

BikeLink™ System Overview

What is BikeLink?

BikeLink™ is an integrated management and multi-platform software system designed to facilitate both on-demand secure bike parking and deployment of rental bikes. BikeLink™ integrates smart microelectronics, wireless mesh networking, cellular technology, and relational databases with administrative procedures and access control systems. BikeLink™ can be used as an operating system for eLockers™, eCages™, eRacks™, or with eLock retrofit kits for existing mechanically keyed bike lockers.



The BikeLink™ Card

The BikeLink™ Card acts as both a debit device and access key. It is smart and it never expires. It stores rental information which can help a user if they forget where they parked, and deters several types of system abuses by preventing multiple simultaneous rentals.

As indicated on its back, use of the BikeLink™ Card invokes the BikeLink™ Cardholder Agreement, which can be viewed at www.bikelink.org.

The Benefits of BikeLink™

Operational Flexibility

- Easily switch between parking and vending modes.
- Use with lockers, racks, or cage enclosures.
- All components run on AC power or batteries.
- Works with and without a network.
- Membership-based access control is not required.

Ease of Use

- Clear, intuitive user interface.
- Faster to use than a mechanical bike lock or locker.

Interoperability

- Cardholder can access a national network of facilities.
- System supports a variety of card types.

Low Operating Cost

- The BikeLink system has been continuously refined to minimize administration, service, cleaning, power, and communications costs.

Serves More Cyclists

- Usage data indicates BikeLink serves 5-7 times as many cyclists in a year compared to non-shared systems.

How On-Demand Bike Parking Works:



Get a BikeLink™ card

The BikeLink™ Card is sold online at www.bikelink.org, by local facility owners, nearby businesses, or vending machines.



Insert card

The screen guides you through a very quick process to start your rental. It's like using a parking meter.



Park your bike

Once there's time on the meter, the door opens. Put your bike inside, close the door, and walk away. Your bike remains secure even if the meter expires.



End rental

Insert your card, get your bike, and get your refund! Unlike a parking meter, any time you don't use is refunded. If your meter expires you are simply charged for the extra time at a higher rate.

How Automated Bike Rental Works:



Get a BikeLink™ card

To facilitate insurance or security deposit requirements, the bike fleet owner may require your card be tagged with an extra electronic access code. You can get a code for your card over the phone, on the web, or by purchasing your card directly from the bike fleet owner.



Insert card

The screen guides you through a very quick process to select a bike and start your rental.



Remove rental bike

When you start your rental, if you're using an eLocker the door opens. If you're using an eRack, your selected bike is released.



End rental

You can return your bike to a different location from where you rented it. If you're using an eLocker, insert your card, view and accept your receipt, replace bike and attach docking device. If you're using an eRack, just dock your bike at any slot and then insert your card to view your receipt and close out the transaction.

eLocker™ Product Specifications

General Specifications

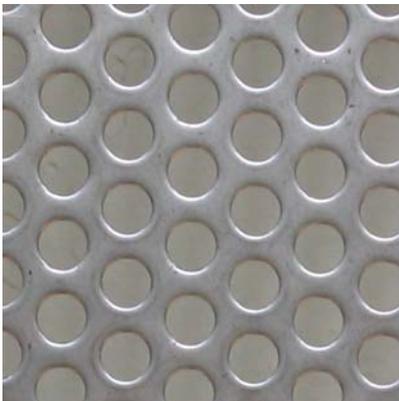
- BikeLink™ operating system pre-installed.
- Designed for operation under a wide range of environmental conditions.
- Modular design and replaceable components for ease of maintenance, lower lifecycle costs, and ability to upgrade.
- High quality materials, design, and attention to aesthetics.

Frame & Door

- Heavy gage all steel locker frame.
- Frame finish: G90 Galvanized, Stainless steel or Tnemec V69/1075 industrial grade corrosion barrier.
- Wide range of frame color options.
- No externally exposed screw fasteners.
- Stainless steel fully perforated door permits view of contents.
- Door recessed and extra thick for pry resistance.
- Door braced for security & stiffness to ensure consistent latching.
- Debris skirts & door flaps prevent intrusion and entrapment of wind-blown debris.
- FRP roofs meet stringent Transit Agency fire resistance specifications, have high impact, UV, and cutting resistance, yet let light in so locker contents remain visible at a distance. Sloped to shed rain and deter repose.
- FRP or perforated stainless steel end panels.

