

CONTROLLER CONNECTION EXAMPLES



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This manual covers the StrideLinx platform available from 2017 through 2021.

For details covering the StrideLinx Cloud 2.0 platform available after April 2021, please [click here](#) to link to that manual.

The StrideLinx Cloud 2.0 manual includes details describing the [Activation Code](#) model of Data Logging, Cloud Notify and other add-on features.

For information on the migration wizard from the original platform to StrideLinx Cloud 2.0, [click here](#).

Video Examples

Videos examples of remote programming several of our PLC and HMI products are accessible by clicking the thumbnails below, or copying the URL to your browser.

Remote Programming a CLICK PLC

<https://www.AutomationDirect.com/VID-CM-0023>



Remote Programming a Productivity 2000 PLC

<https://www.AutomationDirect.com/VID-CM-0024>



Remote Programming a Do-more! BRX PLC

<https://www.AutomationDirect.com/VID-CM-0025>



Remote Programming a DirectLogic PLC

<https://www.AutomationDirect.com/VID-CM-0027>



Remote Programming a C-more® HMI Panel

<https://www.AutomationDirect.com/VID-CM-0026>



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CLICK PLC Connection via Cellular Router SE-SL3011-4G

The cellular StrideLinx VPN router is a valuable option when:

- There is no existing internet available at the remote site, or
- The network policies at the remote site prohibit connection of third-party devices. Although the StrideLinx solution is IT friendly, using only outbound request for connection, it may be the case that local policies prohibit any such connection.

In such cases, if an AT&T phone can get a signal at the location of the router, your SE-SL3011-4G router can provide you the remote access you need.

This example will step you through connecting to a CLICK PLC via the cellular router, model SE-SL3011-4G



NOTE: Regarding Ethernet access to a CLICK PLC

If you intend to take advantage of any methods of remote access to the PLC, you need to consider the security exposure in order to minimize the risks to your process and your PLC.

Security should always be carefully evaluated for each installation. Refer to the “Security Considerations for Control Systems Networks” section of Appendix B.

Before You Begin

1. Buy an AT&T M2M SIM card and know the APN and PIN
2. Know your CLICK network settings
3. Have your SE-SL3011-4G router, LTE antennas and USB stick available

Setup

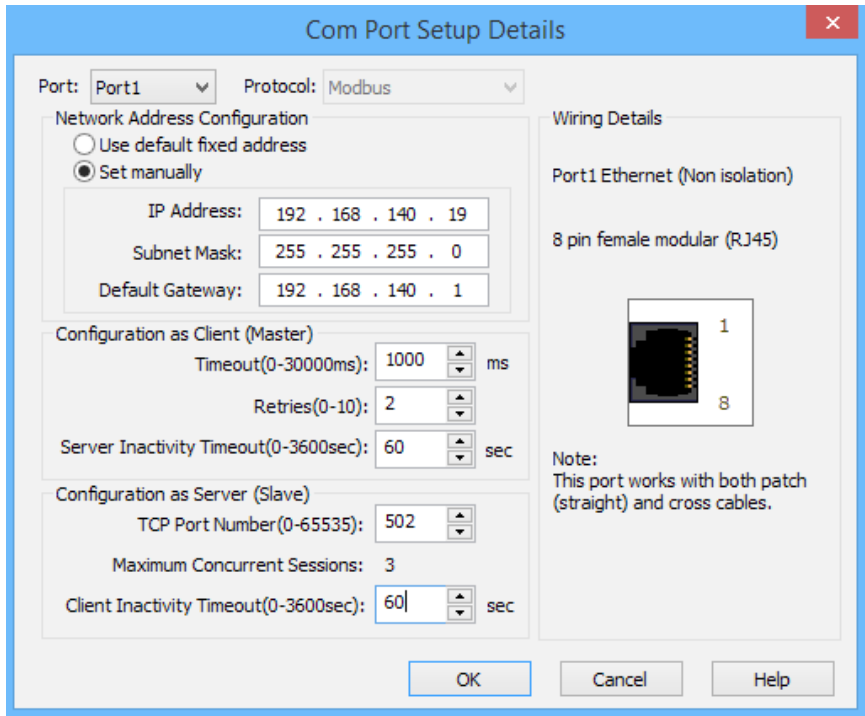
Remember that you can't browse across the VPN to the router's LAN network, so the CLICK must be configured and the network settings known before you configure your router.

