HASSEB ACCESS CONTROL

hasseb AccessControl is an easy to use access control device with Ethernet connection. Users can use a 6 digit access code or a 125 kHz RFID key fob to activate the access. When a valid access code is provided, a relay is activated for a specified length of time to control an electric door lock. The device has two relays, whose stay on times can be specified separately. Another relay can be used for example to control lighting or another door or device.

The device implements a web browser user interface, which is used to add/remove users and for device configurations. SD card is used to store the users and their keys. Every access is also logged with a time stamp to the SD card. The two Ethernet ports make it possible to connect another Ethernet device next to the *AccessControl* device or even implement a redundant ring or parallel network topology.

ELECTRICAL CONNECTIONS

12 volts DC power should be connect to the – and + terminals of the screw terminal on the front panel of the indoor unit. The two relays has both three screw terminals, normally open, common, and normally closed.

The keypad/RFID reader unit is connected to the indoor unit using screw terminals on the back side of the indoor unit. The communication protocol used between the indoor unit and the keypad/RFID reader is Wiegand 26-bit, so any compatible reader can be used. Figure 1 shows the connection and wire colors to interconnect the outdoor and indoor units.

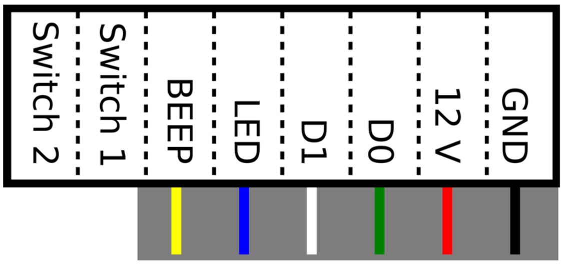


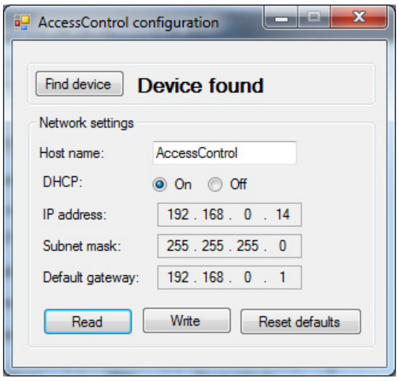
Figure 1: The keypad / RFID reader installed outside is connected to the indoor unit using six wires.

A switch to operate the relays can be connected to the screw terminals on the rear panel of the indoor unit. A separate switch can be used for both of the relays or the relays can be operated using the same switch. The switch can be used for example to open the electric lock from inside. Short circuiting the screw switch terminals to ground operates the relays.

INSTALLING

By default the device uses DHCP server to assign IP address. You have several ways to find the assigned IP address of the device:

1. You can find the IP address of the device from the user interface of your network router.
2. The device utilizes mDNS protocol to search devices in your local network, thus you can also use any mDNS capable software such as “Bonjour browser” to find the device in your network.
3. By default, the host name of the device is AccessControl so you can access the web user interface by writing *http://accesscontrol.local* to the address field of your internet browser.
4. You can connect the device to a Windows PC and use the *AccessControl.exe* software. The basic network settings can be set up using the simple *AccessControl.exe* software. The device implements a HID USB class, like mouse or keyboard, so no special drivers are required to connect the device to the PC.



Device found

Network settings

Host name: AccessControl

DHCP: ● On ○ Off

IP address: 192 . 168 . 0 . 14

Subnet mask: 255 . 255 . 255 . 0

Default gateway: 192 . 168 . 0 . 1

Figure 2. *EtherTemp.exe* software can be used to find out and set the network settings of the device.

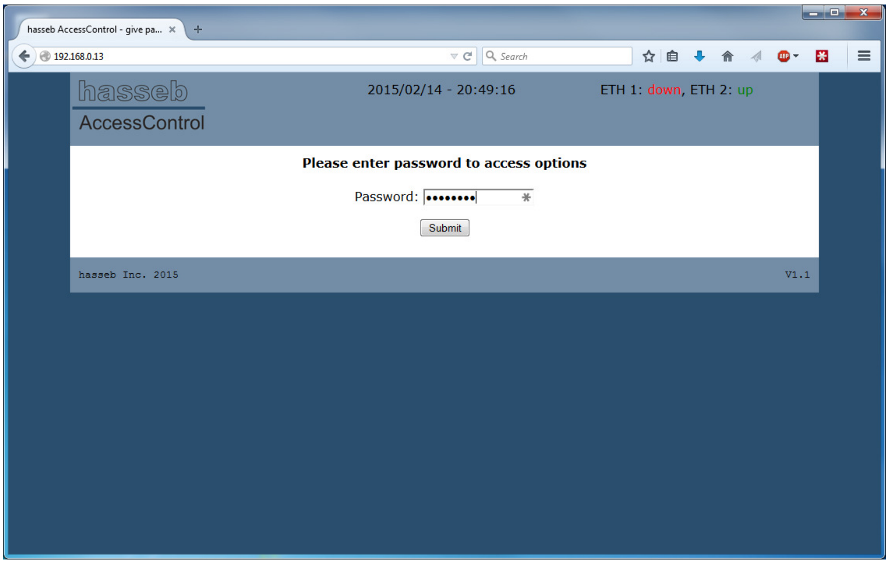
The *AccessControl.exe* software is a very simple program to control the network settings of the device. If you have the DHCP enabled, the program shows you the host name and the assigned IP address, subnet mask, and default gateway. If you switch the DHCP off, you can manually set the parameters.

