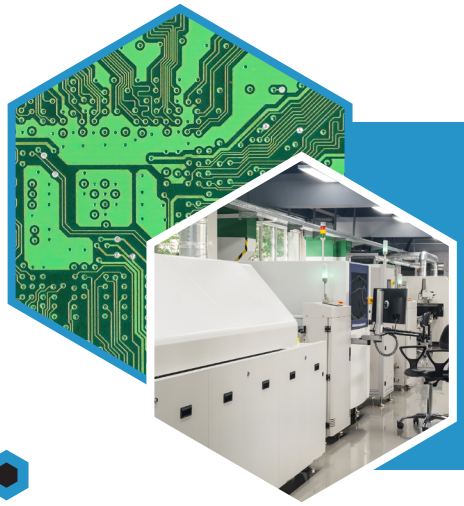


Equipping RMS With M2M Gateways for Higher PCB Yields

A PCB manufacturer asked their solution provider to develop a solution with a Recipe Management System (RMS) as a centralized data library to improve the PCB production through real-time data collection and analysis across their manufacturing processes.

Factory Automation

Why Moxa

- Compact DIN-rail design for easy installation in small cabinets
- Memory and storage preinstalled to save time with option for future expansions
- Product quality guaranteed by a 3-year warranty

DRP-A100-E4 Series

DIN-rail computer with Intel Atom® X Series processor

- Diverse set of interfaces including 2 LAN, 2 serial, and 3 USB ports
- Fanless design for stable operation in -30 to 60°C temperature range
- Compact DIN-rail design for easy installation

Product Page

Solution Brochure

System Requirements

- Connect different types of equipment to centralized management systems
- High-speed low-power computing for real-time data processing
- Compact size, easy installation, and easy storage upgrades

