EIS-S230

Edge Cloud Solution with Scalable Data Service Platform

Features

- Integrated hardware plus software for back-end data service and light private cloud
- Pre-configured system: Intel Xeon, Ubuntu OS with 32GB RAM/ 512GB mSATA SSD
- Open and Standard structure: kubernetes Built-in, Multiple DB Connections, On-demand Microservices
- Integrated IoT Software: Private Cloud Deployment, Platform Management, Application Integration
- Application integration: DeviceOn/iEdge, Grafana, Prometheus, Kubeapps, Kubernetes Dashboard
- Sustainable Management: Condition Monitor, Load Balance, Self-Healing
- DeviceOn/iEdge inside for IoT Device Operation Management

Introduction

For accelerating IoT application landing, Advantech provide Edge cloud solution EIS-S230 for our customer to build a stable and reliable back-end data service or light private cloud. EIS-S230 is a all-in-one solution for user.It builded in Intel Xeon CPU to offer extreme computing power for data service. Moreover, EIS-S230 is integrated Kubernates to support micro-service, and build-in complete back-end software components, includes RabbitMQ for IoT Hub, mongoDB and PostgreSQL for database, Grafana for data visualization and Prometheus for Back-end management. EIS-S230 also provide dynamically scale out function, user can extend the resources if necessary.It help customer create IoT applications more easily and flexibly. Speed up the time to market.

Software Stack

Platform Management

Database Management

- A powerful, open source object-relational database system.
- MongoDB is a document database, which means it stores data in JSON-like documents.

Backend Management

- Deployment, scaling, and management of containerized applications.
- Ceph stores data as objects within logical storage pools. The algorithm enables the Ceph Storage Cluster to scale, rebalance, and recover dynamically.

Message Broker

- Lightweight and easy to deploy on premises and in the cloud. It supports multiple messaging protocols

Operation Management

DeviceOn/iEdge

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

Applications Development

Data Visualization

- Grafana allows you to query, visualize, alert on and understand your metrics.
- Prometheus is an open-source software application used for event monitoring and alerting.

Applications Management

- Web-based UI for deploying and managing applications in Kubernetes clusters.
- Stateless, highly scalable server side application that stores and lets you distribute Docker images.
- A Chart Repository server written in Go. It provides an API for uploading charts.

Machine Learning

- Making deployments of machine learning (ML) workflows on Kubernetes Device Management

All product specifications are subject to change without notice.

Last updated: 29-Jul-2020

Server Function List

Manage & Monitor	Comprehensive management & monitoring Web console
High Availability	Supports highly available deployment
Scalability	Horizontal/Vertical scaling via clustering with server architecture and kubernetes' features
Lightweight and Easy to Deploy	Microservices architecture to deploy and run applications easily
Role-Based Access Control	Fine-grained authorization and authentication
Load Balancing	Balancing workload and network traffic
Health Check & Self-Heal	Check health status of services and heal them in need

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

System Specifications

Model Name		EIS-S230			
Processor System	CPU	E3-1235L V5	i7-7700/i7-6700	i5-7500/i5-6500	i3-7101E
	Frequency	2.0GHz	3.6GHz/3.4GHz	3.4GHz/3.2GHz	3.9GHz
	L3 Cache	8MB	8MB	6MB	3MB
	TDP	25W	65W	65W	54W
	Chipset	C236			
	BIOS	AMI EFI 128Mbit			
Memory	Technology	DDR4 2133 MHz			
	Max. Capacity	32 GB			
	Socket	2 x 260-pin SO-DIMM			
Graphics	Chipset	Intel® HD Graphics 630			
	Graphic Engine	Direct x 12, OpenGL 4.4 HW Encode: H.265/HEVC, H.264/MPEG-4 AVC, MPEG-2, JPEG/MJPEG and VP8. HW Decode: H.265/HEVC, H.264/MPEG-4 AVC, MPEG-2, VC-1/WMV9, JPEG/MJPEG, VP8 and VP9			
	VGA	1920x1200@ 60Hz			
	HDMI	1 HDMI port, HDMI 2.0 for HD video playback, 3840x2160@30Hz			
	Optional 3rd Display module	DVI-D / DP / HDMI Display Port			
	Triple Display	VGA+HDMI + 3rd display module			
Ethernet	LAN1	10/100/1000 Mbps Intel I219-LM GbE, support Wake On Lan			
	LAN2, 3, 4	10/100/1000 Mbps Intel I210 GbE, support Wake On Lan			
Audio	Interface	Realtek ALC888S, High Definition Audio, Line-out, Mic-in			
Others	Watch dog Timer	255-level timer interval, setup by software			
	TPM	TPM 2.0			
I/O Interface	Serial Port	4 x RS-232/422/485 port with auto flow control; COM 1 support 5V/12V power supply (by jumper)			
	USB	8 x USB 3.0 ports			
	P/S2	1 Port support by cable and bracket (Optional)			
	Optional I/O	16bit DIO or 2 x RS-232 ports			
Expansions	Mini PCIe	2 x Full-size Mini PCIe (2 x support mSATA, 1 x support SIM holder)			
	M.2	1 x E key for WiFi			
	i Door	1 set (Optional)			
	Add-on Card Slot	Maximum card size 110mm (H) x 180mm (L) Suggest maximum power consumption 10W for each slot 2 Slots PCIex8 (Default) 2 Slots PCI (Support by project) 1 Slots PCIex16 (Support by project)			
Storage	HDD	2 x 2.5" SATAIII HDD Bay with Max Height 15mm (support Intel SW RAID (Up to 4 x 2.5" SATAIII HDD bays by optional 2*AMK-A0028E)			
	mSATA	2 x mSATA socket (Share with Mini PCIe)			
Software Support	Microsoft Windows	Windows 10 (Windows 7 for 6th Gen CPU only)			
	Linux	Ubuntu (Others By Project Support)			
Power Requirements	Power Type	AT/ATX			
	Power Input Voltage	9-36V			
	Power Adapter	AC to DC, 150W (Optional)			
Power Consumption (CPU/Memory Only)	Typical	25.68W			
	Max.	88.92W			
Mechanical	Construction	Aluminum housing			
	Mounting	Desk mounting			
	Dimensions (W x H x D)	156.5 x 205 x 230 mm (6.16" x 8.07" x 9.06")			
	Weight	5.87Kg			
Environment	Operating Temperature	25W/35W/65W(only 6th Gen) Processor with extended temp peripherals: -20 ~ 60 °C with 0.7m/s air flow Under 73W processor with HDD: 0 ~ 40 °C with 0.7m/s air flow			
	Storage Temperature	-40 ~ 85 °C			
	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	CB, UL, CCC, BSMI			

