



Energy Conservation Analysis

Tests Conducted On
Underlying Technology For

PowerSentry™-CA
PowerSentry™-REF

Date: 10/28/03

CONFIDENTIAL

EXECUTIVE SUMMARY

The following is a summary of the Energy Saving Performance of the *PowerSentry™-Ref* control which was installed on two (2) different commercial refrigeration systems including: one **Open Display Case** (Dairy) and one **Glass Door Reach In Freezer (Frozen Foods)** and four *PowerSentry™-CA* control's that were installed on two 12 ton Carrier Packaged Rooftop Units, one 10 ton Carrier Packaged Rooftop Unit and one 4 ton Carrier Packaged Rooftop Unit. These systems operate on a 24 hours per day, 7 days per week basis at the Walgreens located at 4120 Hempstead Turnpike, Bethpage NY.

During the testing period at this particular location, the *PowerSentry™-Ref* delivered an electric consumption savings of 11.29% on the open display case and 11.04% on the Freezer **Glass Door Reach In** with no degradation of the temperature maintenance. The *PowerSentry™-CA* delivered an electric consumption reduction of 11.28 % and 10.29 on the two 12 ton Carrier Packaged Rooftop Units, 10.39% on the 10 ton Carrier Packaged Rooftop Unit and 10.74% on the 4 ton Carrier Packaged Rooftop Unit with no degradation of the temperature maintenance, which was also confirmed by the facility's staff.

It is important to note that the pilot test was not conducted during the peak cooling season. Increases on system demand and subsequent usage factors during the summer months would result in significantly higher savings results on the air conditioning systems.

The attached report contains documentation supporting the summary results and further elucidates the length of the test as well as documenting the overall temperature performance and predictability of the temperature range of each unit *after the PowerSentry™ affect.*

The analysis of the data collected concludes that the *PowerSentry™* controls have substantially reduced energy consumption beyond the minimum 10% that is guaranteed while providing predictable temperature performance which is consistent with the temperatures that are maintained without the use of the *PowerSentry™* technology. These results further document the financial benefit resulting from the implementation of the *PowerSentry™* Energy Saving Controls.

Test Summary and Recommendations:

Walgreens can expect a pay-back on the *PowerSentry™* investment in less than 12 months when both the (REF and CA) controls are applied. (This assumes that energy costs are in the \$.10 per KWH and does not include any additional benefit from reduced "Peak Electrical Demand Charges" or maintenance costs).

- **Guaranteed Energy Consumption Reductions**
- **Consistent Temperature Performance**
- **15 Year Replacement Warranty**
- **Low Upfront costs and High ROI**



712 US Hwy One
Suite 200
North Palm Beach, FL 33408

Test Report

Report No. 12122-1
Date: 10/28/2003

Customer
Walgreens Hempstead Twpk. & Steward Ave. Bethpage, NY

Test Site Location
Same

Test Type: <input type="checkbox"/> HEATING <input checked="" type="checkbox"/> AIR CONDITIONING <input type="checkbox"/> REFRIGERATION <input type="checkbox"/> OTHER
Product Tested: <input type="checkbox"/> HWR <input type="checkbox"/> LTH <input type="checkbox"/> LTC <input type="checkbox"/> CH2O <input type="checkbox"/> CST <input type="checkbox"/> RA <input checked="" type="checkbox"/> CA <input type="checkbox"/> REF <input type="checkbox"/> OTHER

Type of Equipment
10 Ton Carrier Packaged Rooftop Unit M/N: 48HJD012-631AA S/N: 1697G30753 460 V, 3 Phase, 9.0 Compressor Amps, 24V control Actual Voltage: 486vac, Run Amperage: 8.2 Amps

Test Dates
Start Date: <input type="text" value="9/9/2003"/>
End Date: <input type="text" value="9/22/2003"/>
No. of Days in Test: <input type="text" value="14"/>

BURNER RUN-TIME
PowerSentri™ ON-DAYS: <input type="text" value="91:14:49"/> <input checked="" type="checkbox"/> in HRS. PowerSentri™ OFF-DAYS: <input type="text" value="101:49:27"/> <input type="checkbox"/> in MIN.
RUN-TIME was reduced by: <input type="text" value="10.39%"/>

COMPRESSOR USAGE FACTOR
PowerSentri™ ON-DAYS: <input type="text" value="54%"/>
PowerSentri™ OFF-DAYS: <input type="text" value="61%"/>