Configure the CLICK Network Settings

For our example, we'll configure CLICK as follows:

- IP Address: 192.168.140.19
- Subnet mask: 255.255.255.0
- Default Gateway: 192.168.140.1 (the router's LAN IP address) This must be on the same subnet as the CLICK

1. In the CLICK software, select Setup > Com Port Setup > Ethernet Port 1 Setup (button) and enter the IP address, subnet mask and default gateway settings.



2. Click OK in the setup dialog and the subsequent dialog.
3. Write the project to the PLC.

Configure Your SE-SL3011-4G Router

1. You must contact AT&T to purchase a SIM card for your router. You may choose the M2M (data only) SIM card option rather than the typical phone (voice and data). You will need AT&T access; the M2M SIM card includes a selected amount of data and a valid length of time (rather than the monthly subscription typical for the phone SIM card)

Steps 2 through 15 are outlined in detail in Chapter 2. If you have already completed router activation, please proceed to step 16.

2. Create your StrideLinx account at www.StrideLinx.com, as discussed in Chapter 2.
3. Once you're logged in, Select "Tools" > START CONFIGURATION and confirm the appropriate company, then click NEXT.
4. Select "Mobile Network Using SIM Card"

5. Enter the APN and PIN associated with the SIM card, then click NEXT.
6. On the WAN information screen, Click SHOW MORE to configure the Digital Input VPN router access control if desired. Click NEXT when finished.
7. On the LAN information screen, enter the router port IP address, which must match the default gateway entered in the CLICK PLC setup (192.168.140.1 in this example).
8. Download the configuration file. Rename it ixrouter.conf if it has been saved with a suffix.
9. Copy ixrouter.conf to the root directory of your USB stick.
10. Install the VPN Client on your PC. (This step must be repeated for any new PC where you will use your StrideLinx account.)
11. Mount and wire your SE-SL3011-4G router, and connect the LTE antennas.
12. With Power DISCONNECTED from the SE-SL3011-4G router, plug the SIM card into the router.
13. Insert the USB stick into the router.
14. Power your router. Wait while the router writes the configuration and then registers itself to the StrideLinx Server. After the router is successfully registered and connected to the StrideLinx platform, the Status LED will be on steady blue and the Signal LED will be on steady blue/violet/red depending on network signal strength.



NOTE: *It's best practice to remove the config file from the USB after the router has been registered so that on power up the router boots from the current configuration rather than the initial configuration.*

15. Activate the router.
16. Now, your router will appear in the Devices list in your StrideLinx account.
17. Select the router from the list of devices, then click the CONNECT icon.

Configure the CLICK Software to Access the CLICK PLC via VPN

1. Open the CLICK software on your PC and select the "Connect to PLC" button.
2. Select Port Type = Ethernet and select the Outside this LAN radio button, then the Add... button.
3. Enter a Link Name and the CLICK IP address defined previously (192.168.140.19 in this example), then click OK.
4. Highlight your target CLICK in the devices list, then click the CONNECT button.

You should now be successfully connected to the CLICK PLC from a remote PC through the VPN.

BRX PLC Connection via WiFi Router SE-SL3011-WF

The WiFi StrideLinx VPN router is a valuable options when:

- Client mode - Wired internet access is not available to the equipment panel, or would be impractical to install.
- Access point mode - VPN connections to multiple devices is desired without wiring Ethernet cable to each.
- Client mode - Local operators want to limit access to a machine network by using their smartphone as a WiFi hotspot. This allows the StrideLinx WiFi router to connect as a client and establish a VPN connection to the platform on an as-needed basis.

This example will step you through connecting to a BRX PLC via the WiFi router, model SE-SL3011-WF, in client mode. Internet access will be via the WiFi connection, and the BRX PLC will be connected to a LAN port on the router. The router's Ethernet WAN port will be disabled.



NOTE: Regarding Ethernet access to a BRX PLC

If you intend to take advantage of any methods of remote access to the PLC, you need to consider the security exposure in order to minimize the risks to your process and your PLC.

Security should always be carefully evaluated for each installation. Refer to the "Security Considerations for Control Systems Networks" section of Appendix B.

Before You Begin

1. Know your BRX network settings
2. Know the SSID and password for the WiFi access point at your BRX location
3. Have your SE-SL3011-WF router, WiFi antenna and USB stick available

Setup

Remember that you can't browse across the VPN to the router's LAN network, so the BRX PLC must be configured and the network settings known before you configure your router.

