

JHCTECH IoT Computer
Connecting the Dots

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KGEC
Edge controller



APPLICATION
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Industrial Robotics

Product Listing B01

KAGO-6200 B03

KAGO-6300 B05

KAGO-6301 B07

KAGO-6310 B09

KAGO-6500 B11

Machine Vision

CNC Machinery



KGEC-6200



KGEC-6300



KGEC-6301



KGEC-6310



KGEC-6500

System

CPU	Intel® Elkhart lake Soc CPU, Celeron J6412; Celeron N6210	6th/7th Gen Intel® Skylake-S/Kabylake-S Pentium/Core I3/I5/I7 CPU LGA 1151 socket,max support 65W	6th/7th Gen Intel® Skylake-S/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	Intel 10th Gen. Cometlake-S Core i9/i7/i5/i3/Celeron CPU,LGA 1200 Socket
RAM	1* DDR4 SODIMM 3200MHz, 32GB max.	1* DDR4 2400/2133MHz, 16GB max.	1* DDR4 2400/2133MHz, 16GB max.	2* DDR4 2400MHz , 32GB max.	2*DDR4 SO-DIMM 2933MHz , 64GB max.
Graphics	Intel Gen10 UHD Graphics, H.265/HEVC,HW; HDMI2.0: 4096*2304@60Hz	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: 4096*2304@60Hz; DVI-I(DVI-D+VGA) DVI-D: 1920*1200@60Hz, VGA: 2560*1600@60Hz	Intel Gen. 9 UHD Graphics,HEVC/ H265 HW HD codec HDMI: 4096*2304@60Hz DVI-D: 2560x1600,60Hz	Intel® UHD Graphics,Supports DirectX 12, OpenGL 4.5&OpenCL 2.1 HDMI: 4096*2160@30Hz, DVI-I(DVI-D+VGA): 1920x1200,60Hz

I/O Interface

LAN	2*Intel I226V, 10-1000M	2*Intel I210AT,10-1000M	2*Intel I210AT, 10-1000M; 4*Intel I210AT(+POE),802.3af(15.4W)	3*Intel I210AT,10-1000M; 1*Intel®I219LM , iAMT12.0 and iVpro	1*Intel I226V, 10M-2.5G,support WOL; 1*Intel®I219LM , support WOL
USB	2* USB3.1, 2*USB2.0	4* USB3.0	4* USB3.0	2*USB3.1 + 2* USB2.0	4*USB3.2 + 3* USB2.0(Build-in)
Display	1* HDMI	1* DP + 1* DVI-I	1* DP + 1*DVI-I	1* DVI-D + 1* HDMI	1* DVI-I + 1*HDMI
Audio	/	/	/	1* Line out + 1* MIC	/
Serial Port	1*RS232/422/485; 1*RS232	2*RS232/422/485 with isolated TVS	2*RS232/422/485 with isolated TVS	2*RS232/422/485	2*RS232/422/485
DIO	6 bit DIO(MI/O)		16-bit Isolator DIO(Phoenix terminal)	8-bit DIO(Phoenix terminal)	/

Storage

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

Expansion	1*Mini PCIe(PCleX1/USB+SIM),4G/Wifi/BT	1*Mini PCIe(PCleX1/USB+SIM),4G/Wifi/BT; Optional 1*PCle3.0 X4(X1) + 1*32bit-PCI; Optional 1*PCle3.0 X4(X1)	1*Mini PCIe(PCleX1/USB+SIM),4G/Wifi/BT; Optional 1*PCle3.0 X4(X1) + 2*32bit-PCI	1*M.2 E-key(PCle X1/USB2.0),Wifi/BT; 1*Mini PCIe(PCle X1/USB+SIM),4G/Wifi/ BT	1*Mini PCIe(PCle X1/USB2.0+SIM),4G/Wifi/BT; Optional 1*PCle3.0 X4(X4), 4*PoE+LAN
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Power Supply

