ENGINEERING TOMORROW

Application Guide

# MyDrive Insight


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# Contents

# 1 Introduction to Application Guide

## 1.1 Version History

This guide is regularly reviewed and updated. All suggestions for improvement are welcome.
The original language of this guide is English.

| Version | Remarks |
|---|---|
| 01 | First version. Information in this version of the guide corresponds to application software version 2.11.2. |

# 2 PC Control

## 2.1 MyDrive® Insight

MyDrive® Insight is a platform-independent software tool that supports the commissioning, engineering, and monitoring of iC7 series. Some of the key features include:

- Fast and easy configuration and commissioning.
- Monitor the drives as part of daily operations.
- Collect data and information for troubleshooting, maintenance, and service.
- Discovery and access to multiple drives in a network.
- Intuitive user interface.
- Notifications and visualizations of real time information and events about the drive.
- PC control to perform operations such as starting or stopping the drive, set references, set direction, reset, and coast of the drive.
- Perform updates on single or multiple drives.
- Backup and restore of parameter settings.
- Data logging and analyzing for troubleshooting.

**NOTICE**

This chapter applies to MyDrive® Insight version 2.8.0 or above. Please make sure to uninstall lower versions of MyDrive® Insight from your device to utilize the latest MyDrive® Insight functions.

The section MyDrive® Insight in the application guide covers basic information such as getting started with MyDrive® Insight, accessing and viewing or changing the parameters, and PC control to operate the drive using MyDrive® Insight. For further information on the different MyDrive screens, integrated help within MyDrive® Insight will be available in future releases.

### 2.1.1 Getting Started with MyDrive Insight

As a prerequisite, ensure that MyDrive® Insight is installed on the device (PC or laptop). MyDrive® Insight can be downloaded and installed from MyDrive® Suite, available here: https://suite.mydrive.danfoss.com/

**Procedure**

1. To establish a point-to-point connection between the drive and the device, use the communication interface X0 and the RJ45 Ethernet port on the device by using a standard Ethernet cable.

   If the device does not have an RJ45 Ethernet port or it is already in use, then a conventional adapter from USB-C to RJ45 can be used. To connect several drives at the same time, use an Ethernet switch between the PC and the control unit.

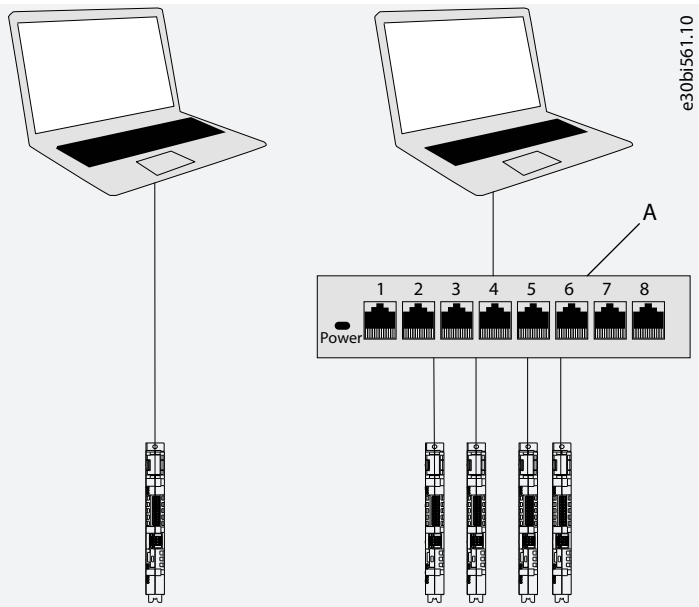



**Illustration 1: Connection to the PC**

| | |
|---|---|
| A | Ethernet switch |

2. When the drive is powered up and in *Ready* state, open MyDrive® Insight on the device and the drive is recognized.
3. To establish or confirm the connection, click the arrow button.


**Illustration 2: Confirm Connection**

Once the connection is established, the drive is marked with a connection symbol (green color) in MyDrive® Insight as shown.

