

JHCTECH IoT Computer
Connecting the Dots

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SIGM

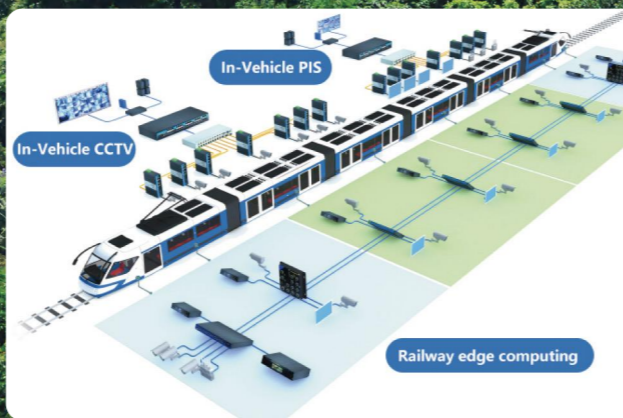
Embedded In-vehicle Computer-SIGM



APPLICATION
▶▶
Rail transport

E1-E4 Product Listing

SIGM-2650	E01	SIGM-3555	E11
SIGM-3250	E03	ICS-2010	E13
SIGM-3251	E05	ICS-2020	E15
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APPLICATION
▶▶
Rail Freight

Medical vehicle



Police vehicle





SIGM-2650

SIGM-3250

SIGM-3251

SIGM-U1350

SIGM-U3550

SIGM-U3555

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

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 out and 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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System

CPU	Intel® Skylake/Kabylake-U Corei3/i5/i7 CPU; Optional MLU220T MXM 8G Ram 16TOPS(INT8)	Intel Coffee lake-H Core i3/i5/i7/Xeon CPU, TDP 25W/45W	Intel® Comet lake 10th-Gen Celeron/Pentium/Core™ i9/i7/i5/i3 CPU, Intel® Q470 PCH
RAM	Onboard 4GB +1*SODIMM, 4+16GB max.	Onboard 8GB+ 1*SODIMM, 8+32GB max.	2*DDR4 SO-DIMM, 2933MHz, 64GB max.
Graphics	Intel® Gen. 9 HD Graphics, DP:4096*2160@60Hz, Smart Display: 1920*1200@60Hz, VGA: 1920*1200@60Hz, 3 independent display	Intel UHD Graphics, Supports DirectX11.1, OpenGL 5.0 and OpenCL 2.1 ; DP:4096*2304@60Hz, HDMI:4096*2160@24Hz,	Intel® UHD Graphics, DirectX 12, OpenGL 4.5, 2*HDMI 1.4: 4096 x 2304@24Hz

I/O

LAN	2*Intel® I210AT 10M-1000M (M12)	1*Intel I210AT(IT)+1*Intel I219LM(2*RJ45); 2*Intel I210AT(IT)[2*M12]; 3*Intel I210AT(IT)	3*Intel I226V, 10M-2.5G, iAMT 13.0,vPro(Core i5/i7/i9 CPU) 8*Intel I210AT(8*M12)
USB	2* USB3.0; 1*USB2.0 ; 2*USB2.0 (M12)	2* USB3.1; 8*USB2.0	4* USB3.2(10G)+2*USB3.0+2*USB2.0
Display	1*DP+1*VGA+1*Smart Display	1*DP+1*HDMI	2*HDMI
Audio	/	/	(Opt.)Realtek ALC, 1*Line out+1*Mic
Serial port	1*Console RS232 (RJ45)	1*RS232/RS485 (DB9)	2*RS232/422/485+2*RS485
DIO	/	/	8-bit DIO, TTL

Storage

Storage	1*2.5" HDD SATA bay; 1*mSATA(SATA+USB)	4*2.5" HDD SATA bay(RAID0/1/5/10); 1*mSATA	1*2.5" HDD SATA3.0(RAID0/1); 1*M.2 2280 M-Key(PCIex4), NVMe
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Expansion

