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Solid State Automation and Controls: Cutting Motor Control Center Delivery Time by 50 Weeks

CASE STUDY

Solid State Automation and Controls



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THE PROJECT

The challenge

- 14-month MCC lead time
- Eight-month facility deadline
- Faster design-to-build process needed

The solution

- Custom MC-PLEX® system
- VX enclosures + RiLineX busbar
- Rittal and Eplan design support



Introduction

When critical facilities need automation infrastructure, long lead times can put an entire project at risk. For Solid State Automation and Controls (SSAC), a customer in the building materials and logistics industry, a traditional bucket-style Motor Control Center came with a 14-month lead time. The facility needed to be operational in eight months.

That timeline turned the standard MCC path into a show stopper.

SSAC took on the challenge by designing a custom Motor Control Complex, the MC-PLEX®, with the speed, safety, reliability, and flexibility the customer required. By working with Rittal and using a modular enclosure and busbar platform, SSAC delivered the first system in 22 weeks, saving 50 weeks against the traditional lead time and creating the foundation for a faster, smarter product line. Continue reading to discover how.

About Solid State Automation and Controls

SSAC is a Houston-area systems integrator that designs, builds, and programs PLC- and SCADA-based control systems for industrial customers. The company serves multiple industries, including chemical process, manufacturing, renewables, oil & gas, and government.

"We help our customers automate and control their plants so they can operate them efficiently and safely," said Nazeeh Melhem, President of SSAC.

For SSAC, customer trust is built on expertise, execution, and accountability, while a customer-first mindset is central to their approach to every project.

"Our mission is to design, build, and deliver high-performance control systems from concept to commissioning with the speed and reliability critical industries demand," Melhem said.

The Challenge

An SSAC customer needed an MCC to support a new facility, but the traditional sourcing path came with a 14-month lead time. The customer's facility needed to be operational in eight months, meaning a conventional approach could have prevented SSAC from winning the project and could have delayed the customer's facility launch.

SSAC needed a way to design, build, and deliver an MCC-style system within the customer's required window without sacrificing safety, reliability, or long-term serviceability.

The challenge required SSAC to rethink the complete system, from drawing generation to panel build to final commissioning. The team needed an infrastructure platform that could support a custom design, accelerate assembly, and remain flexible enough for future builds and post-installation changes.

The Rittal Solution

SSAC designed a custom Motor Control Complex, the MC-PLEX®, from the ground up with the help of Rittal. Rittal provided the modular infrastructure needed to make the system faster to build, easier to standardize, and more flexible than traditional approaches.

The core Rittal solution included:

- **VX Enclosures:** Rittal's VX enclosure system provided the modular foundation for the custom MC-PLEX® design
- **RiLineX Busbar System:** RiLineX is a tool-free, modular busbar platform providing reduced assembly time and high field-modification flexibility
- **UL-Recognized Components:** Pre-tested SCCR ratings and UL-recognized components reduced approval delays
- **Eplan Engineering Support:** Eplan compressed drawing generation time, reduced redraws, and improved documentation handoffs from engineering to assembly
- **Rittal Design Support:** Rittal worked directly with SSAC's engineering team to make design modifications that improved assembly efficiency and supported the required timeline

For SSAC, RiLineX was a key part of improving the build process:

"Right now, the new shiny thing inside the market that Rittal has made is RiLineX," said Richard Anderson, Senior VP of Engineering at SSAC. "It's far superior than everyone else's busbar system. It's a toolless system that bolts together like building blocks, so we can really reduce the amount of time it [takes] to put it together, but it also increases the flexibility."

SSAC was seeking a repeatable, smarter product platform that could continue improving over time, making system flexibility imperative.

"Rittal is quite a creative organization and, given their size, it's actually very impressive how quickly they can turn around a new design, test it, certify it, and release it to us."

Richard Anderson,
Senior VP of Engineering at Solid State
Automation and Controls

The Implementation

SSAC and Rittal relationship went beyond product supply. Rittal worked closely with SSAC's engineering team to support design adjustments that improved build efficiency and helped the MC-PLEX® system meet the accelerated schedule.

A critical part of the implementation was eliminating wasted time between engineering and assembly. Using Eplan, SSAC compressed reduced design times while delivering cleaner documentation packages so production could move faster with less rework.

As the system moved into commissioning, SSAC engineers loaded programs into the controllers, configured the network, established connections between system components, and began testing the completed system.

The Results

SSAC delivered the custom MC-PLEX® in 22 weeks, meeting the customer's required window and saving 50 weeks compared to the standard 14-month lead time.

"We took on the challenge, we designed the MCC system, and were able to deliver it in 22 weeks, which was effectively a 50-week time saving," Melhem said. "That was our entry point into the MCC world."

The initial success became the foundation for the next generation of SSAC's MC-PLEX® line. Since that first build, SSAC has continued to optimize the system, reducing delivery time from 22 weeks to approximately 12–14 weeks, with a target of 8–10 weeks in active development.

The results included:

1. 50 Weeks Saved on the First Build
2. Current Delivery Time Reduced to 12–14 weeks
3. 8–10 week Target in Progress
4. Reduced Assembly Time
5. Greater Field Flexibility
6. Cleaner Engineering-to-Assembly Handoffs
7. Smarter System Capabilities

"Since then we've improved the system even more, made it smarter," Melhem said. "We enabled it with AI and preventive maintenance analytics capabilities. We're sitting at about 12 to 14 weeks right now and we're aiming to reduce it even further to 8 to 10 weeks."

For SSAC, the partnership with Rittal also supports the company's reputation with its own customers.

"Rittal has put every product through a rigorous engineering testing program," Anderson said. "We put our reputation on the line with every build, so any product we use has to meet that standard. Rittal is a trusted partner. The products they produce are always reliable and of high quality."

A Partnership Built on Shared Values

Choosing Rittal was the next step in a partnership based on aligned values, complementary expertise, and a shared commitment to innovation.

"Rittal's values are closely aligned with ours, which makes working together easy—but also fun and enjoyable," Melhem said. "They're on the bleeding edge, not just the leading edge of technology."

That alignment is especially important as SSAC continues to refine the MC-PLEX® platform and look for new ways to help customers deploy critical industrial infrastructure faster.

"Rittal continues to innovate. We continue to innovate," Melhem said. "So, we look at ourselves as great partners for Rittal, and Rittal being a great partner for us."

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Conclusion

By partnering with Rittal, SSAC turned a project-threatening lead time into a competitive advantage. The MC-PLEX® gave the customer the MCC-style functionality they needed within the required project window, while giving SSAC a faster, more flexible, and more intelligent platform for future builds.

SSAC is also building on the success of MC-PLEX® by developing a switchgear line that expands its offering into the power distribution layer above the Motor Control Complex in industrial facilities. The same principles that shaped MC-PLEX® continue to guide the company's future: fast delivery, smart design, flexible infrastructure, and technology-forward solutions that give customers a competitive edge.

Contact Solid State Automation and Controls

For PLC- and SCADA-based control systems, custom automation solutions, MC-PLEX® systems, commissioning support, and industrial control system expertise, [contact Solid State Automation and Controls](#).

Contact Rittal for Power Distribution Made Easy

Ready to simplify your power distribution projects? [Contact Rittal today](#) to discover how our modular enclosures and busbar systems can easily boost your efficiency, compliance, and scalability.

Contact Rittal LLC and Eplan LLC for Modular Infrastructure and Engineering Software

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