

Design to Support Reliable Power to Production Lines



Case Study: Chicago Plastics*

Chicago Plastics is a manufacturing plant for plastic jars and closures designing solutions for industries such as health and beauty, cosmetics, food, pharmaceutical and other medical products. With manufacturing capabilities including injection molding, mold building, printing and cap lining, they need to operate out of a modern and fully automated factory to be able to monitor, analyze and control machinery and ensure that everything is operating at full and optimal capacity.*



Overview of the Case

Socomec, Inc. recently completed a large project with Chicago Plastics. Producing more than a million plastic jars and closure combinations a day, they needed to find a solution that was working for them 24/7.

This case study will review:

- Problem
- Options
- Solution Chosen
- Benefits with the option they chose
- Review of the Products

Chicago Plastics' Options

When evaluating their options, they decided that there were 3 feasible solutions to their problem.

The first being that they could change all of the switchgear. Their second option is to add a meter to each of the loads. And finally, to add a multi-circuit compact system per switchgear.

Evaluation of their Options



Option 1: Replace switchgear

While this is an option, it would require them to stop production. For each day that the facility is not running, Chicago Plastics would incur production delays resulting in a loss of revenue of a million units per day. In addition to the loss in revenue, replacing the machines would be costly and time consuming. Option 1 would result in the most expensive solution



Option 2: Add a meter at each load

Adding a single point meter to each load would take up valuable space in the switchgear. This would also require additional setup of repetitive wiring for each individual voltage, communication, and auxiliary power supply required for each meter. This would be time consuming and a more expensive solution.



Option 3: Add a multi-circuit, compact system per switchgear

The multi-circuit proved to be the most compact solution with all of the load measurements offered in the same enclosure. The solution also comes prewired and works with existing machinery, allowing for installation on top of, or next to the switchgear. Option 3 offers the fastest installation and lowest cost solution.

The Problem

Chicago Plastics was looking for a solution that could support with monitoring, analysis and control of the electrical distribution to individual machines (called the loads). Managing the energy usage, identifying incoming demand, anticipating problems and preventing unnecessary downtime. The switchgear and electrical distribution were already installed and a significant modification of the design was not an option.

Additionally, the switchgear and electrical circuits were installed with existing current transformers used for relays.



The Solution

The clear solution was Option 3, the DIRIS DigiBOX from Socomec. The prewired solution allow for minimal installation time and for Chicago Plastics to use their current switchgear. There was no downtime of the plant during the installation, due to our 5 Amp adapters, they were able to use their existing current transformers.

In addition to increased monitoring capabilities, the DIRIS DigiBOX comes with our D-70 display with embedded webserver; WEBVIEW. This allows for accurate monitoring 24/7 with our remote monitoring capabilities.

Socomec meters and software provide complete energy management, power quality analysis, read-out and control of alarms, global event logging, and real-time diagrams. These features give Chicago Plastics a complete solution to perform accurate monitoring, analysis and control of the individual machines. This allows for Chicago Plastic to monitor and control the day to day management of their installation.

The Benefits

Placed in a durable NEMA 1, 3R metallic enclosure, the solution is stable for a variety of environments and temperatures. Made in a cULus 508A solution assembly facility, the enclosures and components are cULus listed.

The Socomec Solution comes prewired internally ensuring the most compact design possible. The DIRIS DigiBOX has RJ12 connections for external current sensors. The solution has automatic detection of ratings and verification of current flow direction as well as disconnection of the current sensor for the secondary under load.

Our Digiware is extremely accurate with class 0.5% global accuracy and has multiple communication protocols available for increased reading capabilities for dependable monitoring. The solution is embedded with gateways, so monitoring from the maintenance room, real time monitoring and remote monitoring to look at loads consumption are all possible.

Socomec's Metering

Socomec's metering, monitoring and power quality solutions aim to improve the energy performance of installations. From meters to software, Socomec offers a wide range of solutions with outstanding technologies.

The power meter offers a configuration wizard guiding the user step by step during the first power on. It also detects and corrects configuration errors.

This cuts the commissioning time in half and ensures consistent readings.



