

# Powering Resilient Smart Manufacturing



# **Redefining Resilience for the Future of Smart Manufacturing**

Empower your operations with IEI Edge solutions, built for operational resilience through continuous performance, maximum uptime, and fault-tolerant reliability. Combining cutting-edge hardware with innovative software, our solutions—from embedded systems and panel PCs to high-performance monitors and secure network appliances - fortify your manufacturing against disruptions while driving smart innovation.





Wide-temperature, compact industrial PCs and SBCs play a vital role in AMRs, delivering edge analytics for real-time decision-making and offering extensive I/O interfaces to seamlessly integrate sensors and communication modules.

**E-paper displays** provide real-time inventory details, including stock levels, product descriptions, shelf labels, and pallet tags, with the convenience of remote updates via Wi-Fi.



#### **Machine Vision and Quality Control**

**GPU-enabled edge computing** for machine vision applications such as defect detection, pattern recognition, and product grading.

**Real-time analysis:** Virtualization solutions enable multiple quality control processes to run simultaneously on a single system, reducing hardware requirements and enhancing efficiency.

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#### Human-Machine Interface

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Industrial monitors and panel PCs serve as user-friendly HMIs, providing real-time data visualization and control interfaces. Glove-compatible screens ensure ease of use in industrial environments, improving worker efficiency and safety.

#### 6 Cybersecurity

#### Comprehensive network appliances

enhance OT security by deploying firewalls and IDS to protect sensitive data, defend against cyber threats, and ensure compliance with industry regulations.

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#### **Predictive Maintenance**

**IEI Remote Management** tracks devices health status, such as CPU loading, memory utilization, and device availability to predict and prevent equipment failures, minimizing downtime for system resilience.

#### Supercapacitor-powered backup systems

ensure continuous operation of critical monitoring systems during power interruptions, maintaining reliable data collection.



#### Real-time data processing

Industrial PCs with PCIe expansion for GPUs provide the necessary computational power to process real-time data for robotic control, including AI-driven algorithms for motion planning, vision analysis, and adaptive decision-making.

#### Localized data processing

Industrial computing solutions with virtualization enable robots to process data locally, reducing the dependency on cloud systems and ensuring faster execution of tasks. 4

# Process Automation in Distributed Control Systems

**IEI Remote Management** monitors and control DCS environments remotely, ensuring smooth operations across the facility.

**IEI Virtualization Edge Computer** streamlines operations by integrating SCADA, real-time analytics, and more on a single machine. With PCIe expansion for AI-ready GPUs and legacy OS support for seamless DCS integration, it ensures versatility across systems.

# **Strengthening Smart Manufacturing with Resilient Management Solution**

IEI introduces an innovative, dual-solution approach combining Remote Management and Edge Computing with Virtualization Technology, designed to streamline operations, enhance uptime, and optimize resources.



#### iVEC

#### Edge Computer with Virtualization: Resilience Computing at the Edge

The IEI Virtualization Edge Computer (iVEC) combines advanced virtualization technology with powerful hardware, empowering OT professionals to manage and run multiple industrial applications remotely on a single server. Powered by 13th Gen Intel® Core™ hybrid CPUs, iVEC delivers server-grade performance, exceptional energy efficiency, and scalable flexibility tailored for Edge AI applications. Designed for versatility, iVEC supports remote desktop monitoring, legacy OS compatibility, and GPU expansion, providing the adaptability and scalability essential for industrial automation.



#### Features:

- Virtualization for running multiple apps on a single device
- · Remote troubleshooting and monitoring for reduced downtime
- Legacy OS support for compatibility with legacy applications
- GPU expansion for complex Edge AI workloads
- Versatile communication protocol compatibility for industrial automation



#### iRM

#### Remote Management Solution: Centralized Control, Maximum Reliability

The IEI Remote Management (iRM) solution empowers organizations with centralized control and real-time visibility for edge devices, streamlining operations and maintaining consistent system performance. By integrating support for the iRIS-2600 IPMI 2.0 module, iRM seamlessly combines hardware-level and software-level functionalities to deliver comprehensive monitoring, rapid troubleshooting, and robust backup capabilities.

Designed to work with industrial-grade hardware and featuring an intuitive, web-based interface, iRM simplifies the management of multiple edge devices, enabling efficient operation and scalability from a single, unified dashboard.



