ZLock

Wireless Online Locking System Powered by PCSC's Fault Tolerant Architecture

A Fully Integrated Locking System

A state-of-the-art integrated real-time access system especially designed for today's demanding access control needs. Unlike no other system, it is designed to provide the highest level of reliability, powered by the patented Fault Tolerant architecture and managed by LiNC-NXG™ software. It's the first fully integrated wireless online system to incorporate Door Management, Employee Access Management, CCTV, Graphic Alarm Management and Photo ID badging into one seamless package.
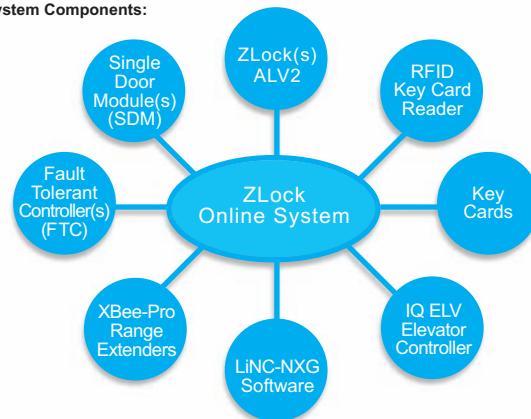
Benefits of an Online System

- Improved security (real-time card cancellation, alerts, reports, tracking and more)
- Improved system services
- Improved operational effectiveness (battery alert, service events, reports from locks and more)
- Monitoring & custom reports (wide range of available information / reports by cross tabulating data from central database

System Design

- Wireless technology–using DigiMesh network
- Cost effective communication backbone through an existing Ethernet network
- Fault Tolerant Architecture (redundancy)
- Cost effective installation–minimal wiring
- Retrofit capability–using a separate module

System Components:

- Single Door Module(s) (SDM)
- ZLock(s) ALV2
- RFID Key Card Reader
- Fault Tolerant Controller(s) (FTC)
- ZLock Online System
- Key Cards
- XBee-Pro Range Extenders
- LiNC-NXG Software
- IQ ELV Elevator Controller

Main System Features

Admin./Front Office	Security	Maintenance
Assign cards	Remote cancel of lost card	Retrieve audit trails and error logs from door locks
Assign door access	Remote cancel of master cards	Real-time low battery alerts
Update door access	Real-time access updates	Auto time synchronization
Generate reports	Staff tracking and access control	Auto Fault Tolerant operations

LiNC-NXG™ Software

LiNC-NXG is an online system enabling users to manage and monitor visitors and employee access from a remote computer console without the need to go to each access point.

LiNC-NXG provides the ability to integrate with your Property Management System (PMS), providing a seamless interface between your reception, visitors and employees. Cardholders will automatically have access to their assigned points of entry, floors and common areas without any manual intervention. Workstations are available for generating reports or programming system parameters and setting up access privileges for visitors employees, contractors and vendors.

Access privileges are determined by a specific access authorization logic for visitors and employees and unlike your typical offline system, cardholder and system management is performed moments after the changes are made within LiNC-NXG via the established communication network.
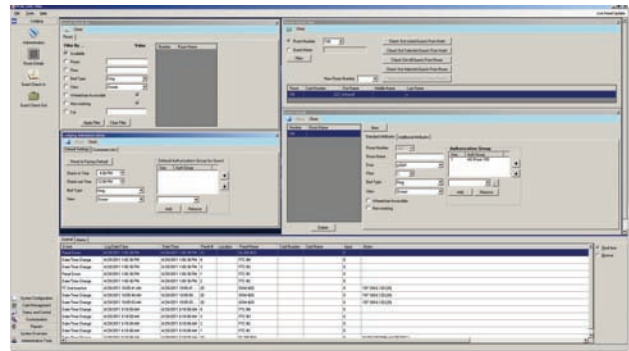
- Real-time Access Control
- Integrate with Property Management System (PMS)
- Fault Tolerant Architecture
- Common Area Management
- Graphical Display System
- Parking Management

- Elevator Control
- CCTV Integration
- High Security Applications
- Employee, Contractor and Vendor Access
- Photo Badge Making

- Open SQL Database Architecture
- Automatically Schedule Custom Reports and send via email in PDF or Excel format

RFID Key Card Reader (Front Office)

Cards are assigned to visitors and personnel using a desktop RFID card reader. A card is presented to the reader and read by the LiNC-NXG software. Each card can be assigned specific authorization rights for access. No card holder specific data is stored on the card itself. The software merely identifies the cards unique identification and then retrieves details. A lost or stolen card can be quickly removed from the system.

