Steel

DigiSVC®

Static VAR Compensator (SVC) - Optimize Your Steelmaking Efficiency

Power Solutions

We provide power electronic solutions that play a key role in enhancing Meltshop performance. The DigiFCR® X4 is our Firing Circuit Replacement system, designed to fully upgrade the controls of existing DC EAF power rectifiers. It improves current regulation while also extending protection for the furnace. Meanwhile, the DigiSVC® is our advanced Static VAR Compensator that stabilizes voltage, improves power factor, and compensates for reactive power in industrial electrical systems. Both solutions can be delivered with new power electronic hardware or as retrofits for existing systems, regardless of the original manufacturer.

Unleash the Full Potential of Your Electric Arc Furnace

Our Static VAR Compensator (SVC) is engineered to enhance the performance and efficiency of AC and DC Electric Arc Furnaces (EAFs) while ensuring compliance with power utility requirements. By stabilizing voltage and optimizing power flow, it reduces melting time per heat, enabling greater steel output with precision and consistency.

With decades of expertise, we ensure seamless operation and long-term reliability, whether implementing a full SVC system or upgrading an existing one. We specialize in retrofitting and integrating SVC systems across all brands, providing solutions designed to maximize efficiency, minimize downtime, and keep your operations ahead of evolving demands.

DIGISVC® FCR CONTROL CABINET FRONT VIEW

Advanced Power Optimization

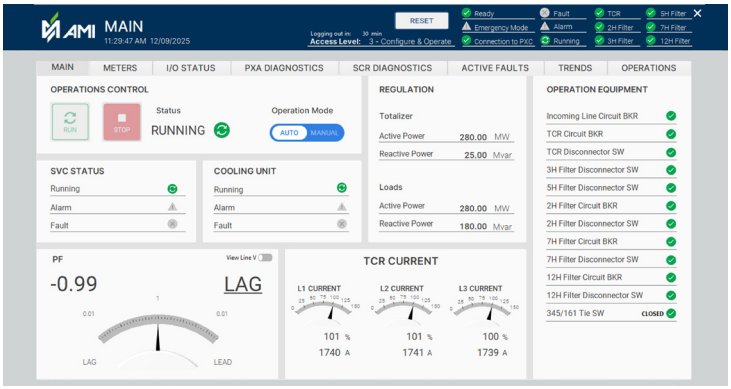
- **Outer-loop PF regulation + inner-loop single-phase correction:** Enhances power factor correction, reducing flicker and improving stability.
- **High-speed trending & enhanced diagnostics:** Provides real-time system monitoring for quick and accurate fault diagnosis, minimizing downtime.
- **Short circuit current measurement:** Delivers strategic insights into grid behavior, optimizing power management.

Seamless System Integration

- **Digital twin technology:** Pre-tuned equipment enables predictive maintenance and a smooth startup process.
- **LTTs & ETT gating:** Ensures compatibility when retrofitting existing SVCs, making it adaptable for any technology.
- **SmartSVC®:** Optimizes steel production by stabilizing power flow and improving overall energy efficiency.

Versatile & Future-Ready

- **Universal compatibility:** Works with any existing SVC system, making upgrades seamless.
- **Extensive parts inventory:** Uses standardized components across multiple solutions, ensuring easy access to spare parts.
- **Enhanced troubleshooting:** Advanced diagnostics simplify maintenance, reducing operational disruptions.



REAL-TIME STATUS AND VALUES OF THE DIGISVC®

SmartSVC®

Integrates an Electric Arc Furnace control system with a digital Static Var Compensator (SVC) to balance reactive power, minimize electrical harmonics, and optimize system coordination for improved efficiency and reliability.

Key Features

- Embedded high speed measurements
- Sensor-less totalizer current estimation
- No input CTs needed
- Substation TX reactance compensation for input power factor regulation
- Online measurements of:
  - PF/PFD
  - Flicker
  - Short circuit capacity measurement

