# HARDWARE

**CHAPTER**

**1**

## In this Chapter...

# Introduction

### The Purpose of This User's Manual

Thank you for purchasing our StrideLinx™ series Industrial VPN Router. This manual describes AutomationDirect.com's StrideLinx industrial VPN routers, their specifications and included components, and provides you with important information for installation, connectivity and setup.

### Technical Support

We strive to make our manuals the best in the industry. We rely on your feedback to let us know if we are reaching our goal. If you cannot find the solution to your particular application, or, if for any reason you need technical assistance, please call us at:

**770–844–4200**

Our technical support group will work with you to answer your questions. They are available Monday through Friday from 9:00 a.m. to 6:00 p.m. Eastern Time. We also encourage you to visit our web site where you can find technical and non-technical information about our products and our company.

**https://www.AutomationDirect.com**

If you have a comment, question or suggestion about any of our products, services, or manuals, please let us know.

# Conventions Used

*When you see the "notepad" icon in the left-hand margin, the paragraph to its immediate right will be a special note. The word **NOTE:** in boldface will mark the beginning of the text.*

**When you see the "exclamation mark" icon in the left-hand margin, the paragraph to its immediate right will be a warning or a caution. This information could prevent injury, loss of property, or even death (in extreme cases). The words WARNING or CAUTION: in boldface will mark the beginning of the text.**

# Product Overview StrideLinx Industrial VPN Router

The StrideLinx series of industrial VPN routers is the hardware component for the StrideLinx Cloud. The StrideLinx router makes it convenient to remotely connect to your equipment, while the built-in firewall keeps your equipment safe from outside threats.

Beyond remote access, StrideLinx also enables you to customize your Cloud to send alarms & notifications, log data locally or to the cloud, and brand the StrideLinx Cloud as your own. These options are provided as add-on services so you get exactly what you need at the best possible price. Datalogging, alarms, and notifications options are not supported by model SE-SL3001.

Configuration is as easy as inserting a USB memory stick, which contains your configuration file, into the StrideLinx router's USB port. The file is generated from a configuration wizard in the Tools menu of the Fleet Manager app in your StrideLinx Cloud account.

## Product Family

StrideLinx routers are available in variants with the following communication modes:

| StrideLinx Industrial VPN Router Models | | | |
|---|---|---|---|
| Part # | Ethernet | WiFi | 4G LTE |
| SE-SL3001[1] | ✓ | | |
| SE-SL3011 | ✓ | | |
| SE-SL3011-WF | ✓ | ✓ | |
| SE-SL3011-4GG (global)[2,3,4,5] | ✓ | | ✓ |

1. *SE-SL3001 does not support data logging or notifications.*
2. *Certified for AT&T and Verizon; compatible with T-Mobile and other carriers using the same cellular bands.*
3. *Verizon support requires router firmware version 3.20 or later.*
4. *AT&T support requires router firmware version 3.23.1 or later.*
5. *Refer to specifications tables for supported cellular bands.*

