Technical Tip

How To Create and Manage the Ethernet 32 I/O Device

Revision 2.19.2013

Table of Contents

1.0 Introduction

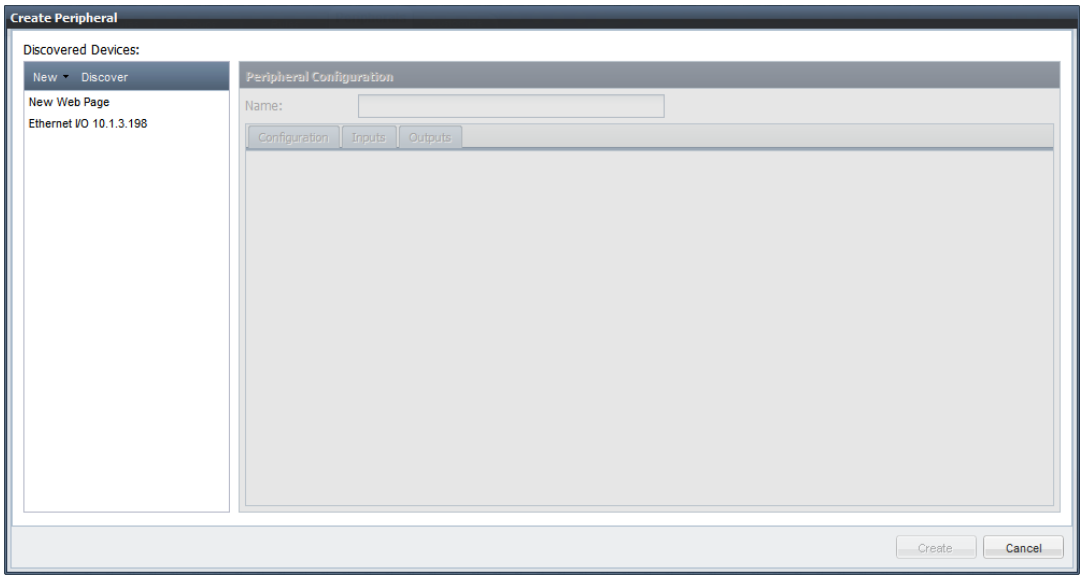
This document explains how to create and manage the Ethernet 32-channel I/O device in Intelli-M® Access. Before you begin, you must ensure that your Intelli-M® Access software version is version 2.2 or newer. If necessary, please visit our website at http://www.infinias.com to download the latest version of Intelli-M® Access.

2.0 Configuration

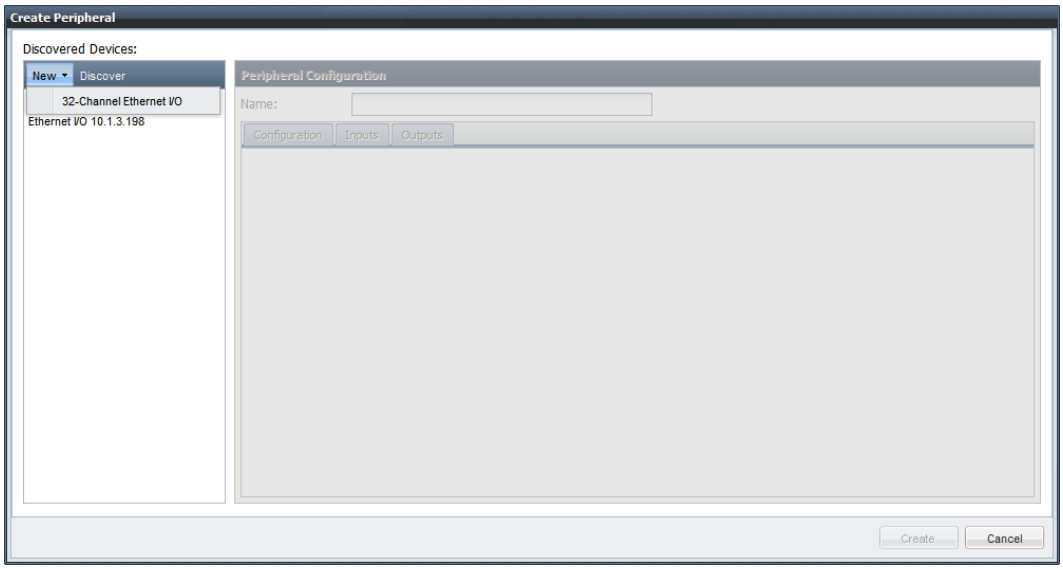
Configuration of the Ethernet 32 Channel I/O device is performed on the Peripherals Page in the Configuration section of the Intelli-M® Access UI.

2.1 Create a New Device and Peripheral

Login to Intelli-M Access and proceed to the Peripherals Page. Click the ***Create Peripheral*** command in the Actions Menu, and a Create Peripheral Dialog will appear.