When connected to PC, the device is also visible as a USB mass storage device. You can download the LOG.txt file, which includes the logging data and the ACCESS.txt, which includes the added users and the corresponding keys. The users and keys are separated with a tabulator and every user is stored in its own row in the text file. Disabled users have a * symbol before the last digit of the key number.

You can add or remove users without using the web interface by modifying the ACCESS.txt file. For big user databases or log files, using the USB connection is more efficient than uploading or downloading the data using the Ethernet connection and the web interface.

WEB USER INTERFACE

Writing the IP address of the *AccessControl* device to the web browser, the index page will be opened. Users can be added and removed and the device configured using the options page of the web user interface. A password is required to get an access to the device options. The default password is “password” without the quotation marks. It is highly recommended to change the default password to more secure one.



hasseb
AccessControl

2015/02/14 - 20:49:16

ETH 1: down, ETH 2: up

Please enter password to access options

Password: ••••••••

Submit

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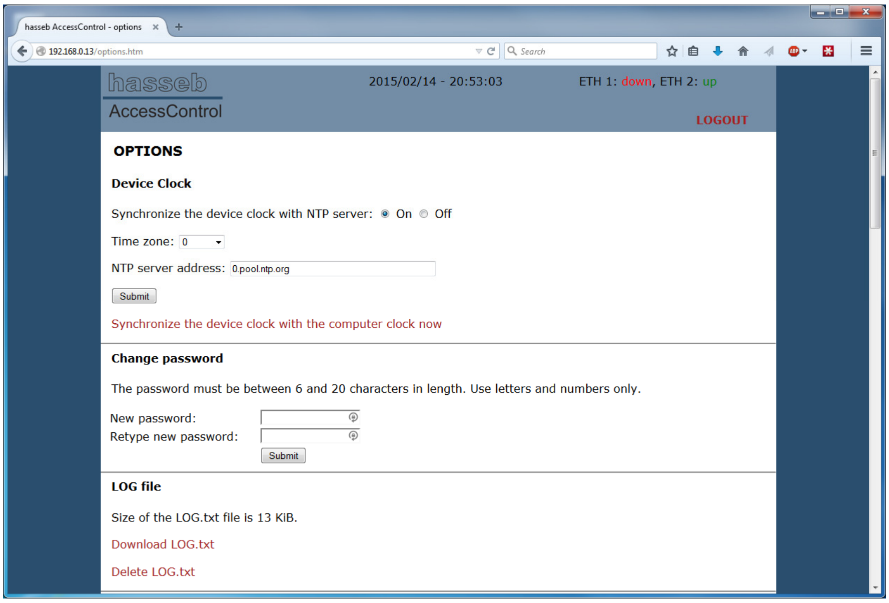
Figure 3. A password is required to get an access to the options page. The default password in “password” without the quotation marks.



hasseb
AccessControl

2015/02/14 - 20:53:03

ETH 1: down, ETH 2: up

LOGOUT

OPTIONS

Device Clock

Synchronize the device clock with NTP server: ● On ○ Off

Time zone: 0

NTP server address: 0.pool.ntp.org

Submit

Synchronize the device clock with the computer clock now

Change password

The password must be between 6 and 20 characters in length. Use letters and numbers only.

New password:

Retype new password:

Submit

LOG file

Size of the LOG.txt file is 13 KiB.

Download LOG.txt

Delete LOG.txt

Figure 4. Options page is accessible after writing the correct password.

The present option values are loaded from the device when the option page opens. When making new settings, the “Submit” button have to be pressed to send the new values to the device.

DEVICE CLOCK

The device clock can be synchronized automatically using an NTP server or manually with the computer clock. The default NTP server is the server pool 0.pool.ntp.org, which will choose a random NTP server for you.

