

How to control the Rock’s LEDs

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Introduction

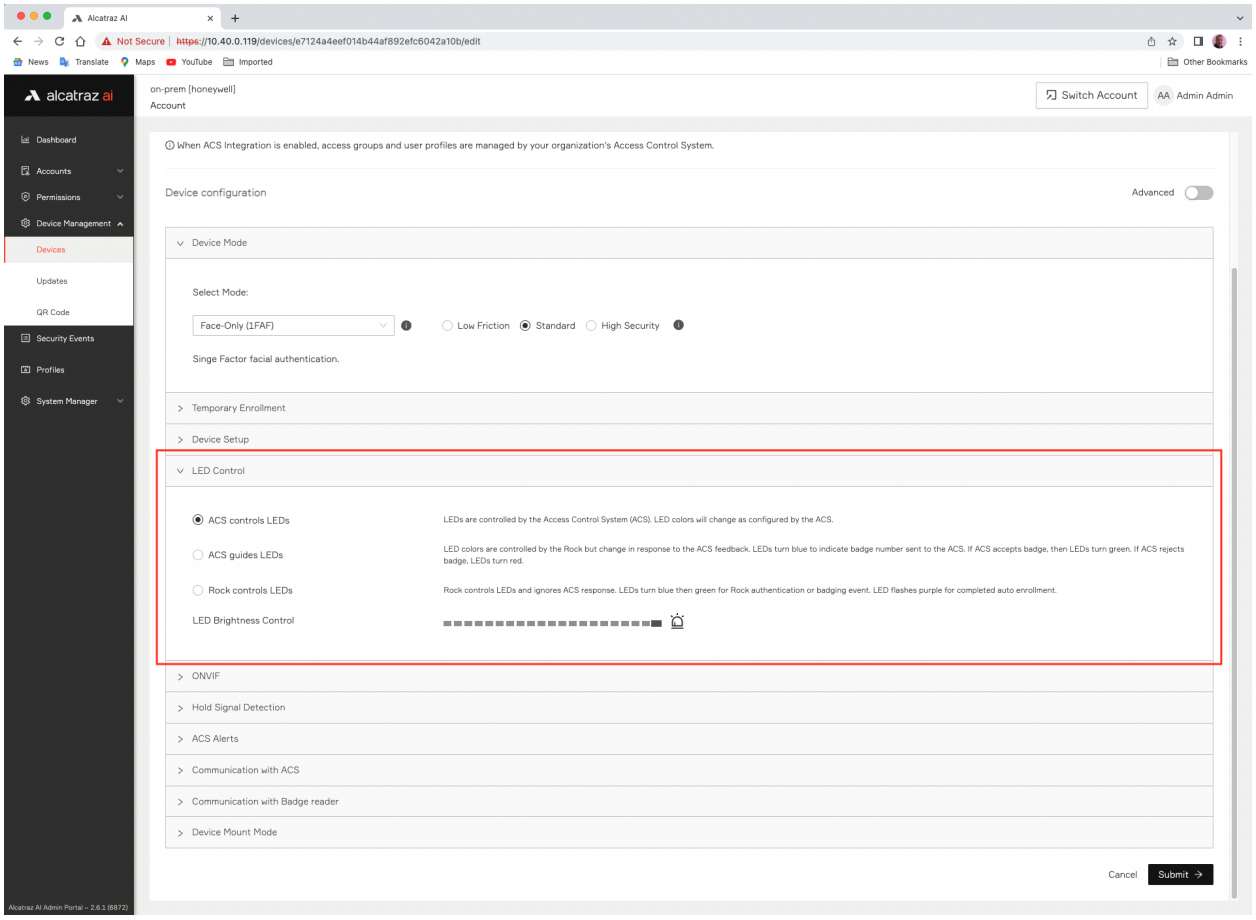
The Alcatraz AI Rock device has an LED ring that forms part of the device's user interface. It provides visual feedback on the user's interaction with the device.

The operation of the Rock's LEDs can be configured via the Alcatraz AI Admin Portal.