Expansion Port	2*Mini PCIe(+SIM), 4G/GSM/Wifi/BT/GPS 1*Mini PCIe(SATA+USB), mSATA 1*Mini PCIe(PCIe X1/USB)	Slot7&8: 1*PCIe3.0X8(CPU)+1*USB3.1+1*USB2.0+1*G-LAN; Slot6: 1*PCIeX4+1*USB3.1+1*USB2.0, 1*G-LAN; Slot5: 1*PCIeX4+1*USB3.1+1*USB2.0; Slot3&4: 1*PCIeX1+SATA3.0+1*USB2.0; Slot1&2: 1*SATA3.0+1*USB2.0; Slot9(System): 2*PCIeX8+2*PCIeX4+2*PCIeX1+4*USB3.1+4*SATA3.0+8*USB2.0+3*G-LAN	1*M.2 2230 E-key(PCIeX1/USB2.0/CNVio), WiFi6/BT5.0; 1*M.2 3052 B-key(PCIeX1/USB2.0+SIM), 5G NR/4G LTE; 1*M.2 Type 2280 M-Key(PCIex4), NVME/PCIe Module
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Power Supply

Input voltage & TDP	Railway power:DC 110V(43-160V), 4-pin M12; 28W(Non. MLU220T)/44.5W(with MLU220T)	DC 16.6-160V(Rail-way,ultra-wide voltage,4-pin M12); TDP: TBD	DC 110V(Rail-way, ±40%), OVP&OCP, 250W; TDP: 110W(I7-10700 CPU)
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Mechanical

Structure	Aluminum chassis, stainless steel frame	Aluminum alloy mold, conductive oxidation process	Aluminum-magnesium alloy, SGCC frame
Dimension (W*H*D)	430*44.5*283mm	482.6*248.2*133mm(w kit) ,435.8*208.5*133mm(n kit)	374*246*85mm (w kit) ;342*222*85mm (n kit)
Net weight	4.69KG	TBD	7.76KG

Environmental

Operating temperature	EN50155 TX: -40~70°C	EN50155 QT3: -25~70°C(25W CPU); QT1: -25~55°C(45W)	EN50155 QT1: -25~55°C(35W CPU)
Storage temperature	-40°C~85°C	-40°C~85°C	-40°C~85°C
Storage humidity	10~95%@40°C, Non-condensation	10~95%@40°C, Non-condensation	10~95%@40°C, Non-condensation
Vibration	MIL-STD-810G, EN50155	MIL-STD-810G, EN50155:2021	MIL-STD-810G, EN50155:2021
Shock	MIL-STD-810G, EN50155	MIL-STD-810G, EN50155:2021	MIL-STD-810G, EN50155:2021
Certification/EMC	EN50155: 2017 & E-Mark & CE & FCC Class A	EN50155: 2021 & CE/FCC Class A	EN50155: 2021 & CE/FCC Class A

OS

	Linux, Windows 7(SKL-U 32/64; KBL-U 64) , Windows 10 64bit(Windows does not support MLU220)	Windows 10/11 Enterprise & IOT Enterprise, Ubuntu, SUSE, Redhat Enterprise , VxWorks	Windows 10/11 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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ICS-2010

ICS-2020

ICS-4010

ICS-4040

System

CPU	1/2 Intel Xeon Gen2 scalable series processors, Intel® C621 PCH	1/2 Intel Xeon Gen4 scalable series processors, Intel® C741 PCH	1/2 Intel Xeon Gen2 scalable series processors, Intel® C621 PCH	1/2 Intel Xeon Gen4 scalable series processors, Intel® C741 PCH
RAM	16*DDR4,2933MHz ECC LRDIMM/RDIMM LRDIMM:4T (16*256GB);RDIMM:2T (16*128GB)	16*DDR5,2933MHz ECC LRDIMM/RDIMM LRDIMM/RDIMM:4T (16*256GB)	16*DDR4,2933MHz ECC LRDIMM/RDIMM LRDIMM:4T (16*256GB);RDIMM:2T (16*128GB)	16*DDR5,5600MHz,3DS RDIMM/RDIMM 4T max. (16*256GB)
Graphics	VGA:1920*1200@60Hz,	VGA:1920*1200@60Hz,	VGA:1920*1200@60Hz,	VGA:1920*1200@60Hz,

I/O

LAN	2*Intel I210AT 10M-1000M; 1*IPMI2.0, Aspeed AST2500 BMC	2*Broadcom BCM5720 1GBase-T; 1*IPMI2.0, Aspeed AST2600 BMC	2*Intel I210AT 10M-1000M; 1*IPMI2.0, Aspeed AST2500 BMC	2*Intel I210AT 10M-1000M; 1*IPMI2.0, Aspeed AST2500 BMC
USB	4* USB3.0+2*USB2.0	6* USB3.0	4* USB3.0+ 2*USB2.0	6* USB3.0
Display	1*VGA	1*VGA	1*VGA	1*VGA
Audio	/	/	/	/
Serial port	1*RS232(DB9)	1*RS232 (DB9)	1*RS232 (DB9)	1*RS232 (DB9)
DIO	/	/	/	/

