Paxton

Hikvision Face Recognition Terminal - DS-K1T671TM-3XF

Overview

The Hikvision face recognition terminal can be used with Net2 to permit or deny access based on the user's temperature. When a temperature is detected outside of the set threshold the terminal will notify the user that there is an abnormal temperature and deny access.

This application note will run through the following modes of operation:

A.   Temp only
B.   Token (Paxton reader) + Temp
C.   Token (MIFARE® only) + Temp
D.   Face + Temp

## A.   Setting up Temp only mode

Out of the box, the HIK terminal will detect a face, determine the temperature and providing it is below the set threshold, permit access by firing the relay on the terminal. This method does not use any unique properties to define the user.

HIK Terminal	Net2 Controller
COM	Exit (Black Terminal)
NO	Exit (Grey Terminal)

Note: This is registered in Net2 as an access event. You also have the option of using triggers and actions to use another input on the Net2 Plus. However, this will need to have consistent comms to the Net2 Server.

B.   Setting up Token + Temp with a Paxton reader

Using this method, the HIK terminal relay can be wired in line with a Paxton reader on the Yellow data port. This will prevent the Paxton reader from functioning until the user has passed the temperature check.

1
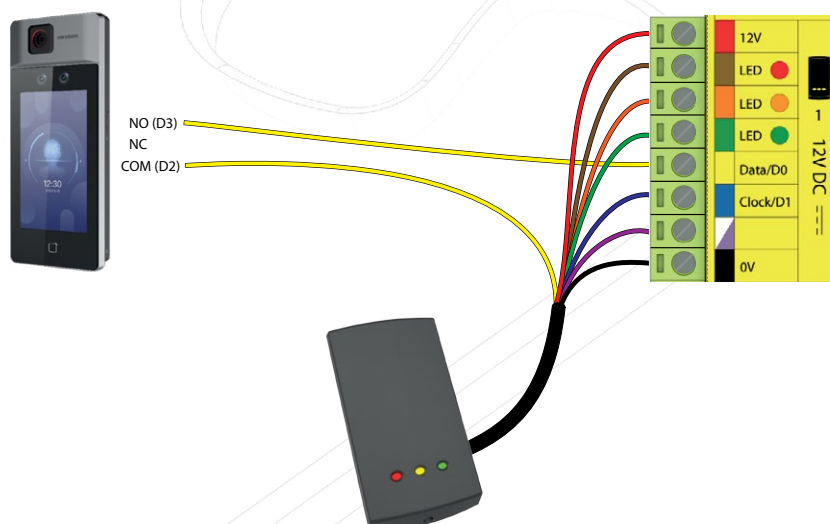
The default door open time on the HIK terminal is 5 seconds. To allow sufficient time for the user to present their token to the Paxton reader, you may wish to increase this via the ACS menu on the HIK terminal.

Connecting the terminal to a Net2 Plus controller

The HIK terminal should be wired to the Net2 plus as shown in the diagram below:

| Hik Terminal	ACU terminal
NOT USED	+12V
NOT USED	Red LED
NOT USED	Amber LED
NOT USED	Green LED
Green W0	Wiegand D0
White W1	Wiegand D1
NOT USED	NOT USED
Black	0V

Ensure any unused wires are safely terminated.

* Hikvision recommends not using the reader port voltage for the panel. This can be connected directly to the NET2 PSU or another PSU directly.