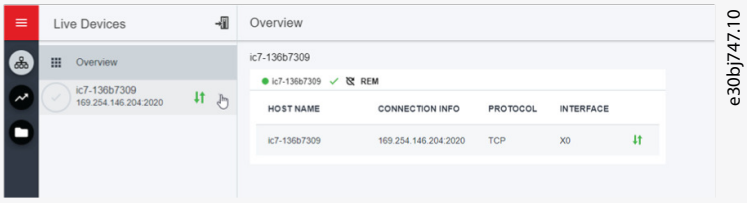



**Illustration 3: Establish Connection**

4. Select the required interaction for the drive. In this example, the *Device Info* screen is shown.

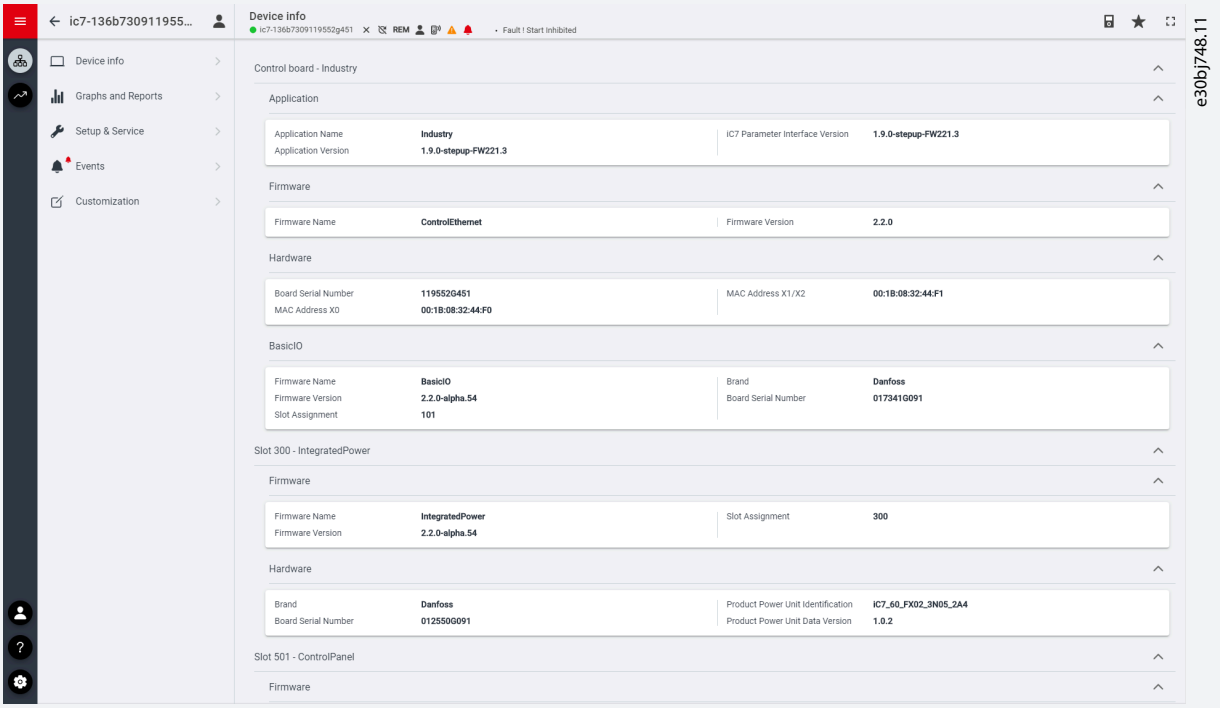



**Illustration 4: Device Info**

**N O T I C E**

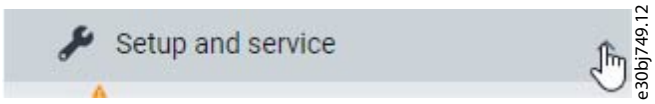
The application guide covers basic information such as accessing parameters and using the PC control in MyDrive® Insight.

## 2.1.2 Accessing Parameters and Understanding Parameter Screens in MyDrive Insight

### Viewing and Changing Parameters

1. To access the parameters of the connected drive, click *Setup and Service*.
2. Click *Parameters* → *Live* as shown.

1




2


**Illustration 5: Setup and Service**

### Parameter Screen Overview

The following is an overview of the *Parameters (Live)* screen in MyDrive® Insight.

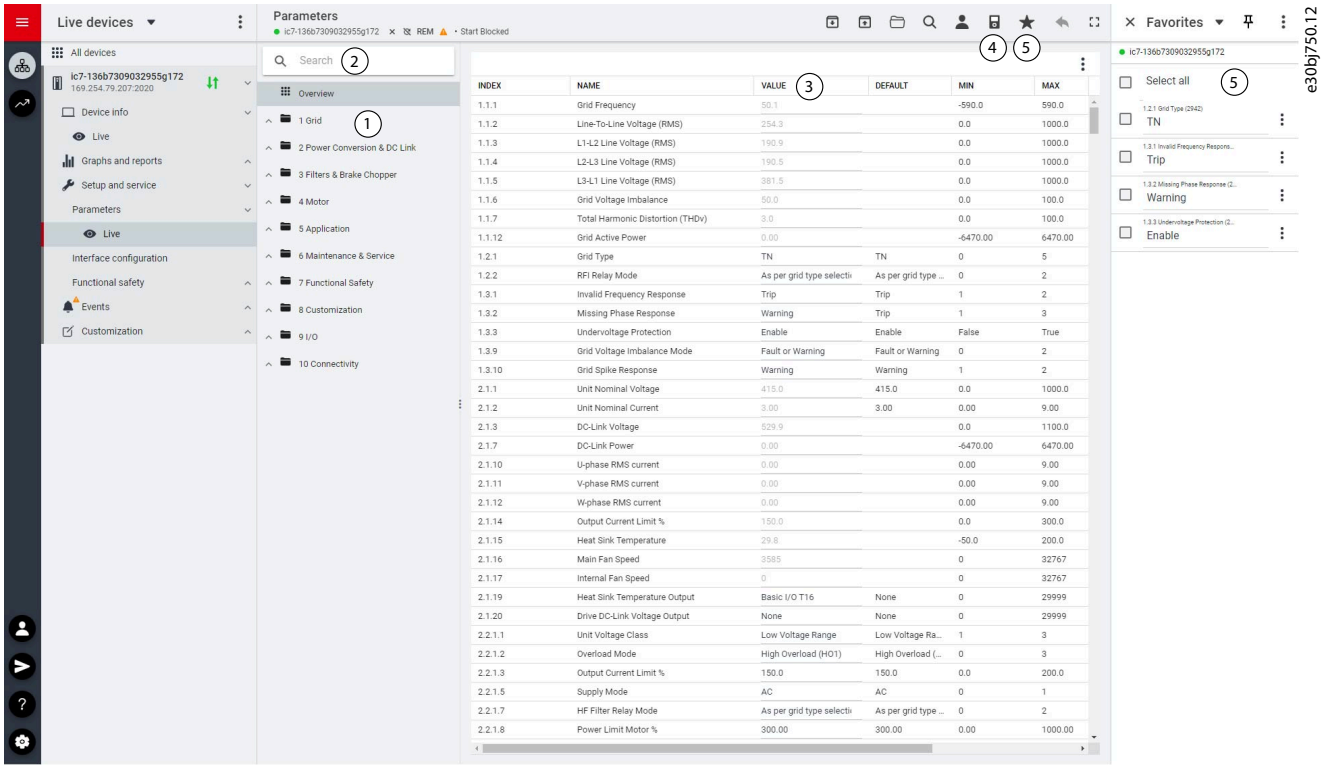



**Illustration 6: Parameters (Live)**

**Table 1: Legend Table**

| Legend | Name | Description |
|---|---|---|
| 1 | Parameter group | Navigate through the different parameter groups in the drive. |
| 2 | Search field | Use the search function to find a specific parameter. |
| 3 | Value field | View and change a parameter value or selection. All the parameters for the drive are shown on the Live screen. |
| 4 | *PC Control* button | Switch to PC control to start or stop the drive using MyDrive Insight. |
| 5 | Favorites | Select a parameter as a favorite by clicking the star in its row.<br>Open the favorites panel on the right side of the screen by clicking the star at the top of the page. |

## Navigate through different parameter groups

In the following picture, *parameter group 4 Motor* is shown as an example.