## What's in the Box?
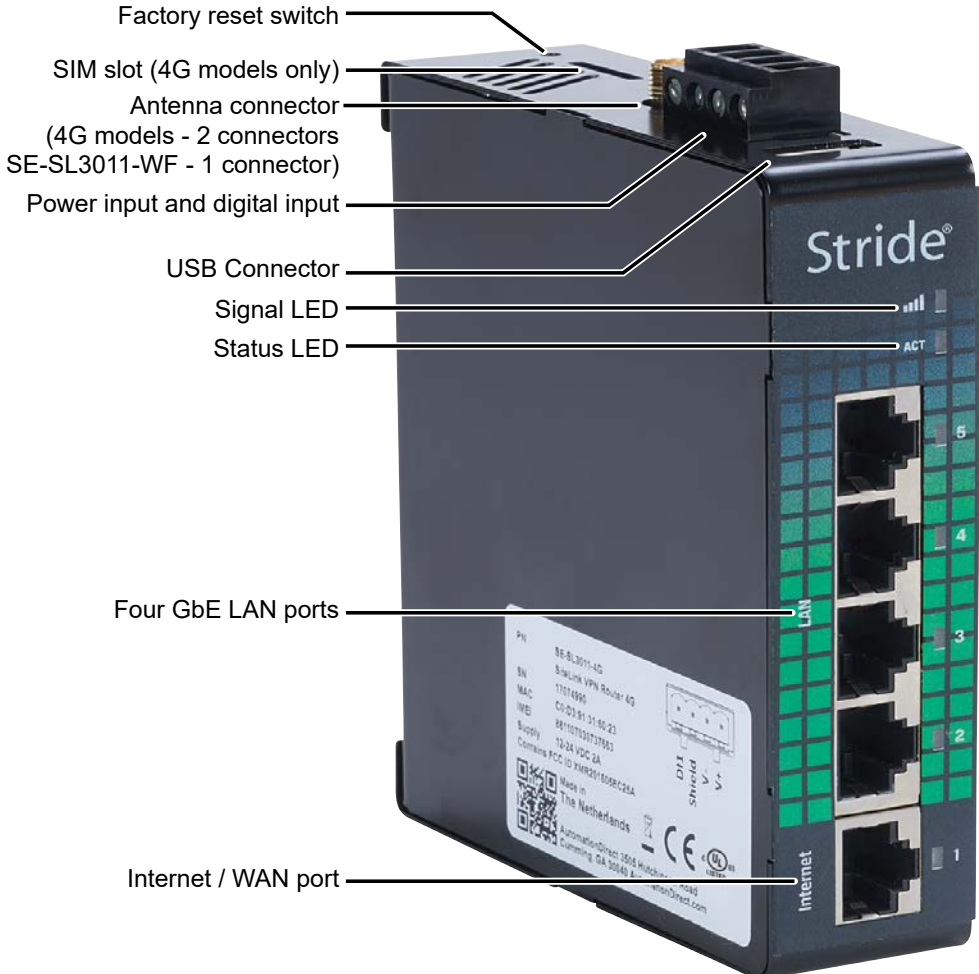
In the package you will find the following contents:

• StrideLinx router
• USB stick used for configuration
• Female 4-pin plug-in connector with screw connection, model Weidmuller BL 5.08/04/180 SN BK BX or equivalent
• Product insert
• 4G cellular routers include a SIM kit from Enabling Elements, Inc.

External antennas are required for WiFi and 4G models. Antennas sold separately.

## Hardware Overview

The StrideLinx router is created with performance and a multitude of hardware capabilities in mind.

Factory reset switch

SIM slot (4G models only)

Antenna connector
(4G models - 2 connectors
SE-SL3011-WF - 1 connector)

Power input and digital input

USB Connector

Signal LED

Status LED

Four GbE LAN ports

Internet / WAN port

⚠️ **SAFETY NOTICE: The StrideLinx VPN router allows the user to connect to remote industrial controls equipment from Ethernet, Wi-Fi, or cellular network connections. The remote user may fully operate and monitor the local control system and affect the function and control of the application just as the local operator controls it. Proper Control, Security and Safety Procedures should be considered and implemented when utilizing the remote access feature. See Appendix C and Appendix E.**

## Specifications

| General Specifications | |
|---|---|
| USB | USB 2.0 |
| Processor | MIPS 800 MHz |
| Digital Input for Local Control | Yes |
| Operating temperature | -20°C to +65°C [-4°F to +149°F] |
| Storage temperature | -20°C to +65°C [-4°F to +149°F] |
| Relative humidity | 10 to 95% non-condensing |
| Operating altitude | Maximum 2000m |
| Storage altitude | Maximum 3000m |
| Environmental Air | For use in Pollution Degree 2 Environment. No corrosive gases permitted. |
| EMI | FCC CFR47 Part 15, EN55022/CISPR22, Class B |
| EMS | IEC61000-4-2 (ESD): ± 8kV (contact), ± 15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz ~ 2GHz) IEC61000-4-4 (EFT): Power Port ± 4kV; Data Port: ± 2kV IEC61000-4-5 (Surge): Power Port: ± 2kV/DM, ± 4kV/CM; Data Port ± 2kV IEC61000-4-6 (CS): 10V (150kHz ~ 80MHz) |
| RoHS and WEEE | RoHS (Pb free) and WEEE compliant |
| Packaging and Protection | Metal case, IP20 |
| Mounting | DIN rail |
| Certification | CE, cULus, RoHS, REACH, AT&T, FCC |
| Interface | Browser (Unsecure) |
| Warranty | 2 years |
| Agency Approvals | UL/cUL 60950-1, CE |

