Basic Mercury Powered NXT Controller Configuration

Doors.NET installation and controller configuration is a three step process. Each of these steps is covered separately in the help file and there are also separate standalone documents available:

1. Doors.NET Software Installation (document P/N: 01565-001)
2. License Manager and Gateway Configuration (document P/N: 01565-002)
3. Basic Mercury-Powered NXT Configuration (document P/N: 01238-003)

This section covers the basic configuration of NXT Mercury Powered (NXT-MSC) controllers in Doors.NET software. It assumes Doors.NET has already been successfully installed and licensed on your host PC and the MSC gateway has been configured.

Before adding the MSC controller, you should make a note of the controller's MAC address. The MAC address can be found on the white sticker in the lower right corner of the controller (near to communication port 1). It will begin with 00-14-34.
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Detecting the MSC Controller

When the MSC controller is powered-up and connected to the local area network (or directly to your host PC via a cross-over cable), it will initially try to obtain a DHCP IP address. If no DHCP address is assigned to the controller (i.e. if DHCP is not enabled on the network), then the controller will automatically set itself to a static IP address.

This following section covers both IP assignment methods and then explains how to log in to the controller to change its IP address.

Using DHCP Address Assignment

1. Ensure the controller is powered-on and connected to the network.
2. In the lower-left corner of the controller PCB there are 3 network LEDs (when the controller is connected to the network D21 should be solid green, D22 should be solid red and D33 should be flickering red).
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3. Open the Doors.NET login window by clicking the client icon on the desktop.

![Keri Systems Client](image)

4. Log in to the software using the default user name and password of **admin/admin**.
5. Once logged in, go to Setup >> Hardware Setup then the All tab.

![Hardware Setup](image)

6. You will see the MSC gateway listed at the top of the hardware tree.
7. Right-click the gateway and select Scan or click the scan icon on the hardware ribbon bar.

![Scan Network](image)

8. There is a background utility incorporated into the MSC gateway that will scan for and detect all MSC controllers.
9. Providing the host PC has an IP address in the same range of the controller’s DHCP address, the MSC controller should appear almost immediately.
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10. If there are multiple controllers look for the MAC address that matches the one you have noted down.

Using Static IP Address Assignment

If the controller's local area network does not have DHCP (Dynamic Host Configuration Protocol) then the controller will automatically set itself to a static IP address in the range of 169.254.X.X, so the last 2 segments of the address could be anything, for example: 169.254.10.55. To connect and add the controller you will have to set the host PC IP address within the same IP range.

1. From Control Panel go to **Network and Sharing Center**.
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2. Click the **Change adapter settings** link.

3. Right click **Local Area Connection** and select **Properties**.

4. Click on **Internet Protocol Version 4 (TCP/IPv4)** then click the **Properties** button.
5. Ensure the IP settings are set to **Use the Following IP address**.
6. Enter an IP address that begins 169.254. For example; 169.254.1.100
7. Set the Subnet mask to 255.255.0.0
8. Then click OK.

9. You should now be able to scan for and detect the controller via the Doors.NET Scan facility.
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Logging in to the Controller

You should now log into the controller to change its IP address. This is especially important if the controller is configured with a DHCP address, (because the address is subject to being changed in the future, such as if the controller goes offline for an extended period of time). You should therefore log into the controller and set it to a static IP address, this can be done either before, or after adding the controller to the MSC gateway.

Note: Effective from firmware revision 1.201 there is an enhanced authentication process for a new controller.

1. From the Scan Network window double-click the MSC controller.
2. You will see the MSC controller login link.

[Image: Click Here to Login]

3. Enter the default user name of **admin**
4. Enter the default password of **password**
5. Click the LOGIN button.
6. The login will fail.
7. You will see a message informing you to press the S1 button on the controller 3 times.
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8. The white S1 button is located as highlighted below.

9. You will then have a 5 minute time window when you can log in using the default user name and password (admin/password).

10. Once logged in, click the Users link on the left.

11. Click the NEW USER button.

12. Enter a new user name and password (you will also have to re-enter the password).

13. Then click SAVE.
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Select account level:  
Username: NEWUSER (4-10 characters)

Password:  
Password again:  
Notes:  
"", ", &=, %, are illegal characters for this field.

Save  Cancel

14. Next time you log in to the controller, if you use this new user name and password you will not be prompted to press the controller's S1 button 3 times.

Changing the Controller's IP address

1. While you are still logged into the controller, click on the Network link on the left.

2. Set the IP Method to Use Static IP Configuration.
3. Enter the new IP address you wish to set to the controller.
4. Enter a subnet mask appropriate to the IP you wish to assign.
5. Enter a gateway IP address or leave at the default if the host and the controller are on the same subnet.
6. Click the ACCEPT button at the bottom of the page.
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7. You then have to click the **Apply Settings** link on the left.

8. Finally, click the APPLY SETTINGS, REBOOT button.

9. The new IP address will now be sent out to the controller and it will perform a reboot followed by a self-test.

10. You now have to change the IP address of the host machine to the same range as the new controller IP address.
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Importing the MSC Controller

Now that the controller has been assigned with its desired static IP address it is ready to be imported. This will add the controller to the MSC gateway and it will then appear in the hardware tree.

