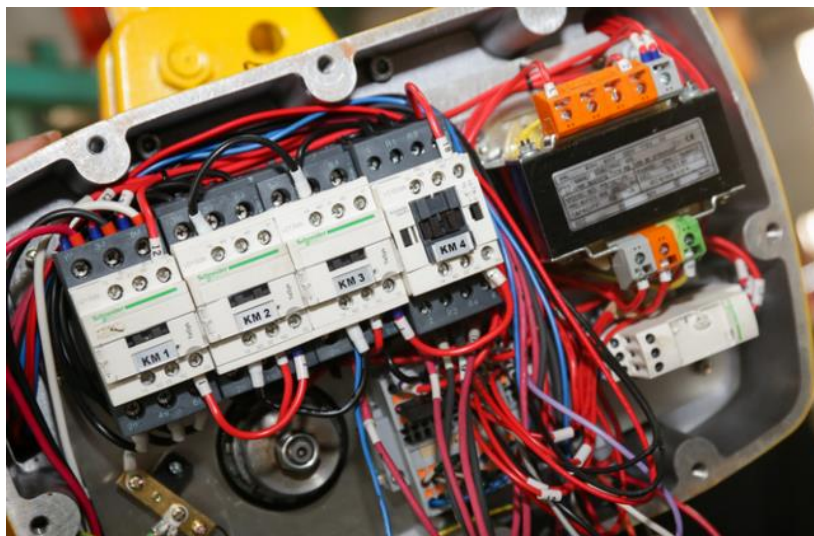


EFFICIENCY

Building a Hoisting Equipment Empire

I-Te Pan
President of Cheng Day Machinery Works Co., Ltd.
Taiwan



Goal

Create the world's first permanent-magnet synchronous motor for use in cranes

Story

Schneider Electric's quick service network and reliable products enabled Cheng Day Machinery to create an innovative solution to the problem of the high starting current needed to hoist extremely heavy items.

Solution

Utilize the proven reliability of Schneider Electric magnetic contactors and other components to prevent over-consumption of electricity.

Results

- Faster response time to customer problems
- Energy efficiency increased to 95%
- Enhanced hoisting frequency and weight

Using Schneider Electric components, and establishing its own motor factory, Cheng Day Machinery Works Co., Ltd was able to launch a revolutionary product – the permanent magnetic motor.

This innovative solution uses a variety of Schneider Electric components including contactors, hand-held controllers, relays, sequence detectors and circuit breakers. These parts were chosen for Schneider Electric's reliability and global supply chain.

Starting with the development of this permanent magnetic motor, Cheng Day has only used Schneider Electric products for export items. The motor has also enabled Cheng Day to develop cranes for particular businesses and purposes, entering the realm of specialized cranes in addition to all-purpose models, as well as offering enhanced hoisting frequency and weight.

The Challenge

Cranes need to hoist extremely heavy items, meaning their motors require a high starting current. Generally speaking, the startup current of a 10HP motor can be up to 180amps. Most equipment runs at its operational level soon after being started, so the inrush current only happens once, after which it returns to its normal level. Cranes are different as they are usually operated by people, and most stop when they reach pre-determined positions, causing the operators to repeatedly start them to drive them to their desired positions. Repeatedly starting a crane consumes a huge amount of electricity, overwhelming the factory's supply. The permanent magnet motor resolves this problem.

The Solution

To solve this challenge, Cheng Day needed to develop a permanent magnetic motor, with exacting specifications, as there was no suitable product on the market. In order to do this, the company established its own motor factory, and after eight years of R&D was able to start producing the first cranes using permanent magnetic motors developed by a Taiwanese company.

Cheng Day's innovation and insistence on making technological breakthroughs is reflected in its selection of parts and components. At present, Cheng Day uses Schneider Electric's TeSys D contactors for the elevation and reverse controls, hand-held controllers for buckle pressing, relays, sequence detectors, timer, limit switches, inverters, circuit breakers, and miniature circuit breakers.

The reliability of Schneider Electric's products is well-known in the business. In terms of maintenance, Schneider Electric has a closely-knit global service network that provides a complete backup network for Cheng Day, enabling the company able to offer its customers quick, comprehensive service globally.

The Benefits

Improved energy efficiency and conservation

Most available rival products feature energy efficiency of 92-93%, which is at least 2% lower than Schneider's 95%. It may not look so attractive, but it adds up over time when taking into account hoisting equipment's high power consumption capacity.

Global service network

Schneider Electric has a global supply chain providing quick, high quality services. This full-scale support in overseas markets solves the problems of insufficient supply of parts and components, reducing downtime.

Improved reliability

Crane contactors must function under very demanding operation conditions. In spite of their compact size, Schneider Electric electromagnetic contactors far outmatch those of rival brands in terms of current load, mechanical performance, and electric lifetime.

Better safety

For common cranes, long hours of operation put stress on parts and increase the risk of malfunctions. TeSys D contactors provide safe, long-lasting power connections thanks to Everlink and spring terminals.

Products

- TeSys D
Contactors

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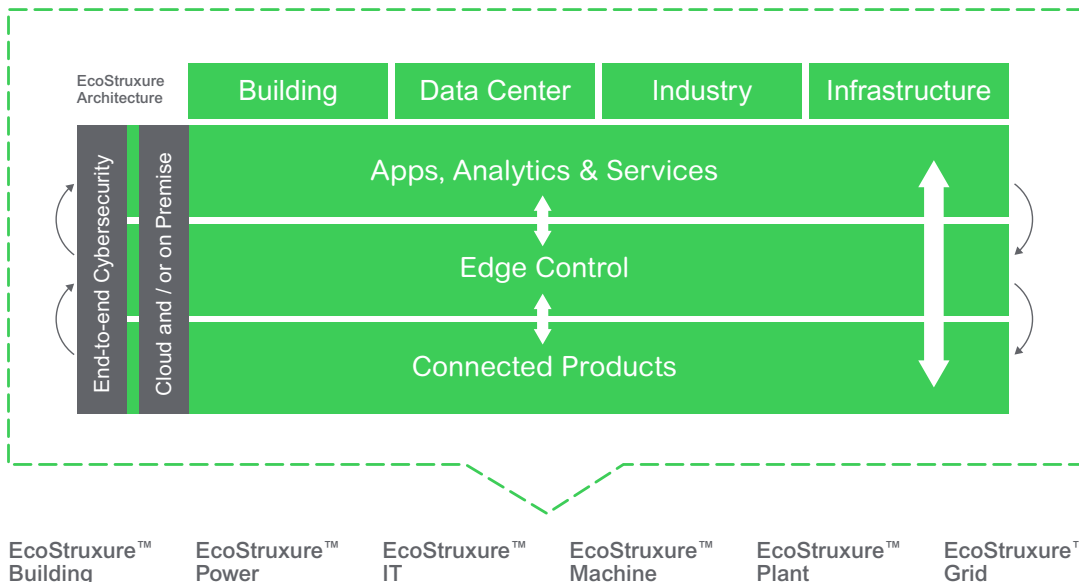
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EcoStruxure delivers enhanced value around safety, reliability, efficiency, sustainability, and connectivity for our customers.

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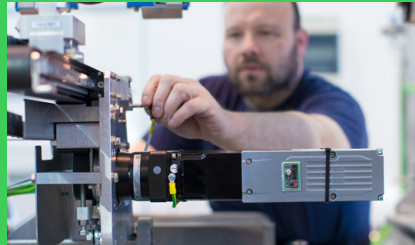
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