Power& TDP	DC 12V;Optional DC 9~36V(OFX-075) 15.6W(Celeron J6412,32G DDR4,128G SSD)	DC 12~24V input, 2*2-pin; S001(43.7W I7-7700 4GB)/ (49.4W I7-7700 4GB,+Expansion)	DC 12~24V , 2*2-pin; S001(49.2W I7-6700T 4GB) / (52.8W I7-6700T 4GB,+Expansion)	DC 12~24V, 2*2-pin; 31.68W (CPU I3-8145U 4GB)	DC 12~24V, 2*2-pin; 64.8W(I5-10500E,32GB DDR4,128G HDD)
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Mechanical

Structure	Aluminum chassis, SGCC frame	Aluminum chassis, SGCC frame	Aluminum chassis, SGCC frame	Aluminum chassis, SGCC frame	Aluminum chassis, SGCC frame
Dimension (W*H*D)	130*100*40mm	S001(202*151*57.8mm/ 202*151*109.8mm,+Expansion)	S001(202*151*80.8mm/ 202*151*151mm,+Expansion)	202*151*81mm	202*154*57.8mm/202*154*89.5mm(+Expansion)
Weight	750g	S001: 2.52KG/3.52KG(+Expansion)	S001: 3KG/4.4KG(+Expansion)	2.59KG	1.85KG/2.20KG(+Expansion)

Environmental

Operating temp	-20°C~60°C , SSD	-20°C~60°C , SSD	-20°C~60°C , SSD	-20°C~60°C , SSD	-20°C~60°C , SSD
Storage temp	-40°C~85°C	-40°C~85°C	-40°C~85°C	-40°C~85°C	-40°C~85°C
Storage Humidity	10~95%@40°C, non-condensing	10~95%@40°C, non-condensing	10~95%@40°C, non-condensing	10~95%@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)	5 grms/5~500Hz/random/during operation(SSD); 1 grms/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)(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)	50g peak acceleration(duration;11ms)(with SSD); 20g peak acceleration(duration;11ms)(with HDD)
Certification/EMC	CE/FCC Class A	CE/FCC Class A	CE/FCC Class A	CE/FCC Class A	CE/FCC Class A
OS	RTOS: Intime, EC-Win, RTX-2014/2016, Ubuntu Preempt-RT,Win11/Win10,SUSE, Ubuntu, Wind River, Red Hat Enterprise	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	RTOS: Intime, EC-Win, RTX-2014/2016, Ubuntu Preempt-RT&Xenomai Windows 10, SUSE, Ubuntu, VXWork, Red Hat Enterprise

KGEC-6200

Intel Elkhart lake CPU, 1*HDMI, 2*LAN, 2*USB3.1, 2*USB2.0, 2*COM, 1*Mini PCIe, 1*mSATA, Mini size, DC 9~36V

Key Specification

- Intel® Elkhart lake SoC CPU
- 1*DDR4 3200 SODIMM, Up to 32GB
- 1*HDMI display, 4K UHD
- 2*USB3.1, 2*USB2.0, 2*COM, 1*MI/O
- 1*Mini PCIe Full Size(PCIeX1+USB2.0)w/ SIM
- 1*mSATA Full Size 6.0Gbps for storage
- Multi mounting, wall mounting , optional DIN-rail Rail /Desktop mounting
- Mini size and Lightweight, fanless cooling design
- DC 12V power input, optional 9~36V wide power input, support OVP,OCP and SCP



I/O View



Product Overview

KGEC-6200 is a brand new edge controller, powered by Elkhart lake SoC series Processor, 1*DDR4 3200 SODIMM, maximum 32GB, Multi IO interfaces, two power supply designs. The mini size is suitable for installation in limited space. It is very suitable for AGV and AMR, machine vision, industrial control and other fields.

