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EIS-D150

High-Performance Edge Intelligence Server (EIS)



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 WISE-PaaS software package: WISE-PaaS/RMM, WISEPaaS/OTA, WISE-PaaS/Security, WebAccess/SCADA, WebAccess/IMM, and WebAccess/HMI
- 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 foundational block WISE-PaaS/RMM, WISEPaaS/OTA, and WISE-PaaS/Security, as well as the vertical applications WebAccess/SCADA, WebAccess/IMM, and WebAccess/HMI. 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

WISE-PaaS *Built-in*

<p>WISE-PaaS/RMM Remote Monitoring and Management</p> <p>Open standard IoT device monitoring and management platform</p>	<p>WISE-PaaS/OTA Remote Software Update</p> <p>Remote software update, includes 3rd party software (Integrated into WISE-PaaS/RMM)</p>
<p>WISE-PaaS/Security Centralized Security Management</p> <p>Centralized device management, data protection and remote back-up and recovery solution (Integrated into WISE-PaaS/RMM)</p>	<p>WebAccess/IMM Interactive Multimedia</p> <p>Centralized content editor and dispatch management for interactive multimedia player</p>
<p>WebAccess/SCADA Smart SCADA</p> <p>Data collection and graphical interfaces for supervisory management (Limited version with 16 point access ability)</p>	<p>WebAccess/HMI Human Machine Interface</p> <p>A stand-alone, machine-level HMI to a distributed visualization solution (Limited version with 16 point access ability)</p>

WISE-Agent *IoT Connectivity*

	<p>Edge IoT Application Development</p> <p>Open Plug-in SDK and sample code for sensor and data collection and conversion.</p>
	<p>Data Format Integration</p> <p>Supports ODBC plug-in for database and data integration (file types: CSV, MDB).</p>
	<p>Industrial Protocol Connectivity</p> <p>Provides standard protocols (Modbus/ OPC/ MQTT) for sensor and device data collection.</p>
	<p>I/O and Sensor Compatibility</p> <p>Integration tested with Advantech M2.COM, ADAM and WISE-4000 series.</p>

Node-RED

Data Manageability



Easy Application Development

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



Smart Data Processing

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



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



Data Reporting

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



System Deployment

4 Core A3 VM for up to 100 devices connection



Web Service Center

Use your existing skills to code in your favorite language



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")

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 MiniPCle	Power Input	mSATA	Operating Temperature*
EIS-D150-W1DS641	Intel® Core™ i5 6300U SoC	4 GB	64G 2.5" SATAIII SSD	WES7E	1	1	2	2	4	4	1, 8bit	Line out, mic in	2, 1 with SIM holder	12 V _{dc}	1	-20 ~ 60° C
EIS-D150-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

* If industrial-grade memory and SSD are selected

Packing List

Item	Description
1	EIS-D150 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