Divider Panels

- Galvanized 1/2" #16 expanded steel interior divider panels have proven security characteristics yet permit light and visibility.
- Stainless steel 18 gage 1/4" on 3/8" perforated exterior panels.



1/4" ON 3/8" STAGGERED PERFORATED STAINLESS STEEL
Excellent corrosion resistance, small hole size results in excellent security properties. 42% Open Area

Electronics Housing

- 300 series 16 gage stainless steel.
- Easily removable electronics for ease of maintenance and battery replacement.
- Housing held in place by high-security mechanical lock.

Locking & Latching System

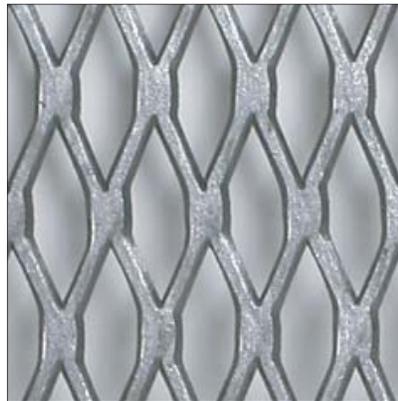
- Patented "always locked" logic means door is secured even when locker is empty and available for parking or bike return. This deters misuse as shelter or for storage of inappropriate items.
- Motor-driven latch release mechanism for low power consumption and reliable operation even when batteries are low.
- 3000 lb pull-out test automotive grade latch mechanism.
- Latch can be released from inside locker.

Access System

- Smart Card ISO-7816 compliant on-demand access: any BikeLink cardholder can initiate rental.
- 3rd party ISO-7816 or 14443 compliant upgrade capable. Upgrade configuration & cost depend on specifications of 3rd party card to be used.
- Parking meter style interface. Access cards distributed via bikelink.org or local vendors. For rental rates over 10 cents per hour, facility-specific revenue is reimbursed to facility owner.

User Interface Display

- High contrast, wide temperature 128x64 graphic LCD.
- Backlight for nighttime operation.



1/2" #16 HOT-DIP GALVANIZED FLATTENED EXPANDED STEEL
Proven security characteristics. 52% Open Area

Power Source Options

- Battery or AC power -- see power supply options spec sheet.

Local Administration

- Smart Manager Card provides access to rental settings, date & time setting, battery levels, rental history, ability to switch between pay-for-parking and automated bike rental modes, and other features.
- Mechanical Manager Key for maintenance and battery replacement, as well as latch override.
- Firmware updates via firmware update card.
- Public information screens are accessible to any person requiring up-to-date information about the system, where to get a card, emergency contact phone numbers, rentals rates. No card needed to access these screens.

Remote Administration

- See BikeLink wireless network spec sheet for optional network features.

Installation and Relocation

- Concrete slab with less than 1.5% slope and installation by eLock technicians is recommended.
- Wheel-jack connections are built in to frame for easy relocation.

Support & Maintenance

- eLock provides free cardholder and facility owner technical support.
- Electromechanical components are not Owner servicable.
- Annual check-ups and tune-ups are recommended. Guaranteed on-site service contracts and extended warranties are available.



16 GAGE STAINLESS STEEL CONTROLLER HOUSING.
Pry-resistant mounting, yet easily removable using high-security mechanical lock.

eLocker™ Representative Installations

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**COMMUTER PARKING
SORRENTO VALLEY COASTER STATION
SAN DIEGO CALIFORNIA**



**DOWNTOWN PARKING AT CITY HALL
FRANK OGAWA PLAZA
OAKLAND CALIFORNIA**



**TREK BIKES AVAILABLE FOR CHECK-OUT
BUR-MIL PARK
GREENSBORO NORTH CAROLINA**



**COMMUTER & RECREATIONAL PARKING
OHLONE GREENWAY/PLAZA BART STATION
EL CERRITO CALIFORNIA**

eLocker™, eCage™ & eRack™ Power Supply Options

Uninterruptible Power Supply EM-PS02

The EM-PS02 is a power supply option that allows you to connect to an AC power source. This option eliminates the need to monitor and replace batteries at each controller and is recommended for all new construction installations.