Product Parameters

System	
CPU	Intel® Elkhart lake Soc CPU, Celeron J6412; Celeron N6210
RAM	1*260-Pin SODIMM, DDR4 3200MHz, 32GB max.
Graphics	Intel Gen10 UHD Graphics, HW Encode: H.265/HEVC, H.264/MPEG-4 AVC, MPEG-2, JPEG/MJPEG ,VP8; HW Decode: H.265/HEVC, H.264/MPEG-4 AVC, MPEG-2, VC-1/WMV9, JPEG/MJPEG, VP8, VP9 HDM12.0: 4096*2304@60Hz
LAN	2*Intel I226V, 10-1000M
USB	2*USB 3.1; 2*USB2.0
Display	1*HDMI
COM/others	1*RS232/422/485; 1*RS232; 1*MI/O(6 bit DIO,Optional 2*CAN2.0)
Storage	1*mSATA Full Size, AHCI
LED	1*Power LED, 1*HDD LED,3*CPUTemp LED (Red is warning, Yellow is high, Green is normal)
Switch	1*Power SW, 1*AT/ATX, 1*Clear CMOS
WDT	programmable via software 1 to 255 second
OS	RTOS: INtime, EC-Win, RTX-2014/2016&Ubuntu Preempt-RT Win11/Win10, SUSE, Ubuntu, Wind River, Red Hat Enterprise

Expansion	1*Mini PCIe(PCIeX1/USB+SIM),4G/Wifi/BT
Power&TDP	DC 12V; Optional DC 9~36V(OFX-075) 15.6W(Celeron J6412,32G DDR4,128G SSD)

Mechanical

Structure	Aluminum chassis, SGCC frame
Color	Silk grey+Graphite black
Installation	Wall mounting/ DIN-rail Rail mounting/Desktop mounting

Dimension (W*H*D)	130*100*40mm
Weight	750g

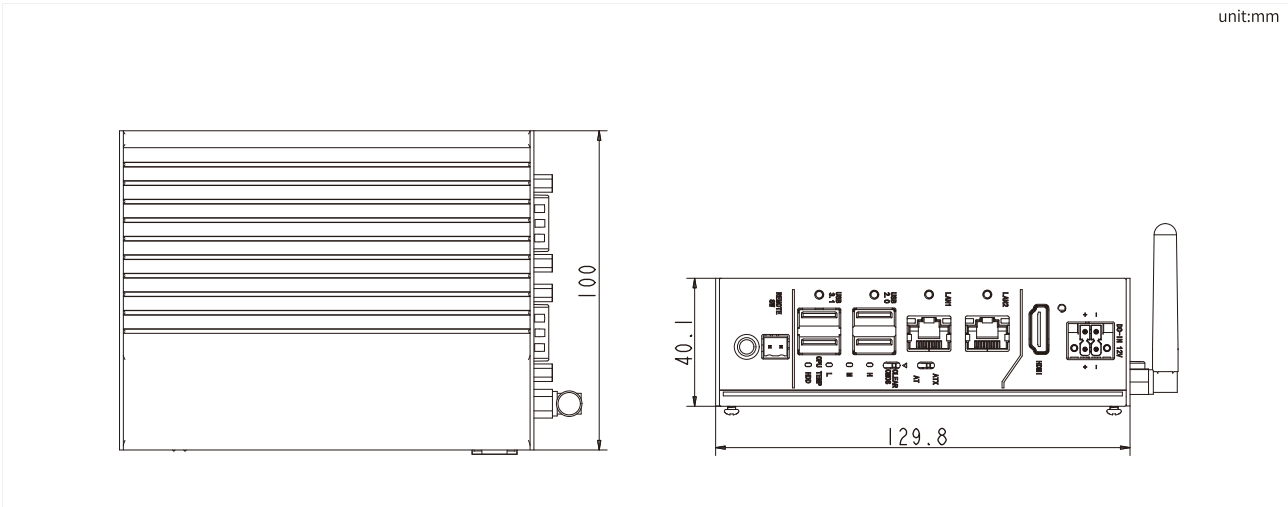
Environment

Operating Temp	-20°C~60°C, wide operating temp. SSD
Storage Temp	-40°C~85°C
Storage Humidity	10~95%@40°C, No-condensation

Vibration	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)

Certificate/EMC	CE/FCC Class A
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Dimensions



