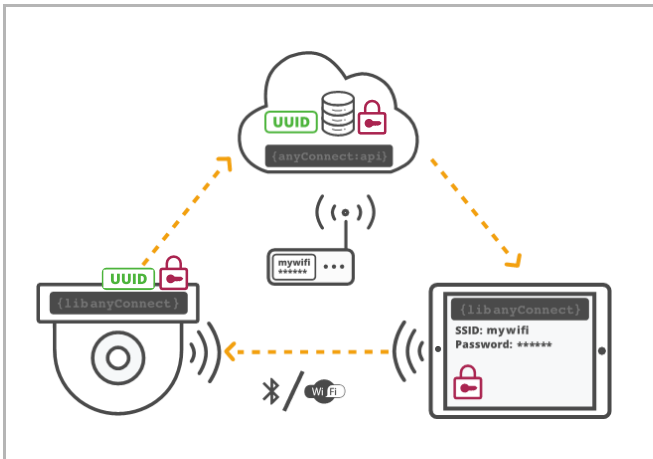

Onboarding – Connect embedded devices to the internet with ease for any interfaces. Create the trust network and register a device to a specific account. Works for mass and zero-touch onboarding as well.
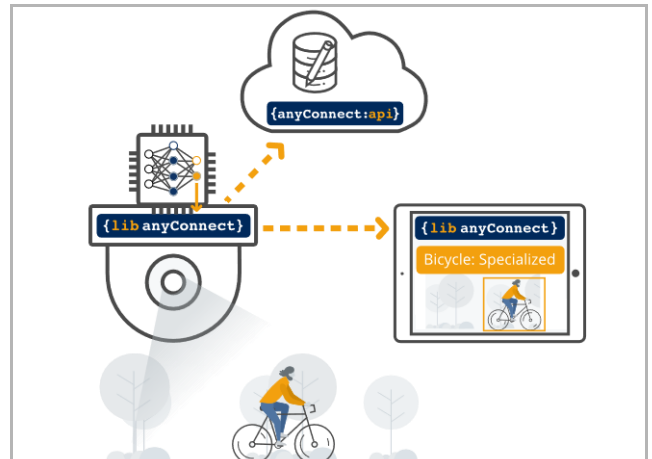

Deploy Edge AI, at scale, seamlessly – Deploy AI Containers™ securely. Manage & monitor AI models on millions of cameras with multiple types of edge Inference Accelerators
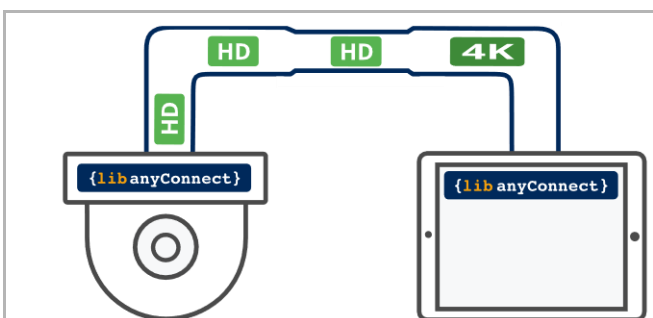

The Best Video over Wi-Fi, LTE & 5G - AnyConnect's adaptive bitrate streaming monitors the network's bandwidth, jitter, packet loss as well as devices CPU capacity to deliver the best possible video quality.
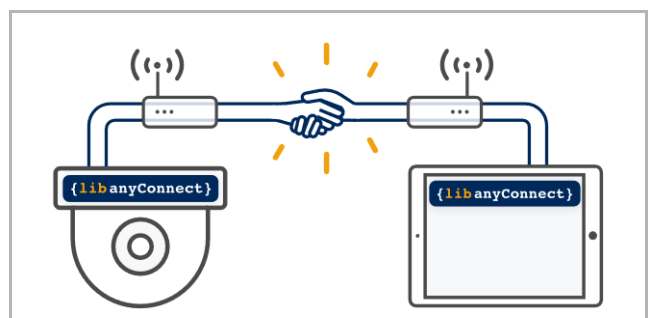
Instant Connections - With patented STUN TURN ICE technologies for NAT traversal, AnyConnect connects any camera and mobile device, on any fixed or mobile network, across any NAT or firewall.
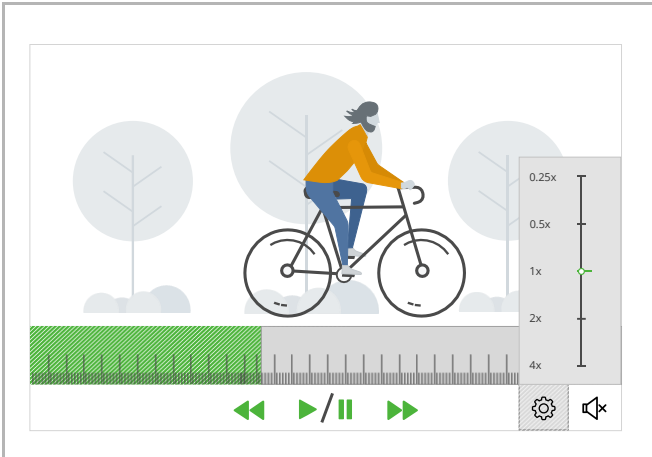
Recording & Playback - AnyConnect combines continuous and event recording for video, audio, and data. AnyConnect delivers the best possible video quality, regardless of network interruptions.
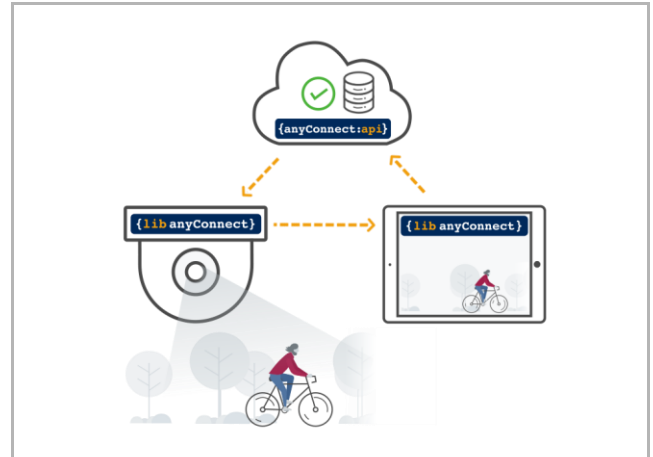
Access Control - Grants access to only the right users over public networks (Wi-Fi, LTE, 5G, etc.) with different access levels. AnyConnect Access Control is secure and enables you to be privacy-compliant.


