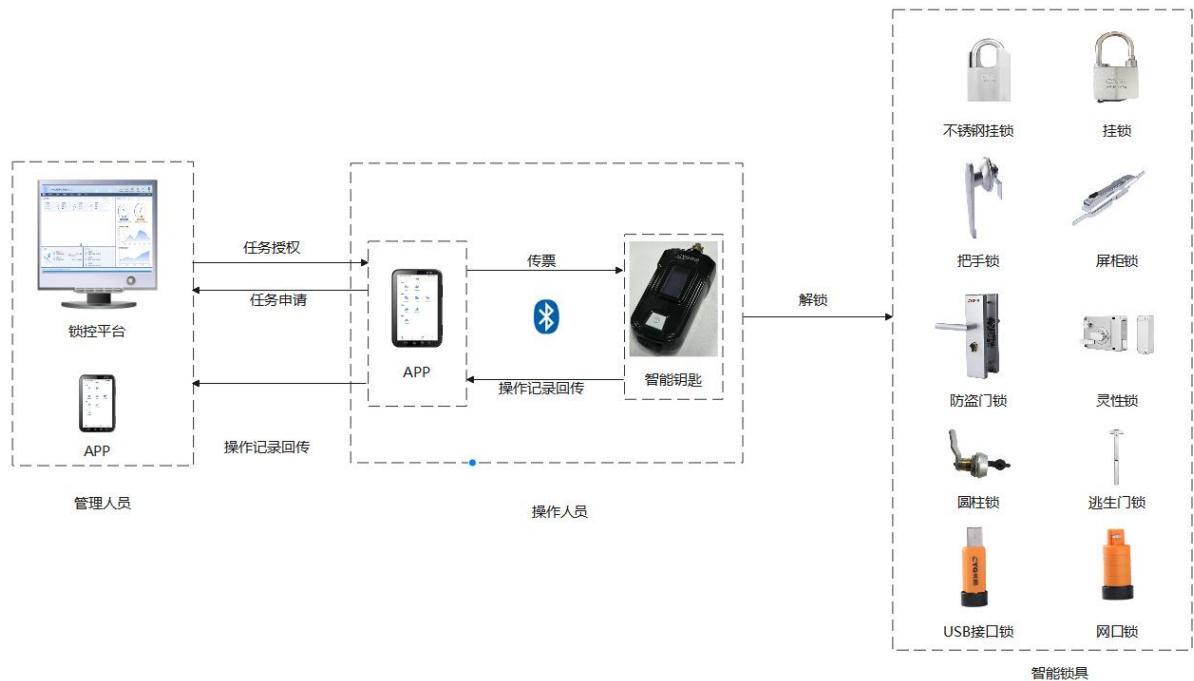


AT500E Smart Key and Lock Management System

I. Product Overview

The AT500E Smart Key and Lock Management System consists of lock control software, mobile APP, smart keys, and various types of smart locks. It is mainly used for locking and unlocking various areas that require security control, such as doors, cabinet doors, gate doors, and ladders, by receiving lock commands and sending back lock status via Bluetooth, achieving authorized unlocking.

II. System Architecture



III System Functions

Authorized Unlocking Function

After the smart key is authorized, it can unlock all locks within the scope of its permissions; the APP authenticates the smart key online, and after real-time identification of the operation permissions through the APP, the smart key can unlock all locks within the scope of its permissions; fixed permission unlocking, fixed permissions can be issued to the smart key, and unlocking operations can be achieved by activation.

Smart Refusal Function

When the smart key is not authorized, the unlocking mechanism of the key automatically locks and refuses to operate, unable to unlock any locks, while leaving relevant operation records.

Management Traceability Function

The management software provides detailed operation record query functions, which can trace

all operation records, including the operation object, operator, operation time, and door lock actions, providing convenient and flexible query methods.

Whitelist Function

The smart key needs to be registered in the system and authorized effectively before it can operate the locks in the system; otherwise, it cannot operate.

Smart Key Lending Management Function

The system supports the management of lent smart keys, which can be controlled by authorized valid duration and cycles to meet the needs of temporary use of smart keys.

Secure Encryption Function

All communication data in the system is encrypted before transmission and interaction, and cannot be read and identified by unauthorized devices, ensuring the security of the information, which is only transmitted and interacted within a controllable range.

