



Application Note

Digital Twin in SolarEdge ONE for C&I

Version 1.2

January 2025

Table of Contents

Revision History	3
SolarEdge ONE for C&I overview	3
Digital Twin overview	3
Dashboard information	4
Dashboard ribbon	4
Device tree	5
Side panel	5
Tooltips	6
Navigation controls	7
Dynamic data layers	7
Physical layout	8
Examples of different Physical layouts	8
Logical layout	10
Electrical layout	11
Cabling	12

Revision History

Version	Date	Description
1.2	January 2025	Added the electrical layout feature. Updated the user interface for physical and logical layouts.
1.1	December 2024	Updated side bar images
1.0	August 2024	Initial version

SolarEdge ONE for C&I overview

SolarEdge ONE for C&I is an orchestrated platform for monitoring and managing PV fleets, storage, EV-charging stations, and load optimization. You can optimize all your energy assets using live data analytics to achieve cost savings.

Digital Twin overview

The Digital Twin tool displays a digital, visual representation of your site. It enables you to do the following:

- View data at the module level.
- Inspect and analyze the site and its components.
- Perform remote commands on all devices located at the site.

It is connected to the [SolarEdge Designer Tool](#) where you plan, build, and validate your SolarEdge commercial systems.

Refer to [Using the Site Layout Editor in the Monitoring Platform Application Note](#) and the [Editing a site layout in the SolarEdge monitoring platform video](#) for further information on how to create, edit and map your site.

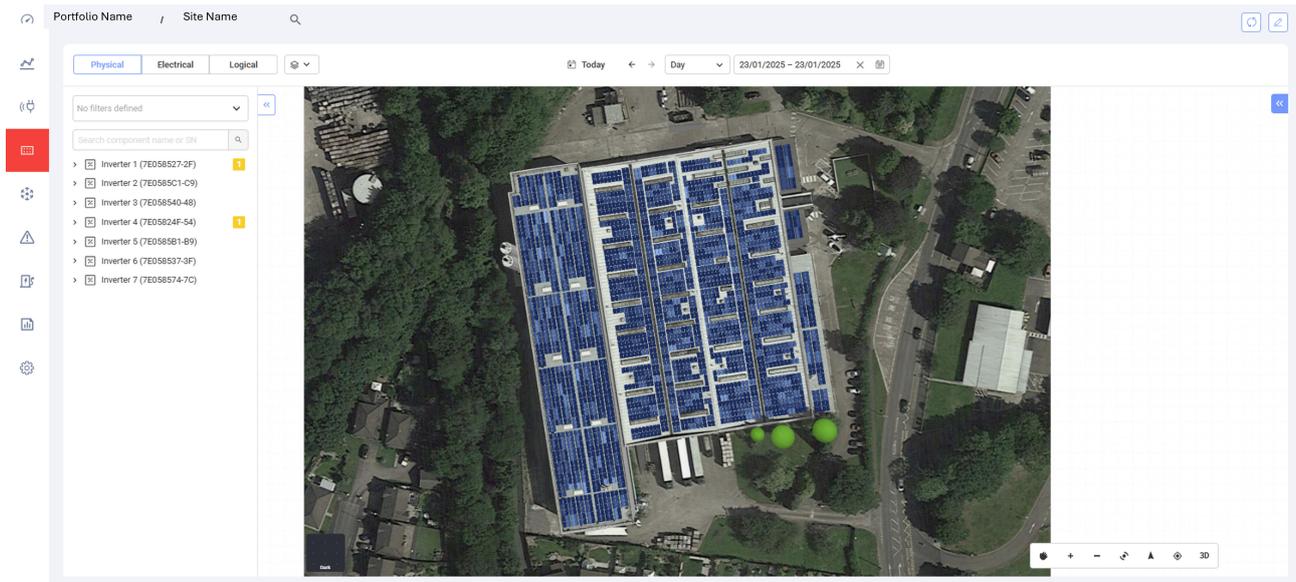
To open the Digital Twin dashboard:

1. Log in to the [Monitoring platform](#).
2. To access your site, click the **SITE NAME**.

The **ONE for C&I** dashboard is displayed.

