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, Win 10 with 8 GB RAM, 256 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

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

Edge IoT Application Development
Open Plug-in SDK and sample code for sensor and data collection and conversion.

I/O and Sensor Compatiblity
Integration tested with Advantech M2.COM, ADAM and WISE-4000 series.

Edge Intelligence

Edge Dashboard
Real time equipment dashboard on the edge site.

Edge Data Pre-processing
Provide edge data mix calculation to save server workload

Logic Rule Engine
Pre-integrated Data Flow Logic Designer Node-RED for flow control

Operation Management

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

All product specifications are subject to change without notice.
Last updated: 26-Jul-2021

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

Azure aws

Edge Cloud

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

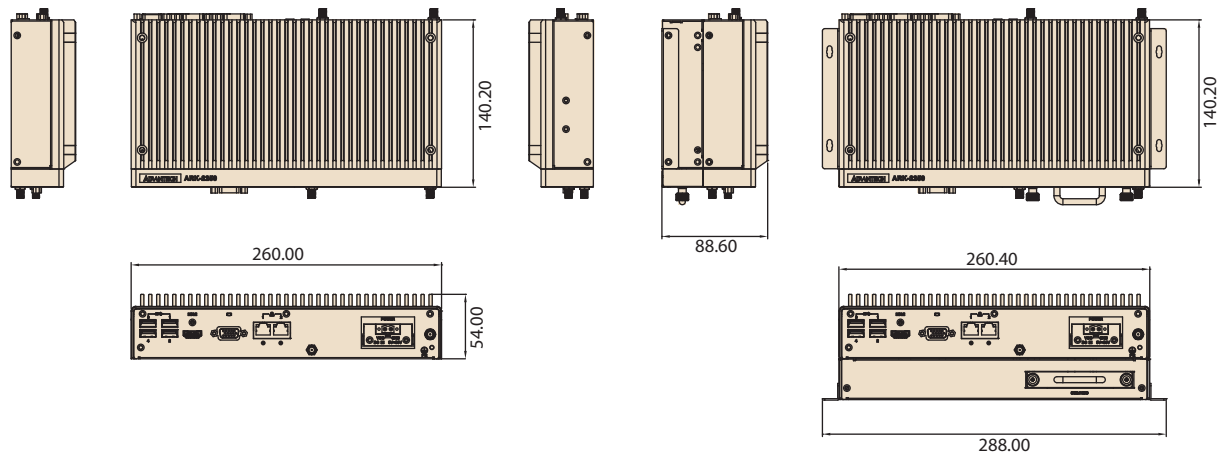
IoT Development Tools

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

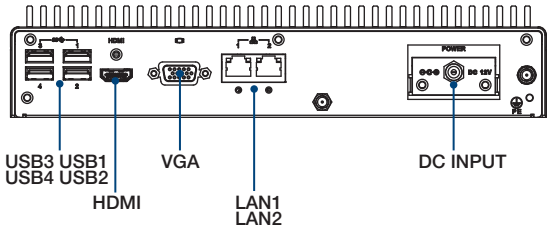
**Support depends on device type, OS and account permission.

