

NS412 NFC+QR Code

Analog Access Control

- NFC / RFID Reader
- QR Code Reader
- RGB Ring LED Indicator
- 0-10V Analog Output
- 12-24V 1.5W DC Supply
- 3 Wire Screw Terminal
- Standard Wall Plate



Overview

The NS412 NFC+QR Code is a simple low voltage analog access control. It can easily integrate into an existing building control system. Connect the access control output signal to an analog input of a controller, gateway, or data acquisition unit. The analog voltage level indicates when access is authorized.

Operation

The user holds an access card or smartphone close to the face of the access reader. If the user's access code is authenticated and authorized, then the output signal will be driven high. Otherwise, the output will be low restricting access.

The primary access code is the NFC serial number. Configure the device to accept authorized serial numbers. The device will search through the list of serial numbers to authenticate the user. Remove any serial numbers to restrict access.

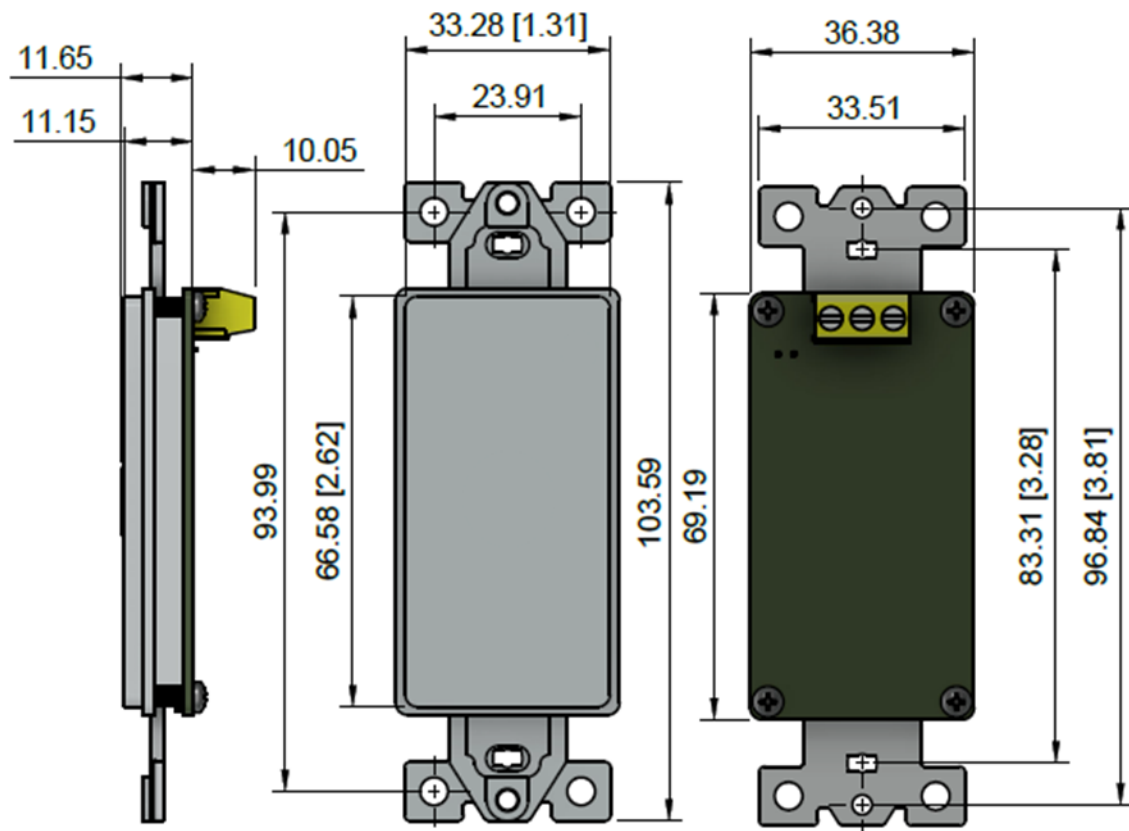
The QR Code reader continuously scans for 2D barcodes. If this matches any code saved in the local database, then access is authorized.

Output Level

The output is a digital signal nominally 10V at 1mA. The signal will be high when access is authorized. It will be low when access is not authorized. There is a diode in series with the output signal. So, it is possible to connect multiple access control devices in parallel. This is helpful for redundant access readers at multiple locations like several door entries.

Product Features and Installation

The product is a low voltage rectangular wall switch. Mount to a standard single gang North American electrical junction box. The junction box can be metallic or non-metallic. For metallic box provide adequate isolation. Grounding the low voltage system should be managed separately. Do not mix low voltage wiring with high voltage circuit. Cover with a standard rectangular wall switch face plate.



1 Product Dimensions and Features

Security and Output Mode

The device can be configured for security mode or detection mode. If security mode is selected, then authorization is restricted by access code. If detection mode is enabled, then authorization will accept any access code.

Configure the authorized access codes connecting to the device via WiFi. There are 3 QR Codes on the back of the device. The first is the WiFi link to join the devices Access Point. After connecting to the device, use the second link to view the setup web page. On the setup page connect the device to local WiFi. If the local WiFi has access to the internet, then the device can receive firmware updates. However, internet access is not required for normal access control. Restart the device to drop the Access Point connection. Then the device can be accessed using the third link which directly connects to the host at hostname.local which is published using mdns.

The output mode is digital 10V. When the user access is authorized, the output will be high 10V. Otherwise the output will be low 0V.



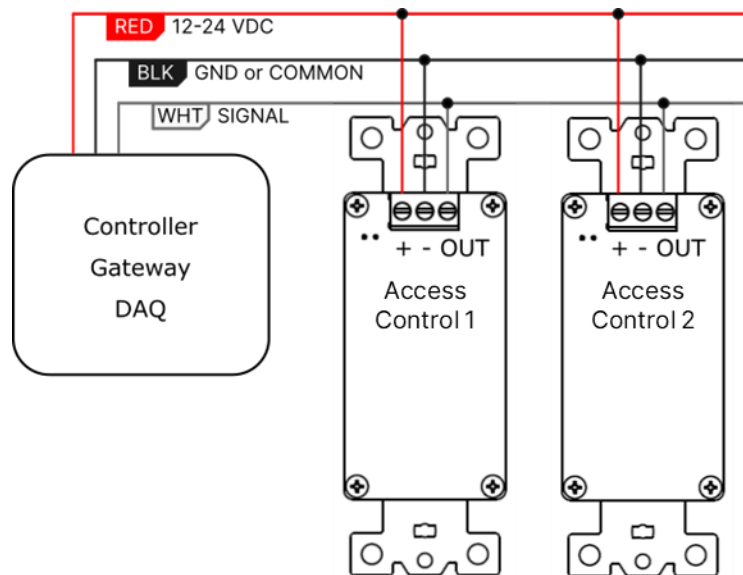
2 Sensitivity and Output Mode Adjustment

Usage and Wiring

Connect the access control to an existing controller, gateway, or data acquisition unit (DAQ). Provide a DC supply of 12-24V with at least 1.5W. Use appropriate wires or cabling. Conductors can be solid or stranded 14-26 AWG. Secure the conductors to the 3 pins of the screw terminals.

- + Positive Supply, connect to 12-24V
 - Negative Supply and signal return, connect to ground or common
- OUT** Control Signal, connect to input of controller, gateway, or DAQ

Multiple access controls can be wired in parallel. Each output has a series blocking diode. The largest signal is detected by the controller. This is useful for extending the control area.



3 Access Control Wiring Diagram