DATA LOGGING

In this Chapter...

Cloud Data Logging

NOTE: *Model SE-SL3001 does not support data logging.*

Why Cloud Data Logging?

Cloud data logging gathers remote data from your control components. The data is transmitted in the StrideLinx Cloud for administrative, monitoring and analytical purposes. Our goal is to give you an insight in the performance of your machine and/or installation.

How Does the Cloud Data Logger Work?

The Cloud data logger is a completely cloud-based solution. All the values you have programmed in the PLC can be logged by the StrideLinx logger, easily and securely.

Once the data tags are added to your router in the StrideLinx Fleet Manager, you are prompted to push the configuration changes to the router. The router then transfers the data to our server where it will be stored in our database.

Cloud data logging does not use your PLC for processing or data storage; the router retrieves the data and stores it the StrideLinx Cloud.

The StrideLinx Cloud has a crucial role in the functioning of the Cloud data logger. All settings and data points to be logged are set via the StrideLinx Fleet Manager. The StrideLinx Studio allows you to create multiple custom views of your processes, including real-time data and historical trending. Once everything is set up, the StrideLinx Portal is your central location for monitoring your equipment, connecting to it, and exporting data.

The support pages at the Online Help link to the right will answer questions about Cloud Logging, and guide you through setting up the service.

Online Help

Configure Cloud Data Logging On Your Device

To use Cloud Logging, you'll need:

- a StrideLinx account with a router configured and online
- a Cloud Logging activation code, purchasable at AutomationDirect.com, or a 30-day free trial for one router per company.

The rest of this chapter give an overview of setting up and using Cloud Logging. Details are available in the Online Help pages, and linked throughout the chapter.

Activate Cloud Logging in Fleet Manager

You can purchase a Cloud Logging license from automationdirect.com and activate it, or you can activate a 30-day free trial for a single device in your company to give it a test run and see if Cloud Logging suits your needs.

1. Go to the **Fleet Manager**, which is accessible via the **Apps menu** ⠿ in the top right corner when logged into your StrideLinx account.
2. Open the **main menu** ☰, select **Devices** ⌷ in the left menu, and select your router.
3. Go to **Licenses** ✪ and click **[Start trial]** in the Cloud Logging section.

> **NOTE:** *The Cloud Logging free trial is available for one router per company.*

Now that you've activated your license or started your Cloud Logging trial, you're ready to set up a data source.

More options for managing your Cloud Logging license are covered later in this chapter, or at the Online Help link above.

Set Up a Data Source

The second step in Cloud Logging is setting up a data source. This is done by selecting a communication protocol and defining the variables.

The specific steps will vary slightly depending on the selected communication protocol. The table below lists the supported protocols, with a link to the Online Help page with details for setting up each protocol.

Data Source Types	
Protocol	**Online Help Link**
Modbus TCP/IP	https://support.stridelinx.com/hc/en-us/articles/360019030157-Modbus-TCP-IP
Siemens S7	https://support.stridelinx.com/hc/en-us/articles/360019145098-Siemens-S7
Ethernet/IP	https://support.stridelinx.com/hc/en-us/articles/360019029957-Ethernet-IP
OPC-UA	https://support.stridelinx.com/hc/en-us/articles/360019030337-OPC-UA
MELSEC Communication Protocol	https://support.stridelinx.com/hc/en-us/articles/360019146238-MELSEC-Communication-Protocol
BACnet/IP	https://support.stridelinx.com/hc/en-us/articles/360019146318-BACnet-IP
Universal Robots	https://support.stridelinx.com/hc/en-us/articles/360019146398-Universal-Robots
Digital Input	https://support.stridelinx.com/hc/en-us/articles/360019146138-Digital-Input
SMTP	https://support.stridelinx.com/hc/en-us/articles/360019146438-SMTP
LoggerAPI	https://support.stridelinx.com/hc/en-us/articles/360019030697-LoggerAPI

Log your Data

The third step in Cloud Logging is to set up logging your data. To do so, you'll configure data tags, and define custom log triggers if desired.

Configure the data tags

Online Help

Data tags describe how you wish to log your variables. You can choose to log them at a static interval (100ms to 1hr), when their values change, or on a custom trigger. Additionally, you define how long the data should be stored (retention policy).

The Online Help link above will walk you through adding data tags, either manually or by importing from another router or a .csv file, and testing them.

Configure the log triggers

Online Help

Log triggers allow you to log data based on the state of any variable. They allow you to record the value of any number of data tags at the moment that the trigger condition is met There is no limit to the number of triggers you can define, and you can use the same trigger for different data tags.

The Online Help link above will walk you through creating and managing log triggers.

Visualize or Export your Data

Finally, once your data is being logged you'll need a way to use it. StrideLinx lets you export your data to a .csv file, or visualize it on the StrideLinx Cloud.

