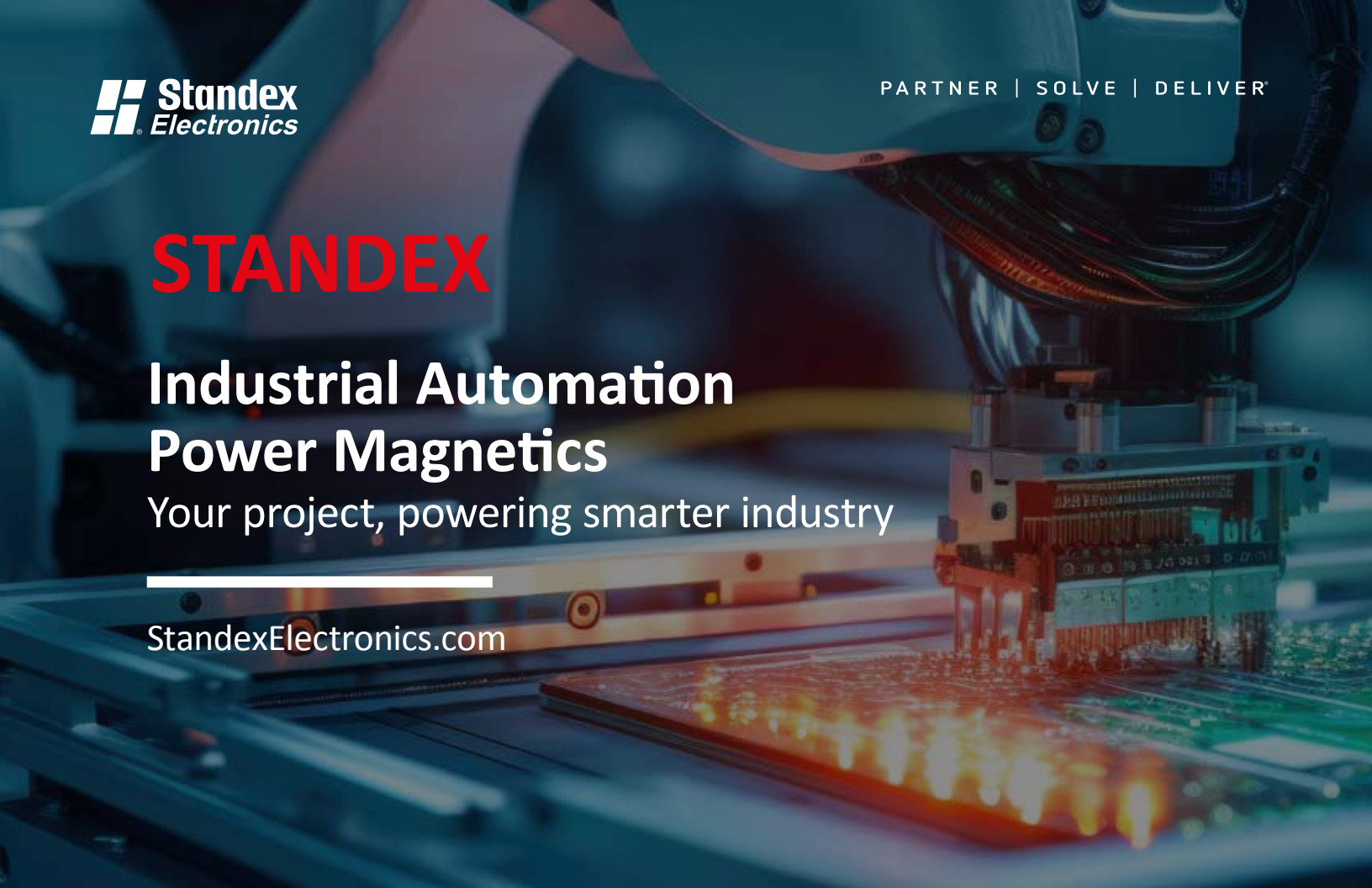
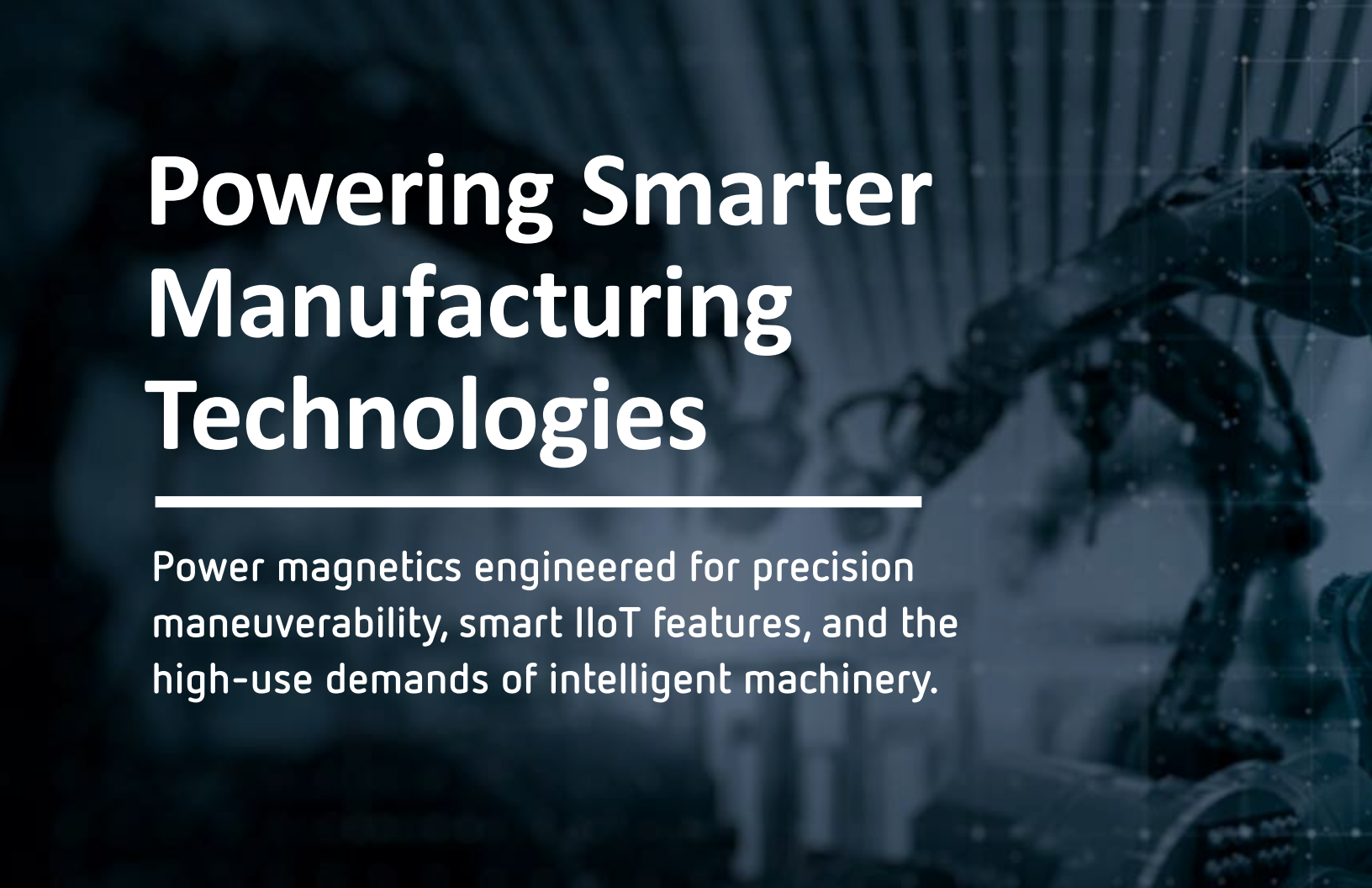