#### Features:

- · Real-time monitoring for devices health status
- · Auto-detect downtime, activate backup instantly
- Intuitive web-based dashboard
- Support over 100 devices
- Compatibility with any x86 platform, including non-IEI devices
- Customizable email notifications

#### Benefits:

- Centralized Control: Manage and monitor all edge pcs from a single platform.
- Resilient Performance: Ensures reliable, continuous system operation.
- Quick Troubleshooting: Quickly identify and resolve issues to minimize downtime.
- Instant Backup Activation: Automatically detects downtime and activates backups.

# The Green Way to Communicate: **E-Paper Displays Solution**

IEI's eco-friendly e-paper displays cut carbon emissions by reducing paper and energy use. Available in 31.5", 7.3", 4.2". and 2.9" sizes, they adapt to diverse environments. Integrated with ideaRoomX for seamless content management, they run on easily replaceable AAA batteries, ensuring sustainability and universal compatibility.



#### **ideaRoomX**

#### **Effortless Content Management Anywhere**

The IEI e-paper display solution combines energy efficiency with effortless large-scale management. Integrated with the ideaRoomX platform, it simplifies content creation, updates, and distribution. With Wi-Fi-enabled synchronization, users can instantly update multiple displays from any location via an intuitive interface. ideaRoomX enables users to effortlessly create custom content templates and integrate dynamic data from third-party systems using the ideaGatewayX API. These templates can be flexibly assigned to device groups or individual displays and remotely delivered to e-paper screens via IEI Remote Management (iRM) over Wi-Fi.



#### Versatile e-Paper Displays for Elevated **Efficiency and Integration**

Our versatile e-paper displays adapt to diverse applications, enhancing efficiency, communication, and aesthetics. Engineered for various scenarios, they are ideal for innovative businesses and institutions. With DIN-rail mount support, they seamlessly integrate into industrial setups, broadening their utility.



Model	Itten-315	Peach-E73	Pitaya-E42
Active Area	31."5	7.3"	4.2"
Resolution	2560 x 1440	800 x 480	400 x 300
Wireless	Wi-Fi / BLE/Halow (option)	Wi-Fi / BLE	Wi-Fi / BLE
Battery	9V PP3 x 4	AAAx6	AAAx6
EPD Colors	B/W/R/Y/G/BL	BWRY	BWR
Battery EPD Colors	9V PP3 x 4 B/W/R/Y/G/BL	AAAx6 BWRY	AAAx6 BWR

# **Embedded System**

IEI embedded system solutions, powered by Intel® Core<sup>™</sup> Ultraand Intel Atom® processors, deliver high-performance computing with advanced AI acceleration, efficient power management, and PCIe Gen4 support for GPU and accelerator card expansion. Featuring enhanced multi-core processing, DDR5 memory, and modular scalability, they ensure reliable operation for mission-critical applications. Optimized for Edge AI, these solutions enable real-time data processing, computer vision, and intelligent automation in industrial environments.



#### TANK-XM813

Fanless, modular embedded system powered by Intel® Core™ Ultra desktop processors (series 2), DDR5 memory support and 2-6 slot expansion chassis for flexible scalability

- Supports high-speed dual DDR5 memory expansion
- Compatible with 35W and 65W CPU choices for power efficiency and performance
- Multiple display support via HDMI, DP, and USB4 (Display + USB 3.2)
- Supports dual 2.5" storage drives for increased capacity

#### **TANK-8700**

Fanless, modular embedded system powered by AMD Ryzen™ 7000/8000 Mobile Processors, DDR5 memory support and 3-slot expansion via PCIe

- Supports high-speed dual DDR5 memory expansion
- Compatible with 28W and 45W CPU choices for power efficiency and performance
- Multiple display support via HDMI, DP, and USB4 (Display + USB 3.2)
- Supports a 3-slot expansion chassis for increased flexibility and scalability

#### TANK-XM811

Fanless, modular embedded system powered by 12th/13th/14th Gen Intel® Core™ desktop processors and 2-6 slot expansion chassis for flexible scalability

- · HDMI and DP++ ports enable dual independent display
- Operates efficiently in environments from -20°C to 60°C
- Compatible with 8-port PoE cards for enhanced power delivery