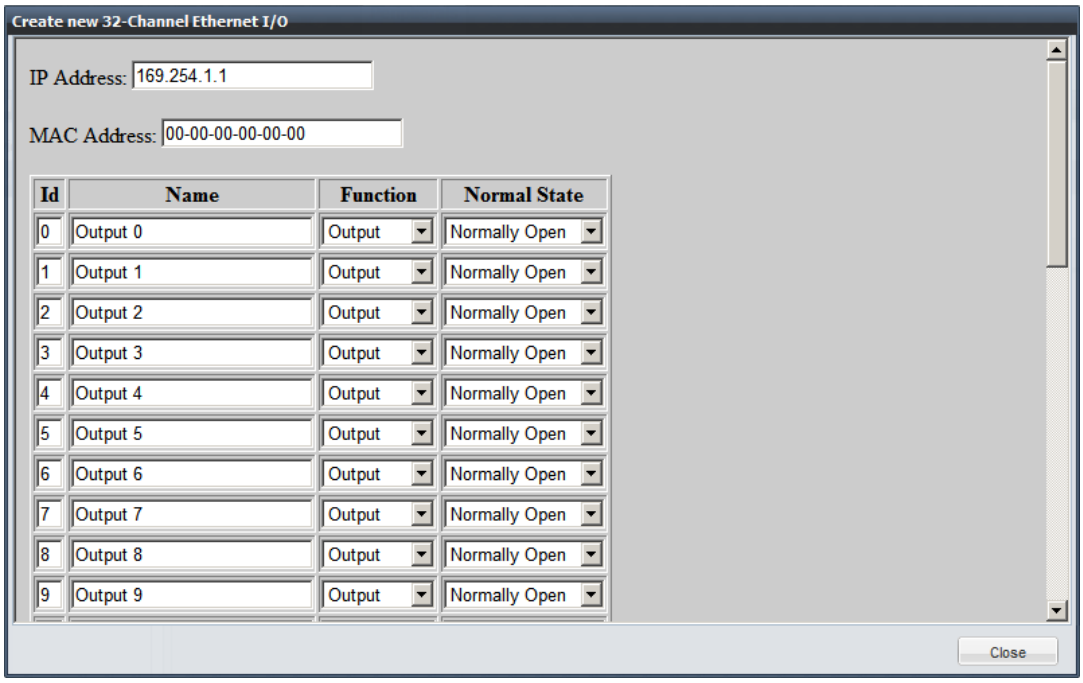


If your Ethernet 32 Channel I/O devices are in the same subnet as the Intelli-M® Access server, they will automatically be discovered, and you will see those device(s) listed on the left pane, as shown in the figure above. The figure above shows a single discovered Ethernet I/O device. If you do not see the device you are looking for, then click the ***New*** menu and select ***32-Channel Ethernet I/O*** from the menu.



If you do not see a 32-Channel Ethernet I/O entry in the popup menu, click the ***Discover*** button and wait up to a minute for Intelli-M® Access to re-discover the plugins, then click the ***New*** menu again. If you still do not see the device, please check the Troubleshooting section at the end of this document.

Click the ***32-Channel Ethernet I/O*** menu item to create a new device, and a device configuration popup dialog will appear.



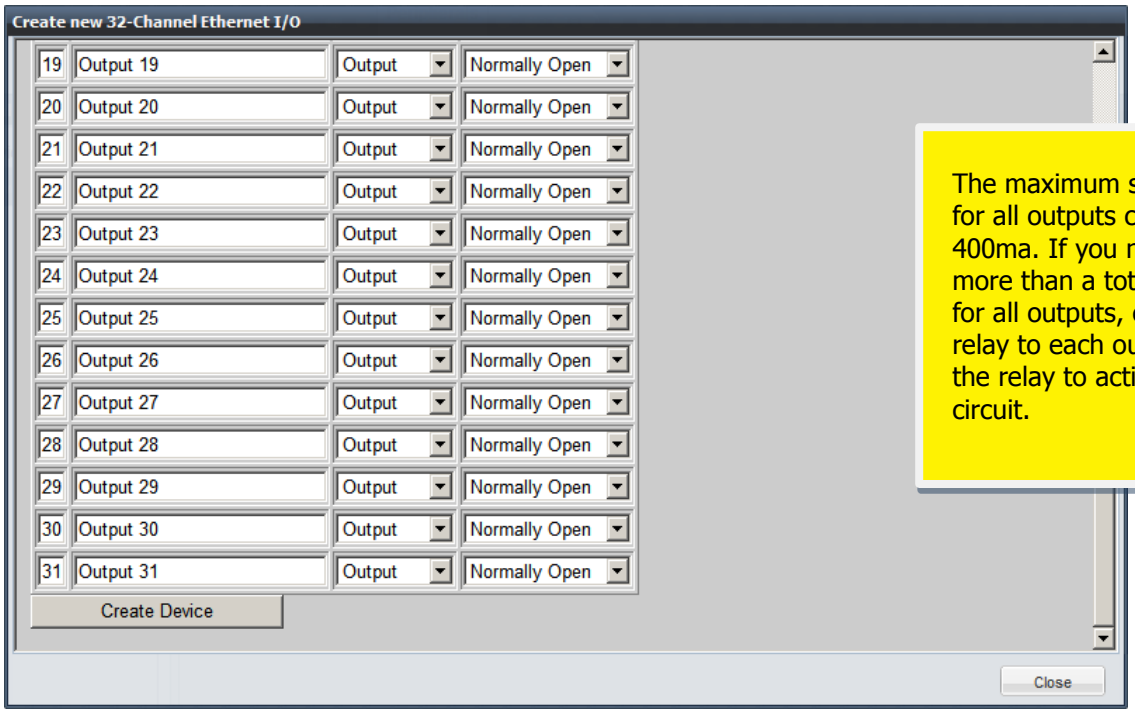
A non-functional default IP Address of 169.254.1.1 will be displayed, along with a default MAC Address of 00:00:00:00:00:00. Enter the correct IP Address and MAC Address of the device you wish to add.

Below the IP and MAC Address section is a list of 32 rows, each row defining one I/O channel. You can configure the name of each channel, whether it is an input or an output, and the default setting for the channel. A ***Normally Closed*** input will expect a standard relay-closure presence on that input when it is idle, and a ***Normally Open*** input will expect a standard relay circuit open when the input is idle.

