

# 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

**JHCTECH**

IoT Computer  
Connecting the Dots

Edge Controller--KGEC



EtherCAT

EC-Win

Compact Design

INTIME

RTX RTOS

Xenomai

Preempt RT

RoHS

CE

FCC

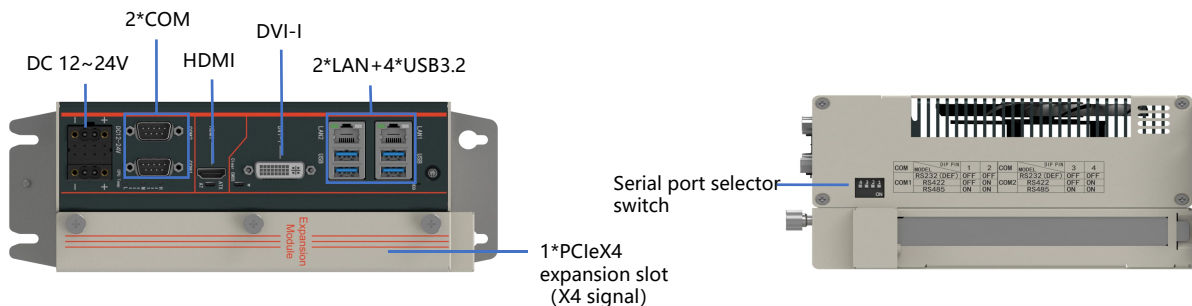
## Key Features

- 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 signal) 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

## Description

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.