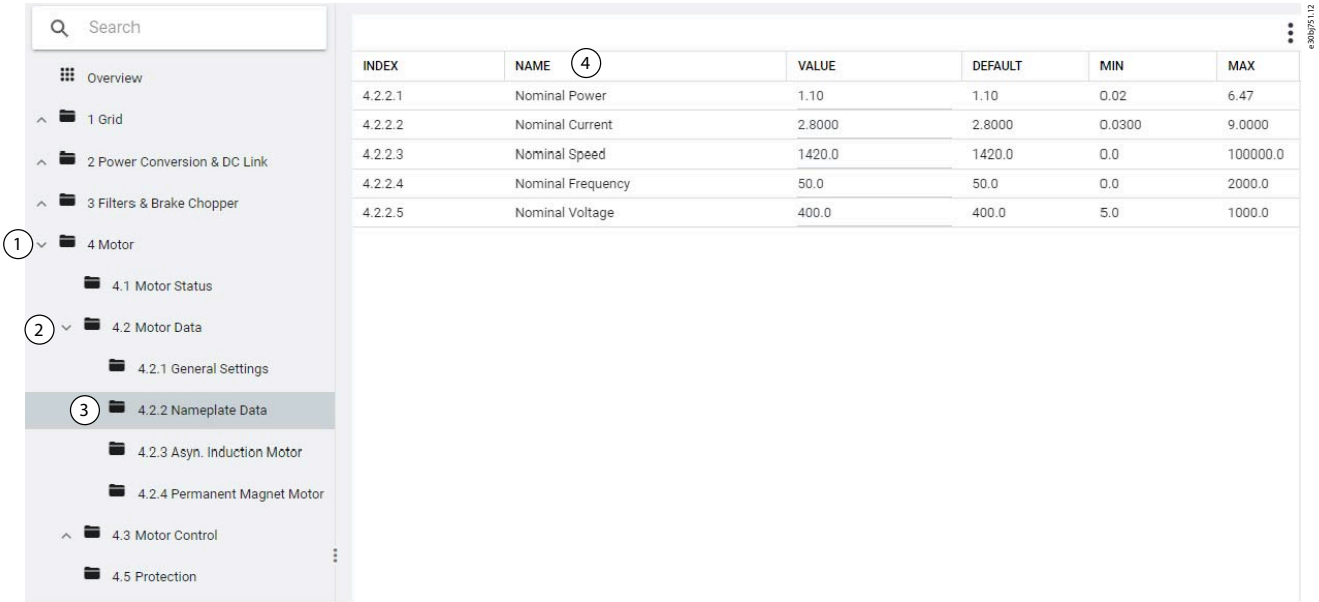



**Illustration 7: Parameter Group**

1. Click the parameter group (1) from the *Live* pane.
2. Click the parameter subgroup (2).
3. Repeat step 2, until the right level of parameter subgroup (3) is reached to find the specific parameters (4).

| N O T I C E |
|---|
| When in a specific parameter subgroup, only parameters relevant to the parameter subgroup can be accessed. |

### Searching for a specific parameter

In the *Search* field, type the search term. The search returns all parameters that have the search term in the name.

In the following example, all parameters with *DC-Link* in the name are listed in the search results.

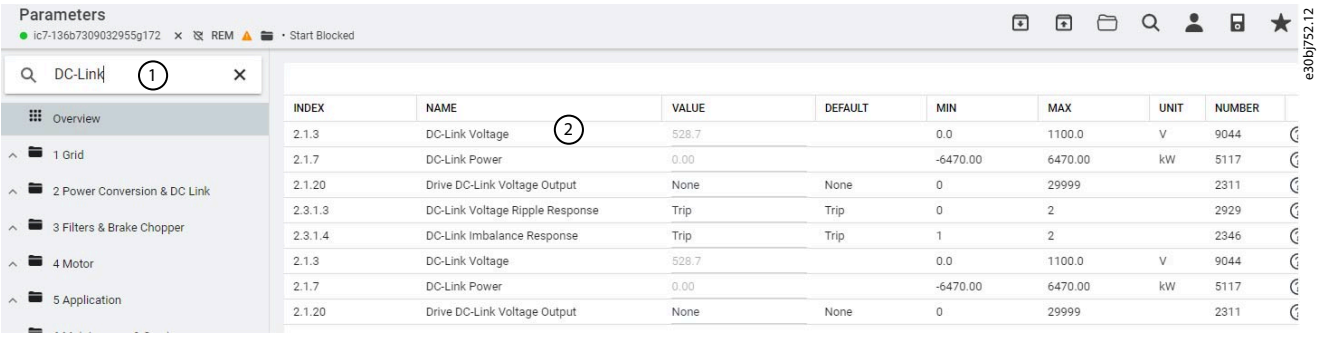



**Illustration 8: Search button**

| | |
|---|---|
| 1 | Search term |
| 2 | Search results |

## 2.1.3 Viewing and Changing Parameter Settings

When in a specific parameter group, all parameters related to the parameter group are shown. Depending on the access type of the parameter, there is a possibility to view the parameter setting or change the current selection or value of the parameter.

In the following picture, *parameter group 4 Motor* is shown as an example.