Basic Configuration

In the Admin Portal,

1. Click on Device Management -> Devices (on the left side of the page), then select the Rock device Name.
2. Click on Modify (in the top right region of the page)
3. Under Device configuration section, click on LED Control



4. Select the desired LED Control configuration
5. Click on "Submit" at the bottom right of the page.

ACS controls LEDs

In this setting, the color and sequence of the Rock LEDs is under direct control of the Access Control System (ACS).

Wiegand Interface

If Wiegand interface is used as the connection between the Rock and the ACS, the logical state of the Red and Green LED signals from the ACS will determine the color of the Rock LEDs:

Red LED signal	**Green LED signal**	**Rock LED Color**
High	High	White
Low	High	Red
High	Low	Green
Low	Low	Yellow

For ACS systems that only have a single LED signal, it is recommended that this be connected to the Green LED Wiegand input to the Rock device. (Please refer to the Rock Install Guide for details of the Rock's wiring connections).

LED signal (from ACS)	**Rock LED Color**
High	White
Low	Green

OSDP Interface

In the case where OSDP is used as the interface between the Rock and the ACS, the ACS will send LED color control messages over the OSDP link. Typically, the ACS will have up to 5 color codes available in accordance with the OSDP specification. The specified color codes and the corresponding Rock LED color are shown the in table below:

OSDP Color Code (from ACS)	**OSDP Specified Color**	**Rock LED Color**
0	Black (LEDs off)	White
1	Red	Red
2	Green	Green
3	Yellow	Yellow
4	Blue	Yellow
No color code sent*	-	Red

* Some Access Control Systems may not explicitly send an OSDP color control code in the idle state. In this case, the Rock's LEDs will be Red.

With either interface, the Rock will forward the ACS Wiegand LED signals and the OSDP color control message to the badge reader **unaltered**. In the case where no OSDP color control message is received from the ACS, the Rock will send the color control code for Red to the Badge Reader.

ACS guides LEDs

In this setting, the Rock LEDs will display a defined color sequence in response to a badge scan, and/or face authentication event. The color sequence displayed will depend on whether the ACS has validated the badge number or not.

Badge number validated by ACS: The Rock LEDs will display the following sequence: White(idle) -> Blue -> Green -> White(idle)

The blue color indicates that the Rock has sent a badge number to the ACS. The Green color indicates that the ACS has accepted the badge number and granted access.

Badge number not validated by ACS: The Rock LEDs will display the following sequence: White(idle) -> Blue -> Red -> White(idle)

The Rock interprets the ACS as having validated the badge number when the following signal states are detected from the ACS:

- Green LED signal = Low AND Red LED signal = High

If an occurrence of this combination of LED signal states from the ACS is not detected, or the Wiegand LED signals remain unchanged 4 seconds after the badge scan and/or face authentication event, the Rock will interpret this as the ACS not having validated the badge number.

If OSDP interface is used, the Green color control message being received is interpreted as ACS validation. If the Green color message is not received, this will be interpreted by the Rock as the ACS not validating the badge number.

Rock controls LEDs

In this setting, the Rock LEDs will display a defined color sequence in response to a badge scan and/or face authentication event, irrespective of how the ACS responds.

For any badge scan event, the following color sequence will be displayed:
White(idle) -> Green -> White(idle)

For a face authentication event, the following color sequence will be displayed:
White(idle) -> Blue -> Green -> White(idle)

LED Brightness Control

This setting controls the brightness of the LEDs on the Rock device. By default, it is set to maximum brightness. The lowest setting will turn off the LEDs.

How to change the Rock LEDs' idle-state color

This section only applies when the Rock device is in "ACS controls LEDs" configuration.

The color of the Rock's LEDs while in the idle state may be changed by entering a parameter in the Alcatraz AI Admin Portal and assigning a value to it in accordance with the table below.

From the perspective of the Rock device, idle state is defined as when the Red and Green Wiegand LED signals from the ACS are both in the logical High state. For OSDP interface, the idle state is when the OSDP Black color message is received from the ACS.