The EM-PS02 protects itself and the components it powers from surges, faults, and outages with an integrated GFCI, auto-reset overload protector, and high-capacity sealed lead acid backup battery.

The charging circuitry in the EM-PS02 means that an EM-PS02 can reliably power a group of eLock products even if it is connected to an intermittent power source.

EM-PS02 Features

- Designed for operation under a wide range of environmental conditions including direct hose spray.
- Flexible mounting options.
- Enclosure door double latched and padlocked for secure, consistent seal.
- Automatic resetting "fuseless" overload protection resets when short or overload is removed.

- 2.5A output can power 12 controllers (up to 24 locker spaces) driving latches simultaneously.
- Alternate models for 120 or 277VAC supply.
- Suitable for piggy-back installation on timed circuits such as street lights.
- Low temperatures do not degrade sealed lead acid battery output.
- Visual AC & DC power indicator LEDs.

EM-PS02 Specifications

- Nema 4X enclosure.
- Input: 120VAC (40VA transformer.)
- Voltage Output: 6VDC.
- Current Output: 1.2A continuous, 2.5A maximum.
- Elk Products ELK-P624 internal battery charger and power supply with 2.5A auto-reset "fuseless" overload protector.
- 9-12Ah rechargeable sealed lead acid standby battery.

EM-PS02-120 Specifications

- Fault protection: 20 Amp GFCI.
- Cut-off Switch: 8.3 Amp rated (with 15 Amp GFCI protected outlet.)

EM-PS02-277 Specifications

- Fault protection and Cut-off Switch: 15 Amp circuit breaker rated for 277 V.

Refillable Battery Pack EM-BP06

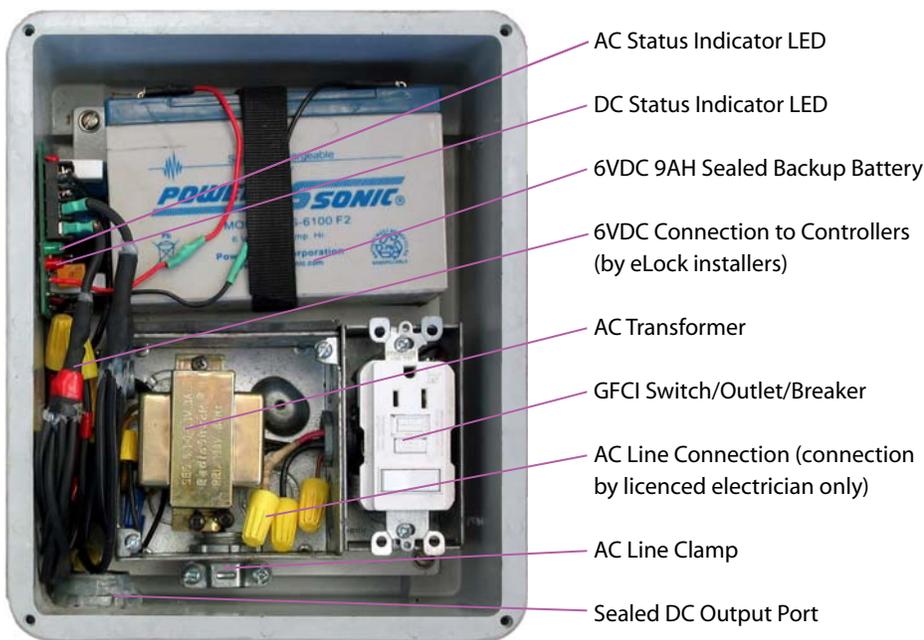
The eLock EM-BP06 is a refillable battery pack that contains six standard "D" size alkaline cells. Each pack powers an eLock control unit for approximately one year. The EM-BP06 is designed to be installed in pairs to take advantage of eLock's proprietary power management software. This software automatically switches between battery units to maximize battery life and minimize maintenance costs by simplifying battery replacement scheduling.