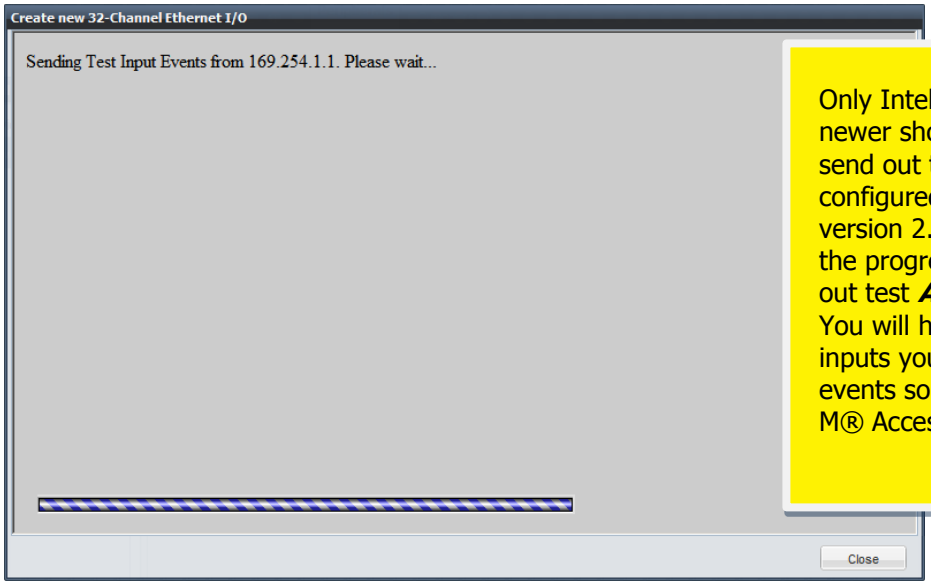
A ***Normally Closed*** output will have a standard TTL ~5 volts present when idle, and a ***Normally Open*** output will have a standard TTL ~0 volts present when idle.

Please modify the I/O channels according to your needs. If you need a contact closure on an output, you will have to add a 5 volt relay with an amp rating that meets your needs onto that output to create the desired closure.

When you are finished, press the ***Create Device*** button found at the bottom of the configuration pane.



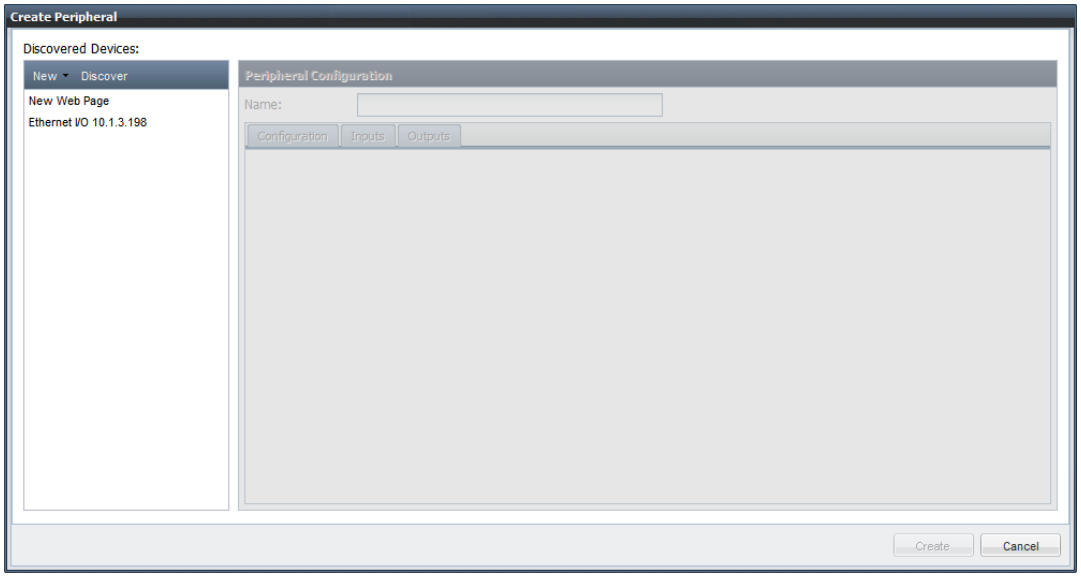
When you press the ***Create Device*** button, the window will update to show a progress indicator while test events are sent to Intelli-M Access, as shown below.



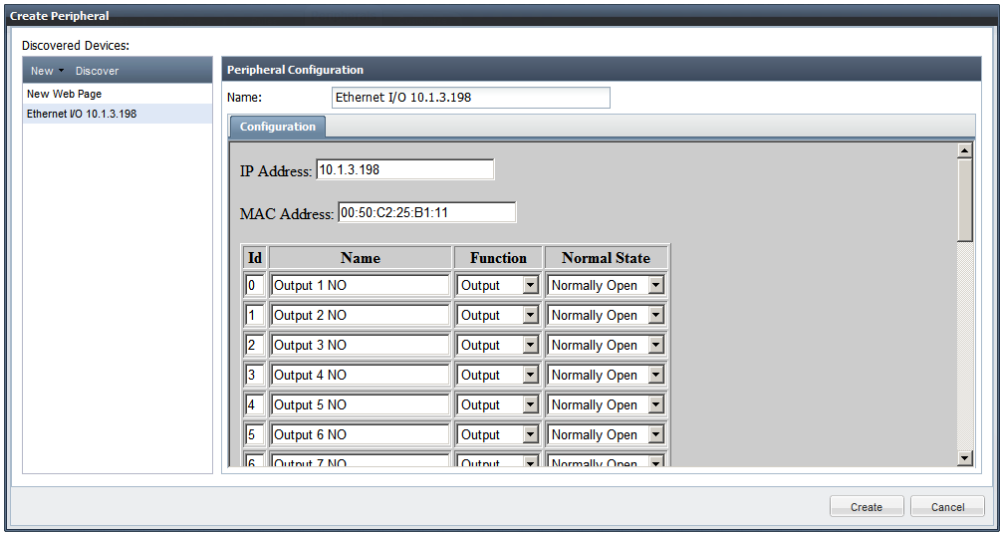
Only Intelli-M Access version 2.2.1 and newer show a progress dialog and send out test events for each configured input Intelli-M® Access version 2.2 and earlier will not show the progress dialog and will not send out test ***Active*** and ***Restored*** events. You will have to manually activate any inputs you configured to generate the events so they will be visible in Intelli-M® Access.

