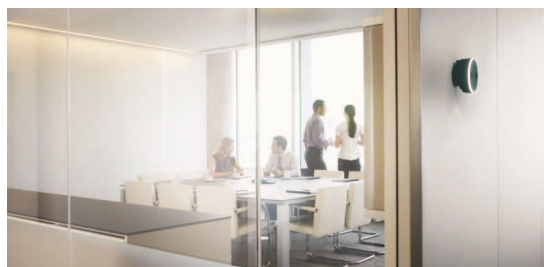


AC2000 Illustra Insight Frictionless Access Facial Recognition



Key Features

- Purpose built camera for access control
- Access control and video from a single manufacturer to streamline support
- Fully integrated with AC2000 (v10.3 and higher)
- Intuitive visual feedback
- Integrated facial biometric enrollment via AC2000 Personnel
- Seamless integrated with emerald for 2-factor authentication
- Facial biometric only verification for a frictionless unobtrusive experience
- Anti-spoofing liveness detection
- Cyber security protection

Intelligent movement of people in buildings, places and spaces

The CEM Systems AC2000 integration with Illustra Insight provides security personnel with a highly effective frictionless solution for controlling and visually verifying who has access to restricted areas. Authentication can be configured as facial biometric only, for frictionless access, or card plus facial biometric multi-factor authentication via Illustra Insight and CEM Systems emerald terminal for an intuitive, unobtrusive, and highly secure solution for users.

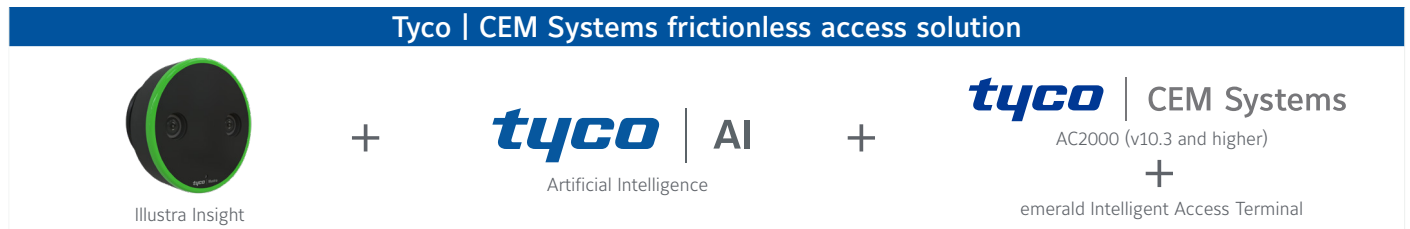
Purpose built camera for access control

Illustra Insight utilizes two imagers (a combination of IR and RGB video) to distinguish between an actual person and a printed image of them, greatly increasing accuracy while reducing false positives. Integrated colour LEDs provide intuitive feedback on access granted (green) and access denied (red).

The Illustra Insight camera is designed to be installed at the ideal height (1.6m/62 inches from floor) for access control with a wider field of view that allows faces to be detected at varying heights and locations within the field of view. Also, the Illustra Insight can be an enhancement (or extension) to an existing installation with conventional cabling infrastructure.