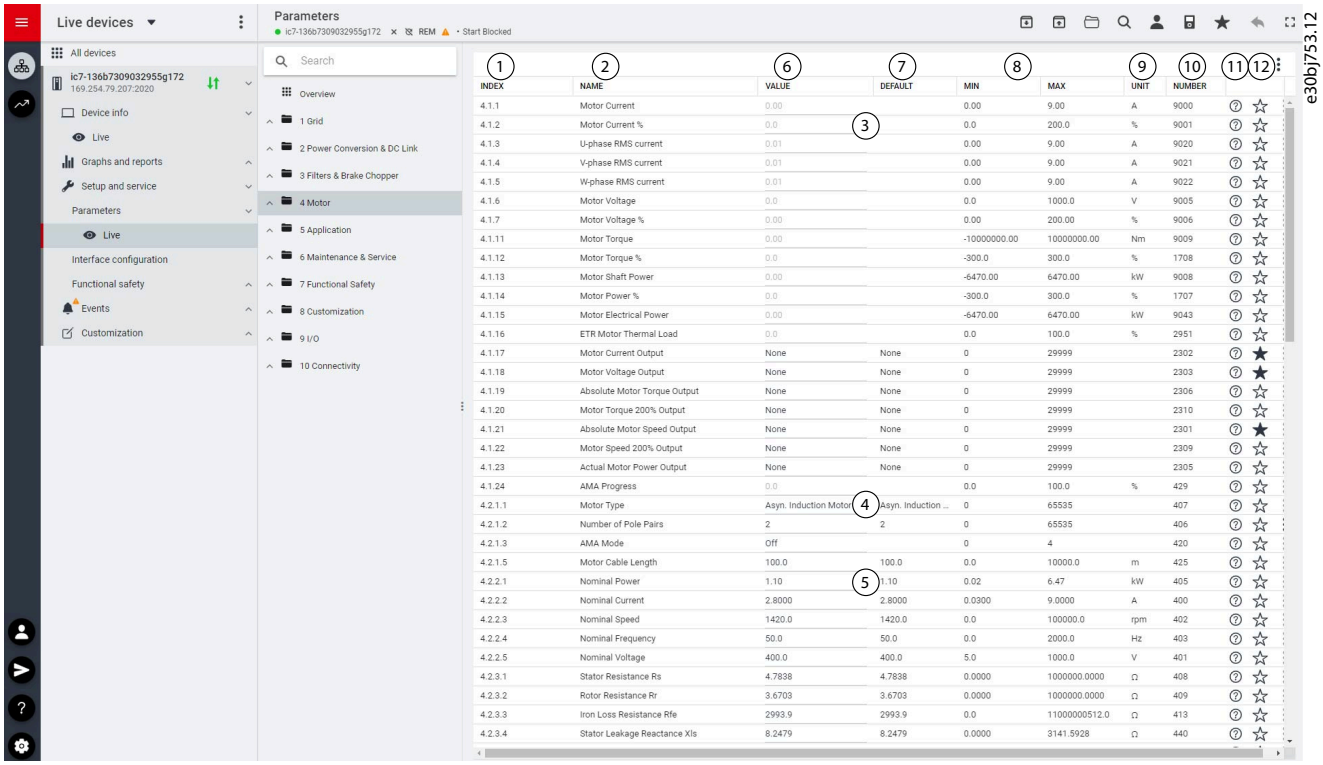



**Illustration 9: Parameter Overview**

**Table 2: Legend Table**

| Number | Field Name | Description |
|---|---|---|
| 1 | *Index* | Based on the parameter group structure, the index defines the location of the parameter. The index is not used as a unique identifier of a parameter. |
| 2 | *Name* | Name of the parameter. |
| 3 | Status parameter | Provides the current status or value of a parameter. The parameter value is shown in a light gray color and cannot be changed. |
| 4 | Selection parameters | To see all selections available for the parameter, click the value in the *Value* field. |
| 5 | Range parameters | The parameter value can be modified based on the ranges defined (maximum and minimum values). |
| 6 | *Value* | The current value of the parameter. |
| 7 | *Default* | The factory setting (default value) of the parameter. |
| 8 | *Min* and *Max* | When applicable, the minimum and maximum values of the parameter are shown in the *Min* and *Max* fields. |
| 9 | *Unit* | When applicable, the unit of the parameter is shown in the *Unit* field. |
| 10 | *Number* | The unique identifier for each parameter. The identifier is independent and decoupled from the parameter index values. |
| 11 | *Help* | Click the *?* button to see a description about the parameter. |
| 12 | *Favorites (star)* | Clicking the Favorites icon will add the parameter to Favorites. |

## 2.1.4 PC Control to Operate the Drive Using MyDrive® Insight

To operate the drive using PC control, click the *Control Panel* button in MyDrive® Insight. The following illustration shows the different screens to operate the drive via MyDrive® Insight.

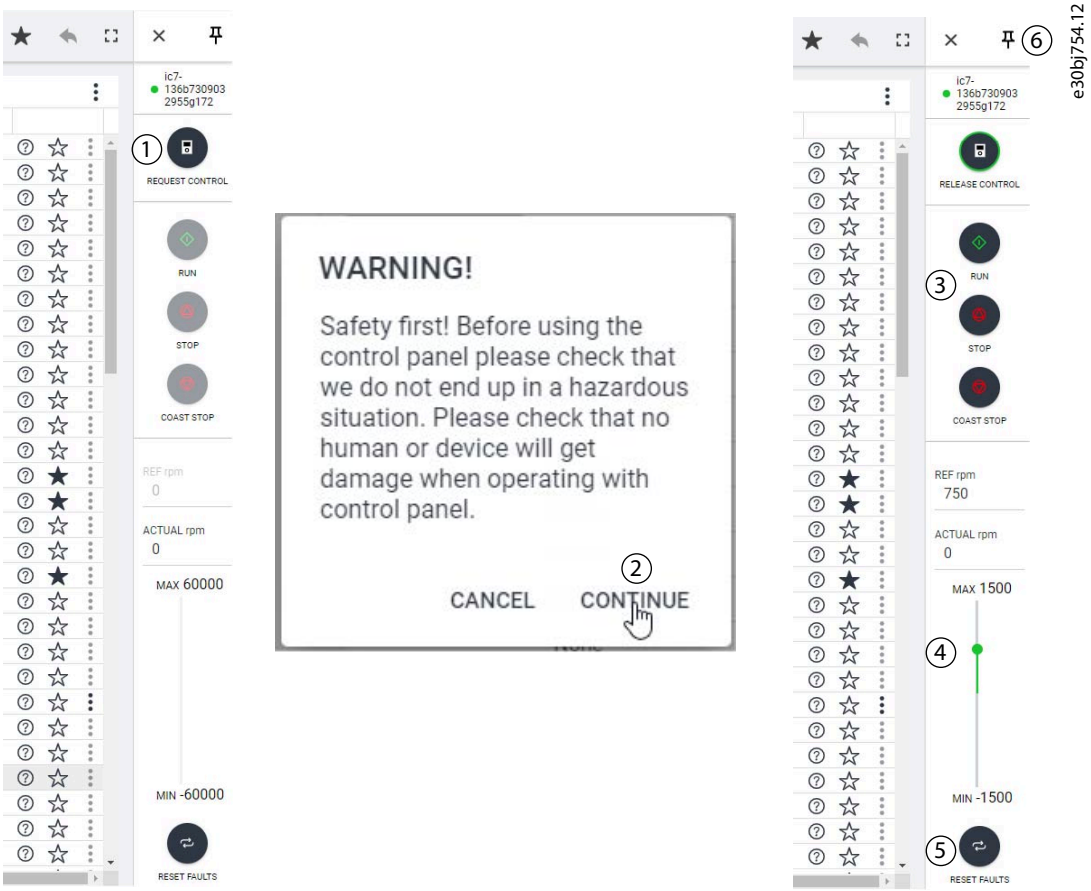



**Illustration 10: Operate Drive using MyDrive® Insight**

**To access PC Control in MyDrive® Insight and operate the drive, perform the following:**

1. Click the *REQUEST CONTROL* button (1).
2. Click *Continue* (2) to confirm secure operational conditions while controlling the drive using MyDrive® Insight.
3. Use the *START*, *STOP*, *STOP COAST* buttons (3) to perform a drive operation. Use the sliders (4) to increase or decrease the reference speed.
4. To reset a drive in case of a fault, click *RESET FAULTS* (5).
5. For ease of access, click the Pin button (6) to make the control panel constantly visible on the screen.

## 2.1.5 Datalogger

The datalogger in MyDrive Insight enables the monitoring of signals and related information for the selected signals. To access the Datalogger feature, select the drive (1), then go to *Graphs and Reports* (2) → *Datalogger* (3).

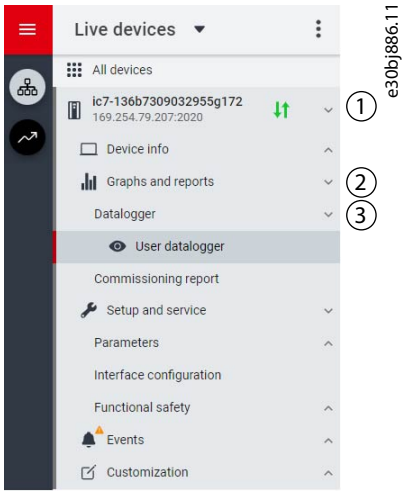



**Illustration 11: Navigating to** *Datalogger*

The following image shows the *Datalogger* main controls.