RFID Technology and Key Cards

Incorporating the latest RFID card technologies for employee access. The basic NFC technology platform of ZLock is the same as for the standard offline AVL2 locks. This means the same RFID benefits also apply to the ZLock (NFC peer-to-peer, ISO 14443 type A Mifare, FeliCa). In terms of RFID cards, the exact same Mifare 1K cards / wristbands / tokens as used with regular ALV2 offline locks can be used with ZLock. Using a card printer, cards can be printed with custom branding and/or used for employee identification.

ZLock / ALV2 Wireless Online System Architecture

The system is comprised of the following components: ZLocks (an ALV2 lock with wireless door module and unique firmware, aka HDM) for access, Fault Tolerant Controller(s), LiNC-NXG software, DigiMesh Range Extenders, RFID card reader(s), SDMs (single door modules) for common and back office door access and ELV Controllers for elevator use.
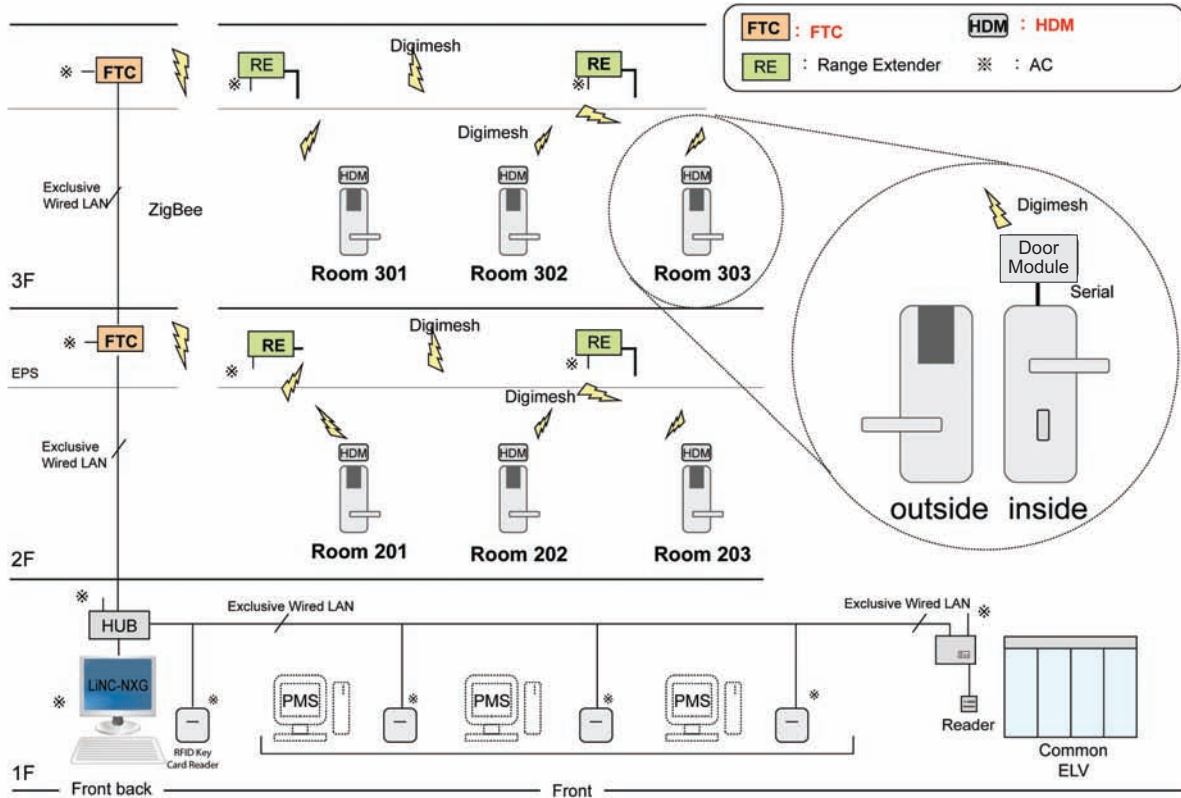
XBee-PRO® DigiMesh® 2.4 Range Extender