Ordering Information

KAGO-6200/S001	Celeron J6412	1*DDR4, 1*HDMI, 2*LAN, 2*USB3.1, 2*USB2.0, 1*RS232/422/485,1*RS232, 1*Mini PCIe Full Size, 1*mSATA Full Size, , 1*MI/O (Default: 1*6-bit DIO), DC 12V, with wall mounting kit
KAGO-6200/S002	Celeron N6210	
KAGO-6200/S001/WP	Celeron J6412	1*DDR4, 1*HDMI, 2*LAN, 2*USB3.1, 2*USB2.0, 1*RS232/422/485,1*RS232, 1*Mini PCIe Full Size, 1*mSATA Full Size, , 1*MI/O (Default: 1*6-bit DIO), DC 9-36V, with wall mounting kit
KAGO-6200/S002/WP	Celeron N6210	
Din-Rail mounting (optional)		Stainless steel bracket for 6200 main box +1 Din-Rail fastener
Desktop mounting(optional)		1 Pair of SGCC1.0 horizontal mounting kit
PA-60DC12		AC/DC adapter, DC12V/5A 60W

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



Expansion module

Product Overview

KGCE-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

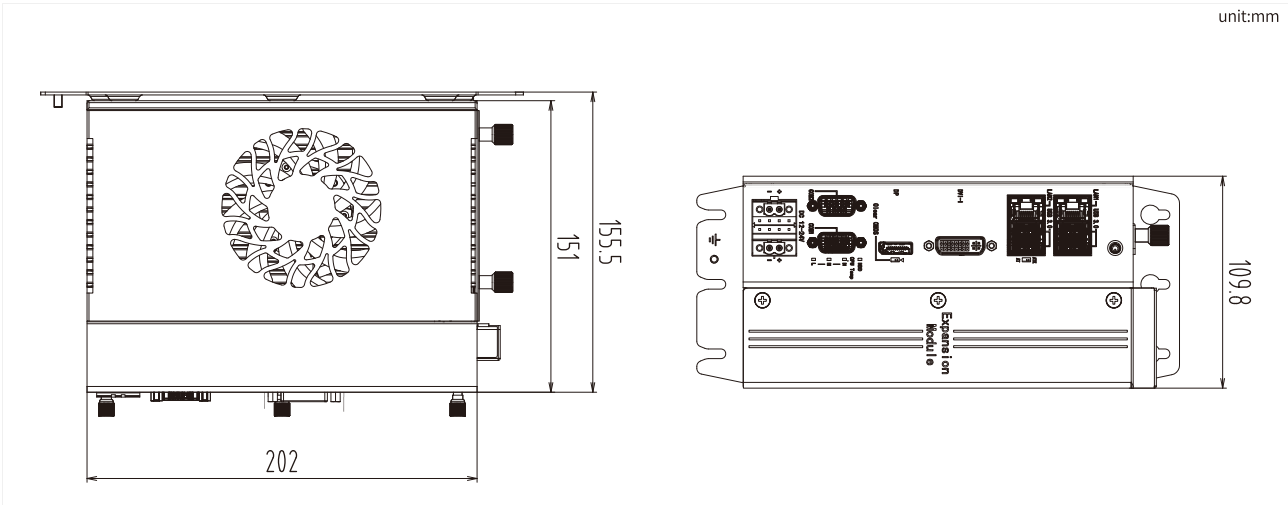
System

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	Watchdog timer(WDT)	programmable via software 1 to 255 second
RAM	1*260-Pin SODIMM, DDR4 2400/2133MHz, max 16GB		
Expansion	1*Mini PCIe(PCleX1/USB+SIM),4G/Wifi/BT; Optional 1*PCle3.0 X4(X1) + 1*32bit-PCI; Optional 1*PCle3.0 X4(X1)		
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		
LAN	2*Intel I210AT, 10-1000M		
Storage	1*mSATA full size card (SATA & USB2.0)		
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		
LED	1*power LED, 1*HDD LED, 3*CPU temperature indicator(Red as warning, Yellow as high temperature, Green as green temperature)		
Switch	1*power button, 1*AT/ATX switch, 1*Clear CMOS switch		
Power& TDP	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 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)		
		Mechanical	
		Structure	Aluminum chassis with heat dissipation, SGCC frame
		Color	Dark gray
		Installation method	Wall-mounting,Din-Rail mounting
		Dimension (W*H*D)	S001(202*151*57.8mm), with expansion module(202*151*109.8mm)
		Net weight	S001: 2.52KG; with expansion module :3.52KG
		Environmental	
		Operating temperature	-20°C~60°C, wide operating temp. 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 A

