

JHCTECH

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JHCTECH IoT Computer
Connecting the Dots

AI Edge Computing System

AI

JHCTECH

About JHCTECH

Established in 2002, JHCTECH is an intelligent IoT system supplier with strong capabilities in R&D, production, sales and service. Relying on over 20 years of rich industry experiences and following the strategy of "Proactive Innovation and Intelligent Manufacturing Based in China", JHCTECH has continued to focus on the development and production of AI edge computing and system application platforms, and provided customers with diversified products and professional services.

We are committed to AI and edge computing to create maximum value for users. Our products include BRAV, KMDA, SIGM, ALAD, KGEC, SBC and other series, covering various application fields such as Industrial Internet of Things (IIoT), Intelligent Transportation (ITS), intelligent services, etc.

Harmony is invaluable, and sincerity is the foundation. JHCTECH adheres to the business philosophy of "focus on the industry, specialize in products, and excel in services" to provide high-quality products and services for each user. Through practicing the core values of "integrity, gratitude, and responsibility", we try our best to empower every individual to keep moving on, maximize contributions to society, and are dedicated to building smarter earth and a more intelligent tomorrow. JHCTECH is at the forefront of R&D in this area, striving to achieve the corporate vision of "Rather lose everything than lose integrity. Become a model of smart IoT ecological commercial civilization that keeps integrity, emphasizes quality, be courageous, and seeks win-win outcomes".

Corporate Culture:

Brand Strategy: Proactive Innovation and Intelligent Manufacturing Based in China

Business Philosophy: Focus on the industry, specialize in products, and excel in services.

Strategic Slogan: IoT Computer, Connecting the Dots

Core Values: Integrity, gratitude, and responsibility.

Corporate Spirit: Humility, loyalty, innovation, seriousness, solidarity, learning, perseverance

Corporate Mission: To realize synergies in symbiotic relationships and be dedicated to building smarter earth and a more intelligent tomorrow.

Corporate Vision: Rather lose everything than lose integrity. Become a model of smart IoT ecological commercial civilization that keeps integrity, emphasizes quality, be courageous, and seeks win-win outcomes.

Eight corporate values:

1. *Value: Create maximum value for users with the help of technological innovation.*
2. *Strive: Adhere to long-termism, hard work, and savor the joy of work.*
3. *Spirit: All methodologies are measured by core values and corporate spirit.*
4. *Learning: Learning is vital as all manifestations are ultimately the reflection of ability.*
5. *Team: To empower individual growth, activate organizational creativity, and jointly build an organization with mutual achievement.*
6. *Action: The criterion of success is goal pursuit, efficiency and action are the keys*
7. *Affection: Be empathetic, not egalitarianism and oppose opportunism*
8. *Win-Win: Connect the symbiosis, achieve more, and brings benefit to the society.*

BRAV
Edge Computing System

A-01 ~ A-18

KGEC
Edge Controller

B-01 ~ B-08

KMDA
Embedded Box Computer

C-01 ~ C-58

ALAD
Industrial Panel PC

D-01 ~ D-34

SIGM
Fanless In-Vehicle Computer

E-01 ~ E-08

SBC
Embedded Single Board Computer

F-01 ~ F-13

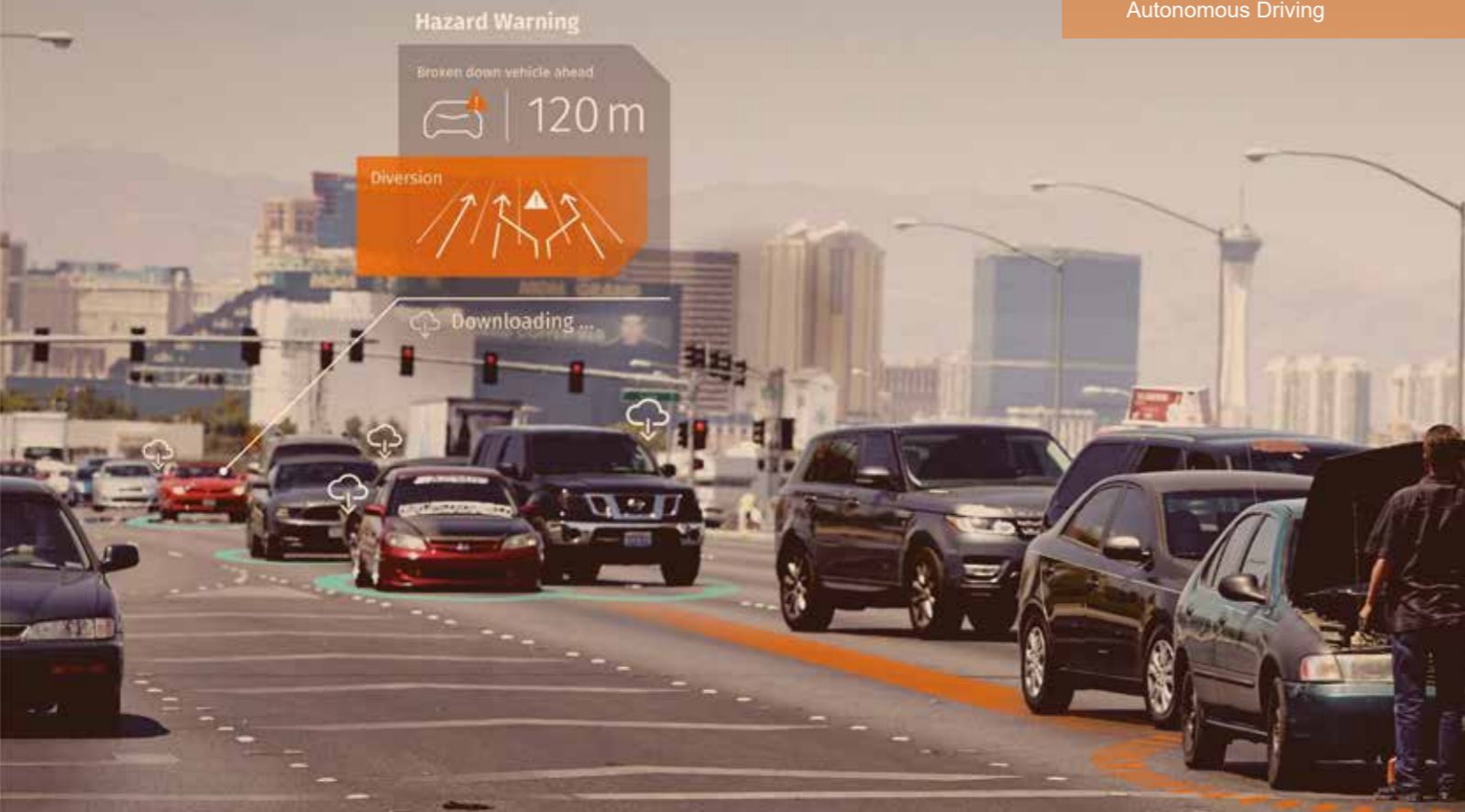
JHCTECH IoT Computer
Connecting the Dots

BRAV
Edge Computing system



APPLICATION

▶▶▶
Internet of Vehicles and
Autonomous Driving



A-01
Products Listing

A-04
Accelaration Module

High performance and low power consumption

A-05
BRAV-7201
High performance AI BOX PC

A-07
BRAV-7302
Edge Computing System

A-09
BRAV-7501
Workstation-grade Edge Computing System

A-11
BRAV-7520
Workstation-grade Edge Computing System

A-13
BRAV-7521
Workstation-grade Edge Computing System

New
A-15
BRAV-7601-S
High-performance Edge Computing System

A-17
BRAV-7601-T^{New}
Fanless High-performance Edge Computing System



AI Automation



AI Medical



AI Security



	BRAV-7201	BRAV-7302	BRAV-7501	BRAV-7520	BRAV-7521
System					
CPU	6th gen Intel Skylake-U Celeron 3855U; Core-U: I3-6100U; I5-6200U; I7-6500U; 7th gen Intel Kabylake-U Celeron 3865U; Core-U: I3-7100U; I5-7200U; I7-7500U	Intel®Skylake-S Intel®Kabylake-S Celeron/Pentium/Core I3/I5/I7 CPU,LGA 1151 socket, TDP35W/54W/65W/91W with active cooling fan	Intel® Xeon® E or 9th/8th-Gen Core™ i7/i5/i3 LGA1151 processor, up to 8 cores 16 threads	Intel® Xeon® E or 9th/8th-Gen Core™ i7/i5/i3 LGA1151 processor, up to 8 cores 16 threads	Intel® Xeon® E or 9th/8th-Gen Core™ i7/i5/i3 LGA1151 processor, up to 8 cores 16 threads
RAM	2* DDR4 2133MHz, max 32GB	2* DDR4 2133/2400MHz, max 32GB	4* DDR4 2666/2400MHz DIMM, max 128GB	4* DDR4 2666/2400MHz SODIMM, max 128GB	4* DDR4 2666/2400MHz SODIMM, max 128GB
Graphics	CPU integrated Intel 9th gen HD Graphics, HEVC/H265 HW HD codec, HDMI: 3940*2160@30Hz, DP: 4096*2160@60Hz	Intel Gen. 9 HD Graphics, HEVC/H265 HW HD codec, Integrated graphics card DP/HDMI/VGA dual 4K, 1* MXM3.1 support high end NVIDIA Gforce GTX/AMD RX series up to 120W pwr consump GPU, 3* DP & 1* HDMI 4K	Intel UHD Graphics, Supports DirectX11.1, OpenGL 5.0 and OpenCL 2.1 DP: 4096*2304@60Hz, HDMI: 3840*2160@30Hz, 3 independent displays	Intel UHD Graphics, Supports DirectX11.1, OpenGL 5.0 and OpenCL 2.1/ PCIe X16 DP: 4096*2304@60Hz, VGA: 1900*1200@60Hz, 3 independent displays	Intel UHD Graphics, Supports DirectX11.1, OpenGL 5.0 and OpenCL 2.1 /PCIe X16 DP: 4096*2304@60Hz, VGA: 1900*1200@60Hz, 3 independent displays
I/O Interfaces					
LAN	2* Intel I210AT, 2*Intel I211AT (I210AT) PCIe Gig. Ethernet, 10/100/1000Mbps self-adaptive, 1*Intel I219LM PCIe GbE, Support iVpro tech	2* / 6* Intel I210AT PCIe Gig. Ethernet, 10/100/1000Mbps self-adaptive, 1*Intel I219LM PCIe GbE, Support iVpro tech	2* Intel I210AT PCIe, 10/100/1000Mbps self-adaptive; 1* Intel I219LM PCIe GbE, Support iVpro tech	2* Intel I210AT PCIe, 10/100/1000Mbps self-adaptive; 1* Intel I219LM PCIe GbE, Support iVpro tech	2* Intel I210AT PCIe, 10/100/1000Mbps self-adaptive; 1* Intel I219LM PCIe GbE, Support iVpro tech
USB	4* USB3.0 + 2* USB2.0 + 1* USB2.0 internal	4*/6* USB3.0 + 2* USB2.0 + 1* USB2.0 internal	4*USB3.1 + 6* USB2.0 + 1* USB2.0 internal	6* USB3.1 + 2* USB2.0	6* USB3.1 + 2* USB2.0
Display	1* DP + 1* HDMI	Integrated graphic card 1* DP & HDMI, GPU 3* DP +1* HDMI	2* DP + 1* HDMI	2* DP + 1* VGA	2* DP + 1* VGA
Audio	1* Line out + 1* MIC	1* Line out + 1* MIC	1* Line out + 1* MIC	1* Line out + 1* MIC	1* Line out + 1* MIC
Serial Port	2*RS232/422/485 + 4*RS232	2*RS232/422/485 + 2*RS232	2*RS232/422/485	2*RS232/422/485 + 2*RS232	2*RS232/422/485 + 2*RS232
DIO	8-bit TTL programmable input/output; 8-bit 2.5KV input opto-isolator(H:5-24V, L:0-1.5V), 8-bit 2.5KV output opto-isolator(100mA)	16-bit TTL programmable input/output;	8-bit TTL programmable input/output;	16-bit Iso DIO, 8-bit 2.5KV input opto-isolator(H:5-24V, L:0-1.5V), 8-bit 2.5KV output opto-isolator (200mA)	16-bit Iso DIO, 8-bit 2.5KV input opto-isolator(H:5-24V, L:0-1.5V), 8-bit 2.5KV output opto-isolator(200mA)
Storage					
Storage	1*2.5" SATA3+ 1*mSATA Full-height card	2*2.5"SATA3 + 1*mSATA Full-height card + 1*M.2	2*3.5"SATA3 + 1*M.2 (S001); 4*2.5"SATA3 + 1*M.2(S002)	2*2.5"SATA3 + 1*M.2 support NVMe storage	4*2.5"SATA3 + 1*M.2 support NVMe storage
Expansion					
Expansion Port	1*Mini PCIe with SIM slot	1*Mini PCIe with SIM slot; 1*M.2 with SIM slot, 1* full size mSATA; 1*half size Mini PCIe, 1* JHC-Express-02 EIO Express bus	1*full size Mini PCIeX1+USB with SIM slot, 2*PCIe X16 slot (1*PCIe X16 or 2*PCIe X8) support up to NVIDIA 2080Tireference graphics card 2*PCIe X8 slot (Gen 3, 2*PCIeX4 signal)	1*Mini PCIe with SIM slot; 1*M.2 E-Key 2230 support WiFi6/BT5.0 1*M.2 B-Key , with SIM slot, support 5G; 1*M.2 M-Key; 1*PCIeX16,max support 350W graphics card (length<300mm) 1*PCIe X4 (in X16 slot), max support 75W AI accelerator Module (length<300mm)	1*Mini PCIe with SIM slot; 1*M.2 E-Key 2230 support WiFi6/BT5.0 1*M.2 B-Key , with SIM slot, support 5G; 1*M.2 M-Key; 2*PCIeX8(in X16 slot)max support 2*350Wgraphics card (length<300mm) 2*PCIe X4 (in X16 slot), max support 2*75W AI accelerator Module (length<300mm)
Power Supply					
Input Voltage	DC9-30V;	DC6-48V;	24-pin ATX/8-pin ATX 12V, 600W power supply	DC 12V 5-pin Term;	DC 12V 5-pin Term.
Pwr Consump	24W (I3-6100 CPU 4G DDR4)	144W (35W CPU+78W GPU)		Consumption:12V/27A (I7-8700 CPU 32GB DDR4 single 2080TI GPU)	Consumption: 12V/47A (I7-8700 CPU 32GB DDR4 dual 2080TI GPU)
Mechanical					
Structure	Aluminum Case, SGCC chassis	Aluminum Case, SGCC chassis	Aluminum-magnesium alloy, SGCC chasis	Aluminum-magnesium alloy, SGCC chasis	Aluminum-magnesium alloy, SGCC chasis
Dimension (W*H*D)	225*144.3*87.5mm	255*222*84.1mm	150*309*375mm	230*350*160mm	230*350*210mm
Net Weight	2.2kg	4.62kg	8.14kg	7.5kg	8.3kg
Environmental					
Operating Temp	-25°C~60°C,Fanless, SSD, with air flow, -10°C~50°C,Fanless, HDD, with air flow	-25°C~50°C – 65W CPU+78W GPU -25°C ~40°C – 91W CPU+120W GPU	-25~50°C, SSD, with air flow	-25~60°C, SSD, with air flow	-25~60°C, SSD, with air flow
Storage Temp	-40°C~85°C	-40°C~85°C	-40°C~85°C	-40°C~85°C	-40°C~85°C
Storage Humidity	10~90%@40°C, No-condensation	10~90%@40°C, No-condensation	10~90%@40°C, No-condensation	10~90%@40°C, No-condensation	10~90%@40°C, No-condensation
Vibration	5 grms/5~500Hz/random/during operatio(SSD); 1grms/5~500Hz/during operation(HDD)	5grms/5~500Hz/random/during operation(SSD); 1grms/5~500Hz/random/during operation(HDD)	5grms/5~500Hz/random/during operation(SSD); 1grms/5~500Hz/random/during operation(HDD)	5grms/5~500Hz/random/during operation(SSD); 1grms/5~500Hz/random/during operation(HDD)	5grms/5~500Hz/random/during operation(SSD); 1grms/5~500Hz/random/during operation(HDD)
Shock	50g peak acceleration(duration;11ms)(SSD); 20g peak acceleration(duration;11ms)(HDD)	50g peak acceleration(duration;11ms)(SSD); 20g peak acceleration(duration;11ms)(HDD)	50g peak acceleration(duration;11ms)(SSD); 20g peak acceleration(duration;11ms)(HDD)	50g peak acceleration(duration;11ms)(SSD); 20g peak acceleration(duration;11ms)(HDD)	50g peak acceleration(duration;11ms)(SSD); 20g peak acceleration(duration;11ms)(HDD)
Certification/EMC	CE/FCC Class B	CE/FCC Class B	CE/FCC Class B	CE/FCC Class B	CE/FCC Class B
OS	Linux Fedora Ubuntu	Windows 7, Windows 10, Linux Fedora Ubuntu	Windows10/Windows Server 2016 (Intel® Xeon® E) Ubuntu/SuSe/Redhat Enterprise 1,2 (Kernel 4.14) (CFL-R) Wind River VxWorks 7 (CFL-R)	Windows10/Windows Server 2016 (Intel® Xeon® E) Ubuntu/SuSe/Redhat Enterprise 1,2 (Kernel 4.14) (CFL-R) Wind River VxWorks 7 (CFL-R)	Windows10/Windows Server 2016 (Intel® Xeon® E) Ubuntu/SuSe/Redhat Enterprise 1,2 (Kernel 4.14) (CFL-R) Wind River VxWorks 7 (CFL-R)



NEW



NEW

BRAV-7601-S

BRAV-7601-T

System

CPU	Intel® Comet lake 10th-Gen Celeron/Pentium/Corei9/i7/i5/i3 CPU, Intel® Q470 PCH	Intel® Comet lake 10th-Gen Celeron/Pentium/Corei9/i7/i5/i3 CPU, Intel® Q470 PCH
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RAM	2*DDR4 SO-DIMM slot, support 2933MHz, up to 64GB	2*DDR4 SO-DIMM slot, support 2933MHz, up to 64GB
Graphics	Intel® UHD Graphics, support DirectX 12, OpenGL 4.5, 2*HDMI: 4096x2304@24Hz,1*VGA: 1920*1200@60Hz; 1*MXM3.1, up to 190W, support GPU/AI accelerator, 2*DP, 4K display	Intel® UHD Graphics, support DirectX 12, OpenGL 4.5, 2*HDMI 1.4: 4096 x 2304@24Hz, 1*VGA: 1920x1200@60Hz

I/O Interfaces

LAN	2*Intel I225V+1*I225 LM,3*2.5G-LAN, support iAMT 13.0, Core I5/I7 CPU support Intel vPro; 4* Intel I210AT with POE, 10/100/1000Mbps(S002)	2*Intel I225V+1*I225 LM,3*2.5G-LAN,support iAMT 13.0, Core I5/I7 CPU support Intel vPro; 4* Intel I210AT with POE, 10/100/1000Mbps(T002)
USB	4* USB3.2 Gen2; 2*USB3.2 Gen1(S002), 2* USB2.0, 2*USB2.0(built-in)	4* USB3.2 Gen2; 2*USB3.2 Gen1(T002), 2* USB2.0, 2*USB2.0(built-in)
Display	HD graphics 2* HDMI + 1* VGA; Discrete graphics 2*DP	HD graphics 2* HDMI + 1* VGA
Audio	1* Line out + 1* MIC,optional audio	1* Line out + 1* MIC,optional audio
Serial Port/ Others	2*RS232/422/485 + 2*RS232	2*RS232/422/485 + 2*RS232
DIO	8 bit TTL signal, programmable input and output 8+16 bit TTL signal, programmable input and output(S002)	8 bit TTL signal, programmable input and output 8+16 bit TTL signal, programmable input and output(T002)

Storage

Storage	2*2.5"SATA3 HDD(support RAID0,1), max support dual 15mm HDD, 1*M.2 2280 M-Key(PCIeX4 signal), support NVME, 1*mSATA(optional)	2*2.5"SATA3 HDD(support RAID0,1), max support dual 15mm HDD, 1*M.2 2280 M-Key(PCIeX4 signal), support NVME, 1*mSATA(optional)
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Expansion

Expansion Port	1*Mini-PCIe,USB2.0+SIM, support mSATA/4G LTE, 1*M.2 2230 E-key, PCIeX1,USB2.0 &CNVio, support WiFi6/BT5.0, 1*M.2 Type 3052 B-key, PCIeX1, USB2.0+SIM, support 5G/4G, 1*M.2 Type 2280 M-Key(PCIeX4), support NVME or PCIe expansion module. 1*MXM3.1, PCIeX16,up to 190W, JHCTECH-02 E/IO, 2*PCIeX4, 2*USB3.2, 2*USB2.0	1*Mini-PCIe,USB2.0+SIM, support mSATA/4G LTE, 1*M.2 2230 E-key, PCIeX1,USB2.0 &CNVio, support WiFi6/BT5.0, 1*M.2 Type 3052 B-key, PCIeX1, USB2.0+SIM, support 5G/4G LTE, 1*M.2 Type 2280 M-Key(PCIeX4), support NVME or PCIe expansion module, 1*MXM3.1, support Cambricon MLU220-MXM AI accelerator, JHCTECH-02 E/IO: 2*PCIeX4, 2*USB3.2, 2*USB2.0
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Power Supply

Input Voltage	DC 9-36V 3-pin, with short circuit protection, over voltage& over current protection	DC 9-36V 3-pin, with short circuit protection, over voltage& over current protection
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Mechanical

Structure	Temperature controlled fan, SGCC	Aluminum chassis, SGCC
Dimension (L*W*H)	284*222*82mm	284*222*80.5mm
Net Weight	6.70kg	6.40kg

Environmental

Operating Temp	-20~60°C, SSD, airflow	-20~60°C, SSD, airflow
Storage Temp	-40°C~85°C	-40°C~85°C
Storage Humidity	10~90%@40°C, No condensation	10~90%@40°C, No condensation
Vibration	5grms/5~500Hz/random/during operation(SSD); 1grms/5~500Hz/random/during operation(HDD)	5grms/5~500Hz/random/during operation(SSD); 1grms/5~500Hz/random/during operation(HDD)

Shock	50g peak acceleration(11ms duration)(SSD); 20g peak acceleration(11ms duration)(HDD)	50g peak acceleration(11ms duration)(SSD); 20g peak acceleration(11ms duration)(HDD)
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Certificates/ EMC	CE/FCC Class B	CE/FCC Class B
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OS	Windows 10 IoT Enterprise (64-bit), Windows Server 2019, Ubuntu, SUSE, Redhat Enterprise, Wind River Linux, Yocto Project (64-bit), Wind River VxWorks 7	Windows 10 IoT Enterprise (64-bit), Windows Server 2019, Ubuntu, SUSE, Redhat Enterprise, Wind River Linux, Yocto Project (64-bit), Wind River VxWorks 7
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Parts Selection

MLU220-MXM



Port Type	MXM 3.1 (PCIe3.0 X2)
RAM	8GB, LPDDR4x 64bit, 3200Mhz
AI Comp Pwr	16TOP(INT8)
Pwr Cosumption	16.5W
Operating temp	-20~70 °C
Heat dissipation	Passive cooling
Dimension	length 82mm, width 70mm (without cooler)

MLU220-M.2



Port Type	M.2 2280, B+M key (PCIe3.0 X2)
RAM	LPDDR4x 64bit, 4GB
AI Comp Pwr	8TOPS(INT8)
Pwr Cosumption	8.25W
Surface temp	-20~80 °C
Heat dissipation	Passive cooling
Dimension	length 80mm, width 22mm, height 7.3mm(no cooler)/21.3mm (with cooler)

MLU270-S4



Port Type	PCIeX16 Gen3
RAM	16GB DDR4 (ECC) 102GB/s
AI Comp Pwr	128TOPS(INT8)
Pwr Cosumption	70W
Operating temp	-20~60 °C
Shape	Half height and half length, single slot
Heat dissipation	Active cooling, External cooling
Dimension	167.5mm x 68.9mm

MLU270-F4



Port Type	PCIeX16 Gen3
RAM	16GB GDDR6 (ECC) 102GB/s
AI Comp Pwr	128TOPS(INT8)
Pwr Cosumption	150W
Operating temp	-20~60 °C
Shape	Full height and full length, double slot
Heat dissipation	Active cooling
Dimension	267mm x 111.15mm

MXM GTX1060M



Port Type	MXM3 .1 / up to PCI Express 3.0
RAM	6G 192bit GDDR5, 8Gbps NVIDIA CUDA Core 1280
Pwr Cosumption	78W
Surface temp	0~55 °C
Heat dissipation	Active cooling, External cooling
Dimension	length 105mm, width 82mm

MXM GTX1070M



Port Type	MXM3 .1 / up to PCI Express 3.0
RAM	8G 256bit GDDR5, 8Gbps NVIDIA CUDA Core 2048
Pwr Cosumption	115W
Surface temp	0~55 °C
Heat dissipation	Active cooling, External cooling
Dimension	length 105mm, width 82mm

BRAV-7201

Intel Skylake-U/Kabylake-U CPU, 5*LAN, 6*USB, 6*COM, support dual 4K display, 8+16-bit Iso DIO, iVpro tech, DC 9~30V, CPU LED Temp Display.

Key Specification

- Aluminium case, fanless box air cooling design
- Intel Skylake-U/Kabylake-U CPU
- 2*DDR4 2133MHz SODIMM RAM, max 32GB
- 1*HDMI and 1*DP, support dual 4K display port
- 5*Gig LAN, 4*USB3.0, 3*USB2.0(1 internal)
- 6*COM, 16-bit Iso DIO, Audio out & Mic
- 1*Mini PCIe(PCie+USB)full size
- 1*mSATA, 1*2.5" SATA Shock Absorber drive bay
- Support iVpro and optional support TPM 2.0 encryption
- DC 9~30Vwide range power supply input, overcurrent, overvoltage, short circuit and reverse connection protection



Product Overview

BRAV-7201 is a new industrial computer design that comes with aluminum profile case and fanless box. Equipped with Intel Skylake-U / Kabylake-U processor, BRAV-7201 supports iVpro technology and optional support on TPM2.0 hardware encryption technology, with high reliability of 9-30V wide range voltage power supply, which are widely used in the artificial intelligence, machine vision and robotics industries.

Product Parameters

System

CPU	6th gen Intel Skylake-U Celeron 3855U; Core-U: I3-6100U ; I5-6200U; I7-6500U 7th gen Intel Kabylake-U Celeron 3865U; Core-U: I3-7100U ; I5-7200U; I7-7500U
RAM	2*260-Pin SODIMM, dual DDR4 2133MHz, max 32GB
Expansion	1* full size Mini PCIe with PCIe X1+USB signal SIM slot;
Graphics	CPU integrated Intel Gen. 9th HD Graphics, HEVC/H265 HW HD codec, HDMI max res. 3940*2160@30Hz, DP max res. 4096*2160@60Hz
Audio	Optional support Realtek ALC662VD HD audio, support 5.1 soundtrack
LAN	2*Intel I210AT, 2*Intel I211AT(optional I210AT)Gig. Ethernet, 10/100/1000Mbps self-adaptive; 1*Intel I219LM support vPro tech
Storage	1*2.5" shock absorber drive bay, SATA3 6.0Gbps HDD/SDD; 1*mSATA full size, support AHCI mode
DIO	8-bit TTL programmable input/output, 8-bit 2.5KV input opto-isolater (H:5-24V, L:0-1.5V), 8-bit 2.5KV output opto-isolater(100mA)
I/O port	1*HDMI and 1*DP, 5*RJ45 Gig-LAN , 4*USB3.0 ,2*USB2.0 ,1*USB2.0 internal, 2*5Pin Phoenix terminal (8-bit DIO), 1*10pin Phoenix terminal (8-bit Iso DIO), 1*10pin Phoenix terminal (8-bit Iso DO), 2*RS232/422/485 DB9 male connector, 4*RS232 DB9 male connector, 1*Audio-out and 1*MIC
LED	1*Power LED indicator, 1*HDD LED indicator, 3*CPU TEMP grade LED indicator (Red as warning, Yellow as high temp, Green as norm temp)
Control Switch	1*Power button, 1*2pin terminal switch signal, 1*AT/ATX switch
Pwr Supply	DC IN 9~30V, 3pin terminal, with reverse connection, short circuit, over voltage and over current protection Consumption: 24W (I3-6100U CPU 4G DDR4)
OS	Linux Fedora Ubuntu
Watchdog Timer(WDT)	Programmable timeout interruption period or system reset from , 1 to 255 secs

Cambricon AI module (optional)

Model	MLU220-M.2
RAM	4GB, LPDDR4x 64bit, 3200Mhz
AI computing	8TOPS (INT8) Support H.264 , HEVC (H.265) , VP8, VP9 Coding performance:support 16X 1080P @30fps Decoding performance: support 8X 1080P@30fps
Codec capability	JPEG, max res. 8192 x 8192, Decoding performance: 820 fps@FHD, Coding performance: 800 fps@FHD
Picture decoding	JPEG, max res. 8192 x 8192, Decoding performance: 820 fps@FHD, Coding performance: 800 fps@FHD
Port	M.2 2280, B+M key (PCIe3.0 X2)
Pwr supply & heat dissipation	8.25W / Passive cooling

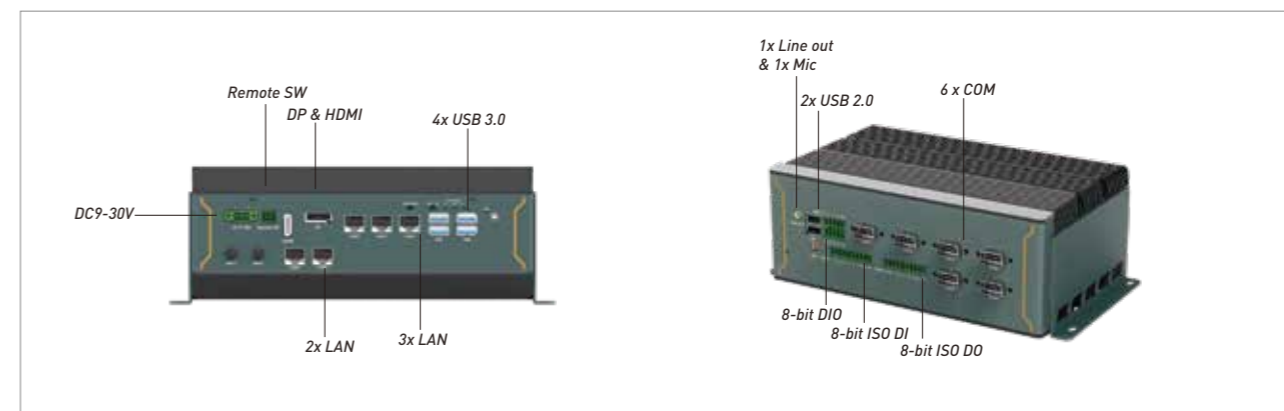
Mechanical

Structure	Aluminum, heat dissipation case, SGCC coated on panel surface
Color	Graphite black + granite gray
Installation	Desktop Installation
Dimension	(W*H*D): 225*144.3*87.5mm
Net weight	2.2kg

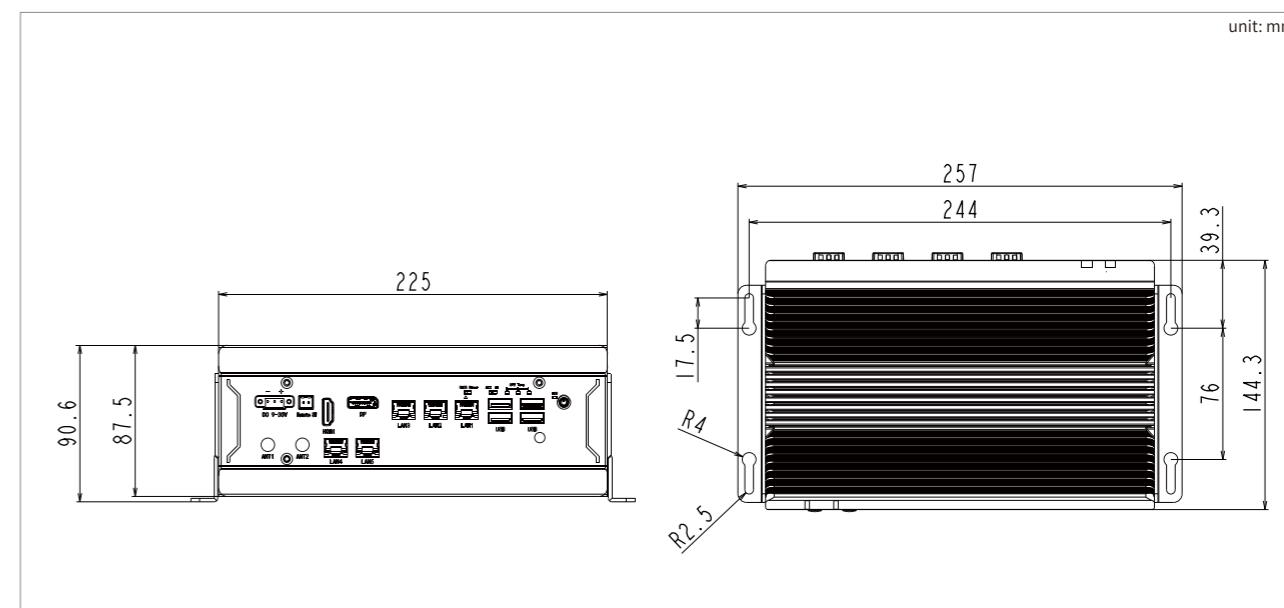
Environmental

Operating Temp	-25°C~60°C – fanless, with wide temp SSD, with air flow -10°C~50°C – fanless, with norm temp HDD, with air flow
Storage Temp	-40°C~85°C
Storage Humidity	10~90%@40°C, No-condensation
Vibration	5 grms/5~500Hz/random/during operation(SSD); 1 grms/5~500Hz/random/during operation(HDD)
Shock	50g peak acceleration(duration;11ms)(SSD); 20g peak acceleration(duration; 11ms)(HDD)
Certification /EMC	CE/FCC Class B

I/O View



Dimensions



Ordering Information

Model	Processor	RAM	Display	I/O Port	DIO	Audio	Expansion	Storage	Power Supply
BRAV-7201/S001	Intel I3-6100U/I3-7100U	2x DDR4 MAX 32GB	1x HDMI 1x DP	5x LAN 4x USB3.0 3x USB2.0 6x COM	8-bit TTL signal 16-bit Iso DIO	1x LINE OUT 1x MIC	1x Mini PCIe	1x mSATA 1x "2.5" driver bay	DC 9~30V
BRAV-7201/S002	Intel I5-6200U/I5-7200U								
BRAV-7201/S003	Intel I7-6500U/I7-7500U								
BRAV-7201/S004	Intel 3855U/3865U								
MLU220-M.2	Cambricon AI Accelerator module, M.2 2280 M+B key(PCIeX2), LPDDR4 4GB, 8TOPS(INT8)								
PA-60DC12	AC/DC power adaptor, DC12V@5A 60W								

BRAV-7302

Intel® Skylake-S/Kabylake-S Core I3/I5/I7 CPU, 3/7*LAN, 4/6*USB3.0, MXM3.1 GPU, 6*4K display, iVpro support, DC 6~48V wide power input.

Key Specification

- CPU and GPU cooling fan, independent air duct design.
- Intel® Kabylake-S/Skylake-S Core I3/I5/I7 CPU
- 2*DDR4 2400/2133MHz SODIMM RAM, max 32GB
- MXM3.1 NVIDIA/AMD GPU module
- Intel 1*DP+1*HDMI+1*VGA, GPU 3*DP+1*HDMI
- 3/7*LAN, 4/6*USB3.0, 3*USB2.0, 4*COM,16*DIO, Audio
- 2*Mini PCIe(PCle+USB),1*M.2 2242 B-Key
- 1*mSATA, 1/2*2.5" SATA3 drive bay, support RAID0,
- Support Intel iVpro and optional support TPM2.0 secure encryption
- DC 6~48V wide power input, short-circuit, overvoltage, overcurrent and undervoltage protection



Product Overview

BRAV-7302 is a high-performance GPU box computer with dual independent air duct heat dissipation design for CPU and GPU. It is equipped with Intel®Skylake-S/Kabylake-S full series range power processors, CPU+GPU dual processors, high performance, multiple network ports, multiple displays and multiple IO functions, suitable for applications in video security, machine vision, intelligent AI and other industries.

Product Parameters

System

CPU Intel®Skylake-S / Intel®Kabylake-S Celeron/Pentium/Core I3/I5/I7 CPU, LGA 1151 socket, TDP35W/54W/65W/91W with active cooling fan

RAM 2*260-Pin SODIMM, dual port DDR4 2400/2133MHz, max 32GB

Expansion 1*full size Mini PCIeX1+USB with SIM slot, 1*M.2 B-key with SATA3+USB with SIM slot, 1*full size mSATA (SATA3+USB), 1* half size Mini PCIe with PCIeX1 and USB, 1*JHC-Express-02 EIO Express bus (PCIe,USB,LPC,SMBus,PS2)

Graphics Intel Gen. 9 HD Graphics, HEVC/H265 HW HD codec, Integrated graphics card DP/HDMI/VGA dual 4K, 1x MXM3.1 support NVIDIA Gforce GTX/AMD RX Series 120W pwr consumption GPU, 3* DP & 1* HDMI 4K

Audio Optional Support Realtek ALC662VD, Audio out and MIC

LAN 2/6*Intel I210AT PCIe Gig. Ethernet, 10/100/1000Mbps self-adaptive, 1*Intel I219LM support vPro tech

Storage 2*2.5"HDD SATA3 shock absorber drive bay, support RAID0,1; 1*mSATA full size; 1*M.2 B-key

DIO 16-bit TTL programmable input/output;

3/7*RJ45 Gig-LAN
4/6*USB3.0; 2*USB2.0, 1*USB2.0 internal
16-bit DIO 2*10-pin terminal;

I/O Port 2*RS232/422/485 DB9 male connector, 2*RS232 DB9 male connector
1*Audio-out and 1*MIC 3.5 audio port
Discrete GPU 3*DP+1*HDMI;
CPU Integrated graphic card 1*HDMI +1*DP+1*VGA;

LED 1*Power LED indicator, 1*HDD LED indicator, 3*CPU TEMP grade LED indicator (Red as warning, Yellow as high temp, Green as norm temp)

Control Switch 1*power button, 1*reset switch; 1*2pin socket terminal signal, 1*AT/ATX switch

Power Requirement DC 6~48V input, 5-pin socket(front panel), Consumption: 144W (35W CPU+78W GPU)

OS Windows 7, Windows 10, Linux Fedora Ubuntu

Watchdog Timer Programmable timeout interruption period or system reset from 1 to 255 secs

Mechanical

Structure Aluminum profile panel, SGCC chassis, Aluminum plate, on upper & rear panel

Color Black + Granite Grey

Installation Method Desktop Installation

Dimension (W*H*D):255*222*84.1mm

Net weight 4.62kg

Environmental

Operating temp -25°C~50°C - 65W CPU+78W GPU

-25°C ~40°C - 91W CPU+120W GPU

Storage temp -40°C~85°C

Storage humidity 10~90%@40°C, No-condensation

Vibration 5 grms/5~500Hz/random/during operation(SSD);

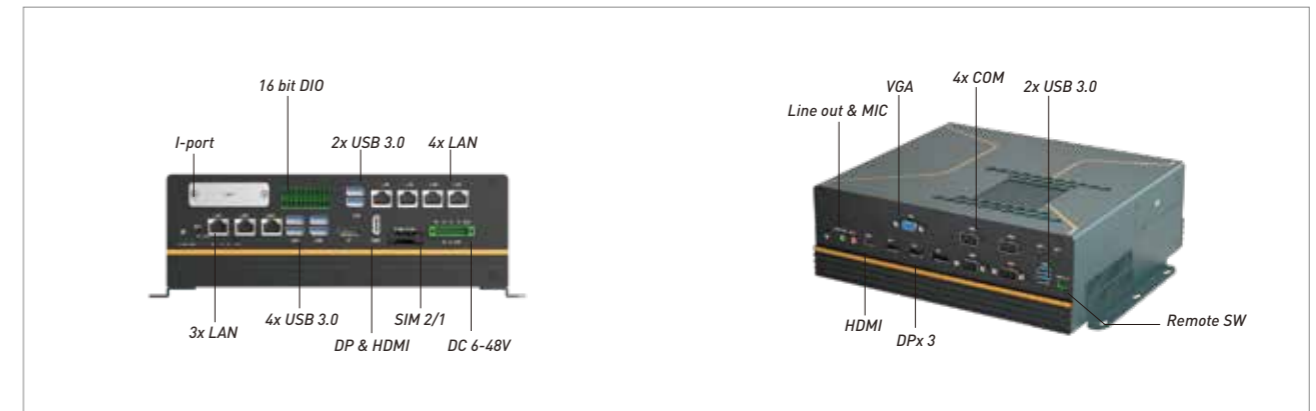
1 grms/5~500Hz/random/during operation(HDD)

Shock 50g peak acceleration(duration;11ms)(SSD);

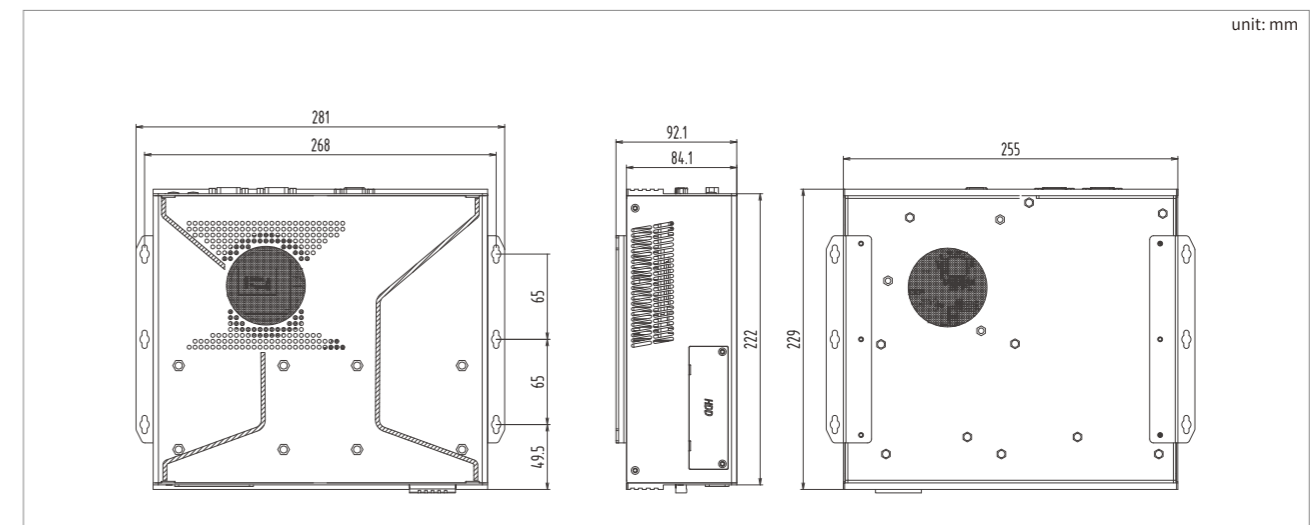
20g peak acceleration(duration;11ms)(HDD)

Certification /EMC CE/FCC Class B

I/O View



Dimensions View



Ordering Information

Model	Processor	RAM	Discrete graphics card	Integrated graphics card	I/O Port	DIO	Audio	Expansion	Storage	Power Supply
BRAV-7302/S001	Intel® Skylake-S/Kabylake-S LGA1151 CPU	2x DDR4 MAX 32GB	MXM 3.1 3x DP 1x HDMI	1x HDMI 1x DP 1x VGA	3x LAN/4x COM 4x USB3.0 3x USB2.0	16-bit TTL signal DIO	1x LINE OUT 1x MIC	2x Mini PCIe 1x M.2 B-Key	1x mSATA 2x"2.5"drive bay	DC 6~48V
BRAV-7302/S002	Intel® Skylake-S/Kabylake-S LGA1151 CPU				7x LAN/4x COM 6x USB3.0 3x USB2.0			1x Mini PCIe 1x M.2 B-Key	1x mSATA 1x"2.5"drive bay	
NVIDIA GT 1030-2G	MXM3.1 Type A, NVIDIA GT 1030,GDDR5 2GB,64bit,384 CUDA Cores, with cooler									
NVIDIA GTX 1050	MXM3.1 Type A, NVIDIA GTX 1050,GDDR5 2GB,128bit, 768 CUDA Cores, with cooler									
NVIDIA GTX 1050TI	MXM3.1 Type A, NVIDIA GTX 1050TI, GDDR5 4GB,128bit, 768 CUDA Cores, with cooler									
NVIDIA GTX 1060M	MXM3.1 Type B, NVIDIA GTX 1060M, GDDR5 6GB,192bit,1280 CUDA Cores, with cooler									
NVIDIA GTX 1070M	MXM3.1 Type B, NVIDIA GTX 1070M, GDDR5 8GB,256bit,2048 CUDA Cores, with cooler									
NVIDIA GTX 1650	MXM3.1 Type A, NVIDIA GTX 1650, GDDR5 4GB,128bit, 896 CUDA Cores, with cooler									
NVIDIA GTX 1660S	MXM3.1 Type B, NVIDIA GTX 1660S, GDDR6 6GB,192bit,1408 CUDA Cores, with cooler									
MLU220-MXM	MXM3.1 Type A, Cambricon MLU-220, LPDDR4 8GB, 64bit,16TOPS(INT8), with cooler									
PA-120DC19	AC/DC power adapter, DC19V/6.32A,120W									
PA-220DC24	AC/DC power adapter, DC24V@9.17A ,220W									
PA-300DC24	AC/DC power adapter, DC24V@12.5A ,300W									
NDR-480DC24	AC/DC power adapter, DC24V@20A ,90-264ACV/127-370DCV input, DC 24V output, 480W									

BRAV-7501

Intel® Coffee Lake LGA1151 CPU, 3*LAN, 4*USB3.1, 1*HDMI, 2*DP, 3*4K Displays, 4*PCIe slots, 2/4*SATA3, ATX 600W Power Supply.

Key Specification

- Intel® Xeon®/ 8th/9th Gen Core™ i7/i5/i3 processor
- Intel® Q370/C246 Chipset
- 4*DDR4 2400/2666MHz DIMM RAM, max 128GB
- support 2*DP, 1*HDMI, 3 independent displays
- 3*LAN, 4*USB3.1, 7*USB2.0, 2*COM, 8-bit DIO
- 1*PCIeX16 or 2*PCIeX8+2*PCIeX4 expansions
- 1*Mini PCIe, with SIM slot, support 4G/WIFI/GPS/GSM/BT
- 2/4*SATA3, 1*M.2 2280 M-Key, support NVMe
- Optional support TPM2.0 secure encryption, AMT12.0, Intel® iVpro tech
- ATX 600W Power supply



Product Overview

BRAV-7501 is a high-performance Embedded Box Computer with expansions. It is equipped with Intel® Coffee Lake series processor, C246/Q370 chipset, workstation level performance. It is a complete equipment with rich expansion flexibility and industrial standard product design suitable for industrial automation, AI edge computing system, small intelligent workstations, multimedia service systems, visual control and so on

Product Parameters

System

CPU	Intel® C246/Intel® Q370 Chipset, Intel Xeon E-2124G/E-2176G, Core i3/i5/i7 CPU; Pentium G4930 / G5400
RAM	4*288-Pin DIMM, dual port DDR4 2666/2400MHz, max 128GB
Expansion	1*full size Mini PCIeX1+USB with SIM slot, 2*PCIe X16 slot (1*PCIe X16 or 2*PCIe X8) support up to NVIDIA 2080Ti series reference graphic card 2*PCIe X8 slot (Gen 3, 2*PCIeX4 signal)
Graphics	Intel UHD Graphics, Supports DirectX11.1, OpenGL 5.0 and OpenCL 2.1 DP max res. 4096*2304@60Hz, HDMI max res. 3840*2160@30Hz, support 3 independent display
Audio	Optional Support Realtek ALC662VD audio, Audio out and MIC, support 5.1 audio track
LAN	2*Intel I210AT PCIe GbE, 10/100/1000Mbps self-adaptive; 1*Intel I219LM PCIe GbE, support iVpro tech
Storage	2*3.5" SATA3 (S001) / 4*2.5" SATA3 swappable hard disk bay, support Raid 0/1/5/10 (S002) 1*M.2 2280 M-key (PCIe X4), support NVMe storage
DIO	8-bit DIO, TTL signal, programmable input and output
I/O Port	3*RJ45 Gig-LAN; 2*DP+1*HDMI 4*USB3.1; 6*USB2.0; 1*USB2.0 (internal); 1*8-bit DIO (DB9), 2*RS232/422/485 (DB9); 1*Audio-out and 1*MIC (3.5 audio port);
LED	1*Power indicator, 4* HDD status indicator
Control Switch	1*Power SW

Power Requirement	24-pin ATX/8-pin ATX 12V, 600W power Windows 10 Enterprise & IOT Enterprise (64 bit)(CFL-R)
OS	Windows Server 2016 (Intel® Xeon® E) Ubuntu, SuSe, Redhat Enterprise 1,2 (Kernel 4.14) (CFL-R) Wind River VxWorks 7(CFL-R)
Watchdog Timer	Programmable timeout interruption period or system reset from 1 to 255 secs

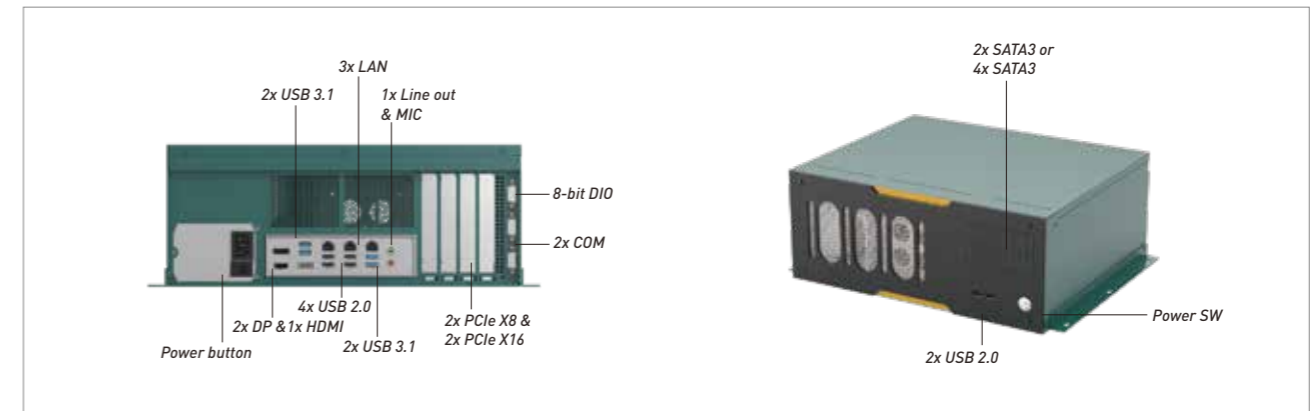
Mechanical

Structure	Aluminum-magnesium alloy, SGCC coated box
Color	Black + Granite Grey
Installation Method	Desktop installation / wall mount installation
Dimension	(W*H*D): 150*309*375mm
Net weight	8.14kg

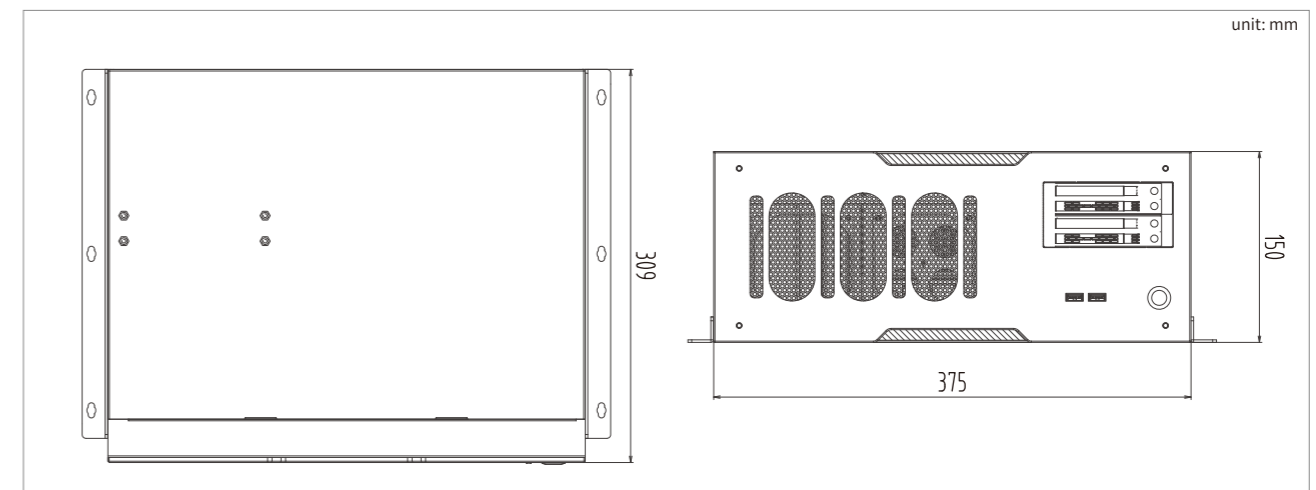
Environmental

Operating Temp	-25°C~50°C, SSD, with air flow
Storage Temp	-40°C~85°C
Storage Humidity	10~90%@40°C, No-condensation
Vibration	5 grms/5~500Hz/random/during operation(SSD); 1 grms/5~500Hz/random/during operation(HDD)
Shock	50g peak acceleration(duration;11ms)(SSD); 20g peak acceleration(duration;11ms)(HDD)
Certification /EMC	CE/FCC Class B

I/O View



Dimensions



Ordering Information

Model	Processor	RAM	Display	I/O Port	DIO	Audio	Expansion	Storage	Power Supply
BRAV-7501/S001	Intel® Coffeelake LGA1151 CPU Q370 PCH	4x DDR4 MAX 128GB	1x HDMI 2x DP	3x LAN/2x COM 4x USB3.1 7x USB2.0	8-bit DIO	1x LINE OUT 1x MIC	1x Mini PCIe 1x PCIeX16 (or 2x PCIeX8) 2x PCIeX4	2x "3.5" SATA 1x M.2 2280 4x "2.5" SATA 1x M.2 2280	ATX 600W Power
BRAV-7501/S002	Intel® Coffeelake LGA1151 CPU C246 PCH								
Recommendedn Graphics card	Support up to NVIDIA 2080Ti reference graphics card series (for non reference graphics card, card length need to be less than 245mm)								

CPU Support

Series	Intel® Xeon®		Intel® Core™			Intel® Pentium®		Intel® Celeron®		
	E-2278G	8C16T	I7-9700	8C8T	I7-9700T	8C8T	G5500	2C4T	G4950	2C2T
9th Gen	E-2224G	8C16T	I5-9500	6C6T	I5-9500T	6C6T				
			I3-9100	4C4T	I3-9100T	4C4T				
8th Gen	E-2176G	6C12T	I7-8700	6C12T	I7-8700T	6C12T	G5400	2C4T	G4930	2C2T
	E-2124G	4C4T	I5-8500	6C6T	I5-8500T	6C6T				

BRAV-7520

Intel® Coffee Lake-R LGA1151 CPU, 3*LAN,6*USB3.1,1*VGA,2*DP,2*4K Displays,2*PCIe slots,2* swappable SATA3, max support 350W GPU.

Key Specification

- Intel® Xeon® E or 9th/8th-Gen Core™ i7/i5/i3 processor
- Intel® Q370/C246 Chipset
- Large RAM volume 4*DDR4 up to 128G ECC/non-ECC
- UHD Dual 4K, 3 independent displays 2*DP, 1*VGA
- 3*Gig-LAN(support iATM) , optional multi channel 10 Gig-SFP
- Multi PCIe standard slots, support multiple high-speed extension modules
- Super storage capacity, 2*SATA3.0, 1*M.2 2280 M-Key, support NVMe
- Optional Support TPM2.0 secure encryption,support iAMT12.0, Intel® iVpro tech
- Fanless CPU, AI/GPU modules with efficient air cooling heat dissipation design
- Powerful deep learning ability, support 350W GPU /75W PGPU/AI accelerator card



Product Overview

BRAV-7520 is a workstation-level edge computing system, equipped with Intel® Coffee Lake-R series processors, C246/Q370 chipset, powerful system performance, complete features, and rich expansion flexibility, industrial control grade product design, a best fit for industrial automation, AI edge computing, small smart workstations, multimedia service systems, high-precision machine vision and other industries.

Product Parameters

System

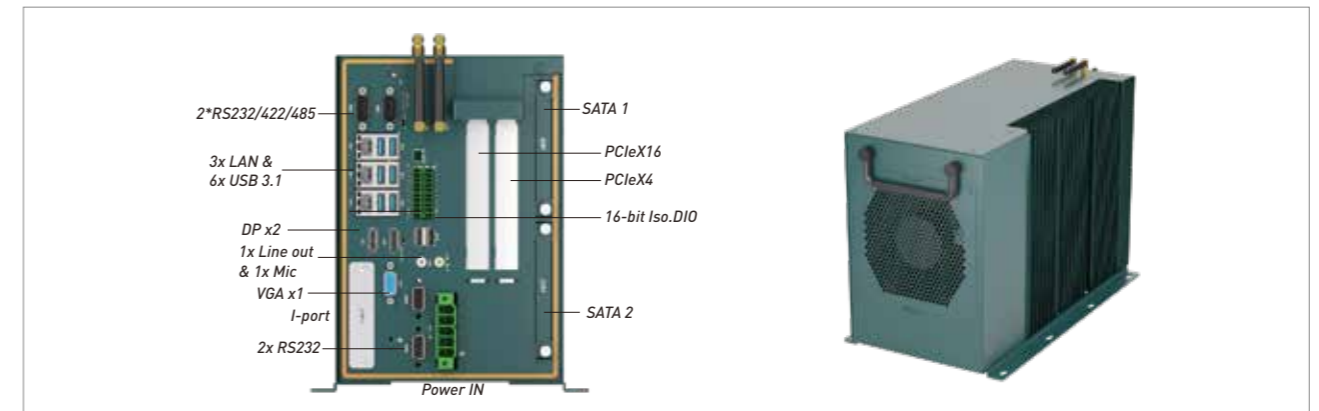
CPU	Intel® Xeon® E or 9th/8th-Gen Core™ i7/i5/i3 LGA1151 processor, chipset Intel® Q370(7520-S001)/ Intel® C246(7520-S002) max 8C16T
RAM	4*260-Pin SODIMM, dual channel DDR4 2666/2400MHz, max support 128GB
Expansion	1*Mini PCIe with SIM slot; 1*M.2 E-Key support WiFi6/BT5.0 1*M.2 B-Key, with SIM slot support 5G; 1*M.2 M-Key(PCIe3.0X4); 1*PCIeX16,max support 350W graphics card (length<300mm) 1*PCIe X4 (in X16 slot), max support 75W AI accelerator card (length<300mm)
Graphics	Intel UHD Graphics, Supports DirectX11.1, OpenGL 5.0 / 2.1 or PCIe X16, DP max res. 4096*2304@60Hz, VGA max res.1900*1200@60Hz, support 3 independent displays
Audio	optional support Realtek ALC662VD audio, Audio out& MIC, support 5.1 audio track
LAN	2*Intel I210AT PCIe GbE, 10/100/1000Mbps self adaptive; 1*Intel I219LM PCIe GbE, support iVpro tech
Storage	2*2.5" SATA3 swappable hard disk bay, support RAID0/1 1*M.2 2280 M-key(PCIe X4), support NVMe storage
DIO	16-bit Iso DIO,8-bit 2.5KV input (H:5-24V, L:0-1.5V), 8-bit 2.5KV output(200mA)
I/O Port	3*RJ45 Gig-LAN; 6*USB3.1; 2*USB2.0 16-bit Iso DIO, 2*RS232/422/485 , 2*RS232 1*Audio-out & 1*MIC; 1*VGA+2*DP
LED	1*Power indicator , 1* HDD status indicator
Control Switch	1*Power SW, 1*AT/ATX SW, 1*Clear CMOS SW

Power Requirement	DC 12V 5-pin Term. Consumption: 324W (I7-8700 CPU 32GB DDR4 single 2080TI)
OS	Windows 10 Enterprise & IOT Enterprise (64 bit)(CFL-R) Windows Server 2016 (Intel® Xeon® E) Ubuntu, SuSe, Redhat Enterprise 1,2(Kernel 4.14) (CFL-R) Wind River VxWorks 7 (CFL-R)
Watchdog Timer	Programmable timeout interruption or system reset from 1 to 255 secs
Mechanical	
Structure	Aluminum heat dissipation case, SGCC box
Color	Black + Granite Grey
Installation Method	Desktop Installation
Dimension	(W*H*D):230*350*160mm
Net weight	7.5kg

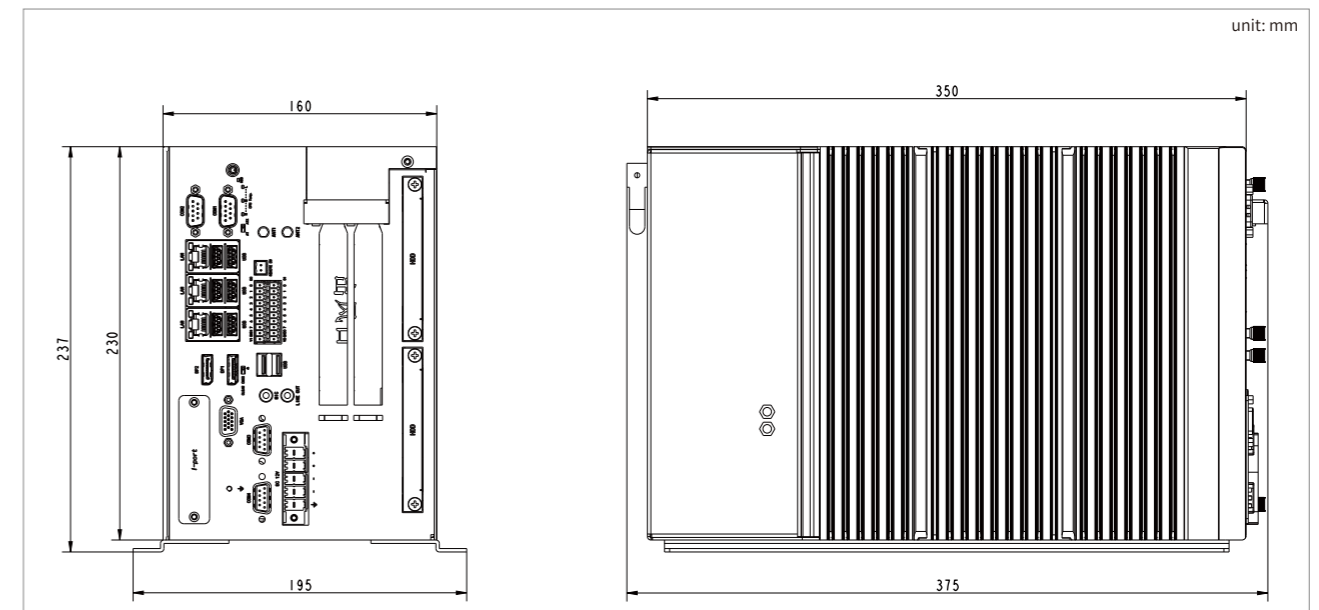
Environmental

Operating temp	-25°C~60°C , with air flow
Storage temp	-40°C~85°C
Storage humidity	10~90%@40°C, No-condensation
Vibration	5 grms/5~500Hz/random/during operation(SSD); 1 grms/5~500Hz/random/during operation(HDD)
Shock	50g peak acceleration(duration;11ms)(SSD); 20g peak acceleration(duration;11ms)(HDD)
Certification /EMC	CE/FCC Class B

I/O View



Dimension



Ordering Information

Model	Processor	RAM	Display	I/O Port	DIO	Audio	Expansion	Storage	Power Supply
BRAV-7520/S001	Intel® Coffeelake-R LGA1151 CPU Q370 PCH	4x DDR4	1x VGA	3x LAN/4x COM 6x USB3.1 2x USB2.0	16-bit Iso DIO	1x LINE OUT 1x MIC	1x Mini PCIe 1x M.2 E-Key 1x M.2 B-Key 1x PCIeX16; 1x PCIeX4	2x "2.5" SATA 1x M.2 2280 M-Key	DC12V
BRAV-7520/S002	Intel® Coffeelake-R LGA1151 CPU C246 PCH	MAX 128GB	2x DP						
Recomd graphics card /AI accelerator card	max support 350W GPU or 75W AI accelerator card (card length < 300mm)								
UHP-500DC12	AC/DC power switch, DC12V@41.7A ,90-264V AC input, DC 12V output, fanless, wide temp, 500W								
SE-600DC12	AC/DC power switch, DC12V@50A ,180-264V AC input, DC 12V output, 600W								

CPU Support

Series	Intel® Xeon®		Intel® Core™			Intel® Pentium®		Intel® Celeron®		
9th Gen	E-2278G	8C16T	I7-9700	8C8T	I7-9700T	8C8T	G5500	2C4T	G4950	2C2T
	E-2224G	8C16T	I5-9500	6C6T	I5-9500T	6C6T				
			I3-9100	4C4T	I3-9100T	4C4T				
8th Gen	E-2176G	6C12T	I7-8700	6C12T	I7-8700T	6C12T	G5400	2C4T	G4930	2C2T
	E-2124G	4C4T	I5-8500	6C6T	I5-8500T	6C6T				
			I3-8100	4C4T	I3-8100T	4C4T				

BRAV-7521

Intel® Coffee Lake-R LGA1151 CPU, 3*LAN, 6*USB3.1, 1*VGA, 2*DP, 2*4K Displays, 4*PCIe slots, 4*SATA3, max support 2*350W GPU.

Key Specification

- Intel® Xeon® E or 9th/8th-Gen Core™ i7/i5/i3 processor
- Intel® Q370/C246 Chipset
- Large memory volume 4*DDR4 up to 128G ECC/non-ECC
- UHD dual 4K, 3 independent displays, 2*DP, 1*VGA
- 3*Gig-LAN(support iATM) , optional multi channel 10 Gig-SFP
- multi PCIe Standard slot, supports multiple high - speed extension modules
- Super storage capacity 4*SATA3.0, 1*M.2 2280 M-Key, support NVMe
- Optional support TPM2.0 secure encryption,support iAMT12.0, Intel® iVpro tech
- Fanless CPU, AI/GPU modules efficient air cooling heat dissipation design
- Powerful deep learning ability, support 350W GPU /75W PGPU/AI accelerator card



Product Overview

BRAV-7521 is a workstation-level edge computing system, equipped with Intel® Coffee Lake-R series processors and C246/Q370 chipset. It has a very powerful system performance with complete features including rich expansion flexibility, is an industrial grade product design which is the best fit for industrial automation, AI edge computing, small smart workstations, multimedia service systems, high-precision machine vision and other industries.

Product Parameters

System

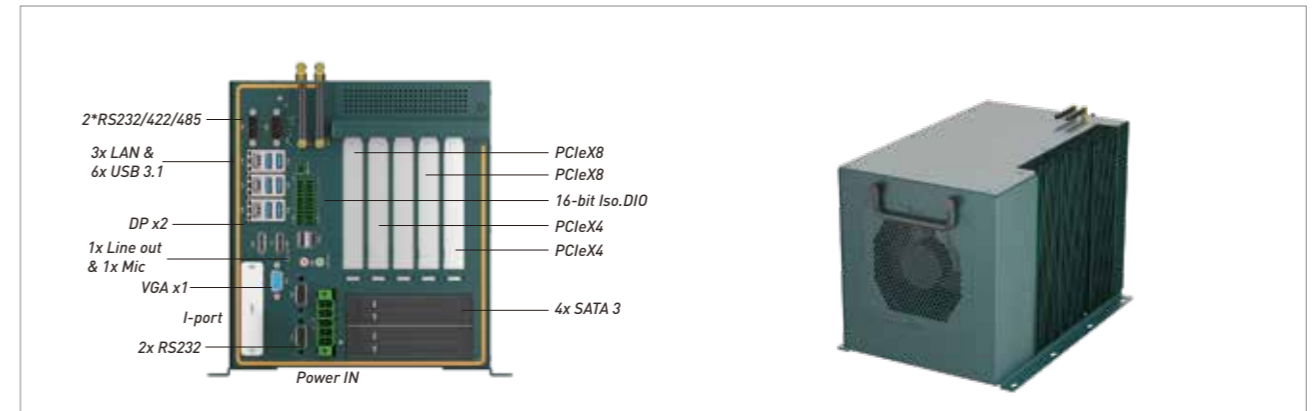
Processor	Intel® Xeon® E or 9th/8th-Gen Core™ i7/i5/i3 LGA1151 processor, Chipset: Intel® Q370(7521-S001) /Intel® C246(7521-S002) max 8C16T
RAM	4*260-Pin SODIMM, dual port DDR4 2666/2400MHz,max support 128GB
Expansion	1*Mini PCIe with SIM slot; 1*M.2 E-Key support WiFi6/BT5.0 1*M.2 B-Key , with SIM slot, support 5G; 1*M.2 M-Key(PCIe3.0X4); 2*PCIeX8(in X16 slot)max support 2*350W graphics card(length <300mm) 2*PCIe X4 (in X16 slot), max support 2*75W AI accelerator card (card length <300mm)
Graphics	Intel UHD Graphics, Supports DirectX11.1, OpenGL 5.0 / 2.1 or PCIe X16, DP: 4096*2304@60Hz, VGA: 1900*1200@60Hz, support 3 independent displays
Audio	optional support Realtek ALC662VD audio, Audio out & MIC, support5.1audio
LAN	2*Intel I210AT PCIe GbE, 10/100/1000Mbps self-adaptive; 1*Intel I219LM PCIe GbE, support iVpro tech
Storage	4*2.5" SATA3 swappable hard disk bay, support RAID0/1/5/10 1*M.2 2280 M-key(PCIe X4), support NVMe storage
DIO	16-bit Iso DIO,8位2.5KV input (H:5-24V, L:0-1.5V), 8-bit 2.5KV output(200mA)
I/O Port	3*RJ45 Gig-LAN; 6*USB3.1; 2*USB2.0; 2*DP+1*VGA 16-bit Iso DIO; 2*RS232/422/485; 2*RS232; 1*Audio-out & 1*MIC
LED	1*Power indicator, 5*HDD status indicator
Control Switch	1*Power SW, 1*AT/ATX SW, 1*Clear CMOS SW

Power Requirement	DC 12V 5-pin Term. Consumption: 564W (I7-8700 CPU 32GB DDR4, dual 2080TI)
OS	Windows 10 Enterprise & IOT Enterprise (64 bit)(CFL-R) Windows Server 2016 (Intel® Xeon® E) Ubuntu. SuSe, Redhat Enterprise 1,2(Kernel 4.14) (CFL-R) Wind River VxWorks 7 (CFL-R)
Watchdog timer	Programmable timeout interruption or system reset from 1 to 255 secs
Mechanical	
Structure	Aluminum-magnesium alloy, SGCC box
Color	Black + Granite Grey
Installation Method	Desktop Installation
Dimension	(W*H*D):230*350*210mm
Net weight	8.3kg

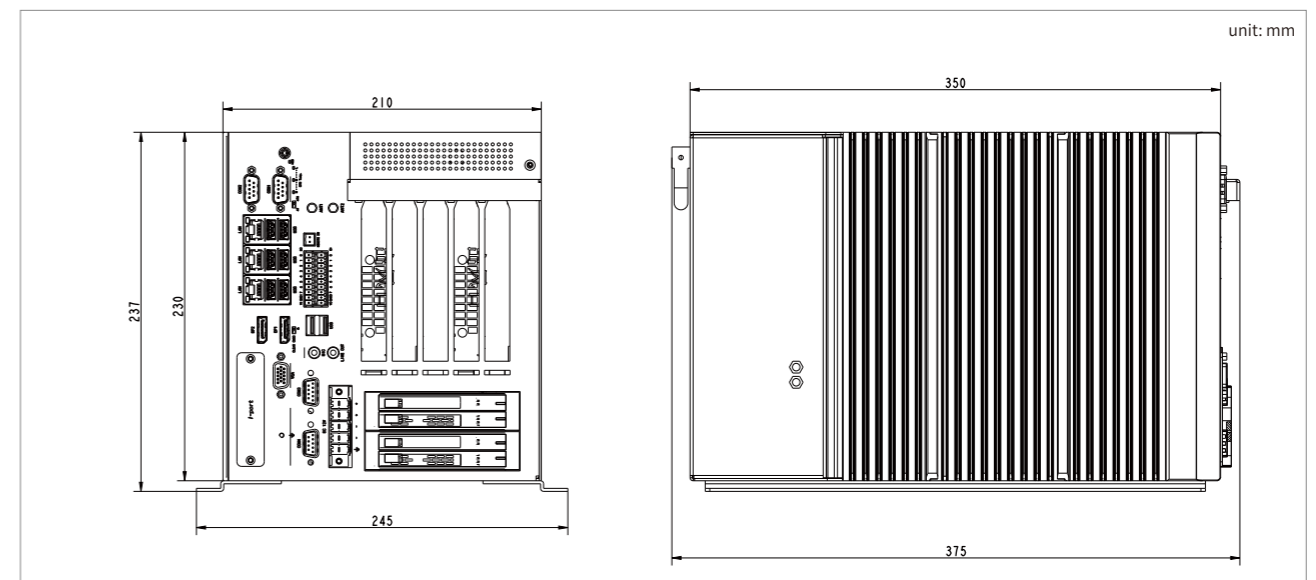
Environmental

Operating temp	-25°C~60°C , with air flow
Storage temp	-40°C~85°C
Storage Humidity	10~90%@40°C, No-condensation
Vibration	5 grms/5~500Hz/random/during operation(SSD); 1 grms/5~500Hz//random/during operation(HDD)
Shock	50g peak acceleration(duration;11ms)(SSD); 20g peak acceleration(duration;11ms)(HDD)
Certification /EMC	CE/FCC Class B

I/O view



Dimensions



Ordering Information

Model	Processor	RAM	Display	I/O Port	DIO	Audio	Expansion	Storage	Power Supply
BRAV-7521/S001	Intel® Coffeelake-R LGA1151 CPU Q370 PCH	4x DDR4	1x VGA	3x LAN/4x COM 6x USB3.1 2x USB2.0	16-bit Iso DIO	1x LINE OUT 1x MIC	1x Mini PCIe 1x M.2 E-Key 1x M.2 B-Key 2x PCIeX8; 2x PCIeX4	4x "2.5" SATA 1x M.2 2280 M Key	DC12V
BRAV-7521/S002	Intel® Coffeelake-R LGA1151 CPU C246 PCH	MAX 128GB	2x DP						
Suggested graphics card / AI accelerator card	max support 2*350W GPU 2*75W AI accelerator card (graphics card/AI accelerator card length <300mm)								
SE-1000DC12	AC/DC power switch , DC12V@83.3A ,180-264V AC input, DC 12V output, 1000W								

CPU Support

Series	Intel® Xeon®		Intel® Core™			Intel® Pentium®		Intel® Celeron®		
	E-2278G	8C16T	I7-9700	8C8T	I7-9700T	8C8T	G5500	2C4T	G4950	2C2T
9th Gen	E-2224G	8C16T	I5-9500	6C6T	I5-9500T	6C6T				
			I3-9100	4C4T	I3-9100T	4C4T				
	E-2176G	6C12T	I7-8700	6C12T	I7-8700T	6C12T	G5400	2C4T	G4930	2C2T
8th Gen	E-2124G	4C4T	I5-8500	6C6T	I5-8500T	6C6T				

BRAV-7601-S

Intel® Comet lake 10th-Gen Celeron/Pentium/Core™ i9/i7/i5/i3 CPU, 7*LAN, 8*USB, 2*COM, 3*M.2, 8+16 bit DIO

Key Specification

- Intel® Comet lake 10th-Gen Celeron/Pentium/Core™ i9/i7/i5/i3 CPU
- Aluminum chassis, two temperature controlled fan
- 3*2.5G-LAN+4*Gig-LAN with POE function
- VGA+2*HDMI, 3 independent display, 2*DP GPU display
- 3*M.2 support Gig+WiFi6, 4G LTE, 5G NR module
- 1*MXM3.1 (PCIeX16 signal), support MXM GPU modules and AI accelerators with power consumption lower than 190W
- DC9~36V wide power input



Product Overview

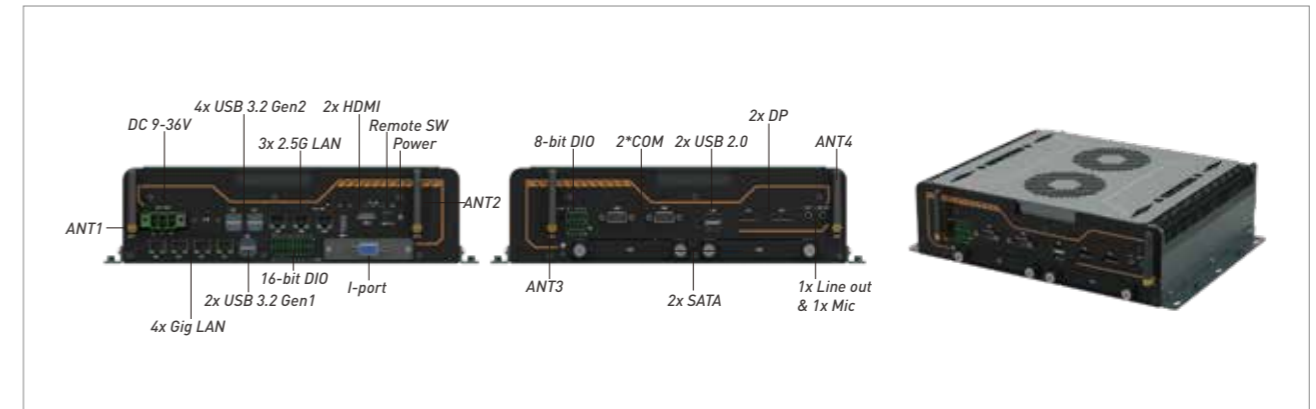
BRAV-7601-S is a high-performance Edge AI computing system, powered by Intel® Comet lake 10th-Gen CPU. CPU+GPU, multiple LAN & display, rich IO function, DC9-36V wide voltage power supply. It is suitable for C-V2X, special vehicle, smart security, high-precision machine vision, medical imaging and other fields.