3. On the **Main Menu**, click .

The **Digital Twin** dashboard is displayed.



To change your portfolio or site name:

From the **Search**  dropdown lists, select from the options available, or type in the names of the portfolio and site you are searching for.

Dashboard information

The following information is displayed on the dashboard.

Dashboard ribbon



On the dashboard, select from the following:

- **Time period:** Day, Week, Month, Year, or customize the dates in the date calendar.
- **Physical:** Select to view the [Physical \[8\]](#) layout of your site.
- **Logical:** Select to view the [Logical \[10\]](#) layout of your site.
- **Electrical:** Select to view the [Electrical \[11\]](#) layout of your site.
- **Layers:** From , select which of the following layers you want to view on your site:
- **Data layers:** Alerts and Temperature



NOTE

Temperature can only be viewed in the **Day** time period.

- **Visual layers:** Obstacles, Roof Edges and Satellite

**NOTE**

Roof Edges can only be viewed in 2D.

- **Refresh:** If you make any changes in Layout Editor to your site, such as adding or replacing a device, or adding an obstacle, click . The layout is updated.
- **Layout Editor:** Click . This redirects you to the [Layout Editor](#), where you edit your site.

Device tree

 Site Name

No filters defined 

Search component name or SN 

>  Inverter 1 (7E0D8F76-90)

>  Inverter 2 (7E09F094-0B)

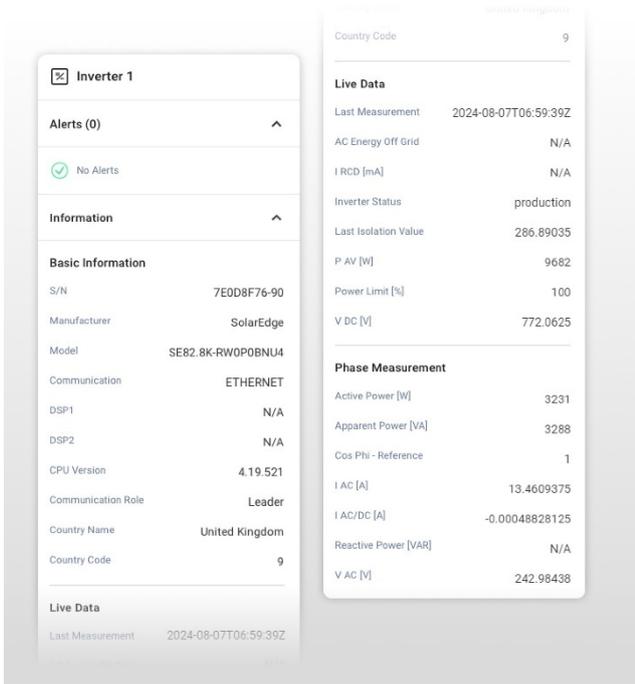
On the Device tree you search for all devices on site. You select devices in the following ways:

- In the **filter** field, select the dropdown list to filter by device.
- In the **Search component name or SN** field, type the device name or serial number.
- From the dropdown list, select the device.
- Click a device on the Physical, Electrical or Logical layout and the device tree automatically highlights that device.

If the device tree is not displayed, click  to expand.

Side panel

The following image is a representation of a side panel:



The Side Panel displays information on each device at your site.

To view device information on the side panel:

Click the device in the device tree, or click the device on the Physical, Logical or Electrical layout of the site. The side panel automatically displays the device’s information.

If you select other devices on the device tree or in the layouts, the side panel updates automatically.

If the side panel is not displayed, click  to expand.