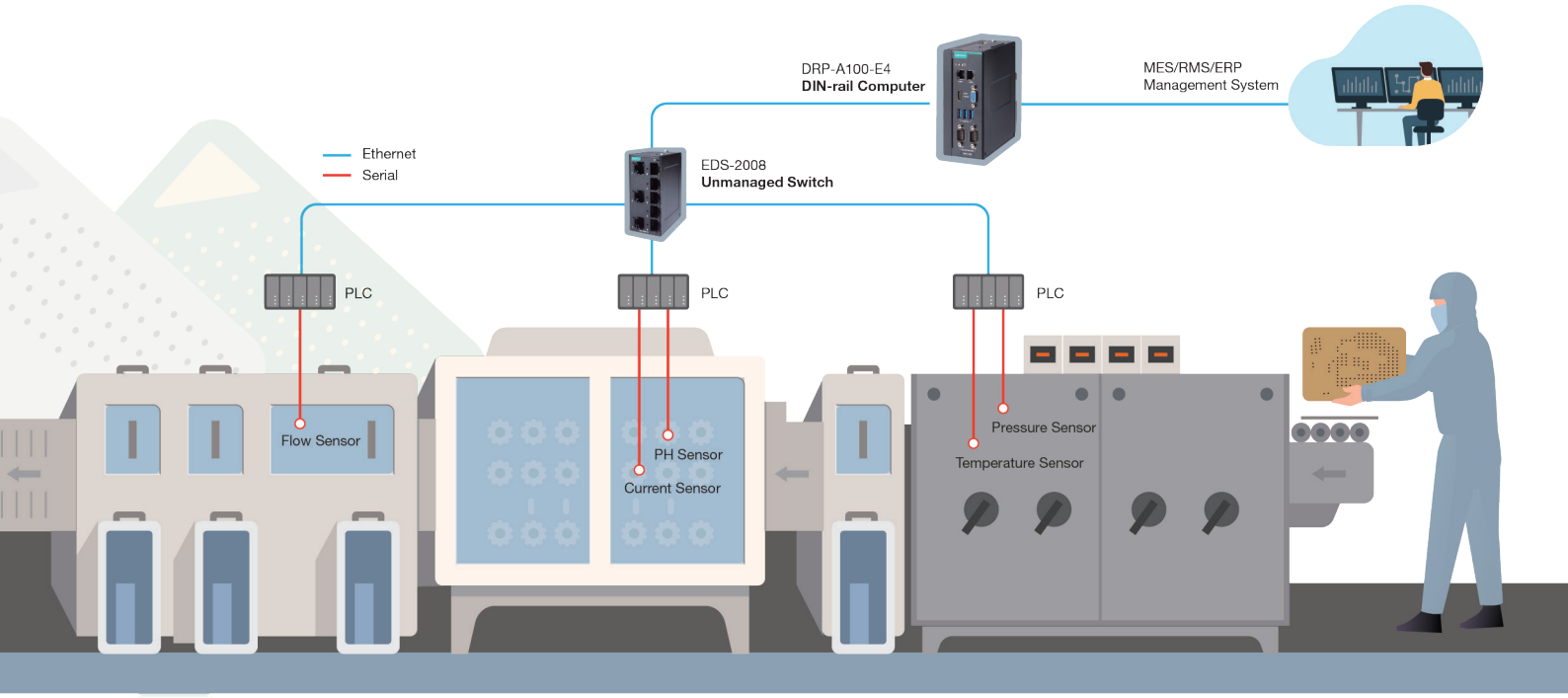
Moxa's Solution

The PCB manufacturer wanted to develop a system integrated with edge gateways to enhance the Industrial IoT capability in their factories. Due to the limited space in existing control cabinets, the solution provider selected Moxa's DRP-A100-E4, a compact DIN-rail computer that enables efficient data collection and utilization to better coordinate various processes and improve productivity.

Leveraging Moxa's configure-to-order (CTO) service, the system provider rapidly transformed the DRP-A100-E4 DIN-rail computer into a M2M gateway equipped with versatile Linux-based software applications, a high-capacity DDR4 memory, and an easily replaceable CFast storage card for efficient machine-to-machine communication.

Coupled with the robust connectivity of the EDS-2008 8-port unmanaged switch, the Intel Atom® X processor powered DRP-A100-E4 computer facilitates faster data aggregation, processing, and transfer to centralized MES, RMS, and ERP systems, serving as a solid building block to improve quality control and thereby increase productivity in the PCB plants.

*MES stands for Manufacturing Execution System, RMS for Recipe Management System, and ERP for Enterprise Resource Planning.



Reliable POS Systems for Gas Stations

POS systems are critical for gas stations to maintain continuous operations. A state-owned gas-station operator wanted to retrofit their POS systems to enable seamless operations and reduce the time required for troubleshooting issues.

Retail Automation

Why Moxa

- Better understanding of customer-specific needs for POS systems
- Compact design and a rich set of interfaces to meet POS system requirements
- Fanless design and sealed enclosure to reduce system failure and maintenance costs

BXP-C100-C5 Series

Box computers with 11th Gen Intel® Core™ processor

- 11th Gen Intel® Core™ i5 processor
- Rich interface options for up to 10 LAN and 10 serial ports
- Compact design for easy installation

Product Page

Solution Brochure

System Requirements

- Sufficient COM ports to connect to various types of equipment
- Reliable operations with reduced unplanned maintenance
- Compact computers that can be installed inside POS terminals