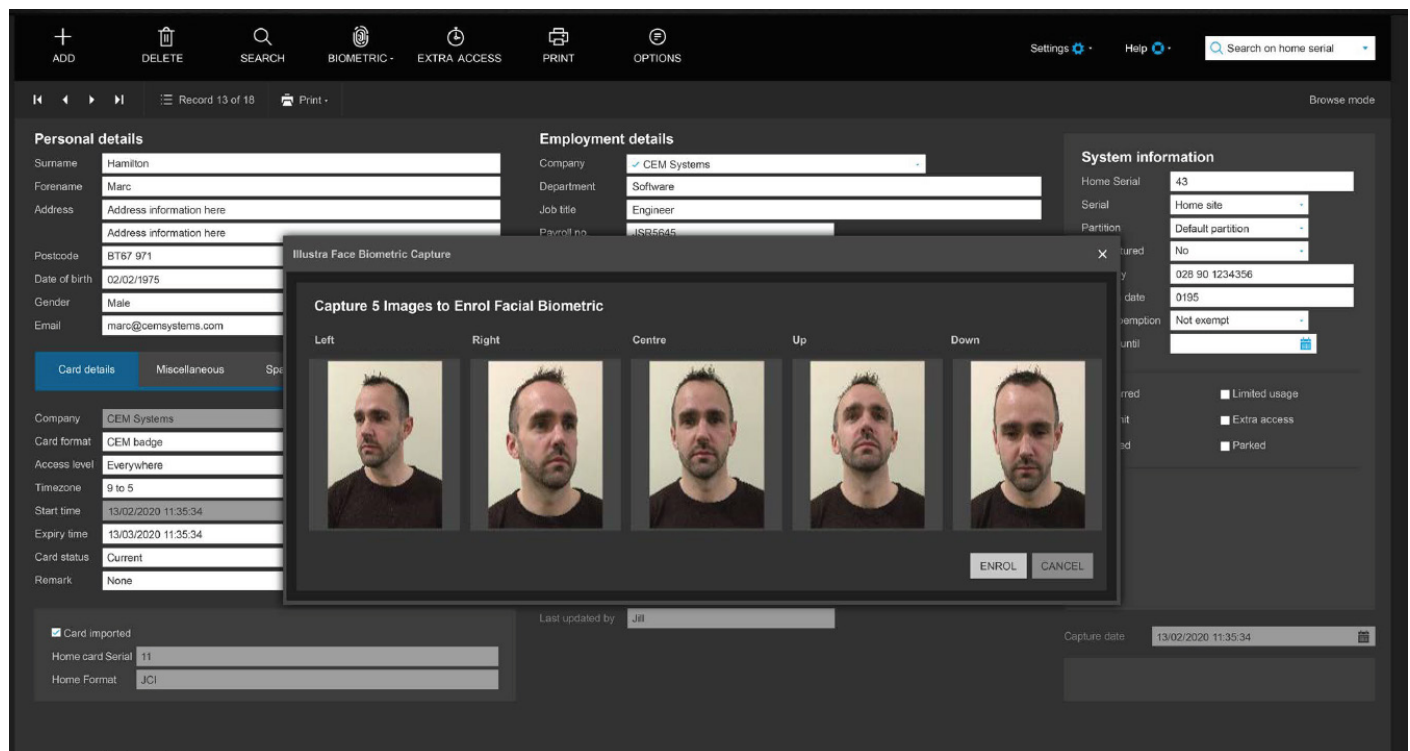
Facial recognition enabled by Tyco AI

Tyco AI artificial intelligence is an ever-evolving deep learning solution that goes beyond surveillance and access to enhance a security ecosystem. Using Tyco AI, Illustra Insight can recognise and make decisions about a face in the camera's field of view (nearest face to the camera).



Embedded facial biometric enrollment

Facial biometric enrollment is possible via an embedded integration with AC2000 Personnel (v10.3 and higher). Up to five cardholder images (minimum of one required) are enrolled in AC2000 Personnel. AC2000 can be configured to store or delete the images following enrollment via AC2000 Personnel. During enrollment a biometric template is generated and stored on the Tyco AI server. The images are not stored on the Tyco AI server.



