



15:28

LTE

Device info

ESMART® Reader  
NEO BLE



ESMART® Reader  
STONE BLE



ESMART® Reader  
OEM BLE



ESMART® Configurator

Reader management



[isbc.com/esmart](https://isbc.com/esmart)

# ESMART® Configurator

A mobile application for the ACS System Administrators, which allows configuring ESMART® Readers without dismounting using an iOS or Android mobile phones.

You are able to set different Credentials support and modes, output Wiegand format, LED settings and BLE Settings.

[isbc.com/esmartconfigurator](http://isbc.com/esmartconfigurator)



## How to configure



### Master card

A Master card is needed to set the reader into configuration mode, in which it waits for the configuration to be applied, LED blinking blue. Supplied with each reader individually and matches only to it.

The Config ID, which is printed on the card, defines the basic configuration of the reader from the factory.



It is possible to order a batch of readers with a basic client configuration. Master cards in this batch will have the same Config ID and will be marked with **PC M**

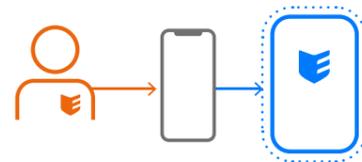
To reset the device to the factory settings present the Master card to the reader in configuration mode. It is recommended to repeat this operation every time before applying a new configuration.

If you lose the Master Card, you will no longer be able to configure the device. Replacement of the Master card is possible by agreement with ESMART® specialists.

### ESMART® Configuration

A configuration is a file containing a set of settings for a specific model of ESMART® Reader.

The file is prepared by ESMART® specialists individually for solving a specific client's problem and may contain special settings from the manufacturer.



The configuration is transferred to the reader in the form of an encrypted container, which is stored in an **\*.ercd** file and can contain any critical data (for example, encryption keys for client cards). In this case, the mobile application plays the role of «transport» and does not know the content of the encrypted Configuration.

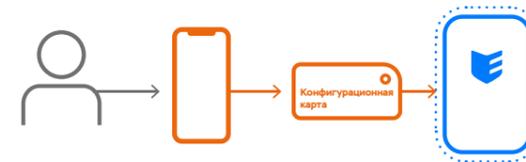
This configuration format is convenient for customers who have ordered the issuance of cards and generation of keys for the ISBC Company, as well as for those who implement the ESMART® Access SDK.

### User Configuration

SOON

System administrators will be able to independently create Configurations in the mobile application without the participation of ESMART® specialists.

Such Configurations can contain settings for card moders, keys, data transfer format, mobile access settings and LED modes. Manufacturer-specific settings are not available.



The Configuration created in the application must be recorded on the Special Configuration Card. Only in this case the security of any critical data is guaranteed on it. Until the moment the object is written to the Configuration Card, the user is responsible for the safety of storing any critical data in the Mobile Application.

This configuration format is convenient for customers who issue access cards and generate keys on their own, as well as those who want to quickly change any non-critical settings, for example, indication or data transfer format.

### ESMART® Access Mobile Credentials

SOON

ACS administrators will be able to issue and manage Mobile Credentials using the ESMART® Configurator application.

The purchased cards will be displayed in the application with the ability to send an activation code to the user's e-mail.

The identifier of each card is available to the administrator for entering into the ACS.



After purchasing new cards and activating cards by users, the Administrator will receive the Push notifications. The app will also be able to send text notifications to Mobile Credentials users.

Notification will come to ESMART® Access application. To manage cards, register in the mobile application using the e-mail specified when ordering cards.

## Supported credentials

Operation mode	UID		SL1 SL3	
ISO14443A	<input type="checkbox"/>			
ISO15693	<input type="checkbox"/>			
MIFARE® Classic	<input type="checkbox"/>	block, data, offset		
MIFARE® Plus	<input type="checkbox"/>		block, data, offset	
ESMART® Access	<input type="checkbox"/>			<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ESMART® Reader is compatible with different types of credentials. For each type, it is possible to set up an individual operating mode:

- reading the card UID (CSN)
- read data from the card memory
- work in SL1 / SL3 mode (MIFARE® Plus)
- work with ESMART® Access cards
- disable specific card reading

It is required to set the sector (block) of data reading, number in bytes and byte offset (if any) for memory cards (including SL1 / SL3).

Bank cards configuration and support is project based. The mode of operation depends on the type of card, as well as on the fact whether or not the cards were already issued at the facility.