Product Parameters

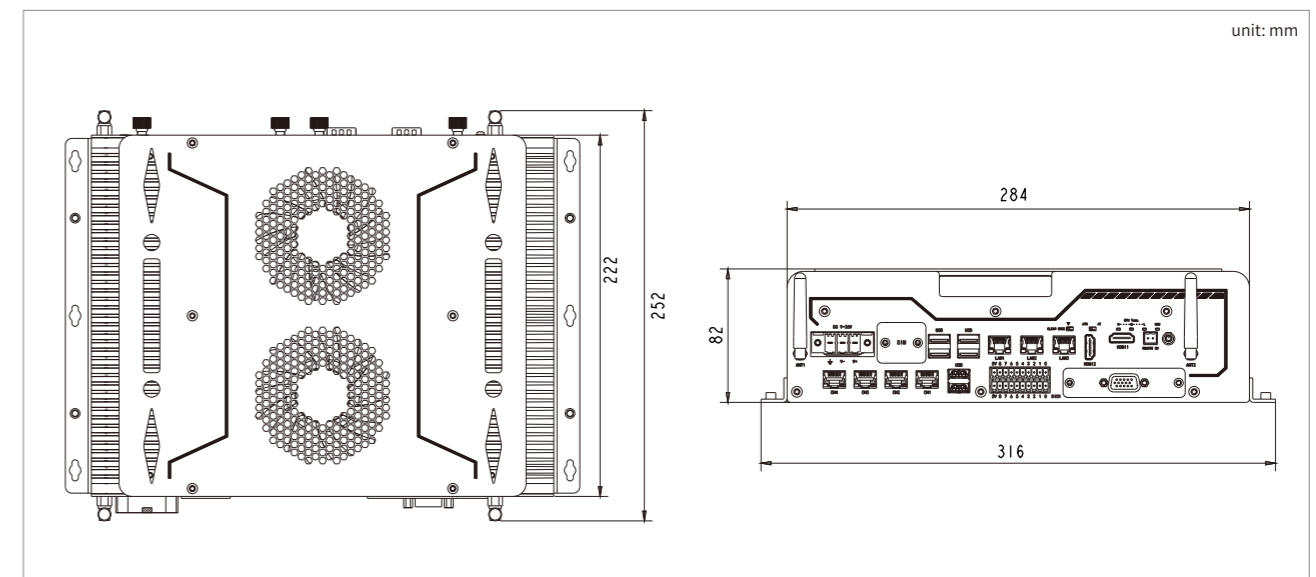
System

CPU	Intel® Comet lake 10th-Gen Celeron/Pentium/Core™ i9/i7/i5/i3 CPU; Intel® Q470 PCH	Power Requirement	DC 9-36V 3-pin, wide power input, with short circuit protection, over voltage& over current protection, max output power: 350W
RAM	2*DDR4 SO-DIMM slot, support 2933MHz, up to 64GB 1*Mini-PCIe,PCIeX1/SATA3, USB2.0+SIM, support mSATA or 4G LTE;	OS	Windows 10 IoT Enterprise (64-bit), Windows Server 2019, Ubuntu, SUSE, Redhat Enterprise, Wind River Linux, Yocto Project (64-bit), Wind River VxWorks 7
Expansion	1*M.2 Type 2230 E-key,PCIeX1,USB2.0 & CNVio, support WiFi6 & BT5.0; 1*M.2 Type 3052 B-key, PCIeX1, USB2.0+SIM, support 5G/4G; 1*M.2 Type 2280 M-Key(PCIex4 signal), support NVME, or PCIe;	Watchdog Timer	Watchdog timeout programmable via software 1 to 255 second
Display	Intel® UHD Graphics, support DirectX 12, openGL 4.5, 2*HDMI 1.4, :4096 x 2304@24Hz; 1*VGA: 1920*1200@60Hz; 1*MXM3.1, up to 190W, support GPU/AI accelerator, 2*DP, 4K display	Mechanical	
Audio	1*Line out+1*MIC(optional),support 5.1 channel	Structure	Temperature controlled fan, SGCC
LAN	2*Intel I225V+1*I225 LM, 3*2.5G-LAN, support iAMT 13.0, (Core I5/I7 CPU support Intel vPro) 4*Intel I210AT, with POE, 10/100/1000Mbps, PCIe 3.0 X1 bandwidth	Color	Black+Granite gray
Storage	2*2.5"HDD SATA3(RAID0,1), max support dual 15mm HDD, 6.0Gbps; 1*M.2 Type 2280 M-Key(PCIex4 signal), support NVMe; 1*mSATA(optional)	Mounting	Desktop mounting
DIO	8bit TTL signal, programmable input & output; 8+16 bit TTL signal, programmable input & output (S002) 3*2.5G-LAN, 4*POE(S002),	Dimension	(L*W*H):284*222*82mm
I/O Port	4*USB3.2 Gen2(10Gbps), 2*USB3.2 Gen1(S002), 2*USB2.0, 1*USB2.0 DB pin header, 1*USB2.0 typeA (built-in), 2*SIM slot 2*RS232/422/485, (DB9), 2*RS232(built-in)	Net weight	6.70kg
LED	1*HDD LED, 3*CPU Temp LED(Red: warning, Yellow: high temp, Green:normal)	Environmental	
Control switch	1* Power, 1*2-pin SW, 1*F-panel, 1*AT-ATX, 1*Clear CMOS	Operating temp	-20°C~60°C, airflow
		Storage temp	-40°C~85°C
		Storage humidity	10~90%@40°C, No-condensation
		Vibration	5 grms/5~500Hz/random/during operation(SSD); 1 grms/5~500Hz//random/during operation(HDD)
		Shock	50g peak acceleration(duration;11ms)(SSD); 20g peak acceleration(duration;11ms)(HDD)
		Certificates/EMC	CE/FCC Class B

I/O view



Dimensions



Ordering Information

Model	Specifications
BRAV-7601/S001	3*2.5G LAN,8bit DIO
BRAV-7601/S002	3*2.5G LAN, 4* POE 8+16bit DIO, 2*USB3.2 Gen1
MXM3.1 GPU	MLU220-MXM, NVIDIA GTX 16 Series/RTX 30 Series mobile MXM GPU
PA-220DC24	AC/DC power adapter, DC24V@9.17A ,220W
PA-300DC24	AC/DC power adapter, DC24V@12.5A ,300W

BRAV-7601-T

Intel® Comet lake 10th-Gen Celeron/Pentium/Core™ i9/i7/i5/i3 CPU, 7*LAN, 8*USB, 2*COM, 3*M.2, 8+16 bit DIO

Key Specification

- Intel® Comet lake 10th-Gen Celeron/Pentium/Core™ i9/i7/i5/i3 CPU
- Aluminum chassis, fanless,
- 3*2.5G-LAN+4*Gig-LAN with POE function
- VGA+2*HDMI, 3 independent display
- 3*M.2 support Gig+WiFi6, 4G LTE, 5G NR
- 1*MXM3.1, support MLU220-MXM AI accelerator
- DC9~36V wide power input, with short circuit, over voltage and over current protection



Product Overview

BRAV-7601-T is a high performance fan-less AI Edge computing system, powered by Intel® Comet lake CPU. It supports Cambricon MLU220 acceleration module, multi-network port, multi-display, rich I/O function, DC9-36V wide power input, which makes it very suitable for C-V2X, Special vehicle mounted, high-precision machine vision, medical imaging and other applications.

Product Parameters

System

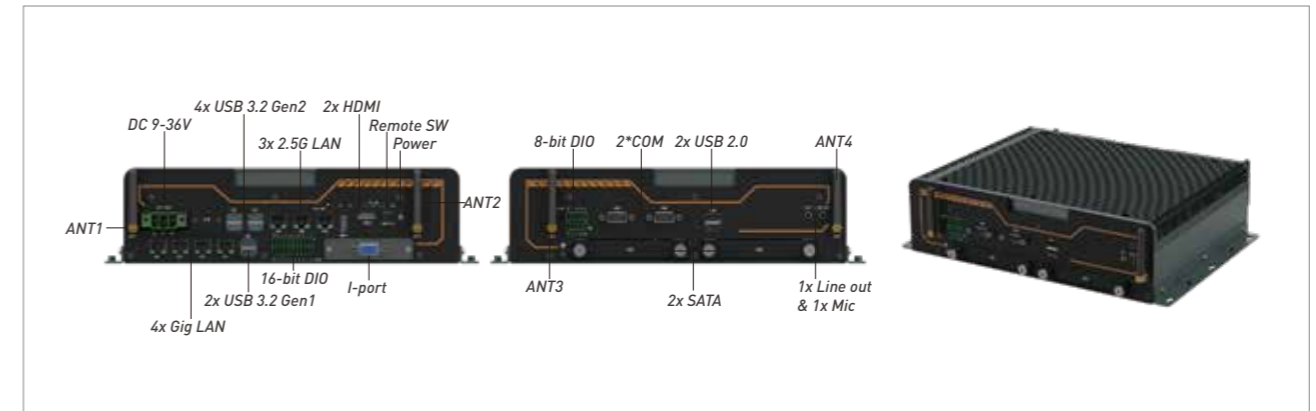
CPU	Intel® Comet lake 10th-Gen Celeron/Pentium/Core™ i9/i7/i5/i3 CPU; Intel® Q470 PCH
RAM	2*DDR4 SO-DIMM slot, support 2933MHz, up to 64GB
Expansion	1*Mini-PCIe,PCIeX1/SATA3, USB2.0+SIM, support mSATA or 4G LTE; 1*M.2 Type 2230 E-key,PCIeX1, USB2.0 & CNVio, support WiFi6/BT5.0; 1*M.2 Type 3052 B-key, PCIeX1, USB2.0+SIM, support 5G/4G; 1*M.2 Type 2280 M-Key(PCIex4 signal), support NVMe, or PCIe; 1*MXM3.1, PCIeX16,support MLU220-MXM; JHCTECH-02 E/I/O: 2*PCIeX4, 2*USB3.2, 2*USB2.0, 160pin
Display	Intel® UHD Graphics, support DirectX 12, OpenGL 4.5, 2*HDMI 1.4, : 4096 x 2304@24Hz, 1*VGA: 1920*1200@60Hz
Audio	1*Line out+1*MIC(Optional), support 5.1 channel
LAN	2*Intel I25V+1*I225 LM, 3*2.5G-LAN, support iAMT 13.0, Core I5/I7 CPU support Intel vPro 4*Intel I210AT, with POE, 10/100/1000Mbps,PCIe 3.0 X1 bandwidth
Storage	2*2.5"HDD SATA3(support RAID0,1), max support 15mm HDD, 6.0Gbps; 1*M.2 Type 2280 M-Key(PCIex4 signal), support NVMe; optional 1*mSATA
DIO	8bit TTLsignal, programmable input and output; 8+16 bit TTL signal, programmable input and output(T002)
I/O Port	3*2.5G-LAN; 4*POE(T002), 4*USB3.2 Gen2(10Gbps), 2*USB3.2 Gen1(T002), 2*USB2.0, 2*SIM slot 2*RS232/422/485, (DB9), 2*RS232(built-in)
LED	1*HDD LED, 3*CPU Temp LED (Red: warning, Yellow: high temp, Green: normal)
Control switch	1* Power, 1*2-pin SW, 1*F-panel, 1*AT-ATX, 1*Clear CMOS

Power Requirement	DC 9-36V 3-pin,wide power input, with short circuit protection, over voltage & over current protection, max output power: 350W
OS	Windows 10 IoT Enterprise (64-bit), Windows Server 2019, Ubuntu, SUSE, Redhat Enterprise, Wind River Linux, Yocto Project (64-bit), Wind River VxWorks 7
Watchdog Timer	Watchdog timeout programmable via software 1 to 255 second
Mechanical	
Structure	Aluminum chassis, SGCC
Color	Black+Granite gray
Mounting	Desktop mounting
Dimension (L*W*H):	284*222*80.5mm
Net weight	6.40kg

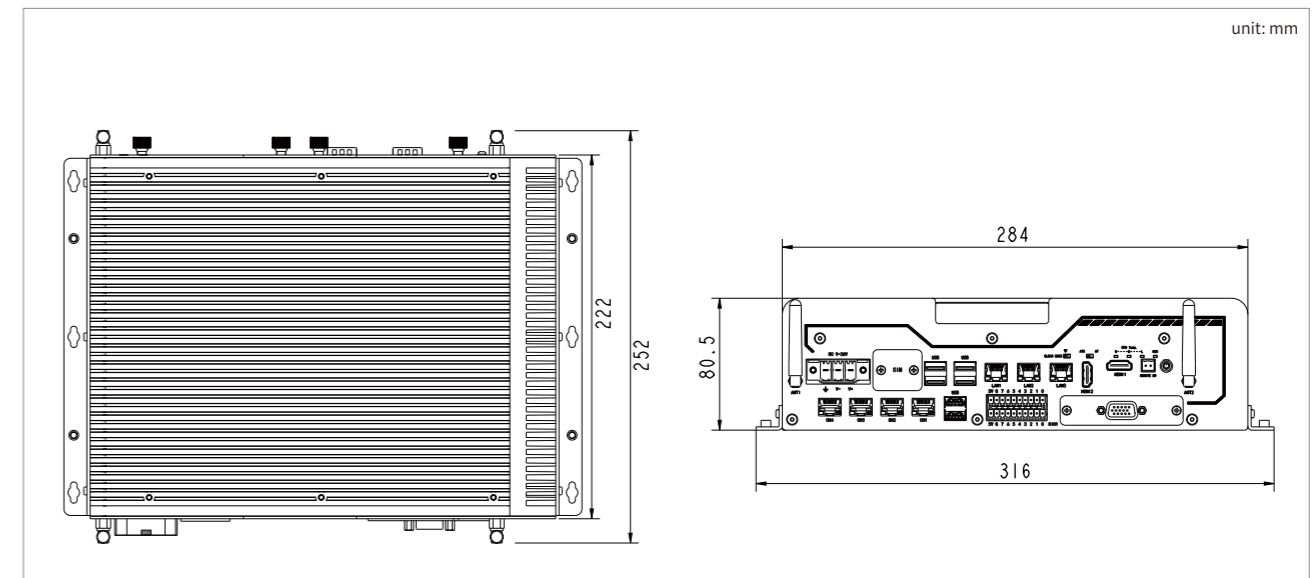
Environmental

Operating Temp	-20°C~60°C, airflow
Storage Temp	-40°C~85°C
Storage Humidity	10~90%@40°C, No condensation
Vibration	5 grms/5~500Hz/random/during operation(SSD); 1 grms/5~500Hz//random/during operation(HDD)
Shock	50g peak acceleration(duration;11ms)(SSD); 20g peak acceleration(duration;11ms)(HDD)
Certificates/EMC	CE/FCC Class B

I/O view



Dimensions



Ordering Information

Model	Specifications		
BRAV-7601/T001	Fanless AI Edge Computing System	3*2.5G LAN,8bit DIO	Intel Q470 PCH, +Intel CML LGA1200 CPU, 1*MXM 3.1, 4*USB3.2 Gen2, 2*USB2.0, 2*COM, 1*Mini PCIe, 1*M.2 E-Key, 1*M.2 B-Key, 2*HDMI, 1*VGA, 1*MIC & 1*Audio-out(optional), 1*mSATA(optional), 1*M.2 M-Key, 2*2.5" SATA bay, 1*I-Port, DC 9~36V
BRAV-7601/T002		3*2.5G LAN, 4* POE 8+16bit DIO, 2*USB3.2 Gen1	
MXM3.1 GPU	Cambricon MLU220-MXM		
PA-120DC19	AC/DC power adapter, DC19V/6.32A,120W		
PA-220DC24	AC/DC power adapter, DC24V@9.17A, 220W		

JHCTECH IoT Computer
Connecting the Dots

JHCTECH IoT Computer
Connecting the Dots

KGEC

Edge controller



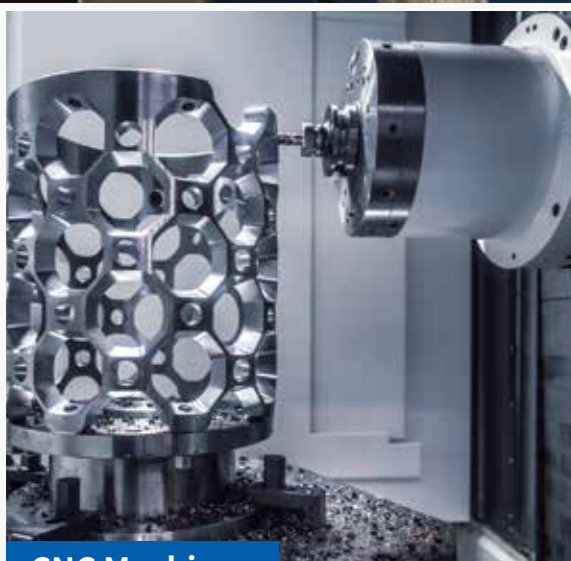
APPLICATION
▶▶▶
Industrial Robotics

B-01 Product Listing

B-03 **KGEC-6300**
Expandable Edge Controller

B-05 **KGEC-6301**
Multi-POE Edge Controller

B-07 **KGEC-6310**
High performance real-time Edge Controller



CNC Machinery



Machine Vision





KGEC
Edge Controller



KGEC-6300



KGEC-6301



KGEC-6310

System

	KGEC-6300	KGEC-6301	KGEC-6310
CPU	6th gen Intel® Skylake-S/7th gen Intel® Kabylake-S Pentium/Core i3/i5/i7 CPU LGA 1151 socket, max support 65W	6th gen Intel® Skylake-S/ 7th gen Intel® Kabylake-S Pentium/Core i3/i5/i7 CPU LGA 1151 socket, max support 65W	8th gen Intel Whiskeylake U:Celeron 4305U; Core U: i3-8145U; i5-8265U; i7-8565U
RAM	1* DDR4 2400/2133MHz, max 16GB	1* DDR4 2400/2133MHz, max 16GB	2* DDR4 2400MHz , max 32GB
Graphics	IntelGen.9 HD Graphics,HEVC/H265 HW DP: 4096*2304@60Hz, DVI-I(DVI-D+VGA) DVI-D: 1920*1200@60Hz, VGA: 2560*1600@60Hz	IntelGen.9 HD Graphics,HEVC/H265 HW DP max resolution 4096*2304@60Hz; DVI-I(DVI-D+VGA) DVI-D max resolution 1920*1200@60Hz, VGA max 2560*1600@60Hz	Intel Gen. 9 UHD Graphics,HEVC/H265 HW HD codec HDMI max resolution 4096*2304@60Hz DVI-D max resolution 2560x1600,60Hz

I/O Interface

	KGEC-6300	KGEC-6301	KGEC-6310
LAN	2*Intel I210AT PCIe Gig. Ethernet, 10/100/1000Mbps	2*Intel I210AT PCIe Gig. Ethernet, 10/100/1000Mbps; 4*Intel I210AT PCIe Gig. Ethernet with POE function, 802.3af(15.4W)	3*Intel I210AT PCIe Gig. Ethernet, 10/100/1000Mbps; 1*Intel®I219LM ,support iAMT12.0 and iVpro tech
USB	4* USB3.0	4* USB3.0	2*USB3.1 + 2* USB2.0
Display	1* DP + 1* DVI-I	1* DP + 1* DVI-I	1* DVI-D + 1* HDMI
Audio	/	/	1* Line out + 1* MIC
Serial Port	2*RS232/422/485 with isolated TVS	2*RS232/422/485 with isolated TVS	2*RS232/422/485
DIO	/	16-bit Isolator DIO (Phoenix terminal)	8-bit DIO(Phoenix terminal)

Storage

	KGEC-6300	KGEC-6301	KGEC-6310
Storage	1*mSATA full height card	1*2.5" SATA3.0 HDD/SSD 1*mSATA full height card	1*2.5" SATA3.0, 1*mSATA full height card, support AHCI

Expansion

	KGEC-6300	KGEC-6301	KGEC-6310
Expansion Port	1*Mini PCIe with PCIeX1+USB signal with SIM slot,support 4G/Wifi/wireless BT/CAN module 1*PCIe X4 slot with PCIe X1 signal 1*32bit-PCI	1*Mini PCIe with PCIeX1+USB signal with SIM slot,support 4G/Wifi/wireless BT/CAN module 1*PCIe X4 slot with PCIe X1 signal 2*32bit-PCI	1*M.2 E-key , with PCIe X1+USB2.0 signal, Wifi/BT module expansion 1*Mini PCIe, with SIM slot, PCIe X1+USB2.0 signal, support 3G/4G/Wifi/ BT/ GPRS and other wireless function

Power Supply

	KGEC-6300	KGEC-6301	KGEC-6310
Input voltage & Power Consumption	DC 12~24V input, 2*2-pin terminal block connector, Power consumption: S001(43.7W I7-7700 4GB), with expansion module(49.4W I7-7700 4GB)	DC 12~24V input, 2*2-pin terminal block connector, Power consumption: S001(49.2W I7-6700T 4GB) , with expansion module (52.8W I7-6700T 4GB)	DC 12~24V input, 2*2-pin terminal block connector, Power consumption: 31.68W (CPU i3-8145U 4GB)

Mechanical

	KGEC-6300	KGEC-6301	KGEC-6310
Structure	Aluminum chassis, SGCC frame	Aluminum chassis, SGCC frame	Aluminum chassis, SGCC frame
Dimension (W*H*D)	S001(202*151*57.8mm), with expansion module (202*151*109.8mm)	S001(202*151*80.8mm), With expansion module (202*151*151mm)	202*151*81mm
Net weight	S001: 2.52KG; with expansion module:3.52KG	S001: 3KG; with expansion module: 4.4KG	2.59KG

Environmental

	KGEC-6300	KGEC-6301	KGEC-6310
Operating temperature	-20°C~60°C , with wide temperature SSD	-20°C~60°C , with wide temperature SSD	-20°C~60°C , with wide temperature SSD
Storage temperature	-40°C~85°C	-40°C~85°C	-40°C~85°C
Storage Humidity	10~90%@40°C, non-condensing	10~90%@40°C, non-condensing	10~90%@40°C, non-condensing
Vibration	5 grms/5~500Hz/random/during operation(SSD); 1 grms/5~500Hz/random/during operation(HDD)	5grms/5~500Hz/random/during operation(with SSD); 1grms/5~500Hz/random/during operation(with HDD)	5grms/5~500Hz/random/during operation(with SSD); 1grms/5~500Hz/random/during operation(with HDD)
Shock	50g peak acceleration(duration;11ms)(with SSD); 20g peak acceleration(duration;11ms)(with HDD)	50g peak acceleration(duration;11ms)(with SSD); 20g peak acceleration(duration;11ms)(with HDD)	50g peak acceleration(duration;11ms)(with SSD); 20g peak acceleration(duration;11ms)(with HDD)
Certification /EMC	CE/FCC Class B	CE/FCC Class B	CE/FCC Class B

OS

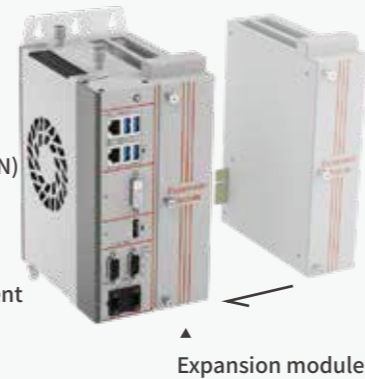
	KGEC-6300	KGEC-6301	KGEC-6310
OS	RTOS: INtime, EC-Win, RTX-2014/2016 and Ubuntu Preempt-RT, Windows 7, Windows 10, Linux Fedora Ubuntu(Note: 7th gen Intel® Kabylake-S processor does not support Windows 7 32-bit)	RTOS: INtime, EC-Win, RTX-2014/2016, Ubuntu Preempt-RT, Windows 7, Windows 10, Linux Fedora Ubuntu (Note: 7th gen Intel® Kabylake-S processor does not support Windows 7 32-bit)	RTOS: INtime, EC-Win, RTX-2014/2016 and Ubuntu Preempt-RT Windows 10, SUSE, Ubuntu, Wind River, Red Hat Enterprise

KGEC-6300

Intel® Skylake-S/Kabylake-S CPU, 2*LAN, 4*USB3.0, DP, DVI-I, 2*COM, modular expansion components, Real-time Operating System RTOS, and Time Sensitive Networking TSN.

Key Specification

- Intel® Skylake-S/Kabylake-S CPU with max 65W
- CPU equipped with active and passive heat dissipation, smart temperature control fan, silent and dustproof
- H110 chipset, CPU (optional dual & quad core)
- 1*DP, 1*DVI-I, dual display interface, prolong display without attenuation
- 2*I210AT internet chipset and optional support for time sensitive networking (TSN)
- 1*PCIe X4 slot/1*32bit-PCI slot, support multiple expansions
- BIOS optimization and support real-time operating system (RTOS)
- Support third-party software platform (optional)
- DC12~24V wide voltage power supply, with reverse polarity protection, overcurrent and overvoltage protection
- Suitable for wall-mounting and Din-rail mounting



Product Overview

KGEC-6300 is a brand-new edge controller with expansion module where the host can be dismantled easily. The CPU is equipped with active and passive heat dissipation design and smart temperature control fan. It is suitable for both wall-mounting and Din-rail mounting, and the extension quantity is flexible. For different application scenario, we offer different expansion modules for selection, which makes it extremely suitable for machine vision, CNC machine tools, construction machinery and other fields.

Product Parameters

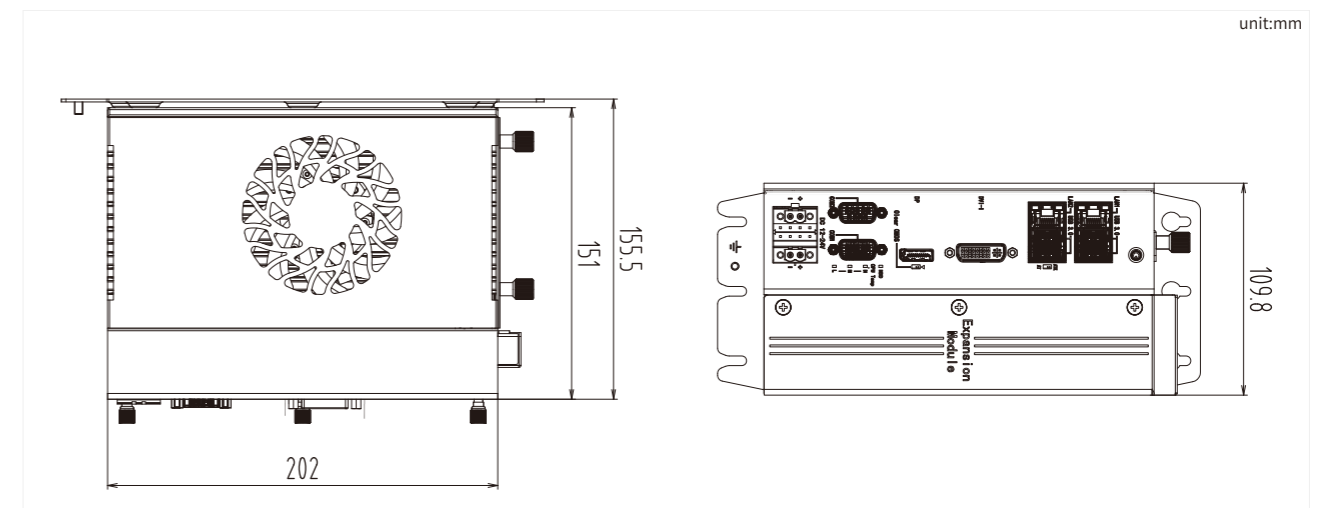
System

CPU	6th gen Intel® Skylake-S/ 7th gen Intel® Kabylake-S Pentium/Core I3/I5/I7 CPU Intel® H110 chipset, LGA 1151 slot, max support 65W	Operating System	RTOS: INtime, EC-Win, RTX-2014/2016 and Ubuntu Preempt-RT Windows 7, Windows 10, Linux Fedora Ubuntu (Note: 7th gen Intel® Kabylake-S processor does not support Windows 7 32-bit)
RAM	1*260-Pin SODIMM, DDR4 2400/2133MHz, max 16GB	Watchdog timer(WDT)	Programmable timeout interruption period or system reset from 1 to 255 secs
Expansion	1*Mini PCIe with PCIeX1+USB signal with SIM slot, support 4G/Wifi/BT wireless/CAN module 1*PCIe X4 slot with PCIe X1 signal 1*32bit-PCI support motion control cards, accelerator cards and other expansion cards	Mechanical	
Graphics	Intel Gen. 9 HD Graphics, HEVC/H265 HW HD codec DP max resolution 4096*2304@60Hz; DVI-I(DVI-D+VGA) DVI-D max resolution 1920*1200@60Hz, VGA max resolution 2560*1600@60Hz	Structure	Aluminum chassis with heat dissipation, SGCC frame
LAN	2*Intel I210AT PCIe Gig. Ethernet, 10/100/1000Mbps	Color	Dark gray
Storage	1*mSATA full size card (SATA & USB2.0)	Installation method	Wall-mounting, Din-Rail mounting
I/O Port	2*Gig-LAN(RJ45) 4*USB3.0(Type A) 2*RS232/422/485 with isolated TVS (DB9) 1*DP+1*DVI-I	Dimension (W*H*D)	S001(202*151*57.8mm), with expansion module(202*151*109.8mm)
LED	1*power LED, 1*HDD LED, 3*CPU temperature indicator (Red as warning, Yellow as high temperature, Green as green temperature)	Net weight	S001: 2.52KG; with expansion module :3.52KG
Switches	1*power button, 1*AT/ATX switch, 1*Clear CMOS switch	Environmental	
Power Requirement	DC 12~24V input, 2*2-pin terminal block connector, Consumption: S001(43.7W I7-7700 4GB), with expansion module (49.4W I7-7700 4GB)	Operating temperature	-20°C~60°C, with wide temperature SSD
		Storage temperature	-40°C~85°C
		Storage humidity	10~90%@40°C, non-condensing
		Vibration	5 grms/5~500Hz/random/during operation(with SSD); 1 grms/5~500Hz/random/during operation(with HDD)
		Shock	50g peak acceleration(duration;11ms)(with SSD); 20g peak acceleration(duration;11ms)(with HDD)
		Certification/EMC	CE/FCC Class B

I/O View



Dimensions



Ordering Information

Model	Processor	RAM	Display	I/O Port	Expansion	Storage	Power Supply
KGEC-6300/S001	Intel® Skylake-S/Kabylake-S LGA1151 CPU	1x DDR4 MAX 16GB	1x DVI-I 1x DP	2x LAN 4x USB3.0 2x COM	1x Mini PCIe	1x mSATA	DC 12~24V
1 Slot Expansion module	1*PCIeX4 Slot (X1signal) or 1*PCI single expansion slot						
2 Slot Expansion module	1*PCIeX4 Slot (X1signal) +1*PCI dual expansion slot						
PA-120DC19	AC/DC adapter, direct current of 19V/6.32A 120W						

CPU Support

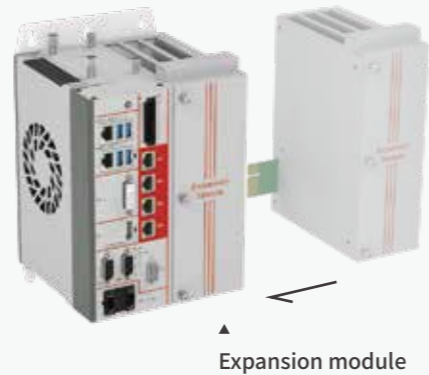
Model	Intel® Core™				Intel® Pentium®			
Series								
7th Gen	I7-7700	4C8T	I7-7700T	4C8T	G4600	2C2T	G4600T	2C2T
	I5-7500	4C4T	I5-7500T	4C4T				
	I3-7100	2C4T	I3-7100T	2C4T				
6th Gen	I7-6700	4C8T	I7-6700T	4C8T	G4400	2C2T	G4400T	2C2T
	I5-6500	4C4T	I5-6500T	4C4T				
	I3-6100	2C4T	I3-6100T	2C4T				

KGEC-6301

Intel® Skylake-S/Kabylake-S CPU, 2*LAN, 4*POE, 4*USB3.0, DP, DVI-I, 2*COM, 16-bit Iso DIO, Modular expansion components, Real-time Operating System RTOS, and Time Sensitive Networking TSN.

Key Specification

- Intel® Kabylake-S/Skylake-S CPU, max 65W
- CPU equipped with active and passive heat dissipation, smart temperature control fan, silent and dustproof
- H110 chipset, CPU (optional dual & quad core)
- 1*DP, 1*DVI-I, dual display interface, prolong display without attenuation
- 2*I210AT internet chipset and optional support for time sensitive networking (TSN)
- 1*PCIe X4 slot, 2*32bit-PCI slot, support multiple expansion modules
- 4 * I210 AT chipset POE camera interface and 16 optical isolation DIO
- BIOS optimization and support real-time operating system (RTOS)
- Support third-party software platform (optional)
- DC12~24V wide voltage power supply, with reverse polarity protection, overcurrent and overvoltage protection
- Suitable for wall-mounting and Din-rail mounting



Product Overview

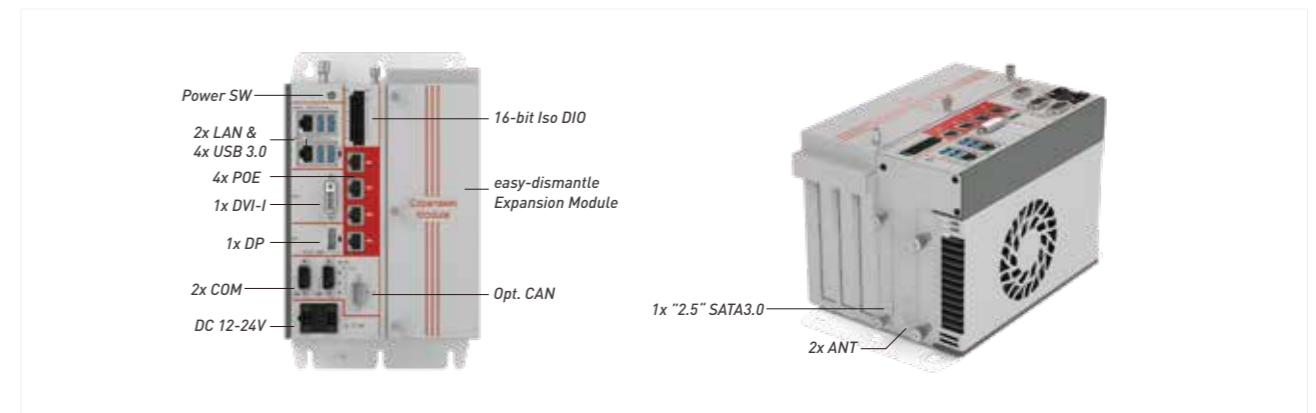
KGEC-6301 is a brand new edge controller with 2*LAN and 4*POE. It adopts Intel I210AT internet chipset, which support EtherCAT time sensitive networking (TSN) and can connect to network cameras. The CPU is built with active and passive heat dissipation design and supports wall-mounting and Din-rail mounting. It is also equipped with smart temperature control fan, the expansion module can be easily dismantled from the host, and the expansion quantity is flexible. For different application scenario, we offer different expansion modules for selection, which makes it extremely suitable for machine vision, CNC machine tools, construction machinery and other fields.

Product Parameters

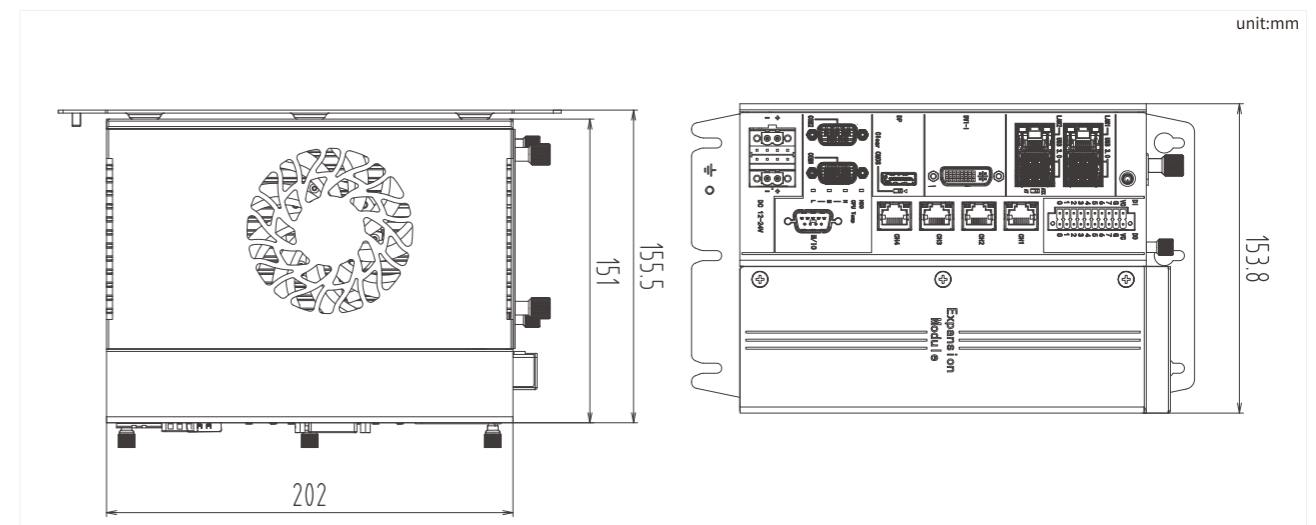
System

CPU	6th gen Intel® Skylake-S/7th gen Intel® Kabylake-S Pentium/Core I3/I5/I7 CPU LGA 1151 slot, max support 65W	Operating System	RTOS: INtime, EC-Win, RTX-2014/2016 and Ubuntu Preempt-RT Windows 7, Windows 10, Linux Fedora Ubuntu (Note: 7th gen Intel® Kabylake-S processor does not support Windows 7 32-bit)
RAM	1*260-Pin SODIMM, DDR4 2400/2133MHz, max16GB	Watchdog timer	Programmable timeout interruption period or system reset from 1 to 255 secs
Expansion	1*full size Mini PCIe with PCIe X1+USB signal with SIM slot, support 4G/Wifi/BT/CAN module 1*PCIe X4 slot with PCIe X1 signal 2*32bit-PCI support motion control cards, accelerator cards and other expansion cards	Mechanical	
Graphics	Intel Gen. 9 HD Graphics, HEVC/H265 HW HD codec DP: 4096*2304@60Hz ; DVI-I (DVI-D+VGA), DVI-D: 1920*1200@60Hz, VGA: 2560*1600@60Hz	Structure	Aluminum chassis, SGCC frame
LAN	2*Intel I210AT PCIe Gig. Ethernet, 10/100/1000Mbps; 4*Intel I210AT PCIe Gig. Ethernet with POE function, 802.3af(15.4W)	Color	Dark Grey
Storage	1*2.5" SATA3.0 HDD/SSD 1*mSATA full size card (SATA & USB2.0)	Installation Method	Wall-mounting, Din-Rail mounting
DIO	16-bit Iso DIO, 8-bit 2.5KV opto-isolator input (H:5-24V, L:0-1.5V), 8-bit 2.5KV opto-isolator output(200mA)	Dimension (W*H*D)	S001(202*151*80.8mm), with expansion module (202*151*151mm)
I/O Port	2*Gig-LAN(RJ45), 4*POE (RJ45), 1*DP+1*DVI-I 4*USB3.0; 1*MIO with CAN, Uart signal, 16-bit Iso DIO(Phoenix terminal), 2*RS232/422/485 with isolated TVS(DB9)	Net weight	S001: 3KG; with expansion module: 4.4KG
LED	1*power LED, 1*HDD LED, 3*CPU temperature indicator (Red as warning, Yellow as high temperature, Green as normal temperature)	Environmental	
Switches	1*power button, 1*AT/AT switch, 1*Clear CMOS switch	Operating temperature	-20°C~60°C with wide temperature SSD
Power Requirement	DC 12~24V input, 2*2-pin terminal block connector, power consumption: S001(49.2W I7-6700T 4GB) ,with expansion module (52.8W I7-6700T 4GB)	Storage temperature	-40°C~85°C
		Storage humidity	10~90%@40°C, Non-condensing
		Vibration	5 grms/5~500Hz/random/during operation(with SSD); 1 grms/5~500Hz/random/during operation(with HDD)
		Shock	50g peak acceleration(duration;11ms)(with SSD); 20g peak acceleration(duration;11ms)(with HDD)
		Certification /EMC	CE/FCC Class B

I/O View



Dimensions



Ordering Information

Model	Processor	RAM	Display	I/O Port	Expansion	Storage	Power Supply
KGEC-6301/S001	Intel® Skylake-S/Kabylake-S LGA1151 CPU	1x DDR4 MAX 16GB	1x DVI-I 1x DP	2x LAN/4x POE 4x USB3.0 2x COM 16bit Iso DIO	1x Mini PCIe	1x mSATA	DC 12~24V
3 slot expansion module	1*PCIeX4 Slot (X1 signal) +2*PCI , 3 expansion slot						
PA-120DC19	AC/DC adapter,direct current of 19V/6.32A 120W						
PA-220DC24	AC/DC adapter,direct current of 24V/9.17A 220W						

CPU Support

Model	Intel® Core™						Intel® Pentium®			
Series	I3-7100		I5-7500		I7-7700		G4600		G4600T	
7th Gen	I3-7100	2C4T	I5-7500T	4C4T	I7-7700	4C8T		2C2T	G4600T	2C2T
	I3-7100T	2C4T	I5-7500T	4C4T	I7-7700T	4C8T				
6th Gen	I3-6100	2C4T	I5-6500	4C4T	I7-6700	4C8T	G4400	2C2T	G4400T	2C2T
	I3-6100T	2C4T	I5-6500T	4C4T	I7-6700T	4C8T				

KGEC-6310

Intel® Whiskey lake-U CPU, 4*LAN, 2*USB3.1, 3*USB2.0, HDMI, DVI-D, 2*COM, 8-bit DIO, Real-time Operating System RTOS, and Time Sensitive Networking TSN.

Key Specification

- Intel® Whiskey lake-U CPU
- Aluminum chassis and fanless heat dissipation design
- 1*HDMI, 1*DVI-D, Dual display interface, prolong display without attenuation
- 3*I210AT Internet chipset, optional support for time sensitive networking (TSN)
- 1*I219LM, support iAMT12.0
- BIOS optimization and support real-time operating system (RTOS)
- 1*Mini PCIe with SIM slot, 1*M.2, 2230 E-Key
- Support third-party software platform (optional)
- DC12~24V wide voltage power supply, with reverse polarity protection, overcurrent and overvoltage protection
- Suitable for wall-mounting and Din-rail mounting



Product Overview

KGEC-6310 is a brand new edge controller with 4*LAN ports. Three of the four LAN ports use Intel I210AT internet chipset, which support EtherCAT Protocol and able to connect to network cameras. It is suitable for both wall-mounting and Din-Rail mounting. BIOS optimize and support real-time system (RTOS), Ubuntu preemt-RT and optional support to INTime. With compact aluminum chassis and fanless heat dissipation design, KGEC-6310 is extremely powerful and suitable for machine vision, CNC machine tools, construction machinery and other fields.

Product Parameters

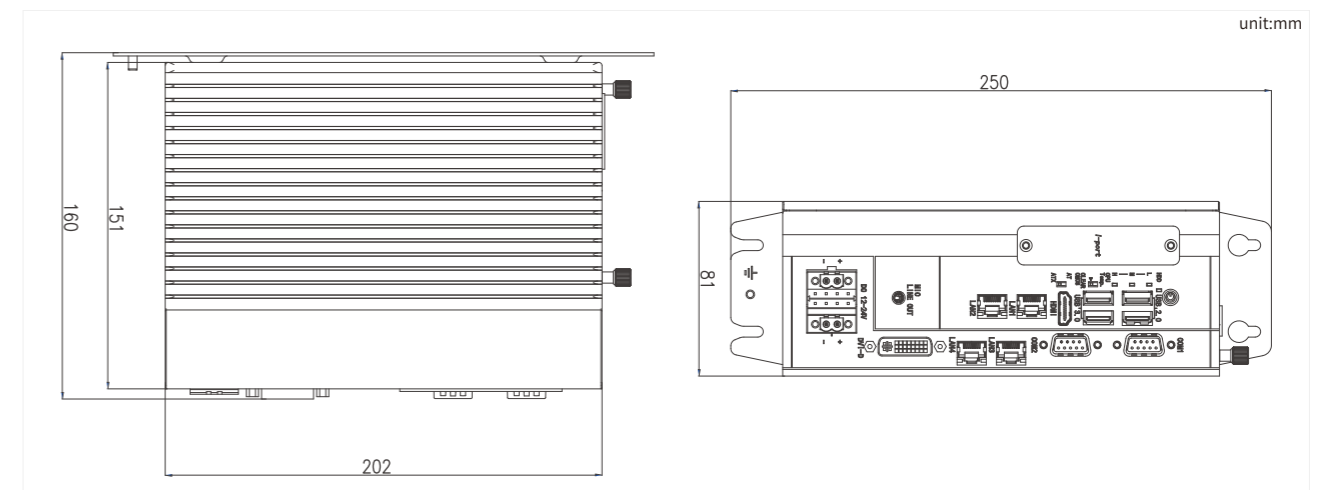
System

CPU	8th gen Intel Whiskeylake U:Celeron 4305U; Core U: I3-8145U; I5-8265U; I7-8565U	Power Requirement	DC 12~24V input, 2*2-pin terminal block connector, Consumption:12V/2.64A (CPU I3-8145U 4GB)
RAM	dual channel DDR4 SO-DIMM , max support 2400MHz, max32GB	Operating System	RTOS: INtime, EC-Win, RTX-2014/2016 and Ubuntu Preempt-RT Windows 10, SUSE, Ubuntu, Wind River, Red Hat Enterprise
Expansion	1*M.2 E-key , with PCIe X1+USB2.0 signal, Wifi/BT expansion module 1*Mini PCIe, with SIM slot, PCIe X1+USB2.0 signal, support 3G/4G/Wifi/BT/ GPRS and other wireless function	Watchdog timer	Programmable timeout interruption period or system reset from 1 to 255 secs
Graphics	Intel Gen. 9 UHD Graphics,HEVC/H265 HW HD codec HDMI max resolution 4096*2304@60Hz DVI-D max resolution 2560x1600,60Hz	Mechanical	
Audio	Optional support Realtek ALC662 audio, 1*Line out & Mic High fidelity audio support 5.1audio channel	Structure	Aluminum chassis, SGCC frame
LAN	3*Intel I210AT PCIe Gig. Ethernet, 10/100/1000Mbps; 1*Intel®I219LM , support iAMT12.0 and iVpro tech	Color	Dark grey
Storage	1*2.5" SATA3.0 HDD/SSD, 1*mSATA full-size card, support AHCI	Installation Method	Wall-mounting, Din-Rail mounting
I/O Port	4*Gig-LAN(RJ45); 2*USB3.1(Type A), 2*USB2.0(Type A) 2*RS232/422/485 (DB9) 1*8-bit DIO (1*10Pin Phoenix terminal) 1*HDMI+1*DVI-D 1*Line out&Mic 3.5mm phone jack	Dimension (W*H*D)	202*151*81mm
I-port	1*I-port support 1*USB2.0, 1*DVI-D, Mini-PCIe, M.2 and other expansions	Net Weight	2.59KG
LED	1*power LED, 1*HDD LED, 3*CPU temperature indicator (Red as warning, Yellow as high temperature, Green as green temperature)	Environmental	
Switch	1*power button, 1*AT/ATX switch, 1*Clear CMOS switch	Operating temperature	-20°C~60°C wide temperature SSD
		Storage temperature	-40°C~85°C
		Storage humidity	10~90%@40°C, Non-condensing
		Vibration	5 grms/5~500Hz/random/during operation(with SSD); 1 grms/5~500Hz/random/during operation(with HDD)
		Shock	50g peak acceleration(duration;11ms)(with SSD); 20g peak acceleration(duration;11ms)(with HDD)
		Certification /EMC	CE/FCC Class B

I/O View



Dimensions



Ordering Information

Model	Processor	RAM	Display	I/O Port	Audio	Expansion	Storage	Power Supply
KGEC-6310/S001	Intel® Core I3-8145U							
KGEC-6310/S002	Intel® Core I5-8265U	2x DDR4 MAX 32GB	1x DVI-D 1x HDMI	4x LAN 2x USB 3.1 2x USB 2.0 8-bit DIO 2x COM	1x Line out 1x MIC	1x Mini PCIe 1x M2	1x mSATA 1x "2.5" SATA3.0	DC 12~24V
KGEC-6310/S003	Intel® Core I7-8565U							
KGEC-6310/S004	Intel® Celeron 4305U							
PA-60DC12	AC/DC adapter, direct current of 12V/5A 60W							

JHCTECH IoT Computer
Connecting the Dots

JHCTECH IoT Computer
Connecting the Dots

KMDA
Embedded Box Computer



APPLICATION



Industrial Automation Equipment

COMPLETE LIST

Product Listing C-01

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Factory Information System



Highway toll



Security Monitoring

地网雪亮工程之智慧社区综治大数据平台



Environmental monitoring



APPLICATION



Medical Equipment



Product Listing

IoT Gateway



	KMDA-2602	KMDA-2602/T002	KMDA-2620	KMDA-2701	KMDA-2702	KMDA-3201	KMDA-3202
Processor							
CPU	Intel Baytrail-D Celeron J1900 ,Frequency 2.0~2.42GHz, 4C4T, 2M cache, 22nm, TDP 10W	Intel Baytrail-D Celeron J1900 ,Frequency 2.0~2.42GHz, 4C4T, 2M cache, 22nm, TDP 10W	Intel® Apollolake Atom E3940 CPU	Intel Baytrail-D Celeron J1900 ,Frequency 2.0~2.42GHz, 4C4T, 2M cache, 22nm, TDP 10W	Intel Baytrail-D Celeron J1900 , Frequency 2.0~2.42GHz, 4C4T, 2M cache, 22nm, TDP 10W	Intel Skylake-U/Kabylake-U CPU Celeron/Core i3/i5/i7	Intel Skylake-U/Kabylake-U CPU Celeron/Core i3/i5/i7
RAM	1*DDR3L,1333MHz,SODIMM, Max. 8GB	1*DDR3L,1333MHz,SODIMM, Max. 8GB	1*DDR3L, 1866MHz, SODIMM, Max. 8GB	1*DDR3L, 1333MHz, SODIMM, Max. 8GB	1*DDR3L, 1333MHz, SODIMM, Max. 8GB	2*260-Pin SODIMM, DDR4,2133MHz, Max. 32GB	2*260-Pin SODIMM, DDR4,2133MHz, Max. 32GB
Graphics	Intel HD Graphics, Support synchronous or asynchronous dual display, VGA:1920*1200@60Hz, HDMI:1920*1080@60Hz, support OpenGL 3.2, DirectX 11, OpenCL 1.2, MPGE2/H.264	Intel HD Graphics, Support synchronous or asynchronous dual display VGA:1920*1200@60Hz, HDMI:1920*1080@60Hz, support OpenGL 3.2, DirectX 11, OpenCL 1.2, MPGE2/H.264	Gen. 9th Intel HD Graphics, DP:4096*2160@60Hz, HDMI:3840*2160@30Hz,support OpenGL 4.3, DirectX 11, OpenCL 2.0, MPGE2, H.265	Intel HD Graphics, Support dual independent display, VGA:1920*1200@60Hz, HDMI:1920*1080@60Hz,support OpenGL 3.2, DirectX 11, OpenCL 1.2, MPGE2/H.264	Intel HD Graphics, Support dual independent display, VGA:1920*1200@60Hz, HDMI:1920*1080@60Hz,support OpenGL 3.2, DirectX 11, OpenCL 1.2, MPGE2/H.264	Intel Gen. 9th HD Graphics, HEVC/H265 HW HD codec, HDMI: 3840*2160@30Hz, DP: 4096*2304@60Hz	Intel Gen. 9th HD Graphics, HEVC/H265 HW HD codec, HDMI: 3940*2160@30Hz, DP: 4096*2160@60Hz
I/O Port							
LAN	4*Intel I211AT PCIe, 10/100/1000Mbps	2*Intel I211AT PCIe, 10/100/1000Mbps	4/2*Intel I211AT PCIe, 10/100/1000Mbps	4*Intel I211AT PCIe, 10/100/1000Mbps	3*Intel I211AT PCIe, 10/100/1000Mbps	2*Intel I211AT PCIe, 10/100/1000Mbps 1*Intel I219 LM support Intel Vpro	2*Intel I211AT PCIe, 10/100/1000Mbps, 1*Intel I219 LM support Intel Vpro, 4*Intel I211AT PCIe Full bandwidth POE
USB	1* USB3.0, 5*USB2.0, 1*USB2.0 (Build-in)	1* USB3.0, 3*USB2.0	2* USB3.0, 4/2*USB2.0, 1*USB2.0 (Build-in)	1* USB3.0, 5*USB2.0, 1*USB2.0 (Build-in)	1* USB3.0, 5*USB2.0, 1*USB2.0 (Build-in)	4* USB3.0, 2*USB2.0, 1*USB2.0 (Build-in)	4* USB3.0, 4*USB2.0, 1*USB2.0 (Build-in)
Display	1*HDMI+ 1*VGA	1*HDMI+ 1*VGA	1*DP+1*HDMI	1*VGA+1*HDMI	1*VGA+1*HDMI	1*DP+1*HDMI	1*DP+1*HDMI
Audio	1*Line out,optional audio	1*Line out,optional audio	1*Line out,optional audio	1*Line out+1*Mic, optional audio	1*Line out+1*Mic, optional audio	1*Line out , optional audio	1*Line out+1*Mic,optional audio
Serial port/ Others	2*RS232/422/485, 2*RS232, 2*RS232/485, 1*2 pin terminal, Remote switch, USB mouse/keyboard	2*RS232/422/485, 1*2 pin terminal, Remote switch, USB mouse/keyboard	4/2*RS232/422/485, 2*RS232, 1*2 pin terminal, Remote switch, USB mouse/keyboard	4*RS232/422/485, 2*RS232, 1*2 pin terminal, Remote switch, USB mouse/keyboard	8*RS232/422/485, 2*RS232, 1*2 pin terminal, Remote switch, USB mouse/keyboard	2*RS232/422/485, 4*RS232, 1*2 pin terminal, Remote switch, USB mouse/keyboard	2*RS232/422/485, 4*RS232, 1*PS/2(mouse/keyboard)
DIO	8-bit TTL signal, Programmed input-output	8-bit TTL signal, Programmed input-output	8-bit TTL signal, Programmed input-output	24-bit TTL signal, Programmed input-output	16-bit TTL signal, Programmed input-output	8-bit TTL signal, Programmed input-output	8-bit TTL, Programmable input and output 8-bit Iso. DI(High:5-24V,Low:0-1.5V) and 8-bit Iso. DO(100mA)
Storage							
Storage	1*2.5" HDD SATA2 Bay, 3.0 Gbps, 1*mSATA Full-height card, support AHCI	1*2.5" HDD SATA2 Bay, 3.0 Gbps, 1*mSATA Full-height card, support AHCI	1*2.5" HDD SATA3 Bay, 6.0 Gbps, 1*mSATA Full-height card, support AHCI	1*3.5" HDD SATA2 Bay, 3.0 Gbps, 1*mSATA Full-height card, support AHCI	1*2.5" HDD SATA2 Bay, 3.0 Gbps, 1*mSATA Full-height card, support AHCI	1/2*2.5" HDD SATA3 Bay, 6.0 Gbps, 1*mSATA Full-height card, support AHCI	1*2.5" SATA3 Bay, 6.0 Gbps, SSD/HDD, 1*mSATA Full-height card, support AHCI
Expansion							
Expansion Port	1*Mini PCIe, with SIM slot, support 4G/Wifi/BT, 1*I-port(LPT/USB2.0/Mini PCIe)	1*Mini PCIe, with SIM slot, support 4G/Wifi/BT,	1*M.2 B-key, with SIM slot, support 4G/Wifi/BT, 1*I-port (LPT/USB2.0/Mini PCIe)	1*Mini PCIe, with SIM slot, support 4G/Wifi/BT	1*Mini PCIe, with SIM slot, support 4G/Wifi/BT	1*Mini PCIe, with SIM slot, 1*M.2 B-key with PCIe+USB signal &SIM slot,support dual 4G/Wifi/BT, 1*I-port(LPT/USB2.0/Mini PCIe)	1*Mini PCIe, with SIM slot, 1*M.2 B-key with PCIe+USB signal &SIM slot,support dual 4G/Wifi/BT, 1*I-port(LPT/USB2.0/Mini PCIe)
Power Supply							
Input voltage	DC IN 9~36V, D-Jack with M8 interface, short circuit protection, OVP&OCP	DC IN 9~36V, D-Jack with M8 interface, short circuit protection, OVP&OCP	DC IN 9~36V, D-Jack with M8 interface, short circuit protection, OVP&OCP	DC IN 9~36V, D-Jack with M8 interface, short circuit protection, OVP&OCP	DC IN 9~36V, D-Jack with M8 interface, short circuit protection, OVP&OCP	DC IN 9~30V, 3pin terminal, With reverse polarity protection, short circuit protection, OVP&OCP	DC IN 9~30V, 3pin terminal, With reverse polarity protection, short circuit protection, OVP&OCP
Power consumption	14.4W(2.5" HDD)	14.4W(2.5" HDD)	20.04W(E3940 CPU,4G DDR3L)	19.2W(3.5" HDD)	15.6W(2.5" HDD)	27.72W(I5-7200U 8GB)	27.72W(I5-7200U 8GB)
Mechanical							
Structure	Top/Bottom Aluminum Chassis, SGCC frame	Top/Bottom Aluminum Chassis, SGCC frame	Top/Bottom Aluminum Chassis, SGCC frame	U-shaped Aluminum Chassis, SGCC frame	U-shaped Aluminum Chassis, SGCC frame	Aluminum Chassis, SGCC frame	Aluminum Chassis, SGCC frame
Color	Silver gray	Silver gray	Silver gray	Silver gray	Silver gray	Silver gray	Silver gray
Installation	desktop mounting & VESA 100*100mm	desktop mounting &VESA 100*100mm	desktop mounting &VESA 100*100mm	desktop mounting	desktop mounting	desktop mounting	desktop mounting
Dimension(W*H*D)	155*111.8*65mm	155*111.6*49mm	155*111.8*65mm	210*144*82.7mm	210*144*82.7mm	210*144.3*75.5mm	210*144.3*75.5mm
Net Weight	1.30KG	1.05KG	1.30KG	2.60KG	2.60KG	2.20KG	2.20KG
Environmental							
Operating Temp	-20°C~65°C,fanless, wide temperature SSD -10°C~55°C,fanless, normal temperature HDD	-20°C~65°C,fanless, wide temperature SSD -10°C~55°C,fanless, normal temperature HDD	-20°C~70°C,fanless, wide temperature SSD -10°C~55°C,fanless, normal temperature HDD	-20°C~70°C,fanless, wide temperature SSD -10°C~55°C,fanless, normal temperature HDD	-20°C~70°C,fanless, wide temperature SSD -10°C~55°C,fanless, normal temperature HDD	-20°C~70°C,fanless, wide temperature SSD -10°C~50°C,fanless, normal temperature HDD	-20°C~70°C,fanless, wide temperature SSD -10°C~50°C,fanless, normal temperature HDD
Storage Temp	-40°C~85°C	-40°C~85°C	-40°C~85°C	-40°C~85°C	-40°C~85°C	-40°C~85°C	-40°C~85°C
Storage Humidity	10~90%@40°C, No- condensation	10~90%@40°C, No- condensation	10~90%@40°C, No- condensation	10~90%@40°C, No- condensation	10~90%@40°C, No- condensation	10~90%@40°C, No- condensation	10~90%@40°C, No- condensation
Vibration	5 grms/5~500Hz/random/operation (SSD) 1 grms/5~500Hz/random/operation (HDD)	5 grms/5~500Hz/random/operation (SSD) 1 grms/5~500Hz/random/operation (HDD)	5 grms/5~500Hz/random/operation (SSD) 1 grms/5~500Hz/random/operation (HDD)	5 grms/5~500Hz/random/operation (SSD) 1 grms/5~500Hz/random/operation (HDD)	5 grms/5~500Hz/random/operation (SSD) 1 grms/5~500Hz/random/operation (HDD)	5 grms/5~500Hz/random/operation (SSD) 1 grms/5~500Hz/random/operation (HDD)	5 grms/5~500Hz/random/operation (SSD) 1 grms/5~500Hz/random/operation (HDD)
Shock	50g peak acceleration(duration 11ms,SSD) 20g peak acceleration(duration 11ms,HDD)	50g peak acceleration(duration 11ms,SSD) 20g peak acceleration(duration 11ms,HDD)	50g peak acceleration(duration 11ms,SSD) 20g peak acceleration(duration 11ms,HDD)	50g peak acceleration(duration 11ms,SSD) 20g peak acceleration(duration 11ms,HDD)	50g peak acceleration(duration 11ms,SSD) 20g peak acceleration(duration 11ms,HDD)	50g peak acceleration(duration 11ms,SSD) 20g peak acceleration(duration 11ms,HDD)	50g peak acceleration(duration 11ms,SSD) 20g peak acceleration(duration 11ms,HDD)
Certificate/EMC	CE/FCC Class A	CE/FCC Class A	CE/FCC Class A	CE/FCC Class A	CE/FCC Class A	CE/FCC Class A	CE/FCC Class A
OS							
OS	Windows 7, Windows 8.1, Windows 10, Linux Fedora,Ubuntu	Windows 7, Windows 8.1, Windows 10, Linux Fedora,Ubuntu	Windows 7, Windows 8.1, Windows 10, Linux Fedora,Ubuntu	Windows 7, Windows 8.1, Windows 10, Linux Fedora,Ubuntu	Windows 7, Windows 8.1, Windows 10, Linux Fedora,Ubuntu	Windows 7, Windows 10, Linux Fedora,Ubuntu	Windows 7, Windows 10, Linux Fedora,Ubuntu
Watchdog timer	Watchdog timeout programmable via software 1 to 255 second	Watchdog timeout programmable via software 1 to 255 second	Watchdog timeout programmable via software 1 to 255 second	Watchdog timeout programmable via software 1 to 255 second	Watchdog timeout programmable via software 1 to 255 second	Watchdog timeout programmable via software 1 to 255 second	Watchdog timeout programmable via software 1 to 255 second



	KMDA-3212	KMDA-3230	KMDA-3601	KMDA-3602	KMDA-3820	KMDA-3610	KMDA-3920	KMDA-3920ETC
Processor								
CPU	Intel Skylake-U/Kabylake-U CPU Celeron/Core i3/i5/i7	Intel® Whiskey lake U Celeron/Core i3/i5/i7	Intel Skylake-S/Kabylake-S Celeron/ Pentium/Core i3/i5/i7, Q170 Chipset	Intel Skylake-S/Kabylake-S Celeron/ Pentium/Core i3/i5/i7, Q170 Chipset	Intel Skylake-U 3855/Kabylake-U Celeron/Core i3/i5/i7	Intel Skylake-S/Kabylake-S Celeron/ Pentium/Core i3/i5/i7, H110 Chipset	Intel Skylake-S/Kabylake-S Celeron/ Pentium/Core i3/i5/i7 H110 Chipset,optional Q170 Chipset	Intel Skylake-S/Kabylake-S Celeron/ Pentium/Core i3/i5/i7 H110 Chipset,optional Q170 Chipset
RAM	1*DDR4,SODIMM,2133MHz, Max.16GB	2*DDR4 SODIMM,2400MHz, Max. 32GB	2*260-Pin SODIMM, DDR4,2133MHz, Max. 32GB	2*260-Pin ,DDR4,2133/2400MHz, Max. 32GB	1*260-Pin ,DDR4,2133MHz, Max. 16GB	2*260-Pin ,DDR4,2133/2400MHz, Max. 32GB	2*260-Pin ,DDR4,2133/2400MHz, Max. 32GB	2*260-Pin ,DDR4,2133/2400MHz, Max. 32GB
Graphics	Intel Gen. 9th HDGraphics, HEVC/H265 HW HD codec, HDMI:4096*2304@24Hz, DP:4096*2304@60Hz,VGA:1920*1200@60Hz	Intel® Gen. 9 UHD Graphics,Support dual independent display HDMI:4096*2304@24Hz DP:4096*2304@60Hz	Intel Gen. 9 HD Graphics, HEVC/H265 HW HD codec,support 3 independent display DP:4096*2304@60Hz,VGA:2650*1600@60Hz, HDMI:3840*2160@30Hz,	Intel® Gen. 9 HD Graphics, HEVC/H265 HW HD codec, DP/HDMI support dual 4K HD display 1*MXM3.1 GPU module, support max. 120W power consumption GPU, 3*DP & 1*HDMI four 4K display	Intel Gen. 9th HD Graphics, HEVC/H265 HW HD codec, HDMI:4096*2304@24Hz, DP:4096*2304@60Hz,VGA:1920*1200@60Hz	Intel Gen. 9 HD Graphics,HEVC/H265 HW HD codec, HDMI:3840*2160@30Hz, DP:4096*2304@60Hz,VGA:1920*1200@60Hz, support 2 independent display+1 copy display	Intel Gen. 9 HD Graphics,HEVC/H265 HW HD codec, HDMI:3840*2160@30Hz, DP:4096*2304@60Hz,VGA:1920*1200@60Hz, support 3 independent display(Intel Q170)	Intel Gen. 9 HD Graphics,HEVC/H265 HW HD codec, HDMI:3840*2160@30Hz, DP:4096*2304@60Hz,VGA:1920*1200@60Hz, support 3 independent display(Intel Q170)
I/O Port								
LAN	2*Intel I211AT PCIe, 10/100/1000Mbps, 1*Intel I219 LM support Intel Vpro,	4*Intel I210AT PCIe, 10/100/1000Mbps, 1*Intel®I219LM	2*Intel I210AT PCIe,10/100/1000Mbps, 1*Intel I219 LM support Intel Vpro, 4*Intel I210AT Full bandwidth POE, optional 8/11*Gig LAN	2*Intel I210AT PCIe,10/100/1000Mbps, 1*Intel I219 LM support Intel Vpro, 4*Intel I210AT Full bandwidth POE, optional 4*LAN	2*Intel I211AT PCIe ,10/100/1000Mbps, 1*Intel I219 LM support Intel Vpro,	1*Intel I211AT PCIe ,10/100/1000Mbps, 1*Intel I219 LM,support Intel Vpro,	1*Intel I211AT PCIe ,10/100/1000Mbps, 1*Intel I219 LM support Intel Vpro(Intel Q170),	1*Intel I211AT PCIe ,10/100/1000Mbps, 1*Intel I219 LM support Intel Vpro(Intel Q170),
USB	4* USB3.0, 2*USB2.0 , 1*USB2.0 (Build-in)	4* USB3.1, 2*USB2.0	6* USB3.0, 2*USB2.0 , 1*USB2.0 (Build-in)	6* USB3.0, 2*USB2.0 , 1*USB2.0 (Build-in)	4* USB3.0, 2*USB2.0 , 1*USB2.0 (Build-in)	4* USB3.0, 2*USB2.0 , 1*USB2.0 (Build-in)	4* USB3.0, 2*USB2.0 , 1*USB2.0 (Build-in)	4* USB3.0, 1*USB2.0 (Build-in)
Display	1*DP+1*HDMI+1*VGA	1*DP+1*HDMI	1*DP+1*HDMI+1*VGA	1*DP+1*HDMI+1*VGA	1*DP+1*HDMI+1*VGA	1*DP+1*HDMI+1*VGA	1*DP+1*HDMI+1*VGA	1*DP+1*HDMI+1*VGA
Audio	1*Line out+1*Mic, optional audio	1*Line out+1*Mic, optional audio	1*Line out+1*Mic,optional audio	1*Line out+1*Mic,optional audio	1*Line out+1*Mic,optional audio	1*Line out+1*Mic,optional audio	1*Line out+1*Mic, optional audio	1*Line out+1*Mic, optional audio
Serial port/ Others	2*RS232/422/485, 2*RS232, 1*PS/2(mouse/keyboard)	2*RS485, 3*RS232,	2*RS232/422/485, 2*RS232,	2*RS232/422/485	2*RS232/422/485, 2*RS232, 1*PS/2(mouse/keyboard)	2*RS232/422/485, 2*RS232, 1*PS/2(mouse/keyboard)	2*RS232/422/485, 2*RS232, 1*PS/2(mouse/keyboard)	2*RS232/422/485, 2*RS232, 1*PS/2(mouse/keyboard)
DIO	8-bit TTL signal, Programmed input-output	8-bit iso DIO(4-bit 2.5KV optical Iso. DO,4-bit 2.5KV optical Iso. DI)	16/24-bit optical Iso. DIO optional 16-bit TTL Programmable input and output	16/24-bit optical Iso. DIO optional 16-bit TTL Programmable input and output	8-bit TTL signal, Programmable DIO optional 16-bit TTL Programmable input and output	8-bit TTL signal, Programmable DIO 16-bit TTL signal, Programmable DIO	8-bit TTL signal, Programmable DIO	16-bit Programmable DIO (2*10Pin) 16-bit Programmable DIO(DB25),TTL signal
Storage								
Storage	1*2.5" SATA3 Bay, 6.0 Gbps, SSD/HDD, 1*mSATA Full-height card, support AHCI	1*2.5" SATA port, 1*mSATA Full-height card, support AHCI	2*2.5" SATA,HDD/SSD, 1*mSATA Full-height card, 1*M.2 B-key with SIM slot	1*2.5" SATA3,HDD/SSD, 1*mSATA Full-height card, 1*M.2 B-key with SIM slot	1*2.5" SATA3,HDD/SSD, 1*mSATA Full-height card, support AHCI	2*2.5" SATA3,HDD, 1*mSATA Full-height card,1*M.2 2242 B-key	2*2.5" SATA3 HDD,support RAID0,1(Intel Q170), 1*mSATA,1*M.2 2242 B-key	2*2.5" SATA3 HDD,support RAID0,1(Intel Q170), 1*mSATA,1*M.2 2242 B-key
Expansion								
Expansion Port	1*Mini PCIe, with SIM slot, support 4G/Wifi/BT,	1*Mini PCIe, with SIM slot, support 3G/4G/Wifi/ BT/ GPRS,1*M.2 E-key 2230 Wifi/BT module expansion, 1*I-Port(LPT/USB2.0/Mini PCIe)	1*Mini PCIe, with SIM slot, 1*half length Mini PCIe,support dual 4G LTE/Wifi/BT, 1*I-Port(LPT/USB2.0/Mini PCIe)	1*Mini PCIe, with SIM slot,, 1*half length Mini PCIe,support dual 4G LTE/Wifi/BT & GPS/BDS 1*-port(LPT/USB2.0/Mini PCIe)	1*Mini PCIe, with SIM slot, support 4G/Wifi/BT,1* PCIe X4(X4 signal), 1*PCIe X4(X1signal),or 2*PCI 1*I-port(LPT/USB2.0/Mini PCIe...etc)	1*Mini PCIe, with SIM slot, support 4G/Wifi/BT	1*Mini PCIe, with SIM slot, support 4G LTE/Wifi/BT, 1*PCIe X16, 1*PCIe X4, or 2*PCI, 1*I-port(LPT/USB2.0/Mini PCIe)	1*Mini PCIe, with SIM slot, support 4G LTE/Wifi/BT, 1*PCIe X16,or 1*PCI
Power Supply								
Input voltage	DC IN 12~24V, 3pin terminal(front panel),	DC IN 9~36V, 3pin terminal,	DC 6~48V input,	DC 6~48V input,	DC 12~24V input,	DC 12~24V input,	DC 12~24V input,	DC 12~24V input,
Power consumption	58.56W(I5-7200U 16GB DDR4)	30W (I5-8265U , 8GB DDR4, 128GB SSD)	38W(I5-7500T , 4GB RAM, 128G SSD)	115.92W (I5-7500T +GTX 1060M GPU)	58.56W (I5-7200U 16GB DDR4)	68.4W (I7-6700T CPU 16GB DDR4)	68.78W (I7-6700T , 4GB DDR4, 1TB HDD,install card)	68.78W (I7-6700T , 4GB DDR4, 1TB HDD,install card)
Mechanical								
Structure	Aluminum Chassis, SGCC frame	Aluminum Chassis, SGCC frame	Aluminum Chassis, SGCC cover	Aluminum Chassis, SGCC frame and cover	Aluminum rectangular cooling plates, SGCC paint main cabinet	Aluminum rectangular cooling plates, SGCC paint main cabinet	Aluminum rectangular cooling plates, SGCC paint main cabinet	Aluminum rectangular cooling plates, SGCC paint main cabinet
Color	Silver gray	Silver gray	Silver gray	Silver gray	Silver gray	Silver gray	Silver gray	Silver gray
Installation	desktop mounting	desktop mounting	desktop mounting	desktop mounting,Anti-vibration plane	desktop mounting	desktop mounting	desktop mounting,wall-mount	desktop mounting,wall-mount
Dimension (W*H*D)	200*200*85.3mm	210*147*78mm	284*222*84.7mm	284*222*81mm	200*200*128.3mm	221*251*88mm	220*250*131mm	220*250*131.5mm
Net Weight	3.3KG	2.29KG	4.65KG	5.60KG(with Shock-absorbing chassis,no GPU)	3.65KG	4.84KG	5.27KG	5.27KG
Environmental								
Operating Temp	-20°C~70°C,fanless, wide temperature SSD -10°C~50°C,fanless, normal temperature HDD	-20°C~70°C,fanless, wide temperature SSD -10°C~50°C,fanless, normal temperature HDD	-20°C~65°C,fanless, wide temperature SSD -10°C~55°C,fanless, normal temperature HDD	-20°C~65°C,fanless, wide temperature SSD -10°C~50°C,fanless, normal temperature HDD	-20°C~70°C,fanless, wide temperature SSD -10°C~50°C,fanless, normal temperature HDD	-20°C~65°C,fanless, wide temperature SSD -10°C~55°C,fanless, normal temperature HDD	-20°C~65°C,fanless, wide temperature SSD -10°C~55°C,fanless, normal temperature HDD	-20°C~65°C,fanless, wide temperature SSD -10°C~55°C,fanless, normal temperature HDD
Storage Temp	-40°C~85°C	-40°C~85°C	-40°C~85°C	-40°C~85°C	-40°C~85°C	-40°C~85°C	-40°C~85°C	-40°C~85°C
Storage Humidity	10~90%@40°C, No- condensation	10~90%@40°C, No- condensation	10~90%@40°C, No- condensation	10~90%@40°C, No- condensation	10~90%@40°C, No- condensation	10~90%@40°C, No- condensation	10~90%@40°C, No- condensation	10~90%@40°C, No- condensation
Vibration	5 grms/5~500Hz/random/operation (SSD) 1 grms/5~500Hz/random/operation (HDD)	5 grms/5~500Hz/random/operation (SSD) 1 grms/5~500Hz/random/operation (HDD)	5 grms/5~500Hz/random/operation (SSD) 1 grms/5~500Hz/random/operation (HDD)	5.5 grms/5~500Hz/random/operation (SSD) 1.5 grms/5~500Hz/random/operation (HDD)	5 grms/5~500Hz/random/operation (SSD) 1 grms/5~500Hz/random/operation (HDD)	5 grms/5~500Hz/random/operation (SSD) 1 grms/5~500Hz/random/operation (HDD)	5 grms/5~500Hz/random/operation (SSD) 1 grms/5~500Hz/random/operation (HDD)	5 grms/5~500Hz/random/operation (SSD) 1 grms/5~500Hz/random/operation (HDD)
Shock	50g peak acceleration(duration 11ms,SSD) 20g peak acceleration(duration 11ms,HDD)	50g peak acceleration(duration 11ms,SSD) 20g peak acceleration(duration 11ms,HDD)	50g peak acceleration(duration 11ms,SSD) 20g peak acceleration(duration 11ms,HDD)	50g peak acceleration(duration 11ms,SSD) 20g peak acceleration(duration 11ms,HDD)	50g peak acceleration(duration 11ms,SSD) 20g peak acceleration(duration 11ms,HDD)	50g peak acceleration(duration 11ms,SSD) 20g peak acceleration(duration 11ms,HDD)	50g peak acceleration(duration 11ms,SSD) 20g peak acceleration(duration 11ms,HDD)	50g peak acceleration(duration 11ms,SSD) 20g peak acceleration(duration 11ms,HDD)
Certificate /EMC	CE/FCC Class A	CE/FCC Class B	CE/FCC Class B	CE/FCC Class B,E-Mark	CE/FCC Class A	CE/FCC Class B	CE/FCC Class B	CE/FCC Class B
OS								
OS	Windows 7, Windows 10, Linux Fedora,Ubuntu	Windows 10, SUSE, Ubuntu, Wind River, Red Hat Enterprise	Windows 7, Windows 10, Linux Fedora,Ubuntu	Windows 7, Windows 10, Linux Fedora,Ubuntu	Windows 7, Windows 10, Linux Fedora,Ubuntu	Windows 7, Windows 10, Linux Fedora,Ubuntu	Windows 7, Windows 10, Linux Fedora,Ubuntu	Windows 7, Windows 10, Linux Fedora,Ubuntu
Watchdog timer	Watchdog timeout programmable via software 1 to 255 second	Watchdog timeout programmable via software 1 to 255 second	Watchdog timeout programmable via software 1 to 255 second	Watchdog timeout programmable via software 1 to 255 second	Watchdog timeout programmable via software 1 to 255 second	Watchdog timeout programmable via software 1 to 255 second	Watchdog timeout programmable via software 1 to 255 second	Watchdog timeout programmable via software 1 to 255 second

