EIS-D210

Wireless Connectivity
Edge Intelligence Server

Preliminary

Azure

AWS Greengrass

WISE-PaaS/ EdgeSense

OPC Modbus MQTT

intel | IoT Solutions Alliance Premier   Microsoft   aws   CCC   CE FCC   RoHS COMPLIANT 2002/95/EC
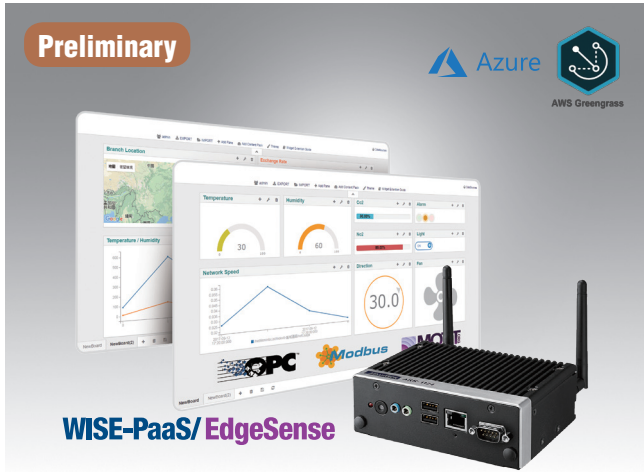
Features

- Integrated hardware plus software to build up edge-to-cloud applications
- Pre-configured system: Intel® Celeron® N3350 SoC, Win 10 Ent with 4GB Memory, 64 GB SSD and wireless networking
- Pre-integrated WISE-PaaS Software Package: WISE-PaaS/EdgeSense and WebAccess/SCADA
- Built-in Microsoft Azure IoT Edge and AWS Greengrass for cloud application
- Pre-configured Microsoft Azure service: Device Management Package/ Data Intelligence Package (Optional)
- Pre-configured AWS service: Connect & Collect Package (Optional)
- Comprehensive developer tools and documents: Node-RED data flow logic designer, dashboard builder, protocol plug-in SDK & configuration tools

Introduction

To fulfill customer requirements in equipment connectivity, data visualization, and predictive maintenance applications, Advantech offers the EIS-D210 Edge Intelligence Server, which is equipped with an Intel® Celeron® Processor N3350 and comes integrated with AWS Greengrass and Microsoft Azure IoT Edge, thus ensuring that IoT devices can respond quickly to local events, interact with local resources, operate with intermittent connections, and minimize the cost of transmitting IoT data to the cloud. In addition to supporting field protocols (MQTT/OPC/Modbus) for sensor/device data acquisition, the EIS-D210 can be used with the Advantech IoT SDK for wireless sensor (Wi-Fi, Bluetooth, LoRa) data integration. Furthermore, the EIS-D210 comes pre-integrated with Advantech's WISE-PaaS/EdgeSense software solution, allowing users to incorporate sensor data aggregation, edge analytics, and cloud applications for fast and easy real-time operational intelligence. EIS-D210 provides a range of connectivity options with excellent data handling and networking connection capabilities for various IoT applications.

Solution Block Diagram

WISE-PaaS
Built-in

WISE-PaaS/ EdgeSense

Edge Intelligence and Sensing Integration

WebAccess
Application Solutions

WISE-PaaS/RMM

Remote Monitoring and Management

Open & standard IoT device remote monitoring and management platform

WebAccess/SCADA

Smart SCADA

Data collection and graphical interfaces for supervisory management

(Limited version with 16 point access ability)

WISE-PaaS/Security

Centralize Security Management

Centralize devices, data protection and remote back-up and recovery solution

(Integration version in WISE-PaaS/RMM)

WISE-PaaS/OTA

Remote Software Update

Remote software update, includes 3rd party software

(Integration version in WISE-PaaS/RMM)

WISE-Agent
IoT Connectivity

SDK

Edge IoT Application Development

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

MDB CSV

Data Format Integration

Supports ODBC plug-in for database and file type(CSV, MDB) data integration.