Standex Electronics
PARTNER | SOLVE | DELIVER
STANDEX
Industrial Automation
Power Magnetics
Your project, powering smarter industry
StandexElectronics.com

Factories, warehouses, and manufacturing facilities spark alive with new levels of intelligence every day through smarter features that lean on automated and AI-driven technologies. Called Industry 4.0, innovative power magnetics are driving the sector forward. From smaller designs that fit into more sophisticated equipment to high-performance efficiency that runs the new Industrial Internet of Things (IIoT), industrial automation engineers understand that the right power choices keep operations running smoothly.

Table of Contents



Powering Smarter Manufacturing Technologies

Power magnetics engineered for precision maneuverability, smart IIoT features, and the high-use demands of intelligent machinery.

RUGGEDIZED AGAINST HARSH FACTORY-FLOOR CONDITIONS

Industrial environments range from clean rooms to intense sprays of sparks, fumes, dust, and corrosive substances. Power magnetics need to stand up to the challenge through ruggedized features that enhance durability and reliability, protecting equipment from potential damage and shortened lifespans. Advanced potting techniques and creative materials selection ensure automated systems thrive amidst the stressors of the factory floor.

CAPABLE OF HANDLING HIGH AND FLUCTUATING LOADS

The need for power magnetics capable of handling varying power requirements is intensifying. Smart industrial equipment operates on flexible schedules to accommodate demand.

Minimize downtime and optimize productivity with power magnetics ready to manage high and fluctuating power loads with precision and reliability.