Product Listing



	KMDA-3921	KMDA-5610/S001	KMDA-5920/S001	KMDA-5920/S002	KMDA-5921/S001	KMDA-5921/S002	SCC-3116	PADA-M101	
Processor									
CPU	Intel Skylake-S/Kabylake-S Celeron/Pentium/Core i3/i5/i7 H110 Chipset, optional Q170 Chipset	Intel® Coffee lake 9th/8th-Gen Core™ i7/i5/i3/Pentium/Celeron LGA1151 processor H310 chipset	Intel® Coffee lake 9th/8th-Gen Core™ i7/i5/i3/Pentium/Celeron LGA1151 processor H310 chipset	Intel® Coffee lake 9th/8th-Gen Core™ i7/i5/i3/Pentium/Celeron LGA1151 processor Q370 chipset	Intel® Coffee lake 9th/8th-Gen Core™ i7/i5/i3/Pentium/Celeron LGA1151 processor H310 chipset	Intel® Coffee lake 9th/8th-Gen Core™ i7/i5/i3/Pentium/Celeron LGA1151 processor Q370 chipset	Intel® Baytrail-D Celeron J1900 , frequency 2.0~2.42GHz, quad-core with 4 threads, 2M cache, 22nm, TDP 10W	8th-Gen Intel® Core™ i3/i5/i7/Celeron U	
RAM	2*260-Pin ,DDR4,2133/2400MHz, Max. 32GB	2*260-Pin ,DDR4,2400/2666MHz, Max. 64GB	2*260-Pin ,DDR4,2400/2666MHz, Max. 64GB	4*260-Pin ,DDR4,2400/2666MHz, Max. 128GB	2*260-Pin ,DDR4,2400/2666MHz, Max. 64GB	4*260-Pin ,DDR4,2400/2666MHz, Max. 128GB	1*DDR3L, 1333MHz SODIMM, Max. 8GB	2*DDR4, 2400MHz, Max. 32GB	
Graphics	Intel Gen. 9 HD Graphics,HEVC/H265 HW HD codec, HDMI:3840*2160@30Hz, DP:4096*2304@60Hz,VGA:1920*1200@60Hz, support 3 independent display (Intel Q170)	Intel UHD Graphics, Supports DirectX11.1, OpenGL 5.0 and OpenCL 2.1 or PCIe X16, DP:4096*2304@60Hz,VGA:1900*1200@60Hz, HDMI:3840*2160@30Hz(2 independent displays, 1 Copy Display)	Intel UHD Graphics, Supports DirectX11.1, OpenGL 5.0 and OpenCL 2.1 or PCIe X16, DP:4096*2304@60Hz, VGA:1900*1200@60Hz, HDMI:4096*2160@30Hz(2 independent displays, 1 Copy Display)	Intel UHD Graphics, Supports DirectX11.1, OpenGL 5.0 and OpenCL 2.1 or PCIe X16, DP:4096*2304@60Hz, VGA:1900*1200@60Hz, support 3 independent display	Intel UHD Graphics, Supports DirectX11.1, OpenGL 5.0 and OpenCL 2.1 or PCIe X16, DP:4096*2304@60Hz,VGA:1900*1200@60Hz, HDMI:4096*2160@30Hz(2 independent displays, 1 Copy Display)	Intel UHD Graphics, Supports DirectX11.1, OpenGL 5.0 and OpenCL 2.1 or PCIe X16, DP:4096*2304@60Hz,VGA:1900*1200@60Hz, HDMI:4096*2160@30Hz(2 independent displays, 1 Copy Display)	Intel UHD Graphics, Supports DirectX11.1, OpenGL 5.0 and OpenCL 2.1 or PCIe X16, DP:4096*2304@60Hz, VGA:1900*1200@60Hz, support 3 independent display	Intel HD Graphics, VGA : 1920*1200@60Hz, HDMI:1920*1080@60Hz,Support dual independent display, support OpenGL 3.2, DirectX 11, OpenCL 1.2, MPGE2/H.264	Intel® Gen. 9 UHD Graphics,Support dual independent display HDMI :4096*2304@24Hz, DP:4096*2304@60Hz
I/O Port									
LAN	1*Intel I211AT PCIe ,10/100/1000Mbps, 1*Intel I219 LM. support Intel Vpro(Intel Q170),1*Intel I219 LM,	1*Intel I210AT PCIe ,10/100/1000Mbps, 1*Intel I219 LM,	1*Intel I210AT PCIe ,10/100/1000Mbps, 1*Intel I219 LM,	2*Intel I210AT PCIe ,10/100/1000Mbps, 1*Intel I219 LM, support Intel Vpro	1*Intel I210AT PCIe ,10/100/1000Mbps, 1*Intel I219 LM	2*Intel I210AT PCIe ,10/100/1000Mbps, 1*Intel I219 LM support Intel Vpro	3*Intel I211AT PCIe, 10/100/1000Mbps,	2*Intel I210AT PCIe,	
USB	4* USB3.0, 2*USB 2.0, 1*USB2.0 (Build-in)	4* USB3.1, 2*USB2.0, 1*USB2.0(Build-in)	4* USB3.1, 2*USB2.0, 1*USB2.0(Build-in)	6* USB3.1, 2* USB2.0, 2*USB2.0(Build-in)	4* USB3.1, 2*USB2.0, 1*USB2.0(Build-in)	6* USB3.1, 2*USB2.0, 2*USB2.0(Build-in)	1* USB3.0, 6*USB2.0 , 1*USB2.0 (Build-in)	4*USB3.0	
Display	1*DP+1*HDMI+1*VGA	1*DP+1*HDMI+1*VGA	1*DP+1*HDMI+1*VGA	2*DP+1*VGA	1*DP+1*HDMI+1*VGA	2*DP+1*VGA	1*HDMI+1*VGA	1*DP+1*HDMI	
Audio	1*Line out+1*Mic, optional audio	1*Line out+1*Mic, optional audio	1*Line out+1*Mic, optional audio	1*Line out+1*Mic, optional audio	1*Line out+1*Mic, optional audio	1*Line out+1*Mic, optional audio	1*Line out+1*Mic, optional audio	1*Line out+1*Mic, optional audio	
Serial port/ Others	2*RS232/422/485 , 2*RS232, 1*PS/2(mouse/keyboard)	2*RS232/422/485, 2*RS232,	2*RS232/422/485, 2*RS232,	2*RS232/422/485, 2*RS232,	2*RS232/422/485, 2*RS232,	2*RS232/422/485, 2*RS232,	4*RS232/422/485, 1*RS232, 1*PS/2 (mouse/keyboard)	2*RS232/422/485, 1*RS232,	
DIO	8-bit DIO(2*5Pin) 16-bit DIO(build-in),TTL signal, programmable input & output	16-bit iso DIO: 8-bit Iso. DI(High:5-24V,Low:0-1.5V) and 8-bit Iso. DO(200mA)	16-bit iso DIO: 8-bit Iso. DI(High:5-24V,Low:0-1.5V) and 8-bit Iso. DO(200mA)	16-bit iso DIO: 8-bit Iso. DI(High:5-24V,Low:0-1.5V) and 8-bit Iso. DO(200mA)	16-bit iso DIO: 8-bit Iso. DI(High:5-24V,Low:0-1.5V) and 8-bit Iso. DO(200mA)	16-bit iso DIO: 8-bit Iso. DI(High:5-24V,Low:0-1.5V) and 8-bit Iso. DO(200mA)	8-bit Programmable DIO(DB9),TTL signal	8-bit Programmable DIO(DB9),TTL signal	
Storage									
Storage	2*2.5" SATA3,HDD,support RAID0,1(Intel Q170), 1*mSATA,1*M.2 2242 B-key	2*2.5" SATA3,HDD, 1*mSATA,with SIMslot,support 4G	2*2.5" SATA3,HDD, 1*mSATA,with SIM slot ,support 4G	2*2.5" SATA3,support RAID0,1, 1*M.2 M-Key,PCIex4 Gen3.0, support NVME storage	2*2.5" SATA3,HDD, 1*full length Msata with SIM slot,support 4G	2*2.5" SATA3, support RAID0,1, 1*M.2 M-Key,PCIex4 Gen3.0, support NVME storage	1*2.5" SATA2,HDD/SSD, 1*mSATA full-height card,support AHCI mode	1*2.5" SATA,support max.15mm disk	
Expansion									
Expansion Port	1*Mini PCIe, with SIM slot, support 4G/Wifi/BT, 1*PCIeX16,1*PCIe X4(X1 signal)+2*PCI, or 2*PCIeX16(X8 signal)+1*PCIeX8(X4 signal) 1*I-port(LPT/USB2.0/16-bit DIO/Mini PCIe)	1*M.2 E-Key 2230, Support Gigabit WFI module, 1*I-port(LPT/USB2.0/16-bit DIO/Mini PCIe)	1*M.2 E-Key 2230, Support Gigabit WFI module, 1*PCIe X16, 1*PCIe X4, 1*I-port(LPT/USB2.0/16-bit DIO/Mini PCIe)	1*M.2 B-Key,with SIM slot. support5G, 1*M.2 E-Key, 1*PCIe X16,1*PCIe X4, 1*Mini PCIe,with SIM slot. support4G/WIFI/BT 1*I-port(LPT/USB2.0/16-bit DIO/Mini PCIe)	1*M.2 E-Key 2230, Support Gigabit WFI module/BTS.0 1*PCIe X16, 1*PCIe X4 , 2*32-bit PCI 1*I-port(LPT/USB2.0/16-bitDIO/Mini PCIe)	1*M.2 B-Key,with SIM slot. support 5G, 1*M.2 E-Key, 1*Mini PCIe,with SIM slot. support4G/WIFI/BT, 1*I-port(LPT/USB2.0/16-bit DIO/Mini PCIe), 2*PCIe X8,2*PCIe X4 or 1*PCIe X16,1*PCIe X4,2*PCI	1*Mini PCIe, with SIM slot, support 4G/Wifi/BT,	1*Mini PCIe, with SIM slot, support 4G/Wifi/BT, 1*M.2 E-Key,Wifi/BT module expansion	
Power Supply									
Input voltage	DC 12~24V input,	DC IN 9-36V 3-pin Term. 7.62mm, with protection of short circuit, over voltage, over current	DC IN 9-36V 3-pin Term. 7.62mm, with protection of short circuit, over voltage, over current	DC IN 9-36V 3-pin Term. 7.62mm, with protection of short circuit, over voltage, over current	DC IN 9-36V 3-pin Term. 7.62mm, with protection of short circuit, over voltage, over current	DC IN 9-36V 3-pin Term. 7.62mm, with protection of short circuit, over voltage, over current	DC IN 9-36V D-Jack/M8,with protection of short circuit, over voltage, over current	DC 12V, 3-pin terminal, optional 9~36V wide voltage power supply, 27.9W(I7-8565U,16GB DDR,1*4T SSD)	
Power consumption	68.78W (I7-6700T , 4GB DDR4, 1TB HDD)	96W(I7-8700 ,32G DDR4,128G SSD)	60.5W(I7-8700T,16G DDR4,128G SSD)	60.5W(I7-8700T,16G DDR4,128G SSD)	48.5W(I7-9700,16G DDR4,128G SSD)	48.5W(I7-9700,16G DDR4,128G SSD)	14.4W(2.5" HDD)		
Mechanical									
Structure	Aluminum Chassis, SGCC frame	Aluminum Chassis, SGCC frame	Aluminum Chassis, SGCC frame	Aluminum Chassis, SGCC frame	Aluminum Chassis, SGCC frame	Aluminum Chassis, SGCC frame	Aluminum Chassis, SGCC frame	SGCC	
Color	Silver gray	Silver white + Aquamarine	Silver white + Aquamarine	Silver white + Aquamarine	Silver white + Aquamarine	Silver white + Aquamarine	Silver gray	dark grey + pastel blue	
Installation	desktop mounting,wall-mount	desktop mounting	desktop mounting	desktop mounting	desktop mounting	desktop mounting	desktop mounting	desktop mounting	
Dimension (W*H*D)	220*250**172mm	230*267.3*92mm	230*273*143mm	230*273*143mm	230*273*204mm	230*273*204mm	268*160*57.6mm	200*140*67.5mm	
Net Weight	5.58KG	5.1KG	5.9KG	5.9KG	7.25KG	7.25KG	2.15KG	1.51KG	
Environmental									
Operating Temp	-20°C~65°C,fanless, wide temperature SSD -10°C~55°C,fanless, normal temperature HDD	-20°C~60°C,fanless, wide temperature SSD -10°C~55°C,fanless, normal temperature HDD	-20°C~60°C,fanless, wide temperature SSD -10°C~55°C,fanless, normal temperature HDD	-20°C~60°C,fanless, wide temperature SSD -10°C~55°C,fanless, normal temperature HDD	-20°C~60°C,fanless, wide temperature SSD -10°C~55°C,fanless, normal temperature HDD	-20°C~60°C,fanless, wide temperature SSD -10°C~55°C,fanless, normal temperature HDD	-20°C~65°C,fanless, wide temperature SSD -10°C~55°C,fanless, normal temperature HDD	-20°C~70°C, fanless, wide-temperature SSD	
Storage Temp	-40°C~85°C	-40°C~85°C	-40°C~85°C	-40°C~85°C	-40°C~85°C	-40°C~85°C	-40°C~85°C	-40°C~85°C	
Storage Humidity	10~90%@40°C, No- condensation	10~90%@40°C, No- condensation	10~90%@40°C, No- condensation	10~90%@40°C, No- condensation	10~90%@40°C, No- condensation	10~90%@40°C, No- condensation	10~90%@40°C, No- condensation	10~90%@40°C, No- condensation	
Vibration	5 grms/5~500Hz/random/operation (SSD) 1 grms/5~500Hz/random/operation (HDD)	5 grms/5~500Hz/random/operation (SSD) 1 grms/5~500Hz/random/operation (HDD)	5 grms/5~500Hz/random/operation (SSD) 1 grms/5~500Hz/random/operation (HDD)	5 grms/5~500Hz/random/operation (SSD) 1 grms/5~500Hz/random/operation (HDD)	5 grms/5~500Hz/random/operation (SSD) 1 grms/5~500Hz/random/operation (HDD)	5 grms/5~500Hz/random/operation (SSD) 1 grms/5~500Hz/random/operation (HDD)	5 grms/5~500Hz/random/operation (SSD) 1 grms/5~500Hz/random/operation (HDD)	5 grms/5~500Hz/random/operation (SSD) 1 grms/5~500Hz/random/operation (HDD)	
Shock	50g peak acceleration(duration 11ms,SSD) 20g peak acceleration(duration 11ms,HDD)	50g peak acceleration(duration 11ms,SSD) 20g peak acceleration(duration 11ms,HDD)	50g peak acceleration(duration 11ms,SSD) 20g peak acceleration(duration 11ms,HDD)	50g peak acceleration(duration 11ms,SSD) 20g peak acceleration(duration 11ms,HDD)	50g peak acceleration(duration 11ms,SSD) 20g peak acceleration(duration 11ms,HDD)	50g peak acceleration(duration 11ms,SSD) 20g peak acceleration(duration 11ms,HDD)	50g peak acceleration(duration 11ms,SSD) 20g peak acceleration(duration 11ms,HDD)	50g peak acceleration(duration 11ms,SSD) 20g peak acceleration(duration 11ms,HDD)	
Certificate /EMC	CE/FCC Class B	CE/FCC Class B	CE/FCC Class B	CE/FCC Class B	CE/FCC Class B	CE/FCC Class B	CE/FCC Class A	CE/FCC Class B	
OS	Windows 7, Windows 10, Linux Fedora,Ubuntu	Windows 10 Enterprise & IOT Enterprise(64-bit) Ubuntu, SuSe, Redhat Enterprise 1,2 (Kernel 4.14) Wind River VxWorks 7	Windows 10 Enterprise & IOT Enterprise (64-bit) Ubuntu, SuSe, Redhat Enterprise 1,2 (Kernel 4.14) Wind River VxWorks 7	Windows 10 Enterprise & IOT Enterprise (64-bit) Ubuntu, SuSe, Redhat Enterprise 1,2 (Kernel 4.14) Wind River VxWorks 7	Windows 10 Enterprise & IOT Enterprise (64-bit) Ubuntu, SuSe, Redhat Enterprise 1,2 (Kernel 4.14) Wind River VxWorks 7	Windows 10 Enterprise & IOT Enterprise (64-bit) Ubuntu, SuSe, Redhat Enterprise 1,2 (Kernel 4.14) Wind River VxWorks 7	Windows 7, Windows 8.1, Windows 10, Linux Fedora Ubuntu	Windows 10, SUSE, Ubuntu, Wind River, Red Hat Enterprise	
Watchdog timer	Watchdog timeout programmable via software 1 to 255 second	Watchdog timeout programmable via software 1 to 255 second	Watchdog timeout programmable via software 1 to 255 second	Watchdog timeout programmable via software 1 to 255 second	Watchdog timeout programmable via software 1 to 255 second	Watchdog timeout programmable via software 1 to 255 second	Watchdog timeout programmable via software 1 to 255 second	Watchdog timeout programmable via software 1 to 255 second	



KMDA-2630

KMDA-3301

Processor

CPU Intel® Elkhart lake SoC CPU: Celeron J6412/Celeron N6210

Intel® Tigerlake U Celeron/Core I3/I5/I7 CPU

RAM 1*DDR4 SO-DIMM , 3200MHz, up to 16GB

2*DDR4 SO-DIMM, 3200MHz, up tp 64GB

Graphics Intel Gen10 UHD Graphics, HDMI2.0: 4096*2304@60Hz VGA: 1920*1200@60Hz

Intel UHD Graphics or iRIS® Xe Graphics , Supports Intel DL technology, DirectX12.1, OpenGL 4.6 and OpenCL 2.0 HDMI 2.0 : 4096x2304@60Hz, DP 1.4 : 7680x4320@60Hz

I/O Port

LAN 2*Intel I225V, 10/100/1000/2500Mbps, support WOL

3*Intel I225V, 10M / 100M / 1000M / 2500Mbps, support iAMT 13.0

USB 2*USB3.2 Gen2, 2*USB2.0, 1*USB2.0(internal)

2* USB3.2 Gen2, 2*USB2.0, 2*USB2.0(internal)

Display 1*HDMI+1*VGA

1*DP+1*HDMI

Audio 1*Line out,optional audio

1*Line out+1*Mic,optional audio

Serial port/ Others 2*RS232/422/485, 2*RS232

2*RS232/422/485; 1*MIO

DIO 8-bit DIO(DB9)

8-bit DIO(2*5pin)

Storage

Storage 1*2.5"SATA3.0, 6Gbps; 1*full size mSATA, support AHCI

1*2.5"SATA3, 6Gbps; 1*mSATA, support AHCI; 1*M.2 22080 M-Key NVME(PCIe4.0 X2)

Expansion

Expansion Port 1*M.2 B-key 3052, with PCIe X1+USB2.0+SIM slot, support 5G RN/4G LTE module; 1*JHCTECH Express-01 80pin; 2*PCIeX1, 4*USB2.0, Front-Audio; 1*PS/2, Front-Panel, 1*Sm bus & 1*eSPI

1*Mini PCIe(PCIe X1+USB2.0), support Wifi/BT; 1*M.2 3052 B-Key(PCIe X1+USB2.0), with SIM slot, support 4G LTE/5G NR; 1*M.2 22080 M-Key , (PCIe4.0 X2), support high speed signal function card

Power Supply

Input voltage DC 12V, 1*3-pin; optional OFX-075 power board, DC 9-36V wide power input, with short circuit, over voltage & over current protection

DC 9-36V, 1*3-pin,with short circuit, over voltage & over current protection

Mechanical

Structure Aluminum chassis, SGCC

Aluminum chassis, SGCC

Color Blue+white

Blue+white

Mounting desktop mounting

desktop mounting/optional Din-Rail mounting

Dimension (W*H*D) 155*111.8*65mm

250*154*61.9mm

Net weight 1.30KG

2.55KG

Environmental

Operating Temp -20°C~60°C, wide temp SSD, airflow

-20°C~65°C, wide temp SSD, airflow

Storage Temp -40°C~85°C

-40°C~85°C

Storage Humidity 10~90%@40°C, non-condensing

10~90%@40°C, non-condensing

Vibration 5 grms/5~500Hz/random/operation (SSD)

5 grms/5~500Hz/random/operation (SSD)

1 grms/5~500Hz/random/operation (HDD)

1 grms/5~500Hz/random/operation (HDD)

Shock 50g peak acceleration(duration 11ms,SSD)

50g peak acceleration(duration 11ms,SSD)

20g peak acceleration(duration 11ms,HDD)

20g peak acceleration(duration 11ms,HDD)

Certificates/ EMC CE/FCC Class B

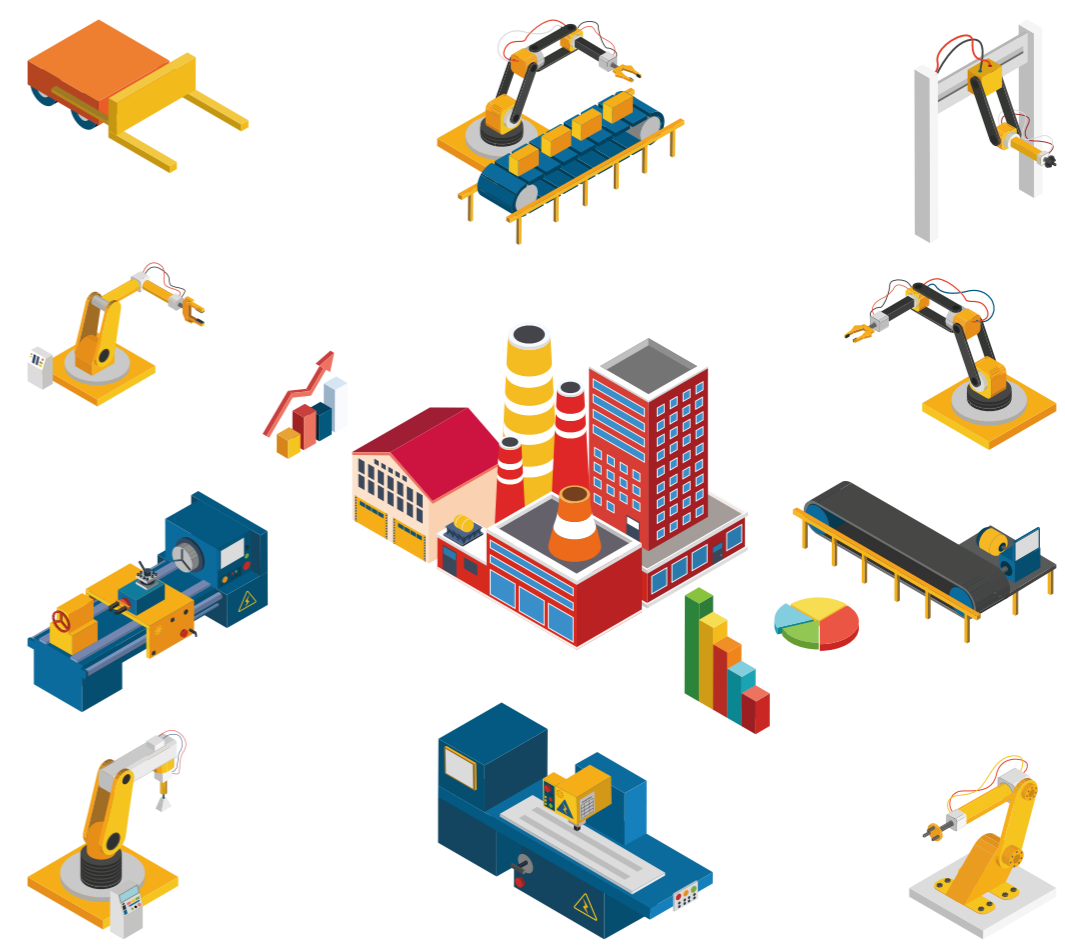
CE/FCC Class B

OS Windows 10, Windows 11, Linux

Windows 10 64 bit, SUSE, Ubuntu, Wind River, Linux

Watchdog Timer Watchdog timeout programmable via software 1 to 255 second

Watchdog timeout programmable via software 1 to 255 second



KMDA-2602

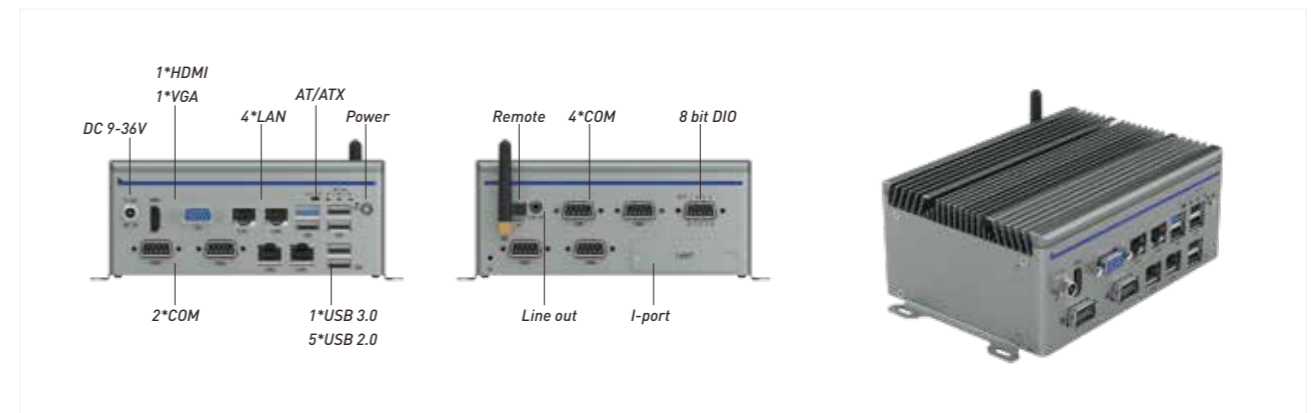
Intel Celeron J1900 CPU, 4*LAN, 7*USB, 6*COM, Dual display,DC-IN 9~36V,LED Temperature control display

Key Specification

- Compact Aluminum Chassis, fanless heat dissipation design
- Intel Baytrail Celeron J1900 2.0-2.42G CPU
- 1*DDR3L 1333MHz SODIMM RAM, Max. 8GB
- 4*Intel I211-AT PCIe Gig LAN
- 1*HDMI & 1*VGADual display, Audio Line out
- 1*USB3.0, 6*USB2.0,6*COM, 8-bit DIO
- 1*Mini PCIe(PCle+USB)
- 1*2.5" SATA2 bay,1*Mini PCIe(SATA+USB)
- DC 9~36V wide voltage power supply



I/O View



Product Overview

KMDA-2602 is a compact box PC, equipped with low-power processor, HDMI and VGA dual display,2*Mini PCIe internal expansion,1*2.5" SATA storage.DC 9~36V wide voltage power supply, Real-time operating temperature LED simulation display, It is economical and applicable with high reliability, which is suitable for equipment automation and IoT signal acquisition, etc.

Product Parameters

Processor

CPU Intel Baytrail-D Celeron J1900 , frequency 2.0~2.42GHz, 4C4T, 2M cache, 22nm, TDP 10W

RAM 1*DDR3L,1333MHz,SODIMM, Max. 8GB

Graphics Intel HD Graphics, Support dual independent display
VGA:1920*1200@60Hz,
HDMI:1920*1080@60Hz, support OpenGL 3.2, DirectX 11, OpenCL 1.2, MPGE2/H.264

I/O Port

LAN 4*Intel I211AT PCIe Gigabit Ethernet, 10/100/1000Mbps

USB 1* USB3.0, 5*USB2.0 , 1*USB2.0 (Build-in)

Display 1*HDMI+ 1*VGA

Audio 1*Line out,optional audio

Serial port/ Others 2*RS232/422/485, 2*RS232(rear panel), 2*RS232/485(front panel),1*2pin terminal, remote switch signal, USB(mouse/keyboard)

DIO 8-bit TTL, programmable input & output

Storage

Storage 1*2.5" HDD SATA2 bay, 3.0 Gbps,
1*mSATA Full-height card, support AHCI

Others

Indicator light 1*power indicator, 1*hard disk indicator, 3*CPU temperature indicator (Red is high temperature, Yellow is normal temperature, Green is low temperature)

Control switch 1*power switch (front panel), 1*2pin terminal switch signal (rear panel), 1*AT/ATX selector switch (front panel)

Watchdog Programmable timeout interrupt or system reset, 1 to 255 seconds timer

Expansion

Expansion Port 1*Mini PCIe, with SIM slot, support 4G LTE. Wifi/BT,
1*Mini PCIe with USB+SATA3 signal,
I-Port 1*USB2.0 or Mini PCIe interface(i.e. CAN Bus & Gig. LAN)

Power Supply

Input voltage DC IN 9~36V, D-Jack with M8 interface,
with protection of short circuit, over voltage, over current
Power consumption 14.4W(2.5" HDD)

Mechanical

Sturcture Top/Bottom Aluminum Chassis, SGCC frame

Color Silver gray

Installation desktop mouning & VESA 100*100mm

Dimension (W*H*D) 155*111.8*65mm

Net Weight 1.30KG

Environmental

Operating Temp -20°C~65°C – fanless design, wide-temperature SSD
-10°C~55°C – fanless design, normal temperature HDD

Storage Temp -40°C~85°C

Storage Humidity 10~90%@40°C, No- condensation

Vibration 5 grms/5~500Hz/random/during operation (SSD)
1 grms/5~500Hz/random/during operation (HDD)

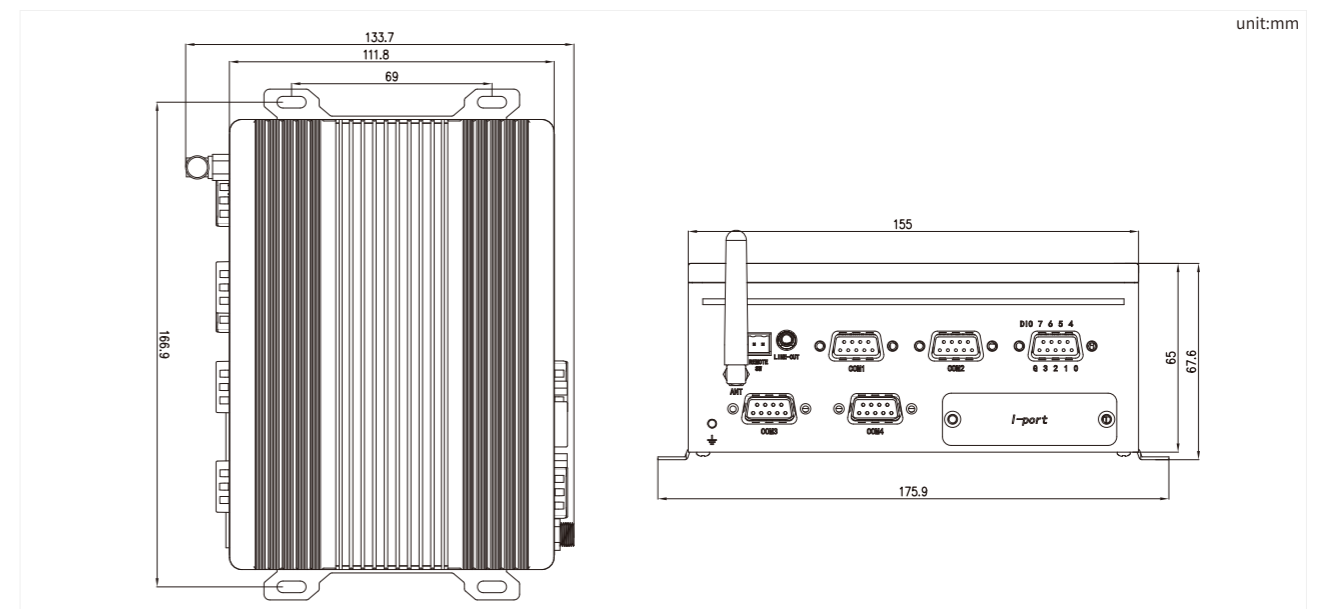
Shock 50g peak acceleration(duration 11ms) with SSD,
20g peak acceleration(duration 11ms) with HDD

Certificate/EMC CE/FCC Class A

OS

Operating System Windows 7, Windows 8.1, Windows 10,
Linux Fedora,Ubuntu

Dimensions



Ordering Information

Model	Processor	Specifications
KMDA-2602/S002	Intel® J1900 CPU	4*LAN, 1*USB3.0, 6*USB2.0,6*COM, 8-bit DIO, 1*HDMI, 1*VGA, 1*Line out, 2*Mini PCIe(One of them shares slots with mSATA), 1*I-port, 1*2.5" SATA bay, DC 9~36V
KMDA-2602/T001	Intel® J1900 CPU	2*LAN, 1*USB3.0, 4*USB2.0,4*COM, 8-bit DIO, 1*HDMI, 1*VGA, 1*Line out, 2*Mini PCIe(One of them shares slots with mSATA), 1*I-port, 1*2.5" SATA bay, DC 9~36V
PA-60DC12		AC/DC adaptor, DC12V/5A 60W

KMDA-2602/T002

Intel® Celeron J1900 CPU, 2*LAN, 4*USB, 8-bit DIO, 2*COM, Dual independent display,support Din Rail mounting

Key Specification

- Compact Aluminum Chassis, fanless heat dissipation design
- Intel® Baytrail Celeron J1900 2.0-2.42G CPU
- 1*DDR3L 1333MHz SODIMM RAM, Max. 8GB
- 2*Intel I211-AT PCIe Gig LAN
- 1*HDMI & 1*VGA Dual display, Audio Line out
- 1*USB3.0, 3*USB2.0,2*COM, 8-bit DIO
- 1*Mini PCIe(PCIE+USB)
- 1*2.5" SATA2 bay,1*Mini PCIe(SATA+USB)
- DC 9~36V wide voltage power supply
- Compact and thin structure design, support rail installation, flexible and convenient



Product Overview

KMDA-2602-T002 is a compact box PC with thin and light design, which can support Din Rail mounting, flexible and convenient. 2*Mini PCIe internal expansion, 2.5" SATA storage. DC9-36V wide voltage power supply, real-time working temperature LED simulation display, economical and high reliability, suitable for equipment automation and IoT data acquisition.

Product Parameters

Processor

CPU Intel Baytrail-D Celeron J1900 , frequency 2.0~2.42GHz, 4C4T, 2M cache, 22nm, TDP 10W

RAM 1*DDR3L,1333MHz,SODIMM, Max. 8GB

Graphics Intel HD Graphics, Support dual independent display
VGA: 1920*1200@60Hz,
HDMI: 1920*1080@60Hz, support OpenGL 3.2, DirectX 11, OpenCL 1.2, MPGE2/H.264

I/O Port

LAN 2*Intel I211AT PCIe Gigabit Ethernet, 10/100/1000Mbps

USB 1* USB3.0, 3*USB2.0

Display 1*HDMI+1*VGA

Audio 1*Line out,optional audio,1*3W Speaker pin

Serial port/ Others 2*RS232/422/485(rear panel), 1*2 pin terminal, Remote switch,USB mouse/keyboard

DIO 8-bit TTL, programmable input & output

Storage

Storage 1*2.5" HDD SATA2 bay, 3.0 Gbps, 1*msATA Full-height card, support AHCI

Others

Indicator 1*power indicator, 1*hard disk indicator, 3*CPU temperature indicator (Red is high temperature, Yellow is normal temperature, Green is low temperature)

Control switch 1*power switch (front panel), 1*2pin terminal switch signal (rear panel), 1*AT/ATX selector switch (front panel)

Watchdog timer Programmable timeout interrupt or system reset, 1 to 255 seconds

Expansion

Expansion Port 1*Mini PCIe, with SIM slot, support4G LTE. Wifi/BT, 1*Mini PCIe with USB+SATA3 signal

Power Supply

Input voltage DC IN 9~36V, D-Jack. D-Jack with M8 interface, short circuit protection, OVP&OCP

Power consumption 14.4W(2.5" HDD)

Mechanical

Sturcture Top/Bottom Aluminum Chassis, SGCC frame

Color Silver gray

Installation desktop mouning ,Din-rail mounting (optional)

Dimension (W*H*D) 155*111.6*49mm

Net Weight 1.05KG

Environmental

Operating Temp. -20°C~65°C - fanless design, wide-temperature SSD

-10°C~55°C - fanless design, normal temperature HDD

Storage Temp. -40°C~85°C

Storage Humidity 10~90%@40°C, No- condensation

Vibration 5 grms/5~500Hz/random/during operation (SSD)

1 grms/5~500Hz/random/during operation (HDD)

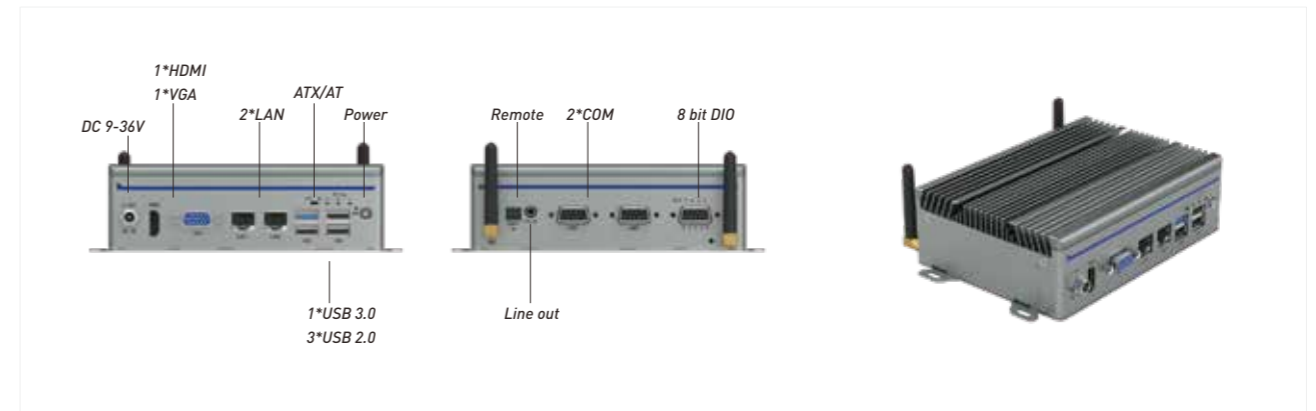
Shock 50g peak acceleration(duration 11ms) with SSD, 20g peak acceleration(duration 11ms) with HDD

Certificate/EMC CE/FCC Class A

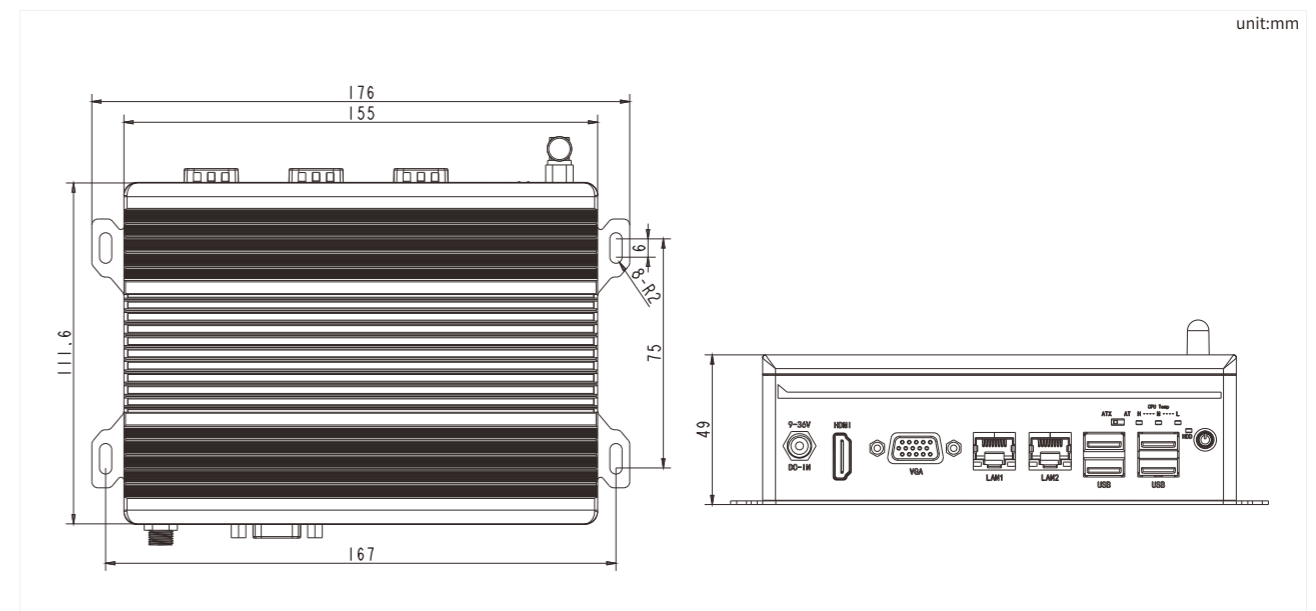
OS

Operating system Windows 7, Windows 8.1, Windows 10, Linux Fedora,Ubuntu

I/O View



Dimensions



Ordering Information

Model	Processor	Specifications
KMDA-2602/T002	Intel® J1900 CPU	2*LAN, 1*USB3.0, 3*USB2.0,2*COM, 8-bit DIO,1*HDMI,1*VGA, 1*Line out, 2*Mini PCIe, 1*2.5" SATA bay, DC 9~36V
PA-120DC19		AC/DC adaptor,DC 12V/5A 60W
Din-rail mounting module		KMDA-2602-T002 Din-rail mounting module

KMDA-2620

Intel® Apollolake E3940 CPU, 4*LAN, 7*USB, 8-bit DIO, 6*COM,4K Dual independent display,LED Temperature control display,DC-IN 9-36V

Key Specification

- Compact Aluminum Chassis, fanless heat dissipation design
- Intel® Apollolake Atom E3940 CPU
- 1*DDR3L 1866MHz SODIMM RAM, Max. 8GB
- 4*Intel I211-AT PCIe Gig LAN
- 1*HDMI & 1*VGA 4K Dual display, Audio Line out
- 2*USB3.0, 5*USB2.0,6*COM, 8位DIO
- 1*M.2 2242 B-key
- 1*2.5" SATA3 bay, 1*mSATA
- Aluminum cover for HDD heat dissipation, increasing hard disk operating temperature (3-5°C)
- DC 9~36V wide voltage power supply



Product Overview

KMDA-2620 is a compact box PC equipped with Intel® Apollolake Atom E3940 CPU, HDMI and DP dual 4K displays, 8-bit DIO, 1 M.2 2242 B-key, 1 mSATA and 1 2.5-inch SATA Disk storage. DC9-36V wide voltage power supply, real-time working temperature LED simulation display, economical and high reliability, suitable for equipment automation and IoT data acquisition...etc

Product Parameters

Processor

CPU	Intel® Apollolake Atom E3940 CPU
RAM	1*DDR3L, 1866MHz, SODIMM, Max. 8GB
Graphics	Gen. 9th Intel HD Graphics, DP: 4096*2160@60Hz, HDMI: 3840*2160@30Hz, support OpenGL 4.3, DirectX 11, OpenCL 2.0, MPGE2, H.265
LAN	4/2*Intel I211AT PCIe Gigabit Ethernet, 10/100/1000Mbps
USB	2* USB3.0, 4/2*USB2.0, 1*USB2.0 (Build-in)
Display	1*DP+1*HDMI
Audio	1*Line out, optional audio
Serial port/ Others	4/2*RS232/422/485, 2*RS232, 1*2 pin terminal, Remote switch, USB mouse/keyboard
DIO	8-bit TTL, programmable input & output

Storage

Storage	1*2.5"HDD SATA3 bay, 6.0 Gbps, 1*mSATA Full-height card, support AHCI
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Others

Indicator	1*power indicator, 1*HDD indicator, 3*CPU temperature indicator (Red is high temperature, Yellow is normal temperature, Green is low temperature)
Control switch	1*power switch (front panel), 1*2pin terminal switch signal(rear panel), 1*AT/ATX selector switch (front panel)
Watchdog timer	Programmable timeout interrupt or system reset, 1 to 255 seconds

Expansion

Expansion Port	1*M.2 B-key with PCIe+USB signal & SIM slot, support dual 4G/Wifi/BT,
Power Supply	I-Port 1*USB2.0 or Mini PCIe interface(i.e. CAN Bus & Gig. LAN)
Input voltage	DC IN 9~36V, with protection of short circuit, over voltage, over current
Power consumption	20.04W(E3940 CPU, 4G DDR3L)

Mechanical

Sturcture	Top/Bottom Aluminum Chassis, SGCC frame
Color	Silver gray
Installation	desktop mouning & VESA 100*100mm
Dimension(W*H*D)	155*111.8*65mm
Net Weight	1.30KG

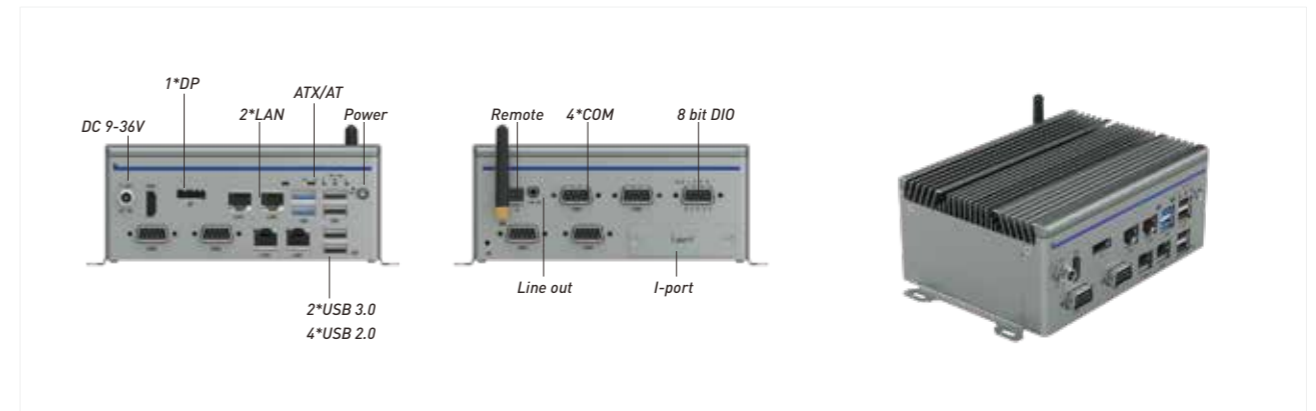
Environmental

Operating Temp	-20°C~70°C – fanless design, wide-temperature SSD -10°C~55°C – fanless design, normal temperature HDD
Storage Temp	-40°C~85°C
Storage Humidity	10~90%@40°C, No- condensation
Vibration	5 grms/5~500Hz/random/during operation (SSD) 1 grms/5~500Hz/random/during operation (HDD)
Shock	50g peak acceleration(duration 11ms) with SSD, 20g peak acceleration(duration 11ms) with HDD
Certificate/EMC	CE/FCC Class A

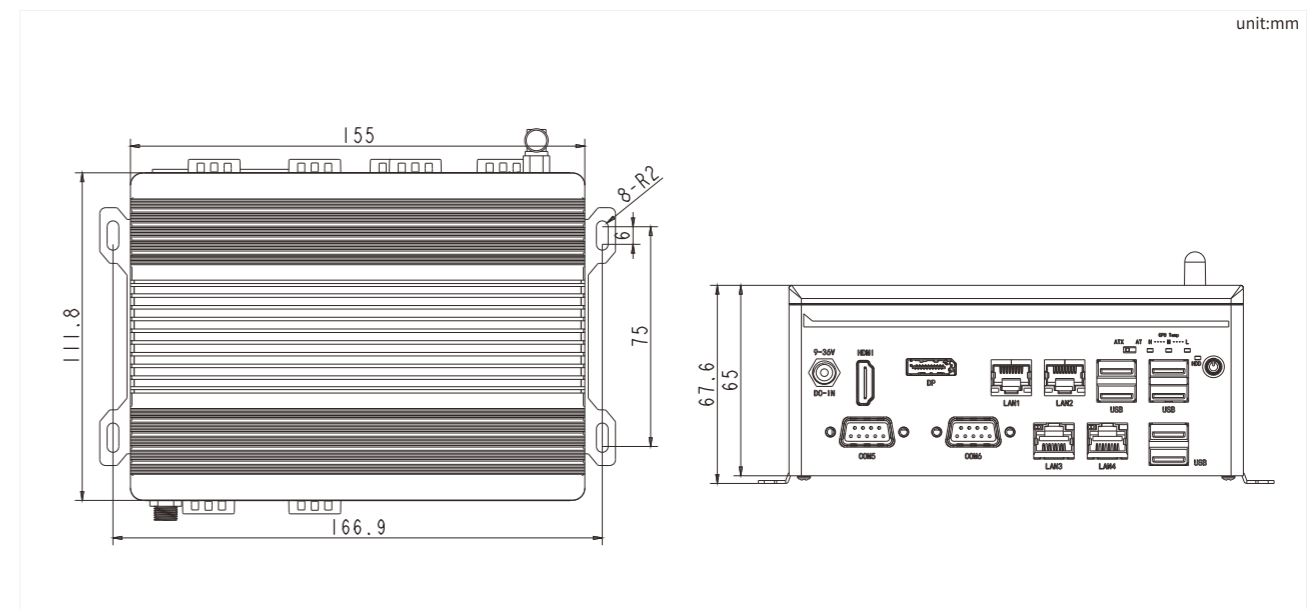
OS

Operating system	Windows 7, Windows 8.1, Windows 10, Linux Fedora, Ubuntu
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I/O View



Dimensions



Ordering Information

Model	Processor	Specifications
KMDA-2620/S001	Intel® Apollolake Atom E3940 CPU	4*LAN, 2*USB3.0, 5*USB2.0, 6*COM, 8-bit DIO, 1*HDMI, 1*DP, 1*Line out, 1*M.2, 1*mSATA, 1*I-port, 1*2.5" SATA bay, DC 9~36V
KMDA-2620/T002	Intel® Apollolake Atom E3940 CPU	2*LAN, 2*USB3.0, 3*USB2.0, 4*COM, 8-bit DIO, 1*HDMI, 1*DP, Line out, 1*M.2, 1*mSATA, 1*Port, 1*2.5" SATA bay, DC 9~36V
PA-120DC19		AC/DC adaptor, DC 12V/5A 60W

KMDA-2701

Intel Baytrail-D Celeron J1900 CPU, 4*LAN, 7*USB, 6*COM, Dual display, DC-IN 9~36V, Audio Line out & Mic, 24-bit DIO

Key Specification

- Aluminum Chassis, fanless heat dissipation design
- Intel Baytrail-D Celeron J1900 2.0-2.42G CPU
- 1*DDR3L 1333MHz SODIMM RAM, Max. 8GB
- 4*Intel I211-AT PCIe Gig LAN
- 1*HDMI & 1*VGA Dual display, Audio Line out
- 1*USB3.0, 6*USB2.0, 6*COM, 24-bit DIO
- 1*Mini PCIe(PCIE+USB), 1*Mini PCIe(SATA+USB)
- 1*3.5" SATA2 bay, 1*mSATA
- DC 9~36V wide voltage power supply



Product Overview

KMDA-2701 is a general-purpose box PC, equipped with Intel Baytrail-D Celeron J1900 2.0-2.42GHz quad-core processor, HDMI and VGA dual display, 24-bit DIO, DC9-36V wide-voltage power supply, real-time operating temperature LED simulation Display, economical and high reliability, suitable for intelligent security and equipment automation.

Product Parameters

Processor

CPU Intel Baytrail-D Celeron J1900 , frequency 2.0~2.42GHz, 4C4T, 2M cache, 22nm, TDP 10W

RAM 1*DDR3L, 1333MHz, SODIMM, Max. 8GB

Graphics Intel HD Graphics, Support dual independent display
VGA: 1920*1200@60Hz,
HDMI: 1920*1080@60Hz, support OpenGL 3.2, DirectX 11, OpenCL 1.2, MPGE2/H.264

LAN 4*Intel I211AT PCIe Gigabit Ethernet, 10/100/1000Mbps

USB 1* USB3.0, 5*USB2.0 , 1*USB2.0 (Build-in)

Display 1*VGA+1*HDMI

Audio 1*Line out+1*Mic, optional audio, build-in 3W Speaker pin

Serial port/ Others 4*RS232/422/485, 2*RS232,

1*2 pin terminal, Remote switch, USB mouse/keyboard

DIO 16-bit TTL, programmable input & output

8-bit TTL, programmable input & output

Storage

Storage 1*3.5" HDD SATA2 bay, 3.0 Gbps,

1*mSATA Full-height card, support AHCI

Others

Indicator light 1*power indicator, 1*hard disk indicator, 3*CPU temperature indicator (Red is high temperature, Yellow is normal temperature, Green is low temperature)

Control switch 1*power switch (front panel), 1*2pin terminal switch signal (rear panel), 1*AT/ATX selector switch (front panel)

Watchdog timer Programmable timeout interrupt or system reset, 1 to 255 seconds

Expansion

Expansion Port 1*Mini PCIe, with SIM slot , support 4G LTE, Wifi/BT, I-Port 1*USB2.0 or other Mini PCIe interface(i.e. CAN Bus & Gig. LAN)

Power Supply

Input voltage DC IN 9~36V, D-Jack with M8 interface, short circuit protection, over voltage & over current protection

Power consumption 19.2W(3.5" HDD)

Mechanical

Structure U-shaped Aluminum Chassis, SGCC frame

Color Silver gray

Installation desktop mousing

Dimension(W*H*D) 210*144*82.7mm

Net Weight 2.60KG

Environmental

Operating Temp -20°C~70°C – fanless design, wide-temperature SSD

-10°C~55°C – fanless design, normal temperature HDD

Storage Temp -40°C~85°C

Storage Humidity 10~90%@40°C, No- condensation

Vibration 5 grms/5~500Hz/random/during operation (SSD)

1 grms/5~500Hz/random/during operation (HDD)

Shock 50g peak acceleration(duration 11ms) with SSD,

20g peak acceleration(duration 11ms) with HDD

Certificate/EMC CE/FCC Class A

OS

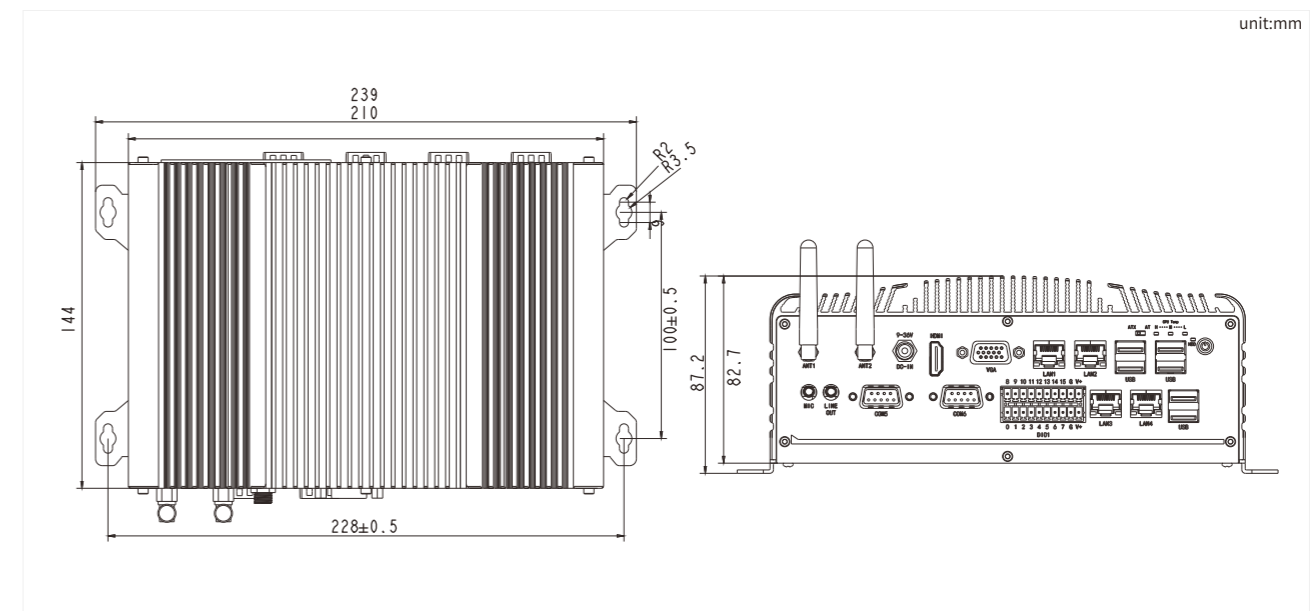
Operating system Windows 7, Windows 8.1, Windows 10,

Linux Fedora, Ubuntu

I/O View



Dimensions



Ordering Information

Model	Processor	Specifications
KMDA-2701/S002	Intel® J1900 CPU	4*LAN, 1*USB3.0, 6*USB2.0, 6*COM, 24-bit DIO, 1*HDMI, 1*VGA, 1*Line out, 1*Mic, 1*Mini PCIe(shares slots with mSATA), 1*mSATA, 1*I-port, 1*3.5" SATA bay, DC 9~36V
KMDA-2701/T001	Intel® J1900 CPU	2*LAN, 1*USB3.0, 4*USB2.0, 4*COM, 8-bit DIO, 1*HDMI, 1*VGA, Line out 2*Mini PCIe(shares slots with mSATA), 1*mSATA, 1*I-port, 1*3.5" SATA bay, DC 9~36V
PA-60DC12		AC/DC adaptor, DC 12V/5A 60W

KMDA-2702

Intel Baytrail-D Celeron J1900 CPU, 3*LAN, 7*USB, 10*COM, Dual display, DC-IN 9~36V, Audio Line out & Mic, 16-bit DIO

Key Specification

- Aluminum Chassis, fanless heat dissipation design
- Intel Baytrail-D Celeron J1900 2.0-2.42G CPU
- 1*DDR3L 1333MHz SODIMM RAM, Max. 8GB
- 3*Intel I211-AT PCIe Gig LAN
- 1*HDMI & 1*VGA Dual display, Audio Line out
- 1*USB3.0, 6*USB2.0, 10*COM, 1*PS2, 16-bit DIO
- 1*Mini PCIe(PCIE+USB), 1*Mini PCIe(SATA+USB)
- 1*2.5" SATA2 bay, 1*mSATA
- DC 9~36V wide voltage power supply



Product Overview

KMDA-2702 is a general-purpose box PC, equipped with Intel Baytrail-D Celeron J1900 2.0-2.42GHz quad-core processor, DC9-36V wide voltage power supply, real-time working temperature LED simulation display, economical, high reliability, suitable for environment Monitoring and new energy industry, etc.

Product Parameters

Processor

CPU Intel Baytrail-D Celeron J1900, frequency 2.0~2.42GHz, 4C4T, 2M cache, 22nm, TDP 10W

RAM 1*DDR3L, 1333MHz, SODIMM, Max. 8GB

Graphics Intel HD Graphics, Support dual independent display
VGA: 1920*1200@60Hz,
HDMI: 1920*1080@60Hz, support OpenGL 3.2, DirectX 11, OpenCL 1.2, MPGE2/H.264

LAN 3*Intel I211AT PCIe Gig. Ethernet, 10/100/1000Mbps

USB 1* USB3.0, 5*USB2.0, 1*USB2.0 (Build-in)

Display 1*VGA+1*HDMI

Audio 1*Line out+1*Mic, optional audio, build-in 3W Speaker pin

Serial port/ Others 8*RS232/422/485, 2*RS232,
1*2 pin terminal, Remote Switch, PS2 mouse/keyboard

DIO 16-bit TTL, programmable input & output
(2*5Pin Phoenix terminal*2)

Storage

Storage 1*2.5" HDD SATA2 bay, 3.0 Gbps,
1*mSATA Full-height card, support AHCI

Others

Indicator light 1*power indicator, 1*hard disk indicator, 3*CPU temperature indicator
(Red is high temperature, Yellow is normal temperature, Green is low temperature)

Control switch 1*power switch (front panel), 1*2pin terminal switch signal (rear panel),
1*AT/ATX selector switch (front panel)

Watchdog timer Programmable timeout interrupt or system reset, 1 to 255 seconds

Expansion

Expansion Port 1*Mini PCIe, with SIM slot support 4G LTE, Wifi/BT

Power Supply

Input voltage DC IN 9~36V, D-Jack. D-Jack with M8 interface,
short circuit protection, over voltage & over current protection
Power consumption 15.6W(2.5" HDD)

Mechanic

Structure U-shaped Aluminum Chassis, SGCC frame

Color Silver gray

Installation desktop mousing

Dimension(W*H*D) 210*144*82.7mm

Net Weight 2.60KG

Environmental

Operating Temp -20°C~70°C – fanless design, wide-temperature SSD
-10°C~55°C – fanless design, normal temperature HDD

Storage Temp -40°C~85°C

Storage Humidity 10~90%@40°C, No- condensation

Vibration 5 grms/5~500Hz/random/during operation (SSD)
1 grms/5~500Hz/random/during operation (HDD)

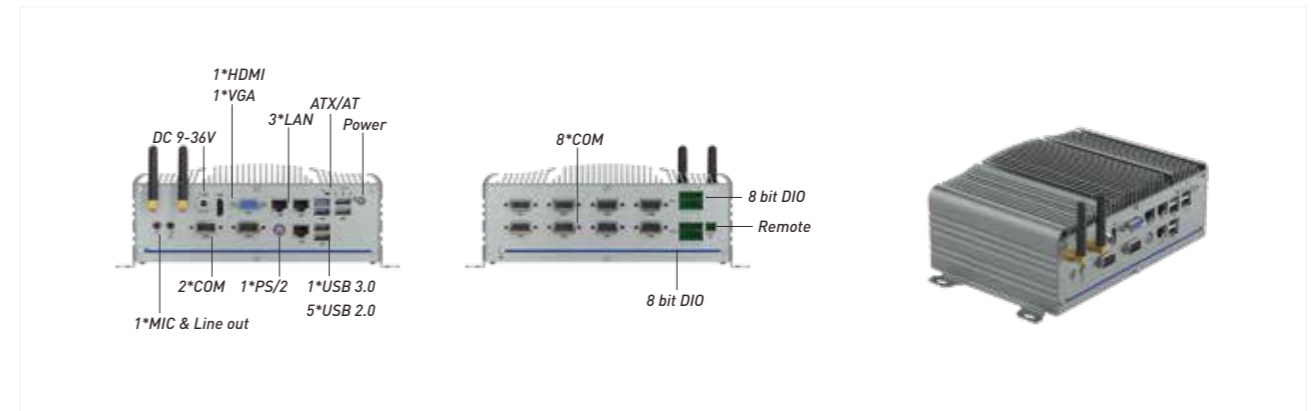
Shock 50g peak acceleration(duration 11ms) with SSD,
20g peak acceleration(duration 11ms) with HDD

Certificate/EMC CE/FCC Class A

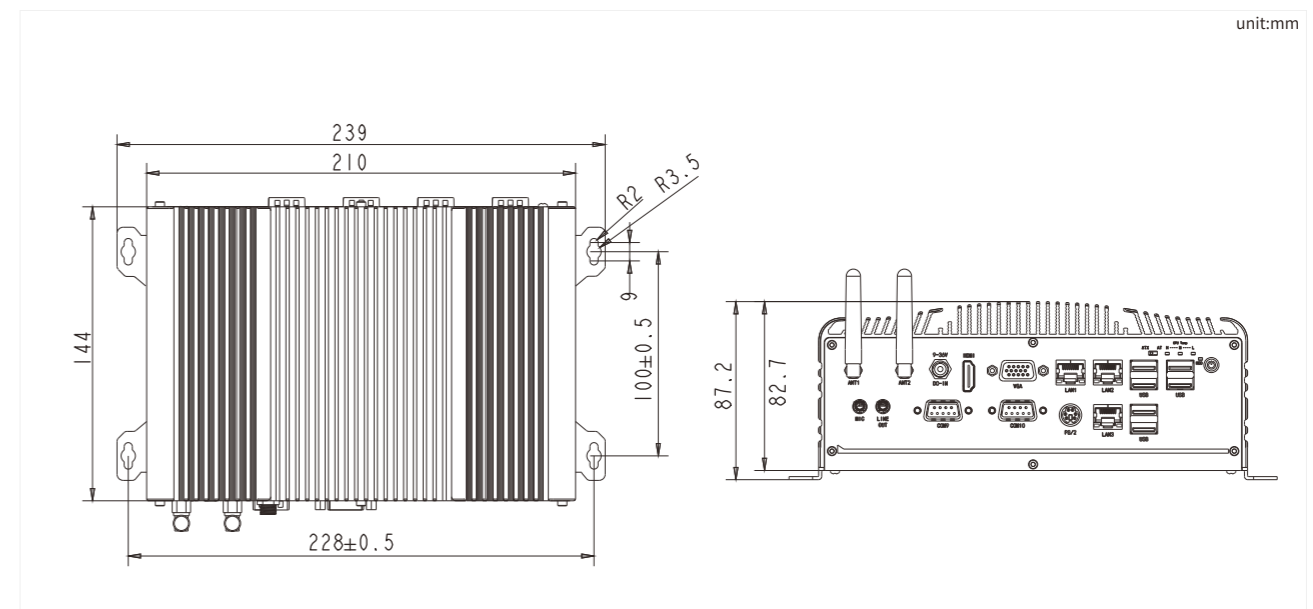
OS

Operating system Windows 7, Windows 8.1, Windows 10,
Linux Fedora, Ubuntu

I/O View



Dimensions



Ordering Information

Model	Processor	Specifications
KMDA-2702/S001	Intel® J1900 CPU	3*LAN, 1*USB3.0, 6*USB2.0, 10*COM, 16-bit DIO, 1*HDMI, 1*VGA, 1*Line out, 1*Mic, 2*Mini PCIe(one of them shares slots with mSATA), 1*2.5" SATA bay, DC 9~36V
PA-60DC12		AC/DC adaptor, DC12V/5A 60W

KMDA-3201

Intel Skylake-U/Kabylake-U CPU, 3*LAN, 7*USB, 6*COM, 4K Dual independent display, 8-bit DIO, Intel Vpro, TPM2.0, DC 9~30V

Key Specification

- Aluminum Chassis, fanless heat dissipation design
- Intel Skylake-U/Kabylake-U CPU
- 2*DDR4 2133MHz SODIMM RAM, Max. 32GB
- 1*HDMI & 1*DPdisplay, support 4K Dual display
- 3*Gig LAN, 4*USB3.0, 3*USB2.0(one build-in)
- 6*COM, 8-bit DIO, Line out
- 1*Mini PCIe(PCle+USB) full-height card, 1*M.2 2242 B-key
- 1*mSATA, 1/2*2.5" SATA bay
- Support Intel vPro technology and optional TPM 2.0 security encryption
- DC 9~36V wide voltage power supply, With reverse polarity protection, short circuit protection, over voltage & over current protection



Product Overview

KMDA-3201 is a new industrial design Box Computer with aluminum chassis and fanless design. It is equipped with Intel Skylake-U/Kabylake-U processor. It supports Intel vPro technology and optional TPM2.0 hardware encryption technology, high reliability, DC9-30V wide-voltage power supply, widely used in artificial intelligence, machine vision and intelligent transportation industries.

Product Parameters

Processor

CPU	Intel Skylake-U/Kabylake-U CPU Celeron/ Core i3/i5/i7 U
RAM	2*260-Pin SODIMM, DDR4,2133MHz, Max. 32GB
Graphics	Intel Gen. 9th HD Graphics, HEVC/H265 HW HD codec, HDMI: 3840*2160@30Hz, DP: 4096*2304@60Hz
LAN	2*Intel I211AT PCIe Gig. Ethernet, 10/100/1000Mbps, 1*Intel I219 LM support Intel Vpro
USB	4* USB3.0, 2*USB2.0, 1*USB2.0 (Build-in)
Display	1*DP+1*HDMI
Audio	1*Line out, optional audio
Serial port/ Others	2*RS232/422/485, 4*RS232, 1*2 pin terminal, remote switch,USB mouse/keyboard
DIO	8-bit TTL, programmable input & output (2*5Pin Phoenix terminal)

Storage

Storage	1*2.5" HDD SATA3 bay, 6.0 Gbps, 1*mSATA Full-height card, support AHCI
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Others

Indicator light	1*power indicator, 1*hard disk indicator, 3*CPU temperature indicator (Red is high temperature, Yellow is normal temperature, Green is low temperature)
Control switch	1*power switch (front panel), 1*2pin terminal switch signal(rear panel), 1*AT/ATX selector switch (front panel)
Watchdog timer	Programmable timeout interrupt or system reset, 1 to 255 seconds

Expansion

Expansion Port	1*Mini PCIe with SIM slot, 1*M.2 B-key with PCIe+USB signal & SIM slot,support dual 4G/Wifi/BT, I-port: optional 2*USB2.0. LVDS or Mini PCIe interface
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Power Supply

Input voltage	DC IN 9~30V, 3pin terminal, With reverse polarity protection, short circuit protection, over voltage & over current protection
Power consumption	27.72W (I5-7200U 8GB)

Mechanical

Sturcture	Aluminum Chassis, SGCC frame
Color	Silver gray
Installation	desktop mousing
Dimension(W*H*D)	210*144.3*75.5mm
Net Weight	2.20KG

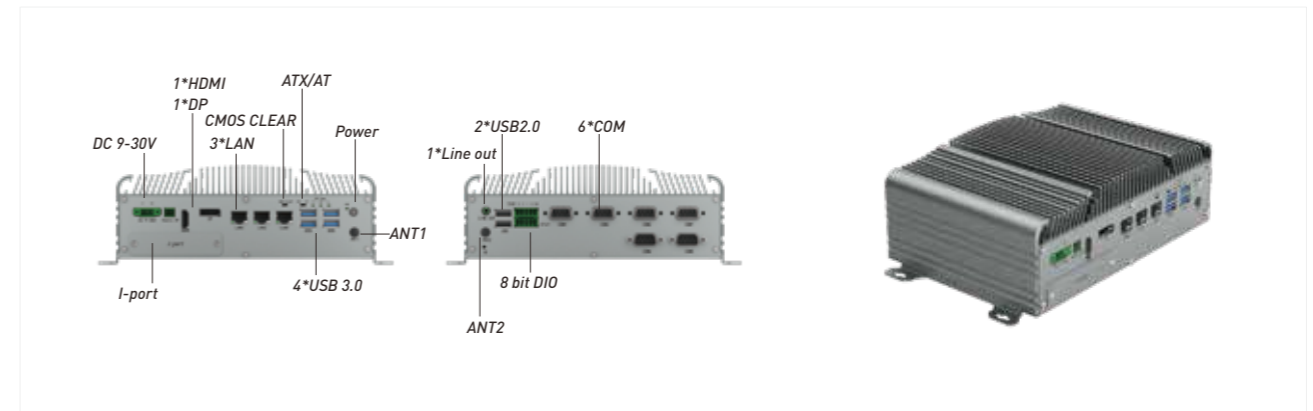
Environmental

Operating Temp	-20°C~70°C – fanless design, wide-temperature SSD -10°C~50°C – fanless design, normal temperature HDD
Storage Temp	-40°C~85°C
Storage Humidity	10~90%@40°C, No- condensation
Vibration	5 grms/5~500Hz/random/during operation (SSD) 1 grms/5~500Hz/random/during operation (HDD)
Shock	50g peak acceleration(duration 11ms) with SSD, 20g peak acceleration(duration 11ms) with HDD
Certificate/EMC	CE/FCC Class A

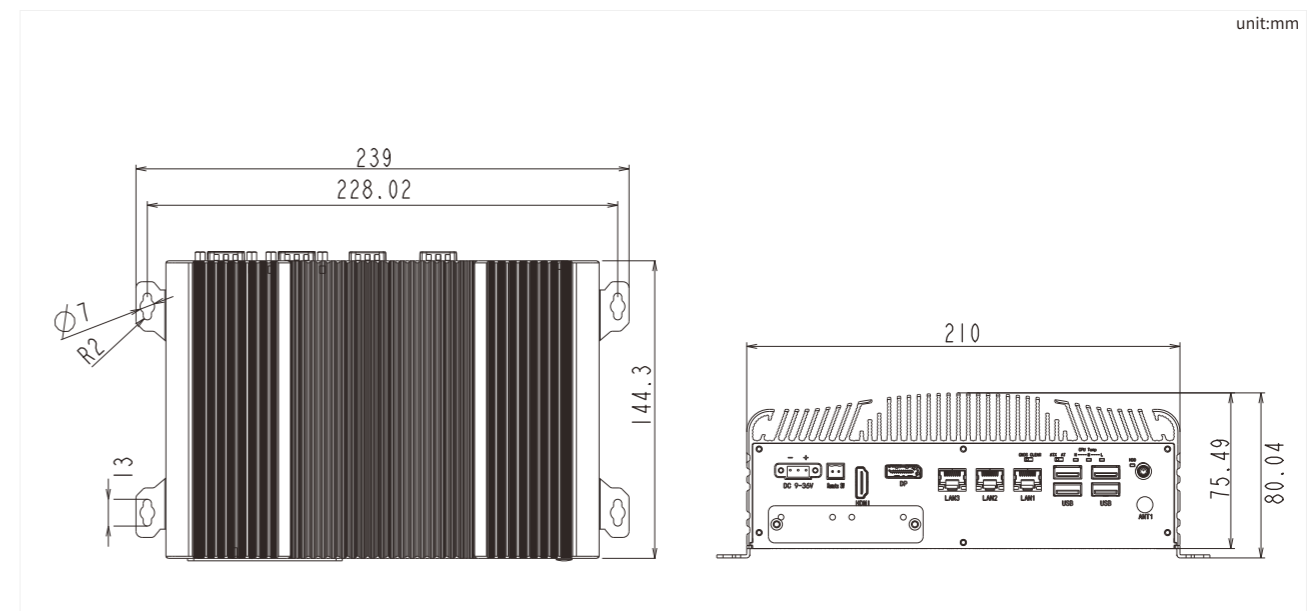
OS

Operating system	Windows 7, Windows 10, Linux Fedora,Ubuntu
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I/O View



Dimensions



Ordering Information

Model	Processor	Specifications
KMDA-3201/S001	Intel Core I3-6100U/I3-7100U	3*LAN, 4*USB3.0, 3*USB2.0, 6*COM, 8-bit DIO, 1 *Mini PCIe, 1*M.2, 1*HDMI, 1*DP, 1*Line out, 1*I-port, 1*2.5" SATA bay, 1*mSATA, DC 9~30V
KMDA-3201/S002	Intel Core I5-6200U/I5-7200U	
KMDA-3201/S003	Intel Core I7-6500U/I7-7500U	
KMDA-3201/S004	Intel Celeron 3855U/3865U CPU	
PA-60DC12		AC/DC adaptor,DC12V@5A 60W
PA-120DC19		AC/DC adaptor,DC19V/6.32A,120W

KMDA-3202

Intel Skylake-U/Kabylake-U CPU, 3*LAN, 4*POE, 9*USB, 6*COM, Dual 4K display, 8-bit DIO+16-bit iso DIO, Intel Vpro, TPM2.0, DC 9~30V

Key Specification

- Aluminum Chassis, fanless heat dissipation design
- Intel Skylake-U/Kabylake-U CPU
- 2*DDR4 2133MHz SODIMM RAM, Max. 32GB
- 1*HDMI & 1*DP display, support 4K Dual display
- 3*Gig LAN, 4*POE, 4*USB3.0, 5*USB2.0 (one build-in)
- 6*COM, 1*PS2, 16bit iso DIO, 8-bit DIO, Line out & Mic
- 1*Mini PCIe(PCle+USB) full-height card, 1*M.2 2242 B-key
- 1*mSATA, 1/2*2.5" SATA bay
- Support Intel vPro technology and optional TPM 2.0 security encryption
- DC 9~36V wide voltage power supply, With reverse polarity protection, short circuit protection, over voltage & over current protection



Product Overview

KMDA-3202 is a new industrial design Box Computer with aluminum chassis and fanless design. Using Intel Skylake-U/Kabylake-U processors, dual-channel DDR4 2133MHz SODIMM, up to 32GB, it is widely used in industries such as artificial intelligence, machine vision and robotics.