| Power Details | |
|---|---|
| Input Voltage | Class 2 LPS Power Supply 12-24 VDC |
| Maximum Input Power | 10W |
| Maximum Input Current | 2A |
| Internal Voltage Protection | 29V max |
| Reverse Polarity Protection | Yes |
| Isolation | 1.5 kV |

| Ethernet Interface | |
|---|---|
| Ethernet ports | Five GbE (4x LAN, 1x WAN) |
| Port Type | Shielded RJ45 |
| Auto-Crossover | Yes, allows you to use straight-through or crossover wired cables |
| Auto-Sensing Operation | Yes, full and half duplex |
| Auto-Negotiating Speed | Yes |
| Flow Control | Automatic |
| Operating Mode | Store and forward wire speed switching, non-blocking |
| Devices Supported | All IEEE 802.3 compliant devices are supported |
| Protection | Built-in 1.5 kV magnetic isolation |
| Cable Requirements | Twisted pair (Cat5e or better) (shielded recommended) |
| Max. Cable Distance | 100 meters |

| 4G LTE Specifications for SE-SL3011-4G Only | |
|---|---|
| Cellular Bands (AT&T) | LTE-FDD: B2, B4, B12<br>WCDMA: B2, B4, B5 |
| Speed | LTE-FDD: Max. 150 Mbps (DL)/Max. 50 Mbps (UL)<br>WCDMA: Max. 384 kbps (DL)/Max. 384 kbps (UL) |
| Antenna Connection | Two (2) SMA plugs (male) |
| Antenna Connector Torque | 3–5 lb·in [0.3–0.6 N·m] |
| SIM size | Standard SIM (2FF) |
| FCC ID | XMR201605EC25A |

| 4G LTE Specifications for SE-SL3011-4GG Only | |
|---|---|
| Cellular Bands (Global) | LTE FDD: B1,B2,B3,B4,B5,B7,B8,B12,B13,B18,B19,B20,B25,B26,B28<br>LTE TDD: B38,B39,B40,B41<br>WCDMA: B1,B2,B4,B5,B6,B8,B19<br>GSM: B2,B3,B5,B8<br>GPRS: B2,B3,B5,B8 |
| Speed | LTE-FDD: Max. 150 Mbps (DL)/Max. 50 Mbps (UL)<br>LTE-TDD: Max. 130 Mbps (DL)/Max. 30 Mbps (UL)<br>WCDMA: Max. 384 kbps (DL)/Max. 384 kbps (UL)<br>GSM (EDGE): Max. 296 kbps (DL)/Max. 236.8 kbps (UL)<br>GPRS: Max 107 kbps (DL)/Max. 85.6 kbps (UL) |
| Antenna Connection | Two (2) SMA plugs (male) |
| Antenna Connector Torque | 3–5 lb·in [0.3–0.6 N·m] |
| SIM size | Standard SIM (2FF) |
| FCC ID | XMR201903EG25G |

| WiFi Specifications (P/N SE-SL3011-WF Only) | |
|---|---|
| WiFi IEEE 802.11 Version | b/g/n |
| WiFi Modes | Station (Client) Mode and Access Point |
| Speed | 72 Mbps |
| Antenna Connection | RP-SMA plug (male) |
| Antenna Connector Torque | 3–5 lb·in [0.3–0.6 N·m] |
| FCC ID | XPYLILYW1 |

