

# DigiFCR® X4

## DC EAF Power Rectifier Control Upgrade

AMI Automation, a Resonac Company, is a global leader in automation and control solutions. We specialize in designing, manufacturing, and implementing innovative technologies to enhance process efficiency across industries such as steel, mining, cement, pulp & paper, and oil & gas.

### DC EAF Power Rectifier Control Upgrade

Upgrade your Electric Arc Furnace (EAF) with the DigiFCR® X4, an advanced DC Power Rectifier Control solution designed to eliminate obsolescence challenges, enhance diagnostics, and streamline troubleshooting. This cutting-edge upgrade significantly reduces downtime, getting your furnace back online in weeks instead of months while extending its operational life.

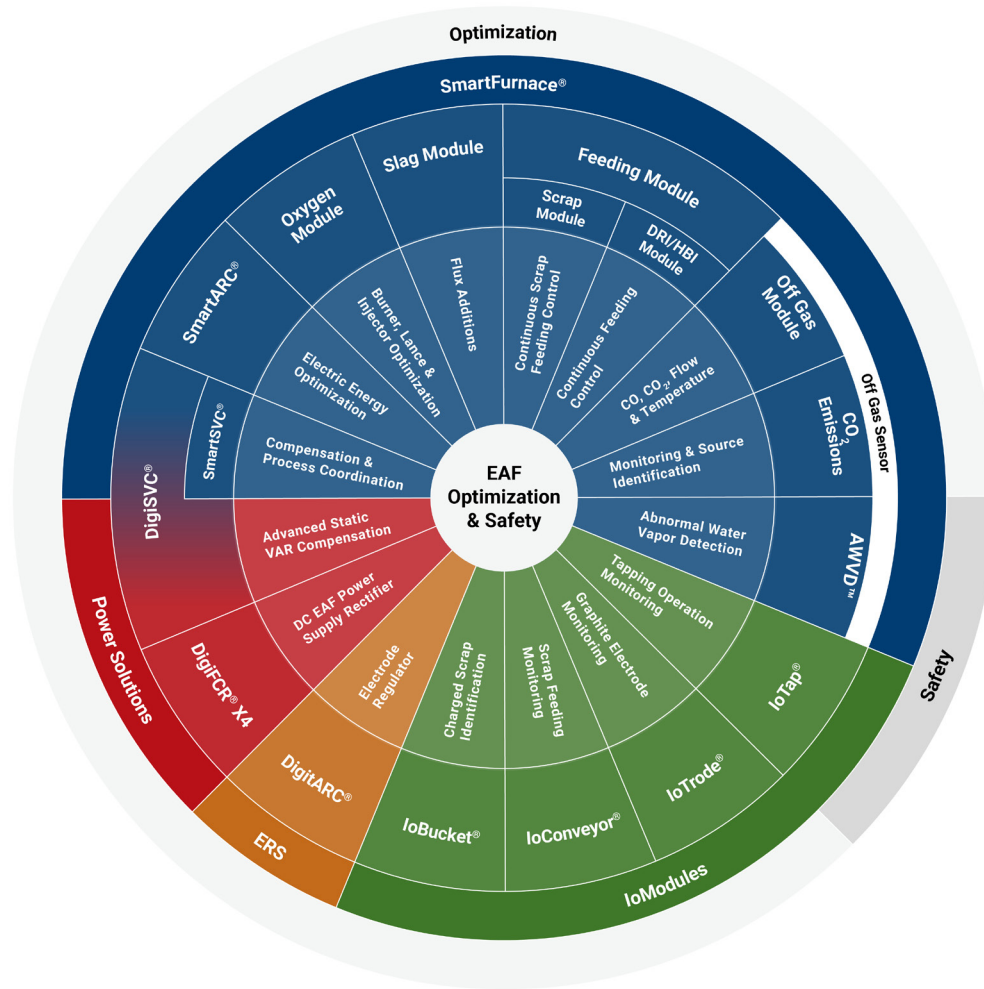
Engineered specifically for Electric Arc Furnaces, the DigiFCR® X4 enhances reliability by integrating state-of-the-art features that optimize performance and protect critical components. With extensive expertise in retrofitting and supporting any brand of Power Rectifier, we provide not only seamless upgrades, but also complete Power Rectifier solutions tailored to your needs.

### Key Features & Benefits:

- ▶ **Optimized Current Regulation:** Ensures improved current stability and faster response for enhanced arc performance.
- ▶ **Optical Blown Fuse Detection:** Ensures bridge isolation from the I/O system, enhancing reliability and reducing unplanned downtime.
- ▶ **High-Speed Trending & Advanced Diagnostics:** Enables quick issue detection, simplifying troubleshooting and reducing downtime.
- ▶ **Flexible CT Regulation:** Compatible with HCT, Primary CTs, and Secondary CTs for seamless adaptation to existing instrumentation, minimizing installation costs.
- ▶ **Standardized Parts Across Multiple Solutions:** Ensures higher availability of replacement parts, making maintenance easier and spare parts more accessible.
- ▶ **Seamless PX3 Coordination:** Improves troubleshooting and enhances system operation, further reducing downtime.
- ▶ **Preventive Arc Disconnection Algorithm:** Enhances voltage control to prevent arcing to the roof and panels, improving operational safety and extending equipment lifespan.

Supported by the industry's largest service team specializing in High-Power applications, we provide unmatched expertise in maintaining and optimizing power components. As a leader in Power Conversion and EAF Optimization, we ensure your operations run with maximum reliability and efficiency. Contact us today to learn how DigiFCR® X4 can enhance your furnace performance.

# Electric Arc Furnace Optimization & Safety



## Electrode Regulation System (ERS)

The DigitARC® PX3 Electrode Regulation System is the core of AMI's EAF optimization solutions. With over 35 years of expertise and implementation in 250+ 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 half of the 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 adapts to specific operational needs, while its open architecture allows for seamless customization, ensuring maximum efficiency and control.

## IoModules

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

## 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.

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