While the progress window is visible, the device will send an ***Active*** and a ***Restored*** event for each input you designate. Events are sent *only* for those channels designated as inputs. These events will then be added to the Intelli-M® Access event database, allowing you to act on one or more of these events on the Rules Page.

If you entered the correct server information, the progress will complete, the proper events will appear on the Events page, and a new entry in the Discovered Devices list will appear.



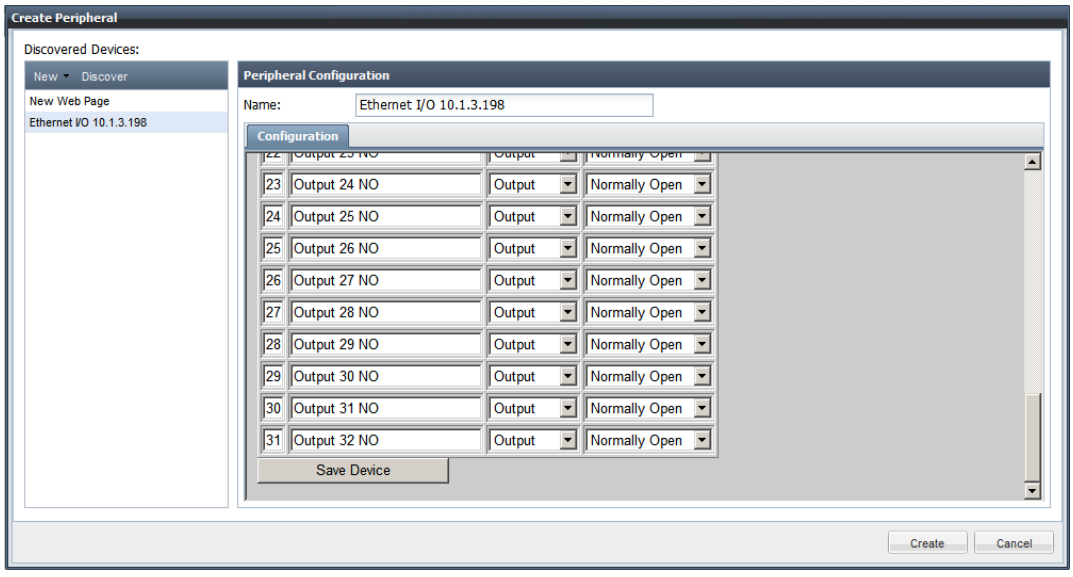
With the Device visible in the Devices list on the left pane, you can now prepare to add the device to Intelli-M® Access as a Peripheral. Click the Device, and the device's name and configuration will appear to the right, as shown below.



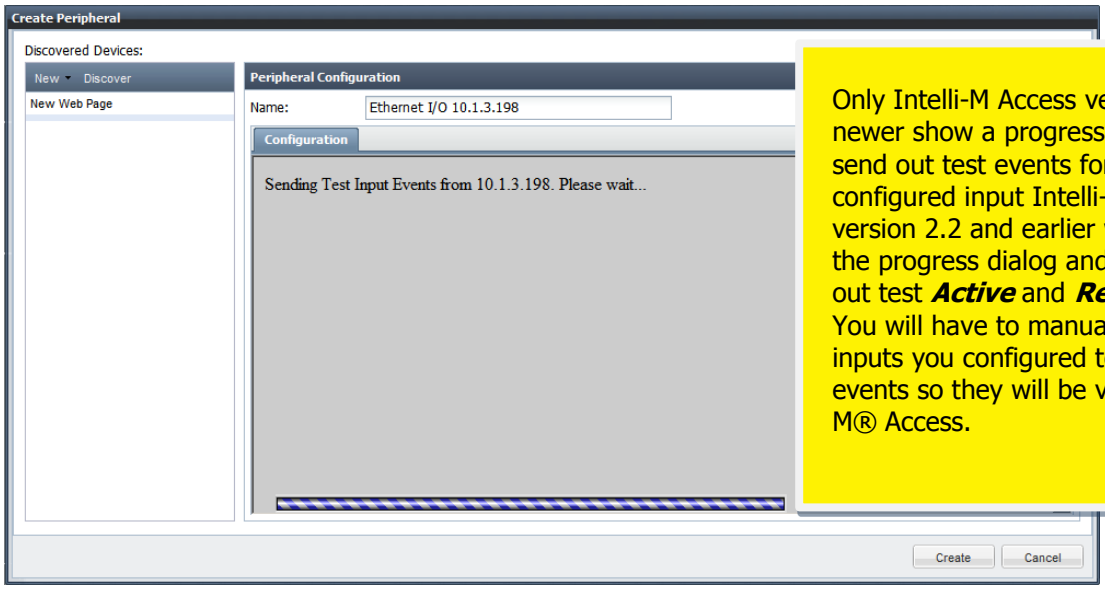
If you selected a device that you created manually, then simply modify the Name field to match what you want Intelli-M® Access to know the device by, and click the ***Create*** button at the bottom of the dialog. This will finalize the process of creating a Peripheral for the Ethernet I/O device in Intelli-M® Access.

If you selected an automatically-discovered device that you didn't create yourself, you still need to configure the inputs and outputs to your liking. Click on the discovered device, and the configuration information in the right pane will be set to the default values of all channels set to a Normally Open outputs.

Make any changes at this time to the device configuration, and then press the ***Save Device*** button at the bottom of the configuration pane.



