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Starline® Track Busway Monitoring and Management



Key Benefits:

Improve Uptime

- Monitor actual cabinet power load and receive warning and critical alerts based upon threshold violations
- Monitor actual rack PDU inlet current to ensure loads do not exceed redudnancy thresholds
- Monitor actual loads at every breaker point in the power path including panels and UPSs to ensure breaker ratings are not exceed

Improve Efficiency of Capacity Utilization

- Manage cabinet-level stranded power capacity
- Understand three-phase load balancing and know how to balance
- Monitor and fully utilize breaker and panel power capacity
- Measure and trend your Power Usage Effectiveness (PUE)

Increase Productivity of People

- Automatically collect and store power readings
- Get reports and trend charts from any web browser
- Easily create and distribute management reports with over 100 out of the box dashboard charts and reports

"Sunbird is the software partner of Starline. Together, the complete solution enables data center professionals to improve uptime and get the most out of their power resources."

John Berenbrok, Senior Product Manager, **Starline**

Centrally Manage All Your Busway Infrastructure

Modern data centers and labs are growing in density and complexity as IT devices require more and more power to racks. As such, many data center and lab managers deploy overhead busways for their reduced installation costs, flexibility, scalability, reliability, and aesthetics. However, without a busway monitoring and management solution, you may not be getting the most out of your busways.

Sunbird Software's second-generation Data Center Infrastructure Management (DCIM) software is the de facto standard for centrally managing Starline Track Busway infrastructure. As the software partner of Starline, Sunbird provides all the information you need to improve uptime and increase capacity utilization.

Remotely Visualize Your Busways and Tap Boxes in 3D

- Better Than Being There Visualization Without leaving your desk, see your busways, meter locations, racks, and IT equipment on your data center floor map in 3D.
- At a Glance Views of Busway Details See the make, model, status, and connections of your busway infrastructure.
- Tap Box Port Inspector Views High-fidelity images of all your tap boxes allow you to easily label your receptacles and see whether receptacles are currently connected or not.

Make Informed Power and Capacity Planning Decisions

- Find Stranded Power Capacity at Rack Feeds Newly found capacity delays expensive capital expenditure.
- Project Future Power Capacity Needs Trending and days of supply projections enable accurate forecasting.
- Visualize Rack- and Row-Level Power Usage Easily understand total usage vs. budgeted capacity at the cabinet and end feeds and monitor usage trends over time.
- Three-Phase Balancing Made Easy Drill down on any tap box to understand its phase wiring, load on each phase, and percent unbalanced.

Monitor and Centralize Alerts to Prevent Costly Downtime

- Simulate Rack Failover Reports identify available capacity to ensure redundancy in case of failure.
- Visualize Data Center and Facility Health Status Health map of your data center floor with red, yellow, and green color-coding provides an at-a-glance view of rack load levels, line currents, and all environmental conditions.
- Alerting and Alarming of Threshold Violations Automated emails enable quick identification
 of overcurrent conditions, breaker load threshold violations, three-phase balance issues, and
 potential trouble areas.
- Multi-Tile Health Chart Widget -- See red, yellow, and green health data for all your data centers, rooms, PODs, zones, rows, and racks in a single screen with the ability to drill-down for full details.

Utilize Power Resources Efficiently and Improve PUE

- Real-Time Power Usage Effectiveness (PUE) See real-time measurements of total facility energy vs. your total IT equipment energy to gauge efficiency and identify opportunities to improve.
- Bill Back Energy Costs Based on Usage Automatically generated bill back reports drive more energy efficient behavior.





Starline® Track Busway Monitoring and Management



3D Visualization of Busway Infrastructure

Remotely visualize your busways, meter locations, racks, and IT equipment on your data center floor map in 3D. At a glance, know the make, model, status, and connections of your busway infrastructure.