Product Parameters

Processor

CPU	Intel Skylake-U/Kabylake-U CPU Celeron/ Core i3/i5/i7 U
RAM	2*260-Pin SODIMM, DDR4,2133MHz, Max. 32GB
Graphics	Intel Gen. 9th HD Graphics, HEVC/H265 HW HD codec, HDMI: 3940*2160@30Hz, DP: 4096*2160@60Hz
LAN	2*Intel I211AT PCIe Gig. Ethernet,10/100/1000Mbps, 1*Intel I219 LM support Intel Vpro, 4*Intel I211AT PCIe Full bandwidth POE
USB	4* USB3.0, 4*USB2.0, 1*USB2.0 (Build-in)
Display	1*DP+1*HDMI
Audio	1*Line out+1*Mic, optional audio
Serial port/ Others	2*RS232/422/485, 4*RS232, 1*2pin terminal, Remote switch interface, 1*PS/2(mouse/keyboards) 8-bit TTL, programmable input & output(2*5Pin Phoenix terminal)
DIO	8-bit Iso. DI(1*10Pin Phoenix terminal), 8-bit Iso. DO (100mA) (1*10Pin Phoenix terminal)

Storage

Storage	1*2.5" SATA3 bay, 6.0 Gbps HDD/SSD, 1*mSATA Full-height card, support AHCI
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Others

Indicator light	1*power indicator, 1*hard disk indicator, 3*CPU temperature indicator (Red is high temperature, Yellow is normal temperature, Green is low temperature)
Control switch	1*power switch (front panel), 1*2pin terminal switch signal(rear panel), 1*AT/ATX selector switch (front panel)
Watchdog timer	Programmable timeout interrupt or system reset, 1 to 255 seconds

Expansion

Expansion Port	1*Mini PCIe with SIM slot, 1*M.2 B-key with PCle+USB signal and SIM slot, support dual 4G/Wifi/BT
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Power Supply

Input voltage	DC IN 9~30V, 3pin terminal, With reverse polarity protection, short circuit protection, over voltage & over current protection
Power consumption	27.72W(I5-7200U 8GB)

Mechanical

Structure	Aluminum Chassis, SGCC frame
Color	Silver gray
Installation	desktop mousing
Dimension(W*H*D)	210*144.3*75.5mm
Net Weight	2.20KG

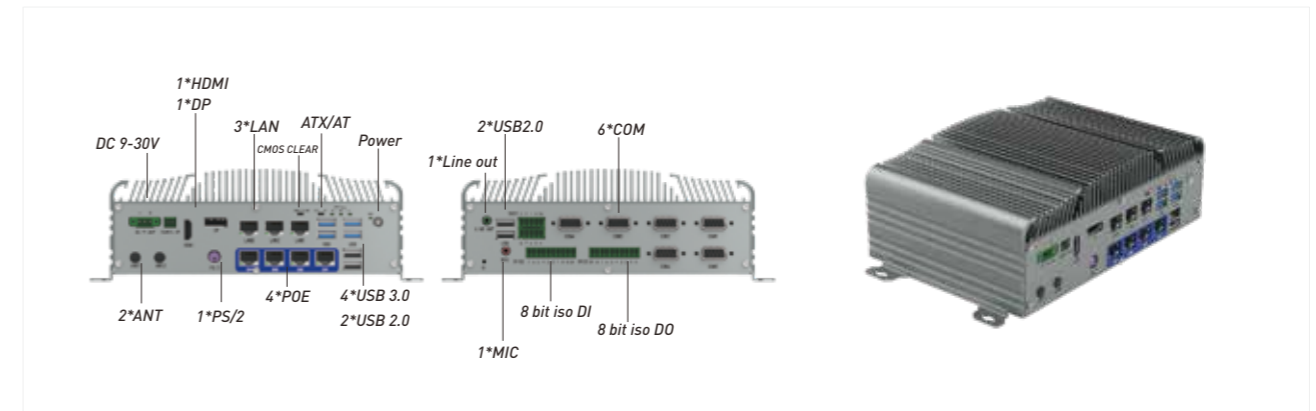
Environmental

Operating Temp	-20°C~70°C – fanless design, wide-temperature SSD -10°C~50°C – fanless design, normal temperature HDD
Storage Temp	-40°C~85°C
Storage Humidity	10~90%@40°C, No- condensation
Vibration	5 grms/5~500Hz/random/during operation (SSD) 1 grms/5~500Hz/random/during operation (HDD)
Shock	50g peak acceleration(duration 11ms) with SSD, 20g peak acceleration(duration 11ms) with HDD
Certificate/EMC	CE/FCC Class A

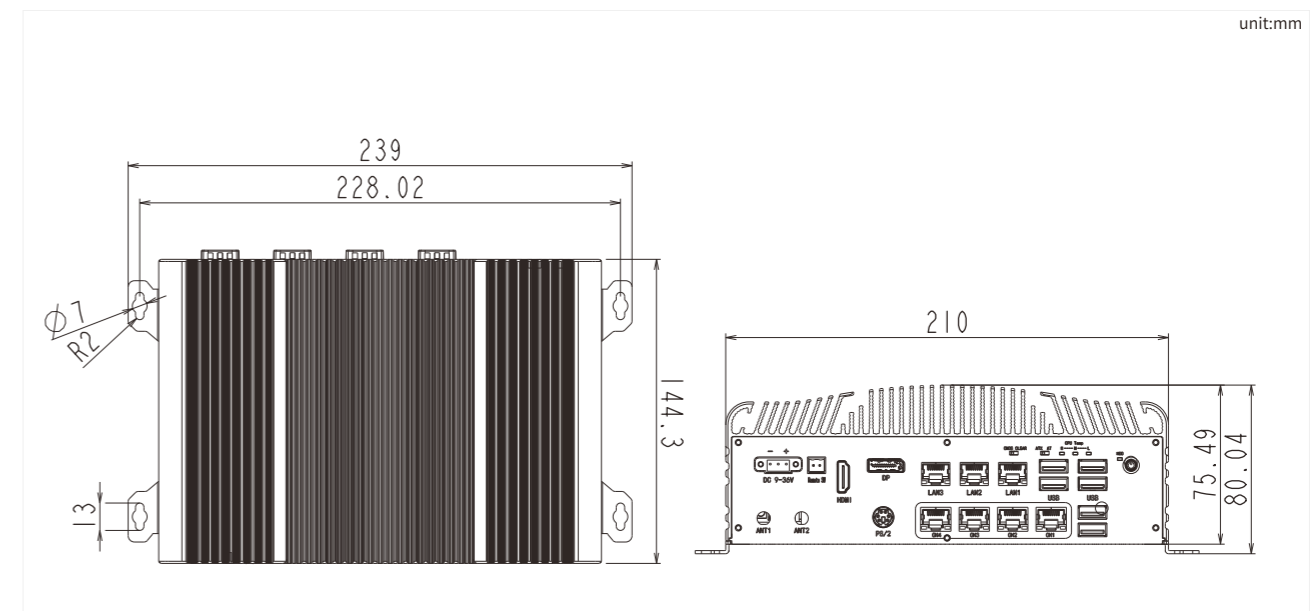
OS

Operating system	Windows 7, Windows 10, Linux Fedora,Ubuntu
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I/O View



Dimensions



Ordering Information

Model	Processor	Specifications
KMDA-3202/S001	Intel I3-6100U/I3-7100U	3*LAN, 4*POE, 4*USB3.0, 5*USB2.0, 6*COM, 16-bit iso. DIO, 8-bit DIO, 1 *Mini PCIe, 1*M.2, 1*PS/2, 1*HDMI, 1*DP, 1*Line out, 1*Mic, 1*2.5" SATA bay, 1*mSATA, DC 9~30V
KMDA-3202/S002	Intel I5-6200U/I5-7200U	
KMDA-3202/S003	Intel I7-6500U/I7-7500U	
KMDA-3202/S004	Intel Celeron 3855U/3865U	
PA-60DC12		AC/DC adaptor, DC12V/5A 60W--for KMDA-3202-T00X
PA-120DC19		AC/DC adaptor,DC19V/6.32A 120W--forKMDA-3202-S00X

KMDA-3212

Intel® Skylake-U/Kabylake-U CPU, 2/3*LAN, 7*USB, 4*COM, Dual 4K display, 8-bit DIO, Intel Vpro, TPM2.0, DC IN 12~24V

Key Specification

- Aluminum Chassis, fanless heat dissipation design
- Intel Skylake-U/Kabylake-U CPU
- 1*DDR4 2133MHz SODIMM RAM, Max. 16GB
- 1*HDMI & 1*DP display, support 4K Dual display, 1*VGA
- 2/3*Gig LAN, 4*USB3.0, 3*USB2.0 (one build-in)
- 4*COM, 8-bit DIO, 1*Line out, 1*Mic
- 1*MiniPCIe(PCIe+USB)
- 1*mSATA, 1*2.5" SATA bay
- Support Intel vPro technology and optional TPM 2.0 security encryption
- DC 12~24V wide voltage power supply



Product Overview

KMDA-3212 is a new industrial design Box Computer of JHCTECH with aluminum chassis and fanless design. Equipped with Intel® Skylake-U/Kabylake-U CPU, 1*mSATA, dual storage, optional support for TPM2.0 and support for iVpro technology. DC12~24V, It is suitable for ITS, medical imaging, intelligent transportation fields.

Product Parameters

Processor

CPU	Intel Skylake-U/Kabylake-U CPU Celeron/ Core i3/i5/i7 U
RAM	1*260-Pin SODIMM, DDR4,2133MHz, Max. 16GB
Graphics	Intel Gen. 9th HDGraphics, HEVC/H265 HW HD codec, HDMI: 4096*2304@24Hz, DP: 4096*2304@60Hz,VGA: 1920*1200@60Hz
LAN	2*Intel I211AT PCIe Gig. Ethernet,10/100/1000Mbps; 1*Intel I219 LM support Intel Vpro,
USB	4* USB3.0, 2*USB2.0 , 1*USB2.0 (Build-in)
Display	1*DP+1*HDMI+1*VGA
Audio	1*Line out+1*Mic, optional audio
Serial port/ Others	2*RS232/422/485, 2*RS232, 1*PS/2(mouse/keyboards)
DIO	8-bit TTL, programmable input & output(2*5Pin Phoenix terminal)

Storage

Storage	1*2.5" SATA3 bay, 6.0 Gbps HDD/SSD, 1*mSATA , support AHCI
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Others

Indicator light	1*power indicator, 1*hard disk indicator, 3*CPU temperature indicator (Red is high temperature, Yellow is normal temperature, Green is low temperature)
Control switch	1*power switch (front panel), 1*2pin terminal switch signal(rear panel), 1*AT/ATX selector switch (front panel)
Watchdog timer	Programmable timeout interrupt or system reset, 1 to 255 seconds

Expansion

Expansion Port	1*Mini PCIe, with SIM slot, support 4G LTE、Wifi/BT
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Power Supply

Input voltage	DC IN 12~24V, 3pin terminal(front panel),
Power consumption	58.56W(I5-7200U 16GB DDR4)

Mechanical

Sturcture	Aluminum Chassis, SGCC frame
Color	Silver gray
Installation	desktop mousing
Dimension(W*H*D)	200*200*85.3mm
Net Weight	3.3KG

Environmental

Operating Temp	-20°C~70°C – fanless design, wide-temperature SSD -10°C~50°C – fanless design, normal temperature HDD
Storage Temp	-40°C~85°C
Storage Humidity	10~90%@40°C, No- condensation

Vibration	5 grms/5~500Hz/random/during operation (SSD) 1 grms/5~500Hz/random/during operation (HDD)
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Shock	50g peak acceleration(duration 11ms) with SSD, 20g peak acceleration(duration 11ms) with HDD
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Certificate/EMC	CE/FCC Class A
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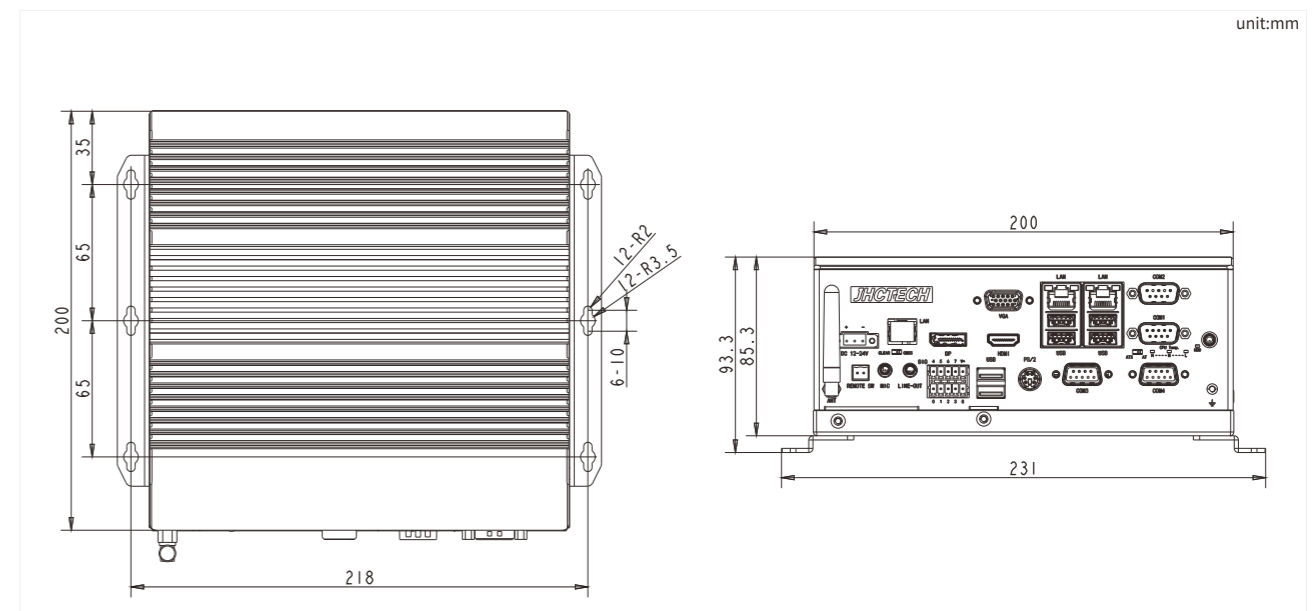
OS

Operating system	Windows 7, Windows 10, Linux Fedora,Ubuntu
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I/O View



Dimensions



Ordering Information

Model	Processor	Specifications
KMDA-3212/S001	Intel I3-6100U/I3-7100U	3*LAN, 4*USB3.0, 3*USB2.0, 4*COM, 8-bit DIO, 1*Mini PCIe,1*HDMI, 1*DP, 1*VGA, 1*PS/2, 1*Line out, 1*Mic, 1*2.5" SATA bay, 1*mSATA, DC 12~24V
KMDA-3212/S002	Intel I5-6200U/I5-7200U	
KMDA-3212/S003	Intel I7-6500U/I7-7500U	
KMDA-3212/S004	Intel Celeron 3855U/3865U	
PA-60DC12		AC/DC adaptor,DC12V/5A 60W
PA-120DC19		AC/DC adaptor,DC19V/6.32A 120W

KMDA-3230

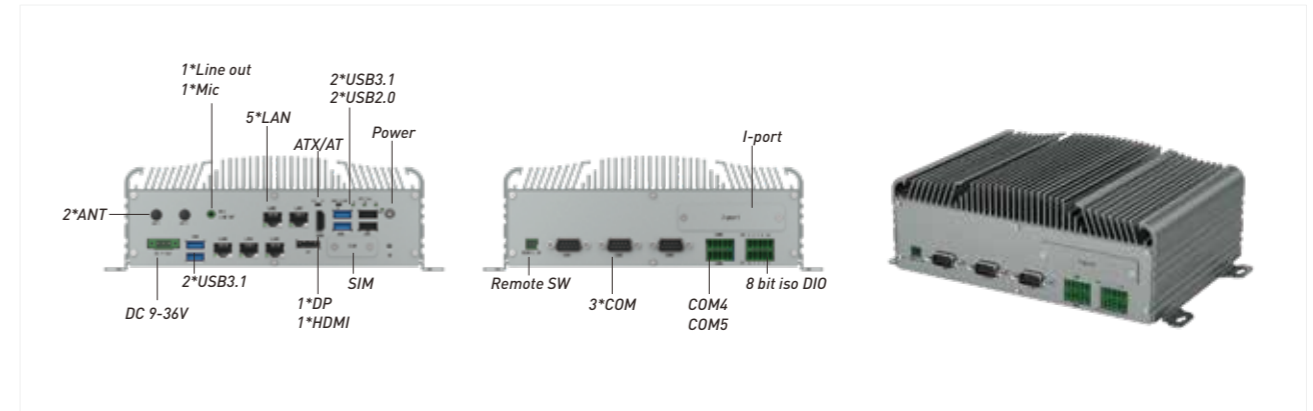
Intel® Whiskey lake U CPU, 2-CH DDR4, 1*HDMI, 1*DP, 5*G-LAN, 5*COM, 4*USB3.1, 2*USB2.0, DC 9~36V

Key Specification

- Aluminum Chassis, fanless heat dissipation design
- 8th-Gen Intel® Whiskey lake U series CPU
- 2-Ch DDR4 2400MHz SODIMM, Max. 32GB
- 1*HDMI & 1*DP display, support 4K Dual display
- 1*Line out&Mic,4*USB3.1,2*USB2.0
- 5* GbE LAN,5*COM ,8-bit iso DIO
- 1*mSATA,1*2.5" SATA bay
- 1*M.2,2230 E-Key, 1*Mini-PCIe,1*SIM slot
- DC 9~36V wide voltage power supply



I/O View



Product Overview

KMDA-3230 is a fanless embedded box PC, equipped with the 8th generation Intel® Whiskey lake U series processor. DC9~36V wide voltage power supply, Aluminum chassis for hard disk heat dissipation. It is small, powerful and exquisite, suitable for applications such as industrial IoT and machine vision.

Product Parameters

Processor

CPU	Intel® Whiskey lake U Celeron/Core i3/i5/i7
RAM	2*DDR4 SODIMM,2400MHz, Max. 32GB
Graphics	Intel® Gen. 9 UHD Graphics,Support dual independent display HDMI:4096*2304@24Hz DP:4096*2304@60Hz
LAN	4*Intel® I210AT PCIe, Gig. Ethernet, 10/100/1000Mbps; 1*Intel®I219LM
USB	4* USB3.1, 2*USB2.0
Display	1*DP+1*HDMI
Audio	1*Line out+1*Mic, optional audio
Serial port/ Others	2*RS485, 3*RS232,
DIO	8-bit Iso. DIO(4-bit 2.5KV optical Iso. DO,4-bit 2.5KV optical Iso. DI)

Storage

Storage	1*2.5" SATA port, 1*mSATA Full-height card, support AHCI
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Others

Indicator light	1*power indicator, 1*hard disk indicator, 3*CPU temperature indicator (Red is high temperature, Yellow is normal temperature, Green is low temperature)
Control switch	1*Power switch, 1*AT/ATX mode selection switch, 1*Clear CMOS data switch
Watchdog timer	Programmable timeout interrupt or system reset, 1 to 255 seconds

Expansion

Expansion Port	1*Mini PCIe, with SIM slot, support 3G/4G/Wifi/ BT/ GPRS, 1*M.2 E-key 2230 Wifi/BT module expansion, 1*I-port(LPT/USB2.0/16-bit DIO/Mini PCIe,etc)
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Power Supply

Input voltage	DC IN 9~36V, 3pin terminal,
Power consumption	30W (I5-8265U , 8GB DDR4, 128GB SSD)

Mechanical

Sturcture	Aluminum Chassis, SGCC frame
Color	Silver gray
Installation	desktop mousing
Dimension(W*H*D)	210*147*78mm
Net Weight	2.29KG

Environmental

Operating Temp	-20°C~70°C – fanless design, wide-temperature SSD -10°C~50°C – fanless design, normal temperature HDD
Storage Temp	-40°C~85°C
Storage Humidity	10~90%@40°C, No- condensation
Vibration	5 grms/5~500Hz/random/during operation (SSD) 1 grms/5~500Hz/random/during operation (HDD)

Shock

Shock	50g peak acceleration(duration 11ms) with SSD, 20g peak acceleration(duration 11ms) with HDD
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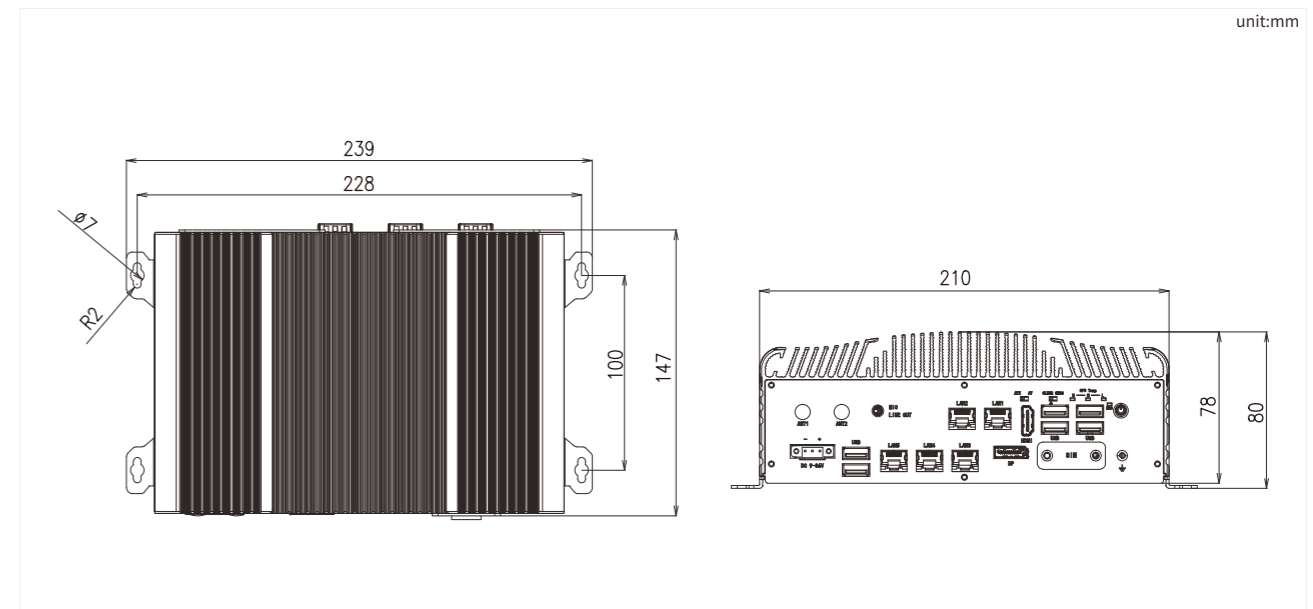
Certificate/EMC

Certificate/EMC	CE/FCC Class B
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OS

Operating system	Windows 10, SUSE, Ubuntu, Wind River, Red Hat Enterprise
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Dimensions



Ordering Information

Model	Processor	Specifications
KMDA-3230/S001	Intel I3-8145U	2*DDR4 SO-DIMM,1*HDMI,1*DP,1*Line out,1*Mic, 5*LAN,4*USB3.1,2*USB2.0,5*COM,8-bit DIO,1*M.2,1*Mini PCIe,1*SIM slot, 1*mSATA,1*2.5" SATA,DC9~36V
KMDA-3230/S002	Intel I5-8265U	
KMDA-3230/S003	Intel I7-8565U	
KMDA-3230/S004	Intel Celeron 4305U	
PA-60DC12		AC/DC adaptor, DC 12V/5A 60W

KMDA-3601

Intel Skylake-S/Kabylake-S CPU, 3*LAN, 4*POE, 6*USB3.0, Dual 4K display,16-bit iso DIO, iVpro, Wide voltage DC 6~48V

Key Specification

- Aluminum Chassis, fanless heat dissipation design
- Intel Skylake-S/Kabylake-S CPU
- 2*DDR4 2133/2400MHz SODIMM RAM, Max. 32GB
- 1*DP, 1*HDMI & 1*VGA three display, DP and HDMI 4K support
- 3*GbE LAN, 4*POE/8/11*LAN, 6*USB3.0, 3*USB2.0
- 4*COM, 16 or 24-bit iso DIO, 1*Line out,1*Mic
- 2*Mini PCIe(PCle+USB),1*M.2 2242 B-Key
- 1*mSATA, 2*2.5" SATA3 bay, support RAID 0,1 support Intel vPro & optional support TPM2.0 security encryption
- DC 6~48V Wide-voltage power supply, short-circuit, over-voltage, over-current and under-voltage protection



Product Overview

KMDA-3601 is a high-performance box PC with aluminum chassis and fanless design. Equipped with the latest Intel® Skylake-S/Kabylake-S processor, supporting 4G and Wifi/BT wireless communication, DC 6-48V wide-voltage power supply, suitable for applications such as intelligent transportation, video security and machine vision,etc.

Product Parameters

Processor

CPU Intel Skylake-S/Kabylake-S Celeron/Pentium/Core i3/i5/i7, Q170 chipset

RAM 2*260-Pin SODIMM, DDR4,2133MHz, Max. 32GB

Graphics Intel Gen. 9 HD Graphics, HEVC/H265 HW HD codec, support 3 independent displays
DP: 4096*2304@60Hz,VGA: 2650*1600@60Hz, HDMI: 3840*2160@30Hz,

LAN 2*Intel I210AT PCIe ,10/100/1000Mbps ;
1*Intel I219 LM, support iVpro,
4*Intel I210AT PCIe, Full bandwidth POE,optional 8/11*LAN

USB 6* USB3.0, 2*USB2.0 , 1*USB2.0 (build-in)

Display 1*DP+1*HDMI+1*VGA

Audio 1*Line out+1*Mic, optional audio

Serial port /Others 2*RS232/422/485, 2*RS232,
8/12-bit 2.5KV Iso. DI(1*10Pin Phoenix terminal),
8/12-bit 2.5KV Iso. DO (1*10Pin Phoenix terminal)

DIO Optional 16-bit TTL programming input and output/ 24-bit iso DIO

Storage

Storage 2*2.5" SATA,HDD/SSD,1*mSATA full-height card,1*M.2 2242 B-key

Others

Indicator light 1*power indicator, 1*hard disk indicator, 3*CPU temperature indicator (Red is alarm, Yellow is high temperature, Green is normal temperature)

Control switch 1*Power switch, 1*Reset switch; 1*2pin terminal switch signal, 1*AT/ATX selector switch, 1*CMOS/Clear selector switch

Watchdog timer Watchdog timeout programmable via software 1 to 255 second

Expansion

Expansion Port 1*Mini PCIe, with SIM slot, 1*half-length Mini PCIe, 1*M.2 B-key, with SIM slot,support dual 4G LTE/Wifi/BT
1*I-Port: optional 1*LPT, 1*USB2.0, 16-bit DIO, or Mini PCIe/M.2 Function card interface, i.e. serial port

Power Supply

Input voltage DC 6~48V input,

Power consumption 38W(i5-7500T , 4GB RAM, 128G SSD)

Mechanical

Structure Aluminum Chassis, SGCC frame

Color Silver gray

Installation Desktop mounting

Dimension(W*H*D) 284*222*84.7mm

Net Weight 4.65KG

Environment

Operating Temp -20°C~65°C – Fanless design, wide-temperature SSD,
-10°C~55°C – Fanless design, normal temperature HDD

Storage Temp -40°C~85°C

Storage Humidity 10~90%@40°C, No condensation

Vibration 5 grms/5~500Hz/random/during operation (SSD)
1 grms/5~500Hz/random/during operation (HDD)

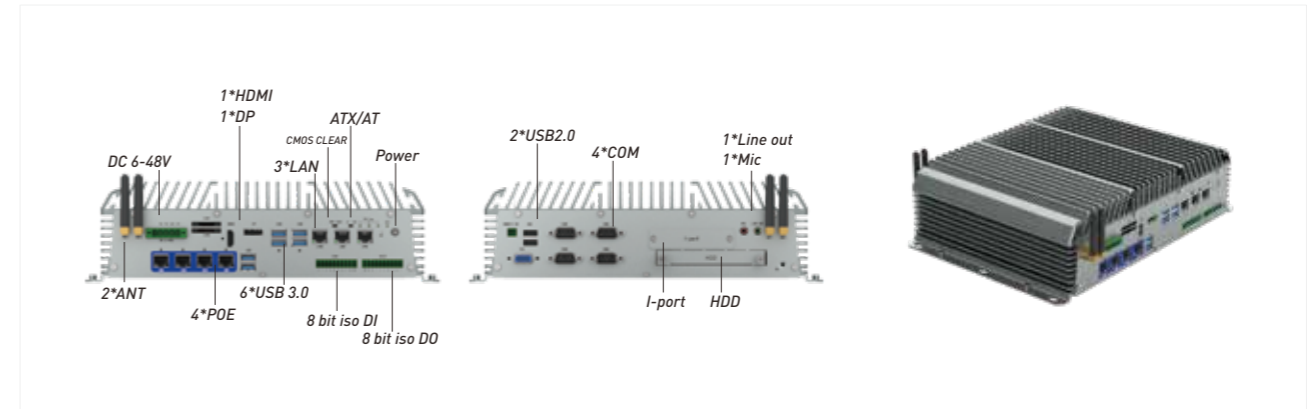
Shock 50g peak acceleration(duration 11ms) with SSD,
20g peak acceleration(duration 11ms) with HDD

Certificate/EMC CE/FCC Class B

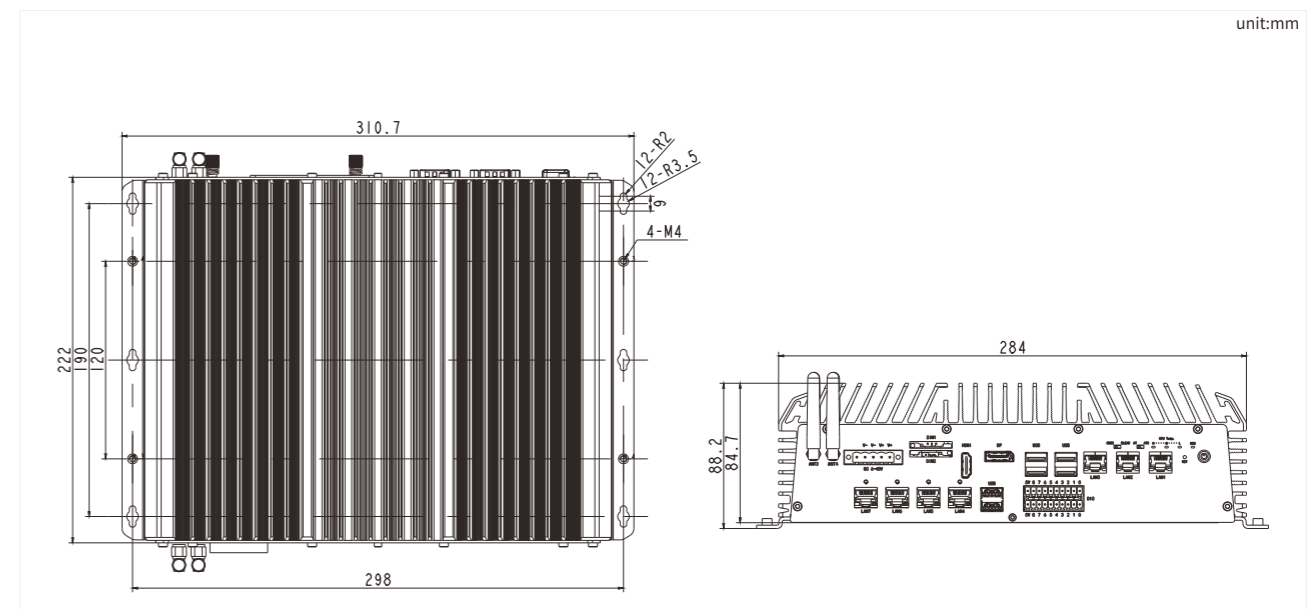
OS

OS Windows 7, Windows 10,
Linux Fedora,Ubuntu

I/O View



Dimensions



Ordering Information

Model	Processor	Specifications
KMDA-3601/S001	Intel® Q170 chip+ SKL/KAL-S LGA1151 CPU	3*LAN, 4*POE, 6*USB3.0, 3*USB2.0, 4*COM,16-bit Iso.DIO, 1*M.2, 2*Mini PCIe, 1*HDMI, 1*DP, 1*VGA, 1*Line out, 1*Mic, 1*I-port, 2*2.5" SATA bay 1*mSATA, DC 6~48V
KMDA-3601/S002	Intel® Q170 chip+ SKL/KAL-S LGA1151 CPU	7*LAN, 6*USB3.0, 3*USB2.0, 4*COM, 16-bit DIO,1*M.2, 2*Mini PCIe, 1*HDMI, 1*DP, 1*VGA, 1*Line out, 1*Mic, 1*I-port, 2*2.5" SATA bay, 1*mSATA, DC 6~48V
KMDA-3601/S003	Intel® Q170 chip+ SKL/KAL-S LGA1151 CPU	11*LAN, 4*USB3.0, 3*USB2.0, 4*COM, 24-bit Iso. DIO,1*M.2, 2*Mini PCIe, 1*HDMI, 1*DP, 1*VGA, 1*Line out, 1*Mic, 1*I-port, 2*2.5" SATA bay, 1*mSATA, DC 6~48V
PA-120DC19		AC/DC power adapter,DC19V/6.32A,120W
PA-220DC24		AC/DC Power Adapter,DC24V@9.17A ,220W

KMDA-3602

Intel Skylake-S/Kabylake-S CPU,3*LAN,4*POE,6*USB3.0,MXM3.1GPU,6*4K display, 16-bit iso DIO,ITPS vehicle power

Key Specification

- * Aluminum Chassis, CPU with fanless heat dissipation design
- * Intel Skylake-S/Kabylake-S CPU
- * 2*DDR4 2133/2400MHz SODIMM RAM, Max. 32GB
- * MXM3.1 NVIDIA/AMDGPU module
- * Integrated 1*DP+1*HDMI+1*VGA, Independent Graphics 3*DP+1*HDMI
- * 3*Gig LAN, 4*POE, 6*USB3.0,3*USB2.0
- * 2*COM, 16-bit iso DIO, 1*Line out,1*Mic,2*Mini PCIe
- * 1*M.2 2242B-Key
- * 1*2.5" SATA3 bay, 1*mSATA, Anti-vibration design
- * DC 6~48V wide voltage power supply, ITPS vehicle management function



Product Overview

KMDA-3602 is a high-performance vehicle computer with the latest combination of active and passive heat dissipation design. It is equipped with Intel®Skylake-S/Kabylake-S processor, DC 6-48V wide voltage power supply, ITPS time-delay switch function. CPU+GPU dual processor, high performance, multiple network ports, multiple displays, multiple wireless communications and shock absorption design. It is suitable for mobile law enforcement vehicles and special vehicles.

Product Parameters

Processor

CPU	Intel Skylake-S/Kabylake-S Celeron/Pentium/Core i3/i5/i7 Q170 chipset
RAM	2*260-Pin ,DDR4,2133/2400MHz, Max. 32GB
Graphics	Intel® Gen. 9 HD Graphics, HEVC/H265 HW HD codec Integrated DP/HDMI, Support dual 4K ultra-high-definition display, Independent Graphics 3*DP+1*HDMI four 4K display 1*MXM 3.1 GPU Module, support up to 120W power consumption GPU
LAN	2*Intel I210AT PCIe ,10/100/1000Mbps ; 1*Intel I219 LM, support iVpro, 4*Intel I210AT PCIe ,Full bandwidth POE,4*LAN (optional)
USB	6* USB3.0, 2*USB2.0 , 1*USB2.0 (build-in)
Display	Integrated 1*DP+1*HDMI+1*VGA ; Discrete 3*DP+1*HDMI
Audio	1*Line out+1*Mic, optional audio
Serial port /Others	2*RS232/422/485 8/12-bit 2.5KV Optically isolated input (1*10Pin Phoenix terminal)
DIO	8/12-bit 2.5KV Optically isolated output (1*10PinPhoenix terminal) Optional 16-bit TTL programming input and output /24-bit iso DIO

Storage

Storage	1*2.5" SATA3,HDD/SSD,1*mSATA full-height card,1*M.2 2242 B-key
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Others

Indicator light	1*power indicator, 1*hard disk indicator, 3*CPU temperature indicator (Red is alarm, Yellow is high temperature, Green is normal temperature)
Control switch	1*Power switch, 1*Reset switch; 1*2pin terminal switch signal, 1*AT/ATX selector switch, 1*CMOS/Clear selector switch
Watchdog timer	Watchdog timeout programmable via software 1 to 255 second

Expansion

Expansion Port	1*Mini PCIe, with SIM slot, 1*half-length Mini PCIe, 1*M.2 B-key,with SIM slot,,support dual 4G LTE/Wifi/BT and GPS/BDS navigation, I-Port:optional 1*LPT、16-bit DIO, or 2*Mini PCIe/M.2 Function card, i.e. CAN BUS
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Power Supply

Input voltage	DC 6~48V input,
Power consumption	115.92W(I5-7500T +GTX 1060M GPU)

Mechanical

Structure	Aluminum Chassis, SGCC frame
Color	Silver gray
Installation	Desktop mounting, Anti-vibration plane
Dimension(W*H*D)	284*222*81mm
Net Weight	5.60KG (with Anti-vibration plane,no GPU)

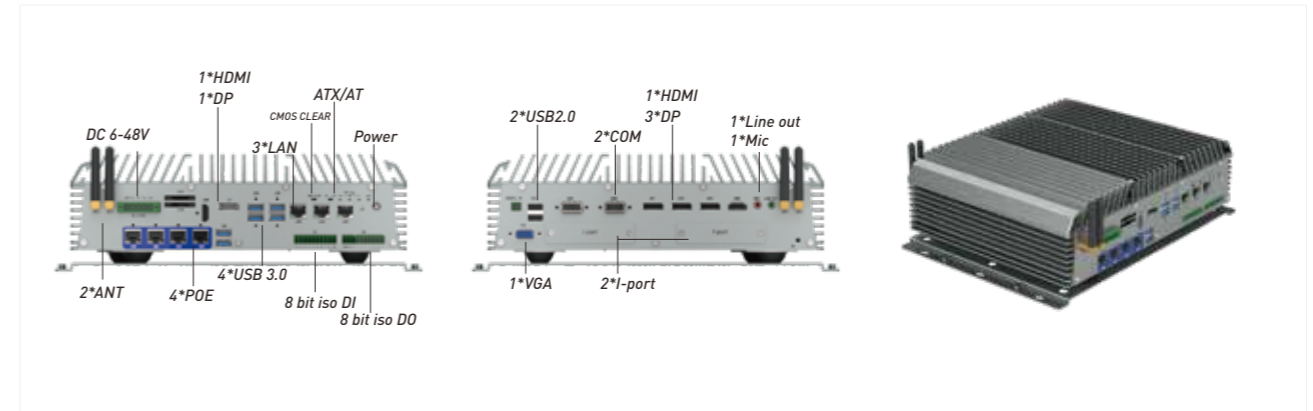
Environment

Operating Temp	-20°C~65°C – 35WCPU,Fanless design,no GPU, -10°C~50°C – 35WCPU,with Fan, 80WGPU;
Storage Temp	-40°C~85°C
Storage Humidity	10~90%@40°C, No condensation
Vibration	5.5 grms/5~500Hz/random/during operation (SSD) 1.5 grms/5~500Hz/random/during operation (HDD)
Shock	55g peak acceleration(duration 11ms) with SSD; 25g peak acceleration(duration 11ms) with HDD
Certificate/EMC	CE/FCC Class B,E-Mark

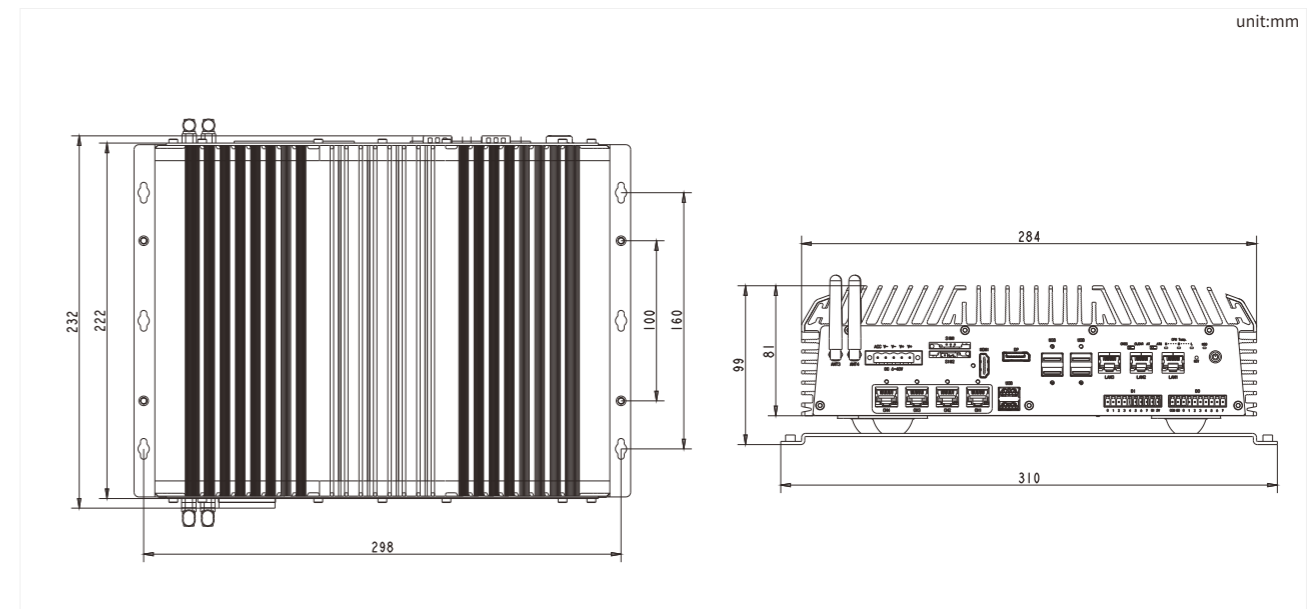
OS

OS	Windows 7, Windows 10, Linux Fedora,Ubuntu
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I/O View



Dimensions



Ordering Information

Model	Processor	Specifications
KMDA-3602/S001	Intel® Q170 chip set+ SKL/KAL-S LGA1151 CPU	MXM3.1 GPU slot , 3*LAN, 4*POE, 6*USB3.0, 3*USB2.0, 2*COM, 16-bit sio DIO, 1*M.2, 2*Mini PCIe,2*HDMI,4*DP,1*VGA, 1*Line out,1*Mic, 2*I-port, 1*2.5" SATA3 bay,1*mSATA, ITPS, DC 6~48V
KMDA-3602/T001		7*LAN, 6*USB3.0, 3*USB2.0, 2*COM,16-bit DIO, 1*M.2, 2*Mini PCIe, 1*HDMI, 1*DP, 1*VGA, 1*Line out, 1*Mic, 2*I-port, 1*2.5" SATA3 bay,1*mSATA, ITPS DC 6~48V
NVIDIA GT 1030-2G		MXM3.1 Type A, NVIDIA GT 1030,GDDR5 2GB,64bit,384 CUDA Cores, with radiator
NVIDIA GTX 1050-2G		MXM3.1 Type A, NVIDIA GTX 1050,GDDR5 2GB,128bit,768 CUDA Cores, with radiator
NVIDIA GTX 1050TI-4G		MXM3.1 Type A, NVIDIA GTX 1050TI,GDDR5 4GB,128bit,768 CUDA Cores, with radiator
NVIDIA GTX 1060M-6G		MXM3.1 Type B, NVIDIA GTX 1060M,GDDR5 6GB,192bit,1280 CUDA Cores, with radiator
NVIDIA GTX 1070M-8G		MXM3.1 Type B, NVIDIA GTX 1070M,GDDR5 8GB,256bit,2048 CUDA Cores, with radiator
VIDIA GTX 1650-4G		MXM3.1 Type A, NVIDIA GTX 1650,GDDR5 4GB,128bit, 896 CUDA Cores, with radiator
NVIDIA GTX 1660S-6G		MXM3.1 Type B, NVIDIA GTX 1660S,GDDR6 6GB,192bit,1408 CUDA Cores, with radiator
MLU220-MXM		MXM3.1 Type A, Cambricon MLU-220, LPDDR4 8GB,64bit,16TOPS(INT8), with radiator
PA-120DC19		AC/DC power adapter,DC19V/6.32A,120W
PA-220DC24		AC/DC power adapter,DC24V@9.17A ,220W

KMDA-3820

Intel® Skylake-U/Kabylake-U CPU, 2/3*LAN, 7*USB, 4*COM, Dual 4K display, 8/24-bit DIO, iVpro, 2*PCIe/PCI slot, DC IN 12~24V

Key Specification

- Aluminum Chassis, fanless heat dissipation design
- Intel Skylake-U/Kabylake-U CPU
- 1*DDR4 2133MHz SODIMM RAM, Max. 16GB
- 1*HDMI and 1*DP dual 4K display, 1*VGA
- 2/3*Gig LAN, 4*USB3.0, 3*USB2.0 (one is built-in)
- 4*COM, 8-bit DIO, 1*Line out,1*Mic
- 2*PCIeX4/PCI slot, 1*Mini PCIe(PCIe+USB)
- 1*mSATA, 1*2.5" SATA bay, Anti-vibration design
- Support Intel vPro technology and optional TPM 2.0 security encryption
- DC 12~24V wide voltage power supply
- Half-open L-shaped folding cover, convenient for disassembly and assembly of functional modules and hard drives



Product Overview

KMDA-3820 is a new industrial design box PC, with aluminum chassis and fanless design, equipped with Intel® Skylake-U/Kabylake-U processor, optional support TPM2.0 and support iVpro technology, DC 12~24V. L-shaped folding Cover design makes function modules installation easily, very suitable for AI, ITS, Machine Vision and other fields.

Product Parameters

Processor

CPU	Intel Skylake-U /Kabylake-U / Celeron/Core i3/i5/i7
RAM	1*260-Pin ,DDR4,2133MHz, Max. 16GB
Graphics	Intel Gen. 9th HD Graphics, HEVC/H265 HW HD codec, HDMI:4096*2304@24Hz, DP:4096*2304@60Hz,VGA:1920*1200@60Hz
LAN	2*Intel I211AT PCIe ,10/100/1000Mbps ; 1*Intel I219 LM, support iVpro,
USB	4* USB3.0, 2*USB2.0 , 1*USB2.0 (built-in)
Display	1*DP+1*HDMI+1*VGA
Audio	1*Line out+1*Mic, optional audio
Serial port /Others	2*RS232/422/485, 2*RS232, 1*PS/2 (Mouse and keyboard)
DIO	8-bit DIO, TTL Programmable input-output (2*5Pin) Optional 16-bit DIO, TTL, Programmable input and output

Storage

Storage	1*2.5" SATA3,HDD/SSD,1*mSATA full-height card,Support AHCI mode
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Others

Indicator light	1*power indicator, 1*hard disk indicator, 3*CPU temperature indicator (Red is alarm, Yellow is high temperature, Green is normal temperature)
Control switch	1*Power switch (front panel), 1*2 pin terminal switch signal (front panel), 1*AT/ATX selector switch (front panel)
Watchdog timer	Watchdog timeout programmable via software 1 to 255 second
TCPM/TPM	support TPM2.0 (optional)

Expansion

Expansion Port	1*Mini PCIe, with SIM slot, support 4G LTE/Wifi/BT, 1* PCIe X4 (X4 signal) ,1*PCIe X4 (X1 signal) ,or 2*PCI
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Power Supply

Input voltage	DC 12~24V input,
Power consumption	58.56W (I5-7200U 16GB DDR4)

Mechanical

Structure	Aluminum Chassis, SGCC frame
Color	Silver gray
Installation	Desktop mounting
Dimension(W*H*D)	200*200*128.3mm
Net Weight	3.65KG

Environment

Operating Temp	-20°C~70°C – Fanless design, with air flow, wide-temperature SSD; -10°C~50°C – Fanless design, with air flow, normal temperature HDD
Storage Temp	-40°C~85°C
Storage Humidity	10~90%@40°C, No condensation
Vibration	5 grms/5~500Hz/random/during operation (SSD) 1 grms/5~500Hz/random/during operation (HDD)
Shock	50g peak acceleration(duration 11ms) with SSD; 20g peak acceleration(duration 11ms) with HDD
Certificate/EMC	CE/FCC Class A

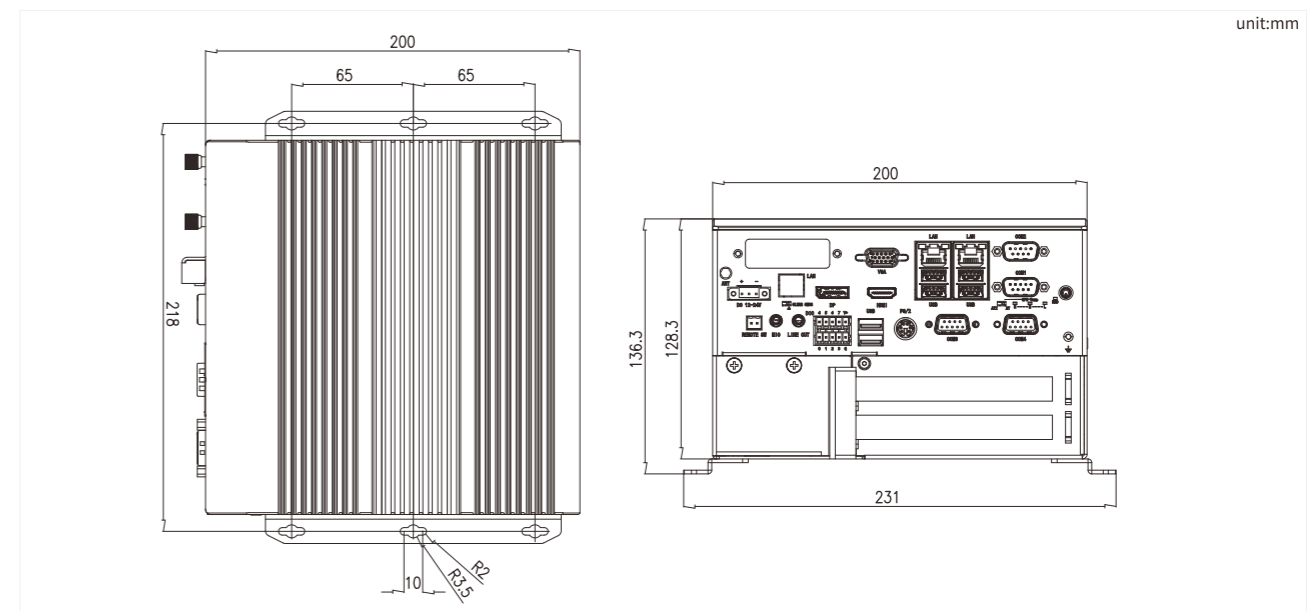
OS

OS	Windows 7, Windows 10, Linux Fedora,Ubuntu
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I/O View



Dimensions



Ordering Information

Model	Processor	Specifications
KMDA-3820/S001	Intel I3-6100U/I3-7100U	3*LAN, 4*USB3.0, 3*USB2.0, 4*COM, 8-bit DIO, 1*Mini PCIe,1*HDMI, 1*DP, 1*VGA, 1*PS/2, 1*Line out,1*Mic, 1*2.5" SATA bay, 1*mSATA, DC 12~24V
KMDA-3820/S002	Intel I5-6200U/I5-7200U	
KMDA-3820/S003	Intel I7-6500U/I7-7500U	
KMDA-3820/S004	Intel Celeron 3855U/3865U	
ECB-238	Expansion backplane (choose one)	1*PCIe X4,1*PCIe X4 (X1 signal)
ECB-239		2*PCI
PA-60DC12		AC/DC adapter, DC 12V/5A 60W

KMDA-3610

Intel® Skylake-S/Kabylake-S CPU, 2*LAN, 4*USB3.0, HDMI, DP, VGA, 3 Displays, 2*SATA3, DC 12~24V wide voltage power supply

Key Specification

- *Aluminum Chassis, fanless heat dissipation design
- *Intel Skylake-S/Kabylake-S CPU
- *2*DDR4 2400/2133MHz SODIMM RAM, Max. 32GB
- *1*DP, 1*HDMI & 1*VGA three display
- *2*LAN, 4*USB3.0, 3*USB2.0, 4*COM, (8+16)- bit DIO
- *1*Mini PCIe(PCie+USB),1*M.2 2242 B-Key
- *1*mSATA, 2*2.5" SATA3
- *Optional support TPM2.0 security encryption
- *DC 12~24V wide voltage power supply



Product Overview

KMDA-3610 is a fanless high-performance box PC, equipped with Intel® Skylake-S/Kabylake-S series processors, and supports 4G and Wifi/BT wireless functions. DC 12~24V wide voltage power supply, high performance, rich IO function interface. It is suitable for applications in automation, machine vision and intelligent transportation industries.

Product Parameters

Processor

CPU Intel Skylake-S/Kabylake-S Celeron/Pentium/Core i3/i5/i7, H110 chipset

RAM 2*260-Pin ,DDR4,2133/2400MHz, Max. 32GB

Graphics Intel Gen. 9 HD Graphics,HEVC/H265 HW HD codec, HDMI:3840*2160@30Hz, DP:4096*2304@60Hz, VGA:1920*1200@60Hz, Support 2 independent display, 1 mirror display

LAN 1*Intel I211AT PCIe ,10/100/1000Mbps; 1*Intel I219 LM,

USB 4* USB3.0, 2*USB2.0 , 1*USB2.0 (build-in)

Display 1*DP+1*HDMI+1*VGA

Audio 1*Line out+1*Mic,optional audio

Serial port /Others 2*RS232/422/485, 2*RS232,1*PS/2 (Mouse and keyboard)

DIO 8-bit DIO, TTL Programmable input and output (2*5Pin)

16-bit DIO, TTL Programmable input and output (DB25)

Storage

Storage 2*2.5" SATA3,HDD,1*mSATA full-height card,1*M.2 2242 B-key

Others

Indicator light 1*power indicator, 1*hard disk indicator, 3*CPU temperature indicator (Red is alarm, Yellow is high temperature, Green is normal temperature)

Control switch 1*Power switch, 1*Reset switch; 1*2pin terminal switch signal, 1*AT/ATX selector switch, 1*CMOS/Clear selector switch

Watchdog timer Watchdog timeout programmable via software 1 to 255 second

TCPM/TPM support TPM2.0 (optional)

Expansion

Expansion Port 1*Mini PCIe, with SIM slot, support m4G LTE/Wifi/BT,

Power Supply

Input voltage DC 12~24V input,

Power consumption 68.4W(I7-6700T CPU 16GB DDR4)

Mechanical

Structure Aluminum Chassis, SGCC

Color Silver gray

Installation Desktop mounting

Dimension(W*H*D) 221*251*88mm

Net Weight 4.84KG

Environment

Operating Temp -20°C~65°C – with air flow, wide-temperature SSD,

-10°C~55°C – with air flow, normal temperature HDD

Storage Temp -40°C~85°C

Storage Humidity 10~90%@40°C, No condensation

Vibration 5 grms/5~500Hz/random/during operation (SSD)

1 grms/5~500Hz/random/during operation (HDD)

Shock 50g peak acceleration(duration 11ms) with SSD; 20g peak acceleration(duration 11ms) with HDD

Certificate/EMC CE/FCC Class B

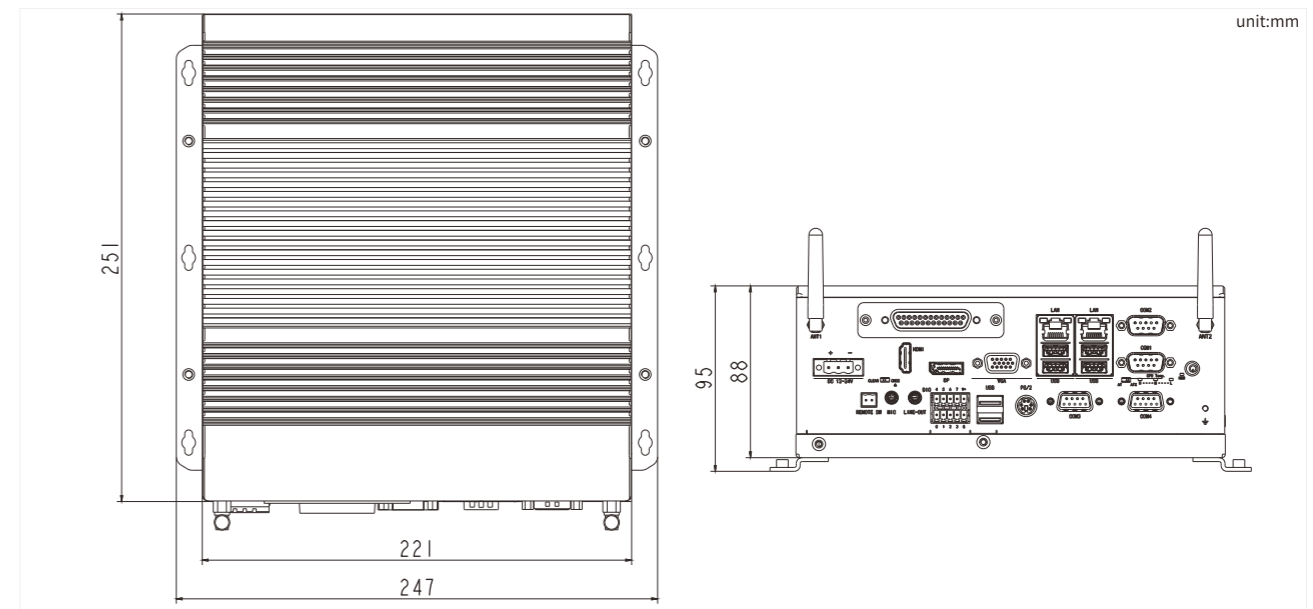
OS

OS Windows 7, Windows 10, Linux Fedora,Ubuntu

I/O View



Dimensions



Ordering Information

Model	Processor	Specifications
KMDA-3610/S001	Intel® Skylake-S/Kabylake-S LGA1151 CPU	H110 Chipset, 2*DDR4, 2*LAN, 4*USB3.0,3*USB2.0, 4*COM, 1*Mini PCIe, 1*HDMI, 1*DP, 1*VGA, 1*Line out,1*Mic, 8+16-bit DIO, 1*PS/2, 2*2.5" SATA bay, 1*M.2,1*mSATA, DC 12~24V
PA-120DC19		AC/DC adapter, DC 19V/6.32A 120W
AC-140		8-channel optical isolation input\8-channel high-power relay board

KMDA-3920

Intel® Skylake-S/Kabylake-S CPU, 2*LAN, 4*USB3.0, PCIe X16+PCIe X4/2*PCI expansion, DC 12~24V wide voltage power supply

Key Specification

- Aluminum Chassis, SGCC frame
- Intel Skylake-S/Kabylake-S CPU
- 2*DDR4 2400/2133MHz SODIMM RAM, Max.32GB
- 1*DP, 1*HDMI & 1*VGA, Optional three independent displays(Intel Q170)
- 2*LAN, 4*USB3.0, 3*USB2.0, 4*COM, 8-bit DIO
- Support PCIe X16+PCIeX4 or 2*PCI expansion
- 1*Mini PCIe(PCIe+USB),1*M.2 2242 B-Key
- 1*mSATA, 2*2.5" SATA3, support RAID0,1(Intel Q170)
- Optional TPM2.0 security encryption, support Intel vPro technology(Intel Q170)
- DC 12~24V wide voltage power supply



Product Overview

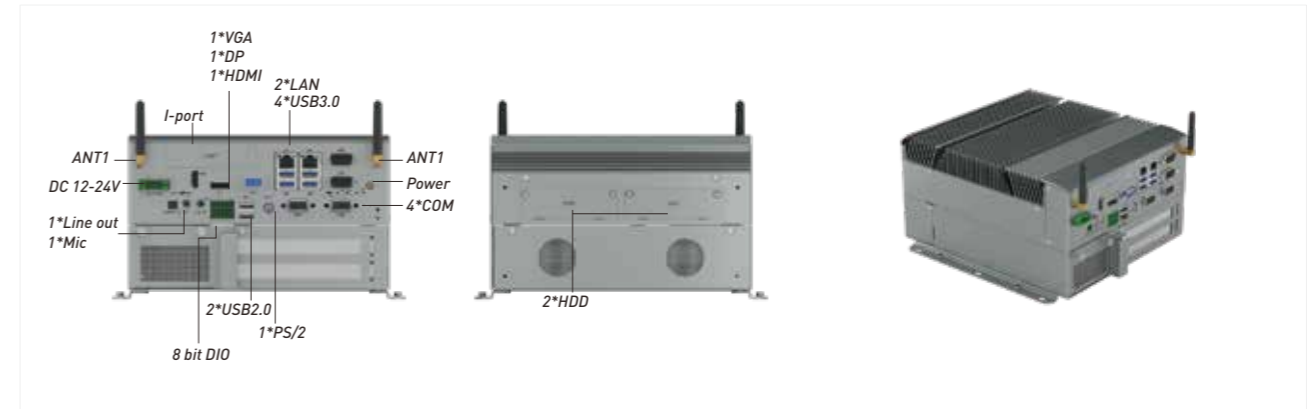
KMDA-3920 is a high-performance box computer with expansion, equipped with Intel® Skylake-S/Kabylake-S series processors, H110/Q170 chipset, 2*DDR4 2133/2400MHz dual-channel memory supports up to 32GB. The easy-to-detach L-shaped folding cover facilitates the installation of functional modules. It is very suitable for applications in video security, machine vision and intelligent AI industries.

Product Parameters

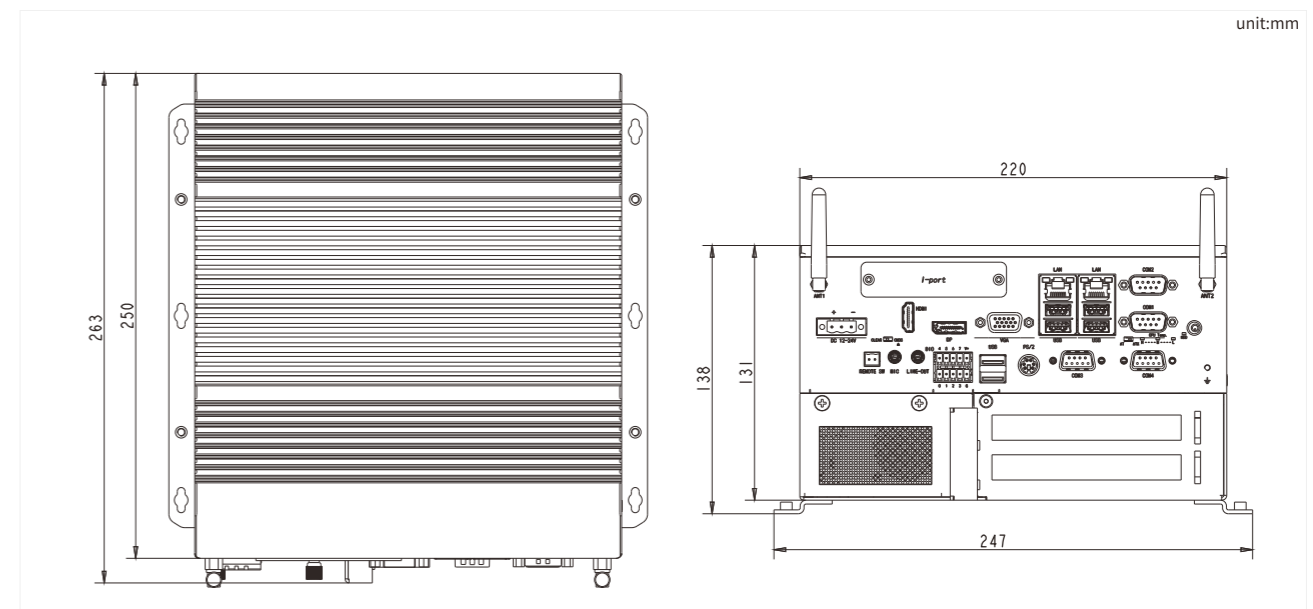
Processor	Intel Skylake-S/Kabylake-S Celeron/Pentium/Core i3/i5/i7 H110 chipset, optional Q170 chipset
CPU	
RAM	2*260-Pin ,DDR4,2133/2400MHz, Max. 32GB
Graphics	Intel Gen. 9 HD Graphics,HEVC/H265 HW HD codec, Support 3 independent displays(Intel Q170) , HDMI:3840*2160@30Hz, DP:4096*2304@60Hz,VGA:1920*1200@60Hz,
LAN	1*Intel I211AT PCIe ,10/100/1000Mbps ; 1*Intel I219 LM, support iVpro (Intel Q170) ,
USB	4* USB3.0, 2*USB2.0 , 1*USB2.0 (build-in)
Display	1*DP+1*HDMI+1*VGA
Audio	1*Line out+1*Mic, optional audio
Serial port /Others	2*RS232/422/485, 2*RS232, 1*PS/2 (Mouse and keyboard)
DIO	8-bit DIO, TTL Programmable input and output (1*10pin)
Storage	
Storage	2*2.5" SATA3,HDD,support RAID0,1(Intel Q170), 1*mSATA full-height card,1*M.2 2242 B-key
Others	
Indicator light	1*power indicator, 1*hard disk indicator, 3*CPU temperature indicator (Red is alarm, Yellow is high temperature, Green is normal temperature)
Control switch	1*Power switch, 1*Reset switch; 1*2pin terminal switch signal, 1*AT/ATX selector switch, 1*CMOS/Clear selector switch
Watchdog timer	Watchdog timeout programmable via software 1 to 255 second
TCPM/TPM	support TPM2.0 (optional)

Expansion	1*Mini PCIe,with SIM slot, support 4G LTE/Wifi/BT, 1*PCIe X16, 1*PCIe X4,or 2*PCI
Expansion Port	
Power Supply	
Input voltage	DC 12~24V input,
Power consumption	68.78W (I7-6700T , 4GB DDR4, 1TB HDD,Install card)
Mechanical	
Structure	Aluminum Chassis, SGCC frame
Color	Silver gray
Installation	Desktop mounting, wall mounting
Dimension(W*H*D)	220*250*131mm
Net Weight	5.27KG
Environment	
Operating Temp	-20°C~65°C – Fanless design, wide-temperature SSD, -10°C~55°C – Fanless design, normal temperature HDD;
Storage Temp	-40°C~85°C
Storage Humidity	10~90%@40°C, No condensation
Vibration	5 grms/5~500Hz/random/during operation (SSD) 1 grms/5~500Hz/random/during operation (HDD)
Shock	50g peak acceleration(duration 11ms) with SSD; 20g peak acceleration(duration 11ms) with HDD
Certificate/EMC	CE/FCC Class B
OS	
OS	Windows 7, Windows 10, Linux Fedora,Ubuntu

I/O View



Dimensions



Ordering Information

Model	Processor	Specifications
KMDA-3920/S001	Intel® Skylake-S/Kabylake-S LGA1151 CPU,H110 Chipset	2*DDR4, 2*LAN, 4*USB3.0,3*USB2.0, 4*COM, 1*Mini PCIe, 1*HDMI, 1*DP, 1*VGA, 1*Line out,1*Mic, 8-bit DIO, 1*PS/2, 2*2.5"SATA bay, 1*M.2, 1*mSATA, DC 12~24V
KMDA-3920/S002	Intel® Skylake-S/Kabylake-S LGA1151 CPU, Q170 Chipset	
ECB-241	Expansion backplane (choose one)	PCIeX16+PCIeX4
ECB-245		2*PCI
PA-120DC19		AC/DC adapter, DC19V/6.32A 120W
PA-220DC24		AC/DC adapter, DC24V/9.17A 220W
AC-140		8-channel optical isolation input\8-channel high-power relay board

KMDA-3920ETC

Intel® Skylake-S/Kabylake-S CPU, 2*LAN, 4*USB3.0, HDMI, DP, VGA, 10*COM, 16+16-bit DIO, 1*PCIeX16/1*PCI expansion,DC 12~24V

Key Specification

- Aluminum Chassis, fanless heat dissipation design
- Intel Skylake-S/Kabylake-S CPU
- 2*DDR4 2400/2133MHz SODIMM RAM, Max.32GB
- 1*DP, 1*HDMI & 1*VGA, Optional three independent displays(Intel Q170)
- 2*LAN, 4*USB3.0, 10*COM, 16+16-bit DIO
- Support 1*PCIe X16 or 1*PCI expansion slot
- 1*Mini PCIe(PCIe+USB),1*M.2 2242 B-Key
- 1*mSATA, 2*2.5" SATA3, support RAID0,1(Intel Q170)
- Optional TPM2.0 security encryption, support Intel vPro technology (Intel Q170)
- DC 12~24V wide voltage power supply



Product Overview

KMDA-3920-ETC is a fanless box computer with expansion, equipped with Intel® Skylake-S/Kabylake-S processor, H110/Q170 chipset, 2*DDR4 2133/2400MHz, dual channel memory, support Max. 32GB. It is very suitable for video security, machine vision and highway Electronic Toll Collection(ETC) industry applications.