#### SWBOX-ASL

Stainless Steel Box PC powered by Intel® Atom® x7433RE/x7835RE processors

- · IP69K full sealed with anti-corrosion stainless steel enclosure
- Fanless design, wide range DC input 12-28V for versatile power options
- M12 I/O connectors for rugged, reliable connectivity
- · Operates efficiently in environments from -40°C to 60°C

Box PC



#### DRPC-243

Fanless DIN-rail PC with Intel® Core™ Ultra 7 Processor 155U and Intel® Core™ Ultra 5 Processor 125U, designed for reliability in extreme conditions, offering versatile I/O connectivity and modular expansion

- Supports USB Type-C with display output and USB 3.2 functionality
- · Modular PCIe Gen4 expansion capability
- 2.5kV isolated COM ports (2 x RS-232, 2 x RS-422/485) ensure system reliability

#### DRPC-242

Fanless DIN-rail PC with 12th/13th Gen Intel® Core™ processors, designed for reliability in extreme conditions, offering versatile I/O connectivity and modular expansion

- · Modular PCIe x4 expansion capability
- 2.5kV isolated COM ports (2 x RS-232, 2 x RS-422/485) ensure system reliability
- Operates efficiently in environments from -20°C to 60°C

#### DRPC-W-ASL

Fanless, compact DIN-rail PC with Intel Atom® x7000RE SoC onboard and rich I/O connectivity

- 12-28V DC input for silent, reliable operation
- Operates efficiently in environments from -40°C to 70°C



#### DRPC-140

Fanless, compact DIN-rail PC with Intel® Celeron® J6412 processor and rich I/O connectivity

- DDR4 3200 SO-DIMM memory support, up to 32GB
- 4 x RS-232/422/485 & 2 x CAN-bus (2.5kV isolation)
- Operates efficiently in environments from -20°C to 60°C

**DIN-rail PC** 

NEW





#### **TANGO-7010**

Fanless industrial mini PC powered by 12th Gen Intel® Core™ processors and 8GB DDR4 3200 memory

- Built-in Wi-Fi 6E & Bluetooth 5.2 module with embedded antennas
- Triple 2.5GbE LAN port
- Support 2.5" SSD and M.2 M key expansion slots
- · RS-232/422/485 serial ports for industrial needs

#### uIBX-260

Fanless ultra-compact embedded box PC powered by Intel® Celeron® J6412 quad-core processor

- Dual 2.5GbE LAN ports
- M.2 A key & M key slots for storage and functionality expansion
- Four USB 10Gb/s, one RS-232/422/485 and expandable I/O options
- Rugged design, shock & vibration resistance

# **Panel PC and Monitor**

IEI offers a comprehensive range of panel PC solutions, from light industry panel pcs to rugged, high-performance units for demanding vertical applications. Featuring up to IP66 ratings, anti-glare, anti-UV PCAP touchscreens, and industrial-grade durability, these panel PCs are built to withstand shock, vibration, and harsh environments, ensuring reliable performance across diverse sectors.





#### SHIELD Series

Wide screen stainless steel panel PC powered by Intel® Atom® x7433RE/x7835RE processors, durable construction, robust connectivity and full body waterproof design

- 15.6", 18.5", and 21.5" wide-screen panels, tailored to suit your specific space and application needs
- PCAP touchscreen features anti-glare and anti-UV technology
- Full-body IP66 waterproofing built with 304 stainless steel, perfect for food & cold chain applications
- · Supports both VESA and yoke mounting for versatile installation
- Equipped with M12 I/O connectors and optional optical fiber for reliable and secure connections.

#### UPC-F12M1-RPLP

12.1" IP66 panel PC with aluminum die casting housing powered Intel® Core™ i3-1315URE processor, high-visibility display, versatile power options and full body waterproof design

- 12.1" high brightness and resolution LCD panel
- PCAP touchscreen features anti-glare and anti-UV technology
- Full-body IP66 waterproof ensuring reliable performance in harsh environments
- Supports Wi-Fi 6E, Bluetooth 5.2, and RFID capabilities for seamless integration and communication
- Includes M12 I/O connectors and DC support with ACC mode, designed for reliable industrial and vehicle-mounted applications.

