



To: TBA

Director of Maintenance  
Dayton, OH

**Subject: BrightSync Electrical Panel for Heater Block Control**

Thank you for your interest in BrightSync product. We launched a new company and product at the NAPT Annual Summit Convention in Kansas City, November 8, 2016. Our new company is headquartered in Dayton, OH.

**How Does It Work?**

The smart panel is located next to your existing fuse panel. BrightSync is wired between the fuse panel and outside receptacles. A temperature probe is placed on the outside of the building. The industrial grade programmable logic controller (PLC) continuously monitors the outside temperature and calculates the proprietary algorithms. Based on a preset temperature and day of the week, the software will activate the circuit if conditions are met. The software allows for the weekend shut off of the circuit, saving the energy weekend costs. BrightSync is programmed to turn on the heater block circuit 5 hours before the school bus is started. The value is the heater block circuit only turns on when the temperature set point is met, limits heater block to 5 hours and can be turned off for the weekend. **Expect to save 80% electricity cost per season!**

**Pricing, Savings, Payback information**

The temperature set point for this analysis is 32° F and 40° F. This is the temperature that will activate the circuit to turn on. The analysis represents 20 and 32 bus fleets. Device Days On is calculated using the average daily low temperature over the last 3 winters. The payback calculates both weekend ON and OFF feature. In nearly all the scenarios, the payback is one winter season. For 32 bus fleet, expect to save nearly \$9k per winter season (32° set point, weekend OFF.)

**Unit price for 20 relay/bus = \$7,000**

**Unit price for 32 relay/bus = \$7,480**

DP&L has an energy savings rebate for investments to reduce electricity usage. Utilizing DP&L's Customer Rebate process, you will be eligible for cash back on energy efficient products and upgrades. Please refer to this link for more details, <https://www.dpandl.com/save-money/business-government/custom-rebates/>

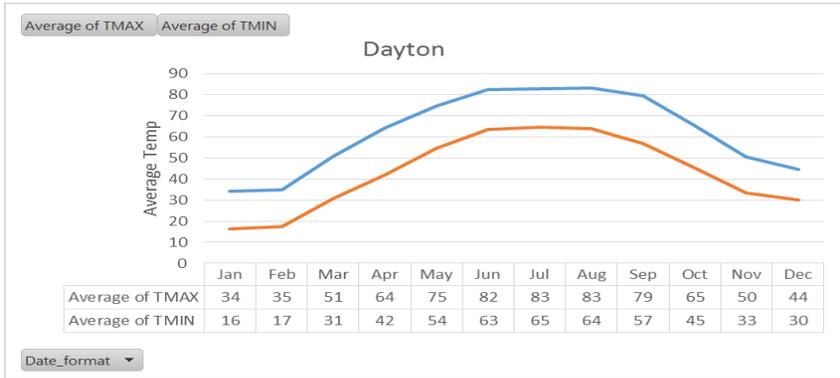
City	Dayton		Hours On Per Day	
	Price per KW	Heater Block (KW)	Work week	Weekend
	\$0.12	1.5	12	24
			Device	5
<b>Number of Vehicles</b>	<b>20</b>		<b>32</b>	

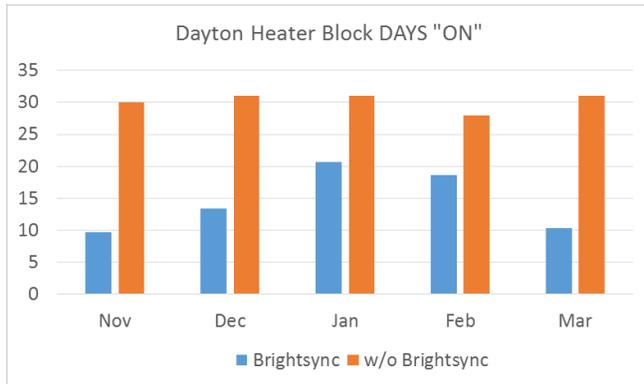
	Set Temp. 32 deg		Set Temp. 32 deg	
	Weekend Off	Weekend On	Weekend Off	Weekend On
Base Days ON	150	150	150	150
Bright Sync Days ON	77	109	77	109
Base Electric Cost	\$8,331	\$8,331	\$13,330	\$13,330
BrightSync Electric Cost	<u>\$1,386</u>	<u>\$1,962</u>	<u>\$2,218</u>	<u>\$3,139</u>
<b>Annual Savings</b>	\$6,945	\$6,369	\$11,113	\$10,191
BrightSync Cost	\$7,000	\$7,000	\$7,480	\$7,480
Installation	<u>\$1,200</u>	<u>\$1,200</u>	<u>\$1,400</u>	<u>\$1,400</u>
<b>Total Cost</b> Text	\$8,200	\$8,200	\$8,880	\$8,880
<b>Payback (Years)</b>	<b>1.2</b>	<b>1.3</b>	<b>0.8</b>	<b>0.9</b>

**History temperature data**

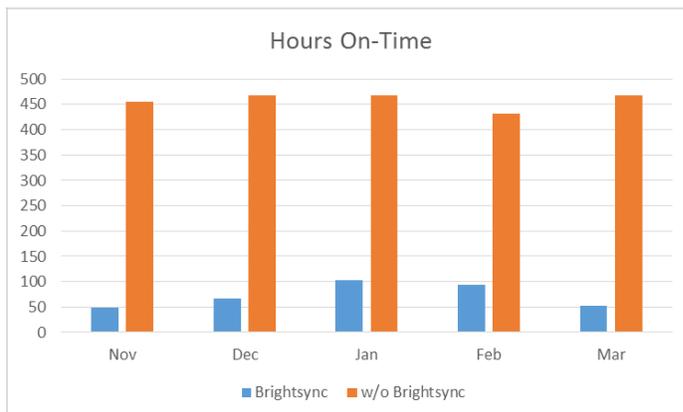
Utilizing the National Oceanic Atmospheric Administration (NOAA) database, the graph below represents average minimum and maximum temperatures over the last 3 years. This graph depicts the average low temperature in your area. We would anticipate your fleet using the engine block heaters from **November through March (150 days)**.



The second graph shows the number of days below the set point with Weekends OFF and ON. At the 32° temperature set point, your buses will active for **73 days** with weekend OFF feature during the winter season. This data is the average of the last 3 winter seasons in the **Dayton area**. The PLC controller is looking at the actual calendar days to eliminate the weekend dates.



The last graph compares the actual hours “ON” for BrightSync versus a Block heater with no control. BrightSync reflects weekend off feature in graph.





### **Top Five Reasons to Buy**

1. Simple payback within first season. Save over 80% electricity costs annually.
2. Going "green" saving energy cost and reducing school districts operating costs.
3. Receive cash back from DP&L (Utility Company) for energy efficient product.
4. Patent Pending Device with 1 year warranty.
5. Made in USA.

### **About Us**

BrightSync's management team has been in the transportation business for nearly 50 combined years. We worked for a School Bus OEM and launched new technology with a Tier 1 supplier across Transit, Truck, School Bus and Military applications. This business is being launched right here in Dayton, OH.