Tooltips

To view Tooltips for modules and optimizers on your site:

Hover your cursor over a panel, a tooltip appears with the following information:

- The number of optimizers per module, for example, 1 optimizer for 2 panels.
- The tilt 
- The azimuth 
- The name of the manufacturer
- The model type
- The serial number
- Alerts

Navigation controls



The following navigation controls are available on the Physical layout:

- **2D Camera mode:** Click 2D to view a 3D view of your site, click 3D to view the site in 2D. 2D is the default mode.
- **Reset view:** Resets your site back to its original orientation.
- **Point north:** Sets your site to point north.
- **Rotate the view:** Rotates your site, to view it from different angles. Click again to stop rotating.
- **Zoom:** Zoom out of your site.
- **Zoom:** Zoom into your site, until you view [dynamic data layers \[7\]](#) on each module.
- **Pan:** Navigate the view of your site. Click again to stop navigating.



NOTE

Logical layout includes the following navigation controls:



Dynamic data layers

There are two data layers:

- **Energy Layer:** Displays the amount of energy produced by each optimizer. This is the default layer.
- **Temperature Layer:** Displays an optimizer's maximum daily temperature.

Dynamic data layers display cumulative data for optimizers, and updates every five minutes. You can view the energy layer in daily, weekly, monthly, yearly or custom views by changing the time period in the [dashboard ribbon \[4\]](#).

To view the Temperature layer:

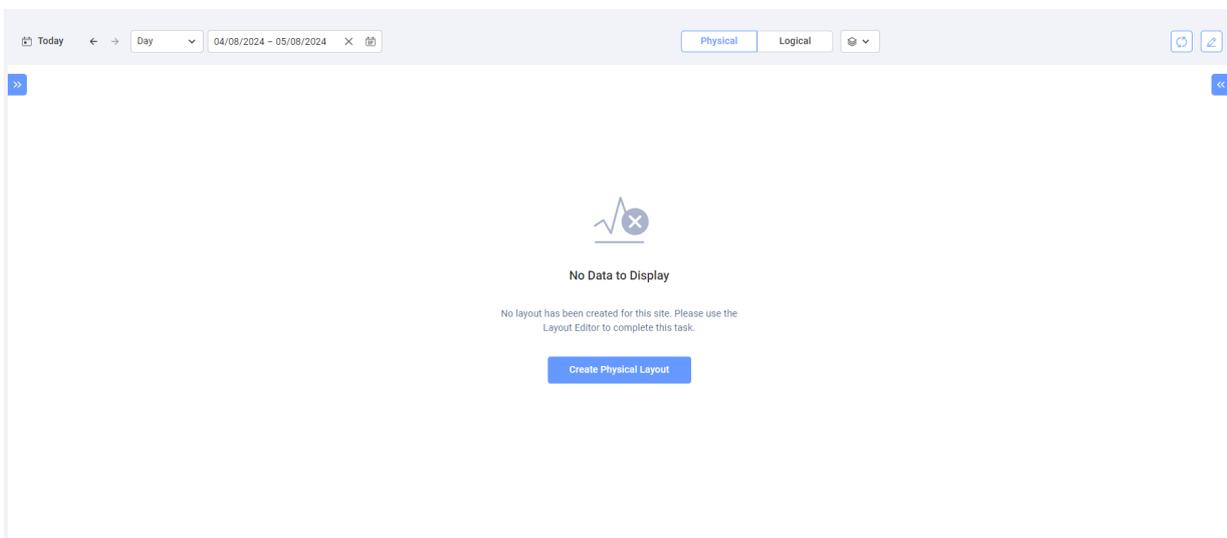
From the **Layers** options on the dashboard ribbon, select **Temperature**.

Physical layout



Physical layout is a physical representation of your site. It enables you to view the placement of each component on site and to view module level data.