Installed throughout the property, providing network stability through self-healing, self-discovery, and dense network operation.

- Expands DigiMesh 2.4 GHz wireless networks
- External power (universal AC input 85 to 265 VAC)
- Creates redundant network pathways
- 60 - 90 meter range
- Relays information between the locks and FTC
- One extender maxiumum per 10 locks
- Easy-to-use commissioning button provides a simple method for adding and joining an existing network
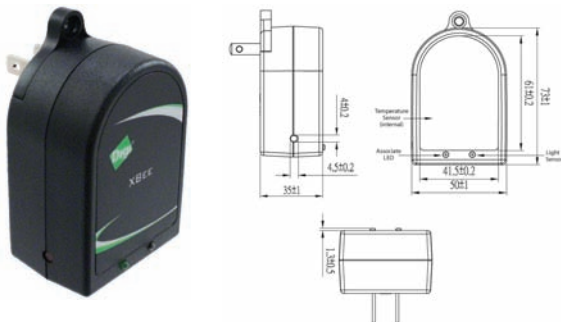
Fault Tolerant Controller Gateways

Physical access control is managed by PCSC's patented Fault Tolerant Controller (FTC). This provides for the highest level of reliability with an automated process of system recovery.

- FTCs are placed in a secured room or back of house closet, and are connected via Ethernet to the network
- Uses external power source (12 VDC) or PoE
- Uses XBee-Pro module with 60 - 90 meter range
- Transmits between Ethernet and DigiMesh network
- A maximum of 100 locks per FTC is recommended
- At least one FTC should be placed on each floor
- Available in rack mount or single enclosure
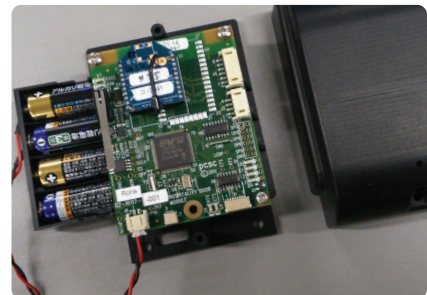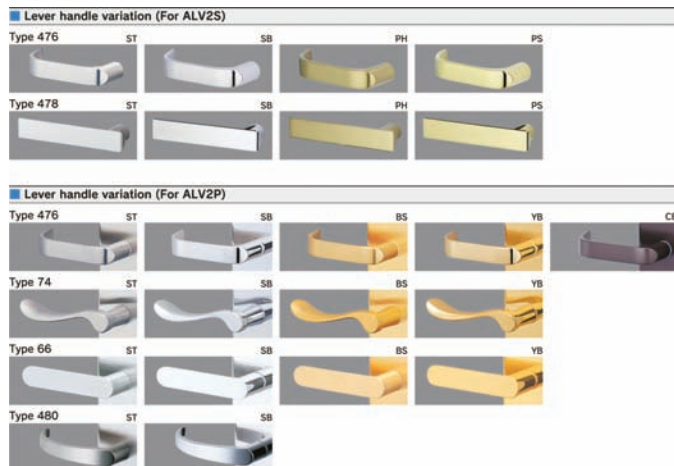
ZLock Components

Doors are equipped with the wireless Zlock. The ZLock is an ALV2 lock with a door module utilizing unique firmware. The door module enclosure contains the wireless components which include the PCB, wireless module and battery box. The door module is mounted just above the lock on the inside of the door.