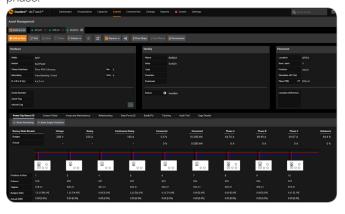
Track Full Details of Each Tap Box

Track the full item details of your tap boxes, including reportable standard and custom fields. Understand the number of poles, phase of each pole, breaker rating, circuit status, and connections. Capacity management is made easy with live readings that provide the percent power utilization of busway



Track Full Details of Each Busway

Accurately manage busway assets with the ability to track and report on all standard and custom fields. Leverage measured readings to get the most utilization out of your power capacity. Track the budget and actual load for each tap box, the voltage rating and consumed power capacity for each busway main breaker, and the current for each of the three phases with the percentage unbalanced, the highest phase, and the lowest phase.



Busway Utilization Dashboard Chart

Monitor the budget and actual power utilization for all your busways in one easy-to-understand dashboard chart. Know if you are overloading a busway which may cause downtime or if you are underutilizing a busway which results in you not getting the most out of your power resources.







Starline® Track Busway Monitoring and Management



Sunbird Software, as the software partner of Starline Busway, supports all meters offered by Starline. The list of meters is extensive and will continue to grow. The following table is a living document that describes the series and models supported as of version 7.0. If you have a newer version, and Starline has introduced new models, it's likely that we will already support those. The table further describes the typical location that the Starline meter is placed, whether it is at the end feed of a row or the tap box above a rack. It describes whether Sunbird collects data from the inlet or outlet of the meter. The tap box meter measures the load at the outlet and can be represented as a rack PDU inlet which correlates to a rack. The end feed meter measures the load at the inlet of the end feed, and that object in Power IQ (PIQ) could represent a stand alone meter. A stand alone meter or rack PDU inlet meter consumes one PIQ license each. Further, we provide the last polled reading of data per model such as watts, power factor, kilowatt hour, KVA, and amps. PIQ always supports the traps that come from the meter. PIQ collects other attributes about the models such as firmware version, name, and location, and gives you the ability to set the name and location on the meter in bulk.

Series	Model	Meter Type	PIQ Data Collection Point	Circuit Breaker Status Reported	Notes	Repre- sented in PIQ as	Data Collection	Trap Support	Firmware Version Reported	Report/ Configure Name & Location	PIQ License
M40 Series	M41x	Tap Box	Infeed	No	Sum of Load of Outlets	Rack PDU Inlet*	Watts, PF, KW-Hr, KVA, Amps, Voltage	Yes	Yes	Yes	1 Per Meter
	M43x										
	M45x										
	M47x										
	M41xx	End Feed	Infeed	No		Stand Alone Meter	Watts, PF, KW-Hr, KVA, Amps, Voltage	Yes	Yes	Yes	1 Per Meter
	M43xx										
	M45xx										
	M47xx										
V40 Series	V41x	Tap Box	Outlet	No	Each Outlet is Metered	Rack PDU Inlet	Watts, PF, KW-Hr, KVA, Amps	Yes	Yes	Yes	1 Per Metered Outlet
	V43x										
	V45x										
	V47x										
M50 Series	M51x	Tap Box	Infeed	No	Sum of Load of Outlets	Rack PDU Inlet*	Watts, PF, KW-Hr, KVA, Amps, Voltage	Yes	Yes	Yes	1 Per Meter
	M53x										
	M56x			Yes							
	M57x										
	M58x			No							
	M59x										
V50 Series	V51x	Tap Box	Outlet	No		Rack PDU Inlet	Watts, PF, KW-Hr, KVA, Amps	Yes	Yes	Yes	1 Per Metered Outlet
	V53x										
	V56x			Yes							
	V57x										
	V58x			No							
	V59x										

^{*}Single outlet models can be represented as a connected device such as a rack PDU or a large IT device

Call 732-993-4476 or visit SunbirdDCIM.com

About Starline Track Busway

Starline Track busway is a revolutionary, overhead power distribution system that is available in various sizes from 40 to 1250 amps. The system's most unique feature includes a continuous access slot, meaning power can be tapped at any location. This flexibility makes it the ideal solution for environments that are looking to expand or change layouts; or those who would simply like to have these options available for the future. Other main benefits of the Starline Track Busway product include reduced facility construction costs, faster installation and the ability to customize solutions to fit your needs. Starline Plug-in Units can also be disconnected and connected without de-energizing the busway and the product requires no routine maintenance.

About Sunbird Software
Sunbird Software
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 Sunbird

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