If you do not want to use the NTP server for clock synchronization, you can manually synchronize the device clock with your computer. By "Synchronize the device clock with the computer clock now" command the device clock is synchronized with your computer clock.

CHANGE PASSWORD

It is highly recommended to change the default password ("password"). The password must be between 6 and 20 characters in length. Use letters and numbers only.

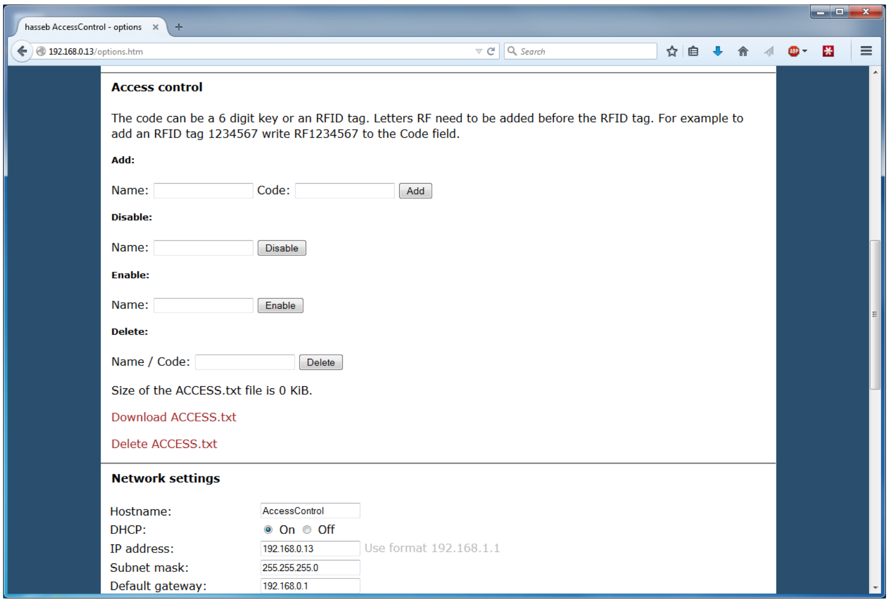
LOG FILE

Every access is logged to the LOG.txt file. The file contains in separate lines a time stamp, the name and the code of the user accessed. If a user tries to get an access outside the scheduled operation times, a text "no access, out of schedule" will be added to the end of the logging line.

You can download or delete the log file using the web interface. The size of the log file is also shown. The size of the SD card delivered together with the device is 2 GB. It is possible to replace the card by opening the device enclosure and inserting a new FAT formatted SD card to the device.

ACCESS CONTROL

You can add new user by writing the name and key to the corresponding text boxes. The key have to be exactly 6 digits long access code or an RFID tag. The key can contain only numbers. To make it easier to add an RFID tag, the last read RFID tag is displayed at the top of the configuration page, when the page is loaded. The RFID tag can be copy-pasted to the key field of the add user form. Note that the RFID tag need to be started with letters RF.



Access control

The code can be a 6 digit key or an RFID tag. Letters RF need to be added before the RFID tag. For example to add an RFID tag 1234567 write RF1234567 to the Code field.

Add:

Name: Code: Add

Disable:

Name: Disable

Enable:

Name: Enable

Delete:

Name / Code: Delete

Size of the ACCESS.txt file is 0 KiB.

Download ACCESS.txt

Delete ACCESS.txt

Network settings

Hostname:	AccessControl
DHCP:	● On ○ Off
IP address:	192.168.0.13 Use format 192.168.1.1
Subnet mask:	255.255.255.0
Default gateway:	192.168.0.1

Figure 5. To add a new user, write the name and code to the appropriate fields and press "Add". To add an RFID tag, start the code with characters RF.

A user can be removed by writing the name of the user or the key to the text box. You need to press the submit button to add or remove the user.

