SRP-EEM351

Factory Energy Management Solution



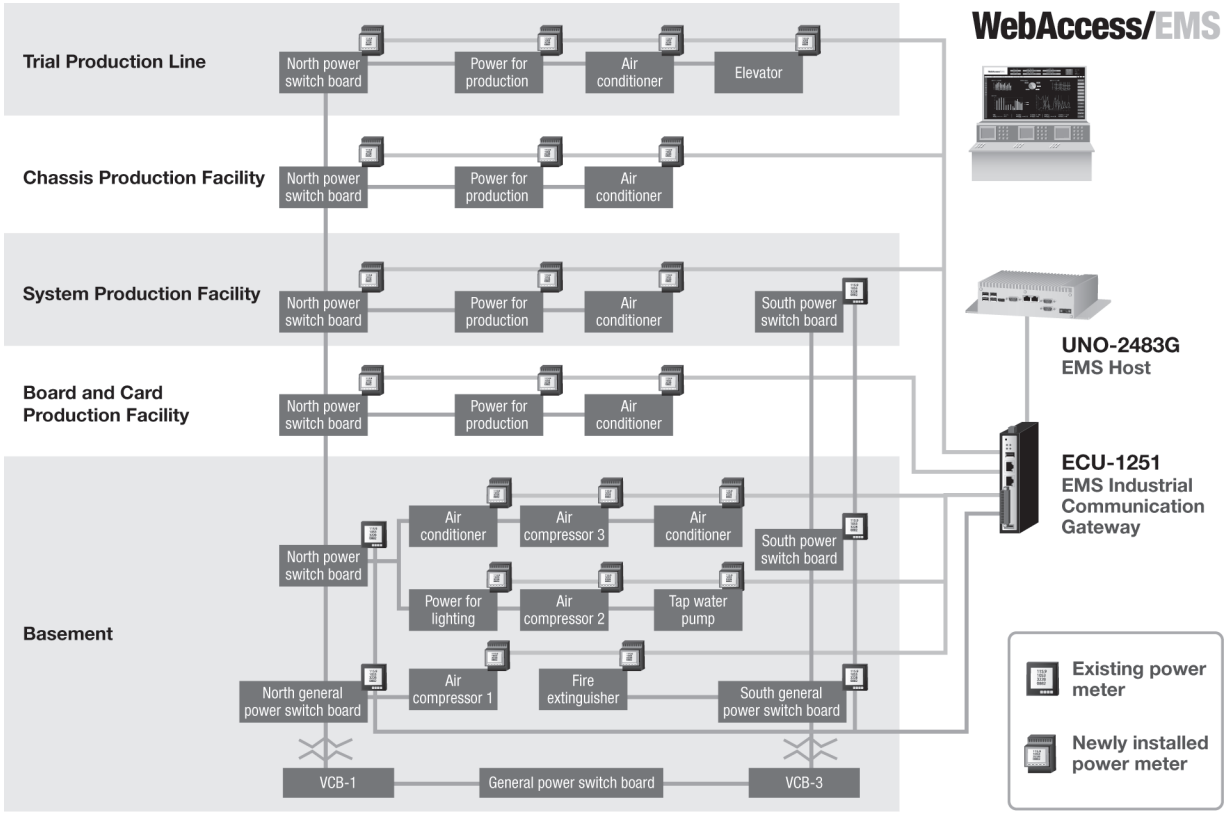
Features

- Highly stable and reliable centralized monitoring and management system for key energy consumption equipment
- Intact data guaranteed by store and forward when communication fails
- Easy to understand data indicators via intuitive graphical display
- Smart alarm notification through SMS, e-mail
- Complete energy consumption statistics and analysis tool to capture energy waste and reduce energy costs
- Easy maintenance of backend via simple management
- Unified and flexible central management system for integrating existing systems
- Cross browser and platform support powered by the WebAccess Dashboard

Introduction

Advantech factory energy management solution aims to save energy costs, reduce maintenance, and increase production. It provides the hardware and software needed to establish an efficient energy management system. This solution adopts an acquisition gateway which supports multi-protocols and multi-network communications to accurately target high energy consuming devices and factory facilities. With the help of Advantech's WebAccess/EMS software and high-performance industrial computer it can perform remote real-time monitoring, smart alarms, report statistics and intelligent analysis, to help managers find abnormal energy consumption and identify areas that need improving. It will optimize the energy use of equipment, improve production scheduling, and make energy savings all round.

System Diagram



All product specifications are subject to change without notice.

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Major System Functions

Graphical Dashboard for Clear Energy Indicators

- The whole factory energy data integrated in one screen
- Real-time energy performance indictors
- Flexible filter to display the real-time information of selected item
- [My favorite] personal exclusive page



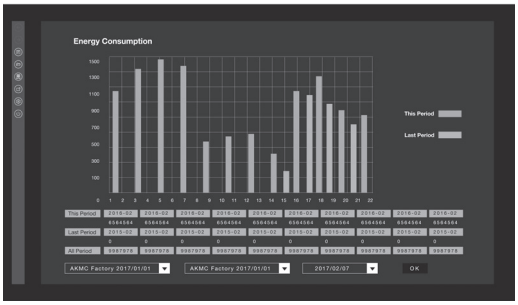
Displays Electricity Usage for Analysis

- Peak/off-peak/semi-peak separation analysis
- Long-term record of electricity consumption to calculate the best contract capacity
- Group, timeline comparison analysis tool
- Establish energy performance indicators and energy consumption baseline