1. From the Scan Network page, click the Clear icon and it will change to Search.
2. Click Search and the MSC controller should appear with its new IP address.
3. Highlight the controller and then click the Import button.
4. You will be asked if you wish to import the controller to the MSC gateway, click YES.
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5. Within 10 seconds you will see a second message notifying you that the import is complete. Click OK to this.

![Import complete](image)

6. Close the Scan Network page and return to the hardware tree.
7. You will see the new controller listed beneath the MSC gateway.
8. Highlight the new controller and in the controller properties you should see that it is online.

![Hardware tree](image)

9. You will see that there is a small update icon to the right of the controller. This can easily be cleared by performing a memory-reset on the controller. Following a memory reset a full update is sent to the controller and will take no longer than a few seconds to complete.

10. Right-click the controller and select **Reset >> Memory**. During the reset the controller will go offline for a few seconds.
Modifying the RTE Input Setting

If you are not using Request-to-Exit (RTE) inputs you will notice that the lock relays will activate when the controller has a memory reset. The reason is because by default, the RTE inputs are set to Normally-Closed. When the controller does a Power-On-Self-Test it checks the status of the inputs and if the circuits are open then the RTE function will activate. To prevent this from happening you should do the following on each reader:

1. Expand the controller and then the controllers bus.
2. Highlight one of the controller's readers.
3. In the reader properties located on the right, locate the REX 1 Properties.
4. In the Circuit Type field change the setting from Unsupervised, Normally-Closed to Unsupervised, Normally-Open.
5. Then save the reader properties.

6. The next time the controller has a memory reset the lock relays will remain inactive.
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MSC Controller Firmware Upgrade

When you run the installer you will see a notification if the MSC controller firmware needs upgrading.

![Previous Version Uninstallation]

ALL NXT CONTROLLERS WILL REQUIRE A FIRMWARE UPGRADE
NXT Firmware Required is 02.05.68
NXT-MSC/EP series Firmware Required is 1.211

You will also see a notification in live events when a new controller is added to the system.

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<thead>
<tr>
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<th>Message</th>
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<tr>
<td>A</td>
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<tr>
<td>New Controller 1</td>
<td>Controller - Online</td>
</tr>
<tr>
<td>New Controller 1</td>
<td>Controller - Offline = Timeout</td>
</tr>
<tr>
<td>New Controller 1</td>
<td>Transaction Log report</td>
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<tr>
<td>New Controller 1</td>
<td>Controller Firmware Needs Upgrade</td>
</tr>
<tr>
<td>New Controller 1</td>
<td>Controller ID Report</td>
</tr>
<tr>
<td>New Controller 1</td>
<td>Controller - Online</td>
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Perform the following steps to upgrade the MSC controller firmware.

Note: It takes approximately 2 minutes to upgrade the controller firmware but there is minimal system downtime because the controller will continue to function throughout most of the upgrade process. There is just a few seconds at the end of the process where the controller will not be functioning, during which time the controller will go offline then back online again.

1. If a firmware upgrade is required, the required revision is listed in the Status Messages grid.
2. Highlight the controller in the hardware tree.
3. Click on the Firmware Upgrade icon on the toolbar ribbon.
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4. Windows Explorer automatically opens a window where the new firmware revision resides.

5. Select the .CRC file (only the most current firmware file will be available), click Open.

6. A notification message appears stating that the controller will go offline momentarily. Click YES and the new firmware file will be sent.
7. Go to live events and you will see a **Firmware Upgrade Has Started** message.

![Image of firmware upgrade started](image1.png)

8. Within approximately 2 minutes you will then see a Firmware Upgrade has Completed message (followed by numerous messages that are generated as the controller performs a self test).

![Image of firmware upgrade completed](image2.png)

9. Go to the Controllers grid and you will see that the new firmware version will be shown.
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Your MSC controller is now ready for configuration and operation

**Note:** Typically a firmware upgrade is to a newer version, but downgrading to an older version is allowed. However each Doors.NET software revision has minimum firmware revision requirements. Proper software and hardware operation is not guaranteed if you downgrade to a firmware revision that is out-of-date for the software revision installed.

**Factory Reset Procedure**

- Ensure the J3 jumper is across both pins.
- Press the white S1 button - the D MODE LED will go solid green.

- While the D MODE LED is still green down power the controller.
- Press and hold the white S1 button and apply the power.
- The following LEDs will be flashing in an alternating sequence (Reset + ULED2 + ULED4) then DMODE + ULED4.
- Continue to hold down the S1 button for approximately 20 seconds.
- Release the S1 button and the all LEDs will initially go off.
- You will see various LEDs go on and off for a few seconds then only the Reset LED will be flashing on and off.
- The controller's ram is now reset. The 4 green LEDs to the right of the J3 jumper should also now be on.
- The controller will either be set to a DHCP address or it will automatically be set to a static address in the range of 169.254.99.X if it does not receive a DHCP address within 1 minute.
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Further Setup Information

Now that the controller is added to the software you are ready to start configuring other aspects of the Doors.NET system, such as; setting up access groups and time schedules and adding cardholders. All these subjects and many more are covered in the comprehensive help file which is included with Doors.NET.

The quickest and easiest way to access the help file is to press the F1 key while on any of these screens. If you are on the cardholders screen for example (Home >> Cardholders) and then press F1, the help file will automatically open up on the cardholders section.
## Contact Keri Systems

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