Storage

Storage	2*2.5" SAS/SATA3.0,RAID0,1	2*2.5" SAS/SATA3.0,RAID0,1	8*2.5"/3.5" SAS/SATA, RAID0/1/5/10; 2*2.5" SAS/SATA	8*2.5"/3.5" SAS/SATA, RAID0/1/5/10; 2*2.5" SAS/SATA
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Expansion

Expansion Port	2*PCIe3.0X16+1*PCIe3.0X8; 1*M.2 22110/2280 M-Key (PCIe3.0X4) , 1*M.2 2280 M-Key (PCIe3.0X4)	2*PCIe5.0X16+1*PCIe5.0X8; 2*M.2 22110/2280 M-Key (PCIe4.0X2) , NVMe; 3*MCIOX8(6*PCIe5.0X4 NVMe)	6*PCIe3.0X16+1*PCIe3.0X8(X4); 1*M.2 22110/2280 M-Key(PCIe3.0X4)	6*PCIe5.0X16+1*PCIe5.0X8; 1*M.2 22110/2280 M-Key(PCIe4.0X4); 3*MCIO(PCIe5.0X8,6*NVMe)
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Power Supply

Input voltage & TDP	550W/800W/1200W/1600W; 1+1 hot swap redundant power supply	550W/800W/1200W/1600W; 1+1 hot swap redundant power supply	550W/800W/1200W/1600W/2000W/2200W; 1+1 hot swap redundant power supply	550W/800W/1200W/1600W/2000W/2200W; 1+1 hot swap redundant power supply
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Mechanical

Structure	Imported SGCC hot dip galvanized steel sheet, 19-inch rack 2U standard	Imported SGCC hot dip galvanized steel sheet, 19-inch rack 2U standard	Imported SGCC fingerprint resistant galvanized steel, 19-inch rack 4U standard	Imported SGCC fingerprint resistant galvanized steel, 19-inch rack 4U standard
Dimension (W*H*D)	442*447*87mm	442*447*87mm	645*445*176.5mm	645*445*176.5mm
Net weight	TBD	TBD	18KG	18KG

Environmental

Operating temp.	0~50°C	10~35°C	0~60°C	5~35°C
Storage temp.	-20°C~75°C	-40°C~70°C	-20°C~75°C	-40°C~65°C
Storage humidity	5~95%@40°C, Non-condensation	5~95%@40°C, Non-condensation	5~95%@40°C, Non-condensation	5~95%@40°C, Non-condensation
Vibration	TBD	TBD	TBD	TBD
Shock	TBD	TBD	TBD	TBD

Certification /EMC

	CCC/CE/FCC Class A	CCC/CE/FCC Class A	CCC/CE/FCC Class A	CCC/CE/FCC Class A
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OS

	Windows Server 2012/2008 R2(64-bit) , Windows SBS 2011(64-bit), Red Hat Enterprise Linux Server(32/64-bit), Suse Enterprise Linux Server(32/64-bit), Ubuntu Server(32/64-bit)	Windows Server 2012/2008 R2(64-bit) , Windows SBS 2011(64-bit), Red Hat Enterprise Linux Server(32/64-bit), Suse Enterprise Linux Server(32/64-bit), Ubuntu Server(32/64-bit)	Windows Server 2012/2008 R2(64-bit) , Windows SBS 2011(64-bit), Red Hat Enterprise Linux Server(32/64-bit), Suse Enterprise Linux Server(32/64-bit), Ubuntu Server(32/64-bit)	Microsoft Windows Server, Microsoft Hyper-V Server, Red Hat Enterprise Linux, SUSE Linux Enterprise Server, CentOS, Ubuntu, Oracle Linux, VMware ESXi, Citrix XenServer
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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*PowerLED; 1*HDD LED; 3*CPU Temp LED(Red is alarm, Yellow is high temp, Green is normal temp)
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