Facial biometric enrollment via AC2000 Personnel

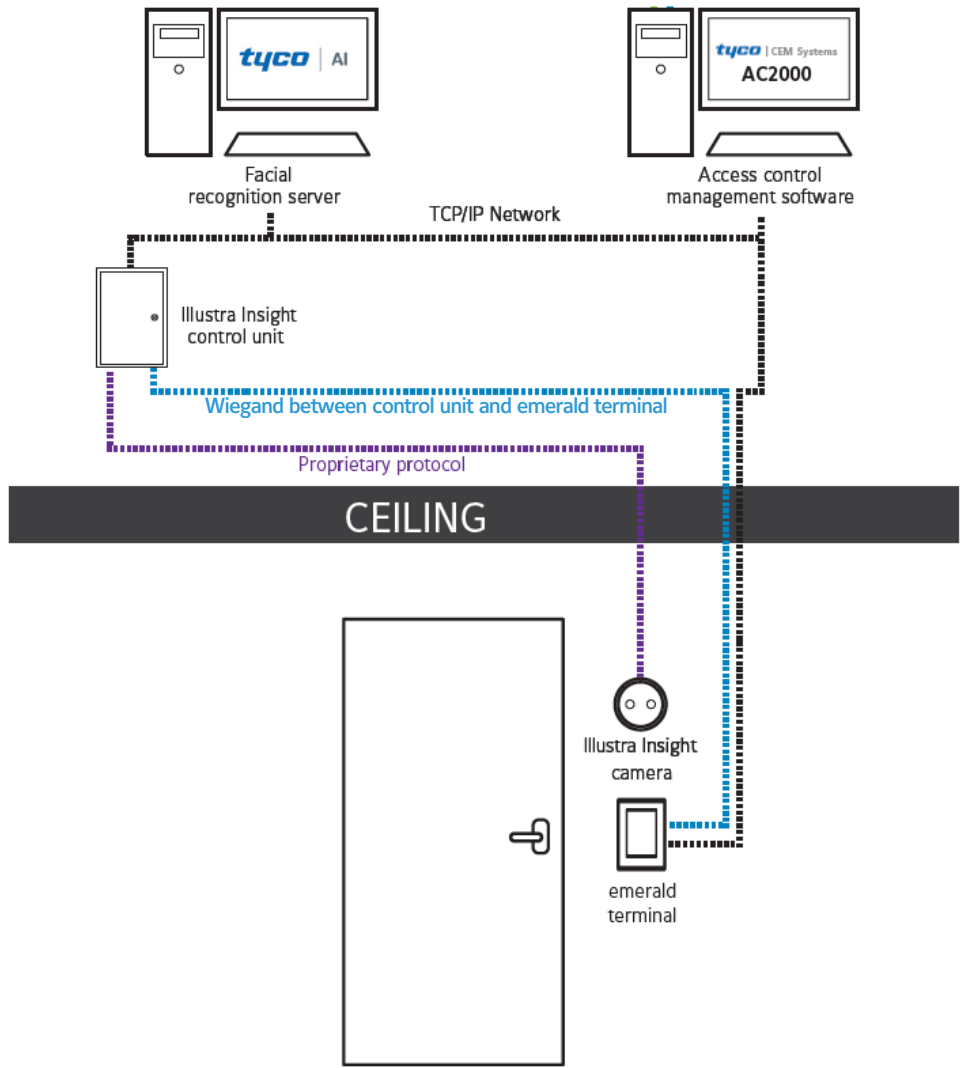
Multi-authentication facial recognition access

AC2000 with Illustra Insight and the CEM Systems emerald intelligent access terminal provides a multi-factor authentication solution for high security areas. When configured for face plus card two-factor authentication, Illustra Insight and Tyco AI validate facial biometrics and the emerald validates the card registered against the associated facial biometric. For access to be provided a valid facial biometric and the associated valid card registered to that user must be presented to the emerald terminal. If the card and facial biometric do not match (e.g. valid facial biometric presented with a valid card that is not registered to the user) then the access will not be granted. The Illustra Insight has integrated LEDs that provide intuitive feedback to users by turning green on access granted or red on access denied (audio and visual indication of access granted or denied is also provided by the emerald terminal).

Unobtrusive frictionless access

Illustra Insight can also be configured as facial biometric only, without the need to present a card to the emerald terminal. This provides enrolled and approved users with an unobtrusive frictionless access experience that helps to improve the flow of valid users in a secure environment.