Benefits

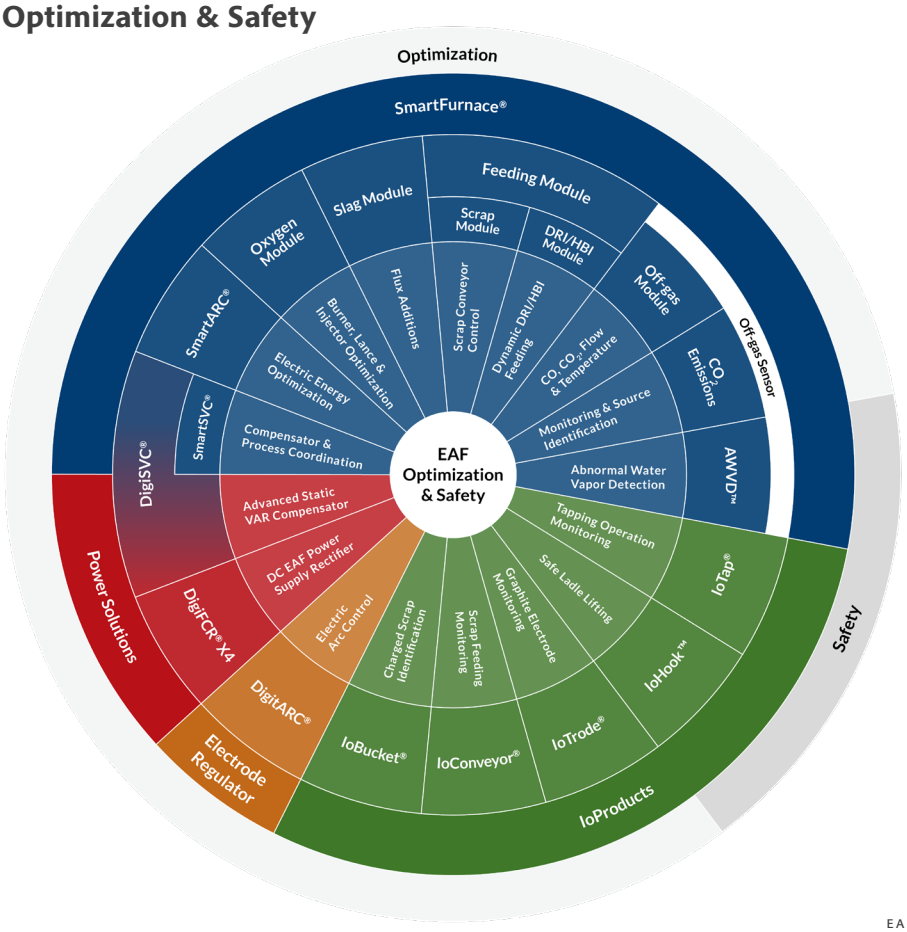
- Transformer tap changer reduction
  - Voltage stability will help reduction of tap changes
  - Reduction of further damage to the transformer
  - Maintenance
- Coordinated connections and disconnections
  - Smooth transition between switching on and off
  - Avoid inrush transients
- Dynamic increase of available power
  - When the furnace is stable, increase the voltage
  - The voltage will be increased in between the boundaries allowed by the equipment and the utility company

Seamless Integration with DigitARC® PX3 & SmartFurnace®

Our SVC is designed to work natively with DigitARC® PX3 and SmartFurnace®, enhancing arc stability for a smoother and more efficient operation.

Beyond voltage stabilization, our SVC technology is a strategic investment in operational excellence, optimizing startup processes, preventing costly interruptions, and providing real-time insights into grid behavior. Backed by a dedicated team of experts and comprehensive support services, we ensure reliable performance and continuous operation for your steelmaking process. Contact us today to learn how our SVC solutions can optimize your operations.

Electric Arc Furnace Optimization & Safety



EAF OPTIMIZATION & SAFETY DIAGRAM

Electrode Regulation System

The DigitARC® PX3 Electrode Regulation System is the core of AMI's EAF optimization solutions. With over 35 years of expertise and implementation in 275+ Furnaces worldwide, it delivers proven reliability and efficiency for even the most demanding EAF and LF applications. Our advanced electrode control technology ensures optimal arc stability, real-time performance monitoring, and seamless operator interaction through an intuitive interface. Today, more than 80% of the North American EAF steel capacity is melted with the AMI regulation systems.

SmartFurnace®

The SmartFurnace® System enhances productivity and reduces energy use per ton of steel. As an advanced AI-driven expert system, based on the SmartKnB® platform developed by AMI, it dynamically adjusts electrical and chemical energy inputs based on real-time heat conditions. Recognizing that every EAF is unique, we provide the tools and expertise needed to optimize performance. With a modular design, the system enables coordination between energy input controls, while its open architecture allows for seamless customization, ensuring maximum efficiency.

IoProducts

Advanced solutions for monitoring and controlling critical aspects of the steelmaking process. Built on the SmartKnB® graphic development platform, they provide advanced customization within an open, user-friendly architecture. By integrating Artificial Intelligence, and Image Processing, these modules accelerate digitalization, improving efficiency, safety, and overall process optimization.