Advantech WebAccess

The IoT Software Framework

- IoT Software Framework
 HTML5-based
 - Business Intelligence Dashboard
- Features & Functions
- Successful Applications





Evolving from HMI/SCADA Software to IoT Software Framework

According to an IDC report, Internet of Things (IoT) and the technology eco-system surrounding it, is expected to be worth \$8.9 trillion in 2020. With more and more investment and development on integrating IoT applications and cloud architecture, software has become a key factor to success in the IoT era.

Advantech WebAccess, as the core of Advantech's IoT solutions, has also become not only a HMI (Human-Machine Interface) and SCADA (Supervisory Control And Data Acquisition) software solution, but also an IoT software framework to connect eco-partners and system integrators for IoT application.

With Advantech WebAccess, a browser-based HMI/SCADA software, users can monitor and control their project simply through a web browser. For the device layer of IoT, WebAccess supports ample protocols and more than 200 device drivers which make it flexible and suitable for every automation project. WebAccess also provides the foundation of IoT data management with its open architecture so that it can be helpful to meet the needs in different vertical market applications.



Advantech WebAccess Focused Solutions



Intelligent Buildings

Acting as a cross-area energy & facilities monitoring and controlling software to improve overall remote building management efficiency



Power & Energy

Providing a software and hardware integration solution for new energy power generation integrated monitoring systems



Oil & Gas

Collecting and managing data transferred from RTUs to create an analysis tool and to monitor the operating status of oil wells and devices in the field

IoT Software Framework





Intelligent Agriculture

Monitoring and tracking of the whole process from the production of crops, processing, transportation, to sales and other procedures which can effectively overcome the impact of climate, geographical limitation, natural disasters, pests and diseases



Water

Comprehensive water SCADA system realizing a remote real-time monitoring system within the whole life cycle from water conversation to water treatment



Factory Automation

Monitoring operating status automatically and collecting data from whole factory facilities so as to reduce downtime and to minimize maintenance costs and production losses

Advantech WebAccess – The IoT Software Framework

100% Web-based HMI/SCADA Software

Advantech WebAccess is a 100% web-based HMI/SCADA software with excellent networking capabilities. Through WebAccess web structure, users can develop a central database from project node to SCADA node via Internet or Intranet. It also supports powerful remote monitoring and control functions. Through standard web browser, users can monitor and control their IoT applications easily with full-featured SCADA functions by their Client or Thin Client device.



IoT Software Framework

Starting from Version 8, Advantech WebAccess provides a HTML5 based Dashboard as the next generation WebAccess HMI. It helps system integrators to create their own dashboard and view their dashboard remotely via any device. Advantech WebAccess also provides open interfaces for system integrators to develop their IoT applications and widgets which can meet the needs of various applications.

WebAccess Components









Project Node

A development platform for WebAccess and a web server for all clients to connect to the development project or to monitor and control the system remotely.

- System integration
- Project development
- Web server, provides connection between SCADA and client
- Database server, record the data

SCADA Node

It communicates in real-time with automation equipment and controls the equipment via serial, Ethernet or proprietary communication via multiple built-in device.

- Connect end devices
- Data acquisition and transmission
- Supports more than 200 device drivers
- Real-time and historical data log
- Action log

Client

Connect to the Project Node and get the address of the SCADA Node, then communicate directly with the SCADA Node using proprietary communications over TCP/IP connection.

- Remote monitoring and control
- Real-time and historical trend
- Alarm record
- Monitor via PDA and smart phone

Thin Client

The Mobile Client interface is intended for using mobile devices such as iOS, Android and Windows mobile devices. With mobile client, users can browse real-time graphics, data-log trends, and tag information. Set value to tag or acknowledge alarms can also be supported via an intuitive interface.

- Mobility monitor and control
- Real-time data

Smarter Web-based HMI/SCADA Features

Advantech WebAccess provides powerful SCADA management functions including Advanced alarm management, Scheduler, Historical and real-time trends, Demand control and Database maintenance. WebAccess can also meet users' needs in focused vertical markets.