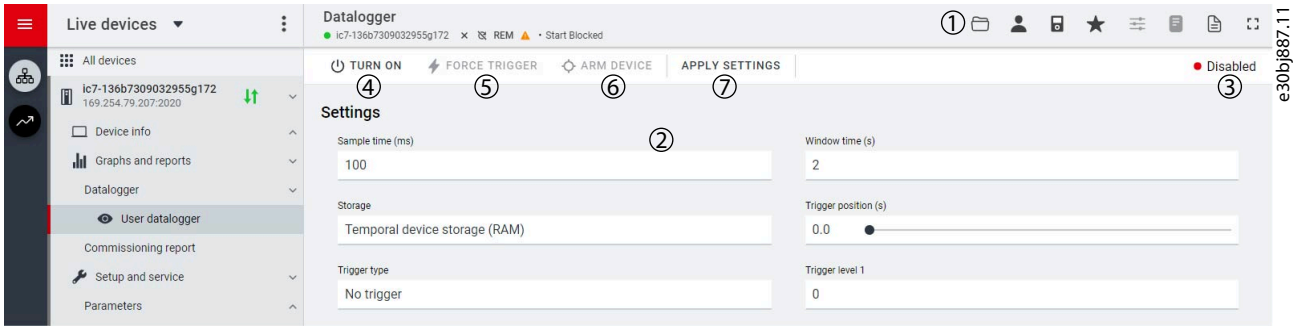



**Illustration 12: Datalogger Screen**

**Table 3: Main Controls**

| Legend | Description |
|---|---|
| 1 | Opens the window to select available Datalogger files for viewing. |
| 2 | Shows the list of Datalogger settings. |
| 3 | Shows the Datalogger status. |
| 4 | Enables or disables Datalogger. When disabled, all Datalogger configuration settings are inactive. When enabled, Datalogger is active and operates based on the configuration settings. |
| 5 | Activates the force trigger. The 0 – 1 transition (rising edge) triggers Datalogger manually. This function is typically used with automatic triggers. |
| 6 | Arms Datalogger. The 0 – 1 transition (rising edge) readies Datalogger for triggering. |
| 7 | Applies any changed settings. |

## 2.1.5.1 Configuring Datalogger

To configure the datalogger, follow these 2 main steps:

- Configure the signals to be recorded using the datalogger.
- Configure the datalogger settings.

**Procedure:**

1. Open Datalogger.

   The settings view opens.

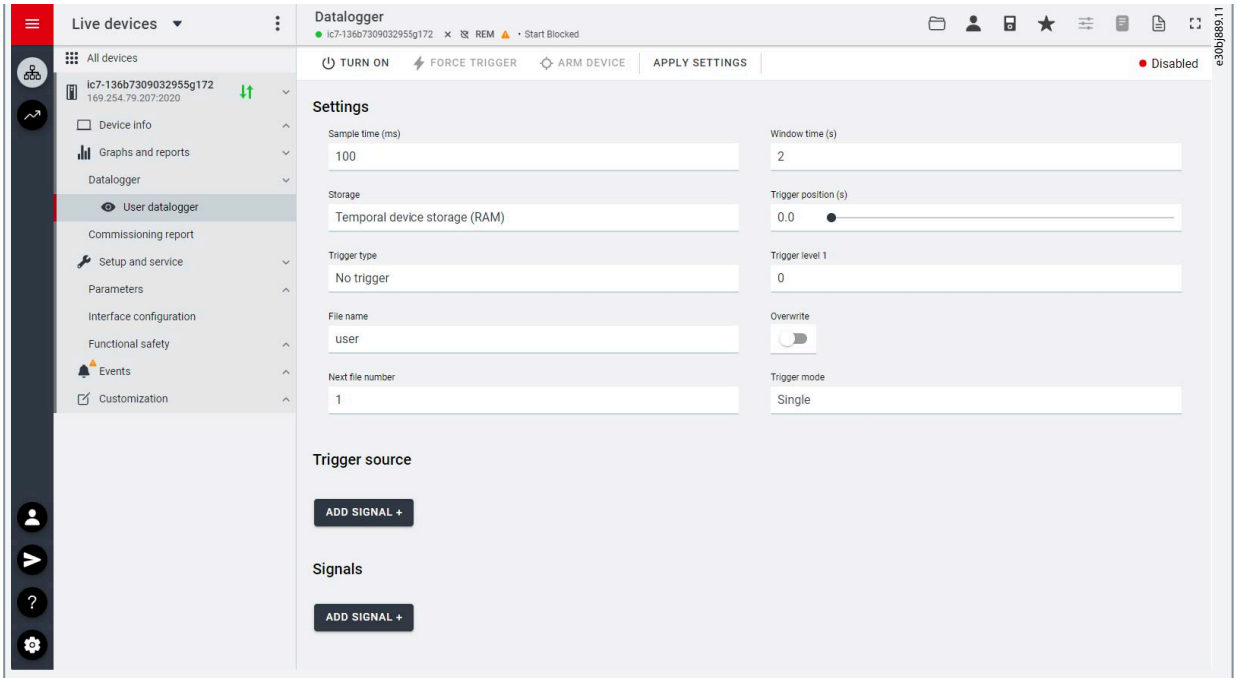
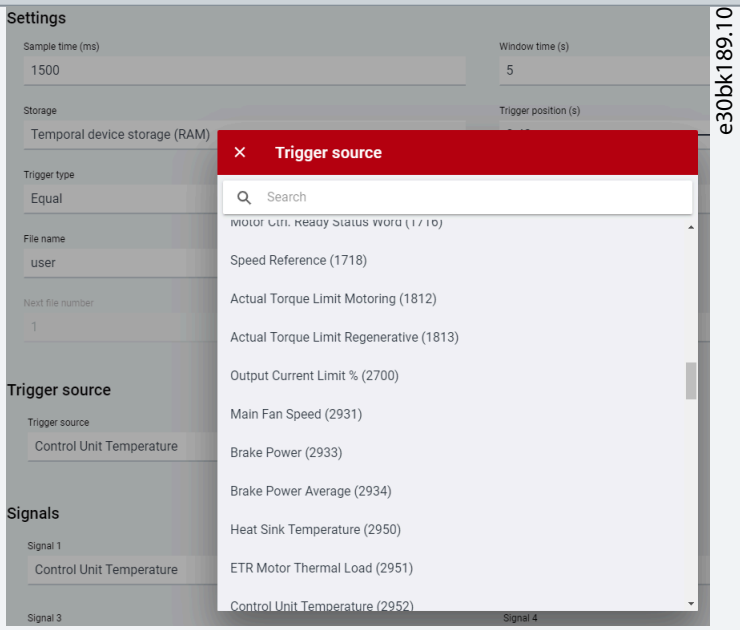
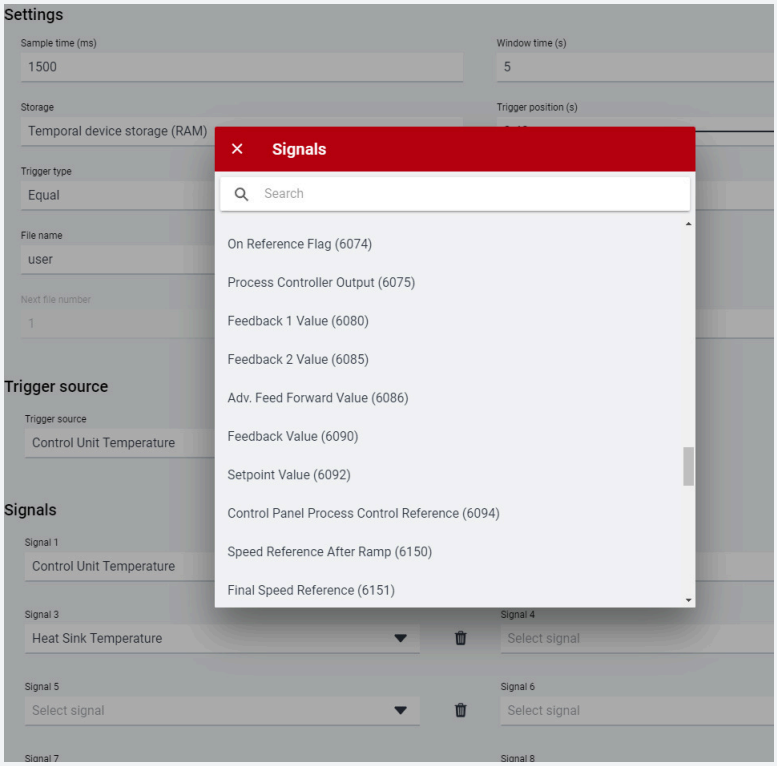