HIGH POWER EFFICIENCY

Smart industrial equipment is equipped with a variety of real-time sensors, safety features, and IIoT instrumentation, drawing more power than traditional machinery. Power magnetics need to be highly efficient, manage heat effectively, and maintain a stable power supply to support intelligent technology.

OPTIMIZED THERMAL MANAGEMENT FOR ALWAYS-ON OPERATION

In factories and warehouses, there's little downtime. Components face relentless use and varying power demands. We prevent overheating, minimize interruptions, and ensure steady performance with advanced thermal management techniques ready for a range of fluctuating operating conditions.

How Standex Powers Today's Electronics

MOTOR CONTROL AND DRIVES

Power magnetics in motor controls and drives regulate and modulate power so they operate with optimal efficiency and reliability. This is critical in applications demanding precise speed, torque, and direction control, making dependable power magnetics indispensable for achieving high performance in a wide array of industrial settings.

AUTOMATION EQUIPMENT

Sophisticated control systems execute complex tasks with remarkable accuracy — when they're backed by highly reliable power magnetics. Transform electrical energy into flawless mechanical action, maximizing productivity under varying loads and conditions.

ROBOTIC SYSTEMS

Industrial facilities are abuzz with a sophisticated ballet of robotic systems performing intricate tasks with high accuracy. Inconsistent power grinds precision maneuvers to a halt. With reliable power magnetics, robotic arms pick, pack, paint, palletize — and more — with less downtime.

CONVEYOR SYSTEMS

Power magnetics keep conveyor systems rolling, providing the energy conversion and control necessary to move goods efficiently across the production floor. Smooth acceleration and deceleration, optimal speed regulation, and reliable operation under continuous use are power must-haves when coordination is key to operational success.

AUTOMATED GUIDED VEHICLES

Along the automated arteries of modern manufacturing and warehousing, power magnetics play an indispensable role in driving and navigating Automated Guided Vehicles (AGVs). They deliver the refined and steady power necessary to move raw materials and goods accurately and independently.

Power Magnetics

POWER TRANSFORMERS

Power transformers step up or step down voltage levels according to the needs of machinery, control systems, and sophisticated robotics. In smart factory and warehouse environments, power transformers are essential for isolating different sections of a system to prevent electrical noise and disturbances, increasing operational uptime and reliability. SMPS Transformers regulate output voltage in a more compact, efficient, and lightweight package.

POWER INDUCTORS

Power inductors handle voltage conversion, filtering, and storing energy in automated and smart manufacturing equipment. Power inductors help in smoothing out the power supply, protecting sensitive components from voltage spikes, and improving the efficiency of power conversion circuits. Their importance is magnified in applications requiring precise control and stability, such as in robotic systems and automated assembly lines, where even minor fluctuations in power can lead to significant disruptions.

CHOKES

In power supply units, motor drives, and various control circuits, chokes maintain the reliability and accuracy of your operations. By mitigating electromagnetic interference (EMI), chokes keep automated processes running smoothly without interference-induced errors.

CUSTOM-WOUND ASSEMBLIES

We prioritize finding the optimal solution for your project, not just the simplest one. That means we dive into custom concepts and future-thinking techniques from the outset, ensuring your vision is supported by power magnetics as innovative as your product itself.

Planar Magnetics

Wire-wound components were once the industry convention, but intelligent technologies are calling for smaller power solutions without compromising performance.

HIGH POWER DENSITY

In the industrial and smart automation manufacturing sector, as smaller systems manage more intricate loads, planar technologies offer over 99% power efficiency within a significantly compact form factor.

LIGHTER WEIGHT FOR SMART COMPONENTS ON THE MOVE

Planar transformers conserve valuable space within equipment but also reduce overall system weight, facilitating easier integration and enhancing mobility in dynamic automation environments.

SLIM FOOTPRINTS FOR SMART INTEGRATIONS

As equipment gets smarter, we need to squeeze more electronic components into increasingly smaller footprints. Planar transformers position windings flat against printed circuit boards (PCBs), reducing the height of power magnetics. Make space for more smart functionalities within tighter spaces, while delivering robust performance often exceeding wire-wound counterparts.

MORE ROOM TO COOL

The distinctive configuration of planar magnetics enhances heat dissipation. Using flat winding structures prevents overheating by opening up more space to cool.


Standex Leads the
Charge in Custom
Power Magnetics

HANDS-ON, FORWARD-THINKING MINDSET FOR RAPID-FIRE DEVELOPMENT

Today's industrial automation projects require a balance of smart technology knowledge and a history of delivering custom, complex products to market on time. With this approach, we're always exploring and integrating with smarter automated and semi-automated technologies, but also getting ideas, design changes, prototypes, and final products into your hands swiftly. Whether interfacing remotely or working side by side, we're experts in providing an interactive and highly iterative experience.

