



# Automatic, Dynamic, and Interactive Single-Line Diagrams

## Key Highlights

- Easily navigate and drill down to see details of your utility feed, generators and fuel tanks, switchgears, transformers, load devices, UPS units, AC panels, floor PDUs, DC plants, and DC bays
- See live, real-time power reading overlays for usage vs. capacity
- Improve uptime via better power chain planning and faster troubleshooting

## Is It Time to Throw Out Your Static Paper Single-Line Diagram?

A single-line diagram is a drawing that charts out the electrical sources, components, and connections in a power distribution system. In a data center, the single-line diagram is critical for power planning and troubleshooting.

Yet, many data centers have their single-line diagram printed on paper and hung on the wall.

Static paper single-line diagrams lack real-time information, suffer from poor version control, cannot integrate with digital tools, are inaccessible for remote teams, and are difficult to share, review, and provide feedback on. This can result in avoidable downtime and prolonged troubleshooting.

However, there is a new way forward with Sunbird's Data Center Infrastructure Management (DCIM) software.

Sunbird DCIM provides automatically generated, dynamic, and interactive single-line diagram visualizations that dramatically simplify data center power management.

## Automatically Generated Single-Line Diagrams

- No More Manual Effort – Single-line diagrams are automatically generated for each site based on your existing items and connections. Every change you make to an item or power circuit in dcTrack is automatically reflected in the diagram to ensure accuracy.
- AC or DC, We've Got You Covered – Track everything in your AC or DC power chain including utility feeds, generators and fuel tanks, transformers, load devices, UPS units, AC panels, floor PDUs, DC power plants, and DC bays. Quickly identify the critical components, connections, and redundant power paths in your facility and clearly understand the overall design and relationships between items.

## Dynamic Single-Line Diagrams with Live Data

- Real-Time Electrical Characteristics – Every item in your power chain includes a details panel that displays budgeted and actual values that improve power planning and troubleshooting.
- Understand Capacity and Load Anywhere – Track details like voltage, current, and power rating at any hop to see where you have available capacity and where you are close to tripping a breaker.
- Three-Phase Load Balancing Made Easy – See the highest and lowest phase of any item in your power chain to know how to balance the load when adding new equipment.
- Ensure Redundancy – Visualize your redundant power paths and overlay live power readings to proactively identify potential issues and maintain uptime.

## Interactive and Intuitive Single-Line Diagrams

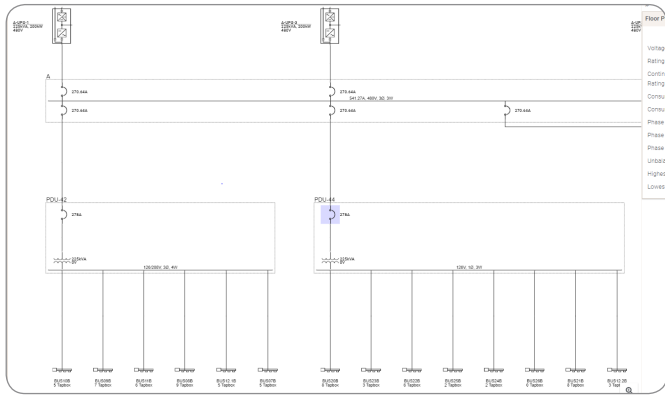
- Easy to Use – Easily navigate your single-line diagram with pan and zoom functionality, drag and drop items to tailor the layout to your liking, and print the diagram.
- Accurate Equipment Inventory – See a list of all the items in your single-line diagram. Export the list with a click or search for an item to see where it is on your diagram.
- At-a-Glance Details – Hover over any item in your single-line diagram to see a pop up tool tip that displays its name, make, model, status, and location.
- Drill Down For More Info – Click on any item in the single-line diagram to see its details. For example, you can click on a floor PDU to see its panel schedule and click on any rack in the schedule to see further details including a rack elevation diagram.



# Automatic, Dynamic, and Interactive Single-Line Diagrams

## Visualize Your Entire Power Chain

See your entire power chain in a single pane of glass with a single-line diagram that is automatically generated based upon your existing assets and circuits.