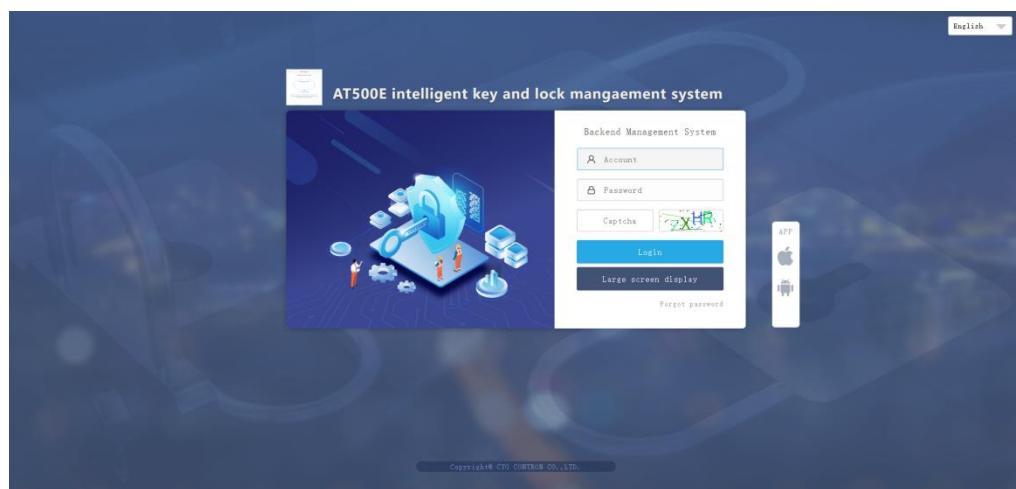
Emergency Unlock Function

All locks have an emergency key unlocking channel, and when the lock control system cannot unlock, a mechanical key can be used for unlocking.

Product Introduction

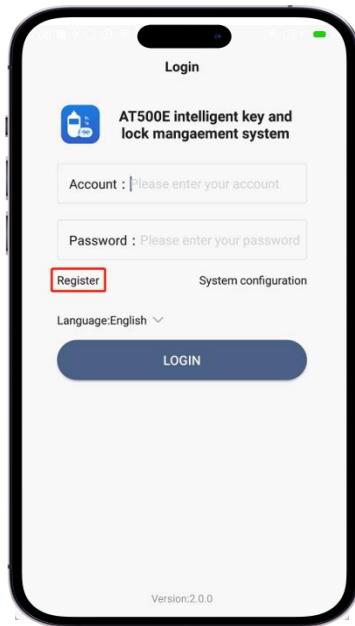
WEB End

The decision-making body of the system, responsible for data compilation, data storage, status display, lock authorization, and communication management.



Mobile End

As an online authentication and remote authorization tool of the system, it achieves permission division of the smart key, online monitoring, and record statistics.



Smart Key

The executive body of the system, receiving the lock authorization issued by the lock control management system, responsible for lock operation and record collection.



性能指标:

Product Name:	Smart Key
Brand:	CYG
Model:	E402
Dimensions:	88.4*40*24mm
Battery Capacity:	720mAh
Battery Type:	3.7V Polymer Lithium-ion Battery
Charging Method:	Type-C
Communication:	Bluetooth, Serial Port

Standby Current:	20mA±5mA
Operating Current:	800MA (Duration: 3 seconds)
Water Resistance:	IP40
Identity Code:	Yes
Record Storage:	≥5000 entries
Operating Temperature:	-25°C to 55°C
Relative Humidity	< (93±3) %
Altitude:	<4000 meters
Operation frequency	111kHz-160kHz

passive Locks

The locking mechanism of the system, designed to securely lock various areas in industrial settings. Composed of rust-resistant materials, these locks feature water resistance, dust proofing, anti-condensation, corrosion resistance, and impact resistance, ensuring durability and longevity. They are flexible in use, easy to install, and firmly secure. Available in a variety of forms, the locks have a consistent unlocking structure. The lock core, as the central component of the lock, is made of copper for strong corrosion resistance, and the bolt inside the core is made of high-quality stainless steel, enhancing both corrosion resistance and the torque (endure) when unlocking.



1.