After you press the ***Save Device*** button, the right pane contents will change to a progress window.

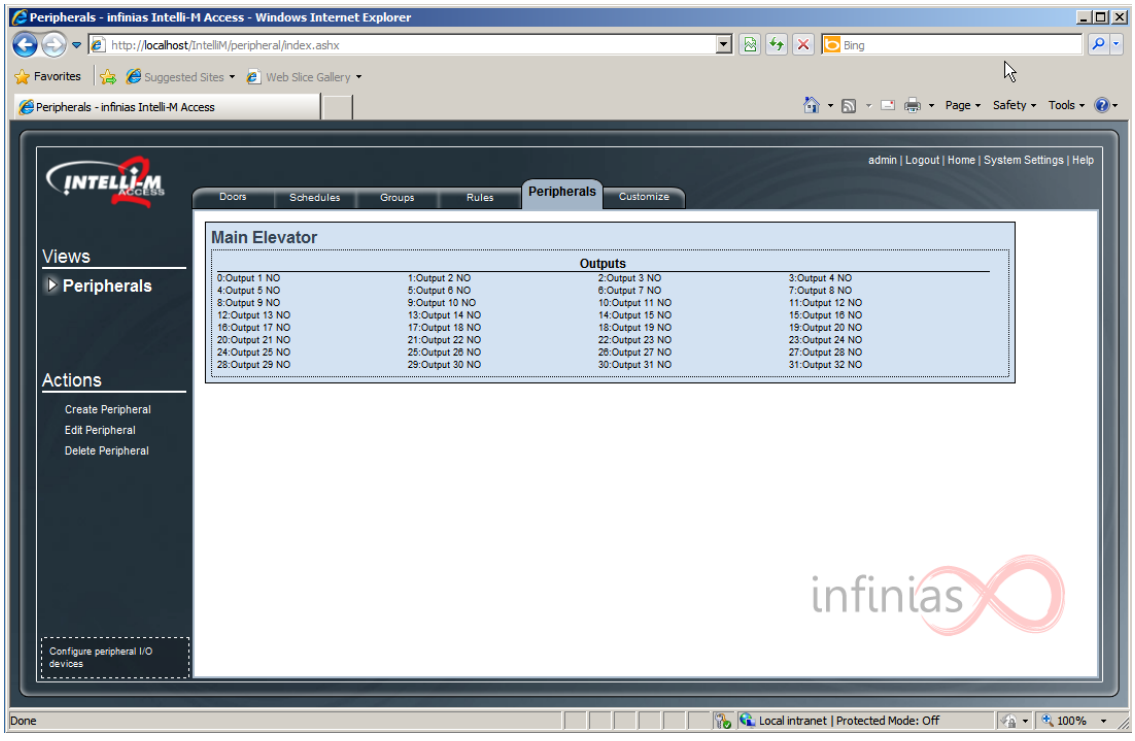


Only Intelli-M Access version 2.2.1 and newer show a progress dialog and send out test events for each configured input Intelli-M® Access version 2.2 and earlier will not show the progress dialog and will not send out test ***Active*** and ***Restored*** events. You will have to manually activate any inputs you configured to generate the events so they will be visible in Intelli-M® Access.

2.2 Creating the Device as a Peripheral

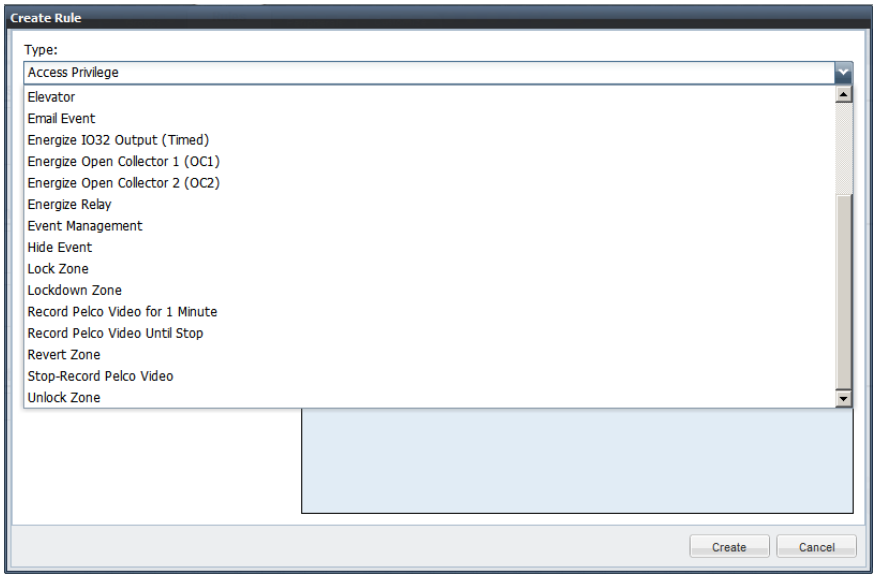
When you have finished configuring a device that was automatically discovered, you will have to select the device again in order to create it as a Peripheral.

Select the device one more time to view the configuration. Change the Name from its default to your liking, and press the ***Create*** button at the bottom of the dialog. The Peripheral will now be created, and shown as a Peripheral along with its camera names in the Peripherals Page.