# Industry Panel PCs



#### PPC2-Cxxxx-ADL Series

15"~21.5" panel PC powered by 12th/13th/14th Gen Intel® Core™ i9/i7/i5/i3 desktop processors and supports PCIe x16 expansion

- 15"/17"/19" and 15.6"/18.5"/21.5" wide-screen panels, tailored to suit your specific space and application needs
- PCAP touchscreen features anti-glare and anti-UV technology
- · IP65-rated front panel offers protection against dust and water splashes
- Support both panel mounting and VESA mounting standards for effortless integration.
- High-bandwidth PCIe Gen4 x16 ensures seamless data transfer and high-speed performance

NEW IP65

IP64

#### **AURA Series**

10" to 23.8" fanless panel PCs powered by comprehensive platforms: Intel® Core<sup>™</sup> Ultra 7 Processor 155U, Intel® Core<sup>™</sup> Ultra 5 Processor 125U, the 8-core Allwinner T527N, and the quad-core Rockchip® RK3576, featuring a narrow aluminum bezel design

- 10.1" /12.1" /13.3" /15.6" /18.5" /21.5" /23.8" wide-screen panels, tailored to suit your specific space and application needs
- PCAP touchscreen features anti-glare and anti-UV technology
- IP64-rated front panel offers protection against dust and water splashes
- Accessible OSD key, front camera, speaker enhanced user experience
- Panel mount offers a space-saving, durable mounting solution
- Fast, reliable connections with Wi-Fi 6E and energy-efficient device pairing via Bluetooth 5.2

#### AFL4-xxx-ADLP Series

10" to 13.3" fanless panel PC powered by 12th/13th Gen Intel® Core™ i7/i5/i3 mobile processors with narrow aluminum bezel design

- 12" and 10"/12.1"/13.3" wide-screen panels, tailored to suit your specific space and application needs
- PCAP touchscreen features anti-glare and anti-UV technology
- IP64-rated front panel offers protection against dust and water splashes
- Fast, reliable connections with Wi-Fi 6E and energy-efficient device pairing via Bluetooth 5.2



#### AFL4-Wxx-RK Series

Widescreen 7" and 10.1" fanless panel PCs powered by Rockchip® quad-core Cortex-A55 RK3566/RK3568 processors, featuring a narrow aluminum bezel design

- · PCAP touchscreen features anti-glare and anti-UV technology
- · IP64-rated front panel offers protection against dust and water splashes
- Fast, reliable connections with Wi-Fi 6E and energy-efficient device pairing via Bluetooth 5.0

IEI's industrial displays offer versatile mounting, sleek design, and choices between analog resistive or capacitive multi-touch displays. With IP65 protection and a -20°C to 60°C operating range, they guarantee durability and reliability in diverse industrial environments.

Industrial Display



#### **DM2 Series**

10"~34" industrial displays are available in a variety of aspect ratios and sizes to suit your specific needs, IP65-rated front panel

- (4:3) 10.4"/12.1"/15"/17"/19"
- (16:9) 10.1"/12.1"/13.3"/15.6"/18.5"/21.5"/23.8"/27"/31.5"
- (21:9) 34"
- (8:3) 12.3"
- Narrow bezel design with aluminum frame
- PCAP touchscreen features anti-glare and anti-UV technology
- Accessible OSD key & speaker after panel mount
- · Built-in camera for AI recognition application (optional)

Light Industry Panel PC

# **Edge Server**

IEI provides cutting-edge AI-ready rackmount solutions featuring GPU expansion and scalable storage, optimized for AI training and inferencing workloads at the Edge.



#### GAIA-3010

A 1U edge server powered by 12th, 13th, and 14th Gen Intel® Core™ processors with DDR4 memory, providing expansion support for GPU cards and flexible storage options

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- Expansion capability with riser card for PCIe Gen5 x16 with GPU card intergration.
- 4 x HDD bay for 3.5" drives, with conversion tray to accomodate 2.5" drives.
- · Optimized for AI training and inferencing workloads.

#### GAIA-3020

A 2U edge server powered by 12th, 13th, and 14th Gen Intel® Core™ processors with DDR4 memory, providing expansion support for GPU cards and flexible storage options

**64411** 

- Expansion capability with riser card for PCIe Gen5 x16 with GPU card intergration.
- 8 x HDD bay for 3.5" drives, with conversion tray to accomodate 2.5" drives.
- · Optimized for AI training and inferencing workloads.