Item	Description
Product Name	E40 Padlock
Brand	CYG
Model	E40-Tg-8
Application	For locking indoor/outdoor cabinets and doors
Material	Zinc alloy body, brass core
Surface Treatment	Powder coating
Lock Dimensions	84 x 43 x 18.5 mm, Shackle diameter: φ6 mm
Core Type	Mechanical lock core
Locking Method	Unlock with smart key; emergency unlock with manual key
Water Resistance	IP68

Item	Description
Service Life	Over 50,000 cycles
Power Supply	Passive (no power source required)
Identity Code	$\geq 50,000$ unique global codes
Dust Protection	Dust cap
Operating Temperature	-40°C to 70°C
Relative Humidity	$< (93 \pm 3)\%$
Altitude	< 4000 meters



2、

Item	Description
Product Name	Stainless Steel Padlock
Brand	CYG
Model	E40-E-V-1.1
Application	For locking outdoor cabinets and doors
Material	Stainless steel body, brass core
Surface Treatment	Stainless steel brushed finish
Lock Dimensions	59.8 x 43 x 20 mm, Shackle diameter: φ8 mm
Core Type	Mechanical lock core
Locking Method	Unlock with smart key; emergency unlock with manual key
Water Resistance	IP68
Service Life	Over 50,000 cycles
Power Supply	Passive (no power source required)
Identity Code	$\geq 50,000$ unique global codes
Dust Protection	Dust cap
Operating Temperature	-40°C to 70°C
Relative Humidity	$< (93 \pm 3)\%$
Altitude	< 4000 meters

3、



Item	Description
Product Name	E40 Floating Mount Lock
Brand	CYG
Model	E40-Tp-8.10
Application	For locking outdoor cabinets, indoor control cabinets, server cabinets, instrument boxes, etc.
Material	Zinc alloy body, brass core
Surface Treatment	Powder coating
Lock Dimensions	318 x 63.7 x 36 mm
Core Type	Mechanical lock core
Locking Method	Unlock with smart key; emergency unlock with manual key
Water Resistance	IP68
Service Life	Over 50,000 cycles
Power Supply	Passive (no power source required)
Identity Code	≥50,000 unique global codes
Dust Protection	Dust cover
Operating Temperature	-40°C to 70°C
Relative Humidity	< (93 ± 3)%
Altitude	< 4000 meters

4、



Item	Description
Product Name	E40 Medium Floating Mount Lock Kit
Brand	CYG
Model	E40-Tp-8.7
Application	For locking outdoor cabinets, indoor control cabinets, server

Item	Description
	cabinets, instrument boxes, etc.
Material	Zinc alloy body, brass core
Surface Treatment	Powder coating
Lock Dimensions	148 x 75.1 x 26 mm
Core Type	Mechanical lock core
Locking Method	Unlock with smart key; emergency unlock with manual key
Water Resistance	IP68
Service Life	Over 50,000 cycles
Power Supply	Passive (no power source required)
Identity Code	≥50,000 unique global codes
Dust Protection	Dust cover
Operating Temperature	-40°C to 70°C
Relative Humidity	< (93 ± 3)%
Altitude	< 4000 meters



5、

Item	Description
Product Name	E40 USB Interface Lock
Brand	CYG
Model	E40-Tw-1.0
Application	For locking PC and server USB interfaces
Material	High-strength ABS, brass core
Surface Treatment	Fine matte texture
Lock Dimensions	Φ22.5 x 55.2 mm
Core Type	Mechanical lock core
Locking Method	Unlock with smart key; emergency unlock with manual key
Water Resistance	IP68
Service Life	Over 50,000 cycles
Power Supply	Passive (no power source required)
Identity Code	≥50,000 unique global codes
Operating Temperature	-40°C to 70°C

Item	Description
Relative Humidity	< (93 ± 3)%
Altitude	< 4000 meters



6、

Item	Description
Product Name	E40 Network Port Lock
Brand	CYG
Model	E40-Tw-2.0
Application	For locking RJ45 network interfaces on PCs, servers, switches, and other network devices
Material	High-strength ABS, brass core
Surface Treatment	Fine matte texture
Lock Dimensions	φ22.5 x 52.5 mm
Core Type	Mechanical lock core
Locking Method	Unlock with smart key; emergency unlock with manual key
Water Resistance	IP68
Service Life	Over 50,000 cycles
Power Supply	Passive (no power source required)
Identity Code	≥50,000 unique global codes
Operating Temperature	-40°C to 70°C
Relative Humidity	< (93 ± 3)%
Altitude	< 4000 meters