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*PCleX4 Slot(X1signal)or 1*PCI single expansion slot						
2 Slot Expansion module	1*PCleX4 Slot(X1signal)+1*PCI dual expansion slot						
PA-120DC19	AC/DC adapter,direct current of 19V/6.32A 120W						

CPU Support

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



Expansion module

Product Overview

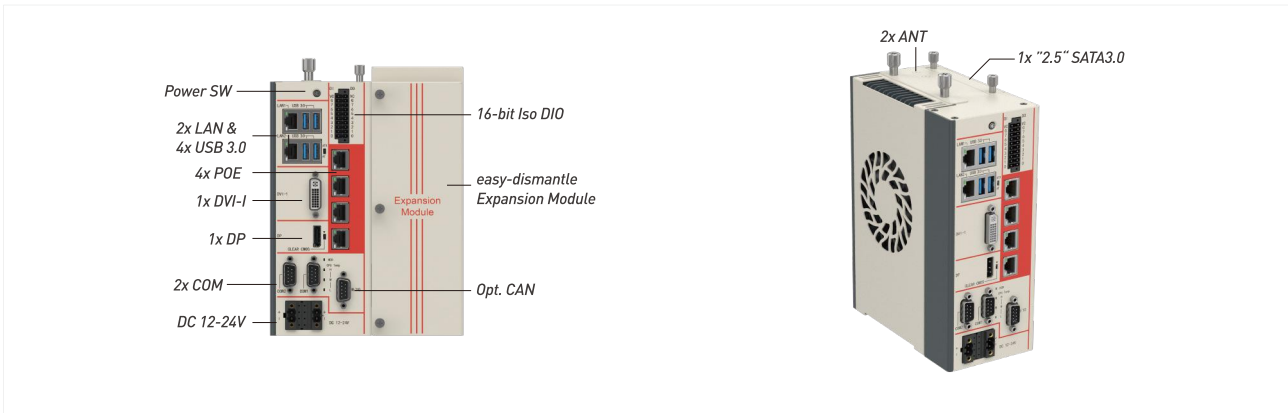
KGEC-6301 is a brand new edge controller with 2*LAN and 4*POE. It adopts Intel I210AT internet chipset, which support EtherCAT time sensitive networking (TSN) and can connect to network cameras. The CPU is built with active and passive heat dissipation design and supports wall-mounting and Din-rail mounting. 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 scnario, 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