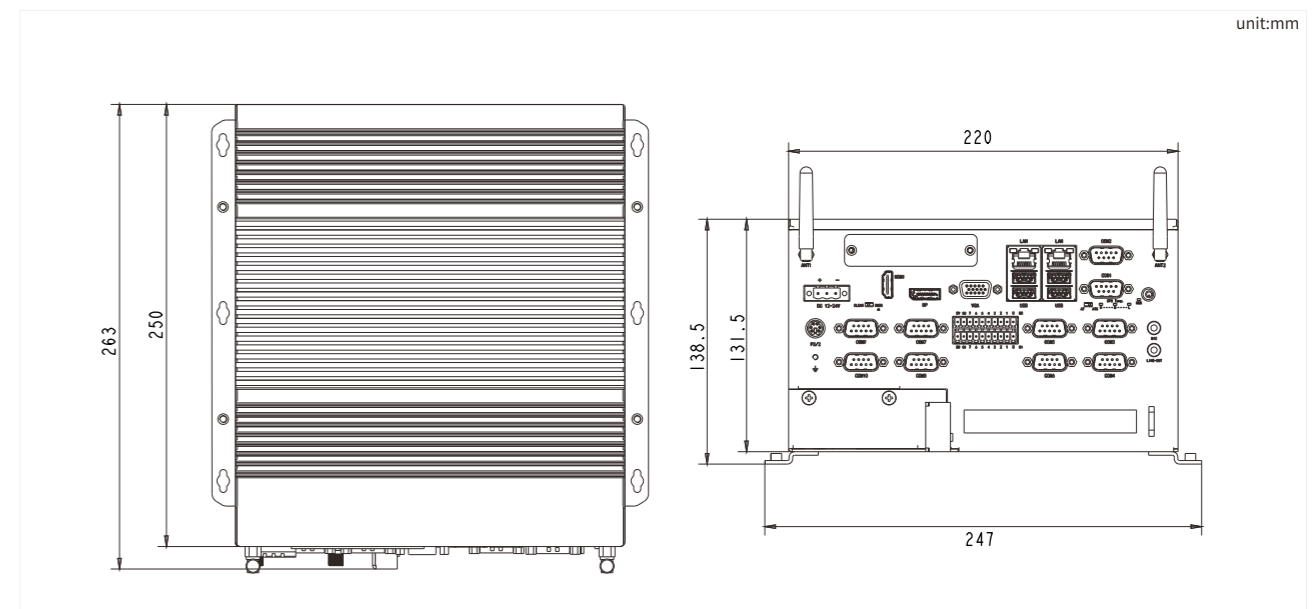
Product Parameters

Processor	Intel Skylake-S/Kabylake-S Celeron/Pentium/Core i3/i5/i7, H110 chipset, optional Q170 chipset	Expansion	1*Mini PCIe, with SIM slot, support 4G LTE/Wifi/BT, 1*PCIe X16, or 1*PCI
CPU		Power Supply	DC 12~24V input, Power consumption 68.78W (I7-6700T, 4GB DDR4, 1TB HDD, Install card)
RAM	2*260-Pin, DDR4, 2133/2400MHz, Max. 32GB	Mechanical	Structure: Aluminum Chassis, SGCC frame Color: Silver gray Installation: Desktop mounting, wall mounting Dimension(W*H*D): 220*250*131.5mm Net Weight: 5.27KG
Graphics	Intel Gen. 9 HD Graphics, HEVC/H265 HW HD codec, HDMI: 3840*2160@30Hz, Support 3 independent displays(Intel Q170), DP: 4096*2304@60Hz, VGA: 1920*1200@60Hz,	Environment	Operating Temp: -20°C~65°C – Fanless design, wide-temperature SSD, -10°C~55°C – Fanless design, normal temperature HDD; Storage Temp: -40°C~85°C Storage Humidity: 10~90%@40°C, No condensation
LAN	1*Intel I211AT PCIe, 10/100/1000Mbps; 1*Intel I219 LM, support iVpro (Intel Q170),	Vibration	5 grms/5~500Hz/random/during operation (SSD) 1 grms/5~500Hz/random/during operation (HDD)
USB	4* USB3.0, 1*USB2.0 (build-in)	Shock	50g peak acceleration(duration 11ms) with SSD; 20g peak acceleration(duration 11ms) with HDD
Display	1*DP+1*HDMI+1*VGA	Certificate/EMC	CE/FCC Class B
Audio	1*Line out+1*Mic, optional audio	OS	Windows 7, Windows 10, Linux Fedora, Ubuntu
Serial port /Others /DIO	2*RS232/422/485, 8*RS232, 1*PS/2 (Mouse and keyboard) 16-bit DIO, TTL Programmable input and output (2*10Pin) 16-bit DIO, TTL Programmable input and output (DB25)		
Storage	2*2.5" SATA3, HDD, support RAID0,1(Intel Q170), 1*mSATA full-height card, 1*M.2 2242 B-key		
Others	Indicator light: 1*power indicator, 1*hard disk indicator, 3*CPU temperature indicator (Red is alarm, Yellow is high temperature, Green is normal temperature) Control switch: 1*Power switch, 1*Reset switch; 1*2pin terminal switch signal, 1*AT/ATX selector switch, 1*CMOS/Clear selector switch Watchdog timer: Watchdog timeout programmable via software 1 to 255 second TCPPM/TPM: support TPM2.0 (optional)		

I/O View



Dimensions



Ordering Information

Model	Processor	Specifications
KMDA-3920-ETC/S001	Intel® Skylake-S/Kabylake-S LGA1151 CPU, H110 Chipset	2*DDR4, 2*LAN, 4*USB3.0, 1*USB2.0, 10*COM, 1*Mini PCIe, 1*HDMI, 1*DP, 1*VGA, 1*Line out, 1*Mic, 16+16-bit DIO, 1*PS/2, 2*2.5" SATA bay, 1*M.2, 1*mSATA, DC 12~24V
ECB-241	Expansion backplane (choose 1)	1*PCIeX16
ECB-245		1*PCI
PA-120DC19		AC/DC power adapter, DC19V/6.32A, 120W
PA-220DC24		AC/DC power adapter, DC24V@9.17A, 220W
PA-300DC24		AC/DC power adapter, DC24V@12.5A, 300W
AC-140		8-channel isolated input and 8-channel power relay output terminal board, DC 12V power supply, source signal: 16-bit TTL GPIO

KMDA-3921

Intel® Skylake-S/Kabylake-S CPU, 2*LAN, 4*USB3.0, HDMI, DP, VGA, 3 Displays, PCIe X16+PCIe X1+2*PCI expansion, DC 12~24V wide voltage power supply

I/O View

Key Specification

- Aluminum Chassis, SGCC box
- Intel Skylake-S/Kabylake-S CPU
- 2*DDR4 2400/2133MHz SODIMM RAM, Max.32GB
- 1*DP, 1*HDMI & 1*VGA, Optional three independent displays(Intel Q170)
- 2*LAN, 4*USB3.0, 3*USB2.0, 4*COM, 8-bit DIO
- 1*PCIe X16+1*PCIeX1+2*PCI expansion
- 1*Mini PCIe(PCIe+USB),1*M.2 2242 B-Key
- 1*mSATA, 2*2.5" SATA3, support RAID0,1(Intel Q170)
- Optional TPM2.0 security encryption, support Intel vPro technology (Intel Q170)
- DC 12~24V wide voltage power supply



Product Overview

KMDA-3921 is a embedded high-performance box computer with expansion, equipped with Intel® Skylake-S/Kabylake-S processor, H110/Q170 chipset, 2*DDR4 2133/2400MHz, dual channel memory, support Max. 32GB. The easy-to-detach L-shaped folding cover is convenient for the installation of functional modules. It is very suitable for applications in video security, machine vision and intelligent AI industries.

Product Parameters

Processor

CPU	Intel Skylake-S/Kabylake-S Celeron/Pentium/Core i3/i5/i7, H110 chipset, optional Q170 chipset
RAM	2*260-Pin ,DDR4,2133/2400MHz,Max. 32GB
Graphics	Intel Gen. 9 HD Graphics,HEVC/H265 HW HD codec, support 3 independent displays (Intel Q170), HDMI:3840*2160@30Hz, DP:4096*2304@60Hz,VGA:1920*1200@60Hz,
LAN	1*Intel I211AT PCIe ,10/100/1000Mbps ; 1*Intel I219 LM, support vPro (Intel Q170) ,
USB	4* USB3.0, 2*USB 2.0, 1*USB2.0 (build-in)
Display	1*DP+1*HDMI+1*VGA
Audio	1*Line out+1*Mic, optional audio
Serial port /Others	2*RS232/422/485, 2*RS232, 1*PS/2 (Mouse and keyboard)
DIO	8-bit DIO (10PinPhoenix terminal) 16-bit DIO (build-in), TTL Programmable input and output

Storage

Storage	2*2.5" SATA3,HDD,support RAID0,1(Intel Q170), 1*mSATA full-height card,1*M.2 2242 B-key
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Others

Indicator light	1*power indicator, 1*hard disk indicator, 3*CPU temperature indicator (Red is alarm, Yellow is high temperature, Green is normal temperature)
Control switch	1*Power switch, 1*Reset switch; 1*2pin terminal switch signal, 1*AT/ATX selector switch, 1*CMOS/Clear selector switch
Watchdog timer	Watchdog timeout programmable via software 1 to 255 second
TCPPM/TPM	support TPM2.0 (optional)

Expansion

Expansion Port	1*Mini PCIe,with SIM slot , support 4G LTE/Wifi/BT, 1*PCIe X16,1*PCIe X4 (X1 signal) ,2*PCI, or 2*PCIe X16 (X8 signal) +1*PCIe X8 (X4 signal) I-port:1*LPT/USB2.0/16-bit DIO/1*Mini PCIe
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Power Supply

Input voltage	DC 12~24V input,
Power consumption	68.78W (I7-6700T , 4GB DDR4, 1TB HDD)

Mechanical

Structure	Aluminum Chassis, SGCC frame
Color	Silver gray
Installation	Desktop mounting, wall mounting
Dimension(W*H*D)	220*250*172mm
Net Weight	5.58KG

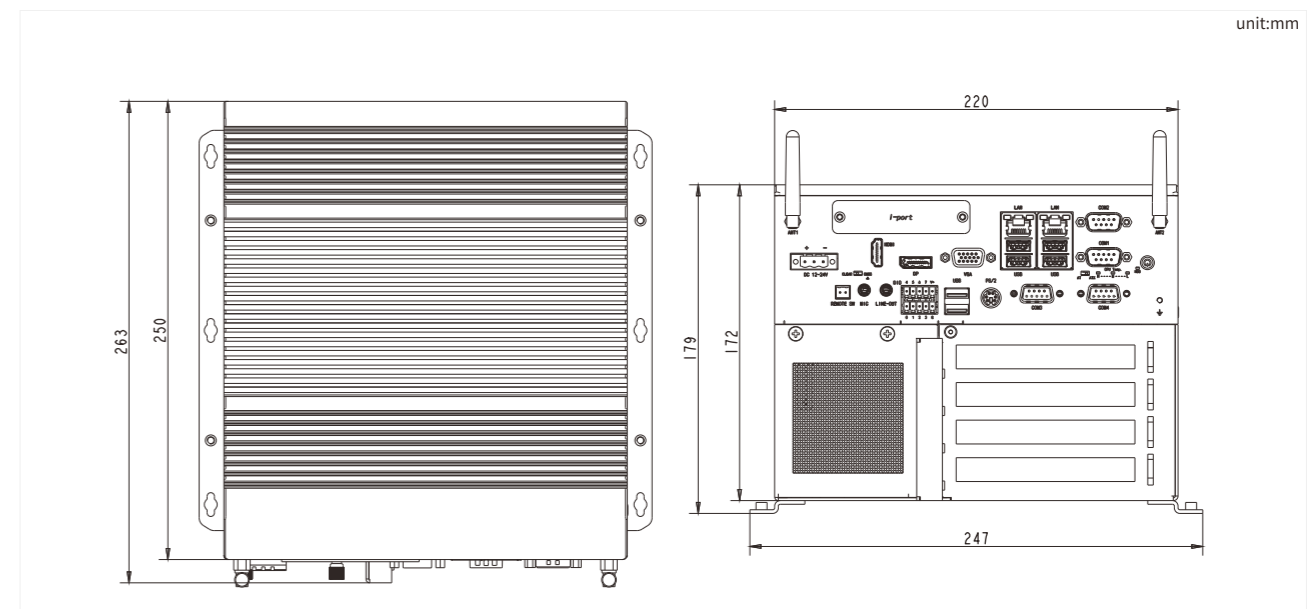
Environment

Operating Temp	-20°C~65°C – Fanless design, wide-temperature SSD, -10°C~55°C – Fanless design, normal temperature HDD;
Storage Temp	-40°C~85°C
Storage Humidity	10~90%@40°C, No condensation
Vibration	5 grms/5~500Hz/random/during operation (SSD) 1 grms/5~500Hz/random/during operation (HDD)
Shock	50g peak acceleration(duration 11ms) with SSD; 20g peak acceleration(duration 11ms) with HDD
Certificate/EMC	CE/FCC Class B

OS

OS	Windows 7, Windows 10, Linux Fedora,Ubuntu
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Dimensions



Ordering Information

Model	Processor	Specifications
KMDA-3921/S001	Intel® Skylake-S/Kabylake-S LGA1151 CPU,H110 Chipset	2*DDR4, 2*LAN, 4*USB3.0,3*USB2.0, 4*COM, 1*Mini PCIe, 1*HDMI,1*DP,1*VGA, 1*Line out,1*Mic, 8-bit DIO,1*PS/2, 1*I-port, 2*2.5" SATA3 bay, 1*M.2, 1*mSATA, DC 12~24V
KMDA-3921/S002	Intel® Skylake-S/Kabylake-S LGA1151 CPU, Q170 Chipset	
ECB-242	Expansion backplane (choose 1)	1*PCIe X16, PCIe X4(X1 signal), 2*PCI
ECX-249		2*PCIe X16(X8 signal),1*PCI X8 (X4 signal)
PA-120DC19		AC/DC adapter, DC 19V/6.32A 120W
PA-220DC24		AC/DC adapter, DC 24V/9.17A 220W
AC-140		8-channel optical isolation input\8-channel high-power relay board

KMDA-5610

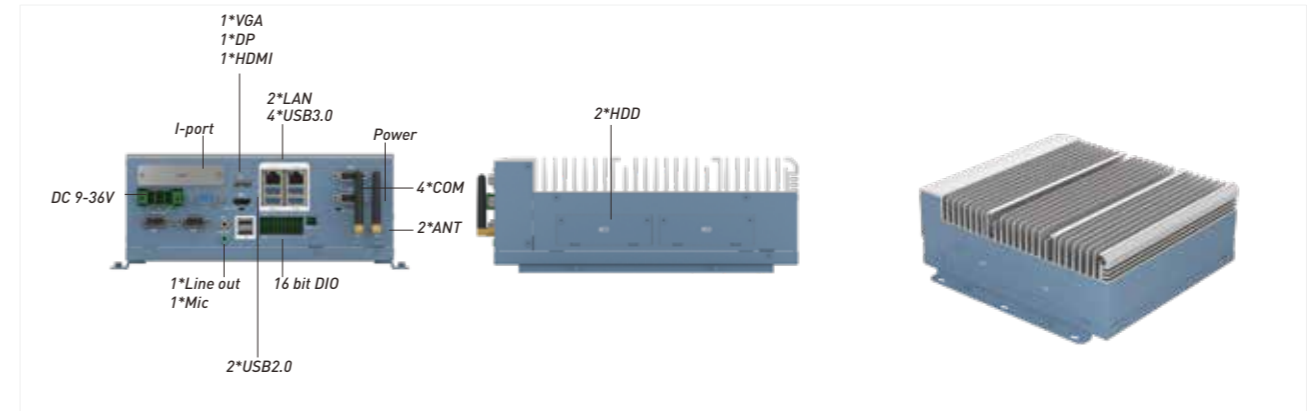
Intel® 9th/8th-Gen Coffee Lake LGA1151 CPU, 2*LAN, 4*USB3.1, 1*VGA, 1*DP, 1*HDMI, 2*4K Displays, 1*Msata, 2*SATA3.0, DC 9-36V

Key Specification

- Intel® 9th/8th-Gen Coffee Lake LGA1151 CPU
- Intel® H310 chipset
- 2*DDR4 2400/2666MHz SODIMM RAM, Max.64GB
- 1*DP, 1*HDMI,1*VGA, 2+1 display
- 2*LAN, 4*USB3.1, 2*USB2.0, 4*COM, 16-bit Iso.DIO
- 1*M.2 E-key 2230, Support 10/100/1000Mbps WIFI module
- 2*SATA3.0,1*mSATA with SIM card slot
- Wide voltage power supply 9-36V, with short circuit, overvoltage and overcurrent protection



I/O View



Product Overview

KMDA-5610 is a fanless high-performance box PC, equipped with Intel® 8th/9th generation Coffee lake series processors, H310 chipset, 2*DDR4 2400/2666MHz, and Max. support upto 64GB. Industrial grade product design. It is very suitable for industrial automation, AI edge computing, small smart workstations, multimedia service systems, high-precision machine vision and other applications.

Product Parameters

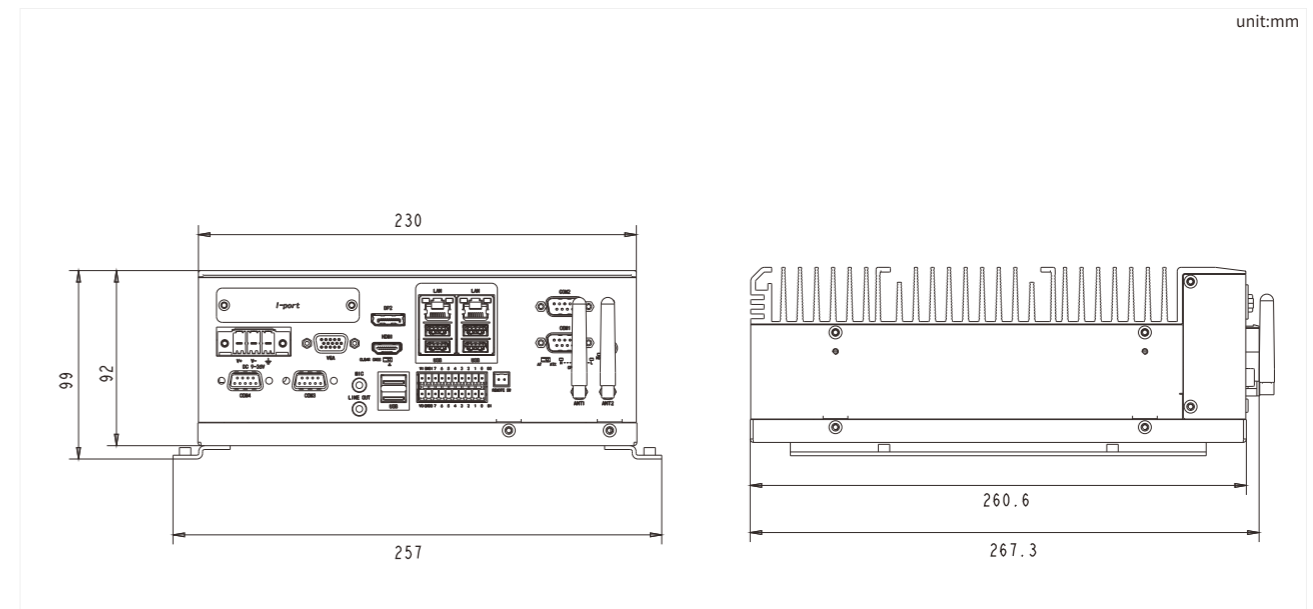
Processor

CPU	Intel® Coffee lake 9th/8th-Gen Corei7/i5/i3/Pentium/Celeron LGA1151 processor, H310 chipset
RAM	2*260-Pin, DDR4,2400/2666MHz, Max. 64GB
Graphics	Intel UHD Graphics, Supports DirectX11.1, OpenGL 5.0 and OpenCL 2.1 or PCIe X16, DP:4096*2304@60Hz, VGA:1900*1200@60Hz, HDMI:4096*2160@24Hz (Support 2 independent display, 1 mirror display)
LAN	1*Intel I210AT PCIe, 10/100/1000Mbps; 1*Intel I219 LM
USB	4* USB3.1, 2*USB2.0, 1*USB2.0 (build-in)
Display	1*DP+1*HDMI+1*VGA
Audio	1*Line out+1*Mic, optional audio
Serial port /Others	2*RS232/422/485, 2*RS232, 16-bit iso DIO
DIO	8-bit 2.5KV Iso. DI(High:5-24V,Low:0-1.5V) and 8-bit 2.5KV Iso. DO (200mA)
Storage	
Storage	2*2.5" SATA3,HDD,1*full length mSATA, with SIM slot,support 4G
Others	
Indicator light	1*power indicator, 1*hard disk indicator, 3*CPU temperature indicator
Control switch	1*Power SW,1*Remote switch,1*AT/ATX SW, 1*Clear CMOS SW
Watchdog timer	watchdog timeout programmable via software 1 to 255 second
TCPPM/TPM	support TPM2.0 (optional)

Expansion

Expansion Port	1*M.2 E-Key 2230, Support 10/100/1000Mbps WFI module 1-port:optional USB2.0/ 16-bitDIO/serial ports/others
Power Supply	
Input voltage	DC IN 9-36V 3-pin Term. 7.62mm,with short circuit protection, over voltage and over current protection,
Power consumption	96W(i7-8700,32G DDR4,128G SSD)
Mechanical	
Structure	Aluminum Chassis, SGCC frame
Color	Silver white & Aquamarine
Installation	Desktop mounting
Dimension(W*H*D)	230*267.3*92mm
Net Weight	5.1KG
Environment	
Operating Temp	-20°C~60°C – Fanless design, wide-temperature SSD, -10°C~55°C – Fanless design, normal temperature HDD;
Storage Temp	-40°C~85°C
Storage Humidity	10~90%@40°C, No condensation
Vibration	5 grms/5~500Hz/random/during operation (SSD) 1 grms/5~500Hz/random/during operation (HDD)
Shock	50g peak acceleration(duration 11ms) with SSD; 20g peak acceleration(duration 11ms) with HDD
Certificate/EMC	CE/FCC Class B
OS	
OS	Windows 10 Enterprise & IOT Enterprise,Ubuntu,SuSe,Redhat Enterprise 1,2 (Kernel 4.14) ,Wind River VxWorks 7

Dimensions



Ordering Information

Model	Processor	Specifications
KMDA-5610/S001	Intel® C 9th/8th Coffeelake LGA1151 CPU, H310 PCH	2*DDR4, 2*LAN, 4*USB3.1, 2*USB2.0, 4*COM, M.2 E-Key, 1*VGA, 1*DP,1*HDMI, 1*Line out,1*Mic, 16-bit iso DIO, 2*2.5" SATA, 1*mSATA with SIM slot DC 9-36V
PA-120DC19		AC/DC power adapter,DC19V/6.32A,120W

KMDA-5920/S001

Intel® 9th/8th-Gen Coffee Lake LGA1151 series CPU ,2*LAN, 4*USB3.1, 2*SATA3.0, 1*PCIe X16, 1*PCIeX4, Wide voltage power supply DC 9-36V

Key Specification

- Intel® 9th/8th-Gen Coffee Lake LGA1151 CPU
- Intel® H310 chipset
- 2*DDR4 2400/2666MHz SODIMM RAM, Max.64GB
- Support 1*DP,1*HDMI,1*VGA, 2+1 display
- 2*LAN,4*USB3.1, 2*USB2.0, 4*COM, 16-bit Iso.DIO
- 1*M.2 E-key 2230, Support 10/100/1000Mbps WIFI module
- 1*PCIe X16, 1*PCIeX4, Support a variety of high-speed expansion function cards
- 2*easy-swappable SATA 3.0 bay, 1*full size mSATA, with SIM card slot
- Wide voltage power supply DC 9-36V, with short circuit, over voltage and over current protection



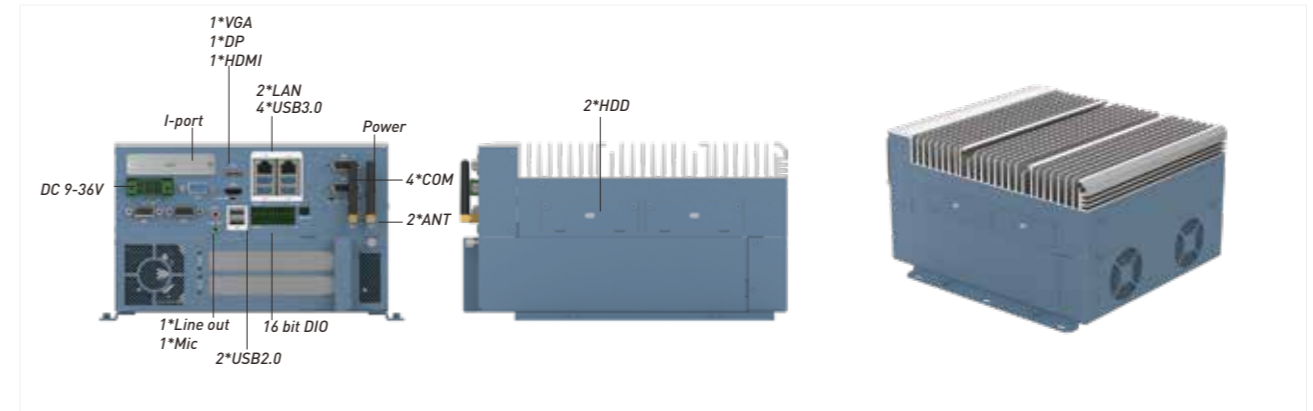
Product Overview

KMDA-5920 is a fanless high-performance box PC, equipped with Intel® 8th/9th generation Coffee Lake series processors, H310 chipset, 2*DDR4 2400/2666MHz, and Max. support upto 64GB. Rich expansion flexibility, industrial grade product design. It is very suitable for industrial automation, AI edge computing, small intelligent workstations, multimedia service systems, high-precision machine vision and other applications.

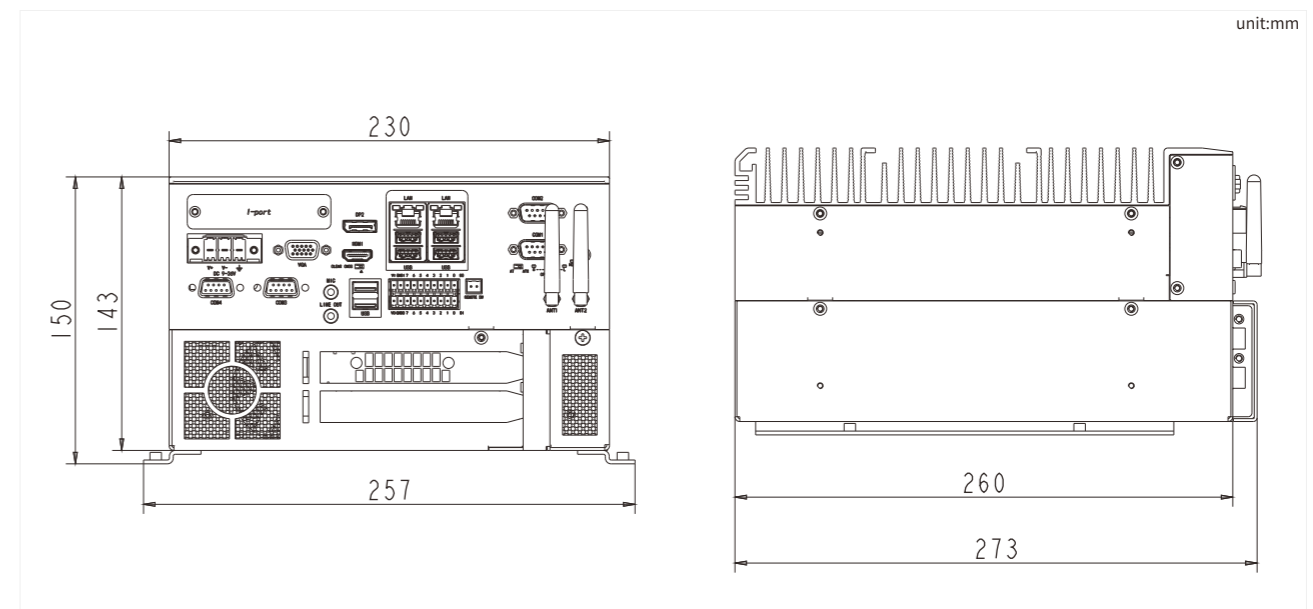
Product Parameters

Processor	Intel® Coffee lake 9th/8th-Gen Corei7/i5/i3/Pentium/Celeron LGA1151 processor, H310 chipset	Expansion	1*M.2 E-Key 2230, Support 10/100/1000Mbps WFI module, Expansion Port 1*PCIe X16, 1*PCIe X4, I-port: optional USB2.0/ 16-bitDIO/serial ports/others
CPU		Power Supply	Input voltage DC IN 9-36V 3-pin Term. 7.62mm,With short circuit, OVP & OCP Power consumption 60.48W (I7-8700T CPU/16G DDR4/128G SSD)
RAM	2*260-Pin ,DDR4,2400/2666MHz, Max. 64GB	Mechanical	Structure Aluminum Chassis, SGCC frame Color Silver white & Aquamarine Installation Desktop mounting Dimension(W*H*D) 230*273*143mm Net Weight 5.9KG
Graphics	Intel UHD Graphics, Supports DirectX11.1, OpenGL 5.0 and OpenCL 2.1 or PCIe X16,DP:4096*2304@60Hz, VGA:1900*1200@60Hz, HDMI:4096*2160@24Hz (Support 2 independent display, 1 mirror display)	Environment	Operating Temp -20°C~60°C – Fanless design, wide-temperature SSD, -10°C~55°C – Fanless design, normal temperature HDD Storage Temp -40°C~85°C Storage Humidity 10~90%@40°C, No condensation
LAN	1*Intel I210AT PCIe ,10/100/1000Mbps ; 1*Intel I219 LM	Vibration	5 grms/5~500Hz/random/during operation (SSD) 1 grms/5~500Hz/random/during operation (HDD)
USB	4* USB3.1, 2*USB2.0,1*USB2.0 (build-in)	Shock	50g peak acceleration(duration 11ms) with SSD; 20g peak acceleration(duration 11ms) with HDD
Display	1*DP+1*HDMI+1*VGA	Certificate/EMC	CE/FCC Class B
Audio	1*Line out+1*Mic,optional audio	OS	OS Windows 10 Enterprise & IOT Enterprise, Ubuntu,SuSe,Redhat Enterprise 1,2 (Kernel 4.14) Wind River VxWorks 7
Serial port /Others	2*RS232/422/485, 2*RS232, 16-bit iso DIO		
DIO	8-bit 2.5KV Iso. DI(High:5-24V,Low:0-1.5V) and 8-bit 2.5KV Iso. DO (200mA)		
Storage	2*2.5" SATA3,HDD,1*mSATA, with SIM slot,support 4G		
Others	Indicator light 1*power indicator, 1*hard disk indicator, 3*CPU temperature indicator Control switch 1*Power SW,1*Remote switch,1*AT/ATX SW, 1*Clear CMOS SW Watchdog timer Watchdog timeout programmable via software 1 to 255 second timer		

I/O View



Dimensions



Ordering Information

Model	Processor	Specifications
KMDA-5920/S001	Intel® 9th/8th Coffeelake LGA1151 CPU, H310	2*LAN, 4*USB3.1, 2*USB2.0,4*COM, 1*M.2 E-Key, 1*VGA, 1*DP, 1*HDMI, 1*Line out,1*Mic, 16-bit iso DIO, 2*2.5" SATA, 1*mSATA, DC 9-36V
ECB-255		1*PCIeX16,1*PCIeX4
PA-120DC19		AC/DC adapter, DC19V/6.32A 120W
PA-220DC24		AC/DC adapter,DC 24V/9.17A 220W
PA-300DC24		AC/DC power adapter,DC24V@12.5A ,300W
AC-140		8-channel isolated input and 8-channel power relay output terminal board,DC 12V power supply,source signal: 16-bit TTL GPIO

KMDA-5920/S002

Intel® 9th/8th-Gen Coffee Lake LGA1151 CPU, 3*LAN, 6*USB3.1, 1*VGA, 2*DP, 2*SATA3.0, 1*PCIe X16, 1*PCIeX4, DC9-36V

Key Specification

- Intel® 9th/8th-Gen Coffee Lake LGA1151 CPU
- Intel® Q370 chipset
- 4*DDR4 RAM, Dual-channel memory, Max. support 128GB
- Support 2*DP+1*VGA, 3 independent displays
- 6*USB3.1, 2*USB2.0, 4*COM, 16-bit Iso.DIO
- 1* M.2 3052 B-Key. With SIM card slot, support 5G module,
- 1*M.2 E-key 2230, Support 10/100/1000Mbps WIFI module
- 2*SATA3.0 Support RAID0.1, 1*M.2 2280 M-Key,Support NVME storage
- 1*PCIe X16, 1*PCIeX4 expansion, support multiple high-speed expansion interface modules
- DC 9-36V Wide voltage power supply, with short circuit, over voltage and over current protection



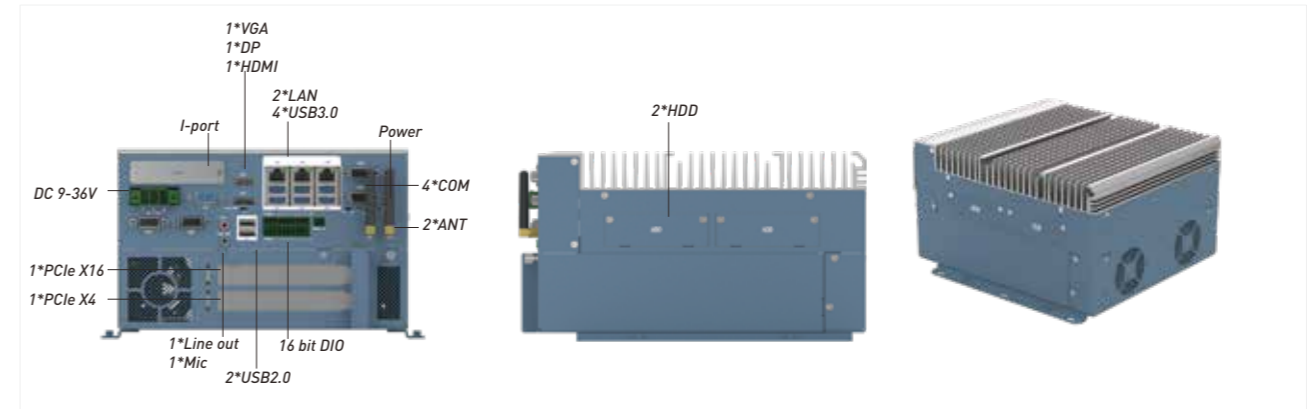
Product Overview

KMDA-5920 is a fanless high-performance box PC, equipped with Intel® 8th/9th generation Coffee Lake series processors, Q370 chipset, 4*DDR4 2400/2666MHz, dual-channel memory, Max. support upto 128GB. It is very suitable for industrial automation, AI edge computing, small smart workstations, multimedia service systems, high-precision machine vision and other applications.

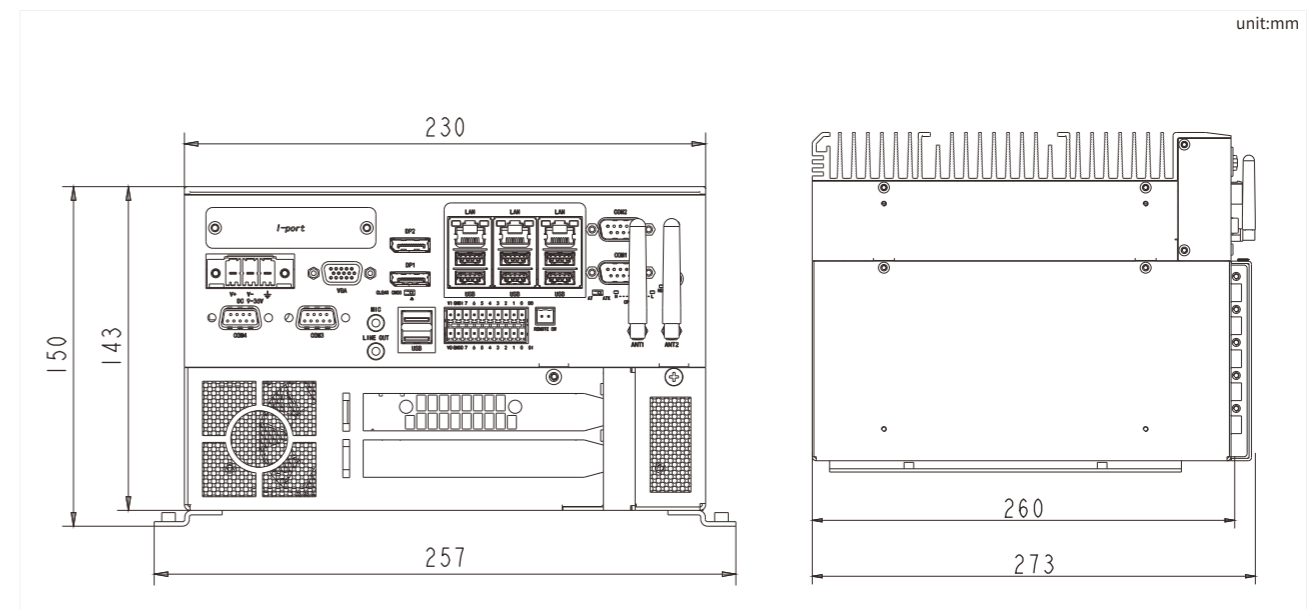
Product Parameters

Processor	Intel® Coffee lake 9th/8th-Gen Corei7/i5/i3/Pentium/Celeron	Expansion	1*M.2 B-Key, with SIM slot,support 5G,1*M.2 E-Key, 1*PCIe X16,1*PCIe X4, 1*Mini PCIe,with SIM slot,support 4G/WIFI/BT
CPU	LGA1151 processor, Q370 chipset	Expansion Port	l-port: optional USB2.0/ 16-bitDIO/serial ports/others
RAM	4*260-Pin ,DDR4,2400/2666MHz, Max. 128GB	Power Supply	DC IN 9-36V 3-pin Term. 7.62mm,with short circuit protection, over voltage and over current protection,
Graphics	Intel UHD Graphics, Supports DirectX11.1, OpenGL 5.0 and OpenCL 2.1 or PCIe X16,DP: 4096*2304@60Hz, VGA1900*1200@60Hz,support 3 independent displays	Input voltage	60.48W (I7-8700T CPU/16G DDR4/128G SSD)
LAN	2*Intel I210AT PCIe ,10/100/1000Mbps ; 1*Intel I219 LM,support iVpro	Power consumption	
USB	6* USB3.1, 2* USB2.0,2*USB2.0 (build-in)	Mechanical	
Display	2*DP+1*VGA	Structure	Aluminum Chassis, SGCC frame
Audio	1*Line out+1*Mic, optional audio	Color	Silver white & Aquamarine
Serial port /Others	2*RS232/422/485, 2*RS232, 16-bit iso DIO	Installation	Desktop mounting
DIO	8-bit 2.5KV Iso. DI(High:5-24V,Low:0-1.5V) and 8-bit 2.5KV Iso. DO (200mA)	Dimension(W*H*D)	230*273*143mm
Storage		Net Weight	5.9KG
Storage	2*2.5" SATA3, supportRAID0,1, 1*M.2 M-Key,PCIex4 Gen3.0, support NVME storage	Environment	
Others		Operating Temp	-20°C~60°C – Fanless design, wide-temperature SSD, -10°C~55°C – Fanless design, normal temperature HDD;
Indicator light	1*power indicator, 1*hard disk indicator, 3*CPU temperature indicator	Storage Temp	-40°C~85°C
Control switch	1*Power SW,1*Remote switch,1*AT/ATX SW, 1*Clear CMOS SW	Storage Humidity	10~90%@40°C, No condensation
Watchdog timer	Watchdog timeout programmable via software 1 to 255 second	Vibration	5 grms/5~500Hz/random/during operation (SSD) 1 grms/5~500Hz/random/during operation (HDD)
		Shock	50g peak acceleration(duration 11ms) with SSD; 20g peak acceleration(duration 11ms) with HDD
		Certificate/EMC	CE/FCC Class B
		OS	
		OS	Windows 10 Enterprise & IOT Enterprise, Ubuntu,SuSe,Redhat Enterprise 1,2 (Kernel 4.14),Wind River VxWorks 7

I/O View



Dimensions



Ordering Information

Model	Processor	Specifications
KMDA-5920/S002	Intel® 9th/8th Coffeelake LGA1151 CPU, Q370	3*LAN, 6*USB3.1, 2*USB2.0,4*COM, 1*Mini PCIe, M.2 E-Key, 1*M.2 B-Key, 1*VGA, 2*DP, 1*Line out,1*Mic, 16-bit iso DIO,2*2.5" SATA, 1*M.2 2280 M-Key, DC 9-36V
ECB-255		1*PCIeX16,1*PCIeX4
PA-120DC19		AC/DC adapter, DC19V/6.32A 120W
PA-220DC24		AC/DC adapter,DC 24V/9.17A 220W
PA-300DC24		AC/DC power adapter,DC24V@12.5A ,300W
AC-140		8-channel isolated input and 8-channel power relay output terminal board,DC 12V power supply,source signal: 16-bit TTL GPIO

KMDA-5921/S001

Intel® 9th/8th-Gen Coffee Lake LGA1151 CPU, 2*LAN, 4*USB3.1, 2* easy-swappable SATA3, 1*PCIe X16, 1*PCIe X4, 3*32-bit PCI, DC9-36V

Key Specification

- Intel® 9th/8th-Gen Coffee Lake LGA1151 CPU
- Intel® H310 chipset
- 2*DDR4 2400/2666MHz SODIMM RAM, Max. 64GB
- 1*DP, 1*HDMI, 1*VGA, 2 independent displays
- 2*LAN, 4*USB3.1, 2*USB2.0, 4*COM, 16-bit Iso. DIO
- 1*M.2 E-key 2230, Support 10/100/1000Mbps WIFI module
- 1*PCIe X16, 1*PCIe X4, 2*32-bit PCI;
- 2*easy-swappable SATA 3.0 bay, 1*full size mSATA, with SIM card slot
- Optional support TPM2.0 security encryption, support iAMT12.0, Intel vPro technology
- DC9-36V wide voltage power supply



Product Overview

KMDA-5921 is a fanless high-performance box PC, equipped with the 8th/9th generation Coffee Lake LGA1151 series processors, H310 chipset. It supports multiple PCIe expansions and is flexible to meet application requirements. With rich expansion flexibility and industrial-grade product design, it is suitable for industry Automation, AI edge computing, multimedia service system, high-precision machine vision, video security and other applications.

Product Parameters

Processor

CPU	Intel® Coffee lake 9th/8th-Gen Core i7/i5/i3/Pentium/Celeron LGA1151 processor, H310 chipset
RAM	2*260-Pin, DDR4, 2400/2666MHz, Max. 64GB
Graphics	Intel UHD Graphics, Supports DirectX 11.1, OpenGL 5.0 and OpenCL 2.1 or PCIe X16, DP: 4096*2304@60Hz, VGA: 1900*1200@60Hz, HDMI: 4096*2160@24Hz (Support 2 independent display, 1 mirror display)
LAN	1*Intel I210AT PCIe, 10/100/1000Mbps; 1*Intel I219 LM
USB	4* USB3.1, 2*USB2.0
Display	1*DP+1*HDMI+1*VGA
Audio	1*Line out+1*Mic, optional audio
Serial port /Others	2*RS232/422/485, 2*RS232, 16-bit iso DIO
DIO	8-bit 2.5KV Iso. DI (High: 5-24V, Low: 0-1.5V) and 8-bit 2.5KV Iso. DO (200mA)

Storage

Storage	2*2.5" SATA3, HDD, 1*mSATA, with SIM slot, support 4G
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Others

Indicator light	1*power indicator, 1*hard disk indicator, 3*CPU temperature indicator
Control switch	1*Power SW, 1*Remote switch, 1*AT/ATX SW, 1*Clear CMOS SW
Watchdog timer	Watchdog timeout programmable via software 1 to 255 second
TCPPM/TPM	support TPM2.0 (optional)

Expansion

Expansion Port	1*M.2 E-Key 2230, Support 10/100/1000Mbps WFI module/BT5.0 1*PCIe X16, 1*PCIe X4 (PCIe X1 signal), 2*32-bit PCI, optional USB2.0/ 16-bitDIO/serial ports/others
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Power Supply

Input voltage	DC IN 9-36V 3-pin Term. 7.62mm, with short circuit protection, over voltage and over current protection,
Power consumption	48.5W (I7-9700, 16G DDR4, 128G SSD)

Mechanical

Structure	Aluminum Chassis, SGCC frame
Color	Silver white & Aquamarine
Installation	Desktop mounting
Dimension(W*H*D)	230*273*204mm
Net Weight	7.25KG

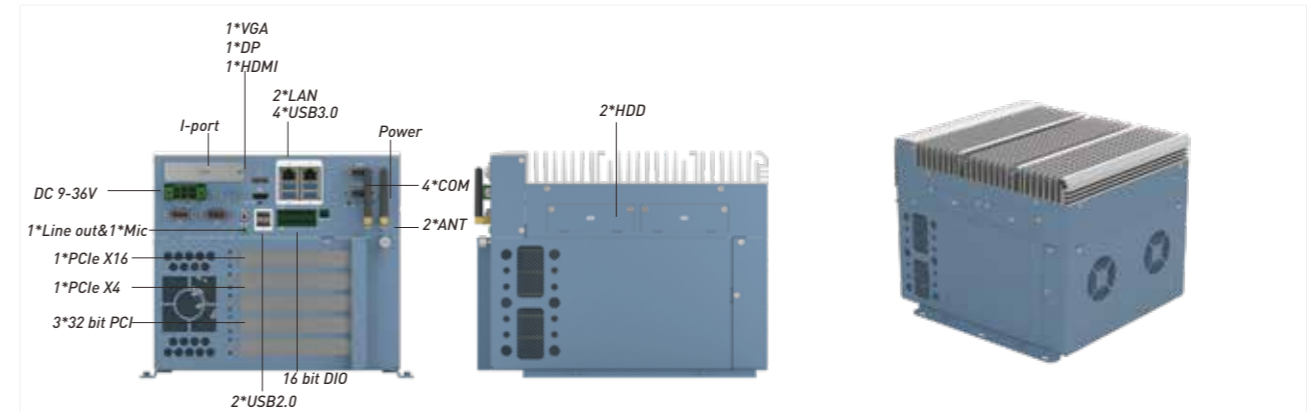
Environment

Operating Temp	-20°C~60°C – Fanless design, wide-temperature SSD, -10°C~55°C – Fanless design, normal temperature HDD;
Storage Temp	-40°C~85°C
Storage Humidity	10~90%@40°C, No condensation
Vibration	5 grms/5~500Hz/random/during operation (SSD) 1 grms/5~500Hz/random/during operation (HDD)
Shock	50g peak acceleration(duration 11ms) with SSD; 20g peak acceleration(duration 11ms) with HDD
Certificate/EMC	CE/FCC Class B

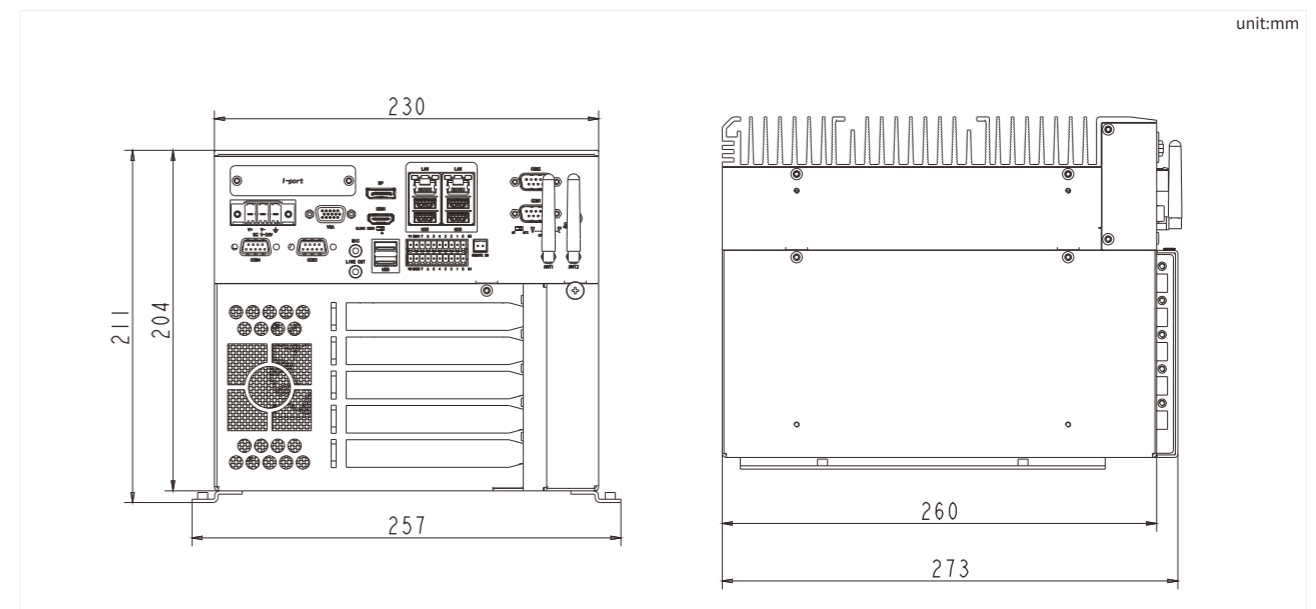
OS

OS	Windows 10 Enterprise & IOT Enterprise, Ubuntu, SuSe, Redhat Enterprise 1.2 (Kernel 4.14), Wind River VxWorks 7
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I/O View



Dimensions



Ordering Information

Model	Processor	Specifications
KMDA-5921/S001	Coffee lake-R 9th/8th-Gen Core i7/i5/i3/Pentium/Celeron CPU, H310 PCH	2*LAN, 4*USB3.1, 2*USB2.0, 4*COM, 1*Mini PCIe, M.2 E-Key, 1*VGA, 1*DP, 1*HDMI, 1*Line out, 1*Mic, 16-bit iso DIO, 2*2.5" SATA, DC 9-36V
ECB-266		1*PCIe X16, 1*PCIe X4, 2*PCI
PA-120DC19		AC/DC adapter, DC19V/6.32A 120W
PA-220DC24		AC/DC adapter, DC 24V/9.17A 220W
PA-300DC24		AC/DC power adapter, DC24V@12.5A, 300W
AC-140		8-channel isolated input and 8-channel power relay output terminal board, DC 12V power supply, source signal: 16-bit TTL GPIO

KMDA-5921/S002

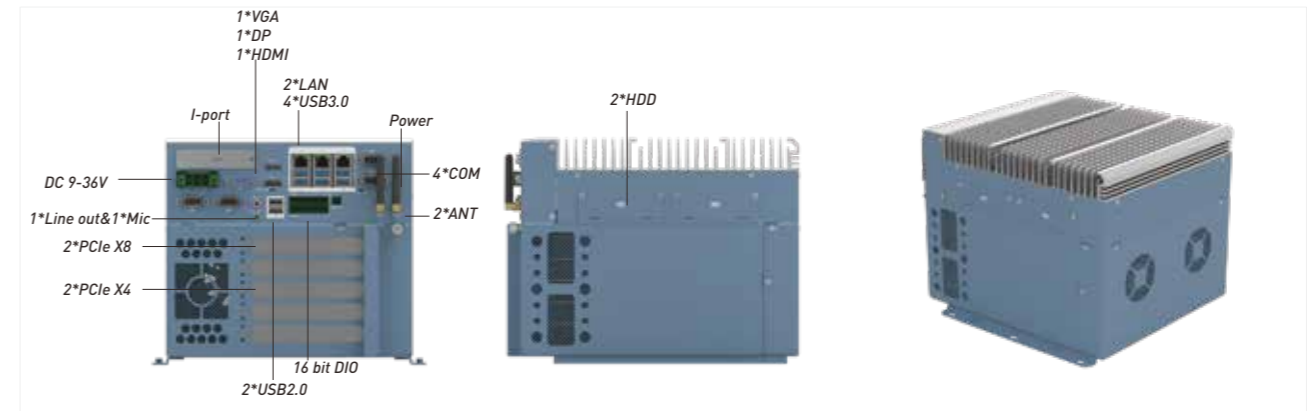
Intel®9th/8th-Gen Coffee Lake LGA1151 CPU, 3*LAN, 6*USB3.1, 2*easy-swappable SATA3, 4*PCIe slots, DC 9-36V

Key Specification

- Intel® Coffee lake 9th/8th-Gen Corei7/i5/i3/Pentium/Celeron CPU
- Intel® Q370 chipset
- 4*DDR4 2400/2666MHz SODIMM RAM, Max.128GB
- 3*LAN, 6*USB3.1, 2*USB2.0, 4*COM, 16-bit Iso.DIO
- 1*M.2 B-Key supports 5G,1*M.2 E-key, support 10/100/1000Mbps WIFI
- 1*Mini PCIe. With SIM card slot, support 4G/Wifi/BT and other wireless functions
- 2*PCIe X8, 2*PCIe X4
- 2*SATA3.0, support RAID0,1,1*M.2 M-Key,support Nvme
- Optional support TPM2.0 security encryption, iAMT12.0, Intel vPro technology
- Wide voltage power supply 9-36V



I/O View



Product Overview

KMDA-5921 is a fanless high-performance box PC, equipped with the 8th/9th generation Coffee Lake LGA1151 series processors, Q370 chipset. Two easy-swappable 2.5" SATA3 bay, supporting RAID 0, 1. With full function, rich expansion flexibility and industrial-grade product design, it is suitable for industry Automation, AI edge computing, multimedia service system, high-precision machine vision, video security and other applications.

Product Parameters

Processor

CPU	Intel® Coffee lake 9th/8th-Gen Corei7/i5/i3/Pentium/Celeron LGA1151 processor, Q370 chipset
RAM	4*260-Pin ,DDR4,2400/2666MHz, Max. 128GB
Graphics	Intel UHD Graphics, Supports DirectX11.1, OpenGL 5.0 and OpenCL
LAN	2*Intel I210AT PCIe ,10/100/1000Mbps ; 1*Intel I219 LM, support Intel vPro technology
USB	6* USB3.1, 2*USB2.0
Display	2*DP+1*VGA
Audio	1*Line out+1*Mic, optional audio
Serial port /Others	2*RS232/422/485, 2*RS232, 16-bit iso DIO
DIO	8-bit 2.5KV Iso. DI(High:5-24V,Low:0-1.5V) and 8-bit 2.5KV Iso. DO (200mA)

Storage

Storage	2*2.5" SATA3, support RAID0,1, 1*M.2 M-Key,PCIex4 Gen3.0, support NVME
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Others

Indicator light	1*power indicator, 1*hard disk indicator, 3*CPU temperature indicator
Control switch	1*Power SW,1*Remote switch,1*AT/ATX SW, 1*Clear CMOS SW
Watchdog timer	Watchdog timeout programmable via software 1 to 255 second
TCPPM/TPM support	TPM2.0 (optional)

Expansion

Expansion Port	1*M.2 B-Key,with SIM slot,support 5G,1*M.2 E-Key; 1*Mini PCIe,with SIM slot,support 4G/WIFI/BT; I-port: USB2.0/16-bit DIO/Mini PCIe/M.2 (optional) 2*PCIe X16 (X8 signal) ,2*PCIe X4,or 1*PCIe X16,1*PCIe X4,2*PCI
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Power Supply

Input voltage	DC IN 9-36V 3-pin Term. 7.62mm,with short circuit protection, over voltage and over current protection
Power consumption	48.5W(17-9700,16G DDR4,128G SSD)

Mechanical

Structure	Aluminum Chassis, SGCC frame
Color	Silver white & Aquamarine
Installation	Desktop mounting
Dimension(W*H*D)	230*273*204mm
Net Weight	7.25KG

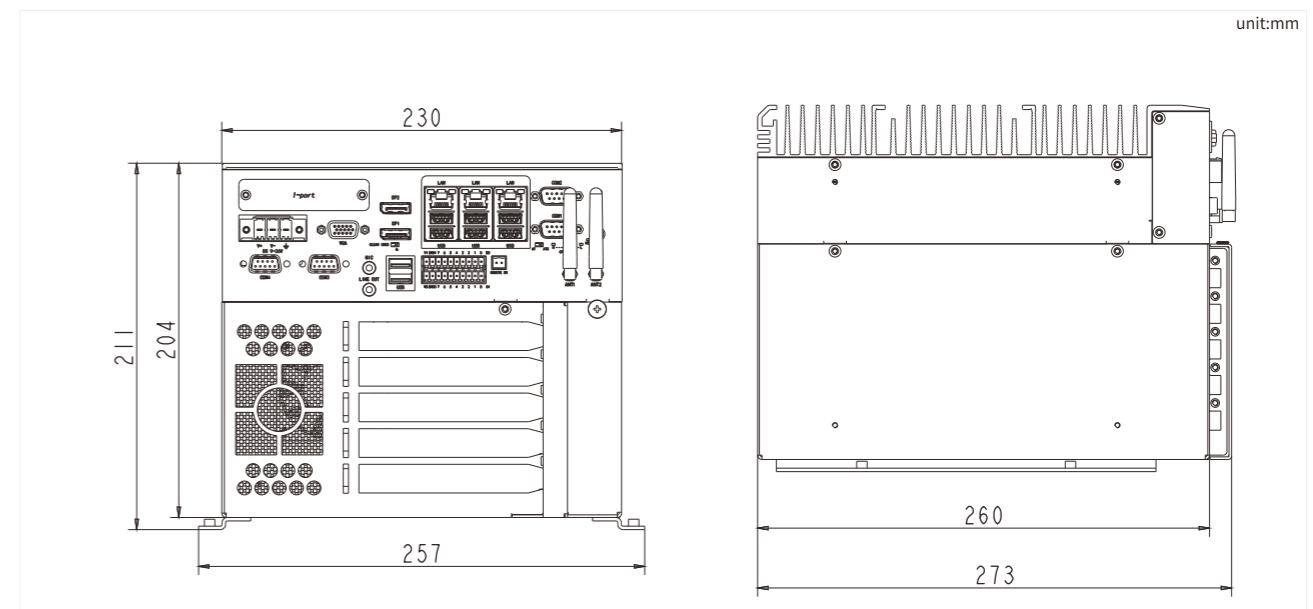
Environment

Operating Temp	-20°C~60°C – Fanless design, wide-temperature SSD, -10°C~55°C – Fanless design, normal temperature HDD;
Storage Temp	-40°C~85°C
Storage Humidity	10~90%@40°C, No condensation
Vibration	5 grms/5~500Hz/random/during operation (SSD) 1 grms/5~500Hz/random/during operation (HDD)
Shock	50g peak acceleration(duration 11ms) with SSD; 20g peak acceleration(duration 11ms) with HDD
Certificate/EMC	CE/FCC Class B

OS

OS	Windows 10 Enterprise & IOT Enterprise, Ubuntu,SuSe,Redhat Enterprise 1,2 (Kernel 4.14), Wind River VxWorks 7
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Dimensions



Ordering Information

Model	Processor	Specifications
KMDA-5921/S002	Coffee lake-R 9th/8th-Gen Core i7/i5/i3/Pentium/Celeron CPU, Q370 PCH	3*LAN, 6*USB3.1, 2*USB2.0,4*COM, 1*Mini PCIe, 1*M.2 E-Key, 1*M.2 B-Key, 1*VGA, 2*DP, 1*Line out,1*Mic, 16-bit isoDIO,2*2.5" SATA, 1*M.2 2280 M-Key, DC 9-36V
ECB-254	Expansion backplane (choose one)	2*PCIe X16 (X8 signal) ,2*PCIe X4
ECB-266		1*PCIe X16, 1*PCIe X4,2*PCI
PA-120DC19		AC/DC adapter, DC19V/6.32A 120W
PA-220DC24		AC/DC adapter, DC24V/9.17A 220W
PA-300DC24		AC/DC power adapter,DC24V@12.5A ,300W
AC-140	8-channel isolated input and 8-channel power relay output terminal board,DC 12V power supply,source signal: 16-bit TTL GPIO	

SCC-3116

Intel® Baytrail Celeron J1900 CPU, 2/3*LAN, 7*USB, 6*COM, 1*HDMI+1*VGA dual display, optional 8-bit DIO, DC IN 9~36V

Key Specification

- Aluminum Chassis, fanless heat dissipation design
- Intel® Baytrail Celeron J1900 2.0-2.42G CPU
- 1*DDR3L 1333MHz SODIMM RAM, Max.8GB
- 1*HDMI &1*VGA, dual display
- 2/3*Gig LAN, 1*USB3.0, 6*USB2.0(one build-in)
- 6*COM, optional 8-bit DIO, 1*Line out,1*Mic
- 1*Mini-PCIe(PCIeX1+USB signal), 1*PS/2
- 1*mSATA, 1*2.5' SATA bay, anti-vibration design, DC 9~36V wide voltage power supply



Product Overview

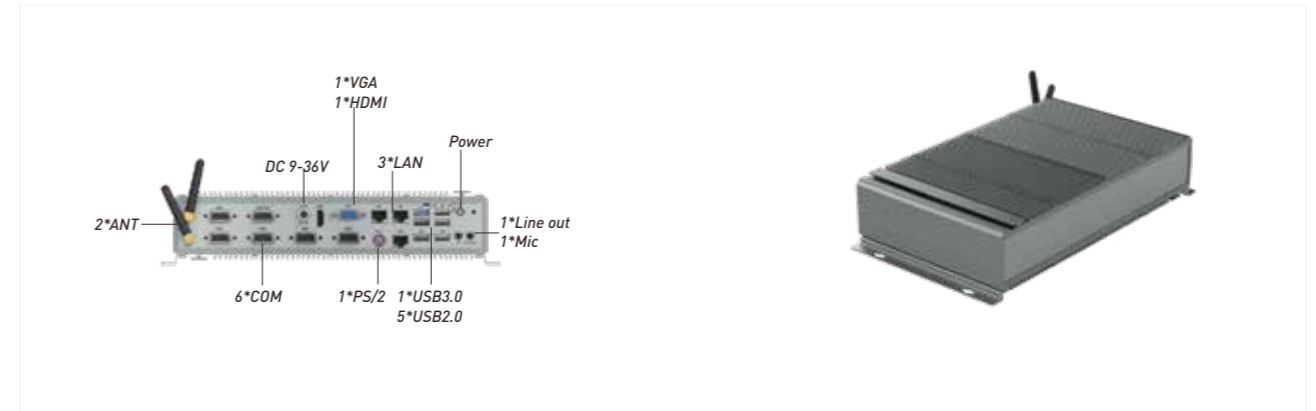
SCC-3116 is a multi-IO design industrial box PC with aluminum chassis and fanless design. Equipped with Intel Baytrail Celeron J1900 CPU, DDR3L 1333Mhz SODIMM, Max. support upto 8GB. It is economical and high reliability, suitable for equipment automation, IoT signal acquisition and other applications.

Product Parameters

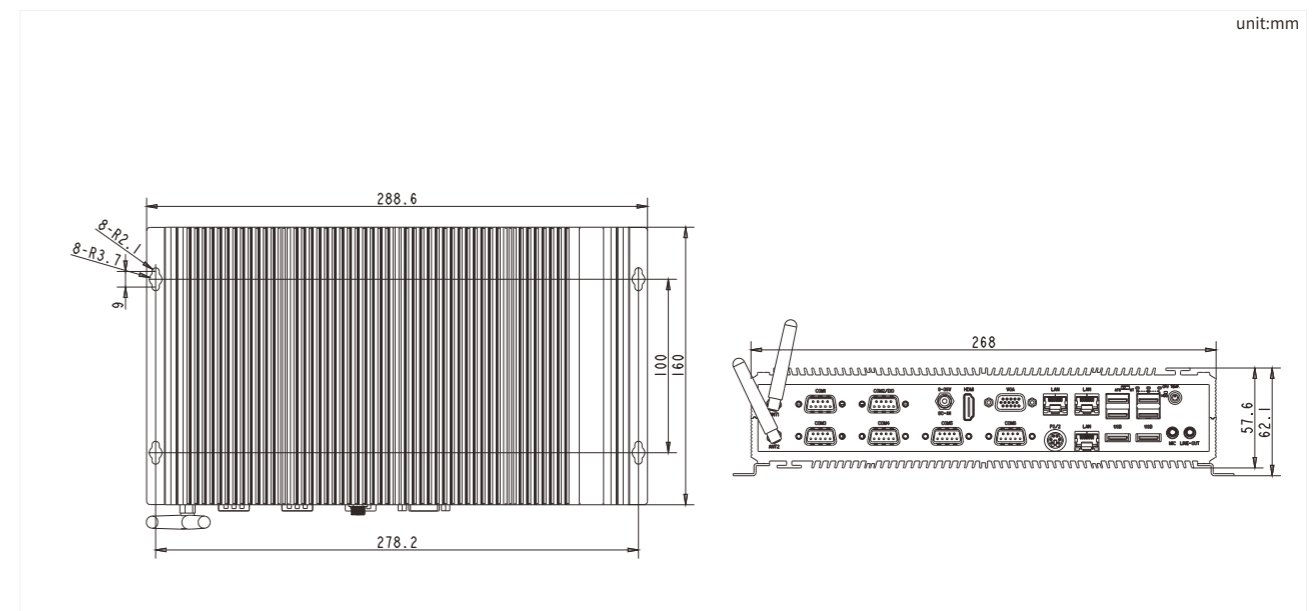
Processor	Intel® Baytrail-D Celeron J1900 , Main frequency 2.0~2.42GHz, quad-core, four-thread, 2M cache, 22nm, TDP 10W
CPU	
RAM	1*DDR3L, 1333MHz SODIMM, Max. 8GB
Graphics	Intel HD Graphics, VGA : 1920*1200@60Hz, HDMI:1920*1080@60Hz, support 2 independent displays support OpenGL 3.2, DirectX 11, OpenCL 1.2, MPEG2/H.264
LAN	3*Intel I211AT PCIe Gig. Ethernet, 10/100/1000Mbps
USB	1* USB3.0, 6*USB2.0 , 1*USB2.0 (build-in)
Display	1*HDMI+1*VGA
Audio	1*Line out+1*Mic,optional audio
Serial port /Others	4*RS232/422/485, 2*RS232, 1*PS/2 (Mouse and keyboard)
DIO	8-bit DIO, programmable input and output (DB9)
Storage	
Storage	1*2.5" SATA2,HDD/SSD;1*mSATA full-height card,Support AHCI mode
Others	
Indicator light	1*power indicator, 1*hard disk indicator, 3*CPU temperature indicator
Control switch	1*Power SW,1*Remote switch,1*AT/ATX SW, 1*Clear CMOS SW
Watchdog timer	Watchdog timeout programmable via software 1 to 255 second
OS	
OS	Windows 7, Windows 8.1, Windows 10, Linux Fedora Ubuntu

Expansion	Expansion Port 1*Mini PCIe, with SIM slot , support 4G LTE/Wifi/BT,
Power Supply	Input voltage DC IN 9-36V D-Jack/M8,with short circuit protection, over voltage and over current protection, Power consumption 14.4W(2.5" HDD)
Mechanical	Structure Aluminum Chassis, SGCC frame Color Silver gray Installation Desktop mounting Dimension(W*H*D) 268*160*57.6mm Net Weight 2.15KG
Environment	Operating Temp -20°C~65°C – Fanless design, wide-temperature SSD, -10°C~55°C – Fanless design, normal temperature HDD; Storage Temp -40°C~85°C Storage Humidity 10~90%@40°C, No condensation Vibration 5 grms/5~500Hz/random/during operation (SSD) 1 grms/5~500Hz/random/during operation (HDD) Shock 50g peak acceleration(duration 11ms) with SSD; 20g peak acceleration(duration 11ms) with HDD Certificate/EMC CE/FCC Class A

I/O View



Dimensions



Ordering Information

Model	Processor	Specifications
SCC-3116/T002	Intel® J1900 CPU	3*LAN, 1*USB3.0, 6*USB2.0, 6*COM, optional 8-bit DIO, 1*Mini PCIe, 1*HDMI,1*VGA, 1*PS/2, 1*Line out, 1*Mic , 1*2.5"SATA2 bay, 1*mSATA, DC 9~36V
PA-60DC12		AC/DC adapter, DC19V/6.32A 120W

PADA-M101

Intel® Whiskey lake U CPU,2-CH DDR4,1*HDMI,1*DP,2*LAN,4*USB3.0,3/4*COM,1*M.2 E-key,1*F-Mini PCIe,DC 12V

Key Specification

- SGCC cabinet design, 4-wire variable speed cooling fan, silent
- Intel® Core i3/i5/i7/Celeron CPU
- 2-Ch DDR4 2400MHz SODIMM, Max. 32GB
- 1*HDMI,1*DP,Support dual 4K display
- 1*Line out,1*Mic,4*USB3.0
- 2* GbE LAN,3/4*COM ,8-bit DIO
- 1*M.2,2230 E-Key, 1*Mini-PCIe with SIM card slot, optional mSATA
- 1*2.5" SATA bay for storage
- DC 12V,Optional 9~36V wide voltage power supply



Product Overview

PADR-M101 is an embedded box PC newly launched by JHCTECH. It adopts SGCC box structure design and built-in 4-wire temperature controlled cooling fan for silent heat dissipation. Equipped with Intel Whiskey lake U series processor, optional DC 9~36V wide voltage. It is compact in size, which is suitable for manufacturing, mobile portable terminal, advertising player, AGV, medical analysis equipment and other small size, low-cost industries.

Product Parameters

Processor

CPU	Intel® Core i3/i5/i7/Celeron U
RAM	2*DDR4, 2400MHz, Max. 32GB
Graphics	Intel® Gen. 9 UHD Graphics,support 2 independent displays HDMI: 4096*2304@24Hz, DP: 4096*2304@60Hz
LAN	2*Intel I210AT PCIe Gig. Ethernet, 10/100/1000Mbps
USB	4*USB3.0
Display	1*DP+1*HDMI
Audio	1*Line out+1*Mic, optional audio
Serial port /Others	2*RS232/422/485, 1*RS232,
DIO	1*8-bit DIO (DB9), support RS232 (optional)

Storage

Storage	1*2.5" SATA,support Max. 15mm hard disk
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Others

Indicator light	1*power indicator, 1*hard disk indicator, 3*CPU temperature indicator (Red is alarm, Yellow is high temperature, Green is normal temperature)
Control switch	1*Power switch (front panel), 1*2pin terminal switch signal (rear panel), 1*AT/ATX selector switch (front panel)
Watchdog timer	Watchdog timeout programmable via software 1 to 255 second

OS

OS	Windows 10, SUSE, Ubuntu, Wind River, Red Hat Enterprise
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Expansion

Expansion Port	1*Mini PCIe, with SIM slot , support4G LTE/Wifi/BT,can change to mSATA via BIOS, 1*M.2 E-Key,Wifi/BT module expansion
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Power Supply

Input voltage	DC 12V, 3-pin terminal interface, optional 9~36V Wide voltage power supply,
Power consumption	27.87W (I7-8565U, 16GB DDR , 1*4T SSD)

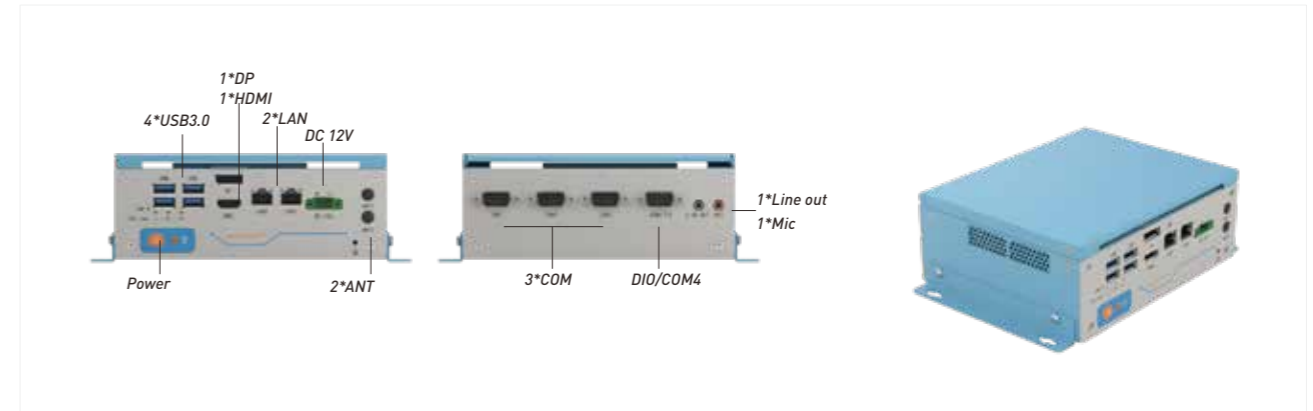
Mechanical

Structure	SGCC
Color	Dark grey + pastel blue
Installation	Desktop mounting
Dimension(W*H*D)	200*140*67.5mm
Net Weight	1.51KG

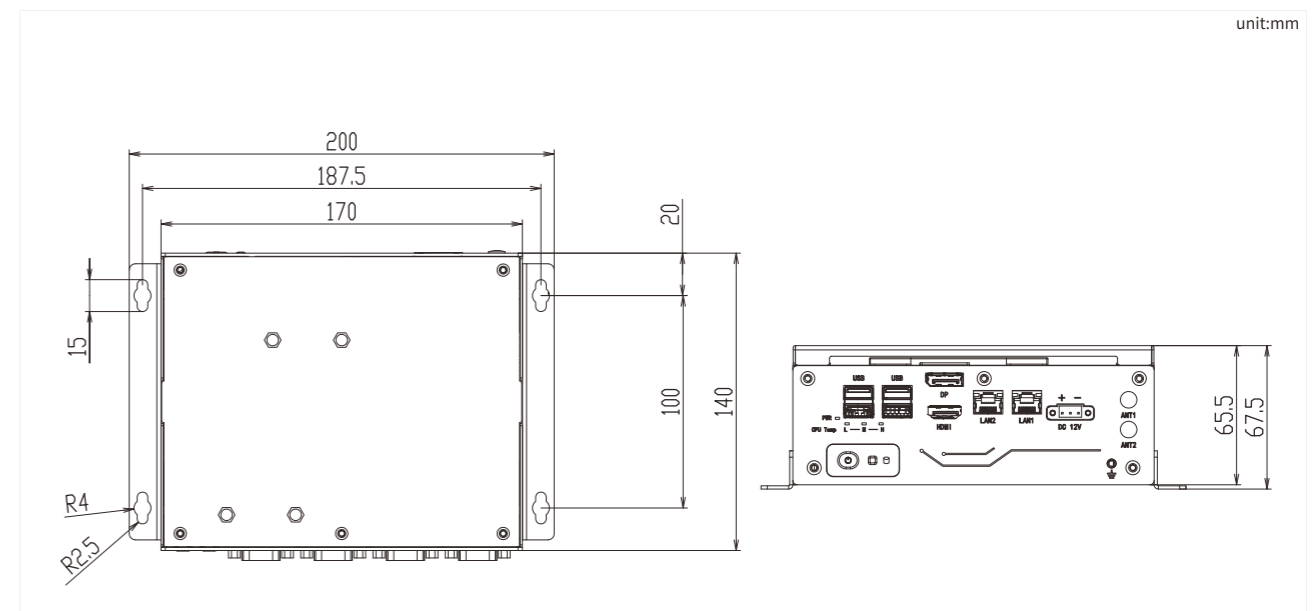
Environment

Operating Temp	-20°C~70°C – Fanless design, , wide-temperature SSD,
Storage Temp	-40°C~85°C
Storage Humidity	10~90%@40°C, No condensation
Vibration	5 grms/5~500Hz/random/during operation (SSD) 1 grms/5~500Hz/random/during operation (HDD)
Shock	50g peak acceleration(duration 11ms) with SSD; 20g peak acceleration(duration 11ms) with HDD
Certificate/EMC	CE/FCC Class B

I/O View



Dimensions



Ordering Information

Model	Processor	Specifications
PADR-M101/S001	Intel® Core I3-8145U	DDR4 2*SO-DIMM,1*HDMI,1*DP,1*Line out,1*Mic, 2*LAN,4*USB3.0,3/4*COM,8-bit DIO,1*M.2,1*Mini PCIe/mSATA, 1*2.5"SATA,DC 12V
PADR-M101/S002	Intel® Core I5-8265U	
PADR-M101/S003	Intel® Core I7-8565U	
PADR-M101/S004	Intel® Celeron 4305U	
PA-60DC12		AC/DC adapter, DC12V/5A 60W
OFX-075		75W power board,DC IN 9-36V,DC OUT 12V, 38*53mm, power consumption min. 60W, Max. 84W

KMDA-2630

Intel® Elkhart lake CPU, VGA+HDMI, 2*2.5G-LAN, 2*USB3.1, 4*COM, 8-bit DIO, Audio out, mSATA+2.5" SATA bay

Key Specification

- Aluminum chassis, compact and fanless design
- Intel® Elkhart lake Celeron Soc CPU
- 1*DDR4 3200MHz SODIMM, up to 16GB
- Intel® UHD Graphics, 1*HDMI+1*VGA
- 2*Intel® I225V, up to 2.5Gbps bandwidth
- 2*USB3.1 Gen2, 2*USB2.0, optional Audio out
- 2*RS232, 2*RS232/422/485, 8-bit DIO
- 1*mSATA & 1*2.5" SATA bay
- DC 12V power supply, optional OFX-075 wide power input DC 9-36V



Product Overview

KMDA-2630 is a compact fan-less box computer with low power consumption, powered by Intel Elkhart lake SoC Celeron series 4 cores or dual-core CPU, supporting 2.5G bandwidth network and dual USB3.1gen2 10G High-speed ports. It has rich IO functions with fanless aluminum frame. It is compact and delicate, and also support wide power input, which makes it suitable for machine vision, AGV/ARM, data gateway and other fields.