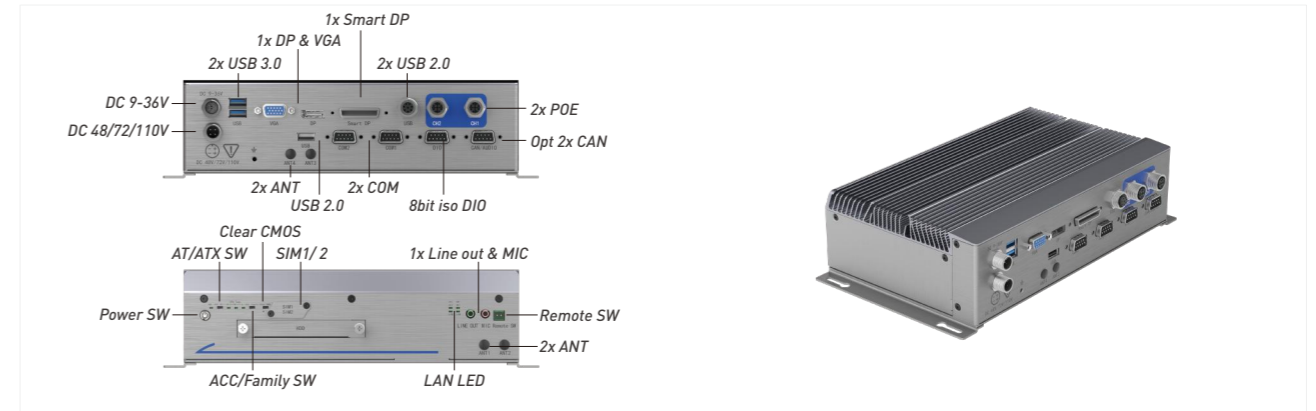
Mechanical

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

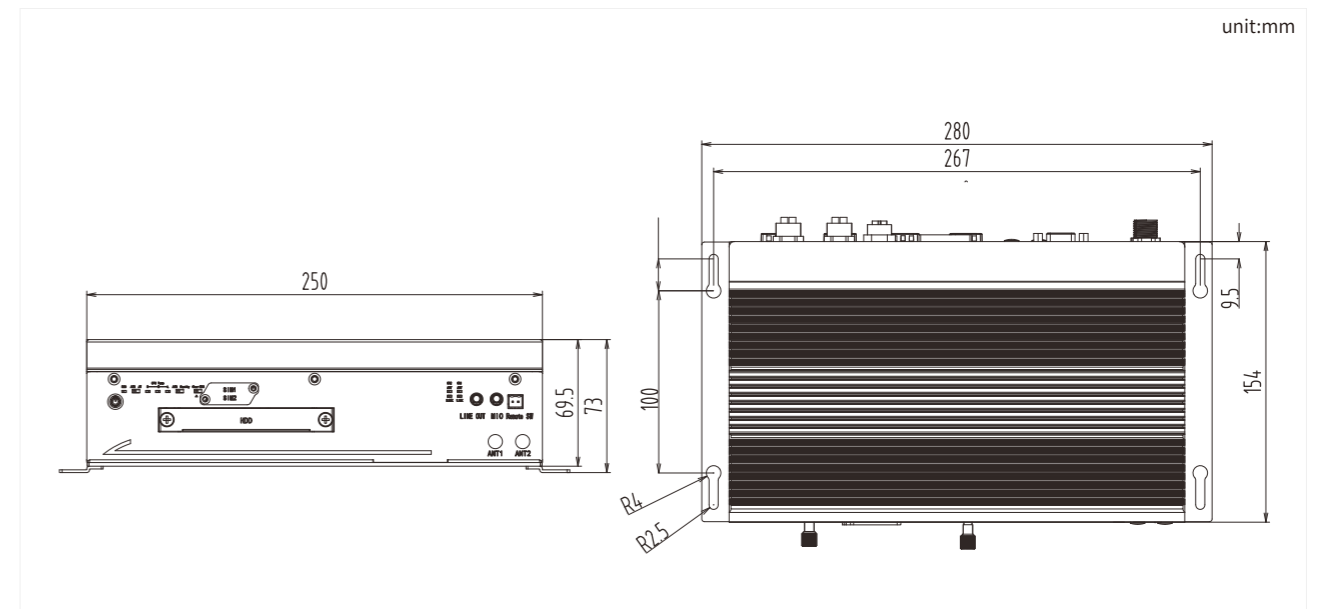
Environmental

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

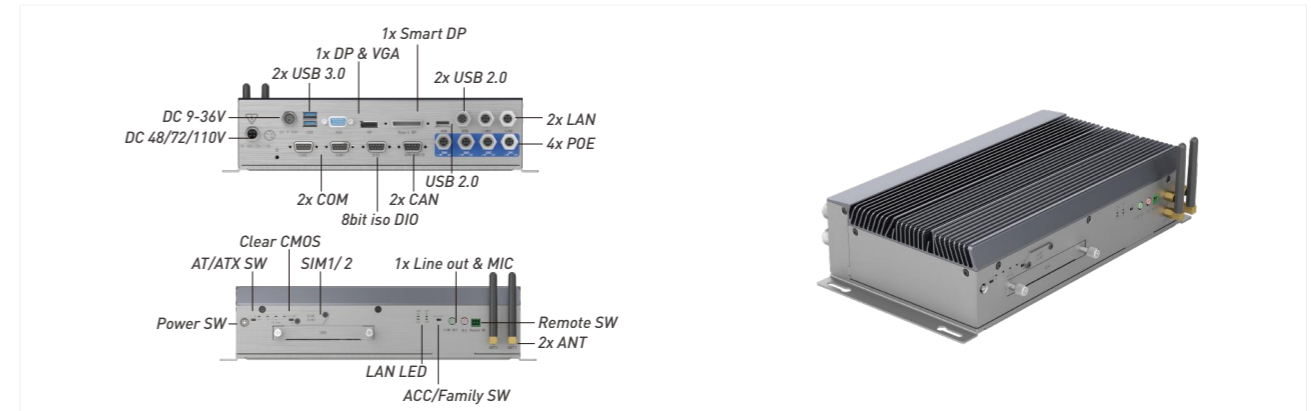
Intel® Skylake/Kabylake-U CPU, 2*LAN, 4*POE, 2*USB3.0, DP, VGA, Smart Display, 2* isolation COM, 8-bit isolated DIO, EN50155 certification

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

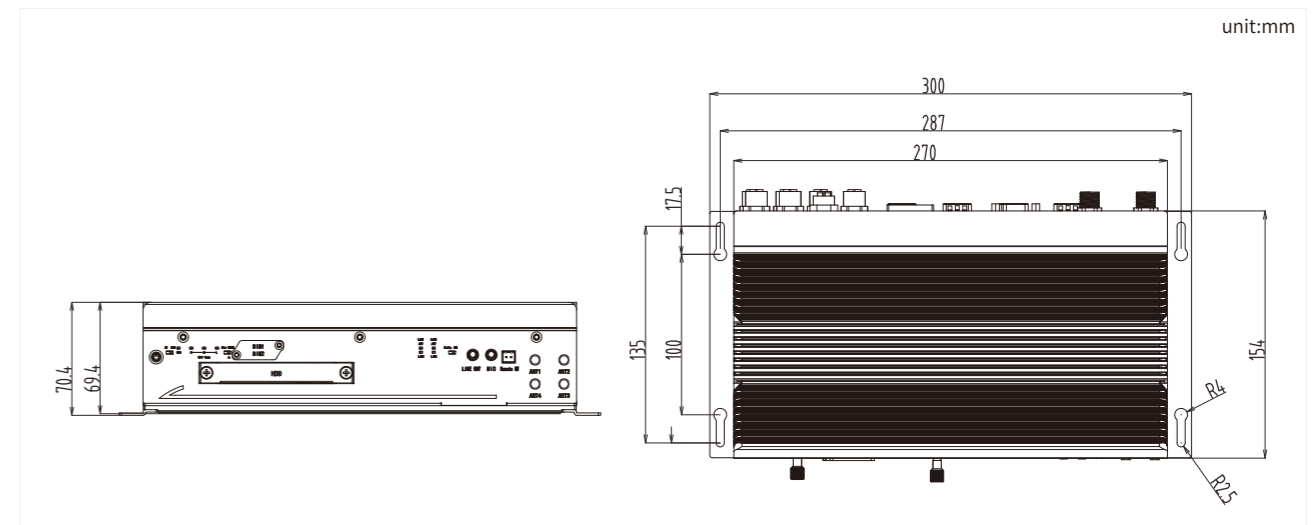
SIGM-3250 is a fanless rugged in-vehicle computer, powered by Intel® Skylake/Kabylake-U processor, supports dual 4G VPN/Wifi/BT/GPS and other wireless functions, DC 9~36V wide voltage power supply, ITPS power management and optional railway power input DC48/72/110V. Certified with E-mark and EN50155, 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*PowerLED; 1*HDD LED; 3*CPU Temp LED(Red is alarm, Yellow is high temp, Green is normal temp)	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