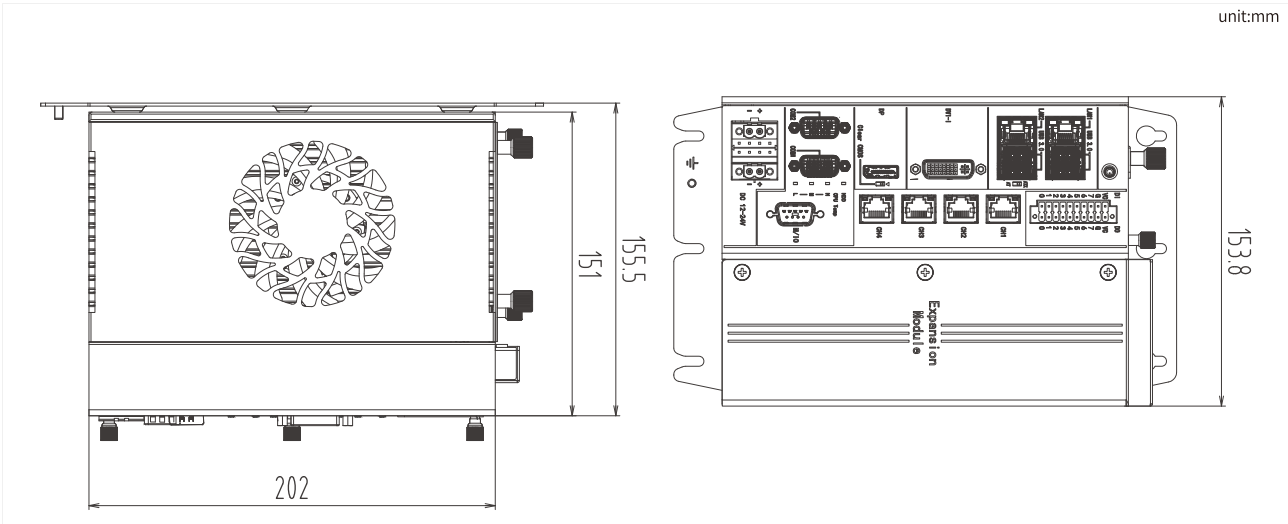
System

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 via software 1 to 255 second
Expansion	1*Mini PCIe(PcieX1/USB+SIM),4G/Wifi/BT; Optional 1*PCIE3.0 X4(X1) + 2*32bit-PCI	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, 10-1000M; 4*Intel I210AT(+POE),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℃~60℃ 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℃~85℃
		Storage humidity	10~95%@40℃, 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 A

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*PCleX4 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									
Series	Intel® Core™						Intel® Pentium®		
7th Gen	I3-7100	2C4T	I5-7500	4C4T	I7-7700	4C8T	G4600	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
RAM	dual channel DDR4 SO-DIMM , max support 2400MHz, max32GB
Expansion	1*M.2 E-key(PCIe X1/USB2.0),Wifi/BT; 1*Mini PCIe(PCIe X1/USB+SIM),4G/Wifi/ BT
Graphics	Intel Gen. 9 UHD Graphics,HEVC/H265 HW HD codec HDMI max resolution 4096*2304@60Hz DVI-D max resolution 2560x1600,60Hz
Audio	Optional support Realtek ALC662 audio, 1*Line out & Mic High fidelity audio support 5.1audio channel
LAN	3*Intel I210AT PCIe Gig. Ethernet, 10/100/1000Mbps;1*Intel®I219LM , support iAMT12.0 and iVpro tech
Storage	1*2.5" SATA3.0 HDD/SSD, 1*mSATA full-size card,support AHCI
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
I-port	1*I-port support 1*USB2.0, 1*DVI-D, Mini-PCIe, M.2 and other expansions
LED	1*power LED, 1*HDD LED, 3*CPU temperature indicator(Red as warning, Yellow as high temperature, Green as green temperature)
Switch	1*power button, 1*AT/ATX switch, 1*Clear CMOS switch

Power Requirement	DC 12~24V input, 2*2-pin terminal block connector, Consumption:12V/2.64A (CPU I3-8145U 4GB)
Operating System	RTOS: INtime, EC-Win, RTX-2014/2016 and Ubuntu Preempt-RT Windows 10, SUSE, Ubuntu, Wind River, Red Hat Enterprise
Watchdog timer	Programmable timeout interruption period or system reset from 1 to 255 secs

Mechanical

Structure	Aluminum chassis, SGCC frame
Color	Dark grey
Installation Method	Wall-mounting,Din-Rail mounting