**Illustration 13: Datalogger Settings**

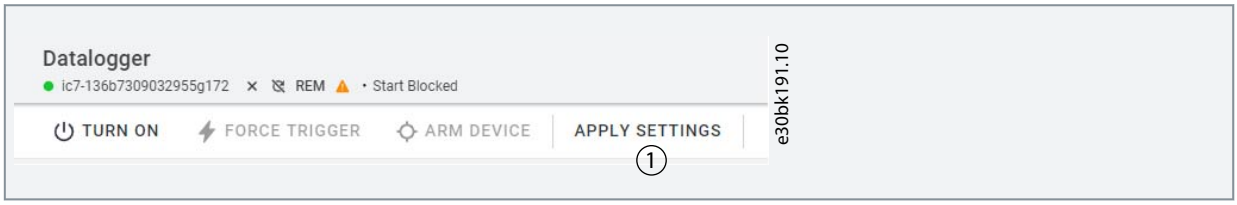
The description of the user interface elements in the screen is as follows:

| Field name | Field description |
|---|---|
| Sample time (ms) | Enter a sample time in ms. The actual sample time is dependent on the switching frequency. Fast sample rate settings result in data changing slowly in the resulting log. |
| Window time (s) | Defines the size of the capture window. Enter the window time in seconds.<br>High sample rates and large capture times that result in large capture files may be rejected when the configuration is applied. |
| Storage | Select the location to which datalogger files are stored. Available selections are:<br>- **RAM:** Settings are stored on the RAM of the drive.<br>- **Flash:** Settings are stored on the flash of the drive.<br>- **SD card:** Data is stored on the (optional) microSD card.<br>The supported microSD cards are: SD, SDHC, or SDXC, which must be formatted for the FAT32 file system. SDHC is the recommended type as they are delivered preformatted to FAT32. |
| Trigger position (s) | Adjust the slider to position the trigger. Setting the trigger position to 0 indicates that the datalogger recording starts at the time of the trigger. Setting a negative value indicates that the datalogger recording starts after the trigger has occurred. Setting a positive value indicates that the datalogger recording starts before the trigger has occurred. |
| Trigger type | The trigger types are the following:<br>- **No trigger** (manual trigger only)<br>- **Equal** triggers when the value of the trigger source variable is equal to trigger level 1.<br>- **Not equal** triggers when the value of the trigger source variable is not equal to trigger level 1.<br>- **Greater than** triggers when the value of the trigger source variable is greater than trigger level 1.<br>- **Greater than or equal to** triggers when the value of the trigger source variable is greater than or equal to trigger level 1.<br>- **Less than** triggers when the value of the trigger source variable is less than trigger level 1. |

| Field name | Field description |
|---|---|
| | - **Less than or equal to** triggers when the value of the trigger source variable is less than or equal to trigger level 1.<br>- **Rising edge** triggers when the value of the trigger source variable rises above trigger level 1. If the trigger source is already above trigger level 1, the trigger must first drop below the trigger level.<br>- **Falling edge** triggers when the value of the trigger source variable falls below trigger level 1. If the trigger source is already below trigger level 1, the trigger must first rise above the trigger level. |
| Trigger level 1 | Defines the trigger level associated with the defined trigger type. This level is used for all single-level trigger types. The entry in the field defines the lower trigger level for window trigger types, such as bounds and out of bounds. |
| File name | Name of the file for datalogger recording. |
| Overwrite | Click the toggle button to turn the overwrite function on or off.<br>- **On:** Overwrite is enabled. A file number is not appended to the datalog file. The datalogger overwrites a previous datalog file.<br>- **Off:** Overwrite is disabled. A file number is appended to the log file. For each datalog, the datalog file is Incremented and the previous datalog file is not overwritten. |
| Next file number | The number entered in this field is appended to the initial datalog file. Entry in the field is useful when datalogs are previously available in the drive. The number is auto-incremented with each datalog recording when the entry in *Next file number* is enabled. |
| Trigger mode | Select 1 of the following trigger modes.<br>- **Single trigger mode:** After a datalog recording, the datalogger must be rearmed before another trigger is allowed.<br>- **Auto trigger mode:** After a datalog recording, the datalogger automatically rearms and starts to accept triggers. |
| Trigger source | Click the *Add signal* button under the *Trigger source* heading. A *Trigger source* field appears. Click on the *Trigger source* field to select the signal source which is used for triggering the datalogger recording. The trigger source list opens in a new window: |

| Field name | Field description |
|---|---|
| |  <br>e30bk189.10 |
| Signals | Click the *Add signal* button under the *Signals* heading. A *Signal* field appears. Click on the *Signal* field to select the signals that are logged. The signal list opens in a new window:<br>  <br>e30bk190.10<br>Add more signals as necessary by clicking the *Add signal* button again. |

2. Click *Apply settings*.




After the signal selection and the datalogger settings, the datalogger is ready to record the logs. To view a recorded datalog file, click the icon shown in the following figure.