Adj. Savings = 10.39%

Comments: Usage factors are within normal limits



712 US Hwy One
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North Palm Beach, FL 33408

Test Report

Report No. 12122-2
Date: 10/28/2003

Customer
Walgreens Hempstead Twpk. & Steward Ave. Bethpage, NY

Test Site Location
Same

Test Type: <input type="checkbox"/> HEATING <input checked="" type="checkbox"/> AIR CONDITIONING <input type="checkbox"/> REFRIGERATION <input type="checkbox"/> OTHER
Product Tested: <input type="checkbox"/> HWR <input type="checkbox"/> LTH <input type="checkbox"/> LTC <input type="checkbox"/> CH2O <input type="checkbox"/> CST <input type="checkbox"/> RA <input checked="" type="checkbox"/> CA <input type="checkbox"/> REF <input type="checkbox"/> OTHER

Type of Equipment
12 Ton Carrier Packaged Rooftop Unit M/N: 48HJD014-631AA S/N: 1697G30803 460 V, 3 Phase, 9.0 Compressor Amps, 24V control Actual Voltage: 482vac, Run Amperage: 8.5 Amps

Test Dates
Start Date: 9/9/2003
End Date: 9/22/2003
No. of Days in Test: 14

BURNER RUN-TIME
PowerSentry™ ON-DAYS: 18:27:35 <input checked="" type="checkbox"/> in HRS. PowerSentry™ OFF-DAYS: 20:34:39 <input type="checkbox"/> in MIN.
RUN-TIME was reduced by: 10.29%

COMPRESSOR USAGE FACTOR
PowerSentry™ ON-DAYS: 11%
PowerSentry™ OFF-DAYS: 12%

Adj. Savings = 10.29%

Comments: Usage factors are within normal limits



712 US Hwy One
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North Palm Beach, FL 33408

Test Report

Report No. 12122-3
Date: 10/28/2003

Customer
Walgreens Hempstead Twpk. & Steward Ave. Bethpage, NY

Test Site Location
Same

Test Type:	<input type="checkbox"/> HEATING	<input checked="" type="checkbox"/> AIR CONDITIONING	<input type="checkbox"/> REFRIGERATION	<input type="checkbox"/> OTHER					
Product Tested:	<input type="checkbox"/> HWR	<input type="checkbox"/> LTH	<input type="checkbox"/> LTC	<input type="checkbox"/> CH2O	<input type="checkbox"/> CST	<input type="checkbox"/> RA	<input checked="" type="checkbox"/> CA	<input type="checkbox"/> REF	<input type="checkbox"/> OTHER

Type of Equipment
4 Ton Carrier Packaged Rooftop Unit M/N: 48HJE004-631AA S/N: 1897G20296 460 V, 3 Phase, 5.1 Compressor Amps, 24V control Actual Voltage: 485vac, Run Amperage: 3.7 Amps

Test Dates
Start Date: 9/17/2003
End Date: 9/22/2003

No. of Days in Test: 6

BURNER RUN-TIME
PowerSentry™ ON-DAYS: 35:59:26 <input checked="" type="checkbox"/> in HRS.
PowerSentry™ OFF-DAYS: 40:19:14 <input type="checkbox"/> in MIN.
RUN-TIME was reduced by: 10.74%

COMPRESSOR USAGE FACTOR
PowerSentry™ ON-DAYS: 50%
PowerSentry™ OFF-DAYS: 56%

Adj. Savings = 10.74%

Comments: Usage factors are within normal limits



712 US Hwy One
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North Palm Beach, FL 33408

Test Report

Report No. 12122-4
Date: 10/28/2003

Customer
Walgreens Hempstead Twpk. & Steward Ave. Bethpage, NY

Test Site Location
Same

Test Type: <input type="checkbox"/> HEATING <input checked="" type="checkbox"/> AIR CONDITIONING <input type="checkbox"/> REFRIGERATION <input type="checkbox"/> OTHER
Product Tested: <input type="checkbox"/> HWR <input type="checkbox"/> LTH <input type="checkbox"/> LTC <input type="checkbox"/> CH2O <input type="checkbox"/> CST <input type="checkbox"/> RA <input checked="" type="checkbox"/> CA <input type="checkbox"/> REF <input type="checkbox"/> OTHER

