

CEM SYSTEMS



Universal & Reliable

Secure lift floor access control for commercial, multi-tenant and/or mission critical environments, compatible with any traditional lift floor selection hardware



Secure OSDP

End to end encrypted communication using Open Supervised Device Protocol (OSDP) v2



Highly Scalable

Controls 16 floors per module; expandable up to 128 floors



AC2000 Integrated Lift Control

Floor level access with advanced features like time-based access or user-specific permissions



Cost Effective Wiring

Input and Output modules are powered directly from LC400 - lowering wiring costs & reducing installation time



Status & Diagnostics

Detailed visual inspection LEDs for power, communication, 16 inputs and 16 outputs

The LCI16 Lift Control Interface is a secure, modular input/output unit designed to deliver encrypted elevator access control as part of the CEM Systems AC2000 Lift Control solution. Used in conjunction with the LC400 Lift Controller, the LCI16 enables seamless integration of building lifts with the AC2000 access control system for installations where Destination Control Systems (DCS) are not required.

Supporting floor level access control for up to 16 floors per module and utilising secure Open Supervised Device Protocol (OSDP) communication, the LCI16 provides a flexible, cost effective, and highly secure approach to lift control. It allows organisations to restrict, monitor, and manage access between elevator floors based on cardholder permissions, schedules, and security policies, while maintaining full visibility and central control through the AC2000 platform.

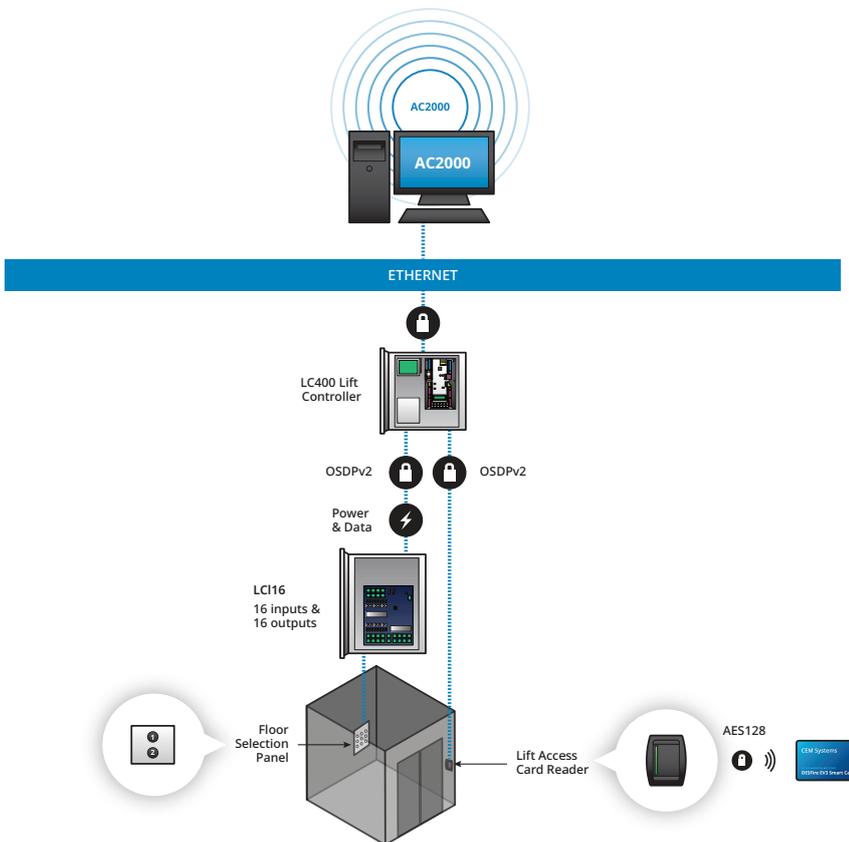
Integrated Lift Control with AC2000

As part of the AC2000 Lift Control solution, the LCI16 Lift Control Interface allows full intelligent integration between lifts and access control. Each lift cabin is interfaced with an intelligent LC400 Lift Controller, which communicates with one or more LCI16 units to control elevator floor selection panels.

This seamlessly integrated solution provides real time monitoring and control of access movements between floors, delivering a unified view of door and lift activity within the AC2000 platform. Lift access becomes a natural extension of the access control system rather than a standalone subsystem, reducing infrastructure complexity while improving overall security resilience.

How the Solution Works

AC2000 ENCRYPTED LIFT CONTROL



Lift access for cardholders is simple and intuitive. Upon entering the lift cabin, the cardholder presents their credential to a CEM Systems smart card reader—or a compatible third party secure reader—installed adjacent to the floor selection panel. The reader then communicates securely with the intelligent LC400 Lift Controller, which performs 24/7 access checks against the AC2000 database to determine which floors the cardholder is authorised to access.

Based on these permissions, the LCI16 Lift Control Interface activates a series of relay outputs to enable only the authorised floor buttons on the lift panel. The cardholder then selects an enabled floor and the lift operates as normal. Inputs within the LCI16 record which button was pressed, allowing floor selections to be logged and reported for audit and traceability purposes.