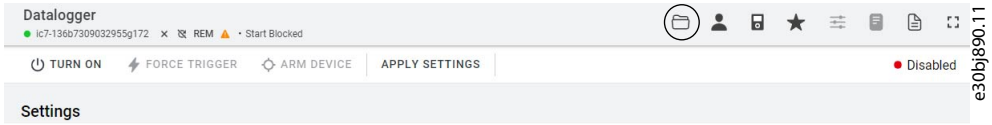



**Illustration 14: Datalogger View Icon**

## 2.1.6 Backup and Restore

### Backup

The Backup feature in MyDrive® Insight allows to store the parameter settings of the drive into a new or existing project file, RAM, or flash memory of the drive, or to an optional microSD card.

To utilize the microSD card as a storage device, the microSD card must be inserted in the slot on the interface module located behind the control panel, as shown in the image below.

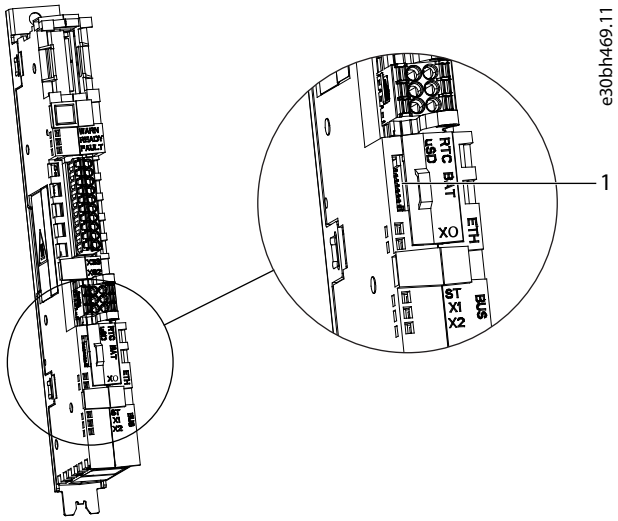



**Illustration 15: MicroSD Card Slot**

| | |
|---|---|
| 1 | The microSD card |

The following are the types of microSD card supported by the interface module, which must be formatted for the file system FAT32.

- Secure Digital (SD) card
- Secure Digital High Capacity (SDHC)
- Secure Digital Extended Capacity (SDXC)

**N O T I C E**

It is recommended to use SDHC cards as they are delivered as preformatted to FAT32.

## 2.1.6.1 Backing up the Drive

**Procedure**

1. To back up the drive, select a drive, go to *Setup & Services* → *Parameters*.

   The *Parameters Live* screen is shown.

2. Click the icon as shown in the figure.

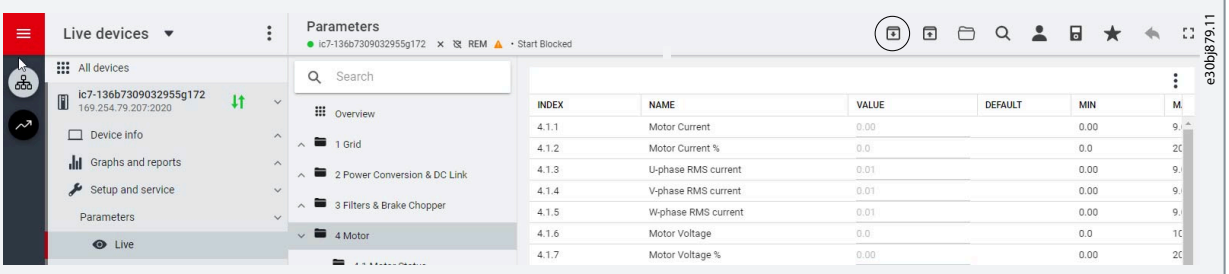



**Illustration 16: Backup Destination Icon**

   This opens a screen to select the backup destination. The destinations to back up are:

   - **Project:** The user can back up an existing project or a new project.
   - **Device file system:** The user can back up to 1 of the available memory devices of the drive.

3. Click *Next*.
4. 
   - If *Project* was selected, give the backup file a name and description.
   - If *Device file system* was selected, select where to save the backup. The selections are flash, RAM, or an (optional) microSD card. It is possible to specify a name for the backup file as well.
5. Click *Backup* to begin backup.

   Once backup is completed, a notification screen about it appears. If a *Project* backup was created, the backup is shown in the device menu under *Parameters*.

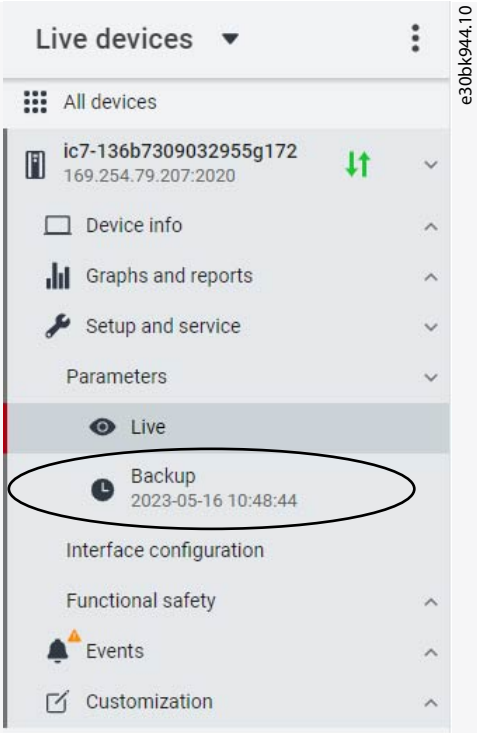



**Illustration 17: Backup File in the Menu**

## 2.1.6.2 Restoring the Data to the Drive

**Procedure**

1. To restore data to the drive, select a drive, go to *Setup & Service* → *Parameters*.
2. Click the icon as shown in the image below.