## **Supercapacitor**

High-durability supercapacitor module provides reliable power backup and operation in extreme temperatures, designed for mission-critical applications requiring resilience and longevity.

# **Network Appliance**

Comprehensive network appliance solutions with extensive expansion options, high-speed connectivity, and robust hardware reliability, tailored for diverse network applications across business and industrial environments.



#### PUZZLE-1100

Desktop network appliance with Intel Atom® Processor X Series, offering highspeed connectivity, advanced wireless support, and versatile network applications

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- 1 x M.2 B Key slot for seamless integration of 5G module.
- · Features 1 x mini PCIe slot for Wi-Fi 6/6E module support
- Supports up to 8 antennas for superior 5G and Wi-Fi coverage
- • 4 x 2.5GbE LAN ports for reliable, high-speed data transfer

#### PUZZLE-7050

1U network appliance with AMD EPYC<sup>™</sup> 8004 Series processors, delivering highspeed connectivity and flexible expansion for demanding networks

- 2 x OCP 3.0 slots and 1 x PCIe Gen5 x16 slot for flexible hardware integration.
- 2 x 1GbE RJ45 LAN ports for stable connectivity.
- · Supports IEI iRIS-2600 BMC module for remote management and monitoring.



#### RHEA-E1260A

Supercapacitor module with 12x 3.0V/600F capacitors, 500,000 cycles and a 10-year lifespan

- 12/19/24 VDC Adaptive input/output
- Maximum 150W load 2.6V@30°C lasting 100 sec
- Operates efficiently in environments from -40°C to 60°C

#### RHEA-I660A

Supercapacitor module with 6x 3.0V/600F capacitors, 500,000 cycles and a 10-year lifespan

- 12/19/24 VDC Adaptive input/output
- Maximum 150W load 2.7V@30°C lasting 60 sec
- Operates efficiently in environments from -40°C to 60°C



IEI's computer-on-module solutions, available in various form factors, deliver robust performance for data-intensive IoT applications. With advanced connectivity, scalability, and power efficiency, they ensure reliable operation and seamless integration in industrial and edge environments.

#### COM-HPC Size A HUK-AMTL

COM-HPC Size A module supports Intel® Core™ Ultra mobile processors

- 2 x DDR5-5600 SO-DIMM, up to 96GB
- Quad display signals to baseboard via 2 x USB4 & HDMI 2.0 & eDP
- 1 x PCIe Gen5 x8 & 4 x PCIe Gen4 x4 signal to baseboard
- 2 x PCIe 2.5 GbE with Intel i226-LM/ i226-V signal to baseboard

COM-HPC

NEW



#### COM-HPC Size C HUK-CR680

COM-HPC Size C module support 12th/13th/14th Gen Intel® Core™ processors

- 2 x DDR5-5600 SO-DIMM, up to 96GB
- Quad display signals to baseboard via 3 x DDI & 1 x eDP
- 1 x PCle Gen5 x8 & 5 x PCle Gen4 x4 & 6 x PCle Gen3 x1 signal to baseboard
- 2 x PCIe 2.5 GbE with Intel i226-LM/ i226-V signal to baseboard

Qseven



QSeven iQ7-ASL-R3C

QSeven R2.1 module supports quad-core Intel® Atom® x7433RE processor

- Onboard 8GB LPDDR5-5500, up to 16GB
- 4 x PCIe Gen3 x1 signal to baseboard
- 1 x UART & 1 x CAN Bus signal to baseboard



IEI's single board computers offer diverse form factors, extended support, and wide operating temperature, making them ideal for industrial applications. With compact designs and versatile I/O, they ensure seamless integration and long-term operation in rugged environments.