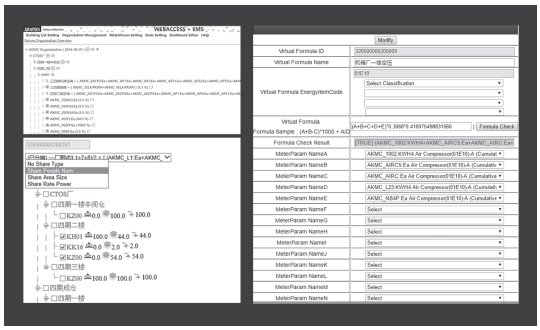
Data Diagnosis to Save Energy

- Connects MES/ERP system, compares work orders, finds abnormal power consumption and adjusts peak electricity
- Amortizes public facilities' electricity expenses with actual usage
- Electricity calibration, balances energy management fees and accounting statements



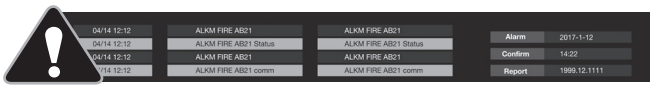
Easy Maintenance of Backend System

- Easy expansion
- System data can be exported to Excel
- Electricity amortization can be flexibly set due to organizational changes



SCADA for Centralized/Decentralized Control

- WebAccess/SCADA graphical control software platform, with complete SCADA graphical control expansion functions
- Single interface integrates all plant environmental control messages and offers unified warnings



Mobile Devices Support for Monitoring Anywhere/Anytime

- Based on HTLM5 platform, supports cross-browser & cross-platform viewing
- Real-time exception alerts via APP push notifications, improving reaction rates



EMS Software Specifications

General

- **Database** Microsoft SQL Server Express 2012
- **Office** Office 2016
- **Report Export Format** Excel
- **Display Resolution** 1920 x 1080 (Optimal)
- **Cross Browser and Platform** Yes
- **Language** Simplified Chinese/Traditional Chinese/English
- **Browser** Internet Explorer: IE 11
Chrome: Version 50 or above
Safari: Version 7 or above

Data Refresh and Response Time

Items	Refresh	Response
Device Communication Status	5 s	< 5s (Affected by the network channel delay and controlled equipment)
Real-time Data	5 s	< 5s (Affected by the network channel delay and controlled equipment)
Weather Information	1 min	< 5s (Affected by the network channel delay and controlled equipment)
Demand Data	1 min	< 5s (Affected by the network channel delay and controlled equipment)
Energy Consumption Data	15 min	< 5s (Affected by the network channel delay and controlled equipment)
Electricity Cost Data	1 day	< 5s (Affected by the network channel delay and controlled equipment)
Energy Consumption Data for per Unit Capacity	1 day	< 5s (Affected by the network channel delay and controlled equipment)

Capacity

- **Maximum Number of I/O Tags** 5000
- **Maximum Number of Meters** 50
- **Maximum Number of Energy Consumption Items** 50
- **Maximum Number of Building** 1
- **Maximum Number of Building floors** 100
- **Maximum Number of Areas** 100
- **Maximum Number of Meters for Each Area** 10
- **Maximum Number of Virtual Meters** 100
- **Maximum Number of Groups for Each Organization** 100
- **Maximum Number of Organizations** 20
- **Maximum Data Retention Period** 20 years

Platform Specifications

EMS Server

- **Certification** CE, FCC, UL, CCC, BSMI
- **CPU** Intel Haswell Core i7 4650U dual-core
- **Memory** 8GB
- **Storage** 1 x 2.5" HDD 500GB, 1 x 2.5" HDD 1TB
- **Ethernet Port** 4 x 10/100/1000 1000Base-T RJ45 ports
- **Operating System** Windows 7 Embedded Pro.
- **Framework** .Net Framework 4.0
- **Web Server** IIS 6.1

Data Gateway

- **Certification** CE, FCC, BSMI
- **CPU** TI Cortex A8, 800MHz
- **Storage** 2 x 1GB Micro-SD card, one for system storage and another one for data storage
- **Ethernet Port** 2 x 10/100 Base-T RJ-45 ports
- **Wireless (Optional)** Interface: 1 x Mini-PCIe (Full-size, signal: USB)
- **Configuration Tool** Advantech TagLink Studio
- **Protocol Support** Modbus, IEC-60870-104(slave)

Ordering Information

- **SRP-EEM351-T0A** 1 x ECU-1251 with Advantech TagLink and 1GB Micro-SD card, 1 x UNO-2483G-474AE with Intel i7- 4650U, 8G RAM, 500G HDD, 1TB HDD, WES7P, Office 2016, WebAccess/SCADA 8.2 Pro. 5000 tags, WebAccess/EMS, SQL Server Express 2012

Extension Solution

Gateway

- **ECU-1251TL-R10AAE** TI Cortex A8 Industrial Communication Gateway with 2 x LAN, 4 x COM, 1 x Mini-PCIe

Wi-Fi Solution for ECU-1251

- **9656EWMG00E** Half to full-size Mini PCIe bracket pack
- **EWM-W150H02E** Half-size mini card, supports 802.1 1bgn
- **1750006043** SMA (M) cable, 15cm
- **1750000318** 2dBi antenna for testing, 11cm

Storage Solution for ECU-1251

- **96FMMSDI-1G-ET-AT1** ATP 1G MICRO SD CARD I-GRD SLC (G)

Wireless AP

- **EKI-6332GN** IEEE802.11 b/g/n Wi-Fi AP/Client

Smart Meter

- **WISE-M502-125C060E** 1P2W/5Loop&100A/33.3mA input power meter
- **WISE-M502-332C060E** 3P3W/2Loop&60A/20mA input power meter