## Dimens**ions**

units: mm [in]
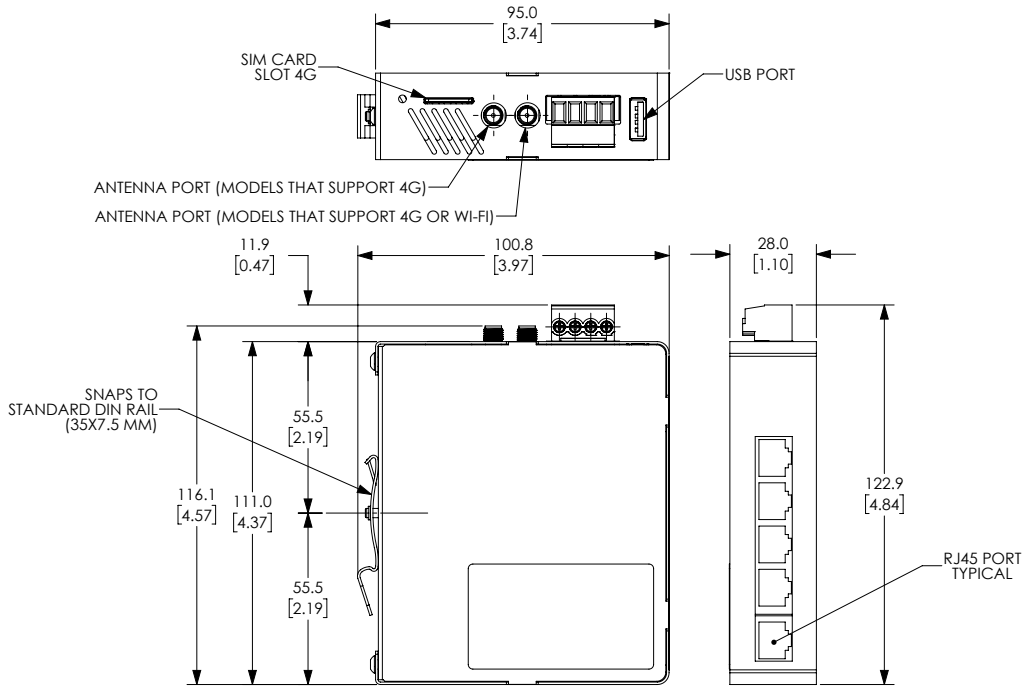


**StrideLinx router dimensions**

**NOTE:** *Maintain 25mm [1 inch] clearance around device.*

## Compatible Accessories

SE-SL3011-4GG and SE-SL3011-WF require antennas, purchased separately. The routers that support 4G have two standard SMA screw antenna connectors for 4G LTE antennas and the SE-SL3011-WF router contains an RP-SMA screw antenna connector for a 2.4 GHz WiFi antenna.

**NOTE:** *Two antennas will provide best performance, including improved and more predictable throughput and improved resistance to interference. If only one antenna is connected to a 4G router, it must be connected to the MAIN antenna connector, closer to the front of the router.*

For compatible antennas, see Appendix A or visit www.AutomationDirect.com.

# Installation

## Installation and Removal Procedures

**NOTE:** *These devices are open-type and are meant to be installed in an enclosure which is only accessible with the use of a tool and suitable for the environment.*

### *Installing and Removing from DIN rail*

The StrideLinx router can be easily installed on a standard DIN rail. (1) Hang the device on the rail and (2) push the unit down until you feel a click. To remove the unit, (A) pull/rotate the device up and (B) lift off the rail.
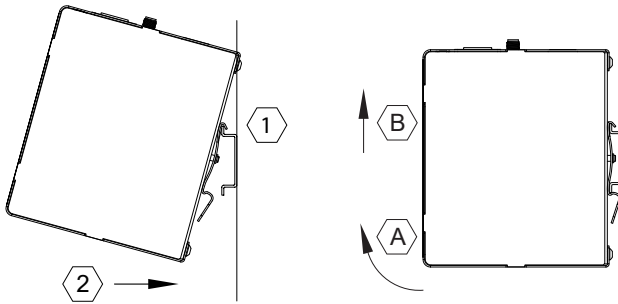
### *Installing the SIM Card (for SE-SL3011-4GG)*

The SIM card slot uses a standard (size 2FF) SIM card.

**WARNING: DO NOT insert or remove the SIM card when power is applied to the router.**

To insert, push the SIM card into the slot until you feel a click; this is approximately 1mm inside the device. Release the card and the card will stay in the device. The end of the SIM card should be aligned with the outside of the enclosure.

To remove, push the SIM card firmly into the slot until you hear a click. Releasing will then cause the SIM card to partially eject, allowing you to easily take out the card.

## Guidelines for Installing the StrideLinx Router

When designing the layout of your system, always separate the devices that generate high voltage and high electrical noise from the low-voltage, logic-type devices such as the StrideLinx router. Also consider the heat-generating devices and locate the electronic-type devices in the cooler areas of your cabinet. Reducing the exposure to a high-temperature environment will extend the operating life of the StrideLinx router.

Consider also the routing of the wiring for the devices in the panel. Avoid placing low-voltage signal wires and communications cables in the same tray with AC power wiring and high-energy, rapidly-switched DC wiring.