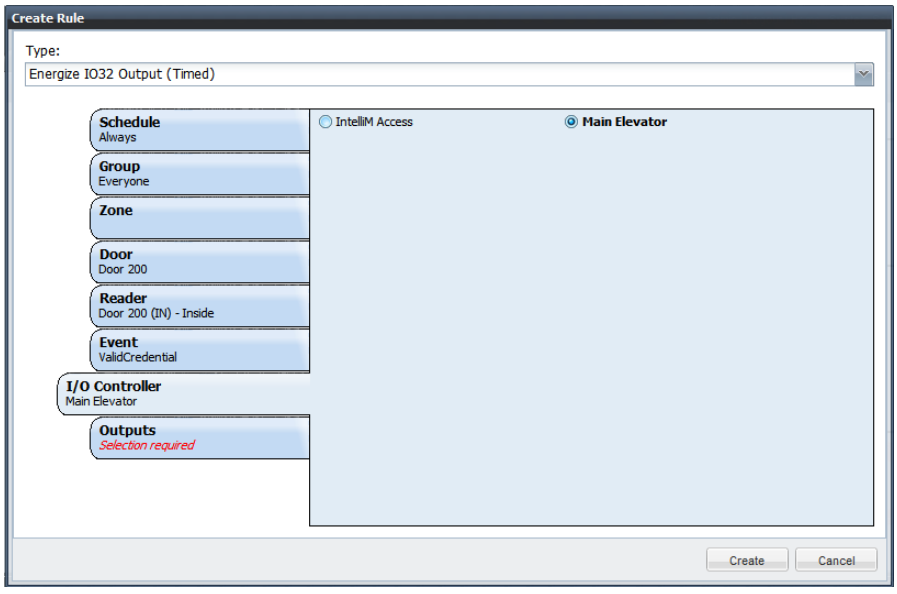
2.3 Create a Rule for an Output

Click on the Rules Page to create a Rule for the newly-created ***Main Elevator*** Peripheral. Click the ***Create Rule*** Action in the Actions menu, and the Create Rule Dialog will appear. Click on the combo box to expose the Rule Types, and choose either ***Energize IO32 Output (Timed)*** or ***De-energize IO32 Output (Timed)***.



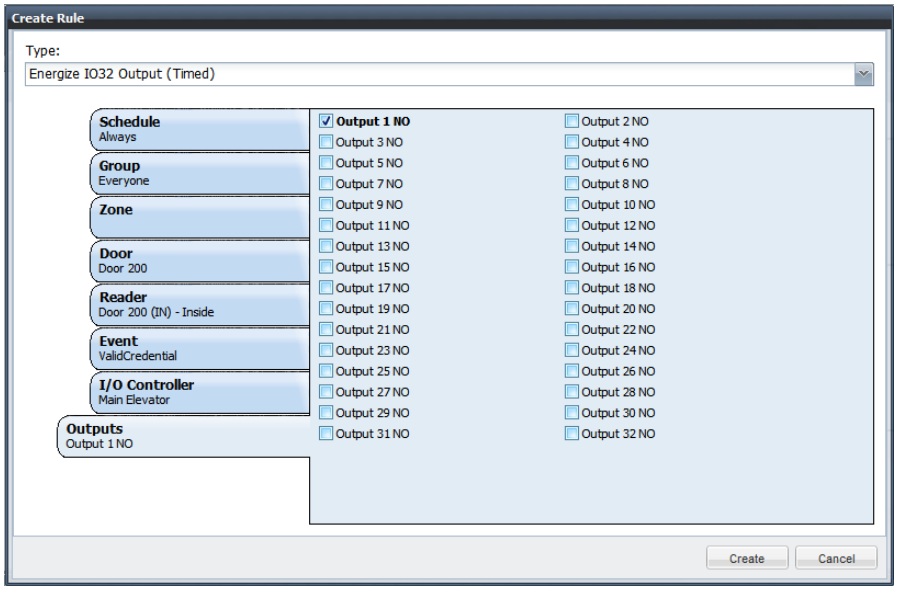
These two Rule types will energize (or de-energize) a single output channel for 8 seconds. If you need a Rule Type whose duration is not 8 seconds, or if you need a "forever" Rule Type, please contact an **infinias™** Product Support Representative, and we will assist in getting you the Rule Type for your specific needs.

Select the usual Schedule and Event information as with other Rules, and choose the ***Main Elevator*** Peripheral from the Device tab.



Note: It is extremely important to ensure that at least one test event from your device was sent to Intelli-M® Access. Intelli-M® Access builds its list of Events (shown in the Events tab) and Peripherals (shown in the I/O Controller tab) dynamically, based on the data that has been sent to it. Therefore, the Peripheral will be visible in the 'I/O Controller' tab only when at least one event has been sent from the device. If you are using Intelli-M® Access version 2.2.1 or newer, this step should occur automatically.

Now choose the output(s) you wish to energize.

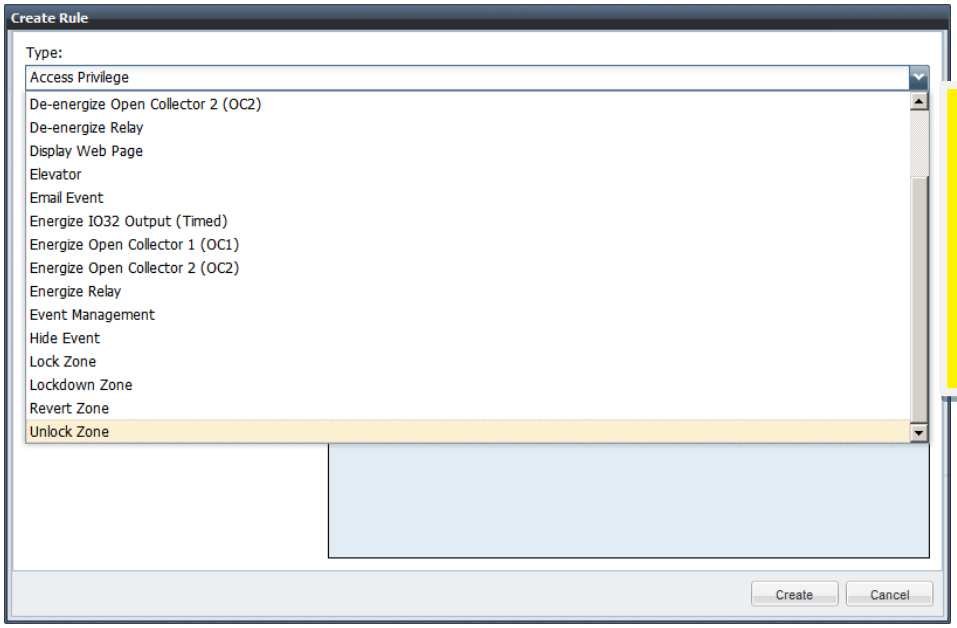


Press the ***Create*** button to complete the Rule. The example Rule shown will cause the output labeled ***Output 1 NO*** to energize for 8 seconds, and then return to its idle state.