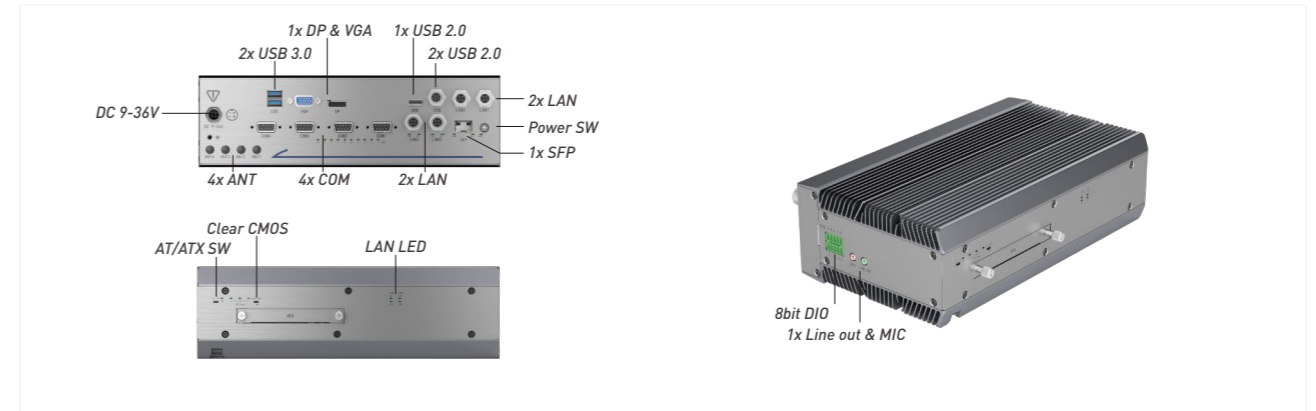
CPU	Intel® Skylake/Kabylake-U CPU Core i3/i5/i7 series CPU
AI Chipset	MLU220 8TOPS(INT8),4GB RAM, TDP8.5W
RAM	DDR4, 2133MHz, 1 onboard storage 4/8GB+1*LPDDR4 4GB, max 16GB
Expansion	2*Mini PCIe, with dual SIM slot, support dual 4GLTE/Wifi/BT/GPS 1*Mini PCIe, with USB signal, optional mSATA 1*Mini PCIe, 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
LED	1*PowerLED; 1*HDD LED; 3*CPU Temp LED(Red is alarm, Yellow is high temp, Green is normal temp)

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

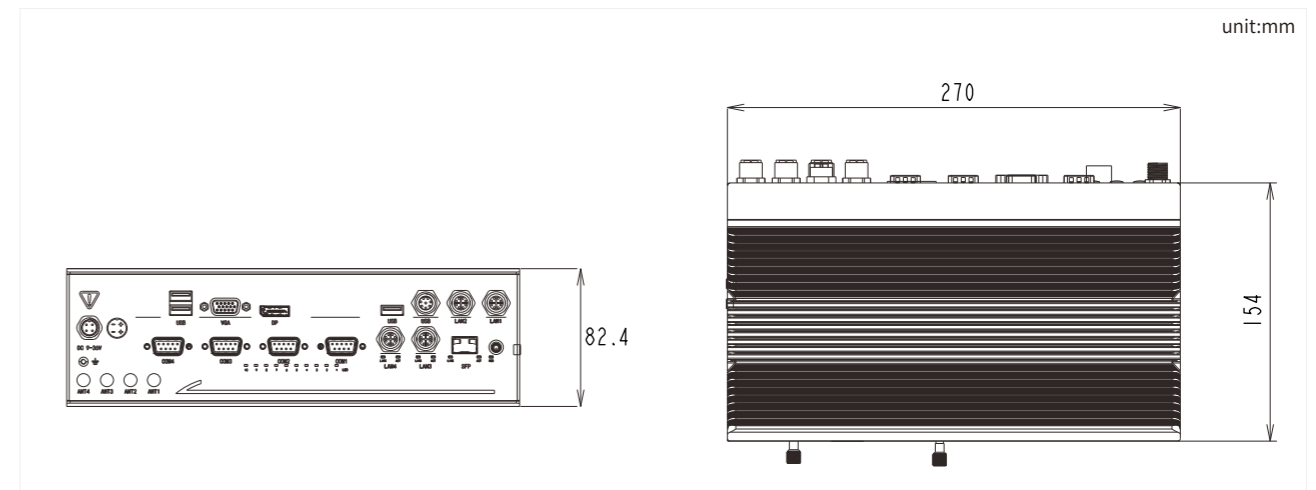
Mechanical

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)