The StrideLinx router is designed to be cooled using natural convection. For proper cooling, you must provide a clearance of at least 25 mm [1 inch] above and below the device. Also, allow at least 25 mm [1 inch] of depth between the front of the device and the inside of the enclosure.

## Wiring

### Wiring Guidelines

**WARNING: To minimize the risk of potential safety problems, you should follow all applicable local and national codes that regulate the installation and operation of your equipment. These codes vary from area to area and it is your responsibility to determine which codes should be followed, and to verify that the equipment, installation, and operation are in compliance with the latest revision of these codes.**

**Equipment damage or serious injury to personnel can result from the failure to follow all applicable codes and standards. We do not guarantee the products described in this publication are suitable for your particular application, nor do we assume any responsibility for your product design, installation, or operation.**

**If you have any questions concerning the installation or operation of this equipment, or if you need additional information, please call technical support at 1-800-633-0405 or 770-844-4200.**

**This publication is based on information that was available at the time it was printed. At Automationdirect.com® we constantly strive to improve our products and services, so we reserve the right to make changes to the products and/or publications at any time without notice and without obligation. This publication may also discuss features that may not be available in certain revisions of the product.**

Proper grounding and wiring of all electrical equipment is important to help ensure the optimum operation of the StrideLinx router and to provide additional electrical noise protection for your application.

The StrideLinx router comes with a female 4-pin plug-in connector with screw connection (type: Weidmuller BL 5.08/04/180 SN BK BX).

| Wiring Details | |
|---|---|
| Wire Size Range | 18–12 AWG |
| Wire Strip Length | 7mm [0.28 in] |
| Terminal Screw Torque | 0.4 N·m [3.5 lb·in] |
| Max Wire Length | 3m [9.84 ft] |
| Min Ground Conductor | 16 AWG |

Digital Control Signal

```
         +  -
DI1   ─┐ ⟋
Shield ─┤
V-    ─┤      +  -
V+    ─┘
            12–24 VDC
```
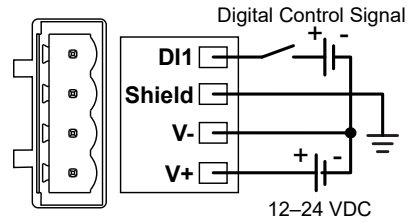
## Power Supply

The StrideLinx router can be powered from the same DC source that is used to power your other devices. To maintain the UL listing, this must be a Limited Power Supply (LPS) or Class 2 power supply. A DC voltage in the range of 12 to 24 VDC needs to be applied between the V+ terminal and the V- terminal as shown above. A recommended DC power supply is AutomationDirect.com part number PSL-24-030.

## Digital Input (DI1)

The digital input may be configured to restrict remote access to the router when the input is in either an ON or OFF state. The input uses the V- connection from the power supply as common ground, as shown in the wiring diagram above. Specifications for the input signal are given in the table below.

| Digital Input Specifications | |
|---|---|
| Type | Optocoupler |
| DI Voltage Range | 0–29 VDC |
| DI OFF State Voltage Range | 0–3 VDC |
| DI ON State Voltage Range | 7–29 VDC |
| DI ON State Current Range | 2–5 mA (typically) |

Local control of remote access via the digital input must be configured using a configuration file. The settings cannot be remotely changed through the StrideLinx Cloud. For instructions on configuring the input, see the support article at https://support.stridelinx.com/hc/en-us/articles/360019029717-Switch-VPN-on-off#h_51214682651525330522824.

This feature can provide an extra level of security or safety, by allowing remote connections only when certain conditions are met, such as when an operator is present or safety interlocks are engaged. The input can be wired directly through a switch, or a series of interlocks, or can be controlled via PLC for more complex control conditions.
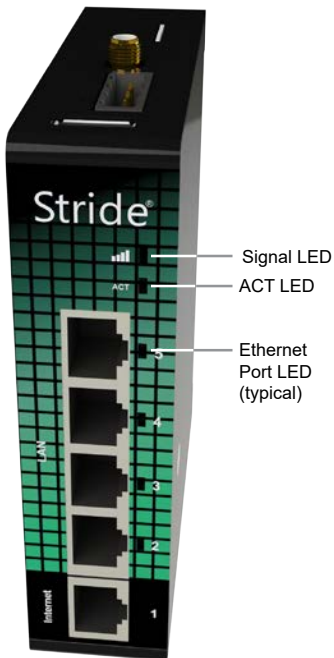
### Shield

Connect the Shield pin of the StrideLinx router to the protective earth conductor (PE) with minimum 16 AWG copper wire.