EM-BP06 Features

- Easily refillable with standard "D" cell alkaline batteries.
- Automatic active battery pack switching.

EM-BP06 Specifications

- 9VDC output.
- 20.5AH per pack.
- Takes 6 standard "D" alkaline cells.
- Latching gold-plated connector for reliable connection to eLock controller.



EM-PS02-120



EM-BP06

Overview

Distributed Intelligence

The BikeLink system is designed so that communication disruptions will never disrupt basic reliability.

Because lock controllers do not depend on network communications to control access, an unreliable network connection will never result in a user getting stranded, unable to retrieve their bike, or return a rental bike.

Distributed intelligence also improves security and robustness. For example, when a bike is rented, the bike, the renting card, the lock controller, and the central network all record the transaction. Thus scamming the system is more difficult, and reconstructing a corrupted or suspect transaction trail is easier.

Low Power Consumption

Like all eLock products, our wireless components are optimized for very low power consumption.

Network Capabilities

1) Basic "Sneakernet"

BikeLink delivers surprisingly sophisticated capabilities without any network connections except those provided by a person physically carrying the read/write memory contained in a smart card or bike ID device with them when they move between lock controllers. These features include:

- Ability to prevent multiple concurrent rentals.
- "Always locked" logic (for lockers) to deter inappropriate uses.
- Transaction data downloading.
- Lost-card user support without having to meet the cardholder.
- Limited card or bike use tracking.

2) Local Area Network

A local area network (LAN) is established by simply plugging in a small low-cost wireless module into each lock controller. The network is self-forming and additional system management capabilities are available immediately. These include:

- Ability to propagate settings or information screens to an entire group of controllers in one operation.
- Ability to update software for an entire group of controllers in one operation.
- Ability to autosynchronize date and time settings.

3) Internet Connection

An internet connection is established by plugging a small gateway module into one controller at a location. Cellular service costs apply, however annual service costs are low because we manage the entire network in a way that minimizes bandwidth requirements.

Service Benefits:

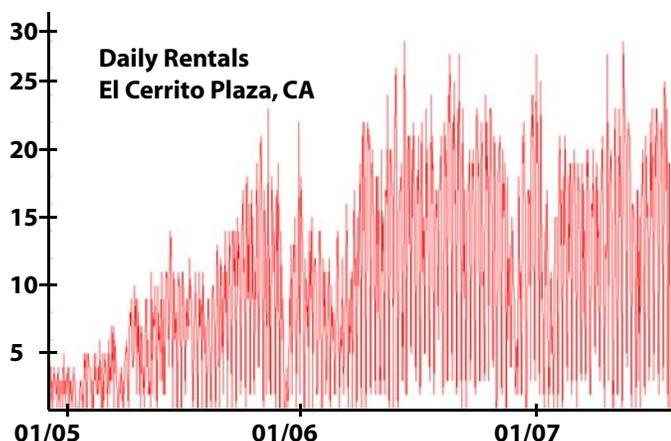
The addition of an internet connection significantly reduces the need for on-site visits for many service, troubleshooting, data collection and support activities.

Benefits for the cyclist:

- Check status of a facility remotely.
- Reserve in advance via the web.
- Check personal system usage history.

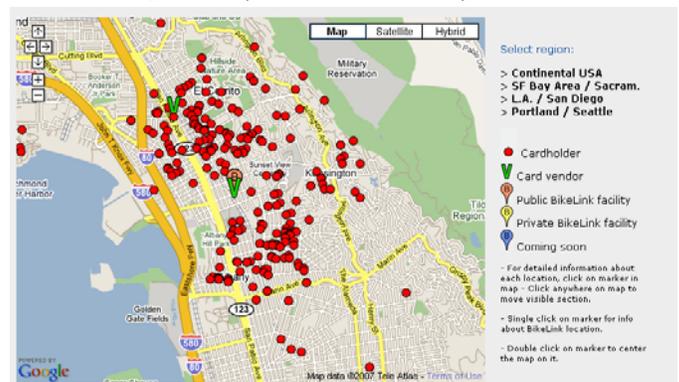
Benefits for the Facility Owner:

- Real-time usage reporting online.
- Real-time revenue tracking.
- Remotely change emergency contact information, card vendor information, rental rates, special notices displays, and even animated advertising or sponsor displays on the controller's graphic LCD screen.