Type of Equipment
12 Ton Carrier Packaged Rooftop Unit M/N: 48HJD014-631AA S/N: 1897G30803 460 V, 3 Phase, 9.0 Compressor Amps, 24V control Actual Voltage: 487vac, Run Amperage: 8.0 Amps

Test Dates
Start Date: 9/9/2003
End Date: 9/22/2003
No. of Days in Test: 14

BURNER RUN-TIME
PowerSentry™ ON-DAYS: 144:42:02 <input checked="" type="checkbox"/> in HRS. PowerSentry™ OFF-DAYS: 163:06:20 <input type="checkbox"/> in MIN.
RUN-TIME was reduced by: 11.28%

COMPRESSOR USAGE FACTOR
PowerSentry™ ON-DAYS: 86%
PowerSentry™ OFF-DAYS: 97%

Adj. Savings = 11.28%

Comments: Usage factors are within normal limits



712 US Hwy One
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 North Palm Beach, FL 33408

Test Report

Report No. 12122-5
 Date: 10/28/2003

Customer
Walgreens Hempstead Twpk. & Steward Ave. Bethpage, NY

Test Site Location
Same

Test Type:	<input type="checkbox"/> HEATING	<input checked="" type="checkbox"/> AIR CONDITIONING	<input type="checkbox"/> REFRIGERATION	<input type="checkbox"/> OTHER					
Product Tested:	<input type="checkbox"/> HWR	<input type="checkbox"/> LTH	<input type="checkbox"/> LTC	<input type="checkbox"/> CH2O	<input type="checkbox"/> CST	<input type="checkbox"/> RA	<input type="checkbox"/> CA	<input checked="" type="checkbox"/> REF	<input type="checkbox"/> OTHER

Type of Equipment
Refrigerator: Open Display Case (Dairy) Master Bilt: 5 HP, Refrigerant: R-22 M/N: BHM-050-VC 230V, 3 phase, 21.4 Compressor Amps, 230V Control Circuit Actual Voltage: 210vac, Run Amperage: 14.03 Amps Temp. Setpoint: 40 Degrees F

Test Dates
Start Date: 9/9/2003
End Date: 9/22/2003
No. of Days in Test: 14

BURNER RUN-TIME
PowerSentri™ ON-DAYS: 138:00:22 <input checked="" type="checkbox"/> in HRS.
PowerSentri™ OFF-DAYS: 155:34:26 <input type="checkbox"/> in MIN.
RUN-TIME was reduced by: 11.29%

COMPRESSOR USAGE FACTOR
PowerSentri™ ON-DAYS: 82%
PowerSentri™ OFF-DAYS: 93%

Adj. Savings = 11.29%

Comments: Usage factors are within normal limits



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Test Report

Report No. 12122-6
Date: 10/28/2003

Customer
Walgreens Hempstead Twpk. & Steward Ave. Bethpage, NY

Test Site Location
Same

Test Type: <input type="checkbox"/> HEATING <input checked="" type="checkbox"/> AIR CONDITIONING <input type="checkbox"/> REFRIGERATION <input type="checkbox"/> OTHER
Product Tested: <input type="checkbox"/> HWR <input type="checkbox"/> LTH <input type="checkbox"/> LTC <input type="checkbox"/> CH2O <input type="checkbox"/> CST <input type="checkbox"/> RA <input type="checkbox"/> CA <input checked="" type="checkbox"/> REF <input type="checkbox"/> OTHER

Type of Equipment
Freezer: Glass Door Reach In (Frozen Foods) Master Bilt: 3 HP, Refrigerant: R-404A M/N: BCX020028VC 230V, 3 phase, 12.8 Compressor Amps, 230V Control Circuit Actual Voltage: 210vac, Run Amperage: 9.69 Amps Temp. Setpoint: 0 Degrees F

Test Dates
Start Date: 9/9/2003
End Date: 9/22/2003

No. of Days in Test: 14

BURNER RUN-TIME
PowerSentri™ ON-DAYS: 78:59:29 <input checked="" type="checkbox"/> in HRS.
PowerSentri™ OFF-DAYS: 88:47:33 <input type="checkbox"/> in MIN.
RUN-TIME was reduced by: 11.04%

COMPRESSOR USAGE FACTOR
PowerSentri™ ON-DAYS: 47%
PowerSentri™ OFF-DAYS: 53%

Adj. Savings = 11.04%

Comments: Usage factors are within normal limits