# Operation

## LED Status Indicators

The StrideLinx router has two LEDs for router status, and one LED per Ethernet port.



Signal LED
ACT LED
Ethernet Port LED (typical)

| Signal LED (SE-SL3011-4GG & -WF models) | | |
|---|---|---|
| Color | Mode | Description |
| Red | Blinking continuously | No reception |
| Red | Blinking 2 pulses | SIM card invalid, PIN invalid or PUK required |
| Red | Constant | Low reception |
| Purple | Constant | Medium reception |
| Blue | Constant | Good reception |
| Blue | Blinking | Initializing |

| ACT LED | | |
|---|---|---|
| Color | Mode | Description |
| Red | Constant | Booting or not registered |
| Red | Blinking 1 pulse | Waiting for internet access |
| Red | Blinking 3 pulses | LAN/WAN conflict [1] |
| Red | Blinking 4 pulses | The router was removed from the StrideLinx Cloud [2] |
| Red | Blinking 5 pulses | The router was already registered to the StrideLinx Cloud [3] |
| Blue | Blinking 1 pulse | Connecting to StrideLinx Cloud |
| Blue | Blinking 2 pulses | Setting up VPN connection |
| Blue | Constant | VPN connection active |

1. The network range on the LAN side is in conflict with the settings on the WAN side. The router cannot reliably access the internet because of this. Changing the LAN side IP range generally resolves the conflict.

2. If you want to access the device again, you will have to reconfigure it via a USB stick.

3. This means someone removed the router from the company after registration without performing a factory reset. Fix this by performing factory reset and configuring the router.

| Ethernet activity LEDs | | |
|---|---|---|
| *Color* | *Mode* | *Description* |
| Blue | Constant | Link up |
| Blue | Blinking | Data activity |

## Reset to Factory Default

Online Help

**WARNING: This action cannot be undone. You'll have to re-register your device on the StrideLinx Cloud and complete the configuration steps before connecting by VPN.**

Factory resetting a router will return all settings on the device to their factory default value. You cannot undo a factory reset! After doing a factory reset you'll have to register the device again.

*NOTE: Remove USB and use stable power*
*Make sure the power supply is stable, as losing power during a factory reset will result in a defective unit.*
*Also make sure to remove the USB flash drive from the device, if one is present.*

Carefully follow the steps below to factory reset your device.

1. If you want to preserve the access related to an activation code applied to the router, deactivate that code before resetting the router, then re-activate it after the router is back online.
2. On top of the device, near the back, you'll see a small round opening. Using a paperclip or other small object, **gently press and hold** the factory reset button inside the opening.
3. After a few seconds, the LEDs on the device should start flashing, indicating that it is busy performing the factory reset.
4. **Keep holding the button** until the LEDs stop flashing and then **let go**.
5. The ACT LED should now be constant red.
6. **Wait** 2 minutes.

The device will now boot up. If after 2 minutes the ACT LED is still constant red, that means the factory reset was executed correctly. If it is not constant red, that means you likely let go of the factory reset button too early and you'll need to repeat the steps above.

*NOTE: After a factory reset*
*If the device is still listed in StrideLinx Cloud 2.0 and you want to re-use those settings, make sure to turn on "Recover upon next registration" before registering again. If you want to start from scratch, make sure to remove the device from StrideLinx Cloud 2.0 before registering again.*

# Cellular Data Service and SIM Card Registration

The routers that support 4G connections require SIM card and cell service intended for data applications. The specifications for each model that supports 4G include information on which bands and frequencies are supported.

AutomationDirect can only offer technical support for AT&T or Verizon connections activated through Enabling Elements, Inc., as described in the following sections.

### AT&T Cellular Data Service and SIM Card Registration

AutomationDirect has partnered with Enabling Elements, Inc., to assist customers with setting up AT&T M2M cellular service for StrideLinx 4G routers.