Product Parameters

Processor

CPU Intel® Elkhart lake SoC CPU: Celeron J6412 2.0-2.6GHz;
Celeron N6210 1.2-2.6GHz

RAM 1* DDR4 SO-DIMM, 3200MHz, up to 16GB

Graphics Intel Gen10 UHD Graphics,
HDMI2.0 max res. 4096*2304@60Hz
VGA max res. 1920*1200@60Hz

LAN 2*Intel I225V, 10/100/1000/2500Mbps, support WOL

USB 2* USB3.2 Gen2, 2*USB2.0, 1*USB2.0(internal)

Display 1*HDMI+1*VGA

Audio 1*Line out, optional audio

Serial Ports/
Others 2*RS232/422/485, 2*RS232;

DIO 8-bit DIO(DB9)

Storage

Storage 1*2.5" SATA3,6Gbps;
1*full size mSATA, support AHCI

Others

LED 1*Power LED, 1*HDD LED, 3*CPU Temp LED (Red is warning, Yellow is high, Green is normal)

Control switch 1* Power SW, 1*Remote SW, 1*AT/ATX SW, 1*Clear CMOS

Watchdog Timer Watchdog timeout programmable via software 1 to 255 second

OS

OS Windows 10, SUSE, Ubuntu, Wind River, Red Hat Enterprise

Expansion

Expansion Port 1*M.2 B-key 3052, with PCIe X1+USB2.0+SIM slot, support 5G/4G;
1*JHCTECH Express-01 80pin composite signal high speed interface: 2*PCIeX1, 4*USB2.0, Front-Audio, 1*PS/2, Front-Panel, 1*Sm bus & 1*eSPI

Power supply

Power supply DC IN 12V, optional OFX-075 power board, DC9-36V wide power input, with short circuit, over voltage & over current protection

Mechanical

Structure Aluminum chassis, SGCC

Color Blue+white

Mounting Desktop mounting

Dimension(W*D*H) 155*111.8*65 mm

Net weight 1.30KG

Environment

Operating Temp -20°C~60°C, wide temp SSD, airflow

Storage Temp -40°C~85°C

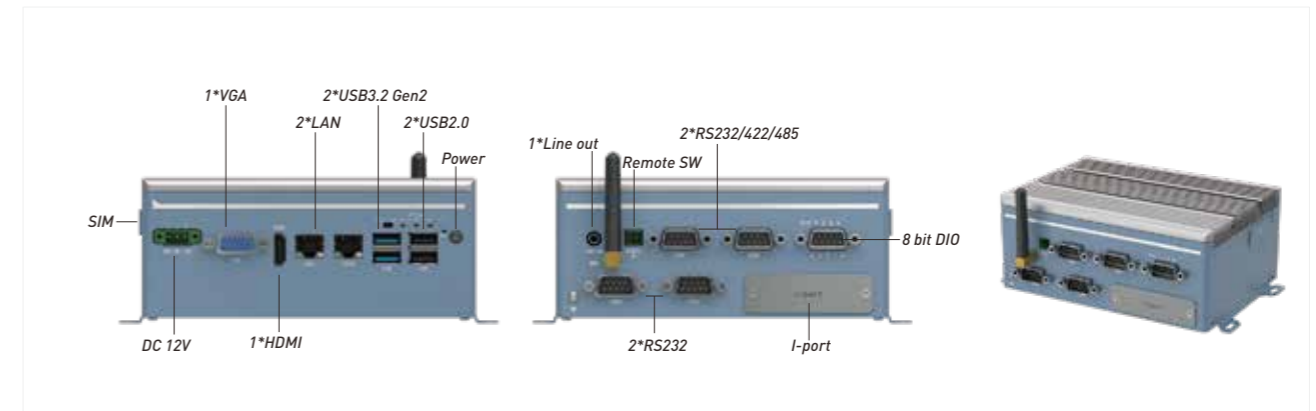
Storage Humidity 10~90%@40°C, non-condensing

Vibration 5 grms/5~500Hz/random/during operation(SSD);
1 grms/5~500Hz/random/during operation(HDD)

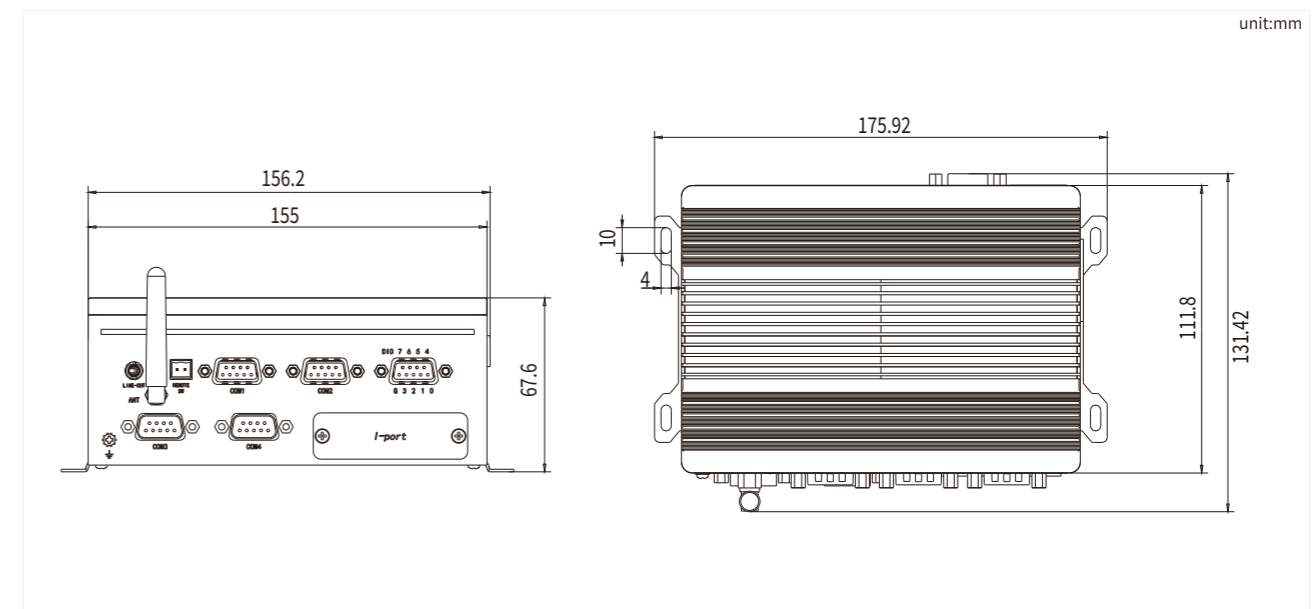
Shock 50g peak acceleration(11ms duration)(SSD);
20g peak acceleration(11ms duration)(HDD)

Certificates/
EMC CE/FCC Class B

I/O View



Dimensions



Ordering Information

Model	Processor	Specifications
KMDA-2630/T001	Intel® Celeron J6412	1*DDR4 SODIMM, 2*LAN, 2*USB3.1, 3*USB2.0, 4*COM, 8-bit DIO, 1*M.2 1*VGA, 1*HDMI, optional 1*Line out, 1*mSATA, 1*2.5" SATA3.0, DC-IN 12V
KMDA-2630/T002	Intel® Celeron N6210	
OFX-075	75W power board, DC IN 9-36V, DC OUT 12V, 38*53mm, power consumption: Min.: 54W, Max. 78W	
PA-60DC12	AC/DC power adapter, DC 12V/5A 60W	

KMDA-3301

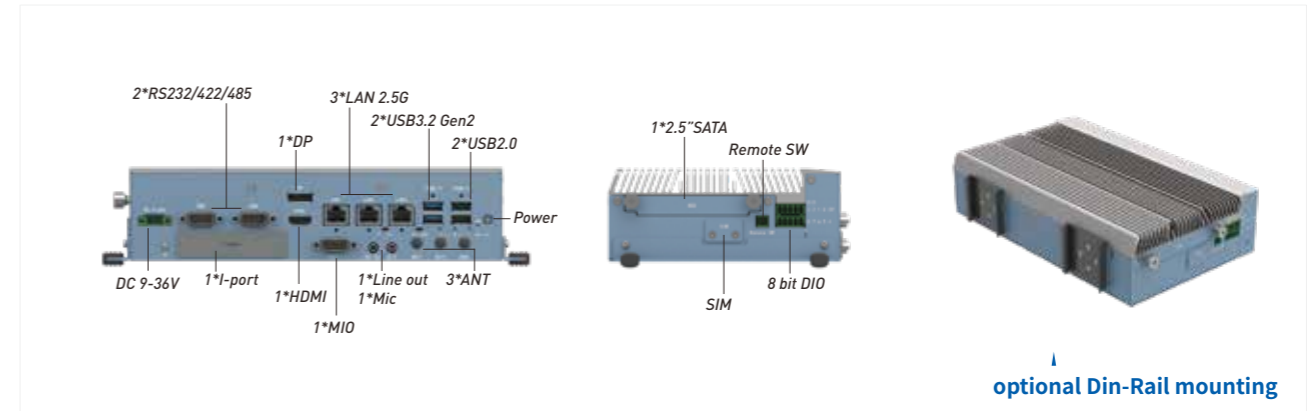
Intel® Tiger lake U Soc CPU, DP+HDMI, 3*LAN, 2*COM, 6*USB, 1*Mini PCIe, 1*mSATA, 2*M.2, support 5G NR, DC 9-36V wide power input

Key Specification

- Intel® Tiger lake U Soc CPU
- Aluminum chassis, fanless design
- 3*I255V LAN, support iAMT13.0
- 1*DP+1*HDMI, 8K+4K dual display output
- 1*Mini PCIe support Wifi/BT, 1*M.2 B-Key with SIM slot, support 5G NR
- 1*M.2 M-Key, 1*mSATA, 1*SATA3.0
- DC 9~36V, with short circuit, over voltage & over current protection
- Support desktop mounting and Din-Rail mounting



I/O View



Product Overview

KMDA-3301 is a new fanless box PC, powered by Intel® Tiger lake U Soc CPU series, support Intel Boost Deep Learning technology. With shock absorption design, it is suitable for C-V2X MEC computing, AGV, machine vision and other applications.

Product Parameters

Processor

CPU	Intel® Tigerlake U Celeron/Core I3/I5/I7 CPU
Storage	2* DDR4 SO-DIMM slot, support 3200MHz, max up to 64GB
Graphics	Intel UHD Graphics or iRIS® Xe Graphics, Supports Intel Boost Deep Learning technology, DirectX12.1, OpenGL 4.6 and OpenCL 2.0, HDMI 2.0: 4096x2304@60Hz, DP 1.4: 7680x4320@60Hz
LAN	3*Intel I225V, 10M/ 100M/1000M/2.5G, support iAMT 13.0
USB	2*USB3.2 Gen 2(10Gbps), 2*USB2.0, 1*USB2.0 (TypeA), 1*USB2.0 (internal pinheader)
Display	1*HDMI+1*DP
Audio	1*Line out+1*Mic, optional audio
Serial Ports/ Others	2*RS232/422/485(DB9), 1*MIO(opt support built-in expansion module) 1*SIM slot (on the side)
DIO	1*8-bit DIO (2*5Pin phoenix term, side)

Storage

Storage	1*2.5" SATA bay; 1* full size mSATA, support AHCI; 1*M.2 2280 M-Key NVME(PCIe X2 Gen4.0)
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Others

LED	1*Power LED, 1*HDD LED, 3*CPU Temp LED (Red is warning, Yellow is high, Green is normal)
Control Switch	1*Power SW, 1*AT/ATX SW, 1*Clear CMOS Switch
Watchdog Timer	Watchdog timeout programmable via software 1 to 255 second

Expansion

Expansion Port	1*Mini PCIe(PCIe X1+USB2.0), support Wifi/BT module 1*M.2 3052 B-Key, with SIM slot(PCIe X1+USB2.0), support 4G/5G 1*M.2 2280 M-Key(PCIe X2 Gen4), support high speed function card
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Power supply

Power supply	DC IN 9~36V, 3-pin phoenix term, with short circuit, over voltage & over current protection
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Mechanical

Structure	Aluminum chassis, SGCC
Color	Blue+white
Mounting	Desktop mounting, optional Din-Rail mounting
Dimension (L*W*H)	250*154*61.9mm
Net weight	2.55KG

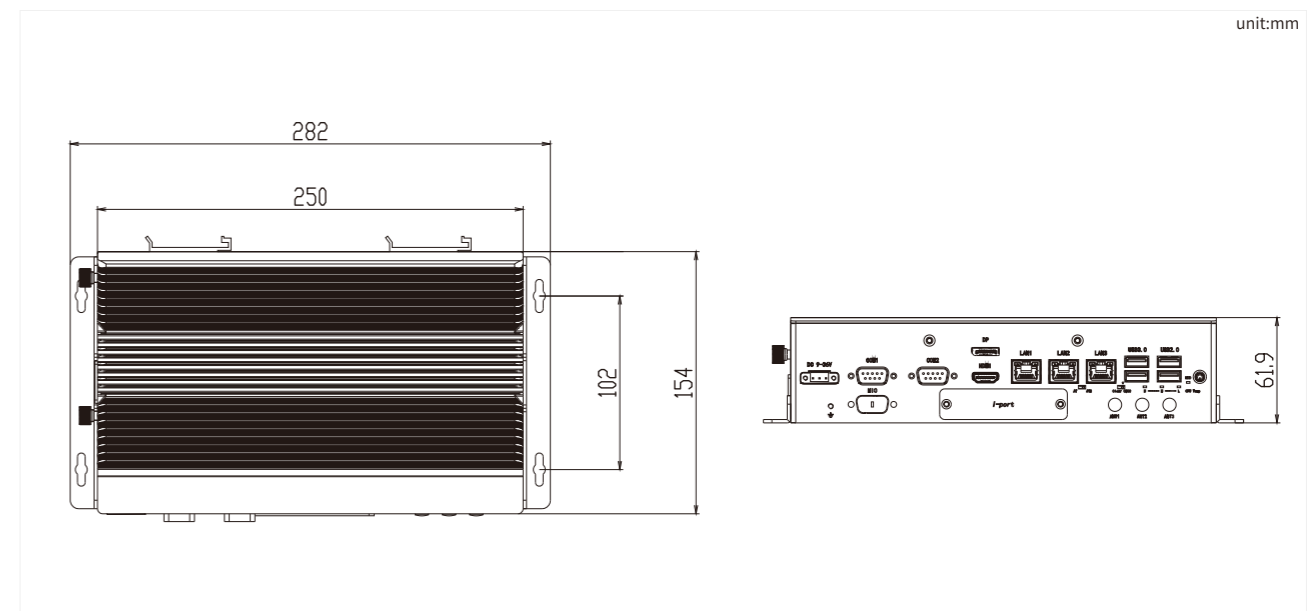
Environment

Operating Temp	-20°C~65°C, wide temp SSD, airflow;
Storage Temp	-40°C~85°C
Storage Humidity	10~90%@40°C, non-condensing
Vibration	5 grms/5~500Hz/random/during operation(SSD); 1 grms/5~500Hz/random/during operation(HDD)
Shock	50g peak acceleration(11ms duration)(SSD); 20g peak acceleration(11ms duration)(HDD)

Certificates/ EMC	CE/FCC Class B
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OS	Windows 10 64 bit, SUSE, Ubuntu, Wind River, Linux
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Dimensions



Ordering Information

Model	Processor	Specifications
KMDA-3301-S001	Intel® Core I3-1115G4	2*DDR4 SODIMM, 3*2.5G-LAN, 2*USB3.2, 4*USB2.0, 2*COM, 8-bit DIO, 1*DP, 1*HDMI, optional Audio out & Mic, 1*Mini PCIe, 1*M.2 B-key, 1*M.2 M-Key, 1*MIO, 1*I-Port, 1*mSATA, 1*2.5" SATA bay, DC-IN 9-36V
KMDA-3301-S002	Intel® Core I5-1135G7	
KMDA-3301-S003	Intel® Core I7-1165G7	
KMDA-3301-S004	Intel® Celeron 6305E	
PA-60DC12	AC/DC power adapter, DC 12V/5A 60W	

JHCTECH IoT Computer
Connecting the Dots

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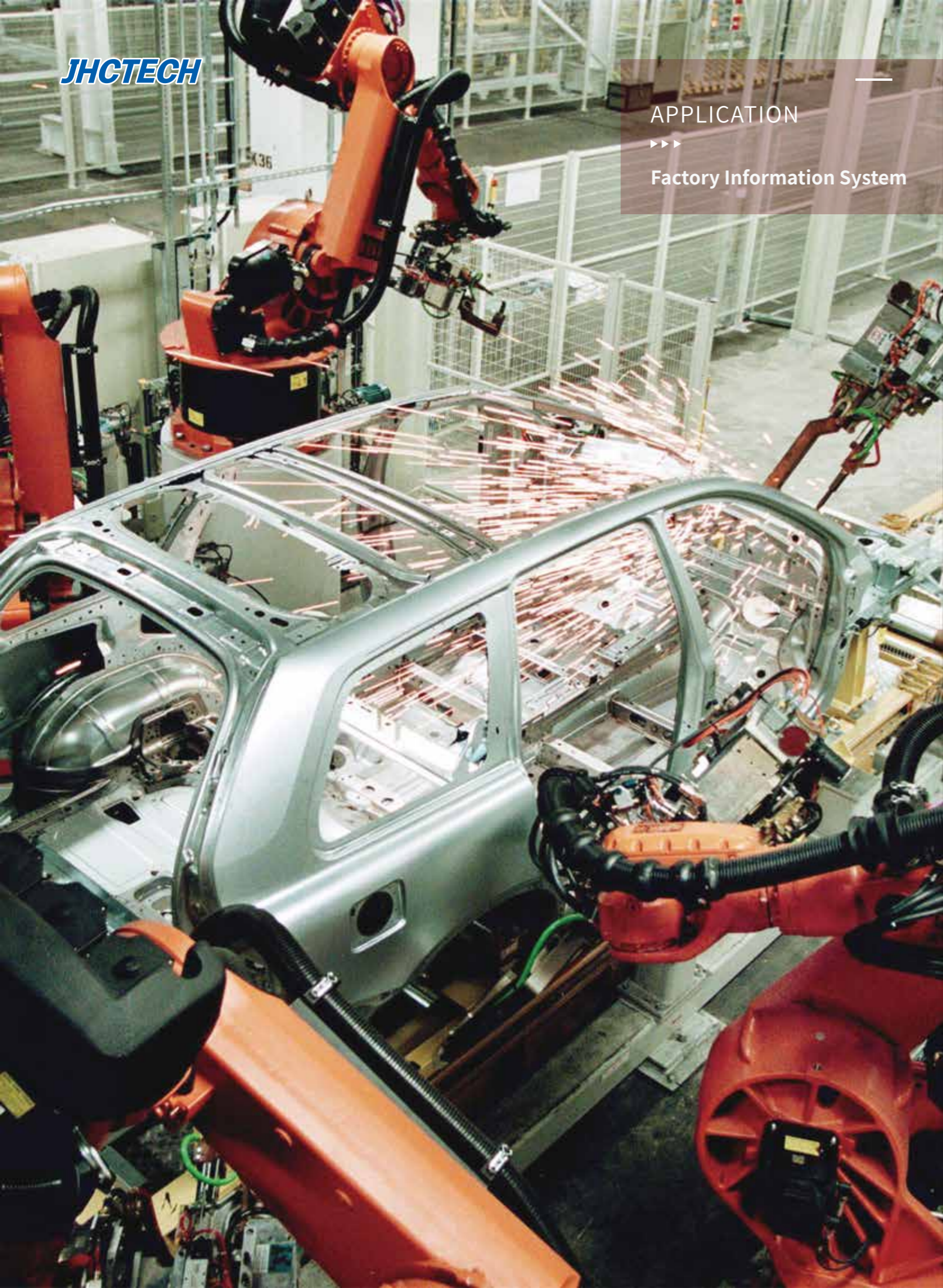
ALAD
Industrial Panel PC



APPLICATION



Factory Information System



APPLICATION



Industrial Automation Equipment



Low-voltage power distribution monitoring



COMPLETE LIST

Industrial Panel PC List **D-01**

ALAD-A1001T **D-03**

ALAD-K1220T **D-05**

ALAD-K1520T **D-07**

ALAD-K1720T **D-09**

ALAD-K1820T(P) **D-11**

ALAD-K1920T **D-13**

ALAD-K2120T(P) **D-15**

WPPC-H1580T **D-17**

WPPC-H1780T **D-19**

Display List **D-21**

ALAD-101T **D-23**

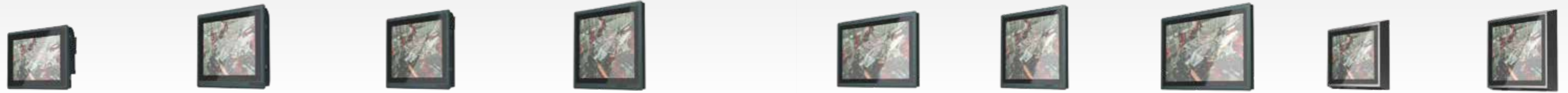
ALAD-151T **D-25**

ALAD-171T **D-27**

ALAD-181T(P) **D-29**

ALAD-191T **D-31**

ALAD-211T(P) **D-33**



	ALAD-A1001T	ALAD-K1220T	ALAD-K1520T	ALAD-K1720T	ALAD-K1820T(P)	ALAD-K1920T	ALAD-K2120T(P)	WPPC-H1580T	WPPC-H1780T	
System										
CPU	Intel Baytrail-D Celeron J1900	Intel®Skylake-U/Kabylake-U Celeron/ Core i3/i5/i7 U	Intel®Skylake-U/Kabylake-U Celeron/ Core i3/i5/i7 U	Intel®Skylake-U/Kabylake-U Celeron/ Core i3/i5/i7 U	Intel®Skylake-U/Kabylake-U Celeron/Core i3/i5/i7 U	Intel®Skylake-U/Kabylake-U Celeron/Core i3/i5/i7 U	Intel®Skylake-U/Kabylake-U Celeron/Core i3/i5/i7 U	Intel® Baytrail Celeron J1900 2.0-2.42G CPU	Intel® Baytrail Celeron J1900 2.0-2.42G CPU	
RAM	1*DDR3L, 1333Mhz SODIMM, Max.8GB	1*DDR4, 2133Mhz SODIMM, Max.16GB	1*DDR4, 2133Mhz SODIMM, Max.16GB	1*DDR4, 2133Mhz SODIMM, Max.16GB	1*DDR4, 2133Mhz SODIMM, Max.16GB	1*DDR4, 2133Mhz SODIMM, Max.16GB	1*DDR4, 2133Mhz SODIMM, Max.16GB	1*DDR3L,1333Mhz SODIMM,Max.8GB	1*DDR3L,1333Mhz SODIMM, Max.8GB	
Graphics	Gen7 Intel HD Graphics,Support OpenGL 3.2, Intel® Gen. 9 HD Graphics;Support Intel DirectX 11, OpenCL 1.2, MPGE2/H.264 VGA:1920*1200@60Hz, LVDS:1920*1200@60Hz,	Intel® Gen. 9 HD Graphics;Support Intel HD Video Technology, Wireless display technology HDMI:3840*2160@30Hz LVDS:1920*1200@60Hz	Intel® Gen. 9 HD Graphics;Support Intel HD Video Technology, Wireless display technology HDMI:3840*2160@30Hz LVDS:1920*1200@60Hz	Intel® Gen. 9 HD Graphics;Support Intel HD Video Technology, Wireless display technology HDMI:3840*2160@30Hz LVDS:1920*1200@60Hz	Intel® Gen. 9 HD Graphics;Support Intel HD Video Technology, Wireless display technology HDMI:3840*2160@30Hz LVDS:1920*1200@60Hz	Intel® Gen. 9 HD Graphics;Support Intel HD Video Technology, Wireless display technology HDMI:3840*2160@30Hz LVDS:1920*1200@60Hz	Intel® Gen. 9 HD Graphics;Support Intel HD Video Technology, Wireless display technology HDMI:3840*2160@30Hz LVDS:1920*1200@60Hz	Intel® Gen. 9 HD Graphics;Support Intel HD Video Technology, Wireless display technology HDMI:3840*2160@30Hz LVDS:1920*1200@60Hz	Gen.7 Intel® HD Graphics LCD+HDMI+VGA display,OpenGL 3.2, DirectX 11, OpenCL 1.2, MPGE2/H.264 VGA:1920*1200@60Hz; HDMI:1920*1080@60Hz	Gen.7 Intel® HD Graphics LCD+HDMI+VGA display,OpenGL 3.2, DirectX 11, OpenCL 1.2, MPGE2/H.264 VGA:1920*1200@60Hz; HDMI:1920*1080@60Hz
I/O Interfaces										
LAN	2*Intel I211AT Gigabit	2*Intel I210AT, Gigabit	2*Intel I210AT, Gigabit	2*Intel I210AT, Gigabit	2*Intel I210AT, Gigabit	2*Intel I210AT, Gigabit	2*Intel I210AT, Gigabit	2*Intel I211AT, Gigabit	2*Intel I211AT, Gigabit	
USB	1*USB3.0 , 3*USB2.0	4*USB3.0, 1*USB2.0	4*USB3.0, 1*USB2.0	4*USB3.0, 1*USB2.0	4*USB3.0, 1*USB2.0	4*USB3.0, 1*USB2.0	4*USB3.0, 1*USB2.0	1*USB3.0, 3*USB2.0	1*USB3.0, 3*USB2.0	
Display	1*VGA+1*LVDS	1*HDMI	1*HDMI	1*HDMI	1*HDMI	1*HDMI	1*HDMI	1*HDMI+1*VGA	1*HDMI+1*VGA	
Audio	1*Line out, Optional audio, 2*2W speaker	1*Line out, Optional audio, 2*3W speaker	1*Line out, Optional audio, 2*3W speaker	1*Line out, Optional audio, 2*3W speaker	1*Line out, Optional audio, 2*3W speaker	1*Line out, Optional audio, 2*3W speaker	1*Line out, Optional audio, 2*3W speaker	Optional audio	Optional audio	
Serial port	2*RS232/422/485	2*RS232/422/485 (DB9) , optional 1*RS232	2*RS232, 2*RS232/422/485 (DB9,when using the extended PCI / PCIE, only two serial ports)	2*RS232/422/485 (DB9) , optional 1*RS232	2*RS232/422/485 (DB9) , optional 1*RS232	2*RS232, 2*RS232/422/485,(when using the extended PCI / PCIE, only two serial ports)	2*RS232, 2*RS232/422/485,(when using the extended PCI / PCIE, only two serial ports)	2*RS232/422/485	2*RS232/422/485	
LCD Display										
Dimensions	10.1" TFT LED	12.1" TFT LED	15" TFT LED	17" TFT LED	18.5" TFT LED	19" TFT LED	21.5" TFT LED	15" TFT LED	17" TFT LED	
Resolution	1280*800	1024*768	1024*768	1280*1024	1366*768	1280*1024	1920*1080	1024*768	1280*1024	
Max. colors	16.7M	16.2M	16.2M	16.2M	16.7M	16.7M	16.7M	16.2M	16.2M	
Luminance (cd/m²)	350/500	500	350	600	300	470	300	350	600	
Viewing Angle	85°(left), 85°(right), 85°(up), 85°(down)80°(left), 80°(right), 70°(up), 70°(down)	80°(left), 80°(right), 70°(up), 70°(down)	80°(left), 80°(right), 70°(up), 70°(down)	80°(left), 80°(right), 70°(up), 70°(down)	80°(left), 80°(right), 80°(up), 80°(down)	85°(left), 85°(right), 85°(up), 85°(down)	89°(left), 89°(right), 89°(up), 89°(down)	80°(left), 80°(right), 80°(up), 80°(down)	80°(left), 80°(right), 70°(up), 80°(down)	
Touch screen										
Touch type	5-wire resistive touch screen/ projected capacitive touch screen	5-wire resistive touch screen/ projected capacitive touch screen	5-wire resistive touch screen/ projected capacitive touch screen	5-wire resistive touch screen/ projected capacitive touch screen	projected capacitive touch screen	5-wire resistive touch screen/ projected capacitive touch screen	projected capacitive touch screen	5-wire resistive touch screen/ projected capacitive touch screen	5-wire resistive touch screen/ projected capacitive touch screen	
Light Transmission	83%/90%	83%/90%	83%/90%	83%/90%	90%	83/90%	90%	83/90%	83/90%	
Controller	USB	USB	USB	USB	USB	USB	USB	USB	USB	
Storage										
Storage	1*2.5" SATA3.0 HDD/SSD, 1*mSATA Full-height card	1*2.5" SATA3.0 HDD/SSD, 1*mSATA Full-height card	1*2.5" SATA3.0 HDD/SSD, 1*mSATA Full-height card	1*2.5" SATA3.0 HDD/SSD, 1*mSATA Full-height card	1*2.5" SATA3.0 HDD/SSD, 1*mSATA Full-height card	1*2.5" SATA3.0 HDD/SSD, 1*mSATA Full-height card	1*2.5" SATA3.0 HDD/SSD, 1*mSATA Full-height card	1*2.5" SATA swappable, 1*mSATA Full-height card, support AHCI	1*2.5" SATA swappable, 1*mSATA Full-height card, support AHCI	
Expansion										
Expansion Port	1*Mini PCIe(PCle&USB signal)	1*Mini PCIe(PCle&USB signal), with SIM slot, support 4G/LTE/GSM/Wifi/BT/GPS	1*Mini PCIe(PCle&USB signal), with SIM slot, optional 1*32-bit PCI or 1*PCle X4(X1 signal)	1*Mini PCIe(PCle&USB signal), with SIM slot, support 4G/LTE/GSM/Wifi/BT/GPS	1*Mini PCIe(PCle&USB signal), with SIM slot, support 4G/LTE/GSM/Wifi/BT/GPS	1*Mini PCIe(PCle&USB signal), with SIM slot, optional 1*32-bit PCI or 1*PCle X4(X1 signal)	1*Mini PCIe(PCle&USB signal), with SIM slot, optional 1*32-bit PCI or 1*PCle X4(X1 signal)	1*Mini PCIe, with SIM slot	1*Mini PCIe, with SIM slot	
Power Supply										
Input voltage & Power consumption	DC IN 9-36V, with protection of short circuit, over voltage and over current, Power: 13.2W(2.5" HDD)	DC IN 9-36V, with protection of short circuit, over voltage and over current, Power: 33W(15-6200U,4GB DDR4)	DC IN 9-36V, 3-pin interface, Power consumption: 35.4W (15-6200U ,4GB DDR4)	DC IN 9-36V, 3-pin interface, Power consumption: 35.4W (15-6200U ,4GB DDR4)	DC IN 9-36V, 3-pin interface, Power consumption: 44.6W (15-6200U ,4GB DDR4)	DC IN 9-36V, 3-pin interface, Power consumption: 53.3W(15-6200U ,4GB DDR4)	DC IN 9-36V, 3-pin interface, Power consumption: 49.4W(15-6200U ,4GB DDR4)	DC IN 9-36V, D-Jack w/M8, Power consumption: 19.5W	DC IN 9-36V, D-Jack w/M8, Power consumption: 30W	
Mechanical										
Structure	Aluminum alloy die-casting, flat panel, cooling fin case	Aluminum alloy die-casting, flat panel, cooling fin case	Aluminum alloy die-casting, flat panel, cooling fin case	Aluminum alloy die-casting, flat panel, cooling fin case	Aluminum alloy die-casting, flat panel, cooling fin case	Aluminum alloy die-casting, flat panel, cooling fin case	Aluminum alloy die-casting, flat panel, cooling fin case	SUS304 stainless steel/5052 Aluminum alloy/SECC	SUS304 stainless steel/5052 Aluminum alloy/SECC	
Dimension (W*H*D)	275*193*51mm Panel mounting opening size(W*H): 271*189mm	315*259*51mm Panel mounting opening size(W*H): 303*247mm	380*315*56mm Panel mounting opening size(W*H): 367.3*303.3mm	415.5*360.5*59mm Panel mounting opening size(W*H): 407*352mm	482.3*304.6*59.1mm Panel mounting opening size(W*H): 473.5*395.5mm	453.5*388.5*64.1mm Panel mounting opening size(W*H): 445*380mm	546.9*344.7*64.1mm Panel mounting opening size(W*H): 537.5*335.3mm	405.22*328.22*52.1mm	429.51*364.51*52.1mm	
Installation	Panel mounting , VESA 75*75mm	Panel mounting, VESA 100*100mm	Panel mounting, VESA (100*100/75*75mm)	Panel mounting, VESA 100*100mm	Panel mounting, VESA 100*100mm	Panel mounting, VESA (100*100/75*75mm)	Panel mounting, VESA (100*100/75*75mm)	Desktop mounting VESA(100mm*100mm)	Desktop mounting VESA(100mm*100mm)	
Net Weight	1.8KG	2.8KG	4.3KG	6.1KG	6.63KG	6.9KG	8.15KG	5.8KG	5.57KG	
Environmental										
Operating Temperature	0~ 50°C, HDD(-10 ~ 55°C, SSD), with air flow	0~ 50°C, HDD(-10 ~ 55°C, SSD), with air flow	0~ 50°C, HDD(-10 ~ 55°C, SSD), with air flow	0~ 50°C, HDD(-10 ~ 55°C, SSD), with air flow	0~ 50°C, HDD(-10 ~ 55°C, SSD), with air flow	0~ 50°C, HDD(-10 ~ 55°C, SSD), with air flow	0~ 50°C, HDD(-10 ~ 55°C, SSD), with air flow	0~ 60°C	0~ 60°C	
Storage Temperature	-20°C~60°C	-20°C~60°C	-20°C~60°C	-20°C~60°C	-20°C~60°C	-20°C~60°C	-20°C~60°C	-40°C~85°C	-40°C~85°C	
Storage Humidity	10~95%@40°C, No- condensation	10~95%@40°C, No- condensation	10~95%@40°C, No- condensation	10~95%@40°C, No- condensation	10~95%@40°C, No- condensation	10~95%@40°C, No- condensation	10~95%@40°C, No- condensation	10~90%@40°C, No- condensation	10~90%@40°C, No- condensation	
Vibration	1g 5~500Hz (with HDD)	1g 5~500Hz (with HDD)	1g 5~500Hz (with HDD)	1g 5~500Hz (with HDD)	1g 5~500Hz (with HDD)	1g 5~500Hz (with HDD)	1g 5~500Hz (with HDD)	1g 5~500Hz	1g 5~500Hz	
Shock	10g peak acceleration (duration 11ms) with HDD	10g peak acceleration (duration 11ms) with HDD	10g peak acceleration (duration 11ms) with HDD	10g peak acceleration (duration 11ms) with HDD	10g peak acceleration (duration 11ms) with HDD	10g peak acceleration (duration 11ms) with HDD	10g peak acceleration (duration 11ms) with HDD	10g peak acceleration (duration 11ms) with HDD	10g peak acceleration (duration 11ms) with HDD	
EMC	CE,FCC Class B	CE,FCC Class B	CE,FCC Class B	CE,FCC Class B	CE,FCC Class B	CE,FCC Class B	CE,FCC Class B	CE,FCC Class B	CE,FCC Class B	
OS	Windows 7,Windows 8.1, Windows 10, Linux	Windows 7,Windows 8.1, Windows 10, Linux	Windows 7,Windows 8.1, Windows 10, Linux	Windows 7,Windows 8.1, Windows 10, Linux	Windows 7,Windows 8.1, Windows 10, Linux	Windows 7,Windows 8.1, Windows 10, Linux	Windows 7,Windows 8.1, Windows 10, Linux	Windows 7,Windows 8.1, Windows 10, Linux Fedora Ubuntu	Windows 7,Windows 8.1, Windows 10, Linux Fedora Ubuntu	

ALAD-A1001T

Intel® Baytrail J1900 CPU, 2*LAN, 1*USB3.0, 3*USB2.0, 2*COM, DC 9~36V, IP65 front panel protection

Key Specification

- Aluminum alloy die-casting, fanless design
- 10.1" LED TFT LCD, Resistive/capacitive touch screen
- Intel® Baytrail Celeron J1900 CPU
- 1*DDR3L 1333 SODIMM, Max. 8GB
- 1*Mini PCIe (PCIe+USB signal), with SIM slot
- 2*COM, 2*LAN, 1*USB3.0, 3*USB2.0
- 1*2.5" swappable SATA Bay, 1*mSATA
- 1*VGA, 48-bit LVDS, 2*2W power speaker
- DC9-36V power input



Product Overview

ALAD-A1001T is an intelligent fanless embedded panel PC equipped with Intel Baytrail Celeron J1900 CPU and 10.1" 1280*800 resolution high brightness TFT LCD. It supports flat panel 5-wire resistive touch screen, optional multi-touch projected capacitive touch screen. It is widely used in CNC machinery, logistics and warehousing management fields.

Product Parameters

System

CPU	Intel Baytrail-D Celeron J1900
RAM	1*DDR3L, 1333Mhz SODIMM, Max. 8GB
Graphics	Gen7 Intel HD Graphics, support OpenGL 3.2, DirectX 11, OpenCL 1.2, MPGE2/H.264 VGA: 1920*1200@60Hz, LVDS: 1920*1200@60Hz,

I/O Port

LAN	2*Intel I211AT Gigabit
USB	1*USB3.0, 3*USB2.0
Display	1*VGA+1*LVDS
Audio	1*Line out, Optional audio, 2*2W power speaker
Serial port	2*RS232/422/485

LCD Display

Dimension	10.1" TFT LED
Resolution	1280*800
Max. colors	16.7M
Luminance (cd/m ²)	350/500
Viewing Angle	85°(left), 85°(right), 85°(up), 85°(down)

Touchscreen

Touch type	5-wire resistive touch screen/projected capacitive touch screen
Light Transmission	83%/90%
Controller	USB

Storage

Storage	1*2.5" SATA3.0 HDD/SSD, 1*mSATA Full-height card
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Expansion

Expansion Port	1*Mini PCIe(PCIe&USB signal)
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Power Supply

Input voltage	with protection of short circuit, over voltage and over current
Power consumption	13.2W(2.5" HDD)

Mechanical

Structure	Aluminum alloy die-casting, flat panel, cooling fin case
Dimension (W*H*D)	275*193*51mm Panel mounting opening size(W*H):271*189mm
Installation	Panel mounting, VESA 75*75mm
Net Weight	1.8KG

Environmental

Operating Temp	0~ 50°C, HDD(-10 ~ 55°C, SSD), with air flow
Storage Temp	-20°C~60°C
Storage Humidity	10~95%@40°C, No- condensation
Vibration	1g 5~500Hz,with HDD
Shock	10g peak acceleration(duration 11ms) with HDD
EMC	CE,FCC Class B

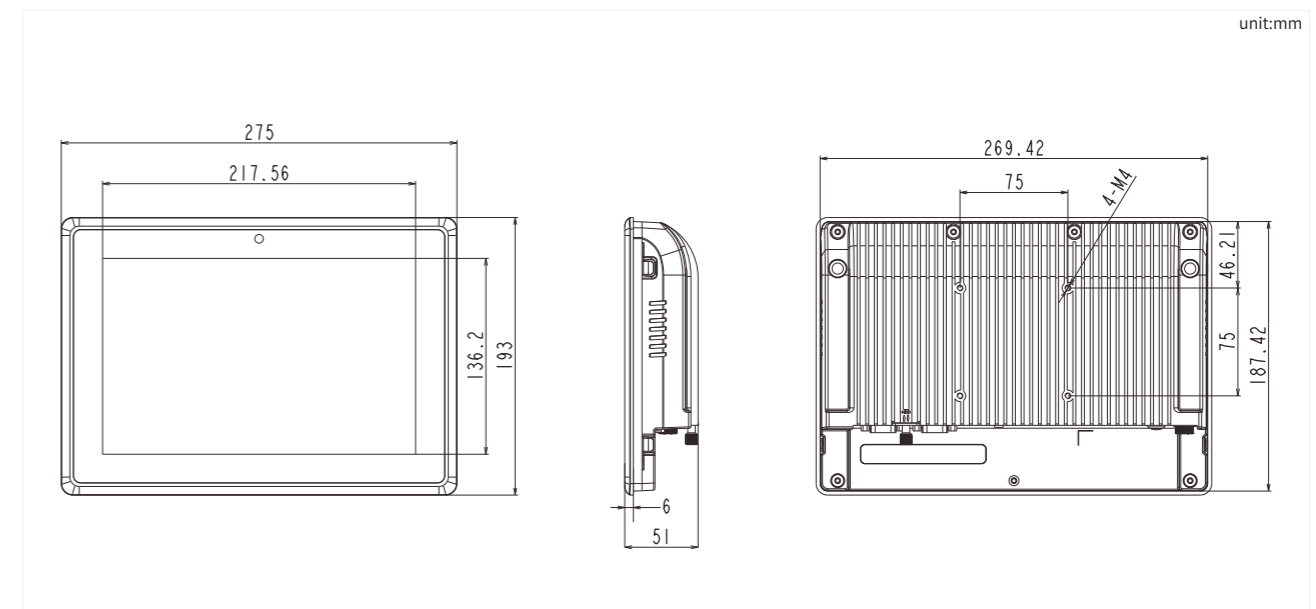
OS

	Windows 7,Windows 8.1, Windows 10, Linux
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I/O View



Dimensions



Ordering Information

Model	Luminance	Camera	Touch Screen	Specifications
ALAD-A1001T/S001-G	350	n/a	5-wire resistive touch screen	10.1" TFT LCD, Intel J1900 CPU, 2*COM(2*RS232/422/485), 4*USB, 2*LAN, 1*Mini PCIe, 1*HDMI, 1*Line out, 1*2.5" SATA Bay, 1*mSATA, 2*2 power speaker, DC 9~36V power supply
ALAD-A1001T/S002-G	350	500M	5-wire resistive touch screen	
ALAD-A1001T/T001-G	500	n/a	5-wire resistive touch screen	
ALAD-A1001T/T002-G	500	500M	5-wire resistive touch screen	
ALAD-A1001T(P)/S001-G	350	n/a	Projected capacitive touch screen	
ALAD-A1001T(P)/S002-G	350	500M	Projected capacitive touch screen	
ALAD-A1001T(P)/T001-G	500	n/a	Projected capacitive touch screen	
ALAD-A1001T(P)/T001-G	500	500M	projected capacitive touch screen	
PA-60DC12	AC/DC power adapter, DC12V/5A, 60W			

ALAD-K1220T

Intel® Skylake-U/Kabylake-U CPU, 2*LAN, 4*USB3.0, 1*USB2.0, 1*Line out, DC 9~36V, IP65 front panel protection

Key Specification

- Aluminum alloy die-casting, fanless design
- 12.1" LED TFT LCD, Resistive/capacitive touch screen
- Intel® Skylake-U/Kabylake-U CPU
- 1*DDR4 2133 SODIMM, support Max. 16GB
- 1*Mini PCIe(PCle+USB signal)
- 2*COM, 2*LAN, 4*USB3.0, 1*USB2.0, 1*Line out
- 2.5" SATA Bay, 1*mSATA
- Remote switch
- DC 9~36V power input



Product Overview

ALAD-A1220T is an intelligent fanless embedded panel PC equipped with Intel® Skylake-U/Kabylake- U Celeron series or Core i3/i5/i7 processors and 12.1" 1024*768 resolution high brightness TFT LCD, It supports flat panel 5-wire resistive touch screen, optional multi-touch projected capacitive touch screen. It is suitable for intelligent MES systems and equipment management HMI.

Product Parameters

System

CPU	Intel®Skylake-U/Kabylake-U Celeron/ Core i3/i5/i7 U
RAM	1*DDR4, 2133Mhz SODIMM, Max.16GB
Graphics	Intel® Gen. 9 HD Graphics, Support Intel HD Video Technology, wireless display technology HDMI: 3840*2160@30Hz, LVDS: 1920*1200@60Hz

I/O Port

LAN	2*Intel I210AT, Gigabit
USB	4*USB3.0, 1*USB2.0
Display	1*HDMI
Audio	1*Line out optional audio, 2*3W power speaker
Serial port	2*RS232/422/485 (DB9), optional 1*RS232

LCD Display

Dimension	12.1" TFT LED
Resolution	1024*768
Max. colors	16.2M
Luminance (cd/m ²)	500
Viewing Angle	80°(left), 80°(right), 70°(up), 70°(down)

Touchscreen

Touch type	5-wire resistive touch screen/projected capacitive touch screen
Light transmission	83%/90%
Controller	USB

Storage

Storage	1*2.5" SATA3.0 HDD/SSD, 1*mSATA Full-height card
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Expansion

Expansion port	1*Mini PCIe(PCle&USB signal), with SIM slot, support 4G/LTE/GSM/Wifi/BT/GPS
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Power Supply

Input voltage	DC IN 9~36V, with protection of short circuit, over voltage and over current
Power consumption	33W(I5-6200U, 4GB DDR4)

Mechanical

Structure	Aluminum alloy die-casting, flat panel, cooling fin case
Dimension(W*H*D)	315*259*51mm Panel mounting opening size(W*H): 303*247mm
Installation	Panel mounting, VESA 100*100mm
Net Weight	2.8KG

Environmental

Operating Temp	0~ 50°C, HDD(-10 ~ 55°C, SSD) with air flow
Storage Temp	-20°C~60°C
Storage Humidity	10~95%@40°C, No- condensation
Vibration	1g 5~500Hz, with HDD
Shock	10g peak acceleration(duration 11ms) with HDD
EMC	CE, FCC Class B

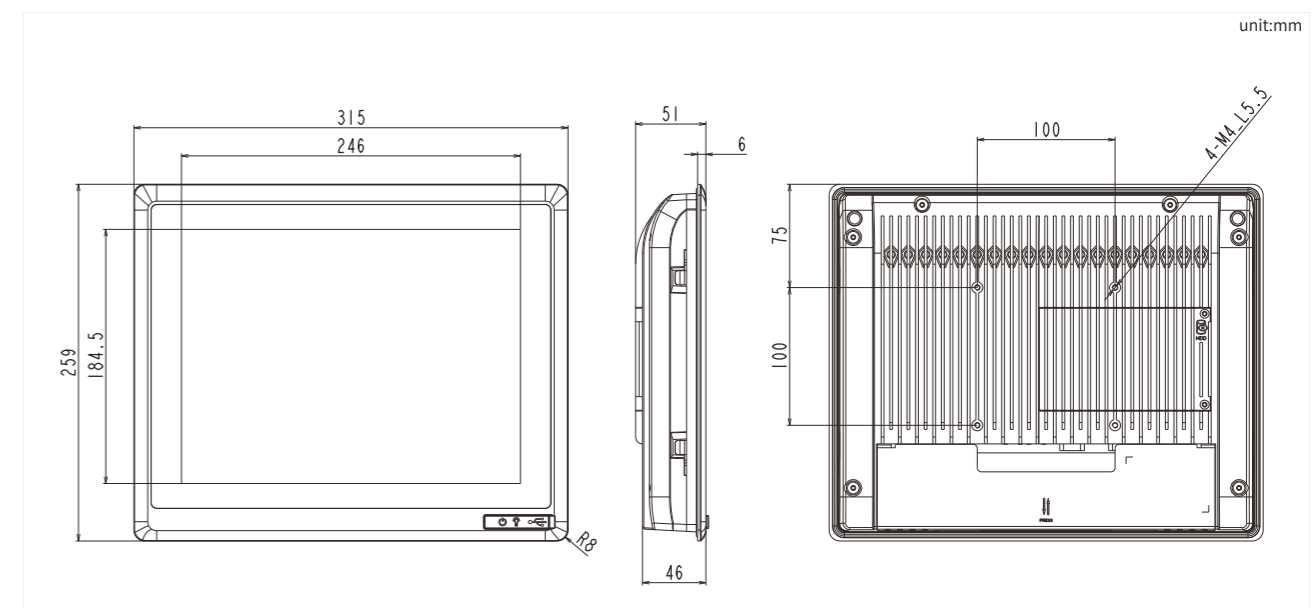
OS

OS	Windows 7, Windows 8.1, Windows 10, Linux
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I/O View



Dimensions



Ordering Information

Model	Processor	Touch Screen	Specifications
ALAD-K1220T/T001-G	Intel® I3-6100U/I3-7100U	5-wire resistive touch screen	12.1" TFT LCD, 2*COM(2*RS232/422/485), optional 1*RS232, 5*USB, 2*LAN, 1*Mini PCIe, HDMI, 1*Line out, 1*2.5" SATA Bay, 1*mSATA, 2*3W power speaker, DC 9~36V power supply
ALAD-K1220T(P)/ T001-G	Intel® I3-6100U/I3-7100U	projected capacitive touch screen	
ALAD-K1220T/ T002-G	Intel® I5-6200U/I5-7200U	5-wire resistive touch screen	
ALAD-K1220T(P)/ T002-G	Intel® I5-6200U/I5-7200U	projected capacitive touch screen	
ALAD-K1220T/ T003-G	Intel® I7-6500U/I7-7500U	5-wire resistive touch screen	
ALAD-K1220T(P)/ T003-G	Intel® I7-6500U/I7-7500U	projected capacitive touch screen	
ALAD-K1220T/ T004-G	Intel® Celeron 3855U/3865U	5-wire resistive touch screen	
ALAD-K1220T(P)/ T004-G	Intel® Celeron 3855U/3865U	projected capacitive touch screen	
PA-60DC12	AC/DC power adapter, DC12V/5A, 60W		

ALAD-K1520T

Intel® Skylake-U/Kabylake-U CPU, 2*LAN, 4*USB3.0, 1*USB2.0, 1*Line out, 1*PCIe/PCI, DC 9~36V, IP65 front panel protection

Key Specification

- Aluminum alloy die-casting, fanless design
- 15" LED TFT LCD, Resistive/capacitive touch screen
- Intel® Skylake-U/Kabylake-U CPU
- 1*DDR4 2133 SODIMM, support Max. 16GB
- 1*Mini PCIe, 1*PCI or 1*PCIeX1(optional)
- 4*COM, 2*LAN, 4*USB3.0, 1*USB2.0, 1*Line out
- 2.5" SATA Bay, 1*mSATA
- Remote switch
- DC 9~36 power input



Product Overview

ALAD-K1520T is an intelligent fanless embedded panel PC equipped with Intel® Skylake-U/Kabylake-U Celeron series or Core i3/i5/i7 processors and 15.0" 1024*768 resolution high brightness TFT LCD. It supports flat panel 5-wire resistive touch screen, optional multi-touch projected capacitive touch screen. It is suitable for intelligent MES systems and equipment management HMI.

Product Parameters

System

CPU	Intel®Skylake-U/Kabylake-U Celeron/ Core i3/i5/i7 U
RAM	1*DDR4, 2133Mhz SODIMM, Max.16GB
Graphics	Intel® Gen. 9 HD Graphics, Support Intel HD Video Technology, wireless display technology HDMI: 3840*2160@30Hz, LVDS: 1920*1200@60Hz

I/O Port

LAN	2*Intel I210AT, Gigabit
USB	4*USB3.0, 1*USB2.0
Display	1*HDMI
Audio	1*Line out optional audio, 2*3W power speaker
Serial port	2*RS232, 2*RS232/422/485 (DB9, while using PCI/PCI, only two serial ports)

LCD Display

Dimension	15" TFT LED
Resolution	1024*768
Max. colors	16.2M
Luminance (cd/m ²)	350
Viewing Angle	80°(left), 80°(right), 70°(up), 70°(down)

Touch Screen

Touch type	5-wire resistive touch screen/projected capacitive touch screen
Light Transmission	83%/90%
Controller	USB

Storage

Storage	1*2.5" SATA3.0 HDD/SSD, 1*mSATA Full-height card
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Expansion

Expansion Port	1*Mini PCIe(PCI&USB signal), with SIM slot, support4G/LTE/GSM/Wifi/BT/GPS, optional 1*32-bit PCI or 1*PCIe X4(X1 signal)
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Power Supply

Input voltage	DC IN 9~36V, 3-pin connector,
Power consumption	35.4W(I5-6200U ,4GB DDR4)

Mechanical

Structure	Aluminum alloy die-casting, flat panel, cooling fin case
Dimension(W*H*D)	380*315*56mm
Installation	Panel mounting, VESA (100*100/75*75mm)
Weight	4.3KG

Environmental

Operating Temp	0~ 50°C, HDD(-10 ~ 55°C, SSD) with air flow
Storage Temp	-20°C~60°C
Storage Humidity	10~95%@40°C, No- condensation
Vibration	1g 5-500Hz, with HDD
Shock	10g peak acceleration(duration 11ms) with HDD
EMC	CE,FCC Class B

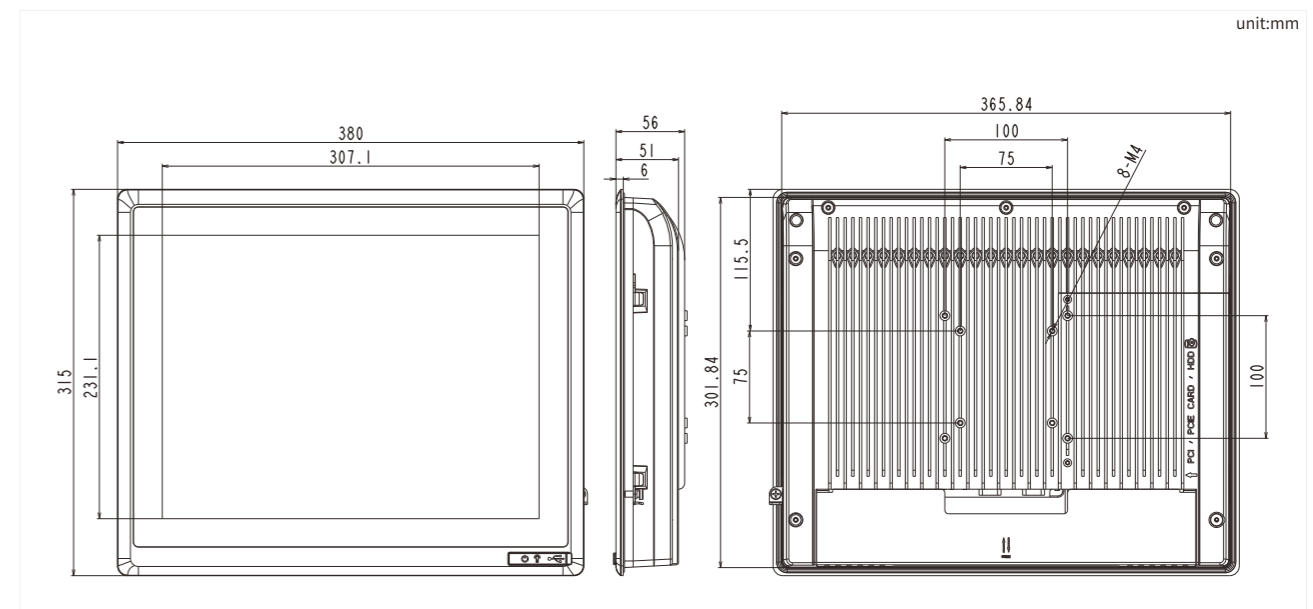
OS

	Windows 7,Windows 8.1, Windows 10, Linux
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I/O View



Dimensions



Ordering Information

Model	Processor	Touch Screen	Specifications
ALAD-K1520T/T001-G	Intel® I3-6100U/I3-7100U	5-wire resistive touch screen	15" TFT LCD, 4*COM(or 2*RS232/422/485,1*PCI/PCIe X1 expansion), 5*USB,2*LAN, 1*Mini PCIe, 1*HDMI, 1*Line out, 1*2.5" SATA Bay, 1*mSATA,2*3W power speaker DC 9~36V power supply
ALAD-K1520T(P)/ T001-G	Intel® I3-6100U/I3-7100U	projected capacitive touch screen	
ALAD-K1520T/ T002-G	Intel® I5-6200U/I5-7200U	5-wire resistive touch screen	
ALAD-K1520T(P)/ T002-G	Intel® I5-6200U/I5-7200U	projected capacitive touch screen	
ALAD-K1520T/ T003-G	Intel® I7-6500U/I7-7500U	5-wire resistive touch screen	
ALAD-K1520T(P)/ T003-G	Intel® I7-6500U/I7-7500U	projected capacitive touch screen	
ALAD-K1520T/ T004-G	Intel® Celeron 3855U/3865U	5-wire resistive touch screen	
ALAD-K1520T(P)/ T004-G	Intel® Celeron 3855U/3865U	projected capacitive touch screen	
ECI-105	1 slot PCI backplane, 1 PCI expansion slot		
ECX-106	1 slot PCIe backplane, 1 PCIeX1 expansion slot		
PA-60DC12	AC/DC power adapter, DC12V/5A, 60W		

ALAD-K1720T

Intel® Skylake-U/Kabylake-U CPU, 2*LAN, 4*USB3.0, 1*USB2.0, 1*Line out, DC 9~36V, IP65 front panel protection

Key Specification

- Aluminum alloy die-casting, fanless design
- 17.0" LED TFT LCD, Resistive/capacitive touch screen
- Intel® Skylake-U/Kabylake-U CPU
- 1*DDR4 2133 SODIMM, support Max.16GB
- 1*Mini PCIe(PCle+USB signal)
- 2*COM, 2*LAN, 4*USB3.0, 1*USB2.0, 1*Line out
- 2.5" SATA Bay, 1*mSATA Remote switch
- Remote switch
- DC 9~36V power input



Product Overview

ALAD-K1720T is an intelligent fanless embedded panel PC equipped with Intel® Skylake-U/Kabylake-U Celeron series or Core i3/i5/i7 processors and 17.0" 1280*1024 resolution high brightness TFT LCD. It supports flat panel 5-wire resistive touch screen, optional multi-touch projected capacitive touch screen. It is suitable for intelligent MES systems and equipment management HMI.

Product Parameters

System

CPU	Intel® Skylake-U/Kabylake-U Celeron/ Core i3/i5/i7 U
RAM	1*DDR4, 2133Mhz SODIMM, Max.16GB
Graphics	Intel® Gen. 9 HD Graphics, Support Intel HD Video Technology, wireless display technology HDMI: 3840*2160@30Hz, LVDS: 1920*1200@60Hz

I/O Port

LAN	2*Intel I210AT, Gigabit
USB	4*USB3.0, 1*USB2.0
Display	1*HDMI
Audio	1*Line out optional audio, 2*3W power speaker
Serial port	2*RS232/422/485 (DB9), optional 1*RS232

LCD Display

Dimension	17" TFT LED
Resolution	1280*1024
Max. colors	16.2M
Luminance (cd/m ²)	600
Viewing Angle	80°(left), 80°(right), 70°(up), 80°(down)

Touchscreen

Touch type	5-wire resistive touch screen/projected capacitive touch screen
Light Transmission	83%/90%
Controller	USB

Storage

Storage	1*2.5" SATA3.0 HDD/SSD, 1*mSATA Full-height card
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Expansion

Expansion Port	1*Mini PCIe(PCle&USB signal), with SIM card, support 4G/LTE/ GSM/Wifi/BT/GPS
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Power Supply

Input voltage	DC IN 9~36V, 3-pin connector,
Power consumption	35.4W(I5-6200U ,4GB DDR4)

Mechanical

Structure	Aluminum alloy die-casting, flat panel, cooling fin case
Dimension (W*H*D)	415.5*360.5*59mm
Installation	Panel mounting, VESA 100*100mm, rack mounting
Net Weight	6.1KG

Environmental

Operating Temp	0~ 50°C, HDD(-10 ~ 55°C, SSD) with air flow
Storage Temp	-20°C~60°C
Storage Humidity	10~95%@40°C, No- condensation
Vibration	1g 5~500Hz, with HDD
Shock	10g peak acceleration(duration 11ms) with HDD
EMC	CE, FCC Class B

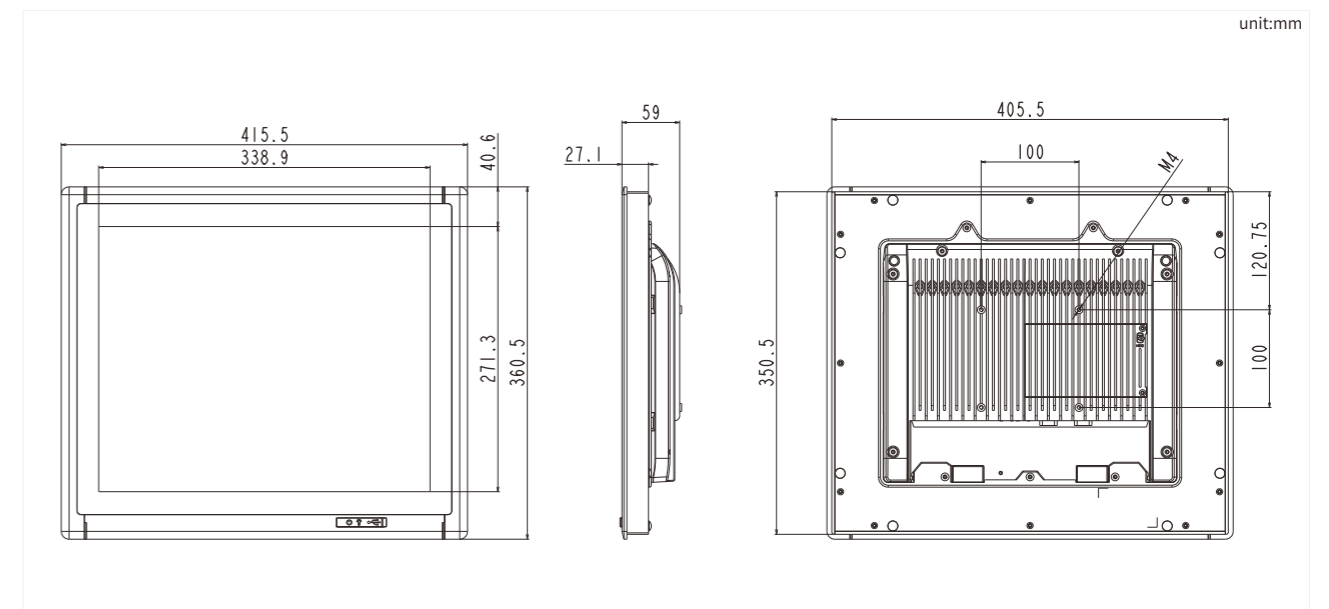
OS

	Windows 7, Windows 8.1, Windows 10, Linux
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I/O View



Dimensions



Ordering Information

Model	Processor	Touch Screen	Specifications
ALAD-K1720T/T001-G	Intel® I3-6100U/I3-7100U	5-wire resistive touch screen	17" TFT LCD, 2*COM(RS232/422/485, optional 1*RS232), 5*USB, 2*LAN, 1*Mini PCIe, 1*HDMI, 1*Line out, 1*2.5" SATA Bay, 1*mSATA, 2*3W power speaker, DC 9~36V power supply
ALAD-K1720T(P)/ T001-G	Intel® I3-6100U/I3-7100U	projected capacitive touch screen	
ALAD-K1720T/ T002-G	Intel® I5-6200U/I5-7200U	5-wire resistive touch screen	
ALAD-K1720T(P)/ T002-G	Intel® I5-6200U/I5-7200U	projected capacitive touch screen	
ALAD-K1720T/ T003-G	Intel® I7-6500U/I7-7500U	5-wire resistive touch screen	
ALAD-K1720T(P)/ T003-G	Intel® I7-6500U/I7-7500U	projected capacitive touch screen	
ALAD-K1720T/ T004-G	Intel® Celeron 3855U/3865U	5-wire resistive touch screen	
ALAD-K1720T(P)/ T004-G	Intel® Celeron 3855U/3865U	projected capacitive touch screen	
PA-60DC12	AC/DC power adapter, DC12V/5A, 60W		

ALAD-K1820T(P)

Intel® Skylake-U/Kabylake-U CPU, 2*LAN, 4*USB3.0, 1*USB2.0, 1*Line out, DC 9~36V, IP65 front panel protection

Key Specification

- Aluminum alloy die-casting, fanless design
- 18.5" LED TFT LCD, capacitive touch screen
- Intel® Skylake-U/Kabylake-U CPU
- 1*DDR4 2133 SODIMM, support Max.16GB
- 1*Mini PCIe(PCle+USB signal)
- 2*COM, 2*LAN, 4*USB3.0, 1*USB2.0, 1*Line out
- 2.5" SATA Bay, 1*mSATA
- Remote switch
- DC 9~36V power input



Product Overview

ALAD-K1820T is an intelligent fanless embedded panel PC equipped with Intel® Skylake-U/Kabylake-U Celeron series or Core i3/i5/i7 processors and 18.5" 1366*768 resolution high brightness TFT LCD. It supports multi-touch projected capacitive touch screen. It is suitable for intelligent MES systems and equipment management HMI.

Product Parameters

System

CPU	Intel® Skylake-U/Kabylake-U Celeron/Core i3/i5/i7 U
RAM	1*DDR4, 2133Mhz SODIMM, Max.16GB
Graphics	Intel® Gen. 9 HD Graphics, Support Intel HD Video Technology, wireless display technology HDMI: 3840*2160@30Hz, LVDS: 1920*1200@60Hz

I/O Port

LAN	2*Intel I210AT, Gigabit
USB	4*USB3.0, 1*USB2.0
Display	1*HDMI
Audio	1*Line out optional audio, 2*3W power speaker
Serial port	2*RS232/422/485 (DB9), optional 1*RS232

LCD Display

Dimension	18.5" TFT LED
Resolution	1366*768
Max. colors	16.7M
Luminance (cd/m ²)	300
Viewing Angle	80°(left), 80°(right), 80°(up), 80°(down)

Touchscreen

Touch type	Projected capacitive touch screen
Light Transmission	90%
Controller	USB

Storage

Storage	1*2.5" SATA3.0 HDD/SSD, 1*mSATA Full-height card
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Expansion

Expansion Port	1*Mini PCIe(PCle&USB signal), with SIM slot, support 4G/LTE/GSM/Wifi/BT/GPS
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Power Supply

Input voltage	DC IN 9~36V, 3-pin connector,
Power consumption	44.6W(I5-6200U ,4GB DDR4)

Mechanical

Structure	Aluminum alloy die-casting, flat panel, cooling fin case
Dimension (W*H*D)	482.3*304.6*59.1mm
Installation	Panel mounting, VESA 100*100mm
Net Weight	6.63KG

Environmental

Operating Temp	0~ 50°C, HDD(-10 ~ 55°C, SSD) with air flow
Storage Temp	-20°C~60°C
Storage Humidity	10~95%@40°C, No- condensation
Vibration	1g 5~500Hz, with HDD
Shock	10g peak acceleration(duration 11ms) with HDD
EMC	CE, FCC Class B

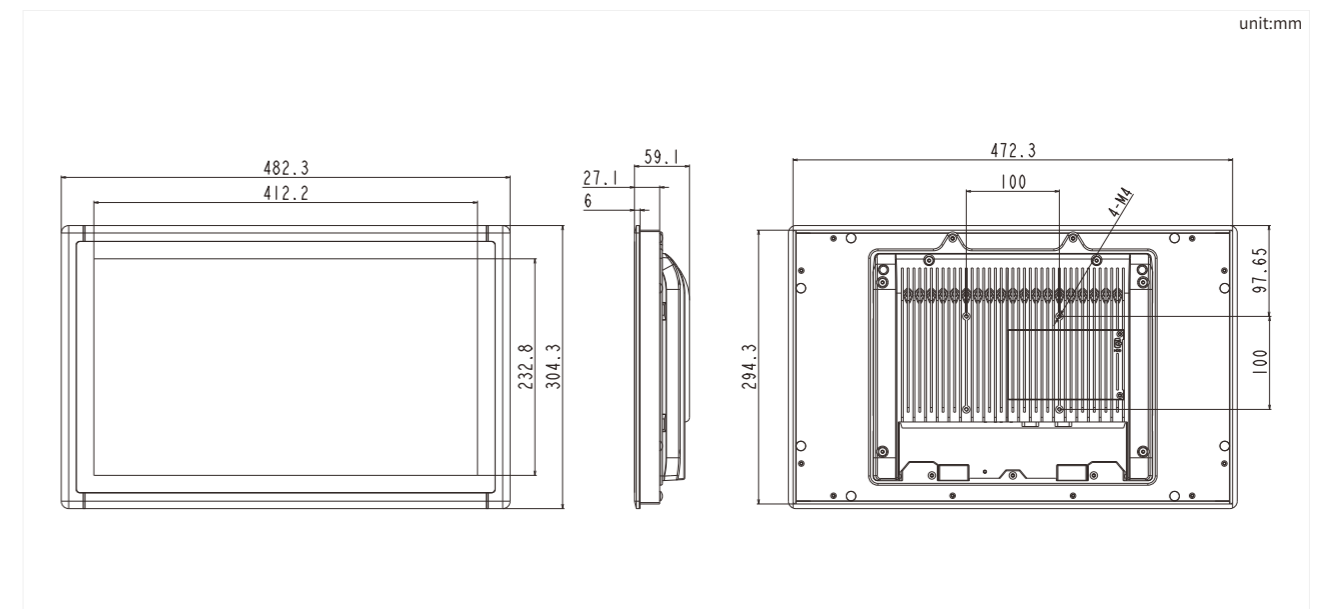
OS

OS	Windows 7, Windows 8.1, Windows 10, Linux
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I/O View



Dimensions



Ordering Information

Model	Processor	Touch Screen	Specifications
ALAD-K1820T(P)/ T001-G	Intel® I3-6100U/I3-7100U	projected capacitive touch screen	18.5" TFT LCD,
ALAD-K1820T(P)/ T002-G	Intel® I5-6200U/I5-7200U	projected capacitive touch screen	2*COM(RS232/422/485, optional 1*RS232),
ALAD-K1820T(P)/ T003-G	Intel® I7-6500U/I7-7500U	projected capacitive touch screen	5*USB, 2*LAN, 1*Mini PCIe, 1*HDMI, 1*Line out,
ALAD-K1820T(P)/ T004-G	Intel® Celeron 3855U/3865U	projected capacitive touch screen	1*2.5" SATA Bay, 1*mSATA, 2*3W power speaker,
PA-60DC12	AC/DC power adapter, DC12V/5A, 60W		DC 9~36V power supply

ALAD-K1920T

Intel® Skylake-U/Kabylake-U CPU, 2*LAN, 4*USB3.0, 1*USB2.0, 1*Line out, 1*PCIe/PCI, DC 9~36V, IP65 front panel protection

Key Specification

- Aluminum alloy die-casting, fanless design
- 19" LED TFT LCD, Resistive/capacitive touch screen
- Intel® Skylake-U/Kabylake-U CPU
- 1*DDR4 2133 SODIMM, support Max.16GB
- 1*Mini PCIe, optional 1*PCI or 1*PCIeX1
- 4*COM, 2*LAN, 4*USB3.0, 1*USB2.0, 1*Line out
- 2.5" SATA Bay, 1*mSATA
- Remote switch
- DC 9~36V power input



Product Overview

ALAD-K1920T is an intelligent fanless embedded panel PC equipped with Intel® Skylake-U/Kabylake-U Celeron series or Core i3/i5/i7 processors and 19" 1280*1024 resolution high brightness TFT LCD. It supports flat panel 5-wire resistive touch screen, optional multi-touch projected capacitive touch screen. It is suitable for intelligent MES systems and equipment management HMI.

Product Parameters

System

CPU	Intel®Skylake-U/Kabylake-U Celeron/Core i3/i5/i7 U
RAM	1*DDR4, 2133Mhz SODIMM, Max.16GB
Graphics	Intel® Gen. 9 HD Graphics, Support Intel HD Video Technology, wireless display technology HDMI: 3840*2160@30Hz, LVDS: 1920*1200@60Hz

I/O Port

LAN	2*Intel I210AT, Gigabit
USB	4*USB3.0, 1*USB2.0
Display	1*HDMI
Audio	1*Line out optional audio, 2*3W power speaker
Serial port	2*RS232, 2*RS232/422/485, (DB9, When using the extended PCI / PCIE, only two serial ports)

LCD Display

Dimensions	19" TFT LED
Resolution	1280*1024
Max. colors	16.7M
Luminance (cd/m ²)	470
Viewing Angle	85°(left), 85°(right), 85°(up), 85°(down)

Touchscreen

Touch type	5-wire resistive touch screen/projected capacitive touch screen
Light Transmission	83/90%
Controller	USB

Storage

Storage	1*2.5" SATA3.0 HDD/SSD, 1*mSATA Full-height card
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Expansion

Expansion Port	1*Mini PCIe(PCle&USB signal), with SIM slot, support 4G/LTE/GSM/Wifi/BT/GPS, optional 1*32-bit PCI or 1*PCLeX4 (X1 Signal)
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Power Supply

Input voltage	DC IN 9~36V, 3-pin connector,
Power consumption	53.3W(I5-6200U ,4GB DDR4)

Mechanical

Structure	Aluminum alloy die-casting, flat panel, cooling fin case
Dimension (W*H*D)	453.5*388.5*64.1mm Panel mounting opening size(W*H):445*380mm
Installation	Panel mounting,VESA (100*100/75*75mm)
Net Weight	6.9KG

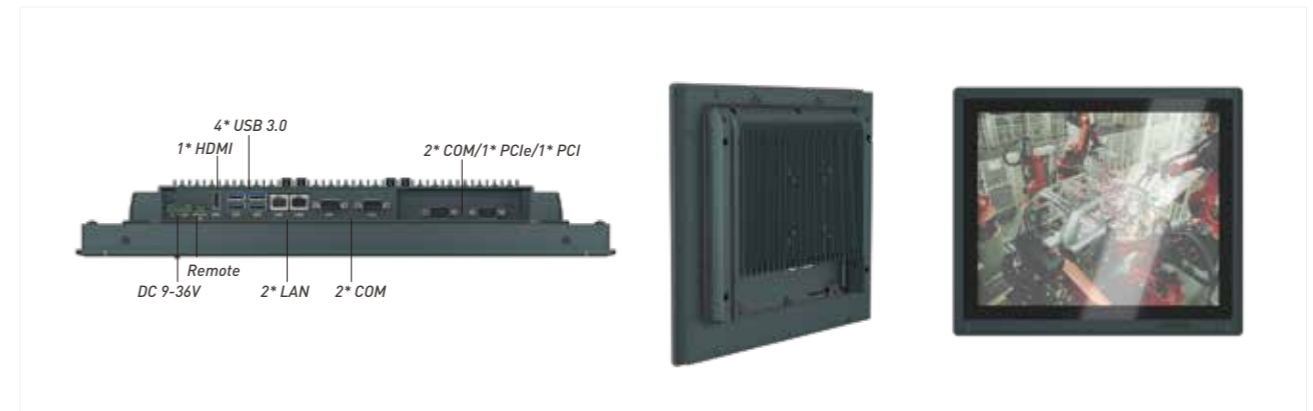
Environmental

Operating Temp	0~ 50°C, HDD(-10 ~ 55°C, SSD) with air flow
Storage Temp	-20°C~60°C
Storage Temp	10~95%@40°C, No- condensation
Vibration	1g 5~500Hz, with HDD
Shock	10g peak acceleration(duration 11ms) with HDD
EMC	CE,FCC Class B

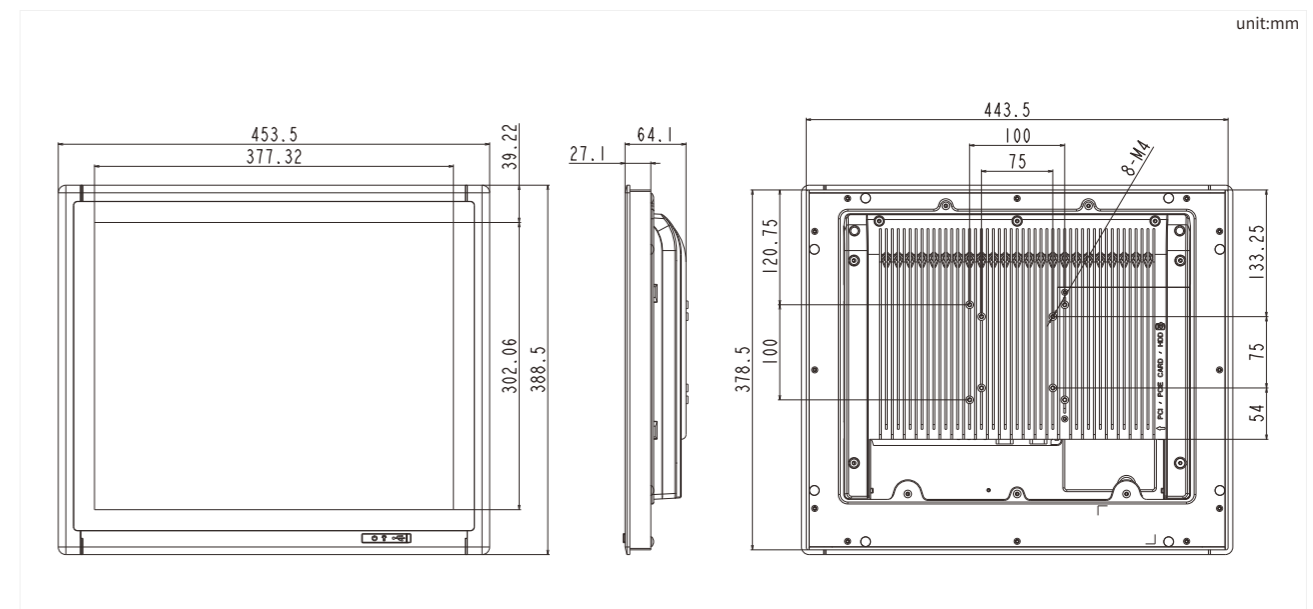
OS

OS	Windows 7,Windows 8.1, Windows 10, Linux
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I/O View



Dimensions



Ordering Information

Model	Processor	Touch Screen	Specifications
ALAD-K1920T/T001-G	Intel® I3-6100U/I3-7100U	5-wire resistive touch screen	19" TFT LCD, 4*COM(or 2*RS232/422/485, 1*PCI/PCIE X1 expansion), 5*USB, 2*LAN, 1*Mini PCIe, 1*HDMI, 1*Line out, 1*2.5" SATA Bay, 1*mSATA, 2*3W power speaker, DC 9~36V power supply
ALAD-K1920T(P)/ T001-G	Intel® I3-6100U/I3-7100U	projected capacitive touch screen	
ALAD-K1920T/ T002-G	Intel® I5-6200U/I5-7200U	5-wire resistive touch screen	
ALAD-K1920T(P)/ T002-G	Intel® I5-6200U/I5-7200U	projected capacitive touch screen	
ALAD-K1920T/ T003-G	Intel® I7-6500U/I7-7500U	5-wire resistive touch screen	
ALAD-K1920T(P)/ T003-G	Intel® I7-6500U/I7-7500U	projected capacitive touch screen	
ALAD-K1920T/ T004-G	Intel® Celeron 3855U/3865U	5-wire resistive touch screen	
ALAD-K1920T(P)/ T004-G	Intel® Celeron 3855U/3865U	projected capacitive touch screen	
ECl-105	1 slot PCI backplane, 1 PCI expansion slot		
ECX-106	1 slot PCIe backplane, 1 PCIeX1 expansion slot		
PA-60DC12	AC/DC power adapter, DC12V/5A, 60W		

ALAD-K2120T(P)

Intel® Skylake-U/Kabylake-U CPU, 2*LAN, 4*USB3.0, 1*USB2.0, 1*Line out, 1*PCIe/PCI, DC 9~36V, IP65 front panel protection

Key Specification

- Aluminum alloy die-casting, fanless design
- 21.5" LED TFT LCD, capacitive touch screen
- Intel® Skylake-U/Kabylake-U CPU
- 1*DDR4 2133 SODIMM, support Max. 16GB
- 1*Mini PCIe, 1*PCI or 1*PCIeX1 (optional)
- 4*COM, 2*LAN, 4*USB3.0, 1*USB2.0, 1*Line out
- 2.5" SATA Bay, 1*mSATA
- Remote switch
- DC 9~36V power input



Product Overview

ALAD-K2120T is an intelligent fanless embedded panel PC equipped with Intel® Skylake-U/Kabylake-U Celeron series or Core i3/i5/i7 processors and 21.5" 1920*1080 resolution high brightness TFT LCD. It supports multi-touch projected capacitive touch screen. It is suitable for intelligent MES systems and equipment management HMI.