- ZLock requires unique firmware, different than that of the ALV2 offline lock
- ZLock is available both on the ALV2 Slim, P and A Type escutcheon
- Same general installation principles as the regular ALV2 offline lock
- The lockcase door preparation is the same as for the offline versions
- Inside and outside escutcheon are the same as for the regular ALV2 lock
  To mount the door module enclosure, an extra door cut is required above the inside escutcheon
- Wireless components are located within the door module enclosure
- ZLock requires an additional 4 AA batteries to support the wireless communications. 8 AA batteries per ZLock total (4 of which are behind the locks plate)
- ZLock's battery lifetime is estimated to last 1.5 years with an average of 10 openings per day, assuming normal temperatures, pressure and humidity
- Batteries for the lockset and the wireless components are separate, so even if the batteries for the wireless components fail, the lock will continue to function in an offline mode
- Door module batteries can be replaced by removing two security screws to remove the cover
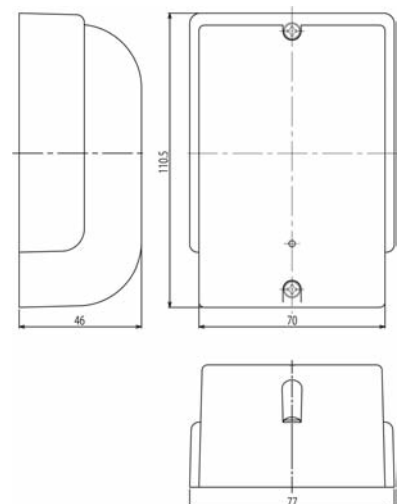

ALV2S Slim type   ALV2P type

■ Lever handle variation (For ALV2S)

| Type 476 | ST | SB | PH | PS |
| Type 478 | ST | SB | PH | PS |

■ Lever handle variation (For ALV2P)

Type 476	ST	SB	BS	YB	CB
Type 74	ST	SB	BS	YB	
Type 66	ST	SB	BS	YB	
Type 480	ST	SB			

Door Module for wireless online functions

Single Door Module (SDM)

The Single Door Module can be used for access control througout a property in areas such as common doors, conference rooms, exercise rooms, pools, spas, staff entrances, back office, sliding doors, revolving doors and vehicle parking. PCSC's SDM Series is based on HID Global's Edge® technology and has been re-engineered to support PCSC's patented Fault Tolerant Architecture. Utilizing LiNC-NXG® lodging software, the SDM provides additional features and capabilities, providing the highest system reliability. SDM's are based on a "single cable" technology solution, allowing you to design door systems using standard Ethernet cable. The SDMs are available in a controller only configuration or with an integrated reader.
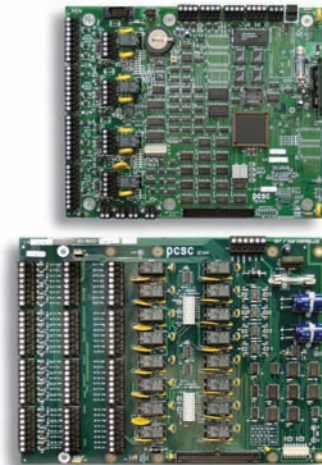
- Utilizes the patented Fault Tolerant Architecture
- 100 Mhz 32 Bit RISC CPU
- Open Systems Operating System
- Onboard Ethernet Communications with PoE
- Power-over-Ethernet (PoE)
- Virtual Point Architecture
- Global Entry Exit
- Global Input/Output
- User Programmable Control Logic
- Peer-to-Peer Hydra Protocol
- Automated Firmware Updates
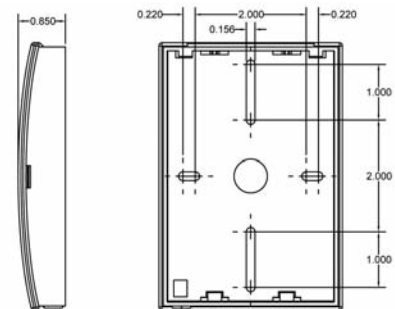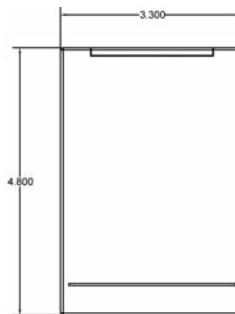
IQ ELV for Elevator Access Control