An AT&T SIM card is packaged with each new AT&T-compatible StrideLinx 4G router. To get started, email Enabling Elements at stridelinx@enablingelements.com or visit their website at https://enablingelements.com/stridelinx/ to sign up online. Pricing and terms are available on their website.

After you contact Enabling Elements, they will set up your AT&T service and provide you with the configuration information you will need to finish setting up the cellular data connection on your StrideLinx router.

Configuration of the 4G router to use the AT&T APN and provided SIM card is covered in the "Getting Started" section of Chapter 2.

*NOTE: AutomationDirect recommends that users set up AT&T M2M cellular service through Enabling Elements. If you choose to set up the service on your own, we recommend an AT&T M2M SIM card intended for data applications. AutomationDirect can only offer support for AT&T 4G connections using an AT&T M2M SIM card activated through Enabling Elements.*

### T-Mobile Cellular Data Service and SIM Card Registration

While AutomationDirect does not offer technical support for this setup, the StrideLinx 4G router can be used with a T-Mobile prepaid 4G data plan.

To do so,

1. Visit a T-Mobile store and purchase an LTE data plan and SIM card for a hotspot device.
2. Activate the T-Mobile SIM card by calling T-Mobile before use in the StrideLinx 4G router.
3. Power off the StrideLinx 4G router.
4. Insert the SIM card into the router.
5. Attach the primary antenna to the MAIN antenna connector. Optionally attach a secondary antenna to the DIV antenna connector.

Configuration of the 4G router to use the T-Mobile APN is covered in the "Getting Started" section of Chapter 2.

## Verizon Cellular Data Service and SIM Card Registration

The global 4G cellular router (SE-SL3011-4GG) is compatible with cellular data service from Verizon Wireless. AutomationDirect has partnered with Enabling Elements, Inc., to assist customers with setting up Verizon cellular service for StrideLinx 4G routers.

To get started, email Enabling Elements at stridelinx@enablingelements.com or visit their website at https://enablingelements.com/stridelinx/ to sign up online. Pricing and terms are available on their website.

After you contact Enabling Elements, they will set up your Verizon service and provide you with the configuration information you will need to finish setting up the cellular data connection on your StrideLinx router.

Configuration of the 4G router to use the Verizon APN is covered in the "Getting Started" section of Chapter 2.

*NOTE: Connection on Verizon network requires router firmware version 3.20 or later.*

*NOTE: AutomationDirect recommends that users set up Verizon cellular service through Enabling Elements. If you choose to set up the service on your own, we recommend a Verizon M2M SIM card intended for data applications. AutomationDirect can only offer support for Verizon 4G connections using a SIM card activated through Enabling Elements.*

# StrideLinx Router Connectivity Requirements for Local IT

The StrideLinx VPN router allows the user to connect to remote industrial controls equipment from Ethernet, Wi-Fi, or cellular network connections. The remote user may fully operate and monitor the local control system and affect the function and control of the application just as the local operator controls it. Proper Control, Security and Safety Procedures should be considered and implemented when utilizing the remote access feature. See Appendix C for an overview of security and safety considerations, and see Appendix E for a more detailed look at StrideLinx network security.

### How does the StrideLinx router connect? (ports, protocols & servers)

The StrideLinx router uses outgoing ports to establish a secure connection to the StrideLinx Cloud. This means there is no need to open any incoming ports in your firewall.

### How to grant the StrideLinx router access?

#### Easy method: automatic updates

You may create an **exception** in your firewall **for the domain name** and ports & protocols, mentioned below, to grant the StrideLinx router the access it needs.

With time, some servers may be removed or added to benefit the service. We try to keep these changes to a minimum.

**If we add a server**, we simply add a DNS record. Your firewall will re-check the domain once the TTL expires. Within an hour your firewall will be up-to-date and allow traffic to the new IP address.

Likewise, **if we remove a server**, we will remove its DNS record, and your firewall will block any traffic to this IP address.

#### Alternative method: manual updates

You can execute a **DNS lookup** (nslookup) request at the domain name mentioned below, to get an IP list of all servers currently required by the StrideLinx solution. You can then create exceptions to these IP addresses, in combination with the ports and protocols mentioned below, to grant the StrideLinx router the access it needs.

With time, some servers may be removed or added to benefit the service. We try to keep these changes to a minimum.