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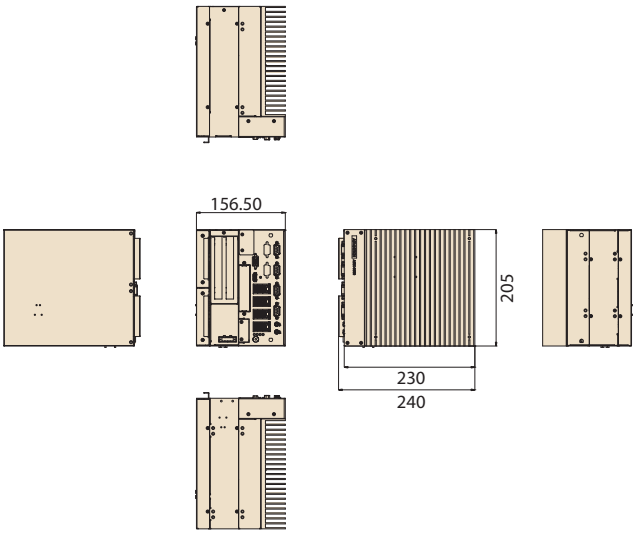
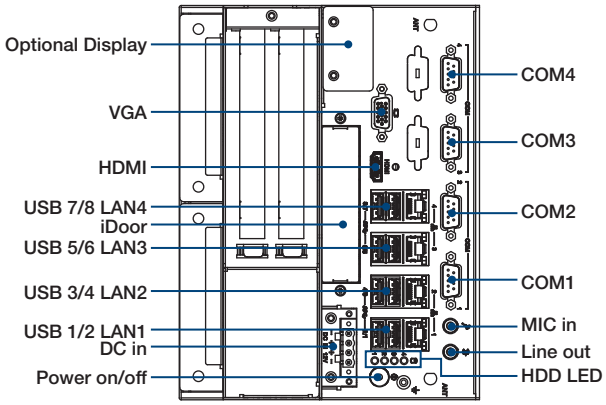
Dimensions

Unit: mm



Front Panel External I/O Mechanical Layout/Drawing



Ordering Information

Part Number	CPU	Memory	Storage	OS	Display	GbE	USB 3.0	Serial	Audio	Power Input	Expansion	Operating Temperature*
EIS-S230-U20S501	Intel® Xeon® E3-1275 V6	32GB	512GB SSD	Ubuntu	1 x VGA 1 x HDMI	4	8	4	LINE out	9-36V	2 x PCIE	0 ~ 40 °C
EIS-S230-0000001	Optional	Optional	Optional	Optional	1 x VGA 1 x HDMI	4	8	4	LINE out	9-36V	2 x PCIE	-20 ~ 60 °C

* If industrial grade memory and SSD selected.

Packing List

Item	Description
1	EIS-S230-U20S501
2	Data Service Server software packages
3	AC to DC power adapter, DC 24V 220W
4	Accessory Package

Optional Items

Part Number	Description
1702002600	Power cable 3-pin 183cm, USA type
1702002605	Power cable 3-pin 183cm, EU type
1702031801	Power cable 3-pin 183cm, UK type
1700000237	Power cable 3-pin 183cm, PSE type
1700019146	3-pin power cord (CCC)
96ND1TB-ST-SG5KA	Seagate ST1000VT001 1TB HDD
SQF-S25V4-1T-SBC	SQF 2.5" SSD 1TB SSD

* MUST select two pieces of HDD/SSD as data storage.