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Data Sheet

AC2000 Insight Frictionless Access Facial Recognition Solution







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)
- 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 liveliness detection
- Cyber security protection

Insightful 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 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 Al

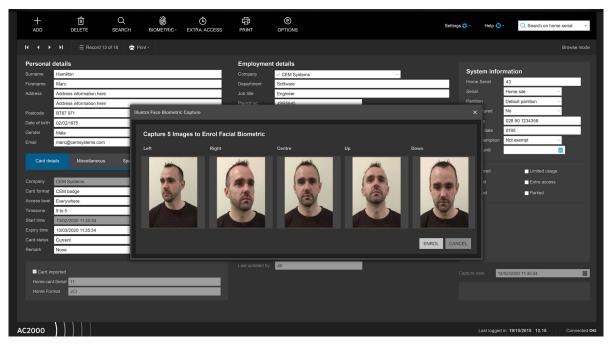
Tyco Al artificial intelligence is an ever-evolving deep learning solution that goes beyond surveillance and access to enhance a security ecosystem. Using Tyco Al, Illustra Insight can recognise and make decisions about a face in the camera's field of view (nearest face to the camera).



Tyco | CEM Systems facial recognition access solution

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





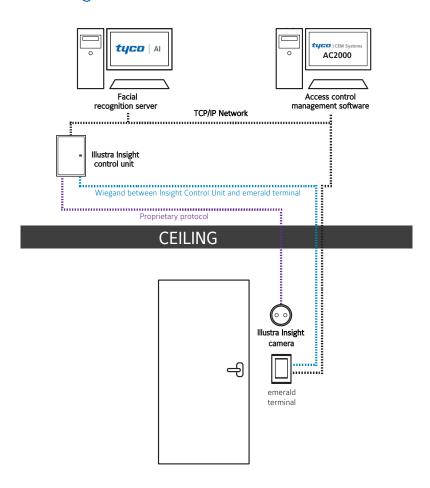
Multi-authentication facial recognition access

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, 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 Insight Facial Recognition Architecture