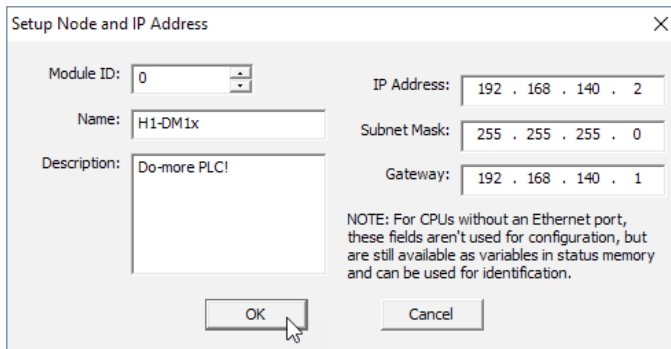
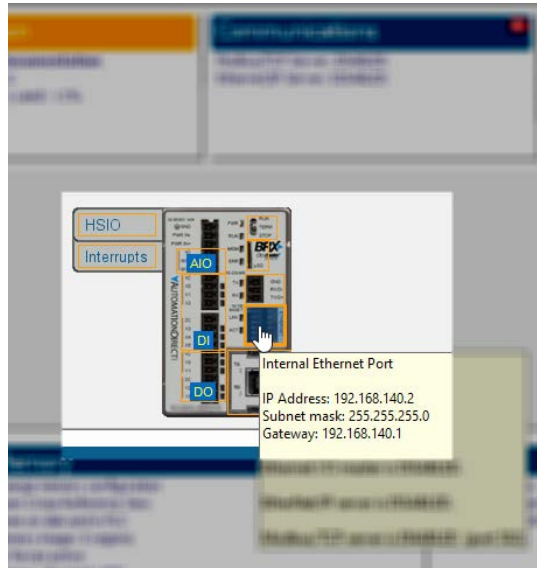
Configure the BRX PLC Network Settings

For our example, we'll configure BRX PLC as follows:

- IP Address: 192.168.140.19
- Subnet mask: 255.255.255.0
- Default Gateway: 192.168.140.1 (the router's LAN IP address) This must be on the same subnet as the BRX PLC

1. In the Do-more! Designer software, connect to your BRX PLC.
2. Click on the ethernet port in the image of your PLC on the Do-more! Designer dashboard, select “Edit IP configuration” and enter the IP address, subnet mask and default gateway settings.

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3. Click OK in the setup dialog.
4. Write the project to the PLC.

Configure Your SE-SL3011-WF Router

1. Create your StrideLinx account at www.StrideLinx.com, as discussed in Chapter 2. *Steps 2 through 13 are outlined in detail in Chapter 2. If you have already completed router activation, please proceed to step 14.*
2. Once you're logged in, Select "Tools > Start Configuration" and confirm the appropriate company, then click NEXT.
3. Select "Wireless Network"
4. Enter the name (SSID) and password for the wireless network, then click NEXT.
5. On the WAN information screen, Click SHOW MORE to configure the Digital Input VPN router access control if desired. Click NEXT when finished.
6. On the LAN information screen, enter the Default Gateway address (Router port IP Address), which must match that entered in the BRX PLC setup (e.g., 192.168.140.1).
7. Download the configuration file. Rename it ixrouter.conf if it has been saved with a suffix.
8. Copy ixrouter.conf to the root directory of your USB stick.
9. Install the VPN Client on your PC. (This step must be repeated for any new PC where you will use your StrideLinx account.)
10. Mount and wire your SE-SL3011-WF router, and connect the WiFi antenna.
11. With Power DISCONNECTED from the router, insert the USB stick into the router.
12. Power your router. Wait while the router writes the configuration and then registers itself to the StrideLinx Server. After the router is successfully registered and connected to the StrideLinx platform, the Status LED will be on steady blue.



NOTE: It's best practice to remove the config file from the USB after the router has been registered so that on power up the router boots from the current configuration rather than the initial configuration.

13. Activate the router.
14. Now, your router will appear in the Devices list in your StrideLinx account.
15. Select the router from the list of devices, then click the CONNECT icon.