Product Parameters

System

CPU	Intel® Skylake-U/Kabylake-U Celeron/Core i3/i5/i7 U
RAM	1*DDR4, 2133Mhz SODIMM, Max.16GB
Graphics	Intel® Gen. 9 HD Graphics, Support Intel HD Video Technology, wireless display technology HDMI: 3840*2160@30Hz, LVDS: 1920*1200@60Hz

I/O Port

LAN	2*Intel I210AT, Gigabit
USB	4*USB3.0, 1*USB2.0
Display	1*HDMI
Audio	1*Line out optional audio, 2*3W power speaker
Serial port	2*RS232, 2*RS232/422/485, (DB9, (DB9, When using the extended PCI / PCIe, only two serial ports)

LCD Display

Dimension	21.5" TFT LED
Resolution	1920*1080
Max. colors	16.7M
Luminance (cd/m ²)	300
Viewing Angle	89°(left), 89°(right), 89°(up), 89°(down)

Touchscreen

Touch type	Projected capacitive touch screen
Light Transmission	90%
Controller	USB

Storage

Storage	1*2.5" SATA3.0 HDD/SSD, 1*mSATA Full-height card
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Expansion

Expansion Port	1*Mini PCIe(Pcie&USB signal), with SIM slot, support 4G/LTE/ GSM/Wifi/BT/GPS, optional 1*32-bit PCI or 1*PCLeX4(X1 Signal)
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Power Supply

Input voltage	DC IN 9~36V, 3-pin connector,
Power consumption	49.4W(I5-6200U ,4GB DDR4)

Mechanical

Structure	Aluminum alloy die-casting, flat panel, cooling fin case
Dimension (W*H*D)	546.9*344.7*64.1mm
Installation	Panel mounting, VESA (100*100/75*75mm)
Net Weight	8.15KG

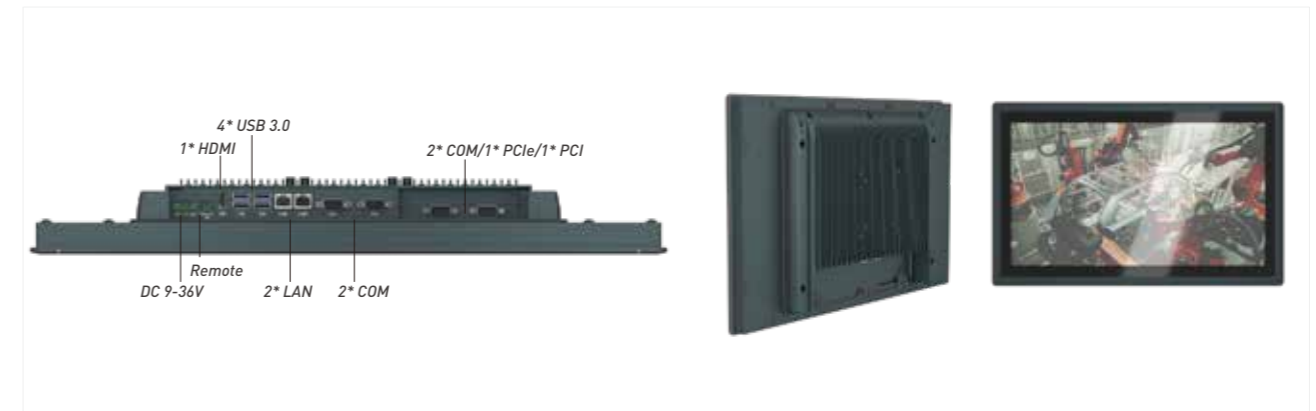
Environmental

Operating Temp	0~ 50°C, HDD(-10 ~ 55°C, SSD) with air flow
Storage Temp	-20°C~60°C
Storage Humidity	10~95%@40°C, No- condensation
Vibration	1g 5~500Hz, with HDD
Shock	10g peak acceleration(duration 11ms) with HDD
EMC	CE, FCC Class B

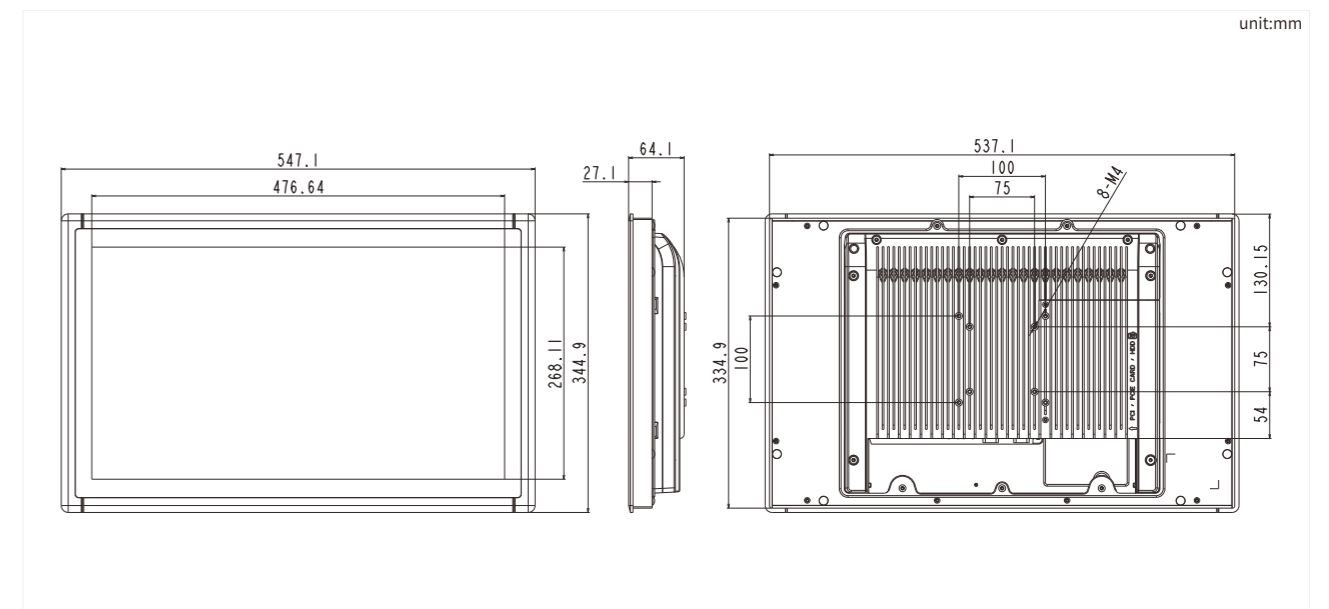
OS

Windows 7, Windows 8.1,
Windows 10, Linux

I/O View



Dimensions



Ordering Information

Model	Processor	Touch Screen	Specifications
ALAD-K2120T(P)/ T001-G	Intel® I3-6100U/I3-7100U	projected capacitive touch screen	21.5" TFT LCD, 4*COM(or 2*RS232/422/485, 1*PCI/PCIe X1 expansion), 5*USB, 2*LAN, 1*Mini PCIe, HDMI, 1*Line, out, 1*2.5" SATA Bay, 1*mSATA, 2*3W power speaker, DC 9~36 power supply
ALAD-K2120T(P)/ T002-G	Intel® I5-6200U/I5-7200U	projected capacitive touch screen	
ALAD-K2120T(P)/ T003-G	Intel® I7-6500U/I7-7500U	projected capacitive touch screen	
ALAD-K2120T(P)/ T004-G	Intel® Celeron 3855U/3865U	projected capacitive touch screen	
ECl-105	1 slot PCI backplane, 1 PCI expansion slot		
ECX-106	1 slot PCIe backplane, 1 PCIe expansion slot		
PA-60DC12	AC/D power adapter, DC12V/5A, 60W		

WPPC-H1580T

Intel® Celeron J1900 CPU, 2*GbE LAN, 2*COM, 1*USB3.0,3*USB2.0, 1*HDMI, 1*VGA, Stainless steel fanless design

Key Specification

- Intel® Baytrail Celeron J1900 2.0-2.42G CPU
- 1-Ch DDR3L 1333MHZ SODIMM, Up to 8GB
- SUS304 Stainless steel case, 3.0mm 5052 Aluminum alloy back cover
- True-flat design, fanless design
- IP65/IP66 panel protection
- 15" LED TFT LCD, capacitive/Resistive touch screen
- 1*HDMI, 1*VGA,2*GbE LAN,2*COM, 1*USB3.0, 3*USB2.0
- 1*Opt. ANT, support 4G LTE or WiFi/BT4.0
- 1*Mini PCIe (PCIe+USB, w/SIM)
- 1*Simple-swap 2.5" SATA bay, 1*mSATA
- DC 9~36V wide power input



Product Overview

WPPC-H1580T is a rugged and ultra-reliable fanless embedded waterproof panel PC. The front panel uses a SUS304 stainless steel shell, and the back cover uses a 3.0mm 5052 aluminum alloy design, which can not only meet the CPU heat dissipation, but also meet the VESA installation. It has the characteristics of super waterproof, sturdy and reliable, high performance, multiple IO, multiple expansion, and wide range of applications. It's suitable for wet, cold and harsh environments.

Product Parameters

System

CPU	Intel® Baytrail Celeron J1900 2.0-2.42G CPU
RAM	1*DDR3L,1333Mhz SODIMM, Max.8GB
Graphics	Gen.7 Intel® HD Graphics,LCD+HDMI+VGA 3 displays, OpenGL 3.2, DirectX 11, OpenCL 1.2, MPGE2/H.264 VGA:1920*1200@60Hz; HDMI 1920*1080@60Hz

I/O Port

LAN	2*Intel I211AT, Gigabit
USB	1*USB3.0, 3*USB2.0
Display	1*HDMI+1*VGA
Audio	optional audio
Serial port	2*RS232/422/485

LCD Display

Dimension	15" TFT LED
Resolution	1024*768
Max. colors	16.2M
Luminance (cd/m ²)	350
Viewing Angle	80°(left), 80°(right), 80°(up),80°(down)

Touchscreen

Touch type	5-wire resistive touch screen/projected capacitive touch screen
Light Transmission	83/90%
Controller	USB/USB

Storage

Storage	1*2.5" SATA(swappable), 1*mSATA Full-height card, support AHCI
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Expansion

Expansion Port	1*Mini PCIe, with SIM slot
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Power Supply

Power Supply & Power consumption	DC IN 9~36V, D-Jack w/M8, Power consumption: 19.5W
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Mechanical

Sturcture	SUS304 Stainless steel /5052 Aluminum alloy/SECC
Dimension (w*H*D)	405.22*328.22*52.1mm
Installation	Desktop mounting VESA(100mm*100mm)
Net Weight	5.8KG

Environmental

Operating Temp	0~ 60°C
Storage Temp	-40°C~85°C
Storage Humidity	10~90%@40°C, No- condensation
Vibration	1g 5~500Hz
Shock	10g peak acceleration(duration 11ms) with HDD
EMC	CE,FCC Class B

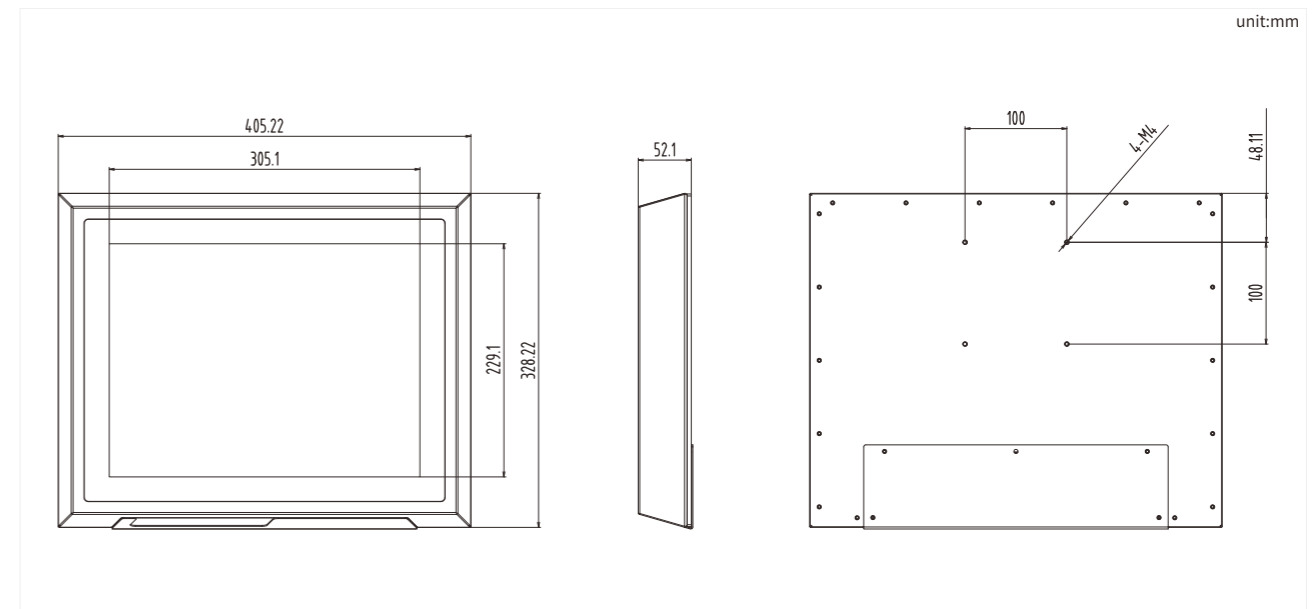
OS

OS	Windows 7,Windows 8.1, Windows 10, Linux Fedora Ubuntu
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I/O View



Dimensions



Ordering Information

Model	Processor	Touch Screen	Specifications
WPPC-H1580T-T001	Intel® Baytrail Celeron J1900 CPU	5-wire resistive touch screen	15" TFT LCD, 1*HDMI, 1*VGA, 2*G-LAN, 2*COM, 1*Opt. ANT, 1*USB3.0, 3*USB2.0, 1*Mini PCIe, 1*swappable 2.5" SATA bay, 1*mSATA, DC 9~36V
WPPC-H1580T(P)-T001		Projected capacitive touch screen	
PA-60DC12	AC/DC power adapter, DC12V/5A, 60W		

WPPC-H1780T

Intel® Celeron J1900 CPU, 2*GbE LAN, 2*COM, 1*USB3.0,3*USB2.0, 1*HDMI, 1*VGA, Stainless steel fanless design

Key Specification

- Intel® Baytrail Celeron J1900 2.0-2.42G CPU
- 1-Ch DDR3L 1333MHZ SODIMM, Up to 8GB
- SUS304 Stainless steel case, 3.0mm 5052 Aluminum alloy back cover
- True-flat design, fanless design
- IP65/IP66 panel protection
- 17" LED TFT LCD, Capacitive/Resistive touch screen
- 1*HDMI, 1*VGA,2*GbE LAN,2*COM, 1*USB3.0, 3*USB2.0
- 1*Opt. ANT, support 4G LTE or WiFi/BT4.0
- 1*Mini PCIe (PCIe+USB, w/SIM)
- 1*Simple-swap 2.5" SATA bay , 1*mSATA
- DC 9~36V wide power input



Product Overview

WPPC-H1780T is a rugged and ultra-reliable fanless embedded waterproof tablet PC. The front panel uses a SUS304 stainless steel shell, and the back cover uses a 3.0mm 5052 aluminum alloy design, which can not only meet the CPU heat dissipation, but also meet the VESA installation. It has the characteristics of advanced waterproof, sturdy and reliable, high performance, multiple IO, multiple expansion, and wide range of applications. It's suitable for wet, cold and harsh environments.

Product Parameters

System

CPU	Intel® Baytrail Celeron J1900 2.0-2.42G CPU
RAM	1*DDR3L,1333Mhz SODIMM Max. 8GB
Graphics	Gen.7 Intel® HD Graphics LCD+HDMI+VGA 3 displays, OpenGL 3.2, DirectX 11, OpenCL 1.2, MPGE2/H.264 VGA:1920*1200@60Hz; HDMI 1920*1080@60Hz

I/O Port

LAN	2*Intel I211AT, Gigabit
USB	1*USB3.0, 3*USB2.0
Display	1*HDMI+1*VGA
Audio	optional audio
Serial port	2*RS232/422/485

LCD Display

Display	17" TFT LED
Resolution	1280*1024
Max. colors	16.2M
Luminance (cd/m ²)	600
Viewing Angle	80°(left), 80°(right), 70°(up),80°(down)

Touchscreen

Touch type	5-wire resistive touch screen/projected capacitive touch screen
Light Transmission	83/90%
Controller	USB/USB

Storage

Storage	1*2.5" SATA (swappable) 1*mSATA Full-height card, support AHCI
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Expansion

Expansion Port	1*Mini PCIe, with SIM slot
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Power Supply

Power Supply & Power consumption	DC IN 9~36V, D-Jack w/M8, Power consumption: 30W
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Mechanical

Structure	SUS304 Stainless steel /5052 Aluminum alloy/SECC
Dimension (W*H*D)	429.51*364.51*52.1mm
Installation	Desktop mounting VESA(100mm*100mm)
Net Weight	5.57KG

Environmental

Operating Temp	0~ 60°C
Storage Temp	-40°C~85°C
Storage Humidity	10~90%@40°C, No- condensation
Vibration	1g 5~500Hz
Shock	10g peak acceleration(duration 11ms) with HDD
EMC	CE,FCC Class B

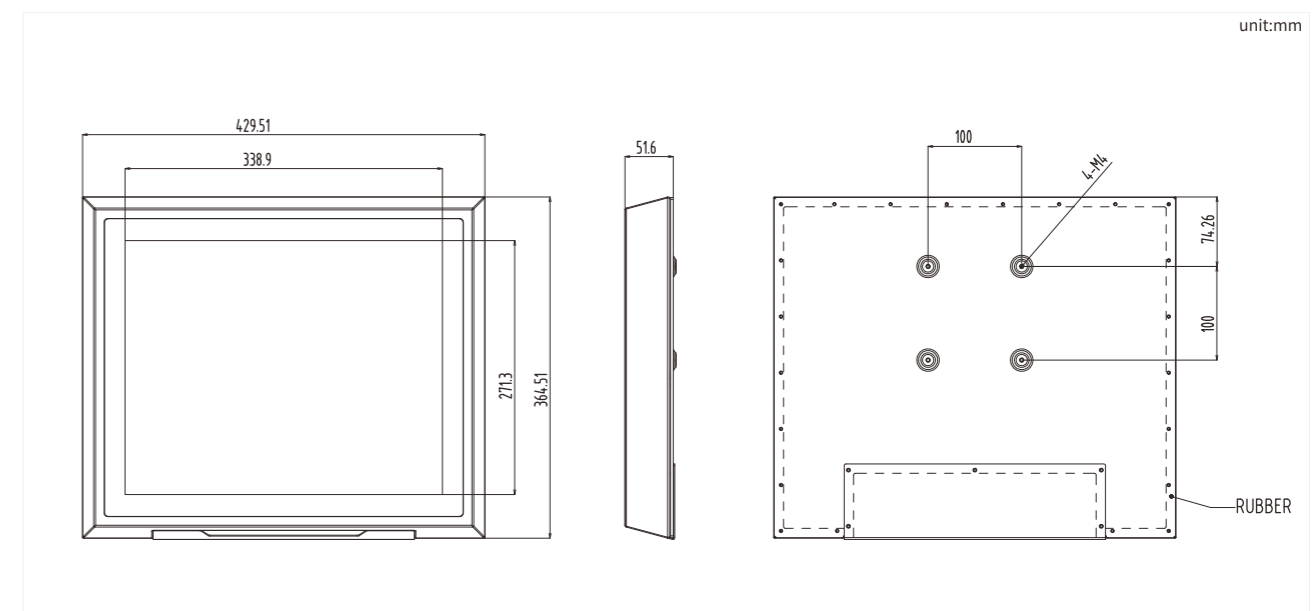
OS

OS	Windows 7,Windows 8.1, Windows 10, Linux Fedora Ubuntu
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I/O View



Dimensions



Ordering Information

Model	Processor	Touch Screen	Specifications
WPPC-H1780T-T001	Intel® Baytrail Celeron J1900 CPU	5-wire resistive touch screen	17" TFT LCD, 1*HDMI, 1*VGA, 2*G-LAN, 2*COM, 1*Opt. ANT, 1*USB3.0, 3*USB2.0, 1*Mini PCIe , 1*swappable 2.5" SATA bay, 1*mSATA, DC 9~36V
WPPC-H1780T(P)-T001		Projected capacitive touch screen	
PA-60DC12	AC/DC power adapter, DC12V/5A, 60W		



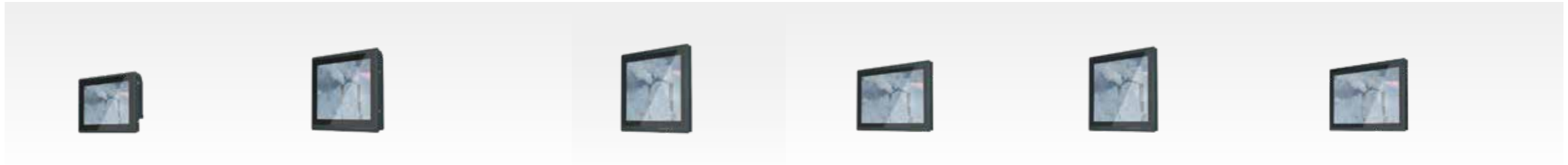
APPLICATION



Environmental monitoring



Logistics and warehousing



	ALAD-101T	ALAD-151T	ALAD-171T	ALAD-181T(P)	ALAD-191T	ALAD-211T(P)
LCD Display						
Dimension	10.1" TFT LED	15" TFT LED	17" TFT LED	18.5" TFT LED	19" TFT LED	21.5" TFT LED
Resolution	1280*800	1024*768	1280*1024	1366*768	1280*1024	1920*1080
Max. colors	16.7M	16.2M	16.2M	16.7M	16.7M	16.7M
Max. Luminance	350	350	600	300	470	300
Viewing Angle	85°(left), 85°(right), 85°(up), 85°(down)	80°(left), 80°(right), 80°(up), 80°(down)	80°(left), 80°(right), 70°(up), 80°(down)	89°(left), 89°(right), 85°(up), 85°(down)	85°(left), 85°(right), 75°(up), 85°(down)	89°(left), 89°(right), 89°(up), 89°(down)
Backlight life	15000 hours/50000 hours	50000 hours	70000 hours	50000 hours	50000 hours	50000 hours
Touch screen						
Touch type	5-wire resistive touch screen/projected capacitive touch screen	5-wire resistive touch screen/projected capacitive touch screen	5-wire resistive touch screen/projected capacitive touch screen	Projected capacitive touch screen	5-wire resistive touch screen/projected capacitive touch screen	Projected capacitive touch screen
Light Transmission	80%/90%	83%/90%	80%/90%	90%	83%/90%	90%
Controller	USB/USB	USB/USB,RS232	USB/USB	USB/RS232	USB/USB	USB/RS232
I/O Port						
OSD menu/language	AUTO/Power/Menu/Source/UP (LEFT)/DOWN(RIGHT) Chinese, English, German, French, Russian, Italian, Spanish, Arabic and other optional languages		AUTO/Power/Menu/Source/UP (LEFT)/DOWN(RIGHT) Chinese, English, German, French, Russian, Italian, Spanish, Arabic and other optional languages			
Display	1*VGA+1*HDMI/1*DP (choose one)	1*VGA+1*HDMI/1*DP (choose one)	1*VGA+1*HDMI/1*DP (choose one)	1*VGA+1*HDMI/1*DP (choose one)	1*VGA+1*HDMI/1*DP (choose one)	1*VGA+1*HDMI/1*DP (choose one)
Audio	1*Line in, 2*2W power speaker	1*Line in, 2*3W power speaker	1*Line in, 2*3W power speaker	1*Line in, 2*3W power speaker	1*Line in, 2*3W power speaker	1*Line in, 2*3W power speaker
Touch interface	1*RS232 Touch, 1*USB Touch	1*RS232 Touch, 1*USB Touch	1*RS232 Touch, 1*USB Touch	1*RS232 Touch, 1*USB Touch	1*RS232 Touch, 1*USB Touch	1*RS232 Touch, 1*USB Touch
Power						
Power Input	DC 12V	DC 12V	DC 12V	DC 12V	DC 12V	DC 12V
Power consumption	12V@0.65A (No Power output)	12V@0.65A (No Power output)	12V@1.6A (No Power output)	12V@1.6A (No Power output)	12V@1.6A (No Power output)	12V@1.6A (No Power output)
Standby power consumption	Standby power consumption <1W	Standby power consumption <1W	Standby power consumption <1W	Standby power consumption <1W	Standby power consumption <1W	Standby power consumption <1W
Mechanical						
Structure	Aluminum alloy die-casting, flat panel, cooling fin case	Aluminum alloy die-casting, flat panel, cooling fin case	Aluminum alloy die-casting, flat panel, cooling fin case	Aluminum alloy die-casting, flat panel, cooling fin case	Aluminum alloy die-casting, flat panel, cooling fin case	Aluminum alloy die-casting, flat panel, cooling fin case
Dimension (W*H*D)	275*193*51mm Panel mounting opening size(W*H): 271*189mm	380*315*56mm Panel mounting opening size (W*H): 367.3*303.3mm	415.5*360.5*59mm Panel mounting opening size (W*H): 407*352mm	482.3*304.3*59.1mm Panel mounting opening size (W*H): 473.8*295.8mm	453.5*388.5*64.1mm Panel mounting opening size (W*H): 445*380mm	546.9*344.7*64.1mm Panel mounting opening size (W*H): 537.5*335.3mm
Net Weight	1.8kg	4.3kg	TBD	6.6kg	TBD	8.1kg
Installation	Panel mounting, VESA (75*75mm)	Panel mounting, VESA (100*100/75*75mm)	Panel mounting, VESA (100*100mm)	Panel mounting, VESA (100*100/75*75mm)	Panel mounting, VESA (100*100/75*75mm)	Panel mounting, VESA (100*100/75*75mm)
Environmental						
Operating Temp	-20~70°C, with air flow	0~50°C, with air flow	0~50°C, with air flow	0~50°C, with air flow	0~60°C, with air flow	0~50°C, with air flow
Storage Temp	-40~80°C	-20~60°C	-20~60°C	-20~60°C	-40~80°C	-20~60°C
Humidity	10~95%@40°C, No- condensation	10~95%@40°C, No- condensation	10~95%@40°C, No- condensation	10~95%@40°C, No- condensation	10~95%@40°C, No- condensation	10~95%@40°C, No- condensation
Vibration	1g 5-500Hz	1g 5-500Hz	1g 5-500Hz	1g 5-500Hz	1g 5-500Hz	1g 5-500Hz
Shock	10g peak acceleration(duration 11ms)	10g peak acceleration(duration 11ms)	10g peak acceleration(duration 11ms)	10g peak acceleration(duration 11ms)	10g peak acceleration(duration 11ms)	10g peak acceleration(duration 11ms)
Certificate	CE,FCC Class B	CE,FCC Class B	CE,FCC Class B	CE,FCC Class B	CE,FCC Class B	CE,FCC Class B

ALAD-101T

10.1" TFT LCD, Capacitive/Resistive touch screen, HDMI/DP (choose one), VGA display, OSD function keys

Key Specification

- Aluminum alloy die-casting, naturally streamlined design
- 10.1" high resolution TFT LCD (LED Backlight)
- 5 wire heat-resistant resistive touch screen
- Optional projected capacitive touch screen, support multi-touch
- HDMI/DP(choose one) and VG signal input
- Audio input, support 2*2W power speaker
- DC 12V power input
- True-flat panel, IP65 front panel



Product Overview

ALAD-101T is an industrial touch display that supports 10.1" TFT LED LCD screen, high resolution 1280*800, USB and serial port dual-signal 5-wire resistive touch screen and optional capacitive touch screen. HDMI/DP (choose one). Variety of installation methods for application sites in different fields such as vehicle display, industrial automation, medical treatment, and new energy.

Product Parameters

Display Screen

Dimension	10.1" TFT LED
Resolution	1280*800
Max. colors	16.7M
Max. Luminance	350
Viewing Angle	85°(left), 85°(right), 85°(up), 85°(down)
Backlight life	15000 hours/50000 hours

Touch Screen

Type	5-wire resistive touch screen/projected capacitive touch screen
Light Transmission	80%/90%
Controller	USB/USB

I/O Port

OSD menu/language	AUTO/Power/Menu/Source/UP (LEFT)/DOWN(RIGHT) Chinese, English, German, French, Russian, Italian, Spanish, Arabic and other optional languages
Display	1*VGA+1*HDMI/1*DP (choose one)
Audio	1*Line in, 2*2W power speaker
Touch interface	1*RS232 Touch, 1*USB Touch

Power

Power input	DC 12V
Power consumption	12V@0.65A (No Power output)
Standby power consumption	Standby power consumption <1W

Mechanical

Structure	Aluminum alloy die-casting, flat panel, cooling fin case
Dimension (W*H*D)	275*193*51mm Panel mounting opening size(W*H): 271*189mm
Net Weight	1.8kg
Installation	Panel mounting, VESA (75*75mm)

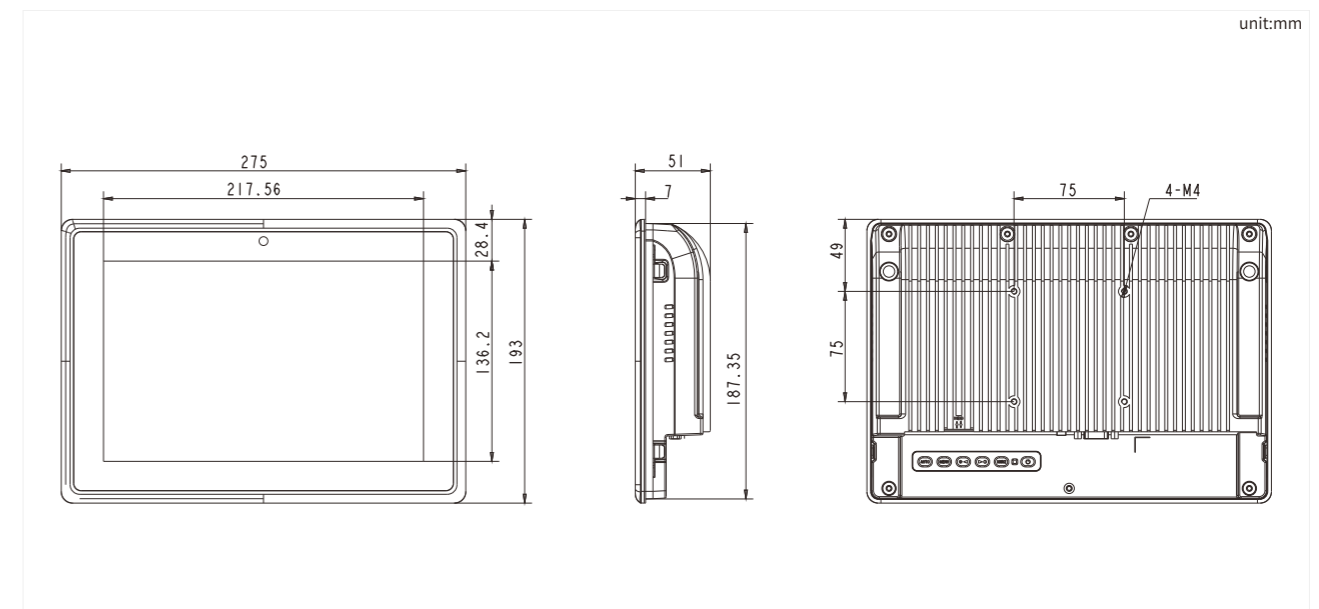
Environmental

Operating Temp	-20~70°C, with air flow
Storage Temp	-40~80°C
Humidity	10~95%@40°C, No- condensation
Vibration	1g 5~500Hz
Shock	10g peak acceleration(duration 11ms) with HDD
Certificate	CE,FCC Class B

I/O View



Dimensions



Ordering Information

Model	Touch Screen	Specifications
ALAD-101T/S001-G	5-wire resistive touch screen	10.1" TFT LCD, 1*HDMI (default)/1*DP(optional), 1*VGA, 1*Line in, 2*2W power speaker, DC 12V power supply
ALAD-101T (P) /S001-G	Projected capacitive touch screen	
PA-60DC12	AC/DC power adapter, DC12V/5A, 60W	

ALAD-151T

15" TFT LCD, Capacitive/Resistive touch screen, HDMI/DP (choose one), VGA display, OSD function keys

Key Specification

- Aluminum alloy die-casting, naturally streamlined design
- 15" high resolution TFT LCD (LED Backlight)
- 5 wire heat-resistant resistive touch screen
- Optional projected capacitive touch screen, support multi-touch
- HDMI/DP (choose one) and VGA signal input
- Audio input, optional support 2.3W power speakers
- DC 12V power input
- Flat panel, IP65 front panel



Product Overview

ALAD-151-G is an industrial touch display that supports 15" TFT LED LCD screen, high resolution 1280*800, USB and serial port dual-signal 5-wire resistive touch screen and optional capacitive touch screen. HDMI/DP (choose one). It is an industrial-standard multimedia display, with multiple installations suitable for different application sites.

Product Parameters

Display Screen

Dimension	15" TFT LED
Resolution	1024*768
Max. colors	16.2M
Max. Luminance	350
Viewing angle	80°(left), 80°(right), 80°(up), 80°(down)
Backlight life	50000 hours

Touch Screen

Type	5-wire resistive touch screen/projected capacitive touch screen
Light Transmission	83%/90%
Controller	USB/USB,RS232

I/O Port

OSD menu/language	AUTO/Power/Menu/Source/UP (LEFT)/DOWN(RIGHT) Chinese, English, German, French, Russian, Italian, Spanish, Arabic and other optional languages
Display	1*VGA+1*HDMI/1*DP (choose one)
Audio	1*Line in, 2*3W power speaker
Touch interface	1*RS232 Touch, 1*USB Touch

Power

Power input	DC 12V
Power consumption	12V@0.65A (No power output)
Standby power consumption	Standby power consumption <1W

Mechanical

Structure	Aluminum alloy die-casting, flat panel, cooling fin case
Dimension(W*H*D)	380*315*56mm Panel mounting opening size (W*H): 367.3*303.3mm
Net weight	4.3kg
Installation	Panel mounting, VESA (100*100/75*75mm)

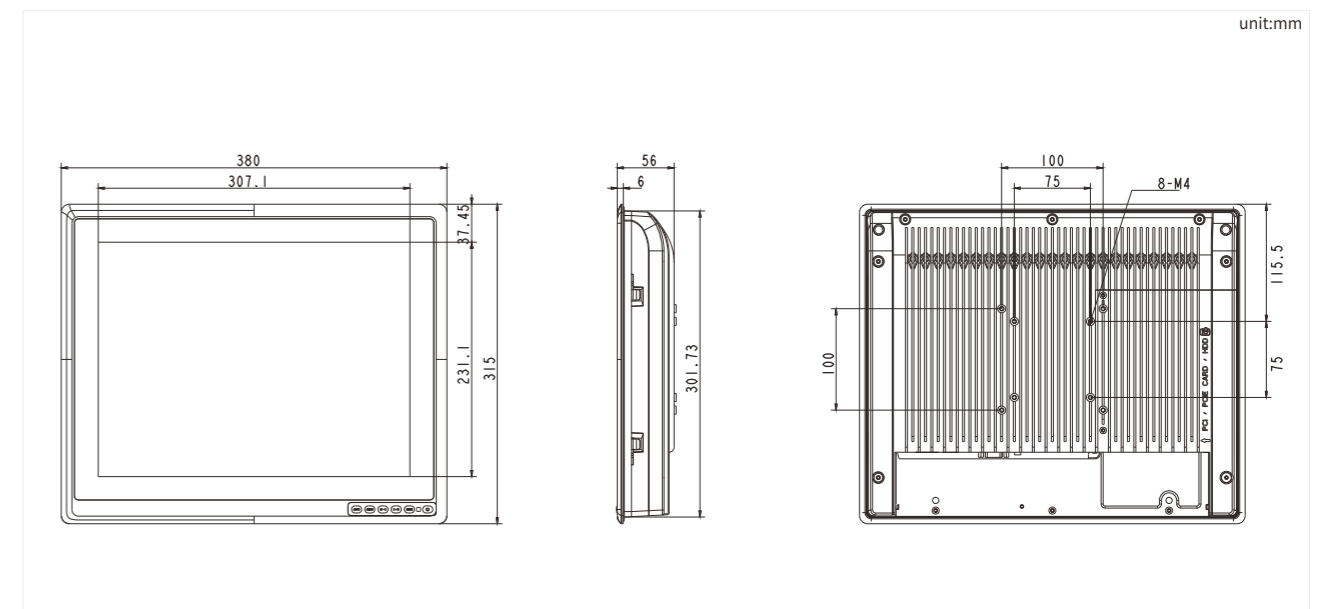
Environmental

Operating Temp	0~50°C, with air flow
Storage Temp	-20~60°C
Storage Humidity	10~95%@40°C, No- condensation
Vibration	1g 5~500Hz
Shock	10g peak acceleration(duration 11ms) with HDD
Certificate	CE,FCC Class B

I/O View



Dimensions



Ordering Information

Model	Touch Screen	Specifications
ALAD-151T/S001-G	5-wire resistive touch screen	15" TFT LCD, 1*HDMI (default) /1*DP(optional), 1*VGA, 1*Line in, 2*3W power speaker, DC 12V power supply
ALAD-151T (P) /S001-G	Projected capacitive touch screen	
PA-60DC12	AC/DC power adapter, DC12V/5A, 60W	

ALAD-171T

17" TFT LCD, Capacitive/Resistive touch screen, HDMI/DP (choose one), VGA display, OSD function keys

Key Specification

- Aluminum alloy die-casting, naturally streamlined design
- 17" high resolution TFT LCD (LED Backlight)
- 5 wire heat-resistant resistive touch screen
- Optional projected capacitive touch screen, support multi-touch
- HDMI/DP (choose one) and VGA signal input
- Audio input, optional support 2.3W power speakers
- DC 12V power input
- Flat panel, IP65 front panel



Product Overview

ALAD-171T-G is an industrial touch display that supports 17" TFT LED LCD screen, high resolution 1280*1024, USB and serial port dual-signal 5-wire resistive touch screen and optional capacitive touch screen.

HDMI/DP (choose one). It is an industrial-standard multimedia display, with multiple installations suitable for different application sites.

Product Parameters

Display Screen

Dimension	17" TFT LED
Resolution	1280*1024
Max. colors	16.2M
Max. Luminance	600
Viewing angle	80°(left), 80°(right), 70°(up), 80°(down)
Backlight life	70000 hours

Touch Screen

Type	5-wire resistive touch screen/projected capacitive touch screen
Light Transmission	80%/90%
Controller	USB/USB

I/O Port

OSD menu /language	AUTO/Power/Menu/Source/UP (LEFT)/DOWN(RIGHT) Chinese, English, German, French, Russian, Italian, Spanish, Arabic and other optional languages
Display	1*VGA+1*HDMI/1*DP (choose one)
Audio	1*Line in, 2*3W power speaker
Touch interface	1*RS232 Touch, 1*USB Touch

Power

Power input	DC 12V
Power consumption	12V@1.6A (No power output)
Standby power consumption	Standby power consumption <1W

Mechanical

Structure	Aluminum alloy die-casting, flat panel, cooling fin case
Dimension (W*H*D)	415.5*360.5*59mm
Panel mounting opening size (W*H)	407*352mm
Net weight	TBD
Installation	Panel mounting, VESA (100*100mm)

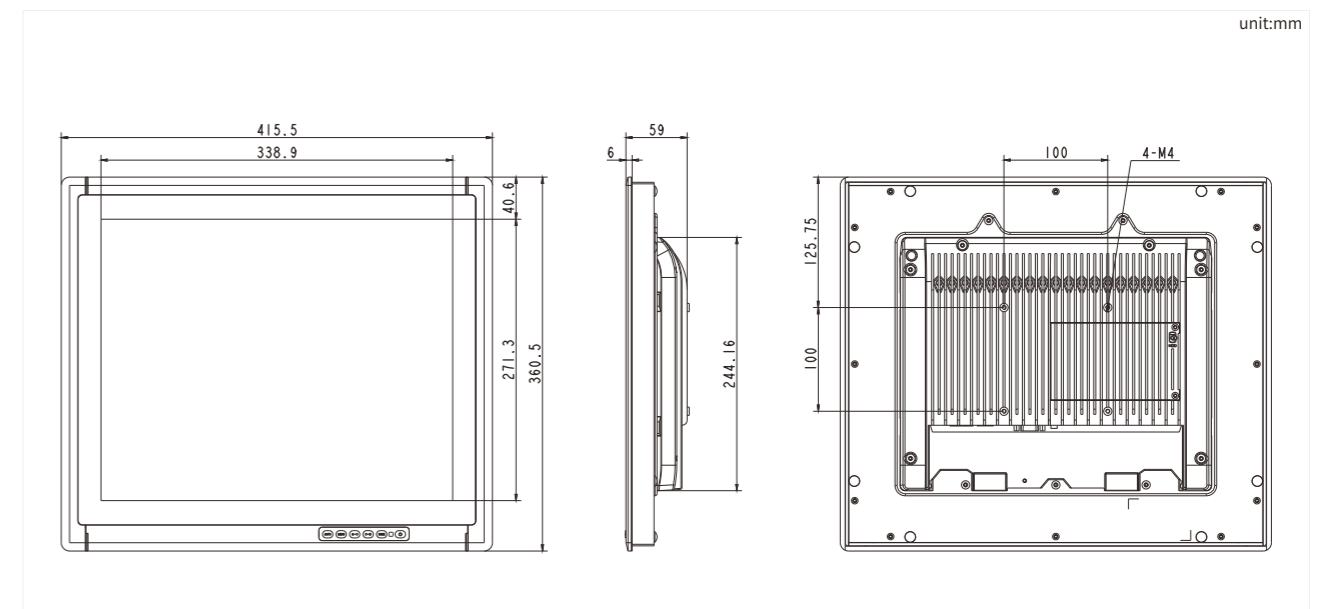
Environmental

Operating Temp	0~50°C, with air flow
Storage Temp	-20~60°C
Humidity	10~95%@40°C, No- condensation
Vibration	1g 5~500Hz
Shock	10g peak acceleration(duration 11ms) with HDD
Certificate	CE,FCC Class B

I/O View



Dimensions



Ordering Information

Model	Touch Screen	Specifications
ALAD-171T/S001-G	5-wire resistive touch screen	17" TFT LCD, 1*HDMI (default) /1*DP(optional) , 1*VGA, 1*Line in, 2*3W power speaker, DC 12V power supply
ALAD-171T (P) /S001-G	Projected capacitive touch screen	
PA-60DC12	AC/DC power adapter, DC12V/5A, 60W	

ALAD-181T(P)

18.5" TFT LCD, Capacitive touch screen , HDMI/DP (choose one), VGA dual signals, OSD function keys

Key Specification

- Aluminum alloy die-casting, naturally streamlined design
- 18.5" high resolution TFT LCD (LED Backlight)
- Projected capacitive touch screen, support multi-touch
- HDMI/DP (choose one) and VGA signal input
- Audio input, optional support 2.3W power speakers
- DC 12V power input
- IP65 certified full-flat panel protection



Product Overview

ALAD-181T-G is an industrial touch display that supports 18.5" TFT LED LCD screen, high resolution 1366*768, USB and serial port dual-signal capacitive touch screen. HDMI/DP (choose one). It is an industrial-standard multimedia display, with multiple installations suitable for different application sites.

Product Parameters

Display Screen

Dimension	18.5" TFT LED
Resolution	1366*768
Max. colors	16.7M
Max. Luminance	300
View angle	89°(left), 89°(right), 85°(up), 85°(down)
Backlight life	50000 hours

Touch Screen

Type	Projected capacitive touch screen
Light Transmission	90%
Controller	USB/RS232

I/O Port

OSD menu/ language	AUTO/Power/Menu/Source/UP (LEFT)/DOWN(RIGHT) Chinese, English, German, French, Russian, Italian, Spanish, Arabic and other optional languages
Display	1*VGA+1*HDMI/1*DP (choose one)
Audio	1*Line in, 2*3 ower speaker
Touch interface	1*RS232 Touch, 1*USB Touch

Power

Power input	DC 12V
Power consumption	12V@1.6A (No power output)
Standby power consumption	Standby power consumption <1W

Mechanical

Structure	Aluminum alloy die-casting, flat panel, cooling fin case
Dimension (W*H*D)	482.3*304.3*59.1mm Panel mounting opening size (W*H): 473.8*295.8mm
Net weight	6.6kg
Installation	Panel mounting, VESA (100*100/75*75mm)

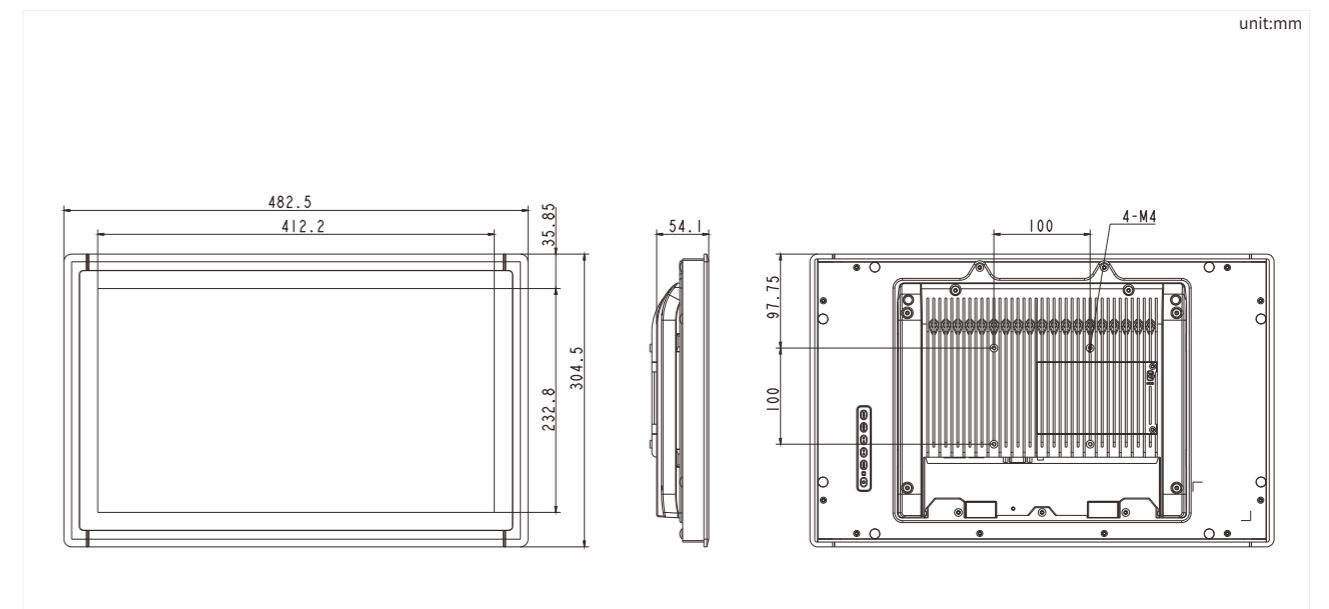
Environmental

Operating Temp	0~50°C, with air flow
Storage Temp	-20~60°C
Humidity	10~95%@40°C, No- condensation
Vibration	1g 5~500Hz
Shock	10g peak acceleration(duration 11ms) with HDD
Certificate	CE,FCC Class B

I/O View



Dimensions



Ordering Information

Model	Touch Screen	Specifications
ALAD-181T (P) /S001-G	Projected capacitive touch screen	18.5" TFT LCD, 1*HDMI (default) /1*DP(optional) , 1*VGA, 1*Line in, 2*3W power speaker, DC 12V power supply
PA-60DC12	AC/DC adapter, DC12V/5A, 60W	

ALAD-191T

19" TFT LCD, Capacitive/Resistive touch screen, HDMI/DP (choose one), VGA dual signals, OSD function keys

Key Specification

- Aluminum alloy die-casting, naturally streamlined design
- 19" high resolution TFT LCD (LED Backlight)
- 5 wire heat-resistant resistive touch screen
- Optional projected capacitive touch screen, support multi-touch
- HDMI/DP (choose one) and VGA signal input
- Audio input, optional support 2.3W power speakers
- DC 12V power input
- Flat panel, IP65 front panel



Product Overview

ALAD-191T-G is an industrial touch display that supports 19" TFT LED LCD screen, high resolution 1280*1024, USB and serial port dual-signal 5-wire resistive touch screen and optional capacitive touch screen. HDMI/DP (choose one). It is an industrial-standard multimedia display, with multiple installations suitable for different application sites.

Product Parameters

Display Screen

Dimension	19" TFT LED
Resolution	1280*1024
Max. colors	16.7M
Max. Luminance	470
View angle	85°(left), 85°(right), 75°(up), 85°(down)
Backlight life	50000 hours

Touch Screen

Type	5-wire resistive touch screen/projected capacitive touch screen
Light Transmission	83%/90%
Controller	USB/USB

I/O Port

OSD menu/ language	AUTO/Power/Menu/Source/UP (LEFT)/DOWN(RIGHT) Chinese, English, German, French, Russian, Italian, Spanish, Arabic and other optional languages
Display	1*VGA+1*HDMI/1*DP (choose one)
Audio	1*Line in, 2*3W power speaker
Touch interface	1*RS232 Touch, 1*USB Touch

Power

Power input	DC 12V
Power consumption	12V@1.6A (No power output)
Standby power consumption	Standby power consumption <1W

Mechanical

Structure	Aluminum alloy die-casting, flat panel, cooling fin case
Dimension (W*H*D)	453.5*388.5*64.1mm Panel mounting opening size (W*H): 445*380mm
Net weight	TBD
Installation	Panel mounting, VESA (100*100/75*75mm)

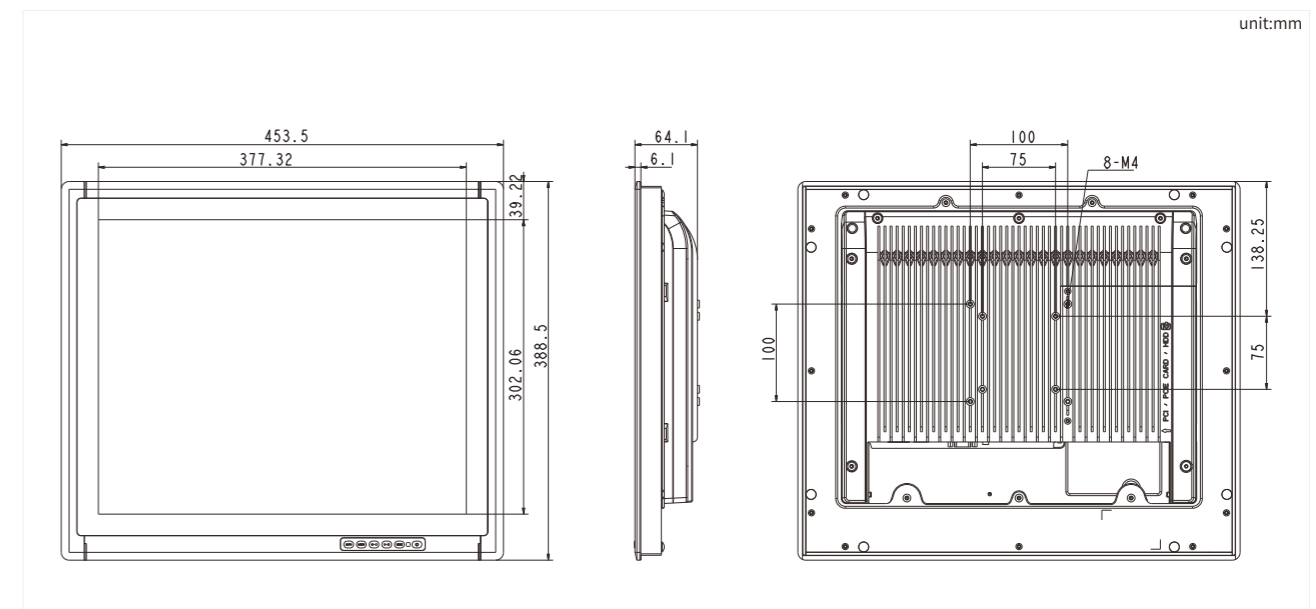
Environmental

Operating Temp	0~60°C, with air flow
Storage Temp	-40~80°C
Humidity	10~95%@40°C, No- condensation
Vibration	1g 5~500Hz
Shock	10g peak acceleration(duration 11ms) with HDD
Certificate	CE,FCC Class B

I/O View



Dimensions



Ordering Information

Model	Touch Screen	Specifications
ALAD-191T/S001-G	5-wire resistive touch screen	19" TFT LCD, 1*HDMI (default)/1*DP(optional), 1*VGA, 1*Line in, 2*3W power speaker, DC 12V power supply
ALAD-191T (P) /S001-G	Projected capacitive touch screen	
PA-60DC12	AC/DC power adapter, DC12V/5A, 60W	

ALAD-211T(P)

21.5" TFT LCD, Capacitive touch screen, HDMI/DP (choose one), VGA dual signals, OSD function keys

Key Specification

- Aluminum alloy die-casting, naturally streamlined design
- 21.5" high resolution TFT LCD (LED Backlight)
- Projected capacitive touch screen, support multi-touch
- HDMI/DP (choose one) and VGA signal input
- Audio input, optional support 2.3W power speakers
- DC 12V power input
- Flat panel, IP65 front panel



Product Overview

ALAD-211T-G is an industrial touch display that supports 21.5" TFT LED LCD screen, high resolution 1920*1080, USB and serial port dual-signal capacitive touch screen. HDMI/DP (choose one). It is an industrial-standard multimedia display, with multiple installations suitable for different application sites.

Product Parameters

Display Screen

Dimension	21.5" TFT LED
Resolution	1920*1080
Max. colors	16.7M
Max. Luminance	300
View angle	89°(left), 89°(right), 89°(up), 89°(down)
Backlight life	50000 hours

Touch Screen

Type	Projected capacitive touch screen
Light Transmission	90%
Controller	USB/RS232

I/O Port

OSD menu/ language	AUTO/Power/Menu/Source/UP (LEFT)/DOWN(RIGHT) Chinese, English, German, French, Russian, Italian, Spanish, Arabic and other optional languages
Display	1*VGA+1*HDMI/1*DP (choose one)
Audio	1*Line in, 2*3W power speaker
Touch interface	1*RS232 Touch, 1*USB Touch

Power

Power input	DC 12V
Power consumption	12V@1.6A (No power output)
Standby power consumption	Standby power consumption <1W

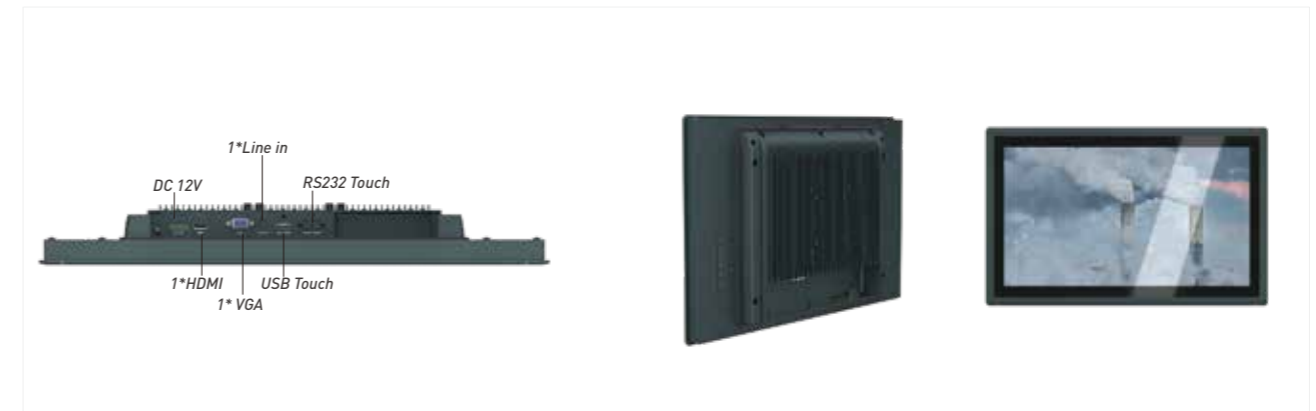
Mechanical

Structure	Aluminum alloy die-casting, flat panel, cooling fin case
Dimension (W*H*D)	546.9*344.7*64.1mm Panel mounting opening size (W*H): 537.5*335.3mm
Net weight	8.1kg
Installation	Panel mounting, VESA (100*100/75*75mm)

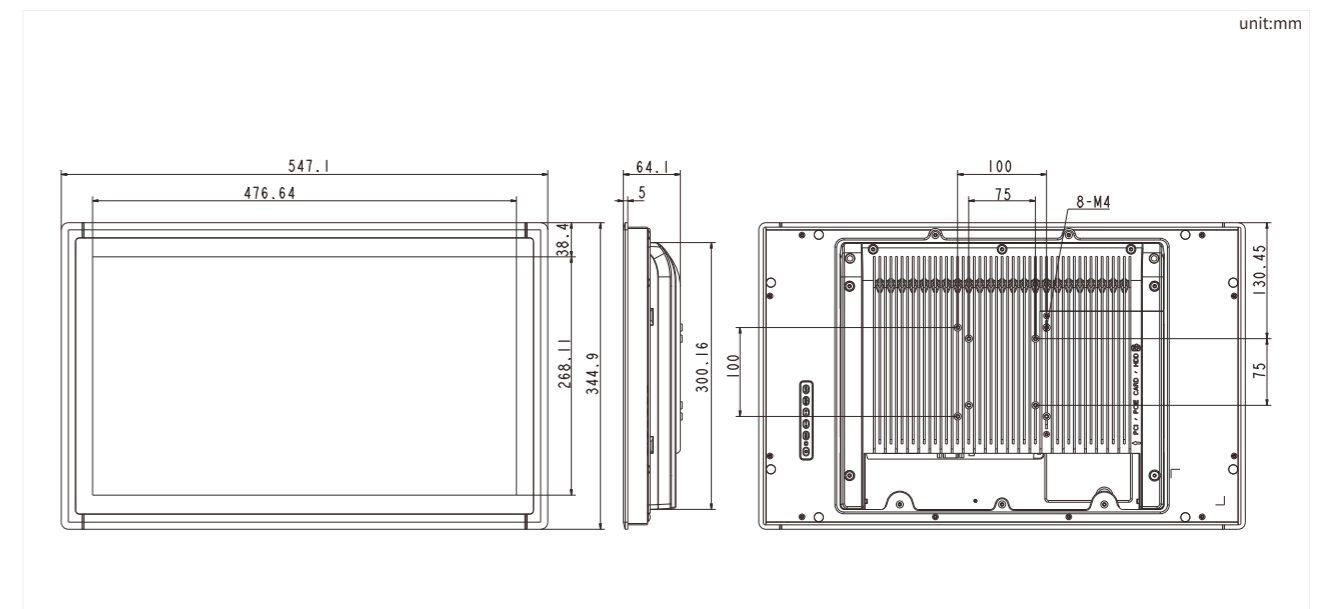
Environmental

Operating Temp	0~50°C, with air flow
Storage Temp	-20~60°C
Humidity	10~95%@40°C, No- condensation
Vibration	1g 5~500Hz
Shock	10g peak acceleration(duration 11ms)
Certificate	CE,FCC Class B

I/O View



Dimensions



Ordering Information

Model	Touch Screen	Specifications
ALAD-211T (P) /S001-G	Projected capacitive touch screen	21.5" TFT LCD, 1*HDMI (default) /1*DP(optional), 1*VGA, 1*Line in, 2*3W power speaker, DC 12V power supply
PA-60DC12		AC/DC power adapter, DC12V/5A, 60W

JHCTECH IoT Computer
Connecting the Dots

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Connecting the Dots

SIGM

fanless In-Vehicle Computer



APPLICATION



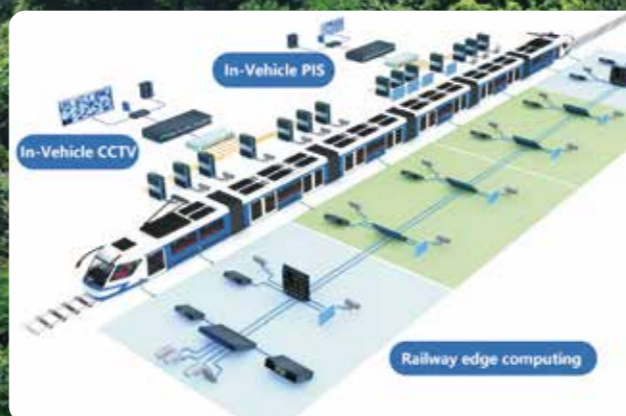
Rail transport

E-01 Product Listing

E-03 SIGM-2650
Fanless In-Vehicle Computer

E-05 SIGM-3250
Fanless In-Vehicle Computer

E-07 SIGM-3251
Fanless In-vehicle Computer with AI Chipset





APPLICATION
▶▶▶
Special vehicle
Engineering vehicle



SIGM-2650

SIGM-3250

SIGM-3251

System

CPU	Intel® Apollo lake E3940 CPU, 4 Cores, 4 Threads, up to 1.8GHz, 2 MB L2, TDP 9.5W	Intel® Skylake/Kabylake-U CPU i3/i7 2 Cores , 4 Threads	Intel® Skylake/Kabylake-U CPU i3/i7 2 Cores , 4 Threads MLU220 8TOPS(INT8),4GB Ram, TDP8.5W
RAM	1*DDR3L, 1866MHz, onboard 4GB+1*SODIMM, max 8GB	DDR4, 2133MHz, onboard 4/8GB+1*SODIMM, max 16GB	DDR4, 2133MHz, onboard 4/8GB+1*LPDDR4 4GB, max 16GB
Graphics	Intel Gen. 9 HD Graphic 500, DP: 4096*2160@60Hz, Smart Display: 1920*1200@60Hz, VGA: 1920*1200@60Hz, support 3 display	CPU integrated Intel Gen. 9 HD Graphics, DP: 4096*2304@60Hz, Smart Display: 1920*1200@60Hz, VGA: 1920*1200@60Hz, support 3 independent display	CPU integrated Intel Gen. 9 HD Graphics, DP: 4096*2304@60Hz, VGA: 1920*1200@60Hz, support 2 independent displays

I/O Interfaces

LAN	2*Intel I210AT PCIe Gig. Ethernet, M12 connector, with POE function, support 802.3af(15.4W)	6*Intel I210AT PCIe Gig. Ethernet, M12 connectors, 4 of which have POE function, 802.3af(15.4W)	4*Intel I210AT PCIe Gig. Ethernet, 4*M12 connector 1*Intel I210IS PCIe Gig. Ethernet, 1*SFP
USB	2* USB3.0; 1*USB2.0 ; 2*USB2.0 (M12)	2* USB3.0; 1*USB2.0 ; 2*USB2.0 (M12)	3*USB3.0; 1*USB2.0; 2*USB2.0 (M12)
Display	1*DP+1*VGA+1*Smart Display	1*DP+1*VGA+1*Smart Display	1*DP+1*VGA
Audio	optional support Realtek ALC662VD audio, Audio out and MIC	optional support Realtek ALC662VD audio, Audio outand MIC	Optional support Realtek ALC662VD audio, Audio out and MIC
Serial port	1*RS232 isolated (DB9 male connector), 1*RS485 isolated (DB9 male connector), optional 2*CAN 2.0 (DB9 male connector)	1*RS232 isolated (DB9 male connector), 1*RS485 isolated (DB9 male connector), optional 2*CAN 2.0 (DB9 male connector)	1*RS232/RS422/RS485 DB9 (2.5KV opto-isolator), 2*RS232 DB9 (2.5KV opto-isolator), 1* RS232/485 DB9(2.5KV opto-isolator)
DIO	4-ch input/4-ch output, isolated (DB9), 2.5KV opto-isolator input(H: 5-24V, L: 0-1.5V), opto-isolator output (200mA)	4-ch input/4-ch output, isolated (DB9), 2.5KV opto-isolator input (H: 5-24V, L: 0-1.5V) , opto-isolator output (200mA)	8-bit DIO, programmable TTL signal

Storage

Storage	1*2.5" HDD SATA bay; 1*mSATA full height card (SATA+USB)	1*2.5" HDD SATA bay; 1*mSATA full height card (SATA+USB)	1*2.5" HDD SATA bay; 1*mSATA full height card(SATA+USB)
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Expansion

Expansion Port	2*Mini PCIe, with dual SIM slot, support dual 4G LTE/Wifi/BT/GPS 1*Mini PCIe, optional mSATA 1*Mini PCIe with USB signal, When using 2*CAN, this slot is occupied	2*Mini PCIe, with dual SIM slot, support dual 4G LTE/Wifi/BT/GPS 1*Mini PCIe, optional mSATA 1*Mini PCIe with USB signal, When using 2*CAN, this slot is occupied	2*Mini PCIe, with dual SIM slot, support dual 4G LTE/Wifi/BT/GPS 1*Mini PCIe with USB signal, optional mSATA 1*Mini PCIe with USB signal
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Power Supply

Input voltage & Power Consumption	DC 9~36V input, 5-pin terminal port M12 (S001) Optional Railway power module, DC 48/72/110V input, 4-pin connector M12 (S002) consumption: 20.4W (E3940 CPU, 4G DDR3L, 128G SSD)	Railway power module, DC 48/72/110V input, 4-pin connector M12 (S00X), DC 9~36V input, 5-pin terminal port M12 (T00X) consumption: 28W (I5-6200U, 8GB)	Railway power module, DC 9~36V input, 4-pin connector (M12), consumption: 38W (I5-6500U CPU/8G DDR4)
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Mechanical

Structure	Aluminum chassis, SGCC frame	Aluminum chassis, stainless steel frame	Aluminum chassis, stainless steel frame
Dimension (W*H*D)	250*154*72mm	270*154*64.5mm	270*154*82.4mm
Net weight	3.10KG	3.2KG	3.93KG

Environmental

Operating temperature	EN50155 TX: -40~70°C(Operating10min in 85°C)	EN50155 TX: -40~70°C(Operating10min in 85°C)	EN50155 TX: -40~70°C
Storage temperature	-40°C~85°C	-40°C~85°C	-40°C~85°C
Storage humidity	10~90%@40°C, non-condensing	10~90%@40°C, non-condensing	10~90%@40°C, non-condensing
Vibration	MIL-STD-801G, EN50155	MIL-STD-801G, EN50155	MIL-STD-810G, EN50155
Shock	MIL-STD-801G, EN50155	MIL-STD-801G, EN50155	MIL-STD-810G, EN50155
Certification /EMC	EN50155, E-Mark, CE/FCC Class B	EN50155, E-Mark, CE/FCC Class B	EN50155, CE/FCC Class B

OS

	Windows 10, Linux, Wind River VxWorks	Windows 7, Windows 10, Linux Fedora Ubuntu (Note: 7th gen Intel® Kabylake-U processor does not support Windows 7)	Linux Fedora Ubuntu
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Medical vehicle



Police vehicle

SIGM-2650

Intel® Apollo Lake E3940 CPU, 2*POE, 2*USB3.0, 2*COM, 8-bit isolated DIO, DC 9~36 wide voltage power supply, ITPS power management, Railway standard power input 48/72/110V

Key Specification

- Aluminum chassis, Fanless & Rugged design
- Intel® Apollo Lake E3940 CPU
- DDR3L up to 1866MHz, On-board+SODIMM, max 8GB
- 1*DP, 1*VGA, 1*Smart Display, 3 independent displays interface
- 2*GbE LAN(with POE 802.3af), 5*USB
- 2* isolation COM, 8-bit Iso. DIO, optional 2*CAN
- 4*Mini PCIe(1 optional mSATA), support GPS/WiFi/LTE/4G
- EN50155, E-Mark certification
- Optional support TPM2.0 security encryption, DC 9~36 wide voltage power supply, ITPS power management
- Optional railway standard power input DC 48/72/110V(±40%)



Product Overview

SIGM-2650 is a fanless rugged in-vehicle computer, equipped with Intel® Apollo Lake E3940 processor, supporting dual 4G VPN/Wifi/BT/GPS and other wireless functions. It is also equipped with ITPS vehicle power management, optional railway power input DC 48/72/110V Certified with E-mark and EN50155, SIGM-2650 is highly suitable for road vehicle and rail vehicle industry applications.