Console - Cloud-based tool for managing your connected camera networks. Console provides a real-time view of KPIs and CDRs, including camera activity, health, and much more.
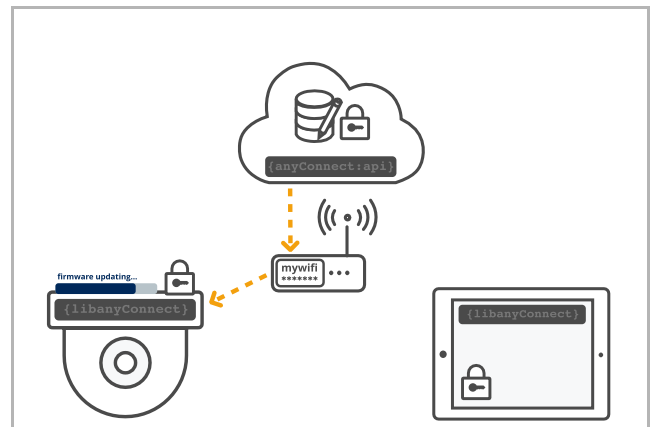
Over-the-Air (OTA) Programming – Deploy securely, over Wi-Fi, 4G, 5G & Ethernet: device applications, access control rights, configuration, OS & firmware updates, and AI Containers™.

Smarter AI™ Bio Thermal Camera Features

AnyConnect Smarter AI™ Bio Thermal Camera runs on AnyConnect Smarter Camera Platform. With its high accuracy, its wealth of sensors, its powerful AI Accelerator, and its level of connectivity. The Smarter AI™ Bio Thermal Camera helps you with the many challenges linked to pandemics.
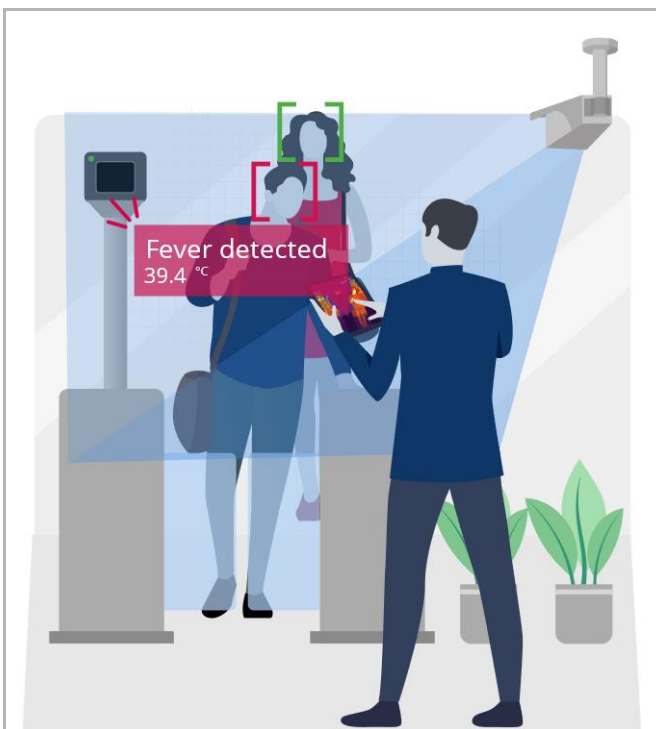

Detect Sick and Infectious People – The Smarter AI™ Bio Thermal Camera detects people with elevated temperature, with precision and high throughput.


Contact Tracing Simplified – Leverage the Smarter AI™ Bio Thermal Camera to keep a record of who visits your establishment. This is done by connected a document scanner to the camera.