7、

Item	Description
Product Name	E40 Handle Lock
Brand	CYG
Model	E40-Tb-3.1

Item	Description
Application	For locking indoor/outdoor cabinets and boxes
Material	Zinc alloy body, brass core
Surface Treatment	Powder coating
Lock Dimensions	128.5 x 45 x 80.7 mm
Core Type	Mechanical lock core
Locking Method	Unlock with smart key; emergency unlock with manual key
Water Resistance	IP68
Service Life	Over 50,000 cycles
Power Supply	Passive (no power source required)
Identity Code	≥50,000 unique global codes
Dust Protection	Dust cover
Operating Temperature	-40°C to 70°C
Relative Humidity	< (93 ± 3)%
Altitude	< 4000 meters



8、

Item	Description
Product Name	E40 Anti-Theft Door Lock
Brand	CYG
Model	E40-Tf-1.1
Application	For locking access doors in industrial sites
Material	Stainless steel body, brass core
Surface Treatment	Painted finish
Lock Dimensions	305 x 75 mm; Adjustable door thickness: 30 mm - 80 mm
Core Type	Mechanical lock core
Locking Method	Unlock with smart key; emergency unlock with manual key
Water Resistance	IP68

Item	Description
Service Life	Over 50,000 cycles
Power Supply	Passive (no power source required)
Identity Code	$\geq 50,000$ unique global codes
Dust Protection	Dust cover
Operating Temperature	-40°C to 70°C
Relative Humidity	$< (93 \pm 3)\%$
Altitude	< 4000 meters



9、

Item	Description
Product Name	E40 Fire-Resistant Lock Core
Brand	CYG
Model	E40-Es-6.2
Application	For locking access doors in industrial sites
Material	Brass
Surface Treatment	N/A (Not Applicable)
Lock Dimensions	32 x 19 x 29.5 mm
Core Type	Mechanical lock core
Locking Method	Unlock with smart key; emergency unlock with manual key
Water Resistance	IP68
Service Life	Over 50,000 cycles
Power Supply	Passive (no power source required)
Identity Code	$\geq 50,000$ unique global codes
Dust Protection	Dust plug
Operating Temperature	-40°C to 70°C
Relative Humidity	$< (93 \pm 3)\%$
Altitude	< 4000 meters



10.

Item	Description
Product Name	E40 Box Lock Kit
Brand	CYG
Model	E40-Eh-3
Application	For locking access doors and enclosures in industrial sites
Material	Stainless steel body, brass core
Surface Treatment	Painted finish
Lock Dimensions	151.3 x 85 x 46.5 mm
Core Type	Mechanical lock core
Locking Method	Unlock with smart key; emergency unlock with manual key
Water Resistance	IP68
Service Life	Over 50,000 cycles
Power Supply	Passive (no power source required)
Identity Code	≥50,000 unique global codes
Dust Protection	Dust cover
Operating Temperature	-40°C to 70°C
Relative Humidity	< (93 ± 3)%
Altitude	< 4000 meters

11.



Item	Description
Product Name	E40 Emergency Escape Lock Core
Brand	CYG
Model	E40-Et-1.1
Application	For locking access doors in industrial sites
Material	Brass
Surface Treatment	N/A (Not Applicable)
Lock Dimensions	φ54 x 104.5 mm

Item	Description
Core Type	Mechanical lock core
Locking Method	Unlock with smart key; emergency unlock with manual key
Water Resistance	IP68
Service Life	Over 50,000 cycles
Power Supply	Passive (no power source required)
Identity Code	≥50,000 unique global codes
Dust Protection	Dust plug
Operating Temperature	-40°C to 70°C
Relative Humidity	< (93 ± 3)%
Altitude	< 4000 meters



12.