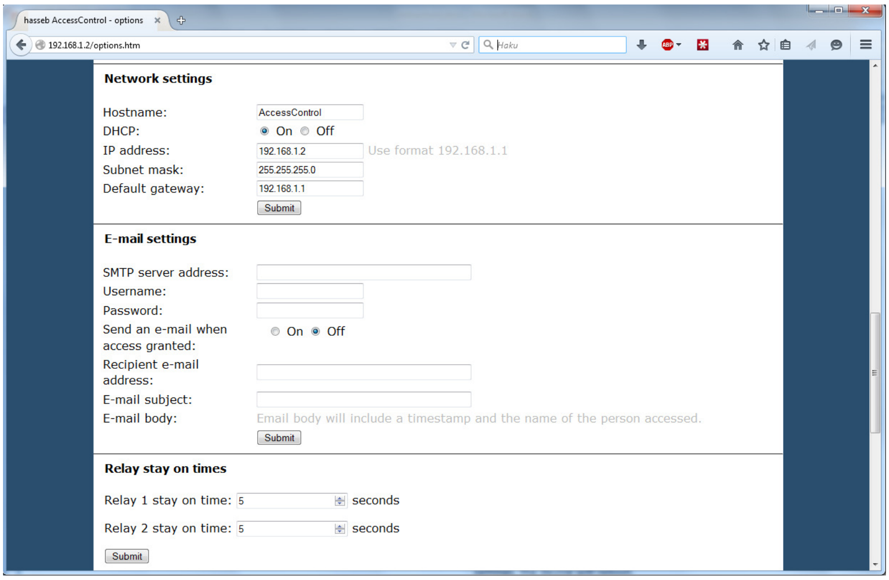
If you do not want to completely remove a user, it is possible to disable the key and enable it back into operation when required. To disable a user key, write the name of the user to the text box and press the "Disable" button. A * symbol is added to the ACCESS.txt file before the last digit of the key. To enable the user, write the name of the user to be enabled to the text box and press "Enable" button. It is also possible to disable/enable user manually by connecting the device to a computer and add/remove * symbol to/from the key of the user to be enabled/disabled.

When the user is added, removed, disabled, or enabled, a response message is written to the top of the options page.

The added users are store into a text file ACCESS.txt. All users and their keys are on separate rows. You can download or completely remove the ACCESS.txt file using the web interface.

NETWORK SETTINGS

The hostname, IP address, subnet mask, and default gateway can be set using the web interface or by using the provide *AccessControl.exe* software. The DHCP can also be enabled or disabled. By default the device uses DHCP to assign the network settings. The default hostname for the device is *AccessControl.* After setting the new network settings, the device will reboot.



Network settings

Hostname: AccessControl
DHCP: ● On ○ Off
IP address: 192.168.1.2 Use format 192.168.1.1
Subnet mask: 255.255.255.0
Default gateway: 192.168.1.1
Submit

E-mail settings

SMTP server address:
Username:
Password:
Send an e-mail when access granted: ○ On ● Off
Recipient e-mail address:
E-mail subject:
E-mail body: Email body will include a timestamp and the name of the person accessed.
Submit

Relay stay on times

Relay 1 stay on time: 5 seconds

Relay 2 stay on time: 5 seconds

Submit

Figure 6. Network settings can be chanced using the web interface. After submitting the new settings, the device will reboot.

E-MAIL SETTINGS

The device can send an e-mail message when an access is granted. The e-mail subject can be changed but the e-mail body is fixed and will always include a timestamp, the name of the person accessed and the code used.

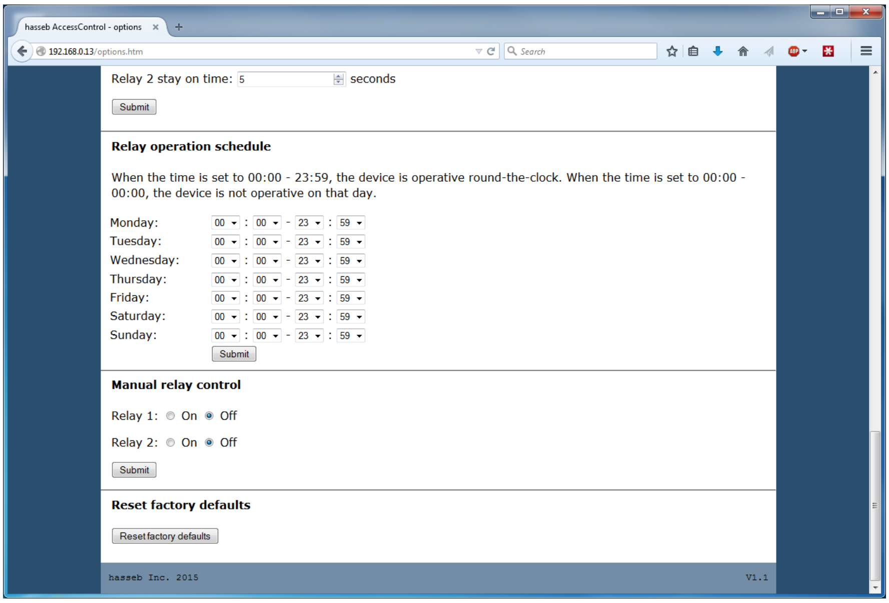
RELAY STAY ON TIMES

The device has two relays. The relays switch on when a correct key is entered to the device. Normally the relay 1 is used to control a door lock mechanism. Relay 2 can be used for example to control lighting or other device. Stay on times can be configured for both of the relays separately.