Configure the Do-more! Designer Software to Access the BRX PLC via VPN

1. Open the BRX Do-more! Designer software on your PC and select "New Link" from the Links panel on the lower left of the Launchpad tab.
2. Click the "Link Editor..." button.
3. Select the PLC family (Do-more! BRX Series in this example) and PLC Type.
4. Click the "Port" tab, select Ethernet and enter the BRX IP address defined previously (192.168.140.19 in this example).
5. Enter a Name and Description for this PLC link, then click ACCEPT.
6. Double-click the new entry in the Links list to connect to the BRX PLC.

You should now be successfully connected to the BRX PLC from a remote PC through the VPN.

C-more[®] HMI Connection via Wired Router SE-SL3011

The wired StrideLinx VPN router is a valuable options when:

- Adding a third-party device to the remote network is permitted.

This example will step you through connecting to a **C-more** HMI via the wired router, model SE-SL3011. Internet access will be via the wired WAN connection, and the **C-more** HMI will be connected to a LAN port on the router.



NOTE: Regarding Ethernet access to a C-more panel

*If you intend to take advantage of any methods of remote access to the panel, you need to consider the security exposure in order to minimize the risks to your process and your **C-more** panel.*

Security should always be carefully evaluated for each installation. Refer to the “Security Considerations for Control Systems Networks” section of Appendix B.

Before You Begin

1. Know your **C-more** network settings.
2. Have your SE-SL3011 router and USB stick available.
3. Have an established StrideLinx platform account set up.

Setup

Remember that you can't browse across the VPN to the router's LAN network, so the **C-more** HMI must be configured and the network settings known before you configure your router.

Configure the C-more HMI Network Settings

For our example, we'll configure **C-more** HMI as follows:

- IP Address: 192.168.140.19
- Subnet mask: 255.255.255.0
- Default Gateway: 192.168.140.1 (the router's LAN IP address) This must be on the same subnet as the **C-more** HMI

1. In the **C-more** HMI panel setup software, select Setup > Touch Panel Network > Ethernet Port.
2. Check Save Settings to Project, and select the Use the following IP address radio button.
3. Enter the network settings shown at the beginning of this example.
4. Select OK.
5. Select SEND project to **C-more** panel.

Configure Your SE-SL3011 Router

1. Create your StrideLinX account at www.StrideLinX.com, as discussed in Chapter 2. *Steps 2 through 14 are outlined in detail in Chapter 2. If you have already completed router activation, please proceed to step 15.*
2. Once you're logged in, Select "Tools > Start Configuration" and select the appropriate company, then click NEXT.
3. Select "Wired Network using Ethernet cable".
4. Select the appropriate company if applicable, then click NEXT.
5. On the WAN information screen, click SHOW MORE if DHCP is not appropriate for your installation; otherwise, continue to step 6.
 - 5.1. Configure the network settings for the **C-more** location.
 - 5.2. Configure a static DNS server.
 - 5.3. Configure the Digital Input VPN router access control.
 - 5.4. Configure a proxy server and the login credentials, if necessary.
6. Click NEXT when finished.
7. On the LAN information screen, enter the router port IP address, which must match the default gateway entered in the **C-more** HMI setup (192.168.140.1 in this example).
8. Download the configuration file. Rename it ixrouter.conf if it has been saved with a suffix.
9. Copy ixrouter.conf to the root directory of your USB stick.
10. Install the VPN Client on your PC. (This step must be repeated for any new PC where you will use your StrideLinX account.)
11. Mount and wire your SE-SL3011 router, and connect Ethernet cables.
12. Insert the USB stick into the router.
13. Power your router. Wait while the router writes the configuration and then registers itself to the StrideLinX Server. After the router is successfully registered and connected to the StrideLinX platform, the Status LED will be on steady blue.



NOTE: It's best practice to remove the config file from the USB after the router has been registered so that on power up the router boots from the current configuration rather than the initial configuration.

14. Activate the router.
15. Now, your router will appear in the Devices list in your StrideLinX account.
16. Select the router from the list of devices, then click the CONNECT icon.

Configure the C-more Programming Software to Access the C-more Panel via VPN

1. Open the **C-more** software on your PC and select “Read From Panel”.
2. Select the Ethernet radio button and click Browse.
3. Click the Remote Link List tab, then the Add... button.
4. Enter a Link Name (for identifying the panel in this list only) and the **C-more** IP address defined previously (192.168.140.19 in this example), then click OK.
5. Highlight your target **C-more** panel in the devices list, then click the CONNECT button.

You should now be successfully connected to the **C-more** HMI panel from a remote PC through the VPN.