Dimensions

Unit: mm

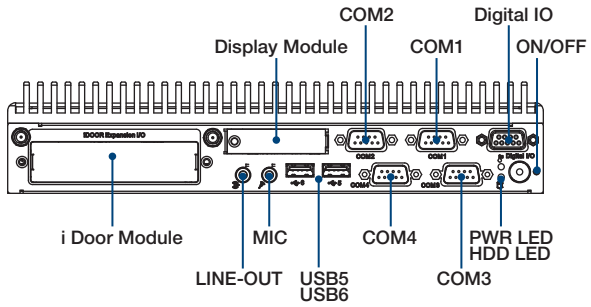


Front Panel External I/O Mechanical Layout/Drawing



*Power Input module by option

Rear Panel External I/O Mechanical Layout/Drawing



Specifications

Processor System	CPU	Intel Core i5 6300U
	Base Frequency	2.4 GHz (Dual-Core)
	L3 Cache	3MB
	BIOS	AMI UEFI 128 Mbit
Memory	Technology	DDR4 2133 MHz
	Max. Capacity	16 GB
	Socket	1 x 260-pin SO-DIMM
Graphics	Controller	Intel HD Graphics 520
	Graphic Engine	DirectX 11.3, OpenGL 4.4, and OpenCL 2.1 Full AVC/VC1/MPEG2 HW Decode
	VGA	Up to 1920 x 1200 @ 60Hz (No hotplug support)
	HDMI	HDMI 1.4a for HD video playback, 4096 x 2160 @ 24Hz
	Dual Display	Yes, VGA + HDMI
	Opional display Module	HDMI, DP
	Triple Display	VGA+HDMI+Optional display module
Ethernet	LAN1	10/100/1000 Mbps Intel i219 GbE, support Wake On Lan
	LAN2	10/100/1000 Mbps Intel i210 GbE, support Wake On Lan
Audio	Interface	Realtek ALC888S, High Definition Audio. Line-out, Mic-in
TPM		TPM 2.0
IO Interface	Serial Ports	4 x RS-232/422/485 port with auto flow control
	USB Interface	4 x USB 3.0, 2 x USB 2.0
	DIO	8 bit
Other	Watchdog timer	255 levels timer interval, setup by software
Expansion	Mini PCIe	2 x full size Mini PCIe with (CN14 with SIM holder)
	iDoor	1 set (option)
Storage	HDD	Supports one SATA 2.5" HDD Bay (Compatible with 12.5mm height HDD) (Max. Data Transfer Rate 300 MB/s)
	SSD	1 x full size mSATA socket (CN15, shared with mPCIe)
Software Support	Microsoft Windows	Windows 10, Windows 8.1, WES7, Windows 7
	Linux	Support by project
Power Requirement	Power Type	ATX
	Power Input Voltage	$12V_{DC}$ (9-36V as option)
	Minimum Power Input	12 V, 5 A
	Power Adapter	AC to DC, DC12V/5A, 60W (Option)
Power Consumption	Typical	7.8 Watt
	Max.	42.8 Watt
Mechanical	Construction	Aluminum housing
	Mounting	Din-Rail mounting, Desk/wall-mounting, VESA mounting
	Dimensions (W x H x D)	260 x 54 x 140.2 mm (10.24" x 2.13" x 5.52")
	Weight	2.3 kg (5.07 lb)
Environment	Operating Temperature	With extended temperature peripherals: -20 ~ 60 °C (-4 ~ 140 °F) with 0.7m/s air flow With 2.5-inch hard disk 0 ~ 40 °C (32 ~ 104 °F) with 0.7m/s air flow
	Storage Temperature	- 40 ~ 85 °C (-40 ~ 185 °F)
	Relative Humidity	95% @ 40 °C (non-condensing)
	Vibration During Operation	With SSD: 3 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 hr/axis.
	Shock During Operation	With SSD: 30 G, IEC 60068-2-27, half sine, 11 ms duration
	EMC	CE/FCC Class B, CCC, BSMI
	Safety Certifications	UL, CCC, BSMI

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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*
EIS-D150-E1DS182	Intel® Core™ i5 6300U SoC	8GB	256GB 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	0 ~ 60° C
EIS-D1505-01D0002	Intel® Core™ i5 6300U SoC	Option	Option	Optional	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	DeviceOn/iEdge software packages

Optional Items

Part Number	Description
96PSA-A60W12W7-3	AC-to-DC adapter, DC 12 V/5 A 60 W
1702002600	Power cable 3-pin 183cm, USA type
1702002605	Power cable 3-pin 183cm, EU type
1702031801	Power cable 3-pin 183cm, UK type
AMK-V019E	VESA mount kits
AMK-R005E	DIN rail mount kits
20706WX9VS0063	WIN10 IoT 2019 64bit_EN for EIS-D150