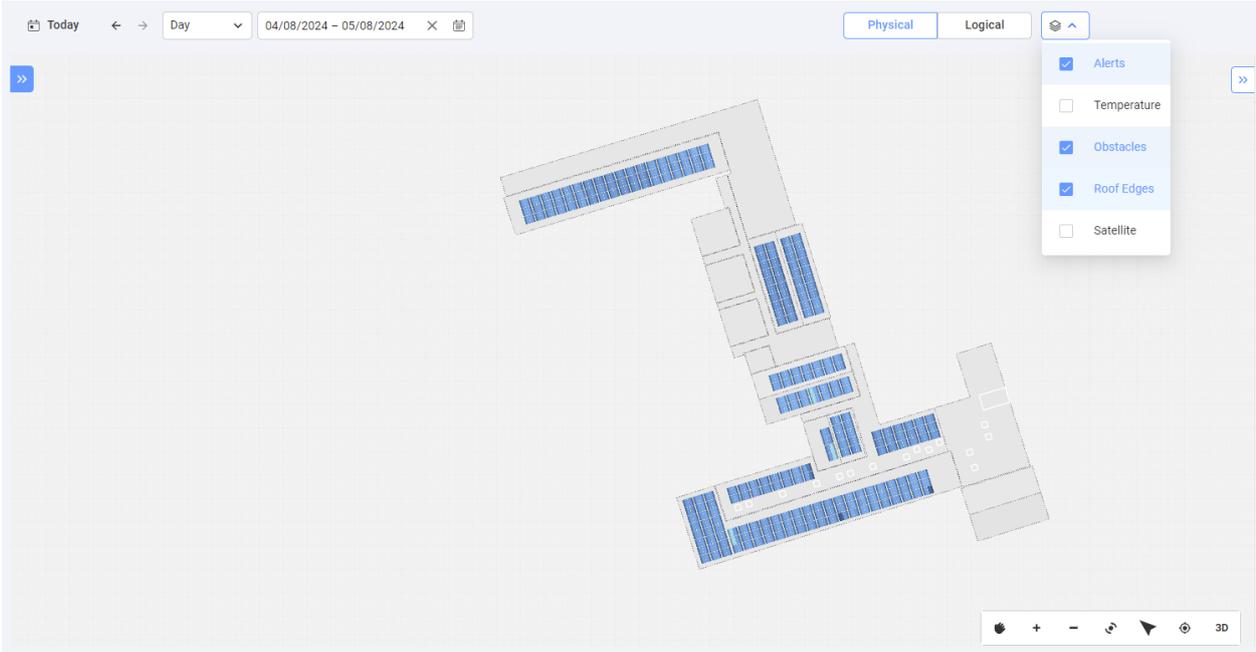
If your site does not have a Physical layout, this information is displayed:



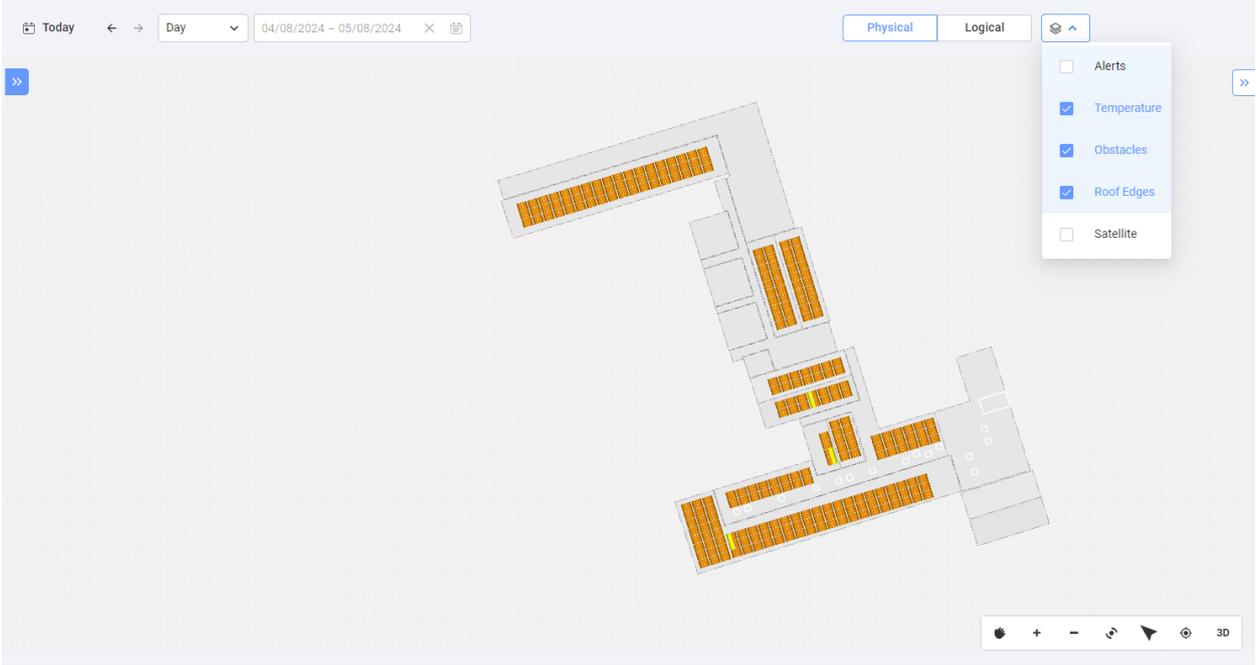
Click **Create Physical Layout**. You are redirected to the [Layout Editor](#) where you create a physical layout of your site.