Item	Description
Product Name	E40 Miniature Cylinder Lock
Brand	CYG
Model	E40-Ty-2
Application	For locking indoor control cabinets, boxes, instrument cabinets, etc.
Material	Brass and stainless steel body, brass core
Surface Treatment	Painted finish
Lock Dimensions	φ34 x 62 x 48 mm
Core Type	Mechanical lock core
Locking Method	Unlock with smart key; emergency unlock with manual key
Water Resistance	IP68
Service Life	Over 50,000 cycles
Power Supply	Passive (no power source required)
Identity Code	≥50,000 unique global codes
Dust Protection	Dust plug
Operating Temperature	-40°C to 70°C
Relative Humidity	< (93 ± 3)%
Altitude	< 4000 meters



13.

Item	Description
Product Name	Anti-Tamper Ring Main Cabinet Lock
Brand	CYG
Model	E40-J-II-4
Application	For locking outdoor ring main cabinets
Material	Zinc alloy and stainless steel body, brass core
Surface Treatment	Powder coating
Lock Dimensions	190 x 90 x 78 mm
Core Type	Mechanical lock core
Locking Method	Unlock with smart key; emergency unlock with manual key
Water Resistance	IP68
Service Life	Over 50,000 cycles
Power Supply	Passive (no power source required)
Identity Code	≥50,000 unique global codes
Dust Protection	Dust cover
Operating Temperature	-40°C to 70°C
Relative Humidity	< (93 ± 3)%
Altitude	< 4000 meters



14.

Item	Description
Product Name	Anti-Tamper Ring Main Cabinet Lock
Brand	CYG
Model	E40-J-II-5
Application	For locking outdoor ring main cabinets
Material	Zinc alloy and stainless steel body, brass core
Surface Treatment	Powder coating
Lock Dimensions	138*68*63mm
Core Type	Mechanical lock core

Item	Description
Locking Method	Unlock with smart key; emergency unlock with manual key
Water Resistance	IP68
Service Life	Over 50,000 cycles
Power Supply	Passive (no power source required)
Identity Code	$\geq 50,000$ unique global codes
Dust Protection	Dust cover
Operating Temperature	-40°C to 70°C
Relative Humidity	< (93 ± 3)%
Altitude	< 4000 meters



15.

Item	Description
Product Name	E40 Pin-Type Padlock
Brand	CYG
Model	E40-Tg-5
Application	For locking outdoor cabinet doors, small-volume boxes, etc.
Material	Brass body, brass core
Surface Treatment	Electroplating
Lock Dimensions	36.5 x 18 x 10 mm
Core Type	Mechanical lock core
Locking Method	Unlock with smart key; emergency unlock with manual key
Water Resistance	IP68
Service Life	Over 50,000 cycles
Power Supply	Passive (no power source required)
Identity Code	$\geq 50,000$ unique global codes
Dust Protection	Dust plug
Operating Temperature	-40°C to 70°C
Relative Humidity	< (93 ± 3)%
Altitude	< 4000 meters



16.

Item	Description
Product Name	Smart Rainbow Lock
Brand	CYG
Model	E40-Y-IV-1
Application	For locking electrical equipment, made of insulating materials
Material	PAS body (red), brass core
Surface Treatment	Matte texture
Lock Dimensions	95 x 39.5 x 21 mm
Core Type	Mechanical lock core
Locking Method	Unlock with smart key; emergency unlock with manual key
Water Resistance	IP68
Service Life	Over 50,000 cycles
Power Supply	Passive (no power source required)
Identity Code	≥50,000 unique global codes
Dust Protection	Dust plug
Operating Temperature	-40°C to 70°C
Relative Humidity	< (93 ± 3)%
Altitude	< 4000 meters



17.

Item	Description
Product Name	E40U Lock Kit
Brand	CYG
Model	E40-Eu

Item	Description
Purpose	Secure industrial access doors
Material	Aluminum alloy body, stainless steel shackle
Surface Treatment	Painted body
Lock Dimensions	340.510040mm
Lock Core Type	Mechanical core
Unlocking Method	Smart key unlock, emergency key override
Waterproof Rating	IP68
Service Life	Over 50,000 cycles
Power Supply	Passive (no power required)
Identity Code	≥50,000 unique globally
Dust Protection	Dust plug
Operating Temperature	-40°C to 70°C
Operating Humidity	< (93±3)%
Operating Altitude	< 4000 meters

This device complies with Part 15 of the FCC rules. Operation is subjected to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.