In WebAccess 8, there are two new outstanding features: HTML5 Dashboard with business intelligence analytic service and Excel Report with built-in self-defined report templates.

Evolving to Public Cloud

WebAccess Cloud

Architecture

WebA

- Auto-discover
- Auto-deliver
- Auto-deposit
- Auto-display
- Auto-configuration

- Flick
- Zooming
- Pan
- Two-hand operation



- Real-time animation
- Web-enabled video, audio

 Real-time site data in Google Maps

Location tracking in GPS

Ample symbol library

module

Integrated Real-time Video and Animation



Integrated Google Maps and GPS Location Tracker

- Alarm groups and level settings
- Multiple receivers at the same time

Advanced Alarm Management

enier



- Business intelligence within the dashboard
- Easy configuration
- Cross browser, cross platform



• Supports more than 200 I/O & PLC drivers

WebAccess Feature Highlights



Supports Multi-touch Gesture

WebAccess supports multi-touch screen with various pre-set gestures, such as slide to change pages, zoom in and out of the display and 2-handed operation for maximizing operating safety, increasing usability and decreasing training time due to the more intuitive handling.





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Scheduler

WebAccess Scheduler provides on/off control and setpoint changes based on the time-of-day, day of week and the calendar. Users can control lights, temperature and equipment for saving energy during specific days and times. It also allows up to 16 periods per day and preserved function for setpoint.



Web-enabled Video, Audio, Animation

WebAccess allows operators and users to monitor equipment and facilities directly using web-enabled full-motion video cameras, audio, and web cameras. The video screen canbe shown in the same display area as graphics, animation, alarms and trends displays. With vector-based graphics, WebAccess graphics can be built and displayed at any resolution.







Trend Analysis

WebAccess provides Historical and Real-Time Trends, Data Logging and Centralized Logs. 12 tags can be added to a trend display without losing the history of the other tags. Real-time data, alarms, and operator actions from all SCADA nodes can be logged to a central ODBC database.



Integrated Google Maps and GPS Location Tracking

WebAccess integrates real-time data on each geographical site with Google Maps. Users can easily associate their real-time site data with a marker and label by right-clicking on their Google Maps or entering the coordinates of the target. This function also integrates with GPS modules to track the location of the marker in Google Maps and allows it to be used in vehicle systems.





Real-Time Database

WebAccess's Real-Time Database (RTDB) is designed to meet industrial high speed and large quantity data access requirements. By using RTDB in WebAccess configuration page, WebAccess SCADA nodes can process data at a rate of millions of records per second. Also, the RTDB maintenance feature can automatically archive and delete obsolete data.







Auto-Configuration - WebAccess Express

WebAccess Express is an automated graphical remote control application program which can enable users to bring device information online with one-click. It can scan ADAM and EKI modules automatically, generate a database and bring real-time data online with prebuilt monitoring graphics. WebAccess Express also provides platform monitoring functions that allows users to communicate and exchange data with SNMP, DiagAnywhere Server or SUSI 4.0 APIs for checking the health of the CPU, memory, temperature, and voltage of the target machine platform.



Supports Multiple Protocols & Ample Drivers

WebAccess supports open real-time data connectivity, such as OPC, Modbus, BACnet, DDE Server, and open offline data connectivity, such as SQL Server, Oracle, MySQL, and Microsoft Access Database. WebAccess supports over 200 device drivers. In addition to Advantech I/Os and controllers, WebAccess also supports all major PLCs, controllers and I/Os, like Allen Bradley, Siemens, Lon Works, Mitsubishi, Beck off, Yokogawa etc.

OMRON OF FUJIFILM





Advanced Alarm Management

Advantech's WebAccess Alarm function provides different alarm groups and level settings to inform operators of the status of processes and equipment by sending e-mails, SMS, and audio announcements. Users can define alarm groups, working schedules, and priority settings to deliver alarm messages via SMS, email or audio announcements to multiple receivers.



