



# MANUFACTURING MADE SMARTER

## How Advantech's Machine Data Acquisition Solutions Take Manufacturing to the Next Level

Advantech's equipment connectivity and process visualization solutions make machine monitoring and optimization easier than ever.

### Overview

- Home appliance manufacturer in Thailand

### Challenge

- Track productivity and key parameter of the process

### Solutions

- Equipment connectivity
- Process visualization

### Benefits

- Real-time machine control and production monitoring
- Costly downtime avoidance
- Data-driven process optimization

Staying on top isn't easy, especially in today's increasingly competitive global marketplace, and for one of the world's leading manufacturers of home appliances, maintaining an edge over the competition means working smarter, not just harder. Fortunately, Advantech's solution ready packages constitute iFactory (intelligent factory) solutions that combine key hardware and software into a single package, providing this major manufacturer with unparalleled versatility and substantial cost savings.

As a leading provider of products ranging from air conditioners and filters to heating and ventilation systems, this Advantech partner must effectively monitor a wide variety of complex production lines. In modern manufacturing however, the production lines for even very different types of products share certain fundamental commonalities, such that by actively managing production line assets, whether through adjustments to coordination or the avoidance of costly downtime through preventive maintenance, manufacturers can ensure that production is optimized. So making the most of such capabilities means making every second count, and that's where Advantech's iFactory SRPs can make all the difference: every bit of data can help to ensure the fastest output possible, and Advantech's iFactory solutions make it possible for production managers to access and visualize all available data in a highly effective manner.

## Ensuring 100% Data Acquisition with Advantech's Equipment Connectivity Solution

In order to maximize equipment performance and reliability, production managers and engineers must make constant improvements through data analysis of machine operations, which allow them to adjust settings to ensure equipment coordination while limiting power consumption. However, the data provided by various production line assets is sometimes contradictory or otherwise unclear due to the sensors, meters, or PLC controllers being limited in connectivity or because different devices from different vendors may each have their own proprietary protocols.

By combining the necessary hardware and software elements into a single comprehensive package, Advantech's ESRP-PCS-UNO2271 is easy and intuitive to configure, saving valuable time and effort while ensuring smooth and independent access to controllers. The platform equips production managers with 100% data acquisition by supporting 450 PLC communication drivers and utilizing self-defined communication protocols, plus a distributed digital I/O module to completely acquire controller status, temperature, humidity, and other sensor data. With pre-installed WebAccess/HMI, 1500 runtime tags, a 6-channel digital input, and 6-channel power relay Modbus TCP module, ESRP-PCS-UNO2271 substantially reduces engineering time through intuitive UI settings to rapidly convert protocols for a maximum of 15 different branded PLCs simultaneously. This can serve as a crucial reference for machine maintenance, aiding the manufacturer's in-house engineers and line workers with foreseeing potential problems before they arise, thus preventing unnecessary machine downtime for repairs.

## Working Smarter with Process Visualization Solutions

Advantech's process visualization solution, SRP-FPV220 lets production managers easily acquire all the data they need from shop-floor devices via multiple communication

protocols such as Modbus, OPC UA, and MQTT, and then automatically generates Excel reports of production activities. Its 100% web-based dashboard provides users with visualized production information such as yield rate trends, equipment utilization, or downtime alarms, available anytime on any mobile device supporting HTML5 browsers. Valuable information about field equipment, energy consumption, and environmental conditions can also be stored in the SQL database. Open APIs, such as RESTful SignalR, are also supported to facilitate integration with existing IT systems.

SRP-FPV220 provides real-time dynamic numerical value displays, pipeline and dynamic flow diagrams, bar charts, and histograms. Set up active alarm messages and even email alarms in order to be alerted to any problem and prevent others from developing. Increase the value of legacy equipment with multiple protocols conversion, while improving manufacturing efficiency through real-time production monitoring and machine status diagnosis. For one world leader in home appliance manufacturing, the SRP-FPV220 offers an unmatched asset monitoring solution for its production lines of their vast range of products.

## Simple Solutions for Complex Problems

Leading manufacturers know that Advantech's intelligent industrial automation solutions let them work smarter, not just harder, offering substantial development convenience and efficiency by integrating wireless hardware with powerful software, reducing system complexity, and streamlining installation. Modern production lines rely on complex operations involving multiple computers and industrial machines. Although such operations are highly complex, production line systems and solutions don't have to be. With Advantech's equipment connectivity and process visualization solutions, global leaders can increase their productivity, maximize their profitability, and stay on top in the global marketplace.

## Product Solutions



### Equipment Connectivity Solution / ESRP-PCS-UNO2271

Pre-installed  
WebAccess/HMI  
Runtime 1500 Tags

Intel® Atom™  
Pocket-Size  
Automation Computer

### ADAM-6060

6-ch Digital Input  
6-ch Power Relay  
Modbus TCP  
Module

### Process Visualization Solution / SRP-FPV220

Pre-installed  
WebAccess/SCADA  
Pro Runtime  
1500 Tags

Intel® Core™ i3  
Regular-Size  
Automation  
Computer

4-ch Universal Input  
2-ch Digital Output  
IoT Wireless  
I/O Module