C.   Setting up Token (MIFARE© only) + Temp [FIRMWARE UPDATE REQUIRED]

Net2 Configuration Utility Settings

A custom Wiegand rule will need to be setup in the Net2 configuration utility. Select the Wiegand tab and create a new custom 34bit rule as shown in the screenshot below, by entering 5 x 'X', 28 x 'A' and 1 x 'X' at the end.
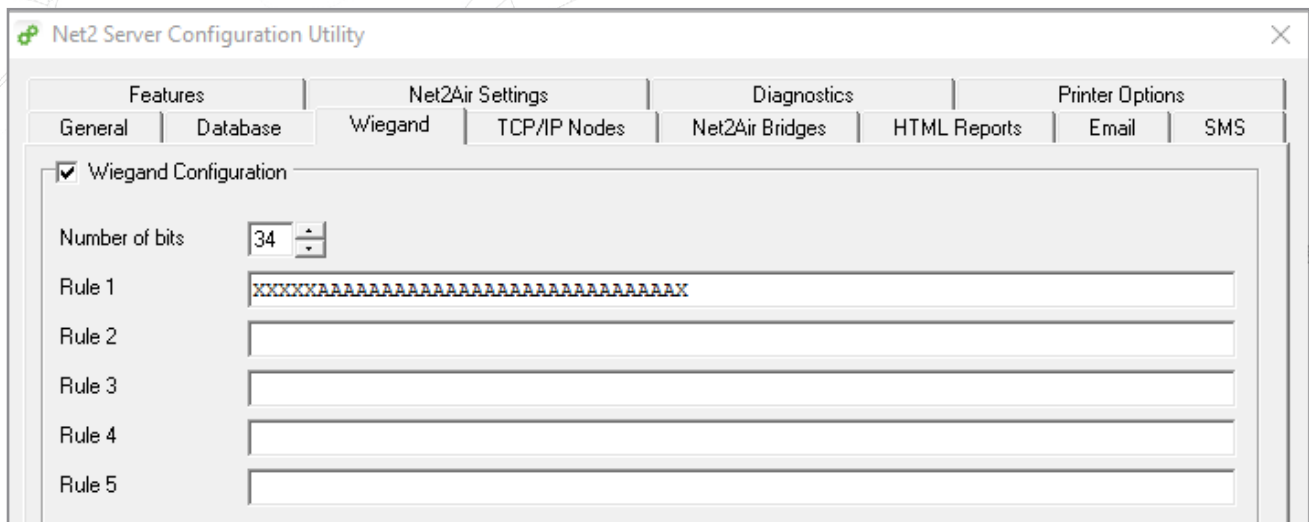
Net2 ACU Settings

Now open the Net2 software and configure the reader port settings for the Net2 ACU the terminal has been connected to, as shown in the screenshot below:

Update the HIK terminal to output the Net2 token format

The following steps will enable the HIK terminal to output a MIFARE® token in the same format as other Paxton MIFARE® readers, eliminating the need for adding credentials in both places. Once the firmware has been updated, the HIK terminal will output an 8-digit token number to Net2.

1. There are two firmware files required to enable this feature. Download the HIK firmware files from the following link: www.paxton.Info/6348
2. Update the firmware on the Hikvision terminal by following the instructions supplied with the HIK terminal.
3. After the firmware has been updated, restore the HIK terminal to factory settings and follow the onscreen prompts.

Allowing the Net2 ACU to return access denied prompts to the HIK terminal

Access denied prompts can be enabled on the DS-K1T671TM-3XF by using the Net2 relay and triggers & actions. Please note: This feature requires the Net2 server to be running.

Wiring for On Screen Access Denied Prompts

HIK Terminal	Net2 ACU - Relay 2
Wiegand Err C7	COM
12v+	NO
GND/0v	NC
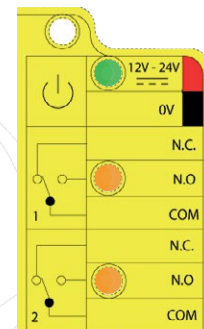
1. Connect the wiring as indicated above.

2. Setup the following rule in Net2: "When a user is denied access through a door" -> Anyone -> Select the ACU and Reader linked to the Panel -> Select time zone settings -> No Delay -> Affect a relay -> Choose Relay 2 of the ACU->Turn on for 3 Seconds. This will trigger the access denied message to be sent to the HIK terminal when a user is denied access.

D. Setting up Face Recognition with or without Temp

The current implementation will require for users to be enrolled on both Net2 and the HIK panel. New users can be added via the panel's user screen.

Ensure that facial recognition is setup in the ACS menu and Wiegand output is set to 34 bit. You will need to use the panel in desktop reader model to get the current token number to add to Net2.

Note: Face recognition mode is not supported with the firmware link in section D above.

HIK Terminal Settings

Once you have wired up the terminal and setup the reader in Net2, the HIK terminal will need to be configured. Using the instructions provided, update the following settings:

- Enable Wiegand 34bit Output
- Authentication type should be set in the ACS menu, select your desired operating mode (Temperature is activated in another menu)
- Temp settings can be changed in the Temp menu
- Mask settings are changed in the 'System>Face Pic' menu

*Face + Temp mode will require users to be enrolled on both the HIK terminal, and in Net2. Additional users will need to be added separately in each system.

System limitations to note:

- High temperature events cannot be sent from the HIK terminal to Net2
- Temperature tolerance may need to be changed
- Fahrenheit will need to be converted to Celsius in the panel setting
- The DS-K1T671TM-3XF has been tested with token types: MIFARE® 1k and MIFARE® 4k

Link to manufacturers website: https://www.hikvision.com/en/products/Access-Control-Products/Face-Recognition-Terminals/Ultra-Series/ds-k1t671tm-3xf-/

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