SCADA Redundancy

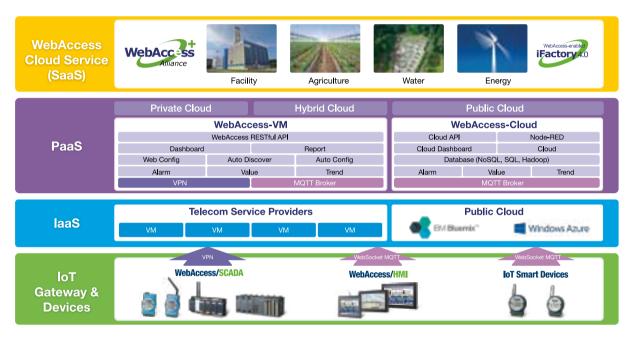
WebAccess assures continuous, reliable communication to automation equipment by SCADA Redundancy. The primary and backup SCADA communicate with each other when the kernel is started, but only one will communicate to automation equipment. Backup SCADA node activates when the primary SCADA node is down. WebAccess clients will be redirected to the backup if the primary node fails. Data Logging and Trending files are updated on both primary and secondary, and resynchronized when the Primary returns.



WebAccess Feature Highlights

WebAccess Cloud Architecture

WebAccess is a 100% web-based HMI and SCADA software with private cloud software architecture. follow trends and meet the needs of IoT, it is now evolving its architecture to a public cloud design, aiming at providing centralized big data for large equipment vendors, System integrators (SIs), and Enterprises to configure, change/update or monitor their equipment, projects and systems all over the world. users' behavior on SCADA software will also evolving from data acquisition/manipulation to business intelligence and big data analysis with WebAccess.





Open Interfaces

WebAccess opens lots of interfaces to enrich its extensionality. With Web Service interface, users can integrate WebAccess data into APPs or application system. And, The pluggable widget interface has been opened for programmers to develop their own widget and run on WebAccess Dashboard. Besides, WebAccess API, a DLL interface for accessing WebAccess platform and develop Windows applications. These interfaces enable WebAccess to act as an IoT platform for users to develop IoT applications in various vertical markets.



WebAccess provides Excel Reports for the requirements of self-defining reports. Users can build self-defined Excel templates and generate daily/ weekly/monthly/yearly or on demand reports automatically in Microsoft EXCEL format. It is also web-based and can be generated and viewed in a Web browser from wherever is needed.



WebAccess Feature Highlights



Business Intelligence Dashboard

WebAccess 8.0 provides Business intelligence analytic services by a HTML5-based Dashboard. Users can create customized information pages by using analysis charts and diagrams which are called widgets. Users can view the data in different browsers, like Explorer, Safari, Chrome, and Firefox for a seamless viewing experience across PCs, Macs, tablets and smartphones.



Dashboard Editor

Configuration tool for users to create the dashboard, including Layout, Dashboard Display, data source mapping, Widget Type, pluggable widget interface, and Widget interaction.

Built-in Widget Library & Widget Builder

With built-in standard widgets, users can decorate and create their own Dashboard to show the information via WebAccess Database. Besides, with Widget Builder, users can create a customized widget with graphic functions, like Basic shapes, Animation, Picture import, and Macro command via cross-browser.

Dashboard Viewer

The view tool is a customized dashboard with realtime data information. Pad and Mobile Dashboard viewer allows full screen and normal mode layouts.

Cross Browser & Devices Viewing

WebAccess provides Business intelligence analytic services by a HTML5-based Dashboard. Users can create the customized information pages by using analysis charts and diagrams called widgets. Users can view the data in different browsers, like Explorer, Safari, Chrome, and Firefox for a seamless viewing experience across PCs, Macs, tablets and smartphones.