VAST GLOBAL REACH, PRECISION EXECUTION

Backed by international manufacturing and sourcing partnerships spanning across multiple vendors and continents, we do everything we can to insulate your projects from regional supply chain disruptions. Close, long-term relationships with our global partners also open new doors in terms of materials, customization, and design ingenuity.

EXPERTISE IN INSULATION AND SHIELDING

Our experts possess unparalleled knowledge of UL/IEC standards, affirming the quality and safety of electrical products. In the bustling world of smart factories, where electronic devices operate in close quarters, electromagnetic compatibility (EMC) becomes a top priority. Our dedication to advanced insulation and shielding techniques not only prevents functional issues, but protects operators and prolongs the lifespan of components.

CUSTOMIZATION IS AT OUR CORE

Understanding no two industrial automation projects are the same, we know that sometimes off-the-shelf products just won't do. Our expertise in materials science and highly customized design solutions position us to tackle challenging and unconventional projects.

Leading the Charge: Industrial Automation Success Stories

Running Smoothly

Mission: Linear motor for an industrial system

A top manufacturer in industrial automation equipment approached us midway through development of a linear motor. They were still in the process of finalizing the design, but had an aggressive deadline to meet.

- This smart manufacturing specialist valued in-person meetings and wanted to find a partner that supported this style of close collaboration. Standex welcomed their team for several fit checks and status reviews. A relationship built on real-time communication assured them the ambitious delivery schedule was achievable, offering peace of mind.
- Since the customer was still making changes to the envelope, the Standex team's nimbleness and swift adaptability were a perfect fit for this project.
- From purchasing new equipment to training dozens of new assembly staff, Standex's end-to-end knowledge outfitted the client with a new manufacturing plan that increased production volume by 1050%.

Calibrating the Details

Mission: Improving power transfer and sensing solutions no matter the design phase

Not every big idea comes to us with every detail fully fleshed out. Clients frequently bring us into experimental projects in the early stages of brainstorming. **With just a handful of specifics, such as the core type and a preliminary diagram of the mechanicals, we guided this client from a rough draft to a practical solution.**

- Explored multiple configurations of heavy-wire winding to accommodate space constraints.
- In our quest to minimize the product's size, we experimented with a variety of materials for the potting cup, evaluating different viscosities and thermal characteristics.
- The client selected us as their preferred collaborator when working through novel concepts. Now, they reach out to us in the early stages of all their projects. This approach allows us to swiftly transform their visions into workable solutions, accelerating the journey from concept to creation.

Powering Strategic Manufacturing

Mission: Move manufacturing of a planar transformer assembly to a new geographic region

This leading manufacturer of smart microgrid controls wanted to bolster their supply chain resilience by opening locations in new geographic locations. We managed all the details and logistics of moving their manufacturing into North America.

- We started from scratch and re-imagine the client's production strategy with a fresh, design-for-manufacturability mindset.
- Allocated CapEx resources for smarter, semi-automated techniques like new potting methods.
- Integrated our specialized smart grid testing services into their operations, encompassing everything from corona noise analysis to sophisticated high-voltage testing.

EXPLORE OUR EXTENSIVE IN-HOUSE CAPABILITIES

- High-Power Litz Wire Inductor and Transformer Design
- Planar Transformer and Inductor Design
- High-Reliability Industrial
- Ansys Maxwell 2D/3D High-Frequency Magnetic Simulation
- Potting Under Pressure
- Vacuum Encapsulation
- Void-Free Vacuum Potting
- AS9100 - ITAR Certified

Standex Electronics

PARTNER | SOLVE | DELIVER

Standex Electronics
Worldwide Headquarters

4150 Thunderbird Lane
Fairfield, OH 45014 USA
+1.866.STANDEX (782.6339)
info@standexelectronics.com

Agile Americas (NH)
+1.800.805.8991
info@agilemagco.com

Minntronix Americas (SD)
+1.605.884.0195
productsales@minntronix.com

Renco Americas (FL)
+1.800.645.5828
sales@rencousa.com

StandexMeder Europe (Germany)
+49.7733.9253.200
salesemea@standexelectronics.com

StandexMeder Asia (Shanghai)
+86.21.37606000
salesasia@standexelectronics.com

Standex Electronics India (Chennai)
+91.98867.57533
salesindia@standexelectronics.com

Standex Electronics Japan (Kofu)
+81.42.698.0026
sej-sales@standex.co.jp

IATF 16949 CERTIFIED | ISO ISO 9001 CERTIFIED | ITAR | NIST | AS9100 CERTIFIED

standexelectronics.com

MAG-COM-AB250202