RELAY OPERATION SCHEDULE

The *AccessContol* device can be configured to be operational only part of the day or week. When the time is set to 00:00 - 23:59, the device is operative round-the-clock. When the time is set to 00:00 - 00:00, the device is not operative on that day. For example when Monday schedule time is set to 8:15 – 17:00, the device is operational on Mondays only between 8:15 and 17:00.

However, if a valid number code is provided after a valid RFID tag, it is possible to get an access outside the scheduled operation times. <u>The code need to be named for the same name as the user of the RFID tag.</u>



Relay 2 stay on time: 5 seconds

Submit

Relay operation schedule

When the time is set to 00:00 - 23:59, the device is operative round-the-clock. When the time is set to 00:00 - 00:00, the device is not operative on that day.

Monday: 00 : 00 - 23 : 59
Tuesday: 00 : 00 - 23 : 59
Wednesday: 00 : 00 - 23 : 59
Thursday: 00 : 00 - 23 : 59
Friday: 00 : 00 - 23 : 59
Saturday: 00 : 00 - 23 : 59
Sunday: 00 : 00 - 23 : 59

Submit

Manual relay control

Relay 1: ○ On ● Off

Relay 2: ○ On ● Off

Submit

Reset factory defaults

Reset factory defaults

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Figure 7. The device operation can be scheduled to be operative only part of the day or week.

MANUAL RELAY CONTROL

You can manually open or close the relays of the device using the web user interface. The status of the relays is shown on top of the page when the relays are manually controlled. The present state is also shown as the states of the On/Off control buttons.

RESET FACTORY DEFAULTS

Reset the factory default settings.

LOGGING FILE

The logging data is written to the text file LOG.txt. Each reading line starts with a date time stamp following the user and key. If the time is outside the working schedule, a text “no access, out of schedule” will be added to the end of the line. The data in each line is tab separated and terminated with a carrier return and a new line feed. The date time stamp is formatted in ISO 8061 format as YYMMDDThhmmss, where

YY is the year
MM is the month
DD is the day
T is a separator
hh is the hour
mm is the minute
ss is the second.

STATUS LED

The device is working properly when the green LED is 50 ms on and 5000ms off.

RESET FACTORY DEFAULTS

If something goes wrong with the network settings and you cannot access the device anymore through the network, you can reset the factory defaults in three ways. The default network configuration is DHCP on.

1. Using the Windows software *AccessControl.exe.*
2. Using the web interface (maybe not possible in the case of a network fail).
3. Using the button F1 on the circuit board. To access the button you need to open the enclosure and pull out the circuit board. The device needs to be switched on when pressing the button.

BACK UP BATTERY

If you do not use an NTP server to synchronize the device clock, the time information will be lost in the case of blackout. To prevent this, you can insert a type CR1220 coin cell battery to the device. The battery holder is accessible by opening the enclosure and pulling the circuit board out.

SYSTEM INTEGRATION

The device can be also configured by using standard http *POST* or *GET* requests. The *POST* request must always involve the password as a name/value parameter *PW=password.*

The logging file can be downloaded using a *GET /LOG.txt* request.

The logging file can be deleted with a post request *POST /delete_log_file.*

The ACCESS.txt file including the name/code pairs can be downloaded using a *GET /ACCESS.txt request.*

The ACCESS.txt file can be deleted using a *POST /delete_access_file request.*

New name/code pair can be added to the *ACCESS.txt* file using *POST /add_namecode.* The name should be send as a parameter *add_name=name* and the code as a parameter *add_code=code.*

A name/code pair can be disabled using *POST /disable_namecode* with parameters *disable_namecode=name_or_code.*

A name/code pair can be enabled using *POST /enable_namecode* with parameters *enable_namecode=name.*

A name/code pair can be deleted using *POST /delete_namecode* with parameters *delete_namecode=name_or_code.*

The states of the two relays can be manually controlled using *POST /relay_control* with parameters *relay_1=status* and *relay_2=status*. When the *status* value is an ASCII character *0* the relay is off and when *1* the relay is on.

Specifications	
Input voltage	12 VDC
Maximum input current	0.5 A
Operating temperature	0 – 50 °C
Relays	2 x SPST (single-pole, single-throw) max 100 V / 1 A
Dimensions	130 mm x 80 mm x 30 mm
Weight	250 g
IP class	21
Communication protocol	Wiegand 26-bit
Supported operating systems	Windows 7 / 8 / 10