Intelligent Agricultural Solutions Intelligent Greenhouse Monitoring and Control Solution



Farming Orchids is the most successful form of precision farming in Taiwan, and also the most exported flower. Orchids need a specific temperature and humidity conditions to grow and bloom, and its flowering time may not be in line with market demands, so the price collapses when there is overproduction.

The system integrator adopted Advantech's APAX-5000 series programmable automation controllers to build the control platform, coupled with Advantech WebAccess HMI/SCADA software, to achieve cloud monitoring. The staff of the orchid field can monitor important data anytime via smart phone, iPad, and other handheld devices, and control the growth and flowering conditions.

System Requirements

In the past, most environmental control systems of orchid greenhouses in Taiwan used PLCs with poor scalability and control, and could not be connected to the Internet for monitoring from the cloud. For advanced database analysis and networking capability, the PC platform must be adopted. Therefore, PAC Systems with both PLC programming capabilities and PC functions is a better choice.

The environmental control of the Orchid greenhouse switches on and off devices like fan, shade net, cooling/heat pump, liquid flow control, water-cooling wall etc. It is controlled by a control panel of electric controllers, and is driven by a motor, to adjust the greenhouse temperature, humidity, and other environmental conditions to the set parameters.

Hence, the requirements are :

- Sensors to detect environmental conditions such as temperature and humidity inside and outside the greenhouse, sunshine, wind direction and speed etc.
- Control components to execute commands, to control fans, shades, nets, water walls, liquid flow, and other equipment.
- A control host which can analyze and compute, connecting sensors, control components, electric equipments, and office computers.
- HMI/SCADA software to input control parameters from computer, with the abilities of database analysis and remote monitoring.

System Diagram

WebAccess

Browser-based

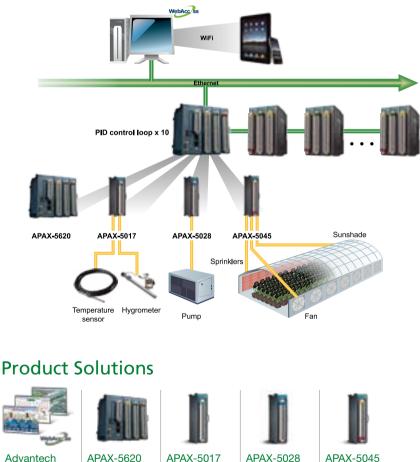
HMI/SCADA

Software

PAC with Marvel

κw

XScale CPU, CAN,



12-ch Analog

Input Module

8-ch Analog

Output Module

APAX-5045 24-ch Digital Input/ Output Module

Implementing Water Supply Solutions Effective Water Supply System for Fish Hatch Farm Water



By planning and building seawater supply facilities in particular production areas, clean seawater can be directed into fish farms. Coupled with advanced technology, water supply systems monitor the water supply and electrical power facilities to ensure a steady quality and quantity of water supply. Through the use of a fiber-optic network and a user-friendly interface, management staff can remotely monitor onsite conditions, ensuring that fish farms maintain in the best conditions for fish breeding.

System Requirements

The monitoring system must use redundant architecture to ensure a stable water supply for protecting the species with high economic value from death of suffocation due to water, power outages, and other issues.

At the same time, one of the necessities is rugged hardware to withstand strong wind, salty and humid conditions, and huge outdoor temperature differences between day and night. Furthermore, in order to maintain transmission quality over a long distance, the project adopts an optical network to provide fast transmission rates and simultaneously reduce noise interference.

The switches must also support a specific protocol to facilitate user management. The software must allow onsite management staff and local government to monitor the status of fish production area all the time, so HMI/ SCADA software, with an easy-to-use user interface, is an essential feature of this project.