Usage reports available online to facility owners include automatically generated and dynamically updated plots.

Cardholder proximity to BikeLink facility

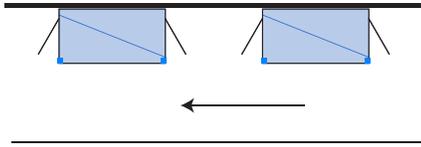


Cardholder addresses are automatically geocoded and mapped. This supports planning assessment for facility relocation or expansion.

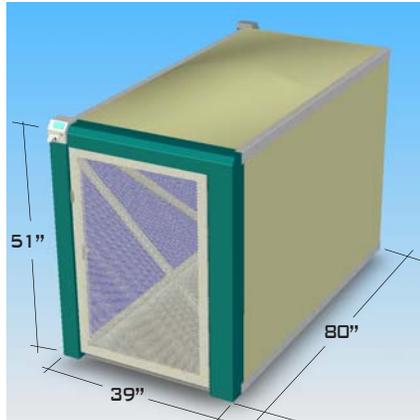
eLocker™ Configuration Options

RECTANGULAR

2 SPACES, 2 ELECTRONIC CONTROLLERS
BEST FOR LIMITED CLEARANCE SITUATIONS

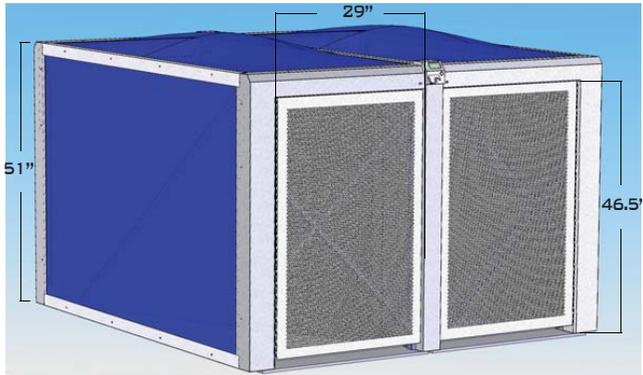


BOTH DOORS HINGE FROM SAME SIDE TO MAKE GETTING YOUR BIKE IN AND OUT EASIER WHEN LOCKER IS PLACED AGAINST A WALL. NOT DESIGNED FOR GROUPING; USE AS STANDALONE OR ON ONE END OF A GROUP OF QUADS.

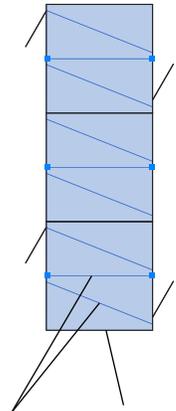


QUAD

4 SPACES, 2 ELECTRONIC CONTROLLERS
LOWEST COST PER SPACE



SAVE COSTS & SIMPLIFY DIRECT POWER SUPPLY BY GROUPING QUADS.

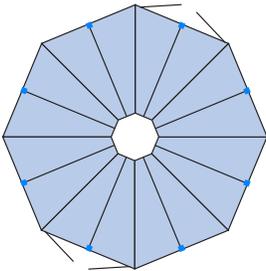


DIVIDER PANELS

END PANEL

WEDGE

EACH WEDGE HAS 2 SPACES SERVED BY 1 ELECTRONIC CONTROLLER
USE WHEN OPEN VISIBILITY AND FREE TRAFFIC FLOW ARE CRITICAL



WEDGE UNITS ARE DESIGNED TO BE PLACED AGAINST A WALL, IN A CORNER, OR ARRANGED AS A FULL CIRCLE.