Examples of different Physical layouts

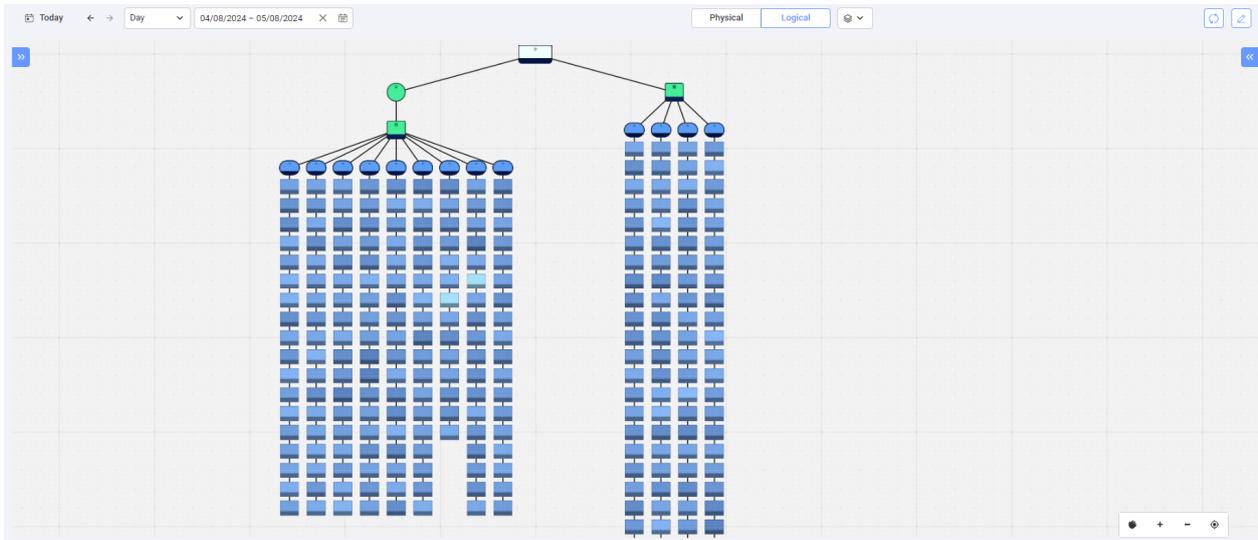
The following image is an example of an energy layer, with the satellite layer removed.



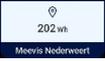
The following image is an example of a temperature layer, with the satellite layer removed.