System Diagram



Intelligent Vessel Monitoring Solutions

Vessel Alarm Monitoring & **Management System**



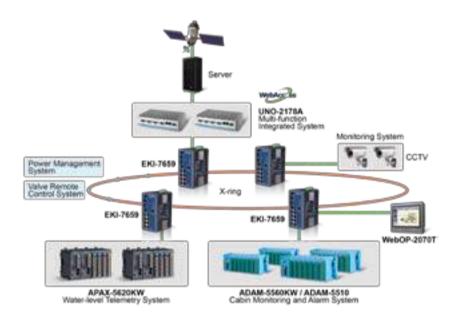
While the world's shipping industry puts emphasis on shipping safety, reliability, and economy, the requirement of ship equipment control is also getting higher. Ship control technology is developing toward the trend of integrated automation, which is achieved by a multi-functional integrated system including the cabin automation, navigation automation, machinerv automation, and loading automation. Sub-control systems are based on ship type and degree of automation, including remote control host, cabin monitoring and alarm, power management, valve control, water-level telemetry, ballast control, and automatic navigation.

System Requirements

The ship integrated platform management system adopts 1000Mb ring-based Ethernet or 100Mb starbased Ethernet network, using computer software system as the core to integrate the original independent monitoring alarm system, power management system, valve remote control system, water-level telemetry system, deck mechanical control systems, video monitoring system, remote wireless transmission system, and other subsystems through a reliable network.

While maintaining independent subsystems, it integrates the functions of subsystems as a whole to achieve ship data sharing, in order to ensure ship information transmission for efficient control and management.

System Diagram



Product Solutions

7-slot Micro

Atom™ CPU





ADAM-5560

ADAM-5091 4-port RS-232 PAC with Intel® Modules





Software



LINO-2178 intel® Atom™ D510 Automation Computers

HMI/SCADA Software

Application Story

Wind Power Monitoring Solutions

Integrated SCADA Solution for Wind Farm Management



Renewable energy sources have become an important part of a balanced energy supply. Like other green energy sources, wind is a sustainable, clean, abundant source of energy that does not produce any emissions. Generally, each wind farm may install tens to hundreds of independent wind towers and cover an area of hundreds of square miles in harsh environments and only a few maintenance staff. As a result, the question of how to supervise a large number of wind turbines at the same time and how to ensure reliable and secure operation in each wind farm are the essential elements to manage the wind power plant is a major question. Advantech has been involved in the field of renewable energy for many years and is able to provide all kinds of hardware devices and dedicated software programs to assist system developers and wind power plant owners to implement a comprehensive monitoring system so as to achieve professional management and optimum performance.

System Requirements

Our client is a well-known Systems Integrator on the China and international markets that specializes in wind power technology and sells its own brand of wind turbines and systems to domestic and foreign customers. As the company wants to focus on its core application development, it preferred to use available products rather than develop its own to complete the underlying data acquisition. According to the situation of this project, the wind farms would be set up with numerous on-site devices and need to acquire diverse types of data (such as electricity production, temperature, wind velocity, voltage, current and rotation speed) over a sparsely populated and large area. Therefore, the Supervisory Control and Data Acquisition (SCADA) system had to provide faster data collection and storage (sampling once per second), dynamic information display in real time, analysis and statistical reports, remote monitoring and control, easy to integrate third party devices and programs in order to meet the requirements of the environment and the administration. The hardware devices needed to provide high-level specifications with a robust design so that operating for 24 hours non-stop and extreme heat and cold outdoor temperature would not be a concern. Meanwhile, redundant network architecture is required to get the most solid and reliable connectivity.