MQTT
Modbus
OPC

Industrial Protocol Connectivity

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

m2.COM

I/O and Sensor Compatiblity

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

Node-RED
Data Manageability

RESTful API
GET PUT POST DELETE
250+

Easy Application Development
Overall 250+ RESTful APIs are provided for application developer to access related functionality and IoT data of 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
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 Cloud Services

Azure　　**aws**

Device Management Package

Big Data Storage
1T storage with 99.99 reliability

Data Reporting
Pre-configured with DB and data, 720 hours Power BI usage embedded

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

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

Connect & Collect Package

Data Storage
Durable, scalable, and secure storage for data

Flexible Database
The AWS DynamoDB service delivers consistent, single-digit millisecond latency at any scale

Easy-to-use Business Analytics
Build visualizations and get business insights with Amazon QuickSight

Connect IoT Devices
AWS IoT Core lets connected devices interact with cloud applications and other devices

IoT Development Tools

Node-RED Utility	Pre- integrated logic edit tool Node-RED
Data Collection	Receive Data to Agent and transfer to WISE-PaaS/RMM server
Data Conversion	Conversion data protocol to MQTT with JSON format
Plug-in SDK	Agent and protocol conversion plug-in SDK for developer
GUI Protocol Config Tool (for Modbus)	Provide Modbus GUI for quick configuration
Back-up and System Recovery	Acronis Hot back-up/ Recovery/ Hot-Key recovery
Security	McAfee white list protection
Remote Update (OTA)	Software(Advantech & 3rd party) update
Zero Downtime	Reserve edge data when lost connection and recover it when the connection is back
Light Analytic	Statistics and graphical representation of historical data
Dashboard Builder	Customizable dashboard to display sensor data with text, spark line, gauge, etc. types of widgets

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

Edge System Specifications

Model Name	EIS-D210W	EIS-D210L
Processor	Intel Celeron N3350 D/C SoC	Intel Atom E3940 QC SoC
RF Connectivity	IEEE 802.11 a/b/g/n/ac (2.4 GHz/ 5 GHz) standard with BT4.1	LoRa® long range modem
Storage	64G SATA III SSD Built In	
RAM	1 SO-DIMM DDR3L Slot, up to 8GB RAM Built In 4GB Memory	
OS	Windows 10 Enterprise Pre-load	
Protocol	Modbus, ODBC, OPC-UA, SCADA Plug In	
Edge Intelligence	AWS Greengrass, MS Azure IoT Edge	
Display	1 x VGA	2 x HDMI
COM	2 x RS232/422/485, 2 GbE LAN, 4 USB 3.0	1 x RS232/422/485, 2 GbE LAN, 2 USB 3.0
TPM	TPM 2.0 built in	
Power Input	DC 12V with Lockable DC Jack, Optional 12~24V 2-pin Phoenix connector	
Dimension	133 x 46.4 x 94.2mm (5.24" x 1.83" x 3.71")	
Environment Temperature	-20 ~ 60 °C (-4 ~ 140 °F) with 0.7m/s air flow	

Ordering Information

Part Number	CPU	Memory	Storage	OS	Display	GbE	USB 3.0	RS-232/ 422/485	Audio	RF module	Power Input	mSATA	Operating Temperature*
EIS-D210W-E1DS641-BTO	Intel N3350 Dual Core SoC	4 GB	64G 2.5" SATAIII SSD	Win 10 Ent	1 x VGA	2	4	2	Line in Line out	Atheros QCA6174A	12 V$_{DC}$	1	-20 ~ 60° C
EIS-D210L-E1DS641-BTO	Intel E3940 Quad Core SoC	4 GB	64G 2.5" SATAIII SSD	Win 10 Ent	2 x HDMI	2	2	1	Line in Line out	Semtech SX1276	12 V$_{DC}$	1	-20 ~ 60° C

* If industrial grade memory and SSD selected.

Packing List

Item	Description
1	EIS-D210 Edge Computer
2	WISE-PaaS software packages
3	12V/60W AC to DC Adaptor
4	Accessory Package

Optional Items

Part Number	Description
1700001524	Power Cable 3-pin 180cm, USA type
170203183C	Power Cable 3-pin 180cm, Europe type
170203180A	Power Cable 3-pin 180cm, UK type
1700008921	Power Cable 3-pin PSE Mark 183cm