Please keep your firewall rules/exceptions up to date by periodically performing a DNS lookup and checking for changes to maintain optimal remote service accessibility.

## Servers & domains

The StrideLinx router connects to different servers: **REST API**, **MQTT**, and **OpenVPN servers**, which include the following domains:

- *.ixon.cloud
- *.ixon.net
- *.ayayot.com (phonetic IIoT)

For your convenience, we provide a domain name that resolves to an always up-to-date IP list of all current servers:

- whitelist.ixon.cloud.

## Ports & protocols

Below is an overview of the ports and protocols that the StrideLinx router utilizes.

| StrideLinx Router Ports and Protocols | | | |
|---|---|---|---|
| *Direction* | *Port* | *Transport* | *Application* |
| Outbound | 443 | TCP | HTTPS, MQTT/TLS, OpenVPN[1] |
| Outbound | 8443[2] | TCP | HTTPS |
| Outbound | 53[3] | TCP & UDP | DNS[1] |

*1. The very first packet may be considered unencrypted as the OpenVPN handshake takes place prior to the TLS handshake. For this reason an exception may be required on firewall rules that block non-SSL traffic over SSL ports.*

*2. Only used when stealth mode is activated for connectivity via a censored internet connection (e.g. when located in China).*

*3. DNS requests are often handled by local DNS servers. In those cases the listed DNS port can be ignored.*

## MAC or IP Address Filtering

Your local network may be configured to only allow internet access to specific devices, based on the MAC address or IP address. The MAC address can be obtained from the label on the side of the StrideLinx router or in the Devices Info tab of your StrideLinx account. The IP address can be set to a static IP address. However, by default the IP address is set to be obtained automatically via DHCP.

# Agency Approvals

### Applicable European Directives

The StrideLinx router is in conformity with the provisions of the following European Directives.

| Applicable European Directives | |
|---|---|
| *Directive* | *Description* |
| EMC Directive 2014/30/EU | Product safety |
| Radio Equipment Directive 2014/53/EU | Use of the radio spectrum |
| RoHS Directive 2011/65/EU including amendment 2015/863 | Restriction of hazardous substances |
| REACH Directive | Regulation and registration of chemicals |
| WEEE Directive 2012/19 | Waste of electronic equipment |

### Applicable Safety Standards

The StrideLinx router was tested and passed the following standards.

| Applicable Safety Standards | |
|---|---|
| *Standards* | *Description* |
| EN 55032 | Electromagnetic Compatibility of Multimedia Equipment |
| EN 301 489-1 | EMC Standard for Radio Equipment and Services, Part 1: Common technical requirements |
| EN 301 489-3 | EMC Standard for Radio Equipment and Services, Part 3: Specific conditions for Short-Range Devices |
| EN 61000-4-2 | Electrostatic discharge immunity test |
| EN 61000-4-3 | Radiated, Radio-frequency, Electromagnetic Field Immunity Test 80-1000 MHz |
| EN 61000-4-4 | Burst Immunity Test |
| EN 61000-4-5 | Surge Immunity Test |
| EN 61000-4-6 | Immunity to Conducted Disturbances, Induced by Radio-frequency Fields |
| IEC 60950-1 + Amendment 1 and Amendment 2 | Information Technology Equipment Safety, Part 1: General Requirements - Edition 2 |
| UL 60950-1 | Information Technology Equipment Safety, Part 1: General Requirements - Edition 2 |
| CSA C22.2 No. 60950-1-07 + Amendment 1 and Amendment 2 | Information Technology Equipment Safety, Part 1: General Requirements - Edition 2 |

## FCC Compliance

The product described in this User Manual complies with Part 15 of the FCC Rules. The StrideLinx router is a class B Information Technology Equipment (ITE) device.

Operating is subject to the following conditions:

• This device may not cause harmful interference, and

• This device must accept any interference received, including interference that may cause undesired operation.

*WARNING for WiFi and 4G models: The antenna used with this transmitter must be installed with a separation distance of at least 20cm from all persons and must not be co-located or operated in conjunction with any other antennas or transmitters. Only an antenna tested with the wireless transmitter or a similar antenna with equal or lesser gain may be used.*

## Certifications

The StrideLinx router has been tested and certified for:

• **CE** certification

• **FCC** verification

• **cULus** listed (UL File #E495151)

• **AT&T** certification

• **Verizon** certification