Enforce Transmission Mitigation – Detect people not wearing masks or practicing safe distancing
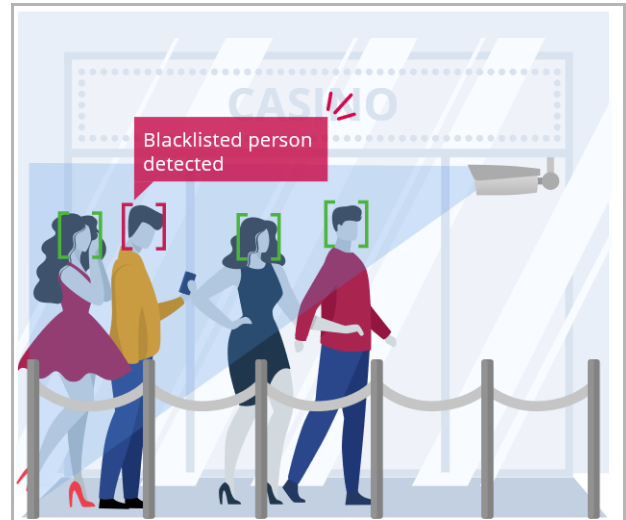
Beyond Mass Fever Detection – The powerful AI Accelerator of the Smarter AI™ Bio Thermal Camera is compatible with AnyConnect AI store, with AI Models, such as facial recognition, demographic information gathering, etc.
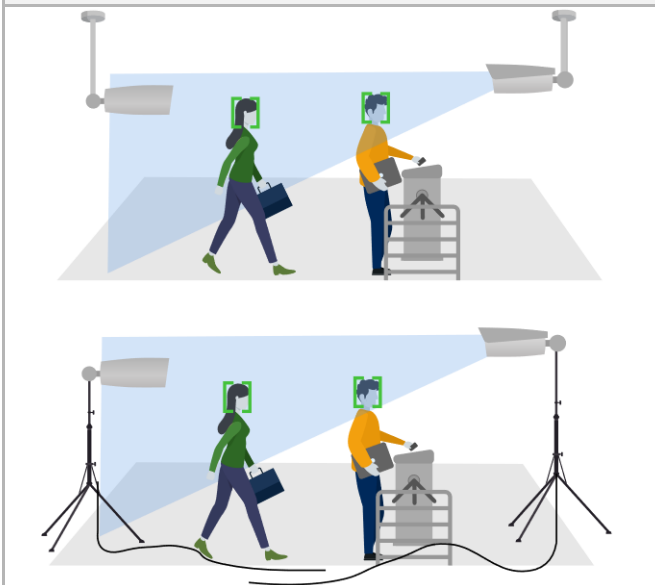
Flexible Installation – Ready for permanent and temporary installations alike.

Flexible Operations – On top of a display connected to a camera, the system can be connected to mobile devices, VMSs and remote operators such as alarm monitoring companies

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Ordering Information

Product Description	SKU
Smarter AI™ Bio Thermal Camera High Density	AC–AIBT–HD
Wi-Fi kit for Smarter AI Bio Thermal Camera	AC–AIBT–WIFI–KIT
4G/LTE kit for Smarter AI Bio Thermal Camera	AC–AIBT–LTE–KIT
5G kit for Smarter AI Bio Thermal Camera	AC–AIBT–5G–KIT
Smarter AI™ Bio Thermal Camera (U)HD – 4TB SSD	AC–AIBT–SSD–4T
Mounting Kit for Smarter AI Bio Thermal Camera or Calibrator	AC–AIBT–MNT–KIT
Smarter AI™ Bio Thermal Calibrator	AC–AIBT–CAL
Event Recording (30 days retention)	
Ultra & High Density Subscription 4K – Monthly	AC–AIBT–UHD–EVNT–4K–MNTH
Ultra & High Density Subscription 4K – Annual	AC–AIBT–UHD–EVNT–4K–1YR
Ultra & High Density Subscription 4K – 3 Years	AC–AIBT–UHD–EVNT–4K–3YRS
Continuous Recording (30 days retention)	
Ultra & High Density Subscription 4K – Monthly	AC–AIBT–UHD–CONT–4K–MNTH
Ultra & High Density Subscription 4K – Annual	AC–AIBT–UHD–CONT–4K–1YR
Ultra & High Density Subscription 4K – 3 Years	AC–AIBT–UHD–CONT–4K–3YRS
Calibrator Data Recording (30 days retention)	
Black Body Calibrator – Monthly	AC–AIBT–CAL–DATA–MNTH
Black Body Calibrator – Annual	AC–AIBT–CAL–DATA–1YR
Black Body Calibrator – 3 Years	AC–AIBT–CAL–DATA–3YRS

This product is subject to export conditions: https://anyconnect/export-conditions

About AnyConnect

AI is transforming IP cameras, using neural networks to classify and identify visual objects. The AnyConnect Smarter Camera™ Platform combines AI with secured connectivity over Wi-Fi, 4G/LTE, and 5G networks to enable AI cameras, gateways, and networks with DNA - Decisions, Notifications, and Actions.

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