Logical layout



Logical layout is a dynamic, single-line diagram, that represents the site's logical connections. The following system components can be viewed on logical layout:

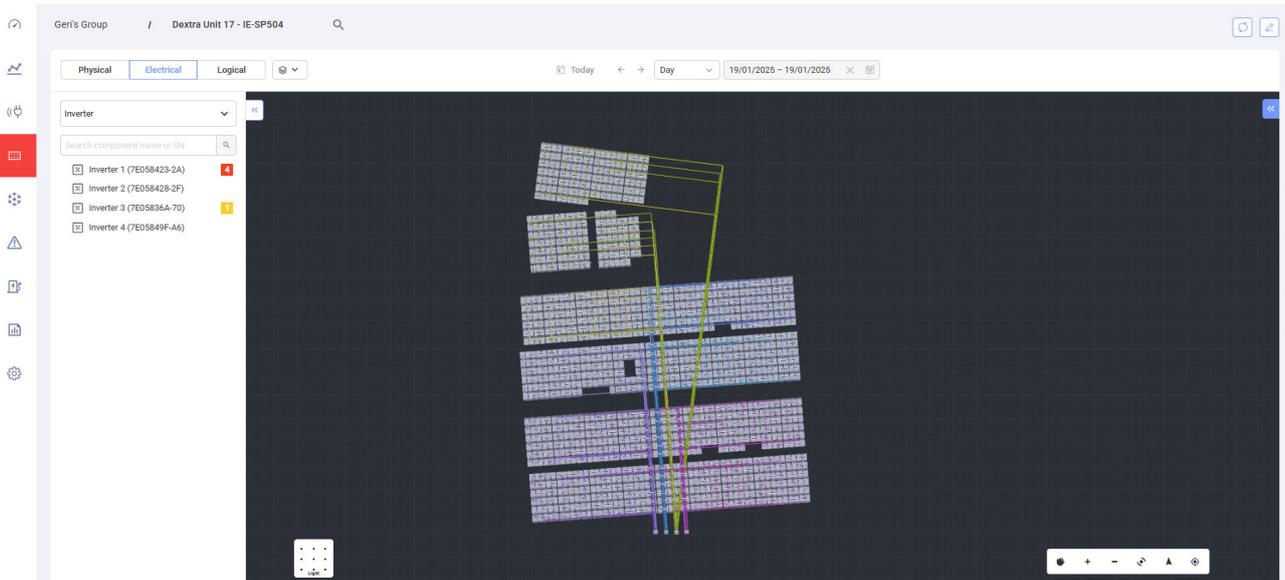
- Site: 
- Meter: 
- Inverter: 
- Module: 
- String: 



NOTE

You can only view Logical layout in 2D.

Electrical layout



Electrical layout displays an electrical representation of your site. It enables you to view the placement of power optimizer strings, and the cables that are connected to the inverters on-site.

To view the electrical layout of Inverters, Strings, Optimizers or Meters:

1. On the Device tree you search for all devices on site.



NOTE

Refer to [Device tree \[5\]](#) for further information on searching for devices.

2. In Electrical Layout drag your cursor over the devices you want to highlight. Information about the highlighted devices is displayed in the side panel.



NOTE

Refer to [Side panel \[5\]](#), for further information on viewing devices on-site.

To view further information on optimizers on-site:

1. Highlight and right-click two or more optimizers on the device tree, or highlight two or more optimizers on the electrical layout, then right-click.

The **Information**, **Alerts** and **Analysis** pop-up is displayed.



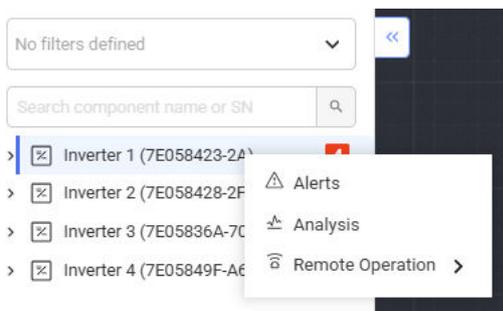
2. Click **Information**.

The **Optimizers Data** pop-up is displayed. You can view further information for each optimizer you highlighted.

To enable Remote Operation:

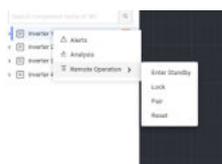
1. Right-click on an inverter on the device tree.

The **Alerts, Analysis and Remote Operation** pop-up is displayed.