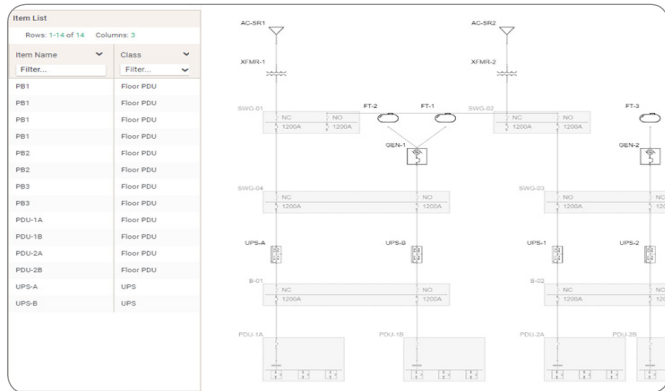
## See Electrical Details At a Glance

See budgeted and actual values for voltage, rating, continuous rating, consumed (%), consumed (kW), highest/lowest phase, and more for any item.

Floor PDU: PDU-44		
	Budget	Actual
Voltage	480V	480V
Rating	278A	278A
Continuous Rating	222A	222A
Consumed (%)	81%	0%
Consumed (kW)	99.756kW	0kW
Phase A	179.74A	0A
Phase B	144.32A	0A
Phase C	143.09A	0A
Unbalance (%)	15%	0%
Highest Phase	-	-
Lowest Phase	BC	ABC

## Troubleshoot Faster and Easier

A searchable and exportable list of all the items in your single-line diagram makes troubleshooting easier.



## Drill Down for More Details

Click any item to see details like a floor PDU's panel schedule which can be further drilled down to individual cabinets and their contents.

PDU Panel Main Breaker		Voltage	Rating	Continuous Rating	Utilized	Consumed	Phase A					
Budget		208 V	230 A	184 A	30 %	8.178 kW	55.19 A					
Actual		-	-	-	2 %	1.441 kW	3 A					
#	State	Rating / Continuous Rating	Destination	Description	Clk	Customer	Budget RW / % of Rating	Actual RW / % of Rating	Phase	#	State	Rating
1		30/24A, 208V	NEMA L6-30R	Cabinet: 1A	1	Accounting	0.5 - 8%	3.3 - 53%	A	22		30/24
2		30/24A, 208V	NEMA L6-30R	Cabinet: 1C	1	Accounting	0.6 - 10%	3.3 - 53%	B	24		30/24
3		30/24A, 208V	NEMA L6-30R	Cabinet: 1E	1	Accounting	0 - 0%	N/A	B	26		30/24
4		30/24A, 208V	NEMA L6-30R	Cabinet: 1G	1	Accounting	0 - 0%	N/A	A	28		30/24
5		30/24A, 208V	NEMA L6-30R	Cabinet: 4A	1	Marketing	0.1 - 2%	0.8 - 13%	B	30		30/24
6		30/24A, 208V	NEMA L6-30R	Cabinet: 4C	1	Marketing	1.4 - 23%	0.0 - 0%	A	32		30/24
7		30/24A, 208V	NEMA L6-30R	Position in Row: 2 in B	1		0 - 0%	0.0 - 0%	B	34		30/24
8		30/24A, 208V	NEMA L6-30R	Position in Row: 4 in B	1		1.0 - 16%	0.0 - 0%	A	36		30/24
9		20/16A, 208V	NEMA L6-30R	Position in Row: 10 in B	1		0 - 0%	0.0 - 0%	B	38		20/16
10		20/16A, 120V	NEMA L6-30R	Position in Row: 7 in B	1		0.1 - 6%	0.0 - 0%	A	40		20/16
11		20/16A, 120V	NEMA S-20R	Position in Row: 9 in B	1		0.1 - 5%	0.0 - 0%	C	42		20/16

Call 732.993.4476 or visit [SunbirdDCIM.com](http://SunbirdDCIM.com)

Sunbird Software is changing the way data centers are being managed. With a focus on real user scenarios for real customer problems, we help data center operators manage tasks and processes faster and more efficiently than ever before, while saving costs and improving availability. We strive to eliminate the complexity they have been forced to accept from point tools and home grown applications, removing the dependency on emails and spreadsheets to transform the delivery of data center services. Sunbird delivers on this commitment with unexpected simplicity through products that are easy to find, buy, deploy, use, and maintain. Our solutions are rooted in our deep connections with our customers who share best practices and participate in our user groups and product development process.

Based in Piscataway, NJ, Sunbird serves over 1,900 DCIM customers worldwide. For more information, please visit [SunbirdDCIM.com](http://SunbirdDCIM.com).

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