System Diagram



Product Solutions



Advantech WebAccess Browser-based HMI/ SCADA Software



IPC-610 4U Rackmount Chassis with Visual Alarm Notification



EKI-7554 4+2 SC Type Fiber Optic Managed Industrial Ethernet Switch



EKI-4654R 24+2 SFP Port Managed Redundant Industrial Ethernet Switch



TPC-1551 15" XGA High Brightness LCD Intel® Atom™ Touch Panel Computers

Solar Power Monitoring Solutions Intelligent Remote Monitoring Solution for Distributed Solar



In order to lower the use of fossil fuel consumption and improve the quality of the environment, a number of governments have issued a series of policies to encourage the use of distributed photovoltaic systems as one of the options to offset peak electricity demand and stabilize the local grid. In comparison to traditional electric power systems, distributed solar generation is a relatively small system that can be mounted on residential and commercial rooftops or ground racks to produce electricity at or near the site where it is used. Along with its installation, its growth, data collection integrity, operational stability, convenience of maintenance and inspection are the main concerns for power grid management. Advantech's intelligent remote monitoring solution realizes unified scientific management by leveraging front-end data acquisition and back-end data analysis as well as providing comprehensive features to ensure reliable and stable operation.

System Requirements

A solar technology company that specializes in the integration and operation of photovoltaic and solar thermal systems constructs rooftop power photovoltaic generation projects for domestic and industrial applications. A project in Beijing with more than ten photovoltaic power stations installed throughout the city, was seeking a Supervisory Control and Data Acquisition (SCADA) solution which could not only quickly gather data but also offer a centralized supervision model to manage numerous solar power stations.

A prerequisite of the system was convenience, fast access and control of the database. The new system also had to support many communication protocols to communicate with various automation devices, synchronous data storage replication to protect critical data, visual data display to understand information guickly and easily, an open platform for further development and flexible expansion. For the related hardware products, they must offer a variety of I/O ports, low power consumption, wide temperature range, and ease installation and maintenance so as to meet the client's requirements.

System Diagram



Product Solutions



APAX-5520 Advantech WebAccess Browser-based HMI/SCADA Software



EKI-2525 5-port Unmanaged Industrial Ethernet Switch





 4U Rackmount
 Intel® Celeron®

 Chassis with
 Automation

 Visual Alarm
 Computer with 4 x

 Notification
 GbE, 2 x Mini PCIe

 DVI/DP/HDMI and
 DVI/DP/HDMI and



WA-UNO2174

WebAcces

DMU-3010 8-ch Al, 8-ch Dl, 4-ch DO Ethernet I/O Module

Application Story

Solar Energy Application Solutions

Intelligent Energy Saving System for Convenience Store



Since electricity costs keep on rising, the bills for convenience stores keep on increasing and unfortunately it's difficult for convenience stores to raise their prices to maintain the same profit margins. Variable overheads are difficult to budget for and give accountants a headache, therefore one convenience store chain in Thailand has decided to redress the balance and put themselves in charge of power generation by installing solar panels in their stores.

System Requirements

Our customer wanted to reduce their energy costs by at least 10 percent and having installed solar panels in their store locations they needed to be able to send the power to where it was needed and when it was needed. Since the stores are open for 24 hours and it's only sunny for roughly 12 of those, it was essential that the power distribution to the lighting and refrigeration units was managed efficiently.

To manage the distribution of power, the customer implemented a building automation system using BASPro software installed on a DDC controller. By using a 10.4" touch panel computer, with Advantech WebAccess installed, the power can be controlled as necessary.

With Advantech's open architecture and user-friendly browser-based HMI/ SCADA software, it also means that it can be more easily to integrate third-party devices for additional management with lower costs and long-term support.

System Diagram



Factory Monitoring Solutions Integration System for Multi-Factory Management



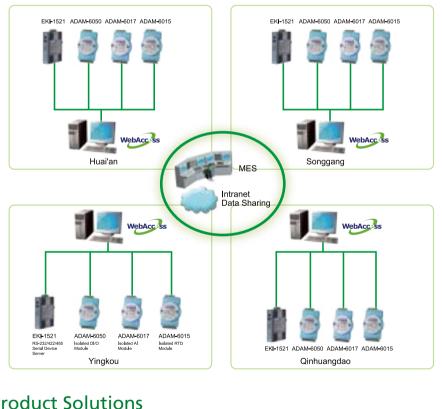
As manufacturing companies expand and leverage their scale and manufacturing capacity, one of their major challenges is to achieve greater operational efficiency, but most of companies have numerous, complex and critical systems within their plants to manage scheduling, production, inventory and quality data, especially if they own several factories around different cities which makes management more complex. Therefore an easy and effective way to supervise each factory and sharing information across multiple sites is what they need most. By using Advantech's integrated solution to provide cross-system integration, unified interface, real-time data collection, and visualized monitoring platform, factory managers can actively ensure the delivery of quality products in a timely and cost-effective manner.