## Security

Encryption	Crypto1	AES128	CMAC	Key diversity
ISO14443A				
ISO15693				
MIFARE® Classic	<input type="checkbox"/>			
MIFARE® Plus	<input type="checkbox"/>	<input type="checkbox"/>		
ESMART® Access		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>		

To solve the copy protection problem, it is necessary to work with credentials in secure mode, excluding reading the CSN (UID).

Readers are capable to work in one or several encryption modes depending on the credential type:

- CRYPTO1 - the least secure mode with a key length of 48 bits
- AES128 - safe mode with key length 128 bits
- CMAC - digital signature of the credential with an additional key length of 128 bits
- Diversification is a technology that guarantees the uniqueness of the encryption key of each credential

To achieve ASC security on the facility, card issuance is required on the client side, as well as it is required to configure readers.

ESMART® Access credentials use preloaded diversified AES128 encryption keys and CMAC keys and are compatible with any ESMART® Reader out of the box.

## Data format

Interface	Wiegand	USB
Data format	W26, 34, 42, 50, 58, 64, etc	raw data
Emulation		Wiegand, Magnetic stripe, Virtual COM port
Bite order	configurable by bytes	configurable by bytes
Parity bites	<input type="checkbox"/>	
Prefix / postfix		<input type="checkbox"/>
Timings	<input type="checkbox"/>	<input type="checkbox"/>

For readers with Wiegand interface (ER1602, ER1701, ER1003) it is possible to choose one of the standard output formats or set your own by specifying the number of data and parity bits.

Readers with USB interface (ER1100, ER1200) have emulation of various data formats feature depending on the model, as well as setting prefixes and postfixes to achieve compatibility.

All readers also have user configurable byte ordering and timings for backward compatibility with other devices.

## Mobile Access

Technology	BLE	NFC
Reading frequency setting	<input type="checkbox"/>	
«Tap as card» distance	<input type="checkbox"/>	
«Free hands» distance	<input type="checkbox"/>	
Visibility zone limiting	<input type="checkbox"/>	
Separate iOS and Android settings	<input type="checkbox"/>	
Storage state indication	<input type="checkbox"/>	
SDK ESMART® Access settings	<input type="checkbox"/>	<input type="checkbox"/>
Disable possibility	<input type="checkbox"/>	<input type="checkbox"/>

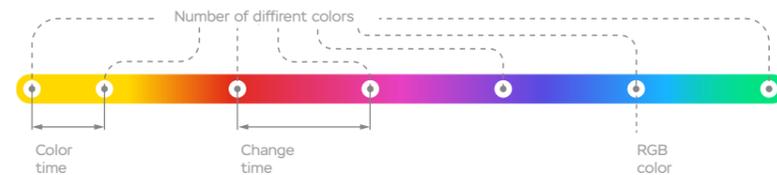
Mobile Access operates using 2.4 GHz (BLE) and 13,56 MHz (NFC) technologies.

NFC works in the near field up to 4 in (10 cm), similar to ordinary smart-cards.

BLE works at a distance of up to 32 ft (10 m) and can be used for both long-range and short-range identification. It is possible to flexibly configure the operating mode for each iOS and Android platforms individually, including completely prohibit distant identification (for turnstiles).

When using the SDK, it is required to reconfigure the readers to work with your SDK-based application.

## Indication



«Chameleon Mode» - in Standby reader LEDs (ER1602, ER1701, ER1003) continuously changes its color. Colors sequence, RGB value, color time and color change time can be customized individually.

ACS input signal		GLED	RLED	GLED RLED	
Set RGB color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
«Chameleon» mode	<input type="checkbox"/>				
Input signal ignore		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
Disable possibility	<input type="checkbox"/>				

The readers have three inputs: RLED for red LED control, GLED for green LED control and BUZZ for buzzer control.

For each mode of the ASC indication lines signals it is possible to set its own type of indication or completely disable the line.

## Additional settings



- External antenna enable for OEM series
- Touch keyboard modes for USB series
- Advanced Bluetooth settings
- SAK remapping for backward compatibility with non-standard cards

- Multi-sector data reading (including reading the entire memory of the card)
- Reassignment of the device inputs
- Additional service and diagnostic parameters of the manufacturer



**ESMART® Reader**

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**«ESMART® Configurator»  
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