Product Parameters

System

CPU	Intel® Apollo lake E3940 CPU, 4 Cores, 4 Threads, up to 1.8GHz, 2 MB L2, TDP 9.5W
RAM	1*DDR3L, 1866MHz, 1 onboard storage 4GB+1*SODIMM, max 8GB
Expansion	2*Mini PCIe, with dual SIM slot, support dual 4GLTE/Wifi/BT/GPS 1*Mini PCIe, optional mSATA 1*Mini PCIe with USB signal, when 2*CAN in use, this Mini-PCIe slot will be occupied
Graphics	Intel Gen. 9 HD Graphic 500, DP max resolution 4096*2160@60Hz, Smart Display max resolution 1920*1200@60Hz, VGA max resolution 1920*1200@60Hz, support 3 displays
Audio	optional support Realtek ALC662VD audio, Audio out and MIC
LAN	2*Intel I210AT PCIe Gig. Ethernet, M12, with POE function, support 802.3af(15.4W)
Storage	1*2.5" HDD SATA bay; 1*mSATA full height card (SATA+USB)
I/O Port	2*Gig-LAN, with POE 802.3af (M12) 2*USB3.0 (Type A); 1*USB2.0 (Type A); 2*USB2.0 (M12) 4-ch input/4-ch output, isolated (DB9 male connector), 2*SIM slot 1*RS232 isolated (DB9 male connector), 1*RS485 isolated (DB9 male connector), optional 2*CAN 2.0(DB9 male connector) 1*Audio-out and 1*MIC (3.5mm audio port) 1*DP+1*VGA+1*Smart Display
LED	1*power LED, 1*HDD LED, 3*CPU temperature level LED (Red as warning, Yellow as high temperature, Green as normal temperature) 3*Network connection status LED (ACT/LINK)
Switches	1*power button, 1*remote switch(2-pin terminal), 1*AT/ATX switch, 1*Clear CMOS switch, 1*ACC/Family switch

Watchdog timer	Programmable timeout interruption period or system reset from 1 to 255 secs
Power requirement	DC 9~36V input, 5-pin terminal port M12 (S001) Optional Railway power module, DC 48/72/110V input, 4-pin terminal port M12 (S002), Consumption: 20.4W (E3940 CPU, 4G DDR3L, 128G SSD)
OS	Windows 10, Linux, Wind River VxWorks

Mechanical

Structure	Aluminum chassis, SGCCframe
Color	Silver gray
Installation Method	Desktop installation
Dimension (W*H*D)	250*154*72mm
Net weight	3.10KG

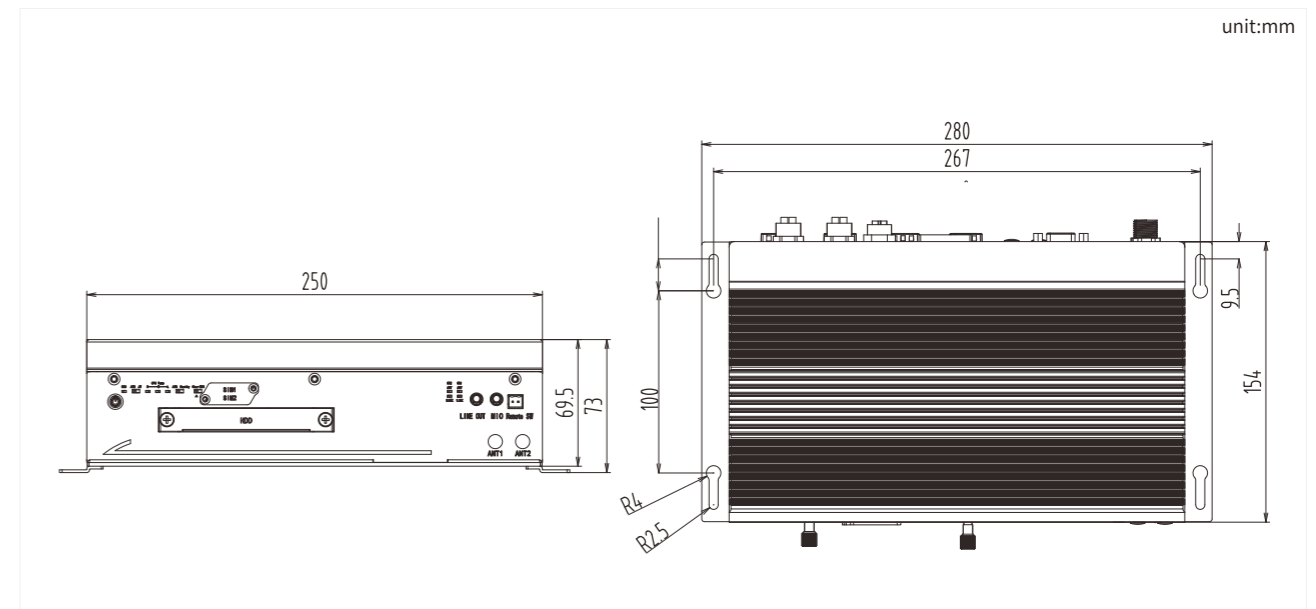
Environmental

Operating temperature	EN50155 TX: -40~70°C(Operating 10minutes in 85°C)
Storage temperature	-40°C~85°C
Storage humidity	10~90%@40°C, Non-condensing
Vibration	MIL-STD-801G, EN50155
Shock	MIL-STD-801G, EN50155
Certification /EMC	EN50155, E-Mark, CE/FCC Class B

I/O View



Dimensions



Ordering Information

Model	Processor	Specification
SIGM-2650/S001	Intel® Apollo Lake E3940 CPU	4GB+1*SODIMM DDR3L, 2*POE, 2*USB3.0, 3*USB2.0, 2*COM, 3*Mini PCIe, 1*Smart Display, 1*DP, 1*VGA, optional Audio out, Mic, 8-bit isolated DIO, 1*2.5" SATA drive bay 1*mSATA, DC 9~36V, ITPS
SIGM-2650/S002	Intel® Apollo Lake E3940 CPU	4GB+1*SODIMM DDR3L, 2*POE, 4*USB3.0, 3*USB2.0, 2*COM, 3*Mini PCIe, 1*Smart Display, 1*DP, 1*VGA, optional Audio out, Mic, 8-bit isolated DIO, 1*2.5" SATA drive bay, 1*mSATA, DC 48/72/110V
M12A-5P DC Cable		DC cable with M12 A-Code Female 5 pin connector to bare wire, PVC Multicore Cable, 100cm
M12A-4P DC Cable		DC cable with M12 A-Code Female 4pin connector to bare wire, PVC Multicore Cable, 100cm
M12A-8P USB Cable		USB cable with M12 A-Code Male 8pin connector to 2*Type A with dual M3 ear nut-hole, PVC Multicore Cable, 50cm
M12X-8P LAN/POE Cable		Internet cable with M12 X-Code Male 8 pin connector to RJ45 crystal head connector, PVC Multicore Cable, 180cm
PA-60DC12-M12A-5P		AC/DC power adapter with M12 A-Code Female 5 pin connector, DC12V@5A 60W (non LSZH cable, no in-vehicle certification)

SIGM-3250

Intel® Skylake/Kabylake-U CPU, 2*LAN, 4*POE, 2*USB3.0, DP, VGA, Smart Display, 2* isolation COM, 8-bit isolated DIO, EN50155 certification

Key Specification

- Aluminum chassis, Fanless & Rugged design
- Intel® Skylake/Kabylake-U CPU
- 2-Ch DDR4, On-board 4/8GB+SODIMM, max 16GB
- 1*DP, 1*VGA, 1*Smart Display, 3 displays
- 2*LAN, 4*POE, 5*USB, Built-in dongle interface
- 2*isolation COM, 8-bit Iso. DIO, optional 2*CAN
- 4*Mini PCIe(1 optional mSATA), support GPS/WiFi/LTE/4G
- EN50155, E-Mark certification, optional support TPM2.0 security encryption,
- Railway standard power input DC 48/72/110V(±40%)
- optional DC 9~36 Wide voltage power supply, with ITPS power management



I/O View



Product Overview

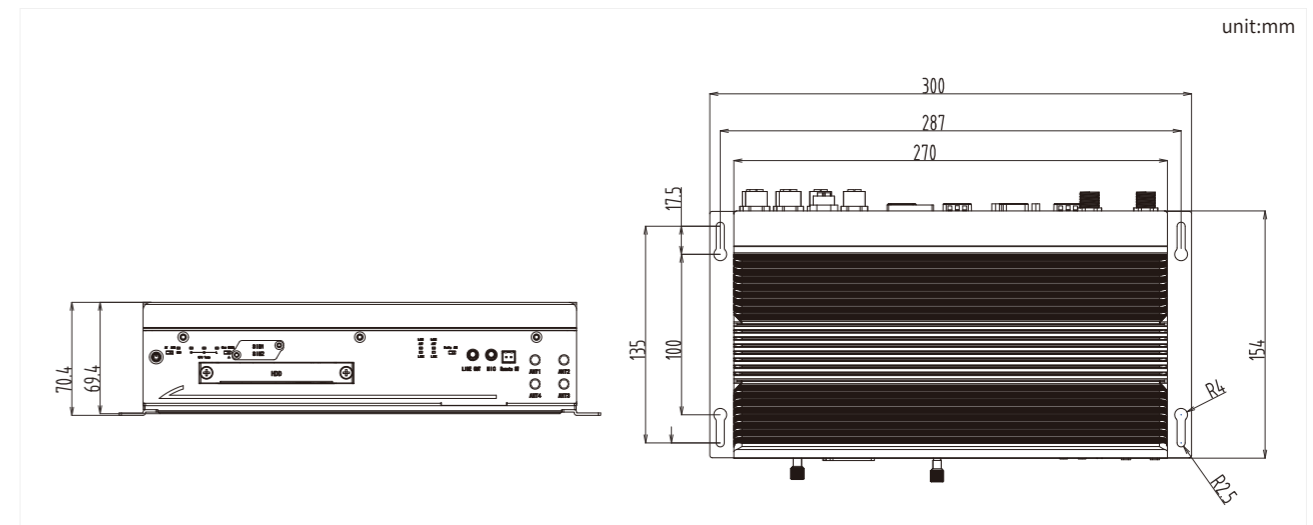
SIGM-3250 is a fanless rugged in-vehicle computer, powered by Intel® Skylake/Kabylake-U processor, supports dual 4G VPN/Wifi/BT/GPS and other wireless functions, DC 9~36V wide voltage power supply, ITPS power management and optional railway power input DC48/72/110V. Certified with E-mark and EN50155 , SIGM-3250 is extremely suitable for road vehicles and intelligent rail transit system industry applications.

Product Parameters

System

CPU	Intel® Skylake/Kabylake-U CPU Core i3/i5/i7 series CPU	Watchdog timer	Programmable timeout interruption period or system reset from 1 to 255 secs
RAM	DDR4, 2133MHz, onboard 4/8GB+1*SODIMM, max 16GB	Power Requirement	Railway power module 48V/72V/110V input, 4-pin connector M12(S00X), DC 9~36V input, 5-pin connector M12 (T00X) Consumption: 12V/2.33A(I5-6200U, 8GB)
Expansion	2*Mini PCIe, with dual SIM slot, support dual 4GLTE/Wifi/BT/GPS 1*Mini PCIe, optional mSATA 1*Mini PCIe with USB signal, when 2*CAN is in use, this Mini-PCIe slot is occupied	OS	Windows 7, Windows 10, Linux Fedora Ubuntu (Note: 7th gen Intel® Kabylake-U processor does not support Windows 7)
Graphics	Intel Gen. 9 HD Graphic , DP: 4096*2304@60Hz, Smart Display: 1920*1200@60Hz, VGA: 1920*1200@60Hz, support 3 independent displays	Mechanical	
Audio	optional support Realtek ALC662VD audio, Audio out and MIC	Structure	Aluminum chassis, stainless steel frame
LAN	6*Intel I210AT PCIe Gig. Ethernet, M12, 4 with POE functions, support 802.3af(15.4W)	Color	Silver grey
Storage	1*2.5" HDD SATA bay; 1*mSATA full size card (SATA+USB) 2*Gig-LAN (M12) , 4*Gig-LAN with POE 802.3af (M12) 2*USB3.0 (Type A); 1*USB2.0 (Type A); 2*USB2.0 (M12)	Installation method	Desktop Installation
I/O Port	4-ch input/4-ch output, isolated (DB9 male connector), 2*SIM slot 1*RS232 isolated (DB9 male connector), 1*RS485 isolated (DB9 male connector), optional 2*CAN 2.0(DB9 male connector) 1*Audio-out and 1*MIC (3.5mm audio port) 1*DP+1*VGA+1*Smart Display	Dimension (W*H*D)	270*154*64.5mm
LED	1*power LED, 1*HDD LED, 3*CPU temperature level LED (Red as warning, Yellow as high temperature, Green as normal temperature) 3*Network connection status LED (ACT/LINK)	Net weight	3.2KG
Switches	1*switch, 1*remote switch(2-pin terminal), 1*AT/ATX switch, 1*Clear CMOS switch, 1*ACC/Family switch	Environmental	
		Operating temperature	EN50155 TX: -40~70°C(Operating 10 minutes in 85°C)
		Storage temperature	-40°C~85°C
		Storage Humidity	10~90%@40°C, Non-condensing
		Vibration	MIL-STD-801G, EN50155
		Shock	MIL-STD-801G, EN50155
		Certification /EMC	EN50155, E-Mark, CE/FCC Class B

Dimensions



Ordering Information

Model	Processor	Specification
SIGM-3250/S001	Core I3-6100U/I3-7100U	DDR3L, 2*LAN, 4*POE, 2*USB3.0, 3*USB2.0, 2* isolation COM, 3*Mini PCIe, 1*Smart Display, 1*DP, 1*VGA, optional Audio out, Mic, 8-bit isolated DIO, 1*2.5" SATA drive bay, 1*mSATA, DC 48/72/110V
SIGM-3250/S002	Core I5-6200U/I5-7200U	
SIGM-3250/S003	Core I7-6500U/I7-7500U	
SIGM-3250/T001	Core I3-6100U/I3-7100U	DDR3L, 2*LAN, 4*POE, 2*USB3.0, 3*USB2.0, 2* isolated COM, 3*Mini PCIe, 1*Smart Display, 1*DP, 1*VGA, optional Audio out, Mic, 8-bit isolated DIO, 1*2.5" SATA drive bay, 1*mSATA, DC 9~36V w/ITPS
SIGM-3250/T002	Core I5-6200U/I5-7200U	
SIGM-3250/T003	Core I7-6500U/I7-7500U	
M12A-5P DC Cable		DC cable with M12 A-Code Female 5 pin connector to bare wire, PVC Multicore Cable, 100cm
M12A-4P DC Cable		DC cable with M12 A-Code Female 4 pin connector to bare wire, PVC Multicore Cable, 100cm
M12A-8P USB Cable		USB cable with M12 A-Code Male 8 pin connector to 2*Type A with dual M3 ear nut-hole, PVC Multicore Cable, 50cm
M12X-8P LAN/POE Cable		Internet cable with M12 X-Code Male 8 pin connector to RJ45 crystal head connector, PVC Multicore Cable, 180cm
PA-60DC12-M12A-5P		AC/DC power adapter with M12 A-Code Female 5 pin connector, DC12V@5A 60W (non LSZH cable, no in-vehicle certification)
PA-120DC19-M12A-5P		AC/DC power adapter with M12 A-Code Female 5 pin connector, DC19V@6.32A 120W (non LSZH cable, no in-vehicle certification)

SIGM-3251

Intel® Skylake/Kabylake-U CPU, MLU220(8TOPS), LPDDR4 4GB, 4*LAN, 1*SFP, 5*USB, DP, VGA, 4* isolated COM, 8-bit programmable DIO, EN50155 certification

Key Specification

- All-in-One Rugged structure design, aluminum chassis with fanless heat dissipation
- Intel® Skylake/Kabylake-U CPU
- 2-Ch DDR4, On-board 4GB+LPDDR4 4GB
- Onboard Cambricon MLU220 AI acceleration chipset, AI computing power acceleration 8TOPS(INT8)
- 1*DP, 1*VGA,dual display interface
- 4*LAN, 1*SFP, 6*USB, built-in dongle interface
- 4* isolated COM, 8-bit programmable DIO with LED
- 4*Mini PCIe(1 optional mSATA), support GPS/WiFi/LTE/4G
- EN50155 certification, optional support TPM2.0 secure encryption,
- Railway power input DC 9-36V with wide voltage power supply



Product Overview

SIGM-3251 is a fanless rugged in-vehicle computer, equipped with Intel® Skylake /Kabylake-U processor and onboard Cambrian MLU220 AI acceleration chip, supports dual 4G full Netcom VPN/Wifi/BT/GPS and other wireless functions.It is also equipped with railway power input DC 9~36V with wide voltage power supply,has earned the EN50155 railway standard certification, is highly suitable for road vehicles, intelligent rail transit system industry applications.

Product Parameters

System

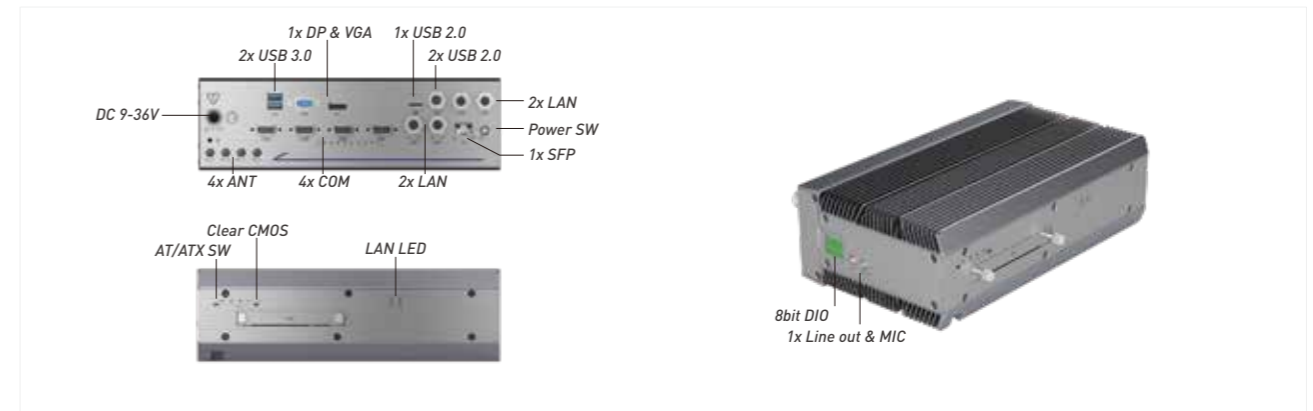
CPU	Intel® Skylake/Kabylake-U CPU Core i3/i5/i7 series CPU
AI Chipset	MLU220 8TOPS(INT8),4GB RAM, TDP8.5W
RAM	DDR4, 2133MHz, 1 onboard storage 4/8GB+1*LPDDR4 4GB, max 16GB
Expansion	2*Mini PCIe, with dual SIM slot, support dual 4GLTE/Wifi/BT/GPS 1*Mini PCIe, with USB signal, optional mSATA 1*Mini PCIe, with USB signal
Graphics	Intel Gen. 9 HD Graphic , DP: 4096*2304@60Hz, VGA: 1920*1200@60Hz, support 2 independent displays
Audio	optional support Realtek ALC662VD audio, Audio out and MIC
LAN	4*Intel I210AT PCIe Gig. Ethernet, 4*M12 1*Intel I210IS PCIe Gig. Ethernet, 1*SFP
Storage	1*2.5" HDD SATA bay; 1*mSATA full size card (SATA+USB) 4*Gig-LAN (4*M12), 1*SFP 3*USB3.0 (Type A); 1*USB2.0 (Type A); 2*USB2.0 (M12) 8-bit programmable DIO (2*5Pin Phoenix terminal) , 1*Audio-out and 1*MIC(3.5mm audio port)
I/O Port	1*RS232/RS422/RS485 DB9 (2.5KV opto-isolator), 2*RS232 DB9 (2.5KV opto-isolator), 1* RS232/485 DB9(2.5KV opto-isolator) 2*SIM slot,1*DP+1*VGA 1* power LED, 1*HDD LED, 3*CPU temperature level LED (Red as warning, Yellow as high temperature, Green as normal temperature)
LED	3*Network connection status LED (ACT/LINK) , 10*red,yellow and green non-flash LED

Switches	1*power button, 1*remote switch(2-pin terminal), 1*AT/ATX switch, 1*Clear CMOS swtich
Watchdog timer	Programmable timeout interruption period or system reset from 1 to 255 secs
Power Requirement	Railway power module 9-36V input, 4-pin terminal port(M12), consumption: 12V/3.14A(I5-6500U CPU/8G DDR4)
OS	Linux Fedora Ubuntu

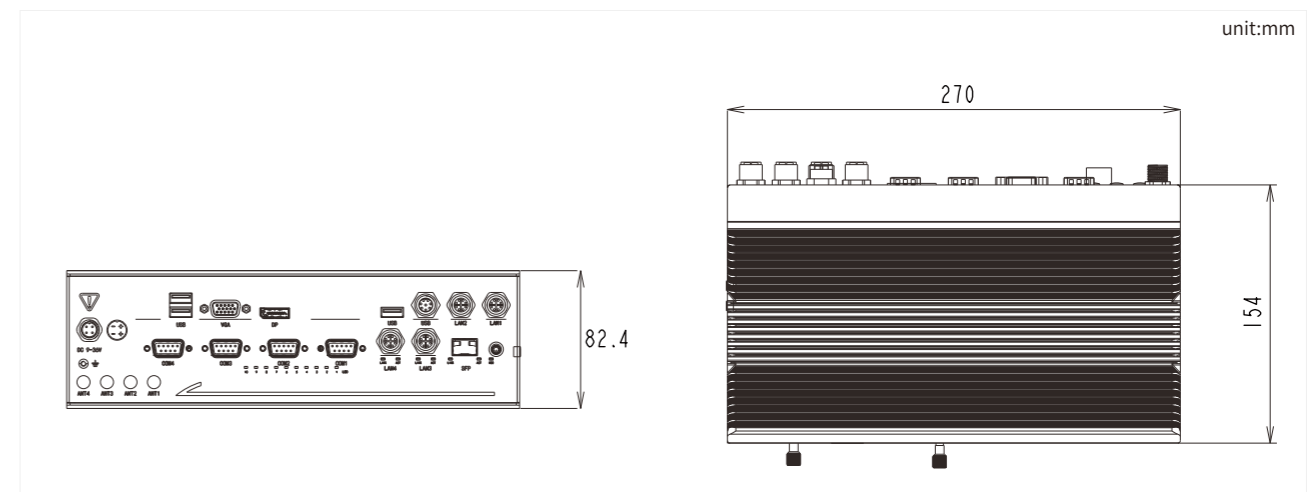
Mechanical

Structure	Aluminum chassis, stainless steel frame
Color	Silver gray
Installation Method	Desktop installation
Dimension (W*H*D)	270*154*82.4mm
Netweight	3.93KG
Environmental	
Operating temperature	EN50155 TX: -40~70°C
Storage temperature	-40°C~85°C
Storage humidity	10~90%@40°C, Non-condensing
Vibration	MIL-STD-810G, EN50155
Shock	MIL-STD-810G, EN50155
Certification /EMC	EN50155, CE/FCC Class B

I/O View



Dimensions



Ordering information

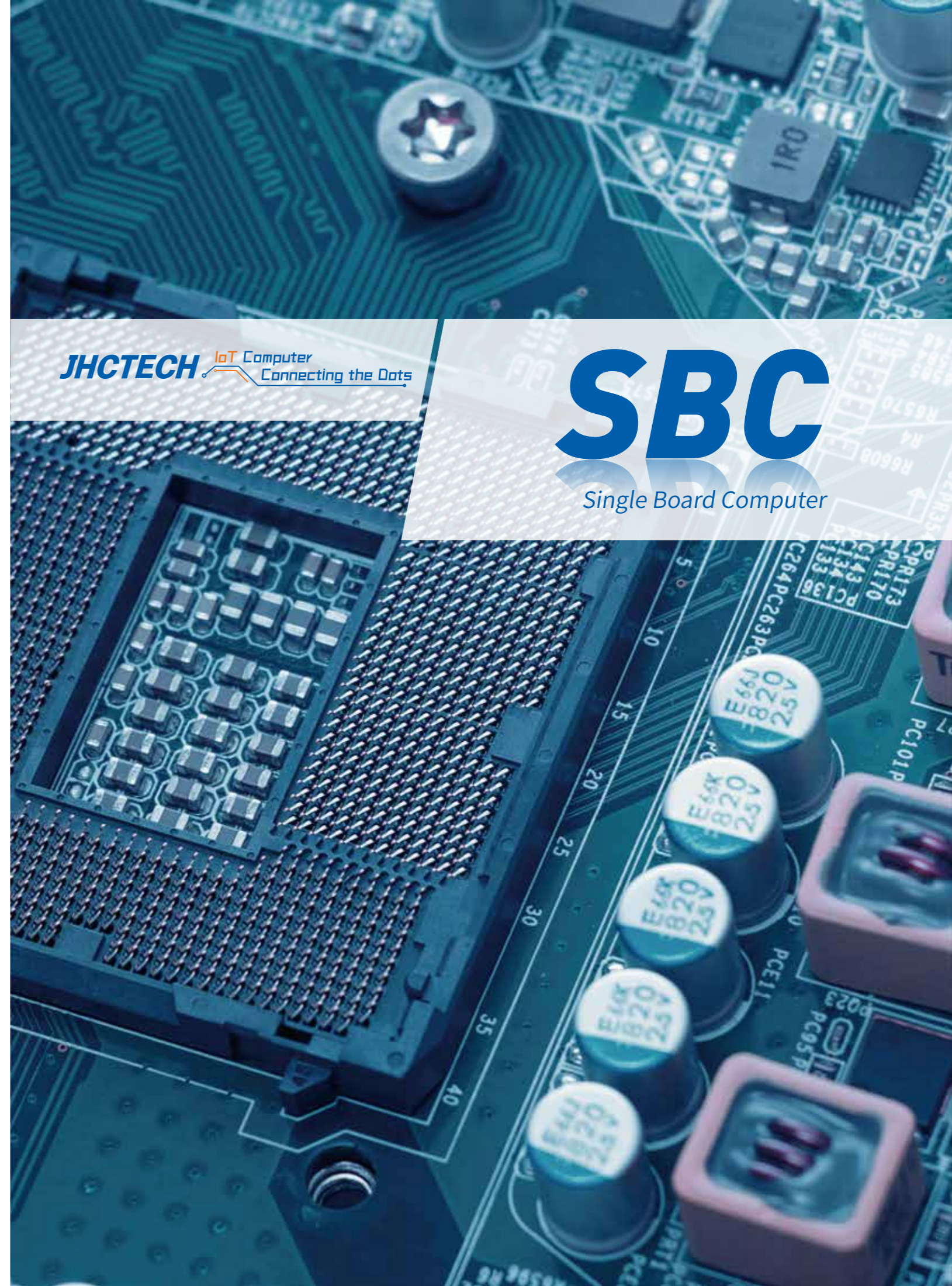
Model	Processor	Specifications
SIGM-3251/S001	Core I3-6100U/I3-7100U	MLU220(8TOPS), 4GB+1*LPDDR4 4GB, 4*LAN,1*SFP, 3*USB3.0, 3*USB2.0, 4*isolated COM, 3*Mini PCIe, 1*DP, 1*VGA, optional Audio out, Mic, 8-bit DIO, 1*2.5" SATA drive bay, 1*mSATA, DC 9~36V
SIGM-3251/S002	Core I5-6200U/I5-7200U	
SIGM-3251/S003	Core I7-6500U/I7-7500U	
Mounting kits		19 inch 2U rack mounting kits
M12A-5P DC Cable		DC cable with M12 A-Code Female 5 pin connector to bare wire, PVC Multicore Cable, 100cm100cm
M12A-4P DC Cable		DC cable with M12 A-Code Female 4 pin connector to bare wire, PVC Multicore Cable, 100cm
M12A-8P USB Cable		USB cable with M12 A-Code Male 8 pin connector to 2*Type A with dual M3 ear nut-hole, PVC Multicore Cable, 50cm
M12X-8P LAN/POE Cable		Internet cable with M12 X-Code Male 8 pin connector to RJ45 crystal head connector, PVC Multicore Cable, 180cm
PA-60DC12-M12A-5P		AC/DC power adapter with M12 A-Code Female 5 pin connector, DC12V@5A 60W (non LSZH cable, no in-vehicle certification)

JHCTECH IoT Computer
Connecting the Dots

JHCTECH IoT Computer
Connecting the Dots

SBC

Single Board Computer



JHCTECH

APPLICATION
▶▶
Instrument & Meter

Industrial portable analyzer



High-end oscilloscope



Battery protection tester

Environmental monitor



Medical electronics



Maternal and child monitor



Blood analyzer



Urine Sediment Analyzer

IIoT Data Gateway



应用
APPLICATION
▶▶
AGV



Robot

CNC Machine



Machine Vision



COMPLETE LIST

F-01 Product Listing

F-03 EPI-I908 Embedded single board computer, OSBC series

F-05 ECM-I910 Standard Embedded Single Board Computer






F-07 MATX-I953 Micro ATX Industrial Motherboard

F-09 MATX-I961 Micro ATX Industrial Motherboard

F-11 ATX-I971 ATX Industrial Motherboard

F-13 Function Module

Product Listing

					
	EPI-I908	ECM-I910	MATX-I953	MATX-I961	ATX-I971
System					
CPU	Intel® Skylake/Kabylake-U processor Celeron/Core i3/i5/i7	Intel Whiskey lake U Celeron/Core i3/i5/i7	Intel® 6th/7th Gen Core i7/i5/i3/Pentium/ Celeron LGA1151 processor	Intel® Xeon® E or 9th/8th-Gen Pentium/ Celeron/Core i7/i5/i3 LGA1151 processor	Intel® 10th-Gen Core i9/i7/i5/i3/Pentium/ Celeron LGA1200 processor, support up to 125W
RAM	1*DDR4, 2133MHz, SODIMM, Max.16GB	2*DDR4 SODIMM, 2400MHz, Max. 32GB	2*DDR4 UDIMM,2133MHz, Max 32GB	4*DDR4 2666/2400MHz, Max.128GB	2*DDR4 288-Pin Non-ECC UDIMM, 2400/2666/2933MHz, Max.64GB
Graphics card	Intel® Gen. 9 HD Graphics;HDMI & 48-Bit LVDS Dual display, support Intel HD video & wireless display technology; HDMI: 3840*2160@30Hz, LVDS:1920*1200@60Hz	Intel® Gen. 9 UHD Graphics, Support 3*4K independent display, DirectX 12, HEVC/H265 HW HD codec, highest dynamic frequency is up to 1.2GHz; HDMI :4096*2304@24Hz, DP :4096*2304@60Hz,eDP:4096x2304@60Hz	Intel Gen. 9 HD Graphics, HEVC/H265 HW HD codec; HDMI: 3840*2160@30Hz VGA: 1920*1200@60Hz DVI-D:1920 x 1200 @ 60Hz	Intel UHD Graphics, Supports DirectX11.1, OpenGL 5.0 and OpenCL 2.1 DP:4096*2304@60Hz, HDMI: 3840*2160@30Hz, Support 3 independent displays	Intel UHD Graphics, Supports DirectX12, OpenGL 4.5 and OpenCL 2.1, HDMI:4096*2160@60Hz, VGA:1920*1200@60Hz
I/O					
LAN	2*Intel® I210AT, 10/100/1000 Mbps	2*Intel® I210AT, 10/100/1000 Mbps	1* Intel® I211AT, 10M/100M/1000M Intel® I219LM/I219V, 10M/100M/1000M	2*Intel I210AT,10/100/1000 Mbps; 1*Intel I219LM10/100/1000Mbps, Support Intel vPro	1*Intel® I225V, 2.5GT/s, Support WOL; 1*Intel® I219LM PCIe, Support WOL
USB	4* USB3.0, 1*USB2.0 (pin)	4*USB3.0, 2*USB2.0 (pin)	4*USB3.0, 4*USB2.0, 4*USB3.0 pin (optional) , 1*USB2.0 pin, 1*USB2.0 (built-in)	4*USB3.1, 4*USB2.0, 2*USB3.1 (pin) , 1*USB2.0 (Built-in)	4*USB3.2 Gen 1, 4*USB2.0, 2*USB3.2 Gen 1(pin)
Display	1*HDMI+1*LVDS (pin)	1*HDMI(1.4)+1*DP(1.2)+1*eDP (pin)	1*HDMI + 1*VGA+ 1*DVI-D	2*DP+1*HDMI	1*HDMI+1*VGA
Audio	1*Line out+1*Mic, Optional audio, 1*Amplifier	1*Line out+1*Mic (pin) ,Optional audio	1*Line out+1*Mic,optional audio, 1*Amplifier(optional)	1*Line out+1*Mic, Optional audio	1*Line out+1*Mic, Optional audio, 1*Amplifier
Serial port & Others	2*RS232/422/485, 2*RS232 (pin) ; 2 channel power amplifier output; 1*SM Bus wafer; 1*Capacitive touch screen interface, 1*Resistive touch screen interface	2* RS232/422/485 (pin) , 2*RS232 (pin)	2*RS232/422/485,4*RS232, optional added 6*RS232, 1*PS/2, 1*LPT, 1*LPC	4*RS232 (pin) ; 1*PS/2 (pin) , 1*SM bus	2* RS232/422/485, 4*RS232 (pin) ; 1*LPT , 1*PS/2 (pin) , 1*SM bus
DIO	8-bit DIO, Programmable TTL signal	8-bit DIO, Programmable TTL signal	8-bit DIO, Programmable TTL signal	8-bit DIO, Programmable TTL signal	8-bit DIO, Programmable TTL signal
Storage					
storage	2*SATA3 6.0Gbps; 1*mSATA, support AHCI	1*SATA 3.0 HDD/SSD, 1*mSATA (optional)	4*SATA 3.0 HDD/SSD (1*SATA with power, support SATA DOM)	4*SATA3, HDD/SSD support RAID 0/1/5/10 1*M.2 2280 M-key(PCIe X4), support NVMe	4*SATA3, HDD/SSD support RAID 0/1/5/10
Expansion					
Expansion	1*MiniPCIe, PCIeX1 signal + USB signal with SIM card slot support 4G LTE/GSM/Wifi/BT/GPS 1*80pin EIO signal with LPC, SM Bus, 2*PCIeX1	1*M.2 2230 E-key, support WiFi6/BT 5.0; 1*Mini PCIe, The SIM card slot supports 4G LTE, the default is PCIe signal. mSATA signal can be changed through BIOS	1*PCIeX16; 2*PCIeX4 (PCIe X1 signal) ; 1* 32-bit PCI , support motion control card, video capture card, multiple function card	1*Mini PCIe with SIM card slot 2*PCIe X16 slot (1*PCIe X16/2*PCIe X8) 2*PCIe X8 slot (Gen3, 2*PCIe X4 signal)	1*PCIeX16; 3*PCIeX1 (or 1*PCIeX4), 3*32-bit PCI , Support multiple function module cards such as motion control card and video capture card
Power Supply					
Power Supply	DC 9~36V, input, 3-pin terminal;	DC 12V; optional OFX-075 75W power board, support 9-36V wide voltage input;	24-Pin ATX/8-Pin ATX 12V Consumption: TBD	24-pin ATX/8-pin ATX 12V; 374W (I7-8700, 16GB DDR , 2*4TB, GTX-1660)	24-Pin ATX/8-Pin ATX 12V, Max. out put power: 280W
Power consumption	45W(I7-7500U, 4GB, 64GB SSD, 1TB HDD)	19.92W (I5-8265U, 8GB DDR , 500G SSD)			
Dimension & operating environment					
Dimension (W*H)	190*115mm(Overall height 27.4mm, PCB thickness 1.6mm)	146*102mm(Motherboard with a fan radiator height: 37mm,Motherboard with fanless radiator height: 52mm)	244*244mm (Height 38mm, PCB thickness 1.6mm)	244*244mm (Overall height 30.8mm, PCB thickness 1.6mm)	305*244mm(Overall height 37.58mm, PCB thickness 1.6mm)
Operating temp.	0~60°C	0~60°C	0~60°C	0~60°C	0~60°C
Storage temp.	-40°C~85°C	-40°C~85°C	-40°C~85°C	-40°C~85°C	-40°C~85°C
Storage humidity	10~90%@40°C, No condensation	10~90%@40°C, No condensation	10~95%@40°C, no condensation	10~90%@40°C, No condensation	10~95%@40°C, No condensation
Certification /EMC	CE/FCC Class B	CE/FCC Class B	CE/FCC Class B	CE/FCC Class B	CE/FCC Class B
Watchdog timer	Watchdog timeout programmable via software 1 to 255 second	Watchdog timeout programmable via software 1 to 255 second	Watchdog timeout programmable via software 1 to 255 second	Watchdog timeout programmable via software 1 to 255 second	Watchdog timeout programmable via software 1 to 255 second
OS	Windows 7, Windows 10, Linux Fedora Ubuntu (Note: The seventh generation Intel® Kabylake-U processor does not support Windows 7)	Windows 10 IoT enterprise, Andriod, Ubuntu, Suse, Red Hat enterprise, Wind River Vxworks 7, Yocto	Windows 7, Windows 10, Linux Fedora Ubuntu (Note: The 7th Intel® Kabylake processor do not support Windows 7 32bit)	Windows 10 Enterprise & IOT Enterprise Windows Server 2016 (Intel® Xeon® E) Ubuntu, SuSe, Redhat Enterprise 1,2 Wind River VxWorks 7	Windows 10, Windows 11, Linux Ubuntu

EPI-I908

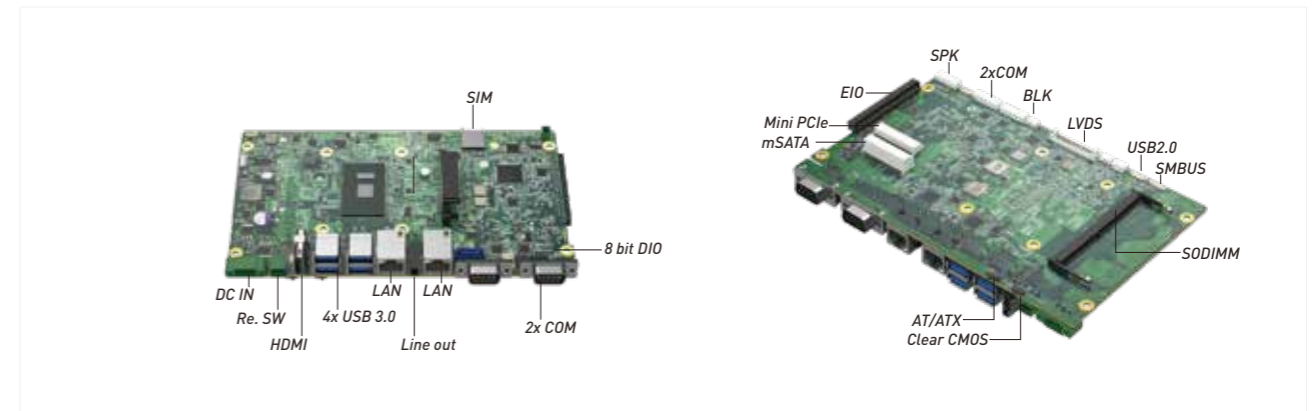
Intel® Skylake/Kabylake-U CPU, 1-CH DDR4, HDMI, LVDS, 2*LAN, 4*COM, 4*USB3.0, optional Audio, DC 9~36V .

Key Specification

- Intel® Skylake/Kabylake-U processor
- 1-Ch DDR4 SODIMM, Max.16GB
- 1*HDMI, 1*LVDS, Audio, power amplifier
- 2*LAN, 4*USB3.0, 2*USB2.0
- 4*COM, 1*JHC high-speed bus specification expansion interface EIO
- 1*Mini PCIe, 1*SIM card slot, support GPS/WiFi/LTE/GSM
- 2*SATA3.0 6Gbps, 1*mSATA for storage
- Optional support TPM 2.0 security encryption, iVpro technology
- DC 9~36V wide voltage power supply



I/O View



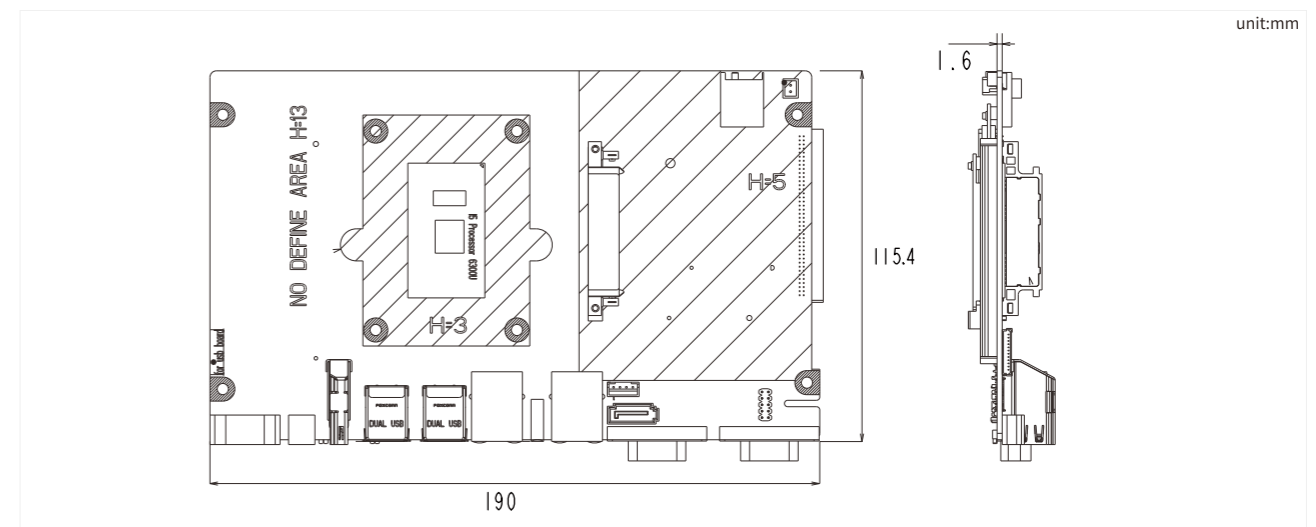
Product Overview

EPI-I908 is OSBC series embedded single board computer, equipped with Intel® Skylake/Kabylake-U processor, supports GPS/WiFi/LTE/GSM wireless function, DC 9~36V wide voltage power supply, compact size, complete functions, suitable for various compact embedded system application requirements.

Product Parameters

System		Storage	
CPU	Intel® Skylake/Kabylake-U processor Celeron/Core i3/i5/i7	storage	2*SATA3 port, rate: 6.0Gbps; 1*mSATA, support AHCI
RAM	1*DDR4, 2133MHz, SODIMM, Max.16GB	Expansion	
Graphics	Intel® Gen. 9 HD Graphics; HDMI & 48-Bit LVDS Dual display, support Intel HD video technology, wireless display technology HDMI: 3840*2160@30Hz LVDS: 1920*1200@60Hz	Expansion Port	1*MiniPCIe, PCIeX1 signal + USB signal with SIM card slot, Support 4G/L TE/GSM/Wifi/BT/GPS and other functions; 1*80pin EIO signal with LPC, SM Bus, 2*PCIeX1
I/O		Power Supply	
LAN	2*Intel® I210AT PCIe Gig. Ethernet, Gigabit	Input voltage	DC 9~36V input, 3-pin terminal;
USB	4* USB3.0, 1*USB2.0	Power consumption	45W (I7-7500U, 4GB, 64GB SSD, 1TB HDD)
Display	1*HDMI+1*LVDS (48-bit pin)	Dimension & operating environment	
Audio	1*Line out+1*Mic, Optional audio,1*Amplifier 2*RS232/422/485, 2*RS232(pin);	Dimension(W*H)	190*115.4mm(Overall height 27.4mm, PCB thickness 1.6mm)
Serial port & Others	2 channel power amplifier output; 1*SM Bus wafer; 1*Capacitive touch screen interface; 1*Resistive touch screen interface	Operating temp	0~60°C
DIO	8-bit DIO, Programmable TTL signal	Storage temp	-40°C~85°C
Others		Storage humidity	10~90%@40°C, No condensation
Control switch	1*2pin Remote signal switch; 1*AT/ATX; 1*Clear CMOS	Certification/EMC	CE/FCC Class B
Indicator	Pin signal of motherboard (Power LED, HDD LED)	OS	
Watchdog timer	Watchdog timeout programmable via software 1 to 255 second	OS	Windows 7, Windows 10, Linux Fedora Ubuntu (The 7th generation Intel® Kabylake-U processor does not support Windows 7)
TPM	Optional support TPM2.0		

Dimensions



Ordering Information

Model	Processor	Specifications
EPI-I908/S001	Intel® I3-6100U/I3-7100U	1*SODIMM DDR4, 2*LAN, 4*USB3.0, 2*USB2.0, 4*COM, 1*Mini PCIe, 1*EIO, 1*8bit DIO(2*5 pin) 1*HDMI, 1*LVDS, optional 1*Line out+1*Mic, 1*Amplifier, 1*mSATA, 2*SATA3, DC 9~36V
EPI-I908/S002	Intel® I5-6200U/I5-7200U	
EPI-I908/S003	Intel® I7-6500U/I7-7500U	
EPI-I908/S004	Intel® 3855U/3865U	
ECI-105	1 slot PCI backplane, providing 1 PCI expansion slot	
ECX-106	1 slot PCIe backplane, providing 1 PCIe expansion slot	

Optional Accessories

型号	规格说明
ECI-105	1 slot PCI , providing 1 PCI expansion slot
ECX-106	1 slot PCIe, providing 1 PCI expansion slot

ECM-I910

Intel® Whiskey lake U CPU, Dual channel DDR4, 1*HDMI, 1*eDP, 1*DP, 2*LAN, 4*USB3.0, 4*COM, 1*8-bit DIO, 1*M.2 E-key, 1*mini PCIe, DC 12V.

Key Specification

- Intel 8th Whiskey lake U Core i3/i5/i7/Celeron series processors
- Dual-channel DDR4 SODIMM, support up to 2400MHz, Max. 32GB
- 1*HDMI, 1*eDP, 1*DP, 3 independent 4K display ports
- 2*LAN, 10/100/1000Mbps, 4*USB3.0, 2*USB2.0, 4*COM, 1*8-bit DIO
- 1*M.2 2230 E-key, support WiFi 6/BT 5.0
- 1*Full-length Mini PCIe, support 4G/WiFi/BT(can be changed to mSATA via BIOS)
- 1*SATA3.0 HDD/SSD, 1*mSATA for storage (optional)
- Optional support TPM2.0, DC IN12V, optional 9-36V wide voltage input
- Compact size, complete functions, suitable for various compact embedded system application requirements



Product Overview

ECM-I910 is a standard 3.5-inch embedded single-board computer, equipped with Intel's 8th-generation Whiskey lake U Core i3/i5/i7/Celeron series processors. It supports 4G LTE/Wifi/BT and other wireless functions. It is with compact size and complete functions, suitable for various compact embedded system application requirements.

Product Parameters

System

CPU	Intel Whiskey lake U Celeron/Core i3/i5/i7
RAM	2*DDR4 SODIMM, 2400MHz, Max. 32GB
Graphics	Intel® Gen. 9 UHD Graphics, Support 3*4K independent display, DirectX 12, HEVC/H265 HW HD codec, the highest dynamic frequency can reach 1.2GHz;HDMI :4096*2304@24Hz; DP :4096*2304@60Hz; eDP :4096x2304@60Hz;

I/O

LAN	2*Intel® I210AT PCIe Gig. Ethernet 10/100/1000 Mbps
USB	4*USB3.0, 2*USB2.0 (pin)
Display	1*HDMI(1.4)+1*DP(1.2)+1*eDP (pin)
Audio	1*Line out+1*Mic (pin) ,Optional audio
Serial port &Others	2* RS232/422/485 (pin) , 2*RS232 (pin)
DIO	8-bit DIO, Programmable TTL signal

Others

Control switch	(Power SW, Reset); 1*AT/ATX; 1*Clear CMOS
Indicator	1*power indicator light; 1*hard disk indicator light; 3*CPU temperature indicator light (Red is alarm, Yellow is high temperature, Green is normal temperature)
Watchdog timer	Watchdog timeout programmable via software 1 to 255 second
TPM	Optional support TPM2.0

Storage

storage	1*SATA 3.0 HDD/SSD, 1*mSATA (optional)
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Expansion

Expansion Port	1*M.2 2230 E-key, support WiFi6/BT 5.0; 1*Mini PCIe, with SIM card slot supporting 4G LTE, the default is PCIe signal, mSATA signal can be changed through BIOS
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Power Supply

Input voltage	DC 12V, optional OFX-075 75W power board, support 9-36V wide voltage input;
Power consumption	19.92W (I5-8265U, 8GB DDR, 500G SSD)

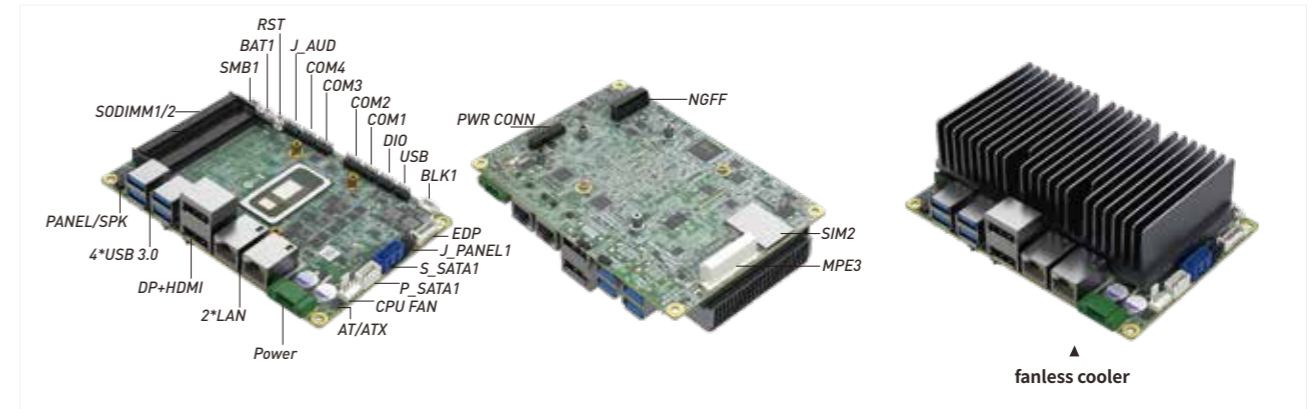
Dimension & operating environment

Dimension(L*W)	146*102mm (Height of the motherboard with a fan cooler: 37mm, Height of the motherboard with fanless cooler: 52mm)
Operating temp	0~60°C
Storage temp	-40°C~85°C
Storage humidity	10~90%@40°C, No condensation
Certification/EMC CE/FCC Class B	

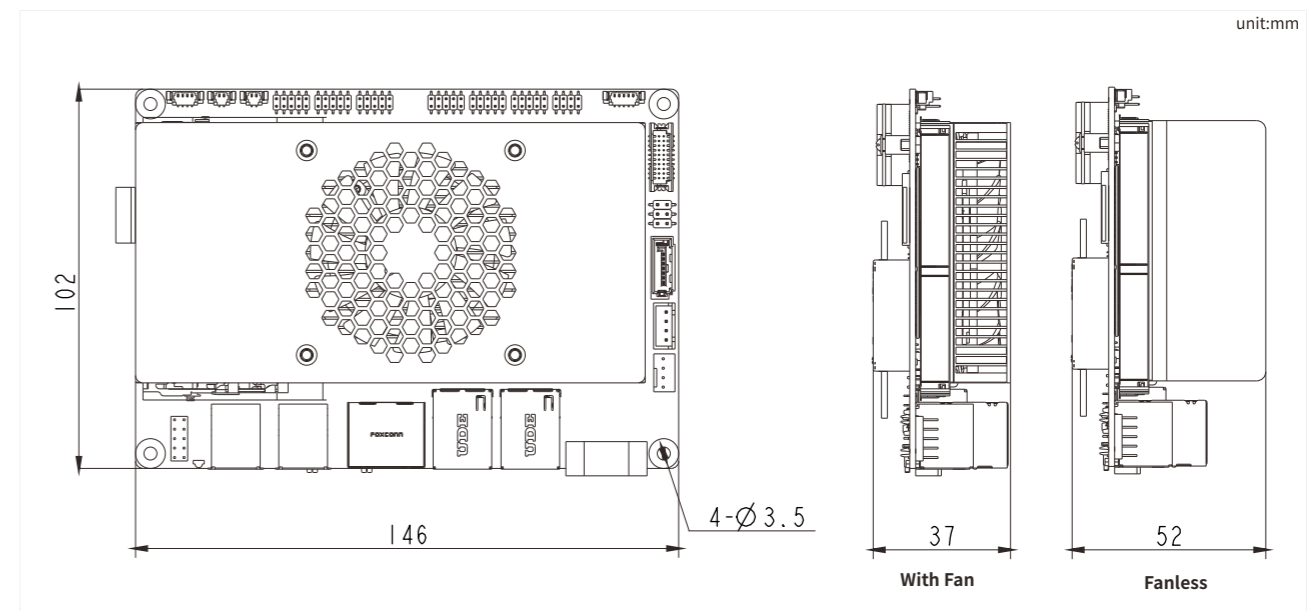
OS

OS	Windows 10 IoT enterprise, Andriod, Ubuntu, Suse, Red Hat enterprise, Wind River Vxworks 7, Yocto
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I/O View



Dimensions



Ordering Information

Model	Processor	Specifications
ECM-I910/S001	Intel® Core I3-8145U	2*SODIMM DDR4, 2*LAN, 4*USB3.0, 2*USB2.0, 1*M.2 2230 E-Key, 1* Full size mini PCIe/mSATA, 4*COM, 1*8-bit DIO, 1*DP, 1*HDMI, 1*eDP, optional 1*Line out+1*Mic, 1*SATA3.0, DC 12V
ECM-I910/S002	Intel® Core I5-8265U	
ECM-I910/S003	Intel® Core I7-8565U	
ECM-I910/S004	Intel® Celeron 4305U	

Optional accessories

Model	Specifications
OFX-075	75W power board, DC IN 9-36V, DC OUT 12V, 38*53mm, power consumption minimum 54W, maximum 78W
Fan cooler	Red copper + aluminum alloy radiator, four-wire intelligent temperature control ball bearing fan, silent and ultra-thin design, fan cable length 100mm, size: 137*70*24.2mm (the total thickness of the motherboard after installation is 37mm)
Fanless cooler	Red copper + aluminum alloy radiator, size: 137*70*39.3mm (the thickness of the motherboard after installation is 52mm)

MATX-I953

Intel® Core i7/i5/i3/ Pentium/Celeron LGA1151 Micro-ATX, VGA/HDMI/DVI-D, 12 COM, 8 USB 3.0, 6 USB 2.0, Dual LAN

Key Specification

- Powered by Intel® 6th/7th Gen Core i7/i5/i3/Pentium/Celeron CPU
- Intel H110 Chipset
- Dual DDR4 2400MHz/2666MHz DIMM, max 32GB
- 1*HDMI, 1*DVI-D, 1*VGA, 3 display
- 2*LAN, Gig. Ethernet 10/100/1000Mbps
- 4*USB3.0 (optional 8*USB3.0), 6*USB2.0, 1*Line out, 1*Mic, 8-bit DIO
- 2*RS232/422/485, 4*RS232, optional added 6*RS232,
- 1*full size Mini PCIe, support 4G LTE/Wifi/BT
- 1*PCIeX16 slot, 2*PCIeX4 slot, 1*32-bit PCI expansion
- 3 *SATA 3.0 HDD/SSD for storage, 1*SATA DOM with 5V power supply
- Standard 24pin ATX +8pin 12V ATX power supply design



Product Overview

MATX-I953 is an industrial motherboard powered by Intel 6/7th Gen Core i7/i5/i3/Pentium/Celeron CPU Intel H110 chipset. It is designed according to Micro ATX motherboard standard, and can match with 4U cabinet and wall-mounted cabinet, which is suitable for machine vision, CNC machine, data acquisition and other fields.

Product Parameters

System

CPU	Intel® 6th/7th Gen Core i7/i5/i3/Pentium/Celeron LGA1151 processor
RAM	2*DDR4 Non-ECC UDIMM, 2133MHz, max 32GB
Graphics	Intel Gen. 9 HD Graphics, HEVC/H265 HW HD Codec; HDMI: 3840*2160@30Hz VGA: 1920*1200@60Hz DVI-D: 1920 x 1200 @ 60Hz

I/O

LAN	1* Intel® I211AT, 10M/100M/1000M Intel® I219LM/I219V, 10M/100M/1000M
USB	4*USB3.0 (Type-A), 4*USB2.0 (Type-A), 4*USB3.0pin (optional), 1*USB2.0 pin, 1*USB2.0 (built-in Type-A)
Display	1*HDMI + 1*DVI-D + 1*VGA
Audio	1*Line out+1*Mic, optional audio, 1* Amplifier (optional)
Serial Port& Others	2*RS232/422/485, 4*RS232, optional added 6*RS232, 1*PS/2 KB&MS, 1*LPT, 1*LPC
DIO	8-bit DIO, programmable TTL signal

Storage

Storage	4*SATA 3.0 HDD/SSD (1*SATA with power, support SATADOM)
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Others

Control SW indicator	F_PANEL (USB Power jumper, AT/ATX jumper, Clear CMOS jumper) Power LED, hard disk LED
Watchdog timer	Watchdog timeout programmable via software 1 to 255 second timer

Expansion

Expansion	1*PCIeX16 Gen3; 2*PCIeX4 Gen2 (x1 signal); 1* 32-bit PCI
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Power supply

Power supply& Consumption	24-Pin ATX/8-Pin ATX 12V
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Dimension&Operating environment

Dimension(W*L*H)244*244*38mm; PCB:1.6mm

Operating temp0~60°C

Storage temp -40°C~85°C

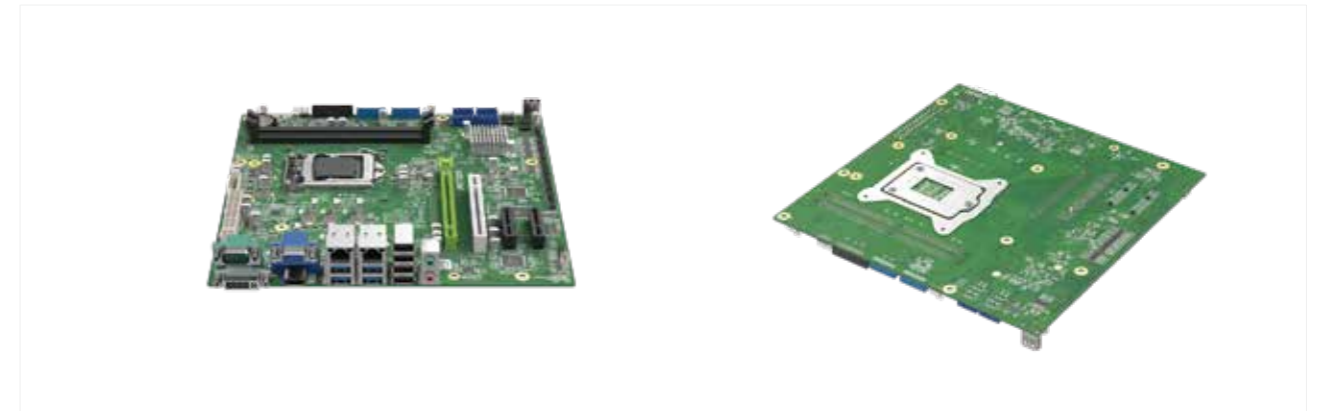
Storage humidity0~95%@40°C, no condensation

Certificate/EMCCE/FCC Class B

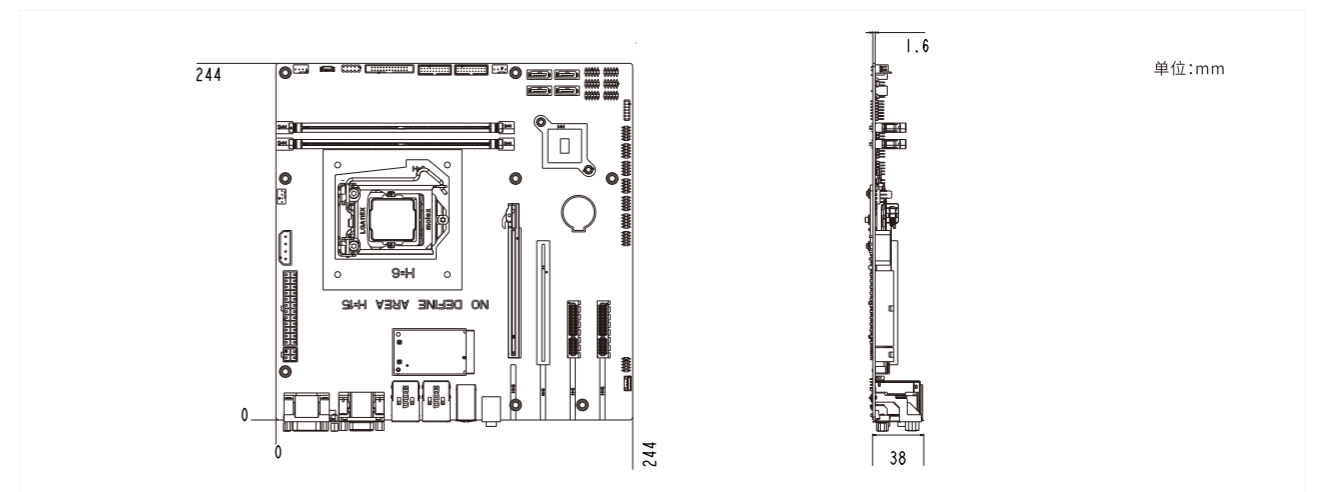
OS

OS	Windows 7, Windows 10, Linux Fedora Ubuntu (Note: The 7th Intel® Kabylake processor do not support Windows 7 32bit)
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I/O View



Dimensions



Ordering Information

Model	Processor	Specifications
MATX-I953/S001	Intel H110+SKL/KAL-S LGA1151 CPU	2*LAN, 4*USB3.0, 6*USB2.0, 6*COM, 1*PCIe X16, 2*PCIeX4(X1 signal), 1*PCI, 1*Mini PCIe, 1*HDMI, 1*DVI-D, 1*VGA, 8 bit DIO, 1*PS2, optional 1*Line out+Mic, optional 1*Amplifier, 1*LPC, 1*LPT, 3*SATA3, 1*SATA DOM, 1*Sm bus, 24-pin ATX/8-pin ATX 12V
MATX-I953/S002		2*LAN, 8*USB3.0, 6*USB2.0, 12*COM, 1*PCIe X16, 2*PCIeX4(X1 signal), 1*PCI, 1*Mini PCIe, 1*HDMI, 1*DVI-D, 1*VGA, 8 bit DIO, 1*PS2, optional 1*Line out+Mic, optional 1*Amplifier, 1*LPC, 1*LPT, 3*SATA3, 1*SATA DOM, 1*Sm bus, 24-pin ATX/8-pin ATX 12V

Packing List

Accessories	Quantity
SATA 7pin cable, length: 42CM	2
Serial Port Line, length: 32CM	5(S001); 11(S002)
I/O cover	1

MATX-I961

Intel® Coffee Lake-R LGA1151 CPU, M-ATX, HDMI, 2*DP, 3*LAN,4*COM,6*USB3.2, 7*USB2.0, 4*SATA3.0, Workstation-grade performance

Key Specification

- Intel® Xeon® E or 9th/8th-Gen Pentium/Celeron/Core i7/i5/i3
- Intel® Q370/C246 Chipset
- 4*DDR4 2666/2400MHz DIMM, Max. 128GB
- 2*DP, 1*HDMI, support 3 independent displays
- 3*LAN, 6*USB3.2 Gen2, 7*USB2.0, 4*COM
- 1*PCIeX16 or 2*PCIeX8+2*PCIeX4 expansion
- 1*Mini PCIe, with SIM card slot, support 4G/WIFI/GPS/GSM/BT
- 4*SATA3.0, 1*M.2 2280 M-Key(PCIe X4)
- Optional support TPM 2.0 security encryption, support AMT12.0, Intel® Vpro technology
- ATX Power (12V/5V/3.3V)



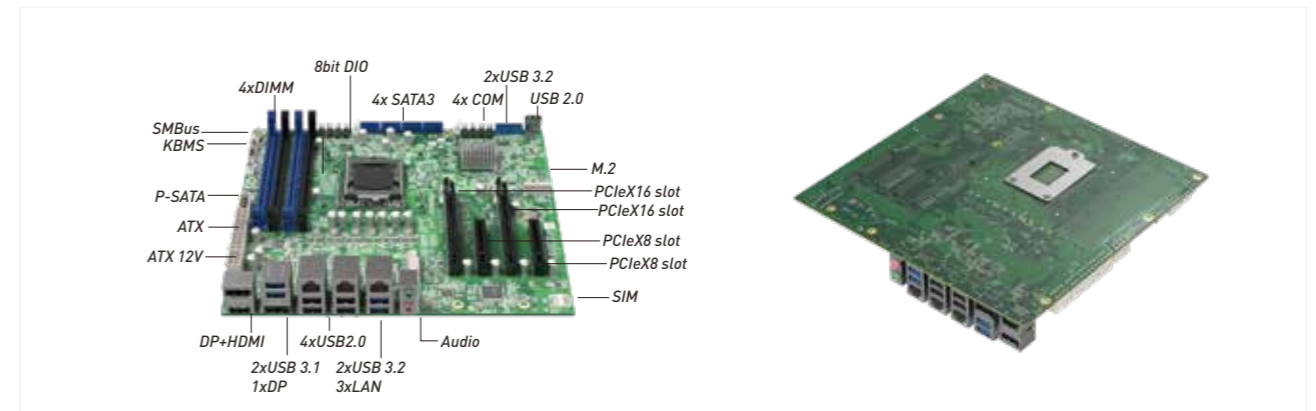
Product Overview

MATX-I961 is ESBC series embedded single board computer, equipped with Intel® Xeon® E or 9th/8th-Gen Pentium/Celeron/Core i7/i5/i3, up to 8 cores and 16 threads processor, supports 4G/WIFI/GPS/GSM/BT and other wireless functions, ATX Power power supply, complete functions, suitable for various embedded system application requirements.

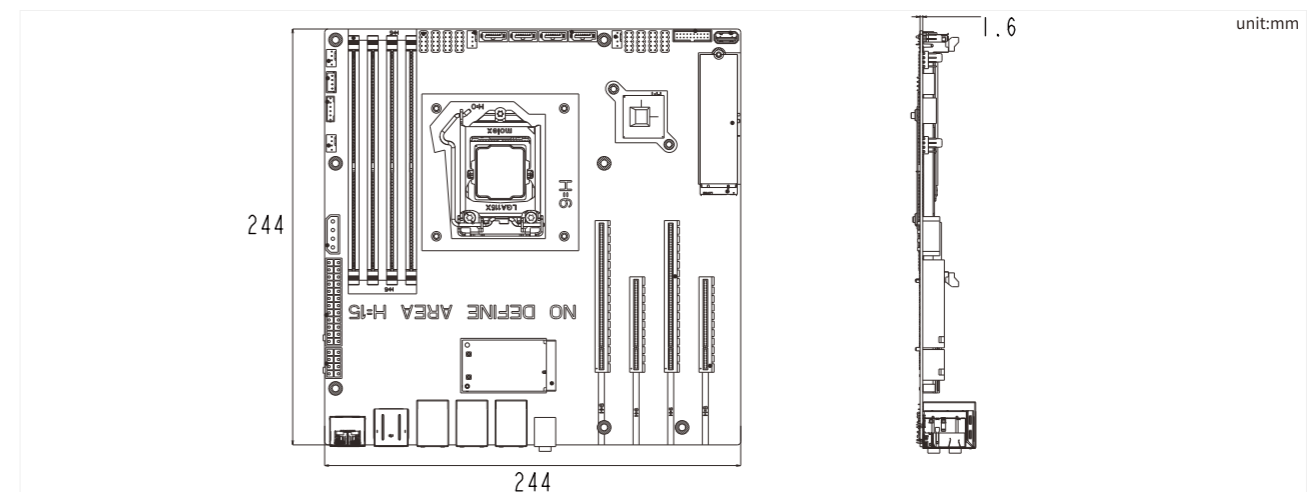
Product Parameters

System		Expansion	
CPU	Intel® Xeon® E or 9th/8th-Gen Pentium/Celeron/Core i7/i5/i3 LGA1151 processor	Expansion Port	1*Mini PCIe with SIM slot 2*PCIe X16 slot (1*PCIe X16/2*PCIe X8) 2*PCIe X8 slot (Gen3, 2*PCIe X4 signal)
RAM	4*DDR4 2666/2400MHz, Max.128GB	Power Supply	Input voltage 24-pin ATX/8-pin ATX 12V, Power consumption 374W (I7-8700, 16GB DDR, 2*4TB, GTX-1660)
Graphics	Intel UHD Graphics, Supports DirectX11.1, OpenGL 5.0 and OpenCL 2.1 DP: 4096*2304@60Hz, HDMI: 3840*2160@30Hz, Support 3 independent displays	Dimension & operating environment	Dimension (L*W*H) 244*244*30.8mm,PCB: 1.6mm Operating temp 0~60°C Storage temp -40°C~85°C Storage humidity 10~90%@40°C, No condensation Certification/EMC CE/FCC Class B
I/O		OS	
LAN	2*Intel I210AT PCIe,10/100/1000 Mbps; 1*Intel I219LM PCIe, 10/100/1000 Mbps, Support Intel vPro	OS	Windows 10 Enterprise & IOT Enterprise Windows Server 2016 (Intel® Xeon® E) Ubuntu, SuSe, Redhat Enterprise 1,2 Wind River VxWorks 7
USB	4*USB3.2 Gen2, 4*USB2.0, 2*USB3.2 Gen2 (pin), 1*USB2.0 (build-in)		
Display	2*DP+1*HDMI		
Audio	1*Line out+1*Mic, Optional audio		
Serial port & Others	4*RS232 (pin), 1*PS/2 (pin), 1*SM bus (pin)		
DIO	8-bit DIO, Programmable TTL signal		
Storage			
storage	4*SATA3, HDD/SSD support RAID 0/1/5/10 1*M.2 2280 M-key(PCIe X4), Support NVMe storage		
Others			
Control switch	Power SW, Reset		
Indicator	1*power indicator light; 1*hard disk indicator light; 3*CPU temperature indicator light (Red is alarm, Yellow is high temperature, Green is normal temperature)		
Watchdog timer	Watchdog timeout programmable via software 1 to 255 second		
TPM	Optional support TPM2.0		

I/O View



Dimensions



Ordering Information

Model	Processor	Specifications
MATX-I961/S001	Intel® Q370+Coffelake-R LGA1151 CPU	3*LAN, 6*USB3.1, 7*USB2.0, 4*COM, 1*Mini PCIe, 1*M.2 2280 M-Key, 8位DIO, 1*PCIe X16(or 2*PCIeX8), 2*PCIe X4, 1*HDMI, 2*DP, optional 1*Line out+1*Mic, 1*PS/2, 4*SATA3, 24-pin ATX/8-pin ATX 12V
MATX-I961/S002	Intel® C246+Coffelake-R LGA1151-R CPU	
ECB-246+ECD-2460	Mini PCIe dual Intel I210AT Gigabit Ethernet port module, 2*RJ45 interface, with cable	
ECB-260 CAN module	Mini PCIe dual isolation CAN module, 2*DB9, with cable	

Packing List

Accessories	Quantity
SATA 7pin cable, length: 42CM	2
Serial Port Line, length: 32CM	4
I/O cover	1

ATX-I971

Intel® Comet lake-S LGA1200 CPU, H420E, ATX, 2*DDR4, 1*VGA, 1*HDMI, 2*LAN, 6*USB3.2, 6*COM, 4*USB2.0, ATX power

Key Specification

- Intel® 10th Gen. Cometlake-S Core i9/i7/i5/i3/Pentium/Celeron CPU
- Intel H420E Chipset
- 2*DDR4 2400/2666/2933MHZ SODIMM, Max 64GB
- Intel UHD Graphic,1*HDMI+1*VGA,dual independent display
- 1*I225V,2.5G; 1*I219 LM,10/100/1000 Mbps
- 6*USB3.2, 4*USB2.0, 6*COM, 8-bit DIO
- 1*PCIe X16, 3*PCIeX4, 3*32-bit PCI
- 4*SATA3.0,6.0 Gbps; Audio(Opt.),TPM 2.0(Opt.)
- 24pin ATX+8pin 12V ATX



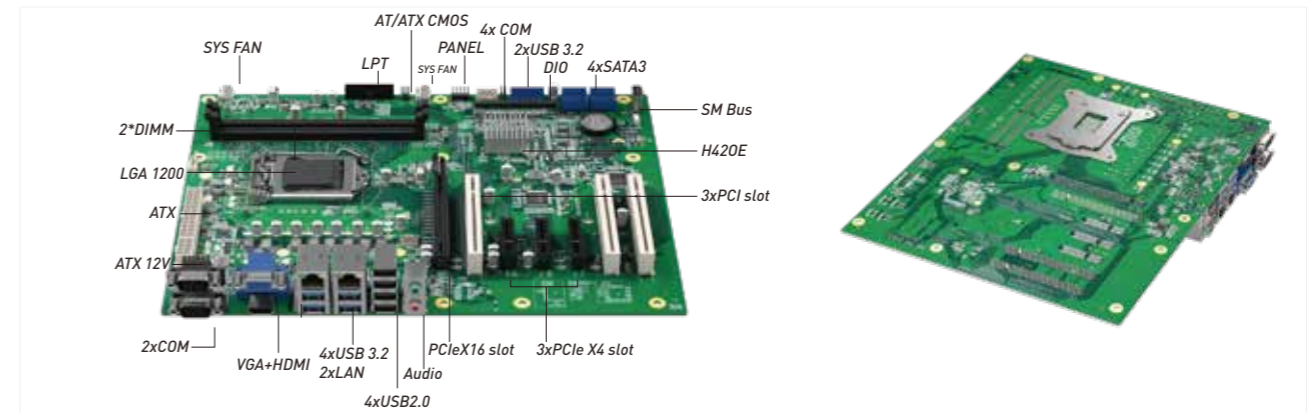
Product Overview

ATX-I971 is powered by Intel® 10th Gen Core i9/i7/i5/i3/Pentium/Celeron processor CPU with Intel H420E chipset. It is designed according to the standard ATX hole size, and is fully adapted to all rack and wall-mounted chassis on the market, and is very suitable for machine vision, CNC machinery, data acquisition and other fields.

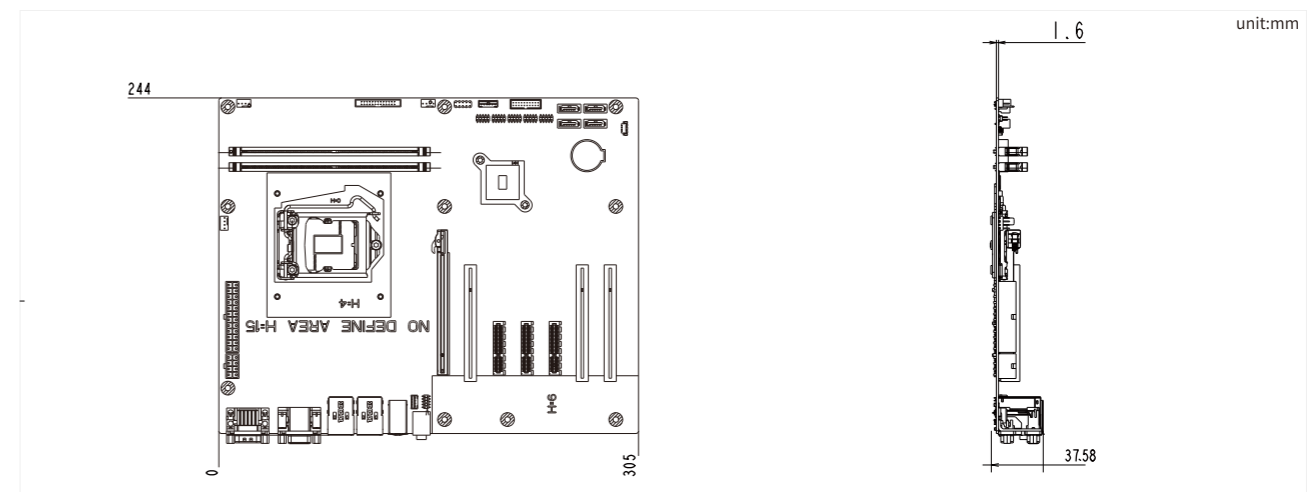
Product Parameters

System		Expansion	
CPU	Intel 10th Gen. Cometlake-S Core i9/i7/i5/i3/Pentium/Celeron CPU, LGA 1200 Socket, up to 125W	Expansion	1*PCIeX16; 3*PCIeX1 (optional 1*PCIeX4, the other two slots have no signal); 3* 32-bit PCI, support multiple function cards such as motion control card, video capture card, etc.
RAM	2* DDR4 288-Pin Non-ECC UDIMM, 2400/2666/2933MHz, Max.64GB	Power Supply	Input voltage 24-Pin ATX/8-Pin ATX 12V, Max. out put power: 280W
Graphics	Intel UHD Graphics, Supports DirectX12, OpenGL 4.5 and OpenCL 2.1, HW Decode: AVC/H.264, MPEG2, VC1/WMV9, JPEG/MJPEG, HEVC/H265, VP8, VP9 HW Encode: MPEG2, AVC/H264, JPEG, HEVC/H265, VP8, VP9 HDMI: 4096*2160@30Hz, VGA: 1920*1200@60Hz	Dimension & operating environment	Dimension (L*W*H) 305*244*37.58mm, PCB:1.6mm Operating temp 0~60°C Storage temp -40°C~85°C Storage humidity 10~95%@40°C, No condensation Certification/EMC CE/FCC Class B
I/O		OS	
LAN	1*Intel® I225V 10M/100M/1000M/2.5G self-adapt, support WOL; 1*Intel® I219LM 10/100/1000Mbps, support WOL	OS	Windows 10 Enterprise & IOT Enterprise Windows Server 2016 (Intel® Xeon® E) Ubuntu, SuSe, Redhat Enterprise 1,2 Wind River VxWorks 7
USB	4*USB3.2, 4*USB2.0, 2*USB3.2(pin)	Storage	storage 4*SATA3, HDD/SSD support RAID 0/1/5/10
Display	1*HDMI+1*VGA	Others	Control switch Power SW, Reset
Audio	1*Line out+1*Mic, Optional Audio,1*Amplifier(optional)	Indicator	1*power indicator light; 1*hard disk indicator light; 3*CPU temperature indicator light (Red is alarm, Yellow is high temperature, Green is normal temperature)
Serial port& Others	2* RS232/422/485, 4*RS232 (pin), 1*LPT (pin), 1*PS/2 (pin)	Watchdog timer	Watchdog timeout programmable via software 1 to 255 second
DIO	8-bit DIO, Programmable TTL signal		

I/O View



Dimensions



Ordering Information

Model	Processor	Specifications
ATX-I971/S001	Intel® H420E+Cometlake-S LGA1151 CPU	2*LAN, 6*USB3.0, 4*USB2.0, 6*COM, 3*PCIe, 8bit GPIO, 1*PCIe X16, 3*PCIe X4 Slot(3*PCIe X1 or 1*PCIe X4 signal), 1*HDMI, 1*VGA(optional), optional 1*Line out+1*Mic, PS/2, 4*SATA3, 1*Amplifier (optional), 24-pin ATX/8-pin ATX 12V

Assesory Pack

Accessory Introduction	Amount
SATA 7pin cable, 42CM	2
Serial ports cable, 32CM	4
I/O port cable	1

Optional function module

ECB-246&ECD-2460 Gig. Ethernet module



Interface Mini PCIe slot, 52Pin
Ethernet 2*Intel I210AT PCIe Gig. Ethernet, 10/100/1000Mbps,Self-adaptive, Rj45
 (Optional 2*I211AT network port)
Operating temp 0°C~70°C
Dimension 30*50.9*6.0mm (ECB-246) 51*27*18mm (ECD-2460)

ECB-260 CANBus module



PC interface Mini PCIe slot, 52Pin
CAN interface 2*DB9 Interface (by the connecting line)
Application FCANBus
CAN standard CAN (CAN2.0A & CAN2.0B, in line with ISO/DIS 11898-1/2/3)
Protocol support Vehicle DBC, CANopen, J1939
Operating temp -40°C~85°C
Dimension (W*H*D): 50.95*30*1.6mm

OFX-075 Wide voltage power module



Input DC IN 9-36V
Output DC OUT 12V
Power consumption Min. 54W, Max. 78W
Operating temp 0°C~60°C
Dimension (W*H) 53*38mm