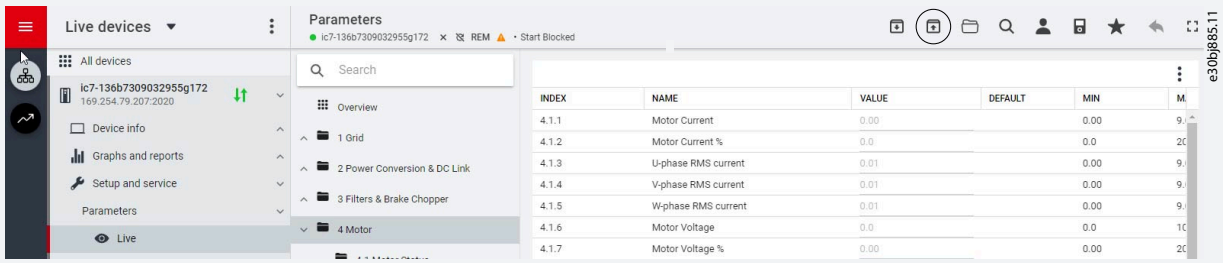



**Illustration 18: Restore Data Icon**

3. Select the source of the data which has to be restored to the drive.

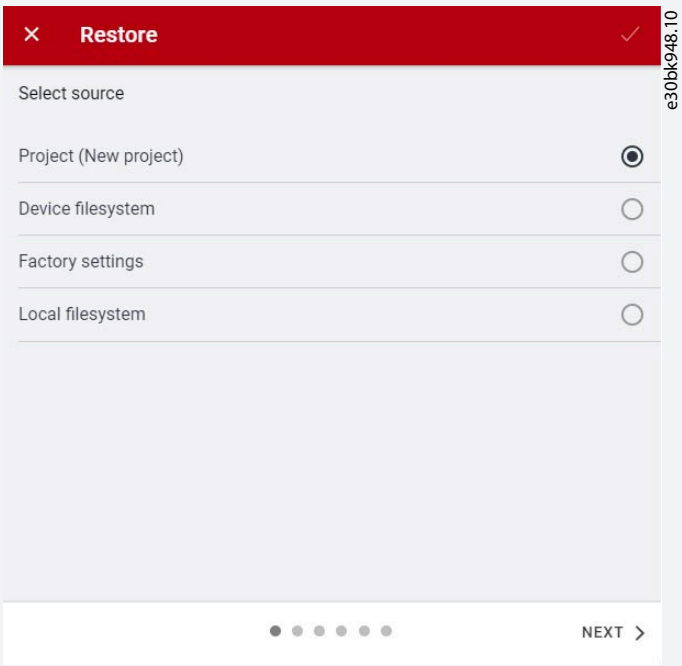



**Illustration 19: Source of Data for Restore**

4. Click *Next* to select the backup source device and view the available backup files.
5. If *Project* is the restore source, select the correct backup to restore. Click *Next*.

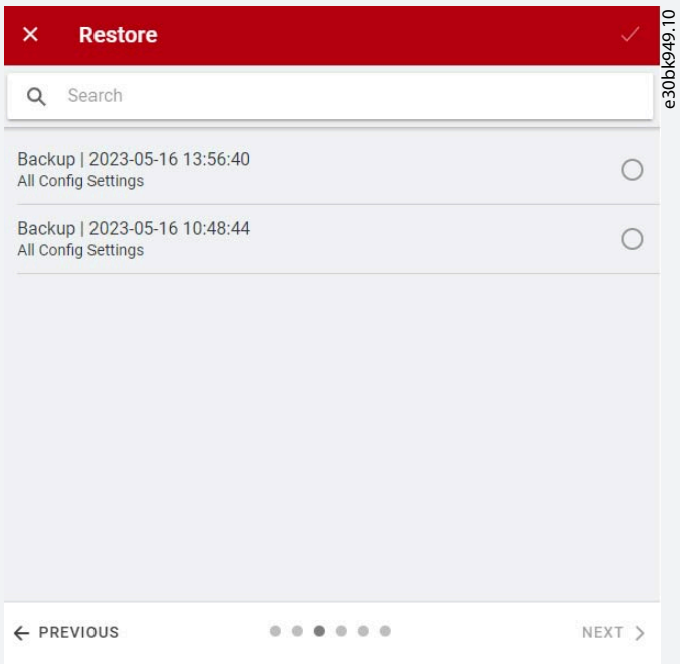



**Illustration 20: Select the Backup**

6. Select the files for restoring data into the drive, as shown in the figure below, and click *Next*.

**N O T I C E**

It is possible to exclude ethernet port settings when restoring the data.

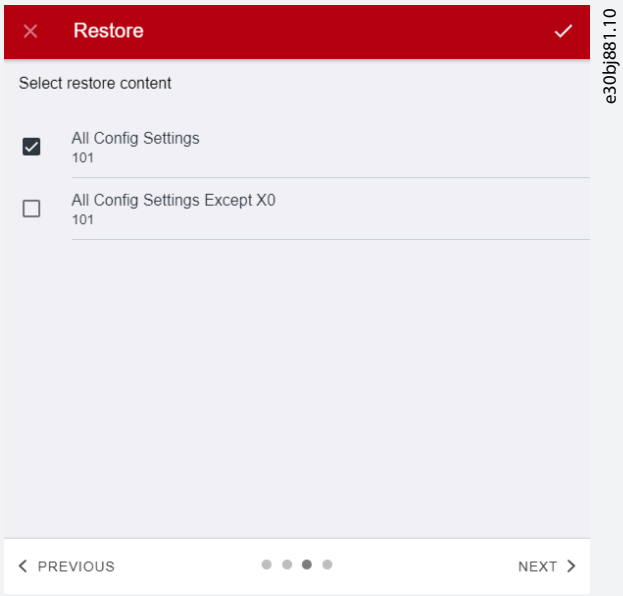



**Illustration 21: Restore Data**

7. The system asks you to confirm the restore action. Click *Restore*.

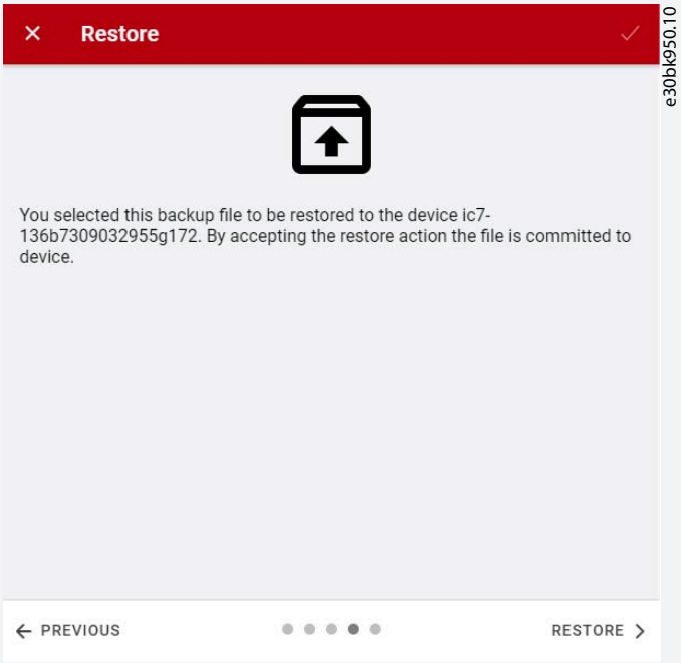



**Illustration 22: Confirm Restore**

On successful restore of data, a message is displayed.

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