#### 3.5" SBC

#### WAFER-ASL

3.5" SBC powered by Intel Atom® x7000 RE series processors

- Dual independent display via DisplayPort and HDMI™
- 1 x DDR5-4800 SO-DIMM, up to 16GB
- Supports triple Intel® I226-IT 2.5GbE LAN
- Supports M.2 M key & M.2 A key expansion
- Wide operating temperature: -40°C~85°C, wide voltage input: +12V~28V



#### 3.5" SBC

#### WAFER-EHL-x6211EWC

3.5" SBC powered by Intel Atom® x6000 series processors

- On board LPDDR4x 3200 8GB
- Triple independent display via HDMI 2.0, DP 1.2 and iDPM
- Supports M.2 A Key & B Key, PCIe x4 expansion
- Wide operating temperature: -20°C~85°C, wide voltage input: +12V~28V



#### Pico-ITX SBC

#### HYPER-ASL

PICO-ITX SBC powered by Intel® Processor N97, Intel Atom® x7433RE, or x7835RE processors with 8GB LPDDR5 onboard

- Dual display via HDMI 2.0 & LVDS
- M.2 A key for Wi-Fi/Bluetooth, M.2 M key for storage
- 2.5GbE LAN, USB 3.2, iSATA 6Gb/s, RoHS



IEI's industrial motherboards, powered by Intel® Core<sup>™</sup> Ultra and Intel® Core<sup>™</sup> processors, deliver high-performance computing with advanced AI acceleration, efficient power management, and PCIe Gen5 expansion. With extensive I/O, DDR5 support, and long lifecycle reliability, they are ideal for mission-critical industrial applications.

#### Intel<sup>®</sup> Solution





IEI's AMD EPYC<sup>™</sup> and Ryzen<sup>™</sup> Series motherboards deliver exceptional performance with high core counts, energy efficiency, and PCIe 5.0 support. Ideal for demanding workloads, they ensure scalability and reliability for industrial and enterprise applications.

#### **AMD®** Solution

Industrial Motherboard









#### ATX Motherboard IMBAX-SP6

ATX motherboard supports AMD EPYC<sup>™</sup> processors with DDR5-4800 memory support

- 6 x 96GB DDR5-4800 RDIMM with ECC, up to 576GB total
- Supports 4 x M.2 M key for NVMe storage
- Multiple expansions: 1 x PCIe Gen5 x16, 3 x PCIe Gen4 x16, 3 x PCIe Gen4 x8
- 4 x 2.5GbE LAN port

# ATX Motherboard IMBA-AM5

ATX motherboard supports AMD Ryzen™ 7000/8000G/9000 PHX1 Series desktop processors, DDR5-5200 memory support

- Supports 2 x M.2 M key for NVMe storage
- Multiple expansions: 1 x PCIe Gen4 x16 slot, 2 x PCIe Gen4 x4 slot and 3 x PCIe Gen4 x1 slot
- Triple independent display via dual HDMI™, DP
- Pump fan connector for liquid cooling

#### microATX Motherboard

#### IMB-AM5

microATX motherboard supports AMD Ryzen™ 7000/8000G/9000 PHX1 Series desktop processors, DDR5-5200 memory support

- PCIe Gen4 x1, PCIe Gen4 x4, PCIe Gen4 x16, M.2 M key expansion
- Triple independent display via dual HDMI<sup>™</sup>, DP
- Pump fan connector for liquid cooling

#### Mini-ITX Motherboard

#### **KINO-AM5**

Mini-ITX SBC powered by AMD Ryzen™ 7000/8000G/9000 PHX1 Series desktop processors, DDR5-5200 memory support

- PCIe Gen4 x16, M.2 M key and M.2 A key expansion
- Triple independent display via dual HDMI™, DP
- Dual 2.5GbE LAN port



#### \*Specifications are subject to change without prior notice.

#### Headquarters 威強電工業電腦股份有限公司 IEI Integration Corp.

No. 29, Zhongxing Rd., Xizhi Dist., New Taipei City 221 TEL:+886-2-86916798/+886-2-26902098 FAX:+886-2-66160028 sales@ieiworld.com www.ieiworld.com

#### America IEI Technology USA Corp.

#### China

上海威强电工业电脑有限公司 IEI Technology (SH) Co.,Ltd

 
 138 University Parkway, Pomona, CA 91768
 上海市闵行莘庄工业区申富路515号

 TEL: +1-909-595-2819
 FAX : +1-909-595-2816
 515, Shen Fu Rd., Xin Zhuang Industrial Develop Zone, Shanghai, 201108, China

 sales@usa.ieiworld.com
 usa.ieiworld.com
 TEL: +86-400-067-5568
 FAX: +86-21-3462-7797
sales@ieiworld.com.cn www.ieiworld.com.cn