AC2000 Illustra Insight Frictionless Access Architecture



Technical Specifications

Operational

Video Compression	H.264 & MJPEG
Max Frame Rate	20 fps
Resolution & Aspect Ratio	1920x1080 (1080p) 16:9 Stereo or 3840x1080
Video Streams	Single or Dual Concatenated
Imager	Progressive Scan, CMOS, 1/3.2" 13MP
Image Orientation Settings	None, Mirror, Flip, Flip & Mirror
Lens Type	Fixed, Fixed Iris/Aperture 2.8mm
Focus Control	Fixed
Focal Length	2.8 mm
Field of View (HxV)	75°/51°
Shutter Speed	1/4 - 1/10,000
Lens Aperture	F2.8
IR Illumination	Yes
IR Distance	2 m
IR Filter	850nm
Dynamic Range	69dB
Day/Night	Dual Concatenated only
Privacy Zones	3
Face Recognition	Through Tyco AI or Cloud Service
Turnstile mode	Yes
Audio	-
Simultaneous Users	3
Supported Languages	Arabic, Chinese (Simplified), Chinese (Traditional), Czech, Danish, English (default), French, German, Hungarian, Italian, Japanese, Korean, Netherlands, Polish, Portuguese, Russian, Spanish, Swedish, Turkish

Network

Ethernet Interface	10/100/1000Mbps (BaseT), RJ45, Auto-Negotiation
Supported Protocols	TCP/IP, IPv4, TCP, UDP, HTTP, DHCP, DNS, DDNS, RTP, TLS, RTSP, ICMP, Unicast, NTP, WS-Security, CIDS, FSTP, UPnP™, SIP
Satellite Camera Connection	Cat6 Shielded patch cable, Max distance 10 Meters, proprietary protocol
Access Control Interface	Wiegand (D0, D1, LED Rd,Yel,Gn) Cable Type - Belden 6543PA or equivalent

Configuration Management

Web Browsers	IE9 & above, Firefox, Safari, Chrome
Security	Secure Boot, TLS 1.2 (256 bit cipher minimum); RTSP Authentication; Role-Based Access Control

Electrical

Power	Power over Ethernet IEEE 802.3bt Type 3 Class 5 Max Draw: 40W
-------	--

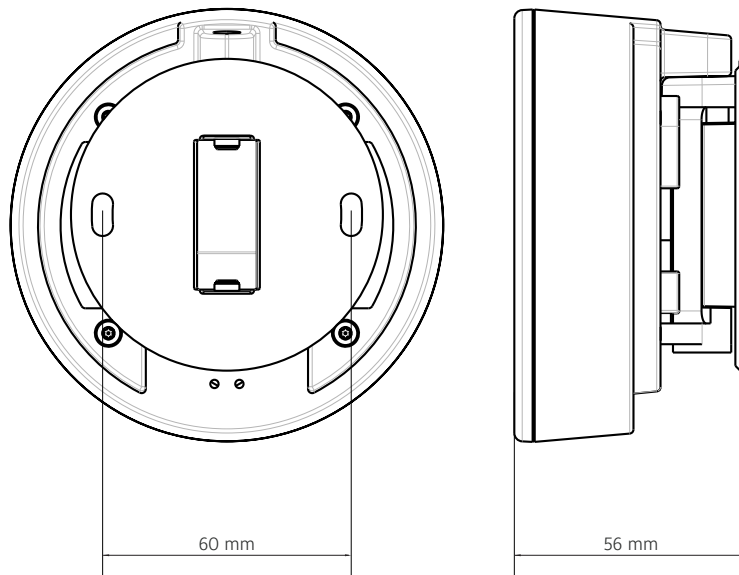
Physical

Dimensions (HxWxD)	Satellite Camera Module: 4.1 x 4.1 x 2.2 in (104 x 104 x 56 mm) Control Unit: 10.2 x 7.3 x 4.3 in (260 x 187 x 109 mm)
Weight	Satellite Camera Module: 0.82 lbs (0.37 kg) Control Unit: 4.85 lbs (2.2 kg)
Housing Color	Satellite Camera Module: Black Control Unit: Beige
Operating Temperature	Satellite Camera Module: -4°F to 104°F (-20°C to 40°C) Control Unit: 25°F to 104°F (-20°C to 40°C)
Humidity	0 to 90% Non-Condensing
Plenum Rated – Control Unit	Yes
Outdoor Rating	Satellite Camera Module: IP40 Control Unit: IP40