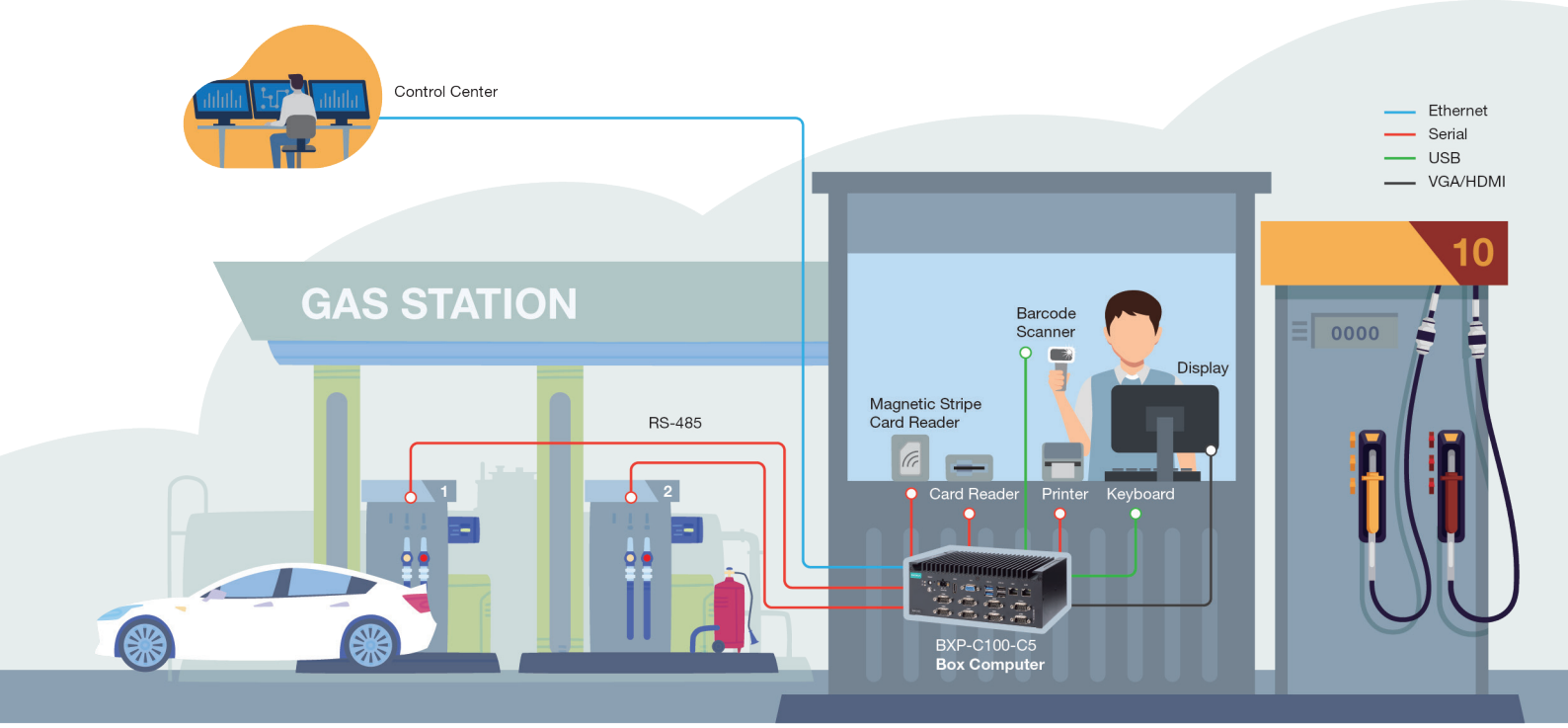
Moxa's Solution

A gas station POS terminal system needs to connect to a variety of equipment for vehicle refueling and payment processing. Unplanned downtime at POS systems can disrupt operations leading to loss of revenue. A gas station operator selected Moxa's BXP-C100-C5 model of computers to improve reliability and efficiency in gas station operations.

Measuring 210 x 166 x 83 mm, the BXP-C100-C5 box computers offer a wide array of communication interfaces for connections to fuel dispensers, card readers, barcode scanners, keyboard, mouse, printer, and display. A prominent durable power button eases every-day on/off operations.

The fanless design of the BXP-C100-C5 reduces the risk of mechanical failure while the sealed enclosure prevents dust, dirt, and airborne particles from entering and contaminating internal components, ensuring overall system stability and reliability.

An Intel® Core™ i5 CPU supports high-speed data processing in an operating temperature range of -30 to 60°C. The computer comes with a 3-year warranty for reliable operations and reduced maintenance costs.



Automated Fare-collection Systems for Metro Transit Systems

Banking on their long-term partnership with Moxa, a metro rail company in Asia contacted Moxa for computing solutions to retrofit their automated fare collection (AFC) system for improving system flexibility and reliability at busy metro stations.

Transportation Automation

Why Moxa

- Proven expertise in deploying and integrating automated fare collection systems for the long term
- Enhanced system durability against frequent program/erase (P/E) cycles on the storage
- Product reliability and quality to withstand harsh operating temperatures

BXP-A100-E2 Series

Box computers with Intel Atom® X Series processor

- 18 COM, 2 LAN, and 6 USB ports
- -30 to 60°C operating temperature range
- Customization-friendly platform with preinstalled high-performance SSD to ensure system durability

Product Page

Solution Brochure

System Requirements

- Reliable computing solutions for automated gates (AG), token-vending system, and card-vending system
- Improved storage rewrite endurance to extend component lifespan
- Product reliability and quality for operational stability

Moxa's Solution

In line with customer's requirement for long-term solutions that can integrate more systems and payment options, Moxa proposed a comprehensive computing platform with 18 COM ports that can meet all their requirements instead of just selling them three different computing solutions.

A customized BXP-A100-E2 box computer provides 18 serial ports, enabling connection flexibility above and beyond the current requirement for automated gates, token issuing machines (TIMs), and card-vending and add-value machines (VAVMs), thereby simplifying spares inventory and management.

To deal with a high volume of passengers who swipe cards or tokens daily to enter and exit stations, the BXP-A100-E2 computer supports 100,000 program/erase (P/E) cycles on a high-performance built-in SSD, thereby enhancing the endurance capability of the storage.

To cope with diverse operating environments and conditions at the metro stations, the BXP-A100-E2 computer comes with a fanless and unique heat-dissipation design to support operations at temperatures -30 to 60°C for long-term stability and reduced maintenance costs.