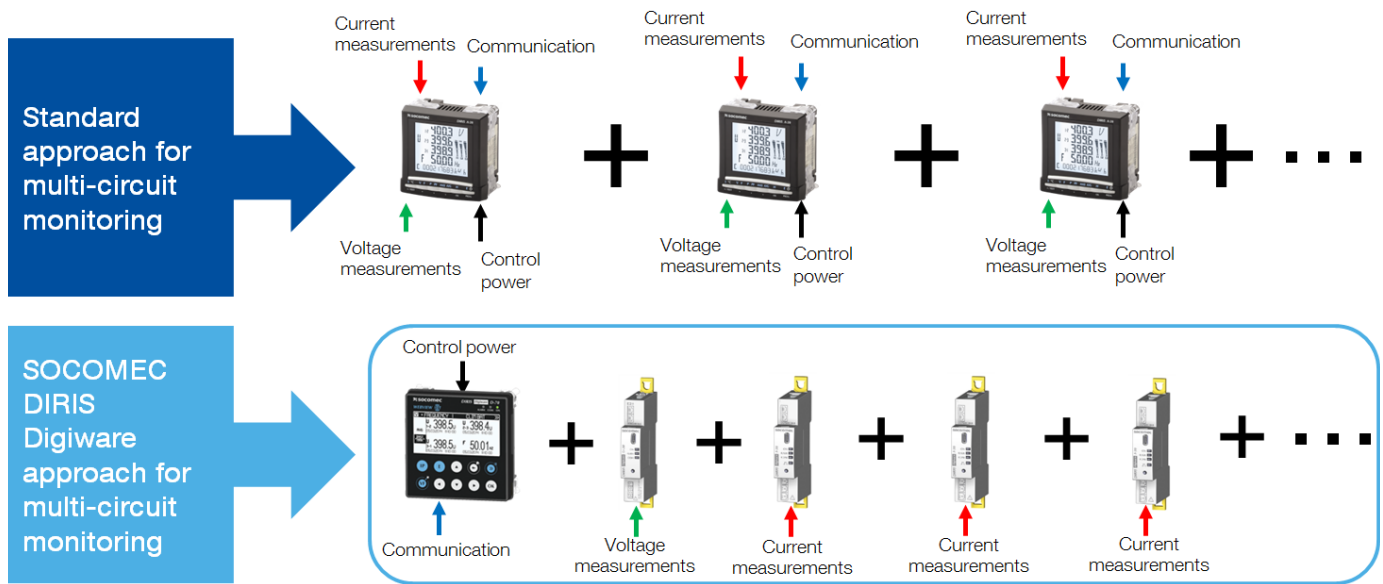
Product Offerings

DIRIS DigiBOX

The DIRIS DigiBOX is made in the United States at a UL 508A panel shop to ensure reliability and safety for both the employees and your machinery. The DIRIS DigiBOX is enclosed DIRIS Digiware modules in a NEMA 1, 3R enclosure and are ready to install, so the customer only needs to connect the current sensors and the voltage. The DIRIS DigiBOX is an all in one part number that includes the DIRIS Digiware product, voltage connections, and is prewired. We offer either DIRIS Digiware (U, I, and power supply) or the DIRIS A enclosed for multi point or single point applications or a flex option. Each DIRIS DigiBOX comes with fused voltage connections, internal wiring and the Socomec metering product.

DIRIS Digiware

Unlike traditional style meters where you have to direct wire the voltage, control power, communication and the current sensors; DIRIS Digiware is a modularized and more simple for multi-circuit applications. For the customer, all that needs to be wired is the control power, the communication, and the voltage once. Current modules are then connected to the current sensors via an RJ12 cable, so there is no need for direct wiring of the current sensors which minimizes wiring errors. The modules connect together via RJ45 cables which is already done in the DIRIS DigiBOX. With the DIRIS Digiware, users have the capability of accessing the data remotely via a webserver called WEBVIEW which is embedded in our D70 or DIRIS M communication gateways.



HEAD OFFICE SOCOMEc, INC.

9 Galen Street, Suite 120
Watertown, MA. 20472
O: (617) 245-0447
info.us@socomec.com

YOUR DISTRIBUTOR / PARTNER

www.socomec.us