System Requirements

Our customer mainly engages in designing, developing, producing and the sales of printed circuit boards (PCB), and is a major global PCB supplier. It has four manufacturing sites across China, in Shenzhen, Huai'an, Qinhuangdao, and Yingkou that respectively focus on different products manufacturing and have a variety of systems for production operation management. As a result, these sub-systems has failed to effectively aggregate the required data for the headquarters needs and the different communication interfaces in each factory also add to the difficulties of integrating the existing systems.

Therefore, the customer began surveying graphical monitoring control software as its new platform to perform the crosssystem integration in order to facilitate the production control of all factories in real time. The four manufacturing sites have already implemented many PLCs with their own communication architecture to gather on-site data, but there are still some inadequacies that need to be improved by Ethernet I/O Modules to expand their monitoring. The Serial-to-Ethernet gateway must also be upgraded to more powerful devices to guarantee network reliability.

System Diagram



Product Solutions

18-ch Isolated

Modbus TCF

Digital I/O

Module



Advantech WebAccess Browser-based HMI / SCADA Software

ADAM-6050 ADAM-6017 8-ch Isolated Analog Input Modbus TCP Module with 2-ch DO



7-ch Isolated

RTD Input

Module

. Modbus TCP



ADAM-4571

232/422/485

Serial Device

• 1-port RS-

Server



FKI-1521 • 1-port RS-232/422/485 Serial Device Server

Advantech WebAccess

The IoT Software Framework



Advantech WebAccess

100% Web-based HMI/SCADA Software

- Distributed SCADA architecture with central database server and Multi-layer inter-operable SCADA nodes
- Supports ample drivers, including Advantech I/O, controllers and major PLCs
- Web-enabled video, audio and animation
- Excel self-defined report
- Google Maps and GPS location tracking integration
 High availability Redundant SCADA, ports and devices
- High availability Redundant SCADA, ports and devic
 Supports Open Interfaces as IoT platform

HTML5 Business Intelligence Dashboard

- Cross-browser, Cross-platform WebAccess HMI based on HTML5
- Supports HTML5 capable browsers, like Safari, Chrome, and Firefox
- Supports Dynamic thin clients access for a seamless viewing experience across PC, Mac, Tablet and Smartphone
- Built-in widgets to customize information page by analysis charts and diagrams
- Create customized widget with graphic functionalities, like Basic shape, Animation, Picture import, and Macro command via cross-browser

WebAccess Bundled Products

WA-TPC1771

17" Touch Panel Computer with 600/5,000 Tags WebAccess

- Built-in Windows 7 Embedded with Advantech WebAccess 600/5,000 Tags
- Intel[®] Atom[™] D525 1.8 GHz CPU
- 8 DI/O and backup SRAM support



WA-UNO2178A

Compact SCADA Server with 600/5,000 Tags WebAccess

- Built-in Windows 7 Embedded with Advantech
- WebAccess 600/ 5,000 Tags
- Intel[®] Atom™ D510 1.67 GHz CPU
- 2 x GbE, 8 x COM, 6 x USB 3.0 and 2 x MiniPCle



Semiconductor Data Gateway

WA+SECS

WebAccess SECS Server with

Intel[®] Core[™] i7 Automation Computer

- SECS protocol embedded –SEMI standard compliant interface for data collection
- Provides SECS functions for polling, trace and event notification by configuration
- Bundled with Advantech WebAccess, browser based HMI/SCADA software