Technical Specifications

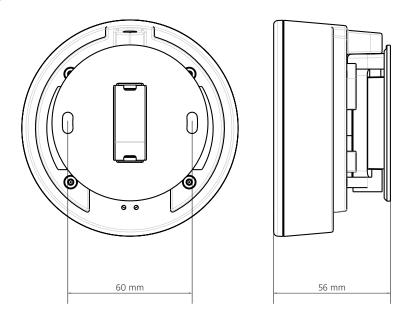
Max Frame Rate 20 pps Resolution & Aspect Ratio 1920x1080 (1000p) 16:9 Stereo or 3840x1080 Video Streams Single or Dual Concatenated Imaged Progressive Scan, CMOS, 312-2" 13MP (4:3) Lens Type Flore Minior Flixed, Flixed Inst/Aporture 2.8mm Focus Control Flixed Focus Length 2.8mm Field of View (HxV) 85°/63° Shutter Speed 14' – 170,0000 Lens Aporture F.2.8 IR Distance 2m IR Distance 2m IR Distance 3m IR Distance 3m Robitance 2m Robitance 3m Statistice Canal 3m Through Tyco All or Cloud Service	Operational	
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Image Orientation Settings	Video Streams	·
Lens Type	Imager	Progressive Scan, CMOS, 1/3.2" 13MP (4:3)
Fixed Focal Length	Image Orientation Settings	None, Mirror, Flip, Flip & Mirror
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Simultaneous Users 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 TCP/IP, IPv4, TCP, UDP, HTTP, DHCP, DNS, DDNS, RTP, TLS, RTSP, ICMP, Unicast, NTP, WS-Security, CIDS, FSTP, UPnP™, SIP Satellite Camera Connection Access Control Interface 1 Cat6 Shielded patch cable, Max distance 10 Meters, proprietary protocol Wiegand (Do, D1, LED Rd,Yel,Gn) Cable Type - Belden 6543PA or equivalent Configuration Management Web Browsers Security Belden 6543PA or equivalent Configuration Management Web Browsers Security Power 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 Control Unit: 2.2 kg Satellite Camera Module: Black Control Unit: 2.2 kg Operating Temperature Satellite Camera Module: 4-7 to 104°F (-20°C to 40°C) Control Unit: 25°F to 104°F (-20°C to 40°C)		
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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, UPp™, SIP Satellite Camera Connection Cat6 Shielded patch cable, Max distance 10 Meters, proprietary protocol Access Control Interface 1 Wiegand (Do, D1, LED Rd,Yel,Gn) Cable Type - Belden 6543PA or equivalent Configuration Management Web Browsers IE9 & above, Firefox, Safari, Chrome Security 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: 0.37kg Control Unit: 2.2kg Housing Color 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)	Supported Languages	
Supported Protocols TCP/IP, IPv4, TCP, UDP, HTTP, DHCP, DNS, DDNS, RTP, TLS, RTSP, ICMP, Unicast, NTP, WS-Security, CIDS, FSTP, UPP, PM, SIP Satellite Camera Connection Access Control Interface 1 Cat6 Shielded patch cable, Max distance 10 Meters, proprietary protocol Wiegand (Do, D1, LED Rd,Yel,Gn) Cable Type − Belden 6543PA or equivalent Configuration Management Web Browsers IE9 & above, Firefox, Safari, Chrome Security Security Security Security Security 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: Black Control Unit: 2.2kg Housing Color 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)	Network	
Satellite Camera Connection Caté Shielded patch cable, Max distance 10 Meters, proprietary protocol Access Control Interface 1 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: 0.37kg Control Unit: 2.2kg 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)	Ethernet Interface	10/100/1000Mbps (BaseT), RJ45, Auto-Negotiation
Access Control Interface 1 Wiegand (Do, D1, LED Rd,Yel,Gn) Cable Type - Belden 6543PA or equivalent Configuration Management Web Browsers IE9 & above, Firefox, Safari, Chrome Security 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: 0.37kg Control Unit: 2.2kg 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)	Supported Protocols	
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: 0.37kg Control Unit: 2.2kg 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)	Satellite Camera Connection	Cat6 Shielded patch cable, Max distance 10 Meters, proprietary protocol
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: 0.37kg Control Unit: 2.2kg 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)	Access Control Interface 1	
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: 0.37kg Control Unit: 2.2kg 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)	Configuration Manage	ment
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: 0.37kg Control Unit: 2.2kg 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)	Web Browsers	IE9 & above, Firefox, Safari, Chrome
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: 0.37kg Control Unit: 2.2kg 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)	Security	
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: 0.37kg Control Unit: 2.2kg 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)	Electrical	
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)WeightSatellite Camera Module: 0.37kg Control Unit: 2.2kgHousing ColorSatellite Camera Module: Black Control Unit: BeigeOperating TemperatureSatellite Camera Module: -4°F to 104°F (-20°C to 40°C) Control Unit: 25°F to 104°F (-20°C to 40°C)	Power	71
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)WeightSatellite Camera Module: 0.37kg Control Unit: 2.2kgHousing ColorSatellite Camera Module: Black Control Unit: BeigeOperating TemperatureSatellite Camera Module: -4°F to 104°F (-20°C to 40°C) Control Unit: 25°F to 104°F (-20°C to 40°C)	Physical	
Weight Control Unit: 2.2kg 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)	Dimensions (HxWxD)	
Operating Temperature Control Unit: Beige 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)	Weight	9
Operating Temperature Control Unit: 25°F to 104°F (-20°C to 40°C)	Housing Color	Control Unit: Beige
Humidity 0 to 90% Non-Condensing	Operating Temperature	
	Humidity	0 to 90% Non-Condensing



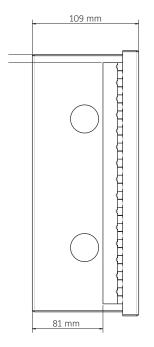


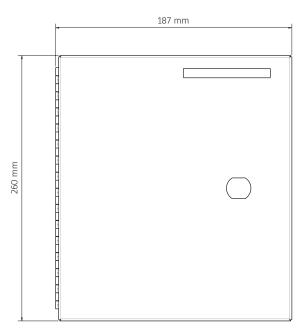
Plenum Rated - Control Unit	Yes	
Outdoor Rating	Satellite Camera Module: IP40 Control Unit: IP40	
Regulatory		
Safety	EN62368-1	
Emissions	FCC CFR 47 Part 15 Class A; EN55032 Class A; ICES-003	
Immunity	EN50130-4; EN 61000-3-2; EN 61000-3-3	
Fire Plenium Rating	UL-2043; CAN/ULC S142	
Environment	RoHS; WEEE	

Satellite Camera



Control Unit









Ordering Information

Model	Description
II-ANOOINT01	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 Al Frictionless License
SSA-AI-FA-01	Tyco Al 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

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 LinkedIn and Twitter.