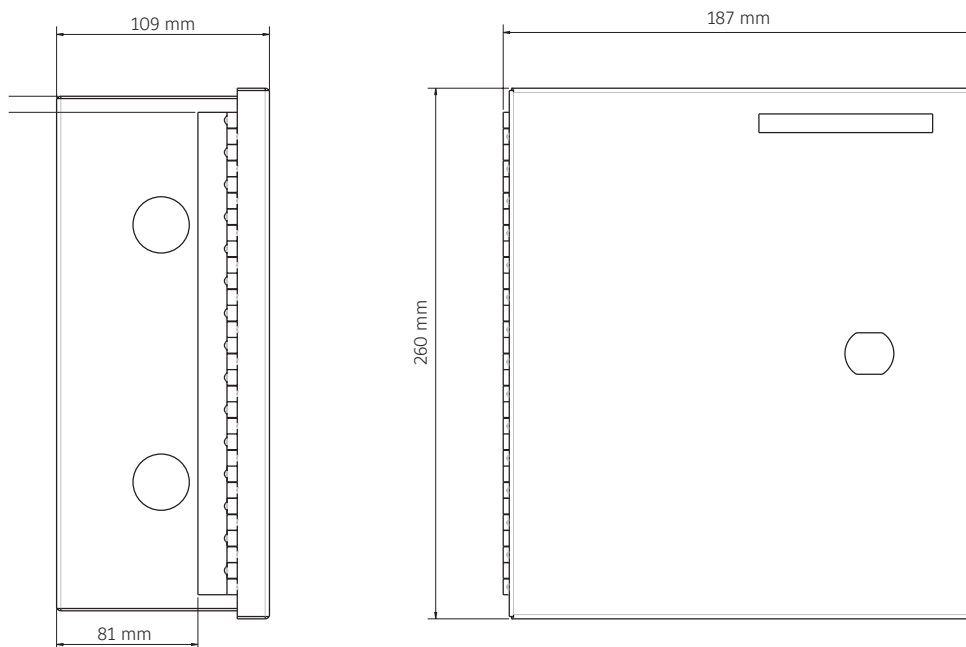
Regulatory

Safety	EN62368-1
Emissions	FCC CFR 47 Part 15 Class A; EN55032 Class A; ICES-003
Immunity	EN50130-4; EN 61000-3-2; EN 61000-3-3
Fire Plenum Rating	UL-2043; CAN/ULC S142
Environment	RoHS; WEEE

Satellite Camera



Control Unit



Ordering Information

Model	Description
II-AN00INT01	Illustra Insight Camera and Control unit in metal housing. Require Power via PoE IEEE 802.3bt standard (Max draw 40w). Illustra Insight camera 10m Cat6 cable included.
AI-FA-01	Tyco AI Frictionless License
SSA-AI-FA-01	Tyco AI Software Support Agreement (from year two) for continuity in support, firmware and software upgrades.

The Tyco Frictionless Access Solution requires the purchase of both Illustra Insight (II-AN00INT01) and a Tyco AI Frictionless License (AI-FA-01). Each entrance will require one Camera and one Tyco AI Frictionless license.

Please note that the server to run Tyco AI is not included or provided by Tyco. Please contact your account manager for details of the minimum server specification required.

Certain functions of the software may require compliance by you (the customer) with local, national and international laws and regulations. You (the customer) are solely responsible for compliance with all applicable laws and regulations relating to your use of this Software and those functions, including but not limited to those laws and regulations pertaining to personal data protection, privacy and security, any laws relating to the collection and sharing of facial recognition with third parties, or any laws requiring notice or consent of persons with respect to Your use of facial recognition.

Requirements

- AC2000 v10.3 software and higher
- AC2000 Airport v10.3 software and higher
- AC2000 Lite v10.3 software and higher

Related products

- AC2000
- AC2000 Airport
- AC2000 Lite
- emerald Intelligent Access Terminal

About Johnson Controls

Johnson Controls is a global diversified technology and multi-industrial leader serving a wide range of customers in more than 150 countries. Our 120,000 employees create intelligent buildings, efficient energy solutions, integrated infrastructure and next generation transportation systems that work seamlessly together to deliver on the promise of smart cities and communities. Our commitment to sustainability dates back to our roots in 1885, with the invention of the first electric room thermostat.

For additional information, please visit www.cemsys.com or follow CEM Systems on Twitter and LinkedIn.