Ei-A215

High-Performance Edge Intelligence System

Features

- Integrated hardware and software aids edge-to-cloud application development
- Preconfigured system: High-performance computing powered by 6th Generation Intel® Core™ U-series i5, WES7E/Win 10 with 4 GB RAM, 64 GB SSD
- Pre-integrated software package: WISE-DeviceOn, WebAccess/SCADA and iEdge for equipment connectivity
- Preconfigured Microsoft Azure service: Device management package/data intelligence package (optional)
- Comprehensive developer tools and documents: Node-RED dataflow logic designer, dashboard builder, protocol plug-in SDK, and configuration tools

Introduction

Advantech's EIS-D150 high-performance EIS is a software/hardware integrated solution offering high computing power for IoT and cloud applications. The unit enables data preprocessing in addition to logic and flow control at the edge of networks. The EIS-D150 comes with a ready-to-run system (6th Generation Intel® Core™ U-series i5 platform with WES7E/ WIN10 IoT Enterprise) and WISE-PaaS software. It includes the IoT applications WISE-DeviceON, WebAccess/SCADA and iEdge for equipment connectivity Furthermore, it gives the flexibility to add other software from the WISE-PaaS marketplace. For IoT developers, the EIS-D150 provides WISE-Agent and a protocol plugin SDK for IoT data collection and conversion, as well as a built-in Node-RED for smart data processing and logic flow design. It comes with preconfigured Azure packages from the WISE-PaaS Marketplace for easy and fast cloud connectivity. The EIS-D150 offers a complete solution for IoT data collection and intelligence creation from end devices and edge networks to the cloud. Its high computing power can assist with efficiently managing various types of devices, equipment, and sensors. With this unit, you can accelerate IoT implementation and enable IoT connectivity, data manageability, and analytics in the edge of your network.

Solution Block Diagram

IoT Connectivity

Edge IoT Application Development

Open Plug-in SDK and sample code for sensor and data collection and conversion.

Industrial Protocol Connectivity

Provides standard protocols(Modbus/ OPC/ MQTT) for sensor and devices data collection.

I/O and Sensor Compatiblity

Integration tested with Advantech M2.COM, ADAM and WISE-4000 series.

Operation Management

WISE-DeviceOn

Device Management

- Automatic device registration
- One-key to dashboard
- Device security

Monitoring & Control

- Real-time operations
- Power on/off
- Remote control

Update Management

- Batch provisioning
- Firmware updates
- Software updates

Cloud Integration

Microsoft Azure Cloud Services

Pre-configured with Azure Kubernetes services to quickly integrate with other cloud modules and shorten development effort.

Microsoft Azure

Cloud Connectivity

Azure IoT Edge / Plug and play certification and AWS Greengrass certification

Edge Cloud

Edge Cloud (EIS-S230) provides a scalable data management platform with Kubernetes open standard environment

All product specifications are subject to change without notice.

Last updated: 2-Jun-2020

Node-RED

Data Management

RESTful API
GET PUT POST DELETE
250+

Easy Application Development
Over 250 RESTful APIs, enabling application developers to access related functions and IoT data from WISE-PaaS software

Node-RED

Smart Data Processing
Pre-integrated Data Flow Logic Designer Node-RED for data processing and flow control (Sample code included).

ZDT
24/7
RE-DEPLOYMENT

Zero Downtime
Data cache storage for secured data transfer, retain data when connection is lost; forward it after connection is reestablished.

Pre-configured Azure Service

Option

Power BI Embedded

Data Reporting
Pre-Configured with DB and data, 720 hours of Power BI usage included

Virtual Machine

System Deployment
4 Core A3 VM for up to 100 devices connection

Web APPs

Web Service Center
Use your existing skills to code in your favorite language

Databases

Big Data Storage
1-TB storage with 99.99% reliability

Device Management Package
Virtual Machine + WISE-PaaS/RMM 100 device connections and management ability
40 WISE-Points/ Month

Data Intelligence Package
Virtual Machine Power BI Embedded + Databases Web APPs
60 WISE-Points/ Month

Get your service on WISE-PaaS Marketplace
Microsoft® Azure Services are available using WISE-Point digital currency, which applies in the WISE-PaaS Marketplace. http://wise-paas.advantech.com/marketplace/

IoT Development Tools

Node-RED Utility	Pre-integrated logic editing tool Node-RED
Data Collection	Receive data from agents and transfer the data to a WISE-PaaS/RMM server
Data Conversion	Convert data protocol to MQTT with JSON format
Plug-in SDK	Agent and protocol conversion plug-in SDK for developers
GUI Protocol Config Tool (for Modbus)	Modbus GUI provided for quick configuration
Backup and System Recovery	Acronis hot backup/recovery/ hot-key recovery
Security	McAfee whitelist protection
Remote Update (OTA)	Software (Advantech and 3rd party) updates
Zero Downtime	Preserve edge data when connections are lost and recover the data once the connections have been restored
Light Analytics	Statistical and graphical representation of historical data
Dashboard Builder	Customizable dashboard with widgets for displaying sensor data in the format of text, sparklines, gauges, and so on

**Support depends on device type, OS and account permission.

Edge System Specifications

Processor	Intel® Core™ i5 6300U
Memory	4GB DDR3L 1600MHz memory built in (Max Capacity: 16GB / 1600MHz)
Integrated O/S	WES7E/WIN 10
Operating Temperature	With extended temperature peripherals: -20 ~ 60 °C (-4 ~ 140 °F) with 0.7m/s air flow 2.5-inch HDD: 0 ~ 45 °C (32 ~ 113 °F) with 0.7m/s air flow
Display	1 x VGA, 1 x HDMI, supports dual display (VGA and HDMI)
I/O Interface	2 x GbE LAN, 2 x USB 2.0, 4 x USB 3.0, 4 x RS-232/422/485, 1 x digital I/O, line out/mic in
Power Input	12 V_{DC} (option: 9–36 V)
Storage	64-GB 2.5" SATA III SSD built in
Dimensions (W x H x D)	260 x 54 x 140.2 mm (10.24" x 2.13" x 5.52")

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Ordering Information

Part Number	CPU	Memory	Storage	OS	VGA	HDMI	GbE	USB 2.0	USB 3.0	RS-232/ 422/485	DIO	Audio	Full-size MiniPCIe	Power Input	mSATA	Operating Temperature*
Ei-A215-E1DS641	Intel® Core™ i5 6300U SoC	4 GB	64G 2.5" SATAIII SSD	Win 10	1	1	2	2	4	4	1, 8bit	Line out, mic in	2, 1 with SIM holder	12 V_{DC}	1	-20 ~ 60° C

Packing List

Item	Description
1	Ei-A215 edge computer
2	WISE-PaaS software packages

Optional Items

Part Number	Description
96PSA-A60W12W6	AC-to-DC adapter, DC 12 V/5 A 60 W
1700001524	Power cable 3-pin 180 cm, USA type
170203183C	Power cable 3-pin 180 cm, Europe type
170203180A	Power cable 3-pin 180 cm, UK type
1700008921	Power cable 3-pin PSE Mark 183 cm
AMK-V019E	VESA mount kits
AMK-R005E	DIN rail mount kits