Repeat these steps for all other Rules you wish to create that will communicate with the ***Main Elevator*** Peripheral.

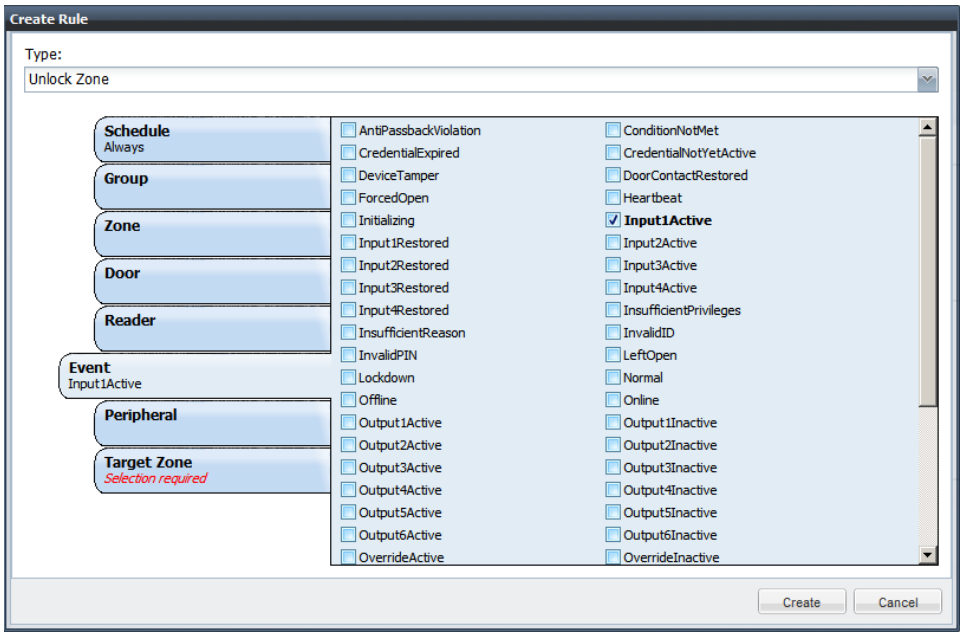
2.4 Create a Rule for an Input

Click on the Rules Page to create a Rule that will act on an Input going active or inactive. Click the ***Create Rule*** Action in the Actions menu, and the Create Rule Dialog will appear. Choose an activity that you would like to occur when the input changes, such as unlocking a Door or Zone.

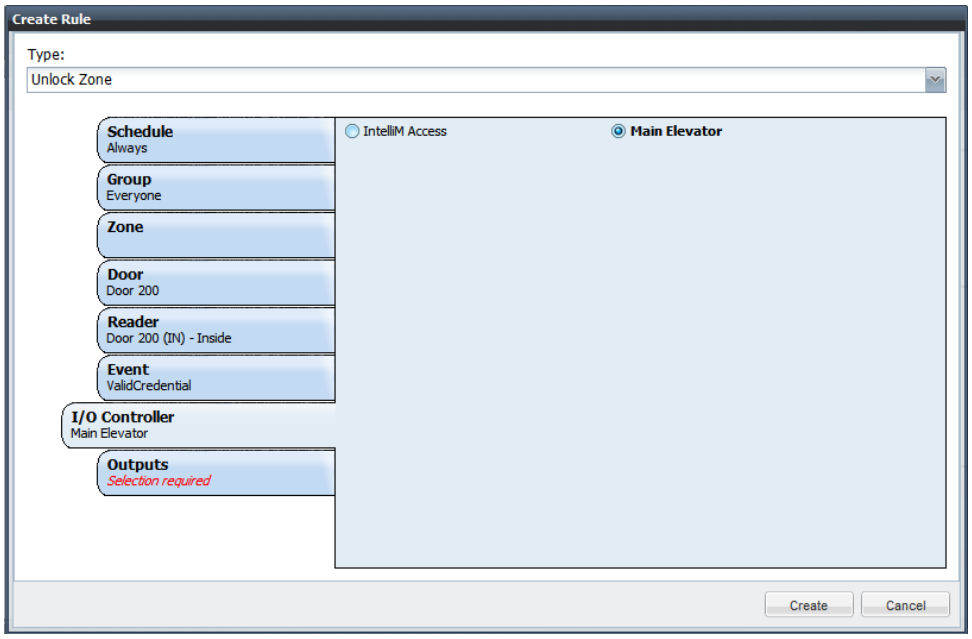


In this example, the first I/O Channel is configured as an Input instead of an Output as in the previous example.