Dimension (W*H*D)	202*151*81mm
Net Weight	2.59KG

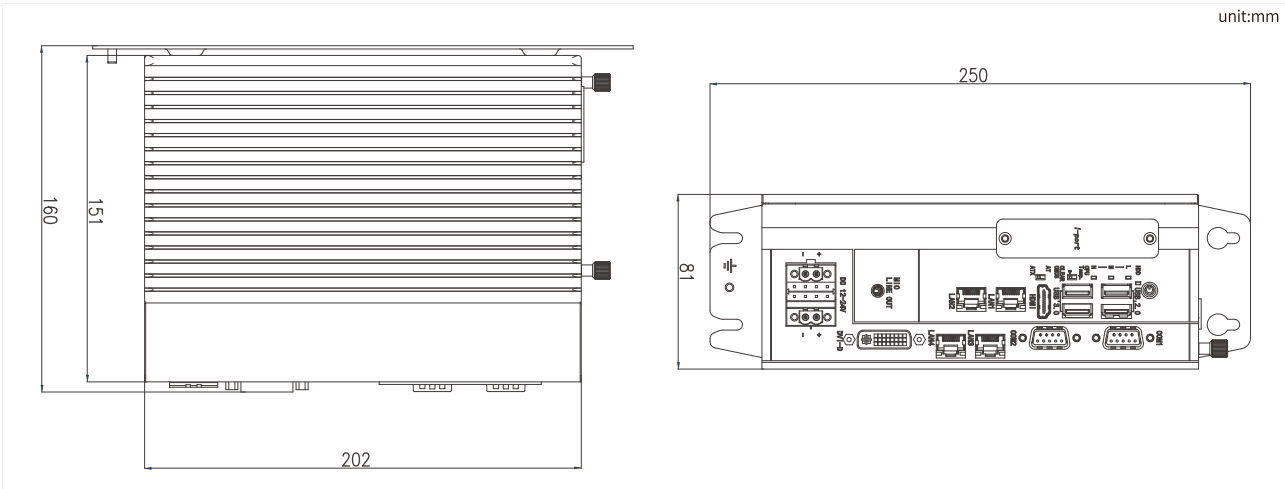
Environmental

Operating temp	-20°C~60°C wide operating temp. SSD
Storage temp	- 40°C~85°C
Storage humidity	10~95%@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 A

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	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/S002	Intel® Core I5-8265U							
KGEC-6310/S003	Intel® Core I7-8565U							
KGEC-6310/S004	Intel® Celeron 4305U							
PA-60DC12	AC/DC adapter, direct current of 12V/5A 60W							

KGEC-6500

Intel® Comet lake-S CPU+H420E PCH, 2*DDR4, dual displays, 2*LAN, 4*USB3.2, 3*USB2.0, 2*COM, 1* PCIeX4 expansion slot, DC 12~24V

Key Specification

- Intel® Comet Lake-S CPU, up to 10 cores 65W
- Dual-channel DDR4 2933MHz SODIMM, up to 64GB
- Intel® H420E chipset, long life cycle
- 1*HDMI and 1*DVI-I dual displays, display signal extension without attenuation
- Intel® I226V supports multiple real-time industrial Ethernet protocols
- 1 * PCIeX4 slot (X4) can be flexibly removed from the modular design, supporting the expansion of POE network cards and motion control cards
- DC 12~24V wide voltage supply, with reverse connection, overcurrent, overvoltage protection
- Wall mounting and DIN-rail Rail mounting



Product Overview

KGEC-6500 is a high-performance industrial edge controller equipped with Intel Comet Lake-S CPU series processor, with dual channel memory, dual storage. I226V network supports EtherCAT and other real-time industrial Ethernet protocols, active and passive cooling design, compact size, flexible modular expansion components, a variety of installation methods, and it is suitable for CNC machinery and industrial robots and other fields.

Product Parameters

System

CPU	Intel 10th Gen. Cometlake-S Core i9/i7/i5/i3/Celeron CPU, LGA 1200 Socket, 65W; Intel H420E chip
RAM	Dual-channel 2 *260pin DDR4 SODIMM,2933MHz, 64GB max.
Graphics	Intel® UHD Graphics, DirectX 12, OpenGL 4.5 & OpenCL 2.1, HDMI:4096*2160@30Hz(4K), DVI-I (DVI-D+VGA): 1920x1200@60Hz, VGA: 1920x1200@60Hz
LAN	1*Intel I226V, 10M-2.5G,WOL; 1*Intel®I219LM, WOL
USB	2*USB3.1, 2*USB2.0(Build-in)
Display	1*HDMI+1*DVI-I
COM/others	2*RS232/422/485(DB9), 1*RS232(Build-in)
Storage	1*2.5" SATA3.0 HDD/SSD, 1*mSATA Full Size, AHCI
LED	1*Power LED, 1*HDD LED, 3*CPUTemp LED (Red is warning, Yellow is high, Green is normal)
Switch	1*Power SW, 1*AT/ATX, 1*Clear CMOS, COM1/COM2
WDT	programmable via software 1 to 255 second
OS	RTOS: INtime, EC-Win, RTX-2014/2016, Ubuntu Preempt-RT& Xenomai, Windows 10, SUSE, Ubuntu, VXWork, Red Hat Enterprise

