

CASE STUDY

DAC-55™ Door Monitor



Business Situation

In cooperation with King's Supermarkets of Parsipanny, NJ, some in-store testing was performed on the DAC-55™. The purpose of this testing was to accumulate data on the effectiveness of the DAC-55™ in helping to reduce energy costs. In order to accumulate this data, Monitoring/Recording equipment was installed onto a refrigerator and a freezer. This equipment recorded the number of times that compartment doors were opened, the number of cumulative hours that doors were opened and the number of cumulative hours that interior compartment lights were turned on. The entire testing process lasted for a total of 9 weeks and was divided into three sequential 3 week periods:

The Challenge

1st 3 weeks: *Baseline Phase:* Monitoring/Recording equipment was installed and data was recorded without installing the DAC-55™. This produced numbers indicative of normal existing operation.

The Solution

2nd 3 weeks: *Training Phase:* DAC-55™s were installed. The Door Ajar Alarm Time Delay was set for 15 minutes and data was again recorded. This produced numbers indicative of operation when personnel were being trained by the DAC-55™ to be more responsive to closing compartment doors.

Business Results

3rd 3 weeks: *Results Phase:* Data was again recorded. This produced numbers indicative of operation when behavior of personnel had been modified as a result of the DAC-55™ having been installed.

Summary

“Based on the accumulated data, it is apparent that the DAC-55™ will successfully help to reduce energy costs by minimizing the amount of time that compartment lights are on and by helping walk-ins to operate more efficiently. Over time, the numbers shown in this study after the DAC-55™s were installed should continue to improve as personnel become further trained and conditioned, resulting in a more rapid payback time and greater energy savings. Benefits will vary depending on the number of light fixtures in a respective compartment, performance of store personnel in keeping doors closed and overall energy costs. Product integrity should improve as well, as keeping doors closed will help in maintaining compartment temperatures.”

MODULARM DAC-55™ Door Monitor

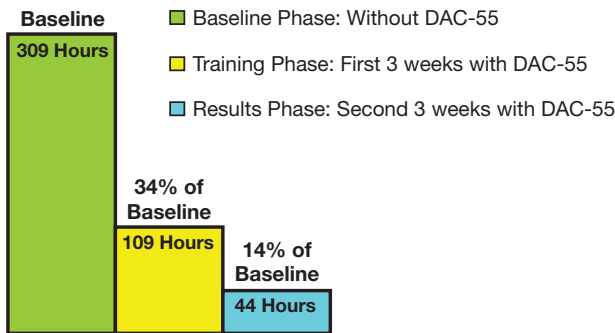
Case Study

WALK-IN REFRIGERATOR

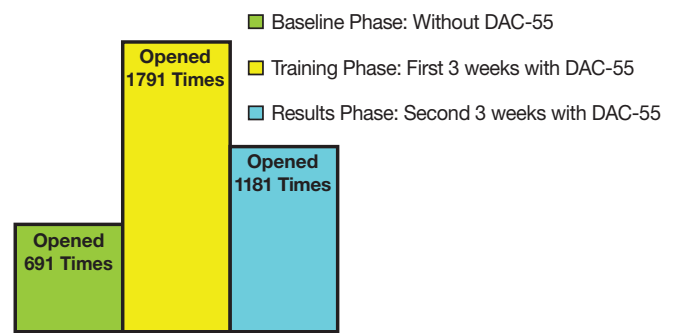
Analysis

WALK-IN REFRIGERATOR: In the baseline phase, it is apparent that personnel were leaving the door opened unnecessarily for extended periods of time and that lights were left on almost constantly, 24 hours a day. Both of these conditions wasted a substantial amount of energy. Installation of the DAC-55™ Freezer & Refrigerator Door Alarm had a dramatic impact on reducing these numbers, thus lowering operating expenses. Simultaneously, the number of times that personnel opened and closed the door increased greatly in order for personnel to continue to gain access.

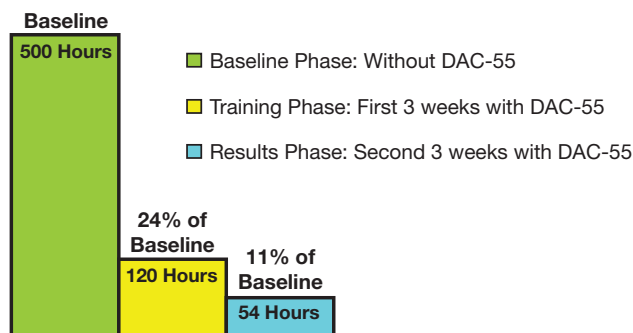
Number of hours refrigerator door was opened:



Number of times refrigerator door was opened:



Number of hours refrigerator lights were on:



MODULARM DAC-55™ Door Monitor

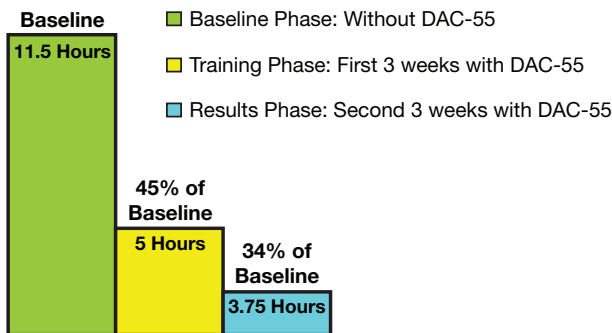
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WALK-IN FREEZER

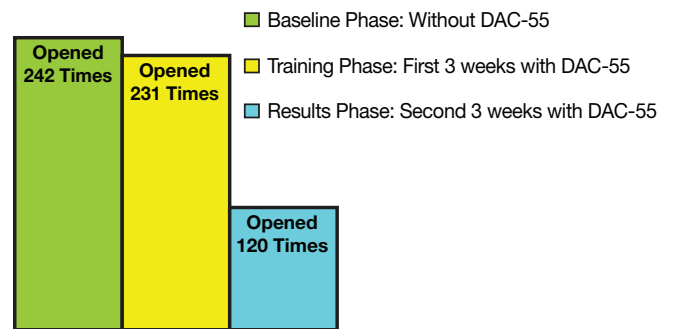
Analysis

WALK-IN FREEZER: This compartment was not used as frequently as the Deli cooler, as indicated by the number of times that the door was opened. However, the number of hours that the door was opened was higher in the Baseline phase than it was in the later phases. This would indicate that, in normal usage, the compartment door was occasionally left opened or ajar. Once the DAC-55™ was installed, the door ajar function alerted personnel to this condition, the door was closed and the number of hours that the door was opened was reduced. As with the walk-in cooler, lights were again left on unnecessarily. The DAC-55™ substantially reduced these numbers in the later phases as well.

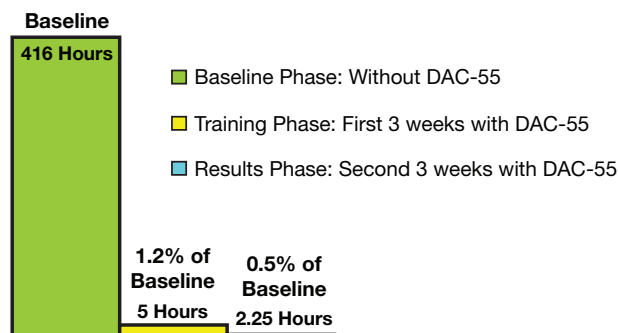
Number of hours freezer door was opened:



Number of times freezer door was opened:



Number of hours freezer lights were on:



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229-40079



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BROUGHT TO YOU BY
KITCHEN BRAINS®

Food Automation - Service Techniques, Inc.

905 Honeyspot Road, Stratford, CT 06615-7147 USA

Phone: **+1-203-377-4414**

Sales: **1-800-327-8766**

Fax: +1-203-377-8187

International Callers: **+1-203-378-6860**

www.KitchenBrains.com

Toll-free technical support 24/7 from the U.S.,
Canada, and Caribbean: **1-800-243-9271**

International offices are located in the United Kingdom, China and Singapore:

Europe, Middle East, Africa
31 Saffron Court Southfields Business Park
Basilidon, Essex SS15 6SS ENGLAND
Phone: **+44 0 1268544000**

China
1803, 18F, No 922 Hengshan Rd
Shanghai 200030, CHINA
Phone: **+8613916 854 613**

Asia Pacific
13A MacKenzie Road
228676
Singapore
Phone: **+65 983159273**

WARRANTY

Kitchen Brains warrants that its products shall not fail to function in accordance with their specifications because of defects in material or workmanship, for the following warranty periods:

i. New Products: New Products consisting of microprocessor based controllers, timers, data-loggers or remote monitoring devices for 1 year from date of purchase.

ii. Sensors and Accessories: Sensors and accessories (consisting of probes, wireless sensors, hoses, relays, switches, mounting hardware or accessories) for 90 days from date of purchase.

For complete details consult www.kitchenbrains.com/warranty

PATENTS

The products manufactured by Kitchen Brains are protected under one or more of the following U.S. Patents:

5,331,575	5,539,671	5,711,606	5,723,846
5,726,424	5,875,430	6,142,666	6,339,930
6,401,466	6,401,467	6,581,391	7,015,433
7,145,463	7,650,833	7,877,291	8,060,408

Plus foreign patents and patents pending. Plus licensed patent 5,973,297

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