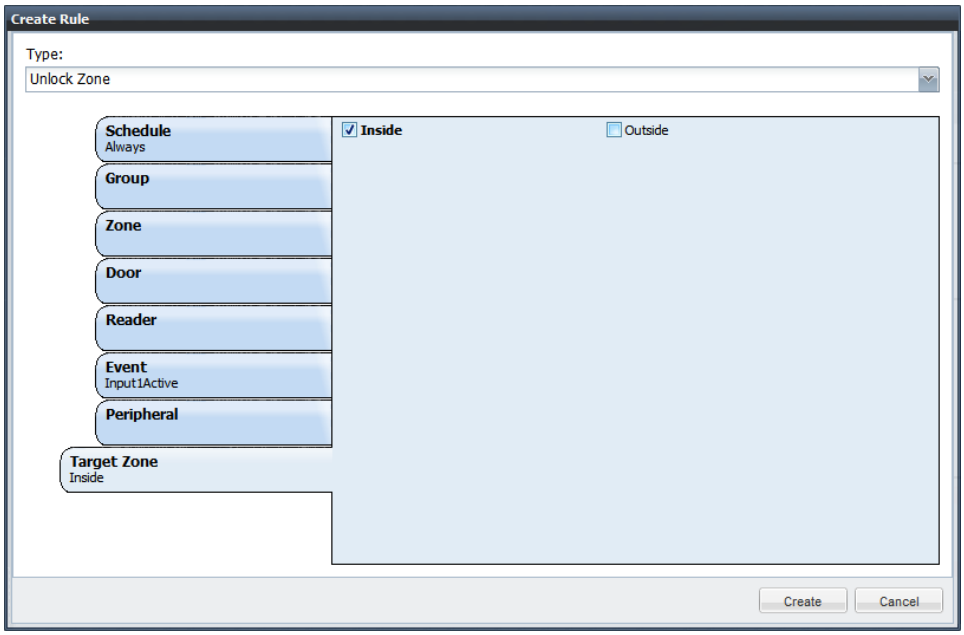
Choose your Schedule as you normally would, then choose which input event you want to unlock the Zone, such as ***Input1Active***.



Click on the ***Peripheral*** Tab and select the ***Ethernet I/O*** device whose Input 1 you wish to use to activate the Unlock Zone Rule.



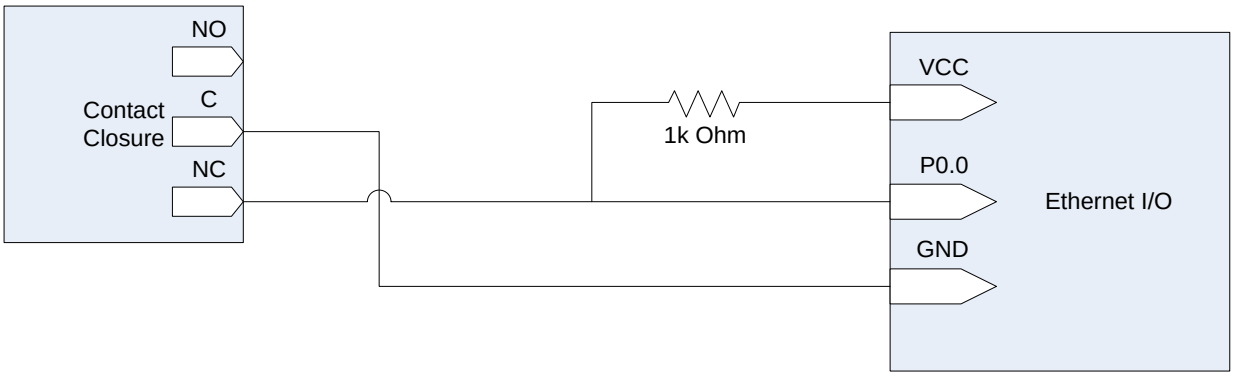
Finally, choose the Zone you wish to be unlocked when Main Elevator's Input 1 activates.



3.0 How to wire an Input

Each port on the device that you have defined as an input will need a pull-up resistor connected in order to provide a voltage baseline for moving between the ***activated*** and ***deactivate***d states. You will not receive ***InputxActive*** or ***InputxInactive*** events until you provide a voltage signal reference upon which the contact closure can apply.

The figure below shows an example wiring diagram for Port 0.0, which relates to Input 1 on the Ethernet device.



The above diagram will provide a low voltage signal while the contact closure is open, and a high voltage signal when the contact is closed. The reverse behavior can be achieved by moving the wire from the NC connection on the contact closure to the NO connection.

4.0 Troubleshooting

This section describes how to discover the Ethernet I/O device if it is not on the same subnet, or could not be discovered.

4.1 Different Subnet

If the device is not on the same subnet as the Intelli-M® Access server, find or place a computer that *is* on the same subnet, and download the following utility:

http://www.winford.com/download/eth32_install_2.01.exe

Run the utility installer, then run the ***Eth32 Configuration*** utility. It will scan the local subnet for the devices and report back its findings. You can also use this utility to change the unit from DHCP to a static IP address.

Once you have discovered your device, simply copy the IP and MAC Address information from the utility into Intelli-M® Access, as previously described in this document.

4.2 Same Subnet

If the device is on the same subnet, download the utility referenced above and see if that utility can find the device. If the utility finds the device, copy the IP and MAC Address information into Intelli-M® Access. If the utility cannot find the device, then the device may have a lower-level failure issue. Try the following checklist:

- **Power**: Ensure there is power supplied to the device. Inside the enclosure is a PoE splitter which separates the power from the Ethernet, and provides that power to the boards. Make sure the power LED on the splitter is lit. If not, the splitter might be at fault, or the PoE switch or cabling to the device maybe at fault. If the splitter LED is lit, make sure the power LED on the hardware is also lit. If not, there may be a bad power connection to the board, or the hardware itself is bad.

- **Networking**: If power appears to be working, then try to find the device on the network by pinging the broadcast address. For example, if your subnet is 10.1.1.xxx, then ping 10.1.255.255. One or more devices may respond to this IP address. After the ping is complete, issue an ***arp -a*** command at the DOS Command Prompt and look for the MAC Address of your device. This is the last resort technique that has a low likelihood of success, but it does work in some instances.

If none of these attempts work, please contact infinias support for additional help.