2. Hover your cursor over **Remote Operation**.

Enter Standby, Lock, Pair and Reset are displayed.



3. Click the remote operation you want to enable.

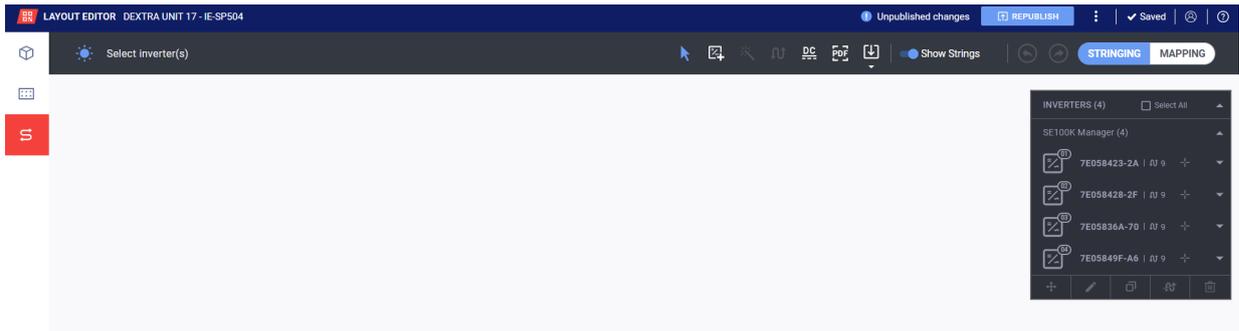
Your remote operation is enabled.

Cabling

To enable cabling:

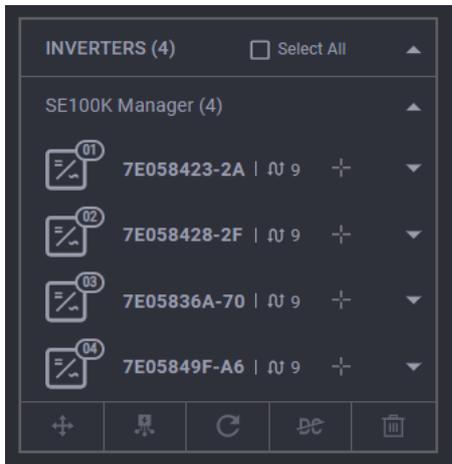
1. Email your Technical Manager to request setting up cabling on-site.
2. When you receive approval, in **Electrical Layout**, click .

Electrical Design in the **Layout Editor** is displayed.



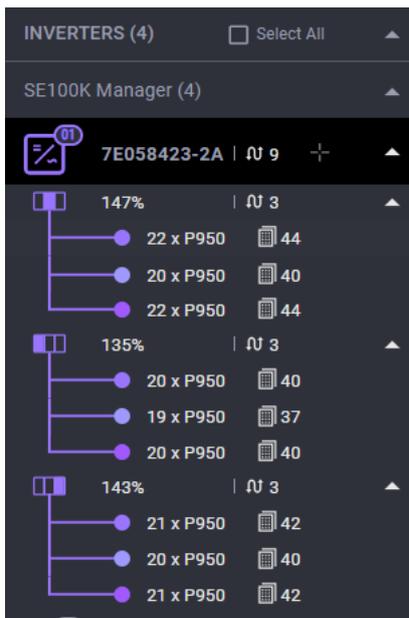
3. Click .

Your DC cables are displayed.

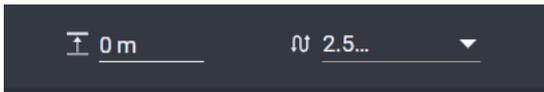


4. From the inverter dropdown, select an optimizer.

Optimizer cabling is displayed.



To change the height and width of the cable:



1. In the **height** field, type the height of the cable.
2. In the **width** field, from the dropdown, select the width of the cable.
3. To save your changes, select **REPUBLISH**.

Your changes are saved, and can be viewed by clicking **Electrical** in Digital Twin.