The IQ ELV offers the most complete set of elevator control configurations to meet any facility's requirements. The controller provides 100% distributed intelligence with configurations for 2 or 4 elevator cabs and from 16 to 64 floors. The floor authorization logic is based on cardholder, floor authorization groups, time of day and day of week. User accountability reporting is provided by battery backed history transactions, recording cardholder information by time and by floor selection. Additionally, the IQ ELV automatically provides security on holidays and weekends.

- 2 or 4 Elevator Cabs
- 16 - 64 Floors
- Up to 50,000 Cardholders
- 4,000 History Transactions
- 4 Authorizations Groups/Cardholder
- 4 Floor Groups/Cardholder
- 64 Time Periods
- 366 Holidays
- 1 Year Battery Backed Clock Calendar and Memory
- Open Architecture Protocol
- 100% Distributed Intelligence
- Individual Floor Control with Override

- Time Period & Cardholder Floor Control
- Handicapped Access
- Two Person Rule
- Escort Required
- Automatic Card Expiration
- Supervised Readers
- Electronic Firmware Updates (Flash Memory)
- AC Fail Warning
- Battery Low Warning
- Real-time Diagnostics
- Optional Onboard Ethernet
- Upgrade Capable

- Communications Supported: RS485 or RS232, Dial-up Modem, Leased Line, Wireless, Fiber Optics, 10/100 TCP/IP Ethernet (optional)
- Cabling Requirements: *Host-to-Controller:* 4 Conductors, Max Total Distance 4,000 ft. (1,219 m) *Controller-to-Reader:* 6 Conductors (Flex Cable Rated), Max 500 ft. (152 m) or 2,000 ft. (609 m) with Adapter *Controller-to-Input-Point:* 2 Conductors, Max 2,000 ft. (609 m)

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Wireless Online Locking System Powered by PCSC's Fault Tolerant Architecture

System Features

- Real-time Access System
- Fault Tolerant Architecture
- PMS Interface Capable
- Integrated Security Solutions for:
  - Employee Access
  - Elevator Control
  - CCTV integration
  - Graphical Alarm
  - Photo Badge Making
  - Parking Management
  - Common Area Access
- WEB based Application*
- Cardholder Tracking
- Ability to delete lost or stolen cards within seconds
- Alarm Annunciation with email or SMS text
- Employee Access Management
  - Time of Day
  - Day of Week
  - Holiday
- Administrative Reports
  - Automatic scheduled Reports
  - Staff Access and Tracking
  - Guest Access and Tracking

- Automatic Activation and Deactivation of Visitor or Employee cards
- Handicapped Access
- Automatic Holiday Control
- Automated Daylight Savings Time control
- Battery Low Indications
- High Security Applications
  - Supervisory Control
  - Photo Trace
  - Photo & real-time video authentication entry
  - Two Person Minimum Occupancy (TPMOR)
  - Escort Management
  - Cardholder Actions
  - User Programmable Logic
- Operator Audit
- SQL Database

System Capacities

Offices / Rooms	Unlimited
Employee Cardholders	Unlimited
Employee Entrances	Unlimited
History Transaction	Limited to Disk Space
Authorization Schedules	Unlimited
Holidays	Unlimited
Alarm Inputs	Unlimited
Workstations	Unlimited

Communications

LiNC-NXG to Workstation	Ethernet
LiNC-NXG to FTC	Ethernet
FTC to Zlock	DigiMesh
Common Areas SDM	Ethernet / Wiegand

Card Reader Technologies

Offices / Rooms	Mifare
Common Area	Mifare, Cepas*
Employee Area	Mifare, Cepas*, Biometric, DesFire, Proximity

*Call for availability

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Fault Tolerant
Architecture

PCSC