WebAccess Software Specifications

Advantech WebAccess Professional					
I/O Tag Number	75/150/300/600/1500/5000/20K/64K				
Internal Tag Number	75/150/300/600/1500/5000/20K/64K				
Web Client	1024				
Alarm Logs	5000				
Action Logs	5000				
Graphics					
Number of Graphic Pages	Unlimited (limited by H/D size)				
Variables per Graphic Pages	4000				
Dashboard					
Cross Browser and Platform	Yes				
Built-in Widget Library	Yes				
Open Widget Interface	Yes				

Energy Data Gateway

BEMG-4221 / 4222

Energy Data Conentrator with 6 x USB,

- 4x COM / 8x COM, 128 Devices
- Built-in Windows CE with Advantech WinCE WebAccess
- Web-server functions support customers with remote configuration, remote operation,
- remote maintenance
 Combines Advantech BEMS and power meter
 for energy saving solution



Open Connectivity	
Modbus Sever/OPC Server/ BACnet Server	Yes
Others	
Web-enabled Functions	Video, Google Maps and GPS Location Tracking
Centralized Logs on Project	Yes, node via ODBC
SCADA Redundancy	Yes
Script Language	TclScript/VBScript/JScript
Reporting / Excel Report	Yes
Device Redundancy	Yes
Supports IPv6	Yes
WebAccess Express	Yes

Regional Service & Customization Centers

China	Taiwan	Netherlands	Poland	USA/ Canada
Kunshan	Taipei	Eindhoven	Warsaw	Milpitas, CA
86-512-5777-5666	886-2-2792-7818	31-40-267-7000	48-22-33-23-740 / 41	1-408-519-3898

Worldwide Offices

Greater China		Asia Pacific		Europe		Americas	
China		Japan		Toll Free	00800-2426-8080	North America	
Toll Free	800-810-0345	Toll Free	0800-500-1055	Germany		Toll Free	1-888-576-9668
Beijing	86-10-6298-4346	Tokyo	81-3-6802-1021	Munich	49-89-12599-0	Cincinnati	1-513-742-8895
Shanghai	86-21-3632-1616	Osaka	81-6-6267-1887	Hilden / D´dorf	49-2103-97-885-0	Milpitas	1-408-519-3898
Shenzhen	86-755-8212-4222					Irvine	1-949-420-2500
Chengdu	86-28-8545-0198	Korea		France			
Hong Kong	852-2720-5118	Toll Free	080-363-9494	Paris	33-1-4119-4666	Brazil	
		Seoul	82-2-3663-9494			Toll Free	0800-770-5355
Taiwan						Saude-São Paulo	55-11-5592-5355
Toll Free	0800-777-111	Singapore		Italy			
Neihu	886-2-2792-7818	Singapore	65-6442-1000	Milano	39-02-9544-961	Mexico	
Xindian	886-2-2218-4567					Toll Free	1-800-467-2415
Taichung	886-4-2378-6250	Malaysia		Benelux & Nordic	s	Mexico City	52-55-6275-2777
Kaohsiung	886-7-229-3600	Toll Free	1800-88-1809	Breda	31-76-5233-100		
		Kuala Lumpur	60-3-7725-4188				
		Penang	60-4-537-9188	UK			
				Reading	44-0118-929-4540		
		Indonesia		Poland			
		Jakarta	62-21-769-0525	Warsaw	48-22-33-23-740 / 4	1	
		Thailand		Russia			
		Bangkok	66-2-248-3140	Toll Free	8-800-550-01-50		
		-		Moscow	7-495-232-1692		
		India					
		Toll Free	1-800-425-5070				
		Pune	91-20-39482075				
		Bangalore	91-80-2545-0206				
		Australia					
		Toll Free	1300-308-531				
		Melbourne	61-3-9797-0100				
		Sydney	61-2-9476-9300				



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