Expansion	1*Mini PCIe(PCle X1/USB2.0+SIM), 4G LTE/Wifi+BT; 1*PCle3.0 X4(X4), 4*IEEE-802.3at(PoE+)LAN
Power&TDP	DC 12~24V, 2*2-pin; 64.8W (I5-10500E, 32GB DDR4, 128G HDD)

Mechanical

Structure	Aluminum chassis, SGCC frame
Color	Silk grey+Graphite black
Installation	Wall mounting and DIN-rail Rail mounting(without expansion)
Dimension (W*H*D)	202*154*57.8mm; 202*154*89.5mm(+expansion)
Weight	1.85KG; 2.20KG(+expansion)

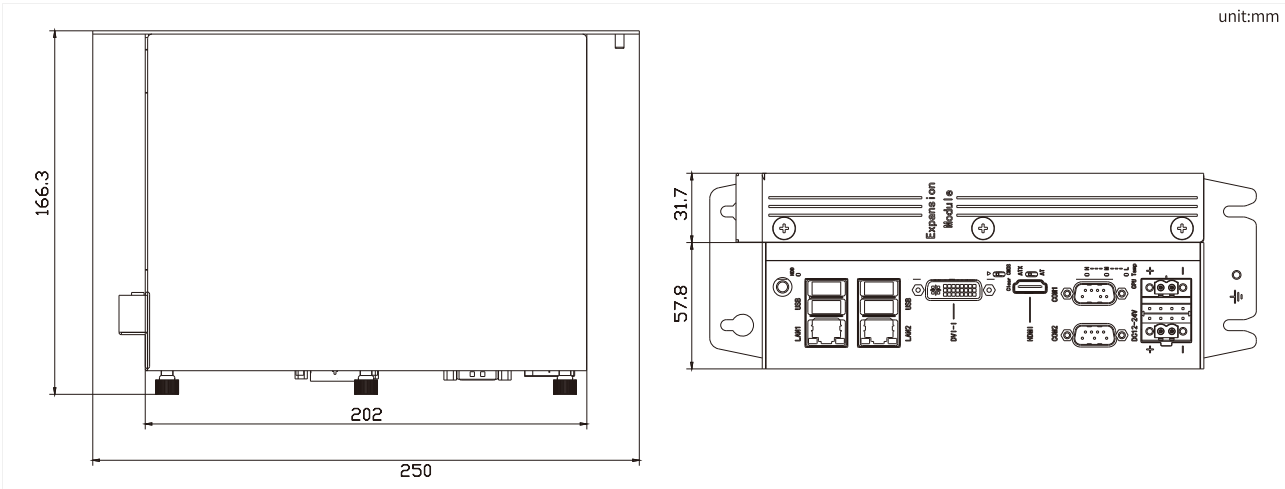
Environment

Operating Temp	-20°C~60°C ,wide operating temp. SSD
Storage Temp	-40°C~85°C
Storage Humidity	10~90%@40°C, No-condensation
Vibration	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)
Certificate	CE/FCC Class A

I/O View



Dimensions



Ordering Information

Model	Processor	
KAGO-6500/S001	Intel® 10th Gen Comet lake-S LGA1200 CPU	2*DDR4, 1*DVI-I, 1*HDMI, 2*LAN, 4*USB3.2, 3*USB2.0, 2*RS232/422/485,1*RS232, 1*Mini PCIe Full Size, 1*mSATA Full Size, 1*2.5"SATA bay, DC 12~24V
1 slot expansion		ECX-273: 1*PCle3.0X4(X4)
PA-120DC19		AC/DC adapter, DC12V/5A 60W
PA-220DC24		AC/DC adapter, DC12V/5A 60W
6500-S001 Din-Rail mounting		Stainless steel bracket for 6500 main box +2 Din-Rail fastener