Export your data

Online Help

You can easily export your Cloud Logging data in a .csv format, which you can then use in Microsoft Excel, 3rd party business intelligence tools, or other programs for more advanced analytics. Log triggers allow you to log data based on the state of any variable. They allow you to record the value of any number of data tags at the moment that the trigger condition is met There is no limit to the number of triggers you can define, and you can use the same trigger for different data tags.

The Online Help link above will walk you through exporting your data.

Visualize your data

Online Help

Visualisation does not affect your Cloud Logging credit (data points per hour). However, the configuration of your data tags, i.e. the effectively logged data, does. There are two ways to visualize your data: Through data reports and through live monitoring. The data is displayed on an overview 'card' for each router, which lets you see the status of machines connected to multiple routers at once, and on detailed 'pages' for each router. These views are created in StrideLinx Studio, and viewed online in StrideLinx Portal.

Test Utility

The test utility is used to check if all the variables are set correctly, and is normally run during the creation of data tags. It shows the communication status with the PLC and displays each variable's current value if everything is configured correctly. If not, the values will stay empty. The test utility will attempt to update values every 0.5 seconds. Please follow the steps below to test your variables.

1. Go to the **Fleet Manager**, which is accessible via the **Apps menu** ⠿ in the top right corner when logged into your StrideLinx account.
2. Open the **main menu** ☰, select **Devices** ⊏⚬ in the left menu, and select your router.
3. Expand the **Data source** 🗐 service, go to **[Variables]**, and click **[Run test]** at the top.

A connection will now be set up to stream the data directly to your computer, using:

> Port: 443
>
> Transport protocol: TCP
>
> Application protocol: WebSocket

You will see live values of all variables, if the configuration is set up correctly.

If the test utility shows unexpected values, please check if the addresses and data types of all variables are entered correctly.

If you get no data at all, please also check that the above listed port and protocols are not being blocked by your computer's or company's firewall.

NOTE: *To ensure Data Logger Test Utility provides accurate results, please update/refresh your browser prior to running the test, and make sure you have pushed the latest configuration to your router. The Test Utility displays raw data; Factor doesn't affect the data shown.*

Managing your Cloud Logging License

Online Help

You can choose to **activate** Cloud Logging immediately or first try it
30 days for free, no strings attached. You can also **extend**, **change** or **transfer** an existing
Cloud Logging license. Further details are provided at the Online Help link at the right.

Activate Cloud Logging
1. Go to the **Fleet Manager**, which is accessible via the **Apps menu** ⋮⋮⋮ in the top right corner when logged into your StrideLinx account.
2. Open the **main menu** ☰, select **Devices** ⊏▯ in the left menu, and select your router.
3. Go to **Licenses** ✪ and click **[Activate]** in the Cloud Logging section.
4. Enter your activation code and click **[Activate]**.

Extend Cloud Logging
To maintain uninterrupted logging, activate a new license on the router before the current license expires. If the current license expires without a replacement, new logging will stop, but the existing data logs will be kept for up to two weeks. To retain the old logs and begin logging again, simply activate a new license on the router within that two-week period.

> **NOTE:** *You should only activate one data logging license per router at a time as they will not queue up. Activating a second license on a router will cause the clock to start ticking on activation, not after the first license has expired.*

Change Cloud Logging to a lower/higher amount of dps/hr
1. Go to the **Fleet Manager**, which is accessible via the **Apps menu** ⋮⋮⋮ in the top right corner when logged into your StrideLinx account.
2. Open the **main menu** ☰, select **Devices** ⊏▯ in the left menu, and select your router.
3. Go to **Licenses** ✪ and click **[Change license]** in the Cloud Logging section.
4. Enter the activation code you received via email and click **[Activate]**.

Transfer a Cloud Logging license to another device

You can transfer any previously activated Cloud Logging license to another device by first **deactivating** Cloud Logging on the current device and then **activating** Cloud Logging on the new device using the license you just made available. Note that the time period for a previously activated license continues to count down while it is deactivated.

1. Go to the **Fleet Manager**, which is accessible via the **Apps menu** ⠿ in the top right corner when logged into your StrideLinx account.

2. Open the **main menu** ≡, select **Devices** ⊏◻, and select the current logging router.

3. Go to **Licenses** ✪ and click **[Deactivate]** in the Cloud Logging section.

4. Go back to **Devices** ⊏◻ and select the new router for Cloud Logging.

5. Go to **Licenses** ✪ and click **[Activate]** in the Cloud Logging section.

6. Select the Cloud Logging license you just made available and click **[Activate]**.

⚠️ *WARNING: Data is only stored for as long as you maintain an activated Datalogging plan. Activation Codes are purchased at AutomationDirect.com. Data is also only stored for a maximum of 7 years. If data older than 7 years is important, please archive your data locally before the 7-year limit is reached.*