SIGM-U1350

Intel® Skylake/Kabylake-U CPU, MLU-220T-MXM, 1*DP, 1*VGA, 5*USB, 2*LAN, 1*SATA, 1*COM, 4*Mini PCIe, DC 110V

Key Specification

- Intel® Skylake/Kabylake-U CPU
- 2-Ch DDR4, On-board 4G+SODIMM, 20GB max.
- 1*DP, 1*VGA, 1*Smart Display, 3 display
- 2*LAN(M12), 5*USB(2*M12), built-in dongle interface
- 1*CONSOLE RS232(RJ45)
- 1*SATA3.0 2.5", 1*mSATA(Optional)
- 4*Mini PCIe(1*mSATA), support GPS/WiFi/LTE/4G
- MLU220T-MXM, 16TOPS
- EN50155, E-Mark certification, support TPM2.0
- Railway power input DC 110V (43V~ 160V)



Product Overview

SIGM-U1350 is a standard 1U rack mount fanless and rugged in-vehicle computer, powered by Intel® Skylake/Kabylake-U processors and equipped with the MLU220T-MXM module. It supports wireless functions such as dual 4G, global network VPN, Wifi, BT, and GPS, and features a wide voltage of DC 110V (43-110V). The product is EN50155 certified and suitable for road vehicles and intelligent rail transit systems.

Product Parameters

System

CPU	Intel® Skylake/Kabylake-U Corei3/i5/i7 CPU
AI Chipset	Optional MLU220T MXM 16TOPS(INT8)
RAM	2-ch DDR4, 2133MHz, onboard 4GB +1*SODIMM, 4+16GB max.
Graphics	Intel® Gen. 9 HD Graphics, DP:4096*2160@60Hz, Smart Display:1920*1200@60Hz, VGA:1920*1200@60Hz, 3 independent display
LAN	2*Intel® I210AT, 10-1000M(2*M12)
Audio	/
Storage	1*2.5" HDD SATA bay; 1*mSATA full size(SATA/USB)
I/O Port	2*Gig-LAN (M12 X-Coded) 2*USB3.0 Type A, 2*USB2.0 (M12 A-Coded), 1*USB2.0 Type A 1*Console RS232 (RJ45)
LED	1*PowerLED; 1*HDD LED; 3*CPU Temp LED(Red is alarm, Yellow is high temp, Green is normal temp)
Switches	1*Power, 1*Remote(2-pin), 1*AT/ATX, 1*Clear CMOS
Watchdog timer	Programmable timeout interruption period or system reset from 1 to 255 secs
OS	Linux, Windows 7(SKL-U 32/64; KBL-U 64), Windows 10 64bit(Windows does not support MLU220)

Expansion	2*Mini PCIe(+SIM), 4G LTE/GSM/Wifi/BT/GPS 1*Mini PCIe(USB),mSATA 1*Mini PCIe(USB)
Power& TDP	Railway power module: DC 110V(43-160V), 4-pin(M12); 12V/2.33A(Non MLU220T); 12V/3.71A(with MLU220T)