Output modules are used to signal to the lift which floor selection buttons to enable. Each output module provides 16 dry contacts, with one used per available lift floor. Input modules provide 16 analogue inputs to monitor floor selection activity.

Secure, Encrypted Communication

Security is fundamental to the AC2000 lift control system architecture. The solution supports **Open Supervised Device Protocol (OSDP) v2**, delivering secure, end to end encrypted communication based on open industry standards.

When used with CEM Systems readers, the solution offers AES 128 encryption between the smart card and reader, OSDP v2 secure channel encryption between reader and controller, and TLS secured communication between the LC400 controller and the AC2000 server. This layered approach ensures credential data, commands, and lift control signals remain protected at every stage, helping to mitigate modern cyber and physical security threats.



Modular and Scalable Design

The LCI16 Lift Control Interface is designed for scalability. Each unit supports up to 16 lift floors, with additional LCI16 modules easily added to support higher floor counts—up to 128 floors within a single lift control system.

This modular approach allows lift control to be deployed in stages, making it ideal for both new installations and system expansions. Housed in a dedicated enclosure with integrated input cards, output cards, and power supply, the IO16 simplifies installation and wiring compared with traditional PLC based solutions, while maintaining flexibility to suit different lift manufacturers and site specific requirements.



Deployment Flexibility and Upgrade Path

The LCI16 Lift Control Interface connects directly to the lift cabin's floor selection panel and works alongside existing traditional CEM Systems lift hardware. It can be added to existing AC2000 installations without requiring major changes to lift infrastructure, providing an efficient upgrade path for buildings looking to enhance lift security.

The solution supports both CEM Systems intelligent readers—such as S700 or ioSmart—as well as compatible third party secure OSDPv2 readers, giving system designers flexibility when specifying hardware.

Intelligent Lift Management

By fully integrating lift access into the AC2000 access control system, the LCI16 Lift Control Interface enables advanced features such as time based floor access, user or group specific restrictions, and detailed real time reporting of cardholder movements between building floors.

Administrators benefit from real time monitoring, centralised management, and offline capable operation at the controller level, ensuring continued lift access control even during network interruptions.

Mission Critical Environments

By combining robust hardware, encrypted communications, and powerful AC2000 software, the LCI16 alongside the LC400 controller, forms a comprehensive alternative to standalone lift systems—enhancing security, simplifying configuration, and delivering full operational control from a single platform.

Designed for mission critical environments, the complete CEM Systems Lift Control solution delivers reliable elevator floor access control for commercial and multi tenant buildings, including demanding sites such as airports, data centres, hospitals, universities, and large enterprise campuses, where availability, security, and operational continuity are essential.

Specifications

Physical

LCI16 board dimension	(H x W x D) 249.65 x 185.67 mm x 19.4 mm (9.829 x 7.310 x 0.764")
Dimensions – Enclosure	460 x 250 x 90mm (18 x 10 x 3.5 inches)
Operating and Storage temperature	32-120° F (0-49° C); 90% relative humidity @ 90° F (32° C)

Electrical

Input Voltage	Current Draw with Outputs Idle: 90-100mA@24VDC Idle: 100 -110mA@12VDC
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Communications

Communications bus	RS-485 half-duplex, OSDPv2 secure channel
Addressing	00-99
Maximum distance +12 VDC	1219 m (4000 ft). Check installation guide for details on wiring distances when also running power to a module
Baud Rate	9600, 38400, 115200 autobaud

Inputs, outputs, tamper, termination, and module LEDs

Inputs	16 supervised inputs. Supervision circuitry software configurable, Press Return Circuits Supported: Single resistor (1K, 5K, 10K), Double resistor (1K, 5K, 10K), 1K/2K, 6.8K/18K, 200/1K, Unsupervised NO, NC
Outputs	16 outputs. Relay contact power limits Wet: 12 VDC, 1 A , 24 VDC output Dry: 30 VDC, 5 A (NO), 3 A(NC)
Termination	Includes a built-in RS-485 end-of-line termination switch

Tamper input	1 supervised tamper input for use with an external tamper switch
LEDs	<p>LEDs for the following:</p> <ul style="list-style-type: none"> • Supervised input • RS-485 transit and Relay status • Power-on • Incorrect address • Baud rate/comm • Fault LED
Regulatory	<ul style="list-style-type: none"> • UL 294 • UL 2610 • ULC C1076 • IEC EN 60839-11-1, grade 4 function operation • EN62368 Safety standard • FCC 47 CFR Part 15, class A • ICES - 003 • Directive 2014/30/EU(EMC): EN 55032, EN 55035, EN 50130-4, EN IEC 61000-3-2, EN IEC 61000-3-3 • Directive 2011/65/EU (RoHS II)

Ordering Information

Model Number	Description
LCI/016/001	LCI16 Lift Control Interface & enclosure