## I/O View

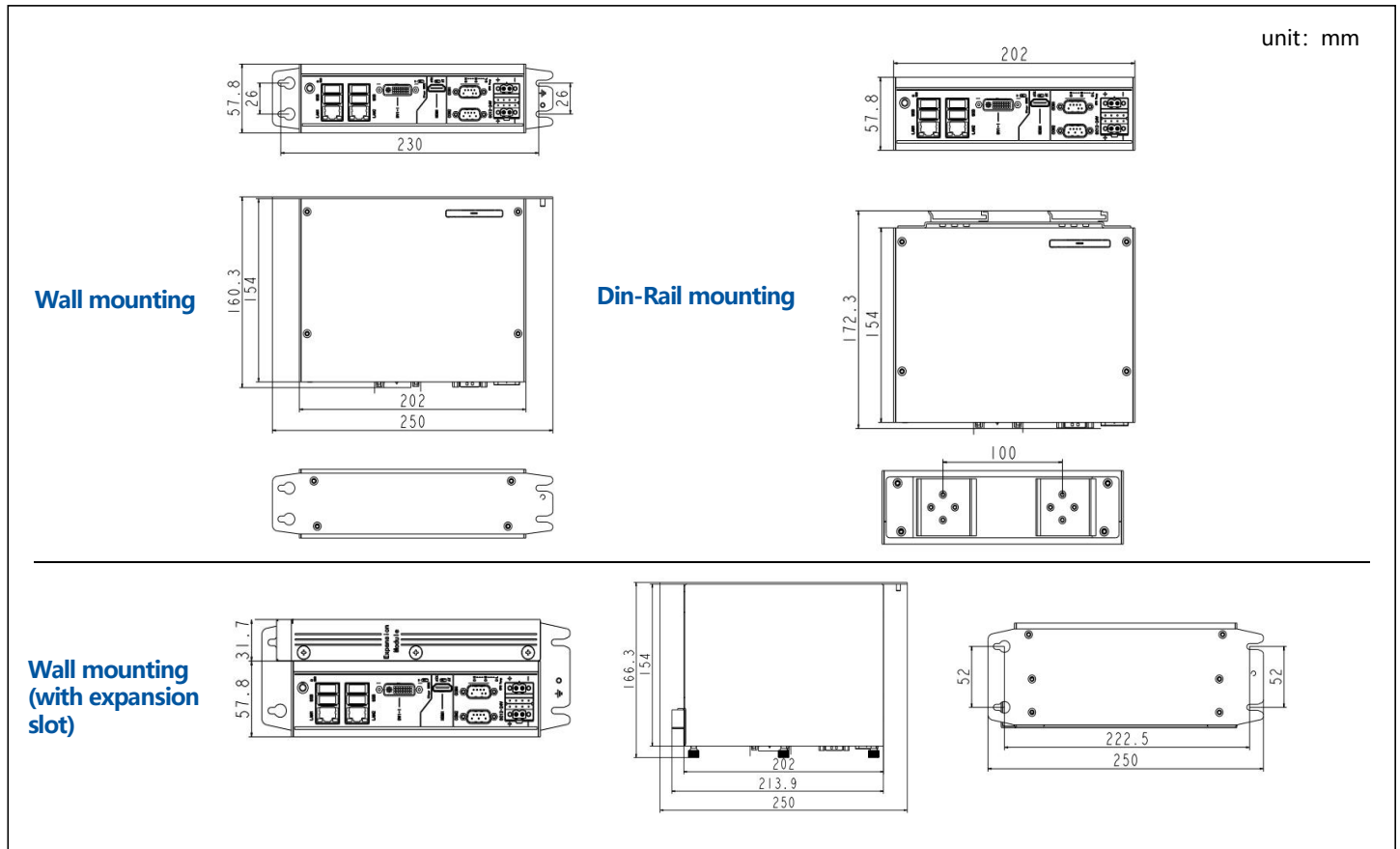


## SPEC.

CPU+PCH	Intel 10th Gen. Cometlake-S Core i9/i7/i5/i3/Celeron CPU, LGA 1200 Socket, 2C/4C/6C/8C/10C, the maximum power consumption: 65W; Intel H420E chip
System Memory	Dual-channel 2 *260pin DDR4 SODIMM, supporting up to 2933MHz and a maximum of 64GB
Expansion	1* Full-size Mini PCIe, with SIM card slot, PCIe X1+USB2.0 signal, support 4G LTE or Wifi+BT wireless functions; 1*PCIeX4 slot, with Gen3 PCIeX4 signal, can be used for the function expansion of 4-port IEEE-802.3AT (PoE+) network cards and other motion control cards
Intel Graphics	Intel® UHD Graphics, supports DirectX 12, OpenGL 4.5 and OpenCL 2.1 HDMI is 4K ultra HD display and the highest resolution is 4096*2160@30Hz. DVI-I(DVI-D+VGA) : The highest resolution of DVI-D is 1920*1200@60Hz, and the highest resolution of VGA is 1920*1200@60Hz
LAN	1*Intel I219LM chip, 10/100/1000Mbps adaptive, support WOL network awakening 1*Intel I226V chip PCIe Gig. Ethernet, 10/100/1000/2500Mbps adaptive, support WOL network awakening
Storage	1*2.5" SATA3.0 bay; 1*mSATA Full Size, supports AHCI
Rear I/O	2*Gig-LAN(RJ45), 4*USB3.2 Gen 1(5Gbps Type A), 2*RS232/422/485 (DB9 male), 1*HDMI+1*DVI-I
Internal I/O	3*USB2.0(one Type A, one 2*5 dupont pin); 1*RS232(1*4pin wafer)
LED	1*power LED; 1*HDD LED; 3*CPU Temp.LED (Red is warning, Yellow is high, Green is normal);
Control SW	1*power SW, 1*AT/ATX SW, 1*Clear CMOS SW, COM1&COM2 dip switch for mode switching
Power Supply	DC 12~24V input, 2*2-pin terminal block connector, TDP: 24V/2.7A (CPU: I5-10500E, DDR4: 32GB, HDD: 128G), without functional card
Watchdog Timer	Programmable timeout interrupt or system reset, 1 to 255 seconds
OS Support	RTOS: INTIME, EC-Win, RTX-2014/2016, Ubuntu Preempt-RT和Xenomai Windows 10, SUSE, Ubuntu, VXWork, Red Hat Enterprise
Structure	Aluminum chassis with heat dissipation, aluminum alloy box
Color	Silk grey+Graphite black
Mounting	Wall mounting and DIN-rail Rail mounting(without expansion slot)

Dimension	(W*H*D)202*154*57.8mm, add expansion card total: 202*154*89.5mm
Net weight	S001: 1.85KG add expansion card total: 2.20KG
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	5grms/5~500Hz/random/in working(SSD); 1grms/5~500Hz/random/in working(HDD)
Shock	50g peak acceleration(11ms duration)(SSD); 20g peak acceleration(11ms duration)(HDD)
Certification/EMC	CE/FCC Class A

## Dimension



## Ordering Info

Model No.	CPU	Introduction
KGEC-6500/S001	Intel® 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 component	ECX-273 expansion card, 1*PCIeX4 slot(Gen3, X4 signal)	
PA-120DC19	AC/DC adapter, DC 19V/6.32A 120W	
PA-220DC24	AC/DC adapter, DC 24V/9.17A 220W	

## Support CPU List

Series	Processor	core/thread	Frenquency/GHz	Processor	core/thread	Frenquency/GHz
Intel 10th Gen. Cometlake-S Core i9/i7/i5/i3/Celeron CPU	G5900	2C2T	3.4	i5-10500T	6C12T	2.3~3.8
	G5900E	2C2T	3.2	i7-10700	8C16T	2.9~4.8
	G5900T	2C2T	3.2	i7-10700E	8C16T	2.9~4.5
	i3-10300	4C8T	3.7~4.4	i7-10700T	8C16T	2.0~4.5
	i3-10300T	4C8T	3.0~3.9	i9-10900	10C20T	2.8~5.2
	i5-10500	6C12T	3.1~4.5	i9-10900E	10C20T	2.8~4.7
	i5-10500E	6C12T	3.1~4.2	i9-10900T	10C20T	1.9~4.6