In the Alcatraz Admin Portal,

1. Click on Device Management -> Devices and select the Rock device to be configured
2. Click the Modify button (top right section of the page)
3. In the Device configuration section, click the "Advanced" slider switch (right side of the page)
4. Click on "Add a Custom Configuration" (bottom of the page)
5. Click on "+ Add parameter"
6. In the "Parameter Name" box, type *leds.rock_idle_color*
7. In the "Value" box, type the number corresponding to the required color
8. Click on "Submit" button (bottom right of page)

leds.rock_idle_color	**Rock LED Color in Idle state**
0	Blank (LEDs off)
1	Red
2	Green
3	Yellow
4	Blue
5	Magenta
6	Cyan
7*	White

* Default value. If the *leds.rock_idle_color* parameter is not specified, this will be the default value.

This parameter only takes effect when the logical state of the Red and Green Wiegand signals from the ACS are both high (Wiegand interface), or if the OSDP Black color control message is received from the ACS (OSDP interface).

Note that the Wiegand LED signals, or the OSDP color control message received from the ACS will be forwarded unaltered to the Badge Reader.

Special case of no explicit OSDP color control message received in idle state

As mentioned previously, some ACS controllers may not send an explicit OSDP color control message in the idle state. In the absence of such OSDP message, the Rock's LEDs will display Red, and the OSDP color control code for Red will be sent to the Badge Reader. Instead of the default color of Red, a different color may be configured through the Alcatraz Admin Portal.

In the Alcatraz Admin Portal,

1. Click on Device Management -> Devices, and select the Rock device to be configured
2. Click the Modify button (top right section of the page)
3. In the Device configuration section, click the "Advanced" slider switch (right side of the page)
4. Click on "Add a Custom Configuration" (bottom of the page)
5. Click on "+ Add parameter"
6. In the "Parameter Name" box, type *leds.osdp_default_color*
7. In the "Value" box, type the number corresponding to the required color
8. Click on "Submit" button (bottom right of page)

leds.osdp_default_color	Rock LEDs Color	OSDP Color Control message sent to Badge Reader[1]
0	White	Black
1*	Red	Red
2	Green	Green
3	Yellow	Yellow
4	Yellow	Blue (actual color displayed will depend on Badge Reader capability)
5 - 255	Yellow	Depends on Badge Reader capability

* Default value. If the *leds.osdp_default_color* parameter is not specified, this will be the default value.

[1] Assumes that OSDP is the interface between the Rock device and the Badge Reader

This parameter only takes effect when there is no explicit idle state OSDP color control message received from the ACS.

Although the OSDP specification only mentions color control codes for Black, Red, Green, Yellow, and Blue, it is possible to use color control codes higher than 4. It will depend on the capabilities of the device receiving the OSDP color control messages as to how higher values are handled.

Some Badge Readers may be capable of displaying more colors than the basic 4 or 5 colors. For this reason, it is possible to assign values in the range of 0 to 255 for the *leds.osdp_default_color* parameter. While the Rock device is only capable of displaying 4 colors on its LEDs, some Badge Readers may be able to display more colors.

Example

An Access Control System is used with OSDP as the interface. It does not send an explicit color control code message in the idle state. It only sends color control messages in response to an event. It is desired that in the idle state, the Rock LEDs should be Black (turned off), and the Badge Reader LED should be Black (turned off).

This can be achieved by setting the following parameters in the Alcatraz Admin Portal:

- *leds.osdp_default_color* = 0
  This will set the Rock LEDs color to White, and the Badge Reader LED color to Black (off).
  Note that this parameter only takes effect when there is no idle OSDP color control code received from the ACS, as is the case here.

- *leds.rock_idle_color* = 0
  This will set the Rock LEDs color to Black (off).
  This parameter is only effective when the Wiegand LED signals are High, or OSDP color control code message of Black is received. This condition has been met with the previous step of setting *leds.osdp_default_color* = 0.

In the non-idle state (when badge scan and/or face authentication events occur), the Rock and Badge Reader colors will be as controlled by the ACS.