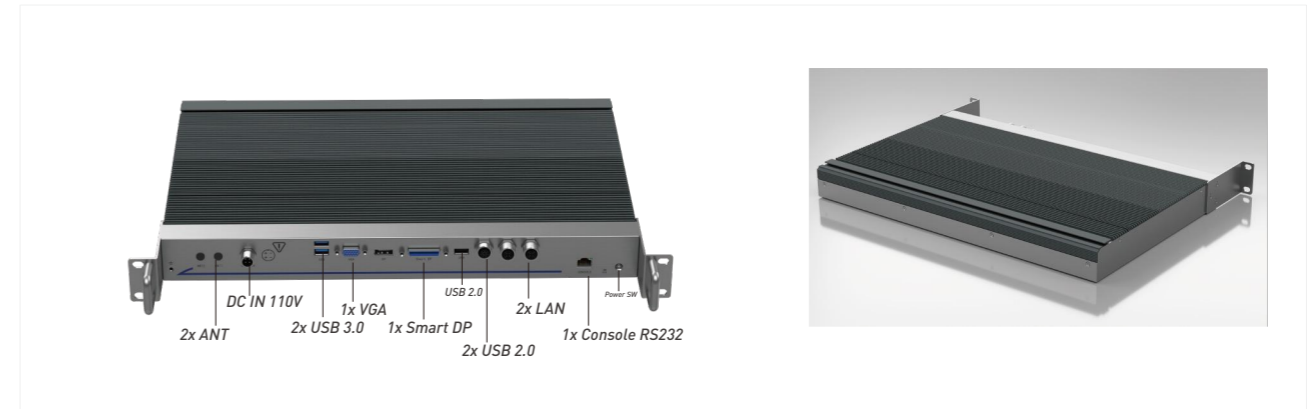
Mechanical

Structure	Aluminum chassis, stainless steel frame
Color	Silver gray
Installation Method	Rack installation
Dimension (W*H*D)	430*44.5*283mm
Weight	4.69KG

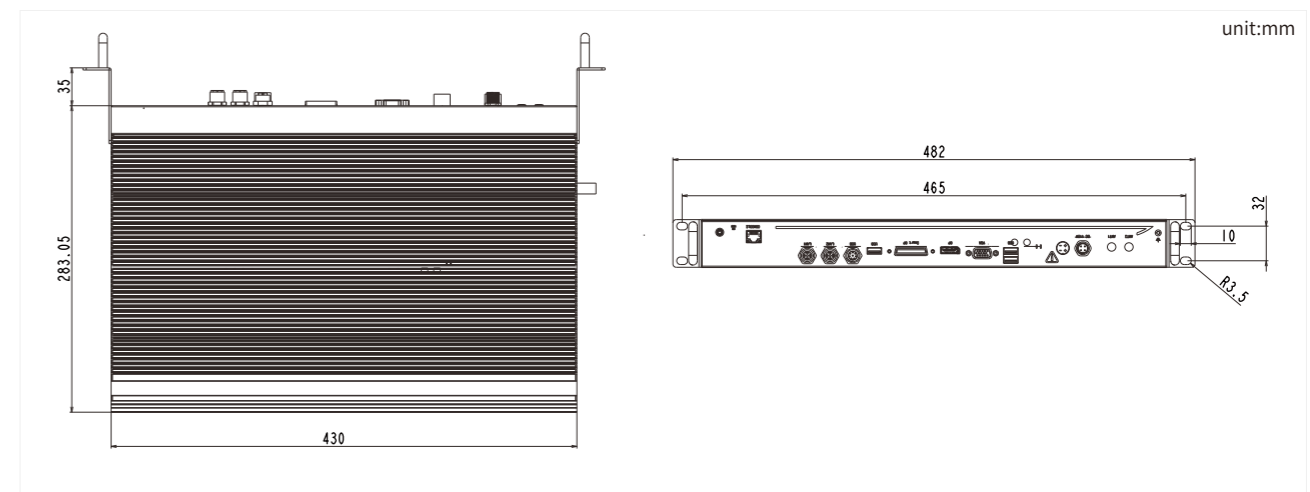
Environmental

Operating temp	EN50155:2017 TX: -40~70°C
Storage temp	-40°C~85°C
Storage humidity	10~95%@40°C, No-condensation
Vibration	MIL-STD-810G, EN50155
Shock	MIL-STD-810G, EN50155
Certification /EMC	EN50155: 2017 & E-Mark & CE & FCC Class A

I/O View



Dimensions



Ordering information

Model	Processor	Specifications
SIGM-U1350/S001	Intel® I3-6100U/I3-7100U	On board 4GB+1*SODIMM DDR4 2*LAN, 2*USB3.0, 5*USB2.0, 1*COM(RJ45), 3*Mini PCIe, 1*DP, 1*VGA, 1*Smart Display, 1*mSATA, 1*SATA3, DC110V(43V~ 160V)
SIGM-U1350/S002	Intel® I5-6200U/I5-7200U	
SIGM-U1350/S003	Intel® I7-6500U/I7-7500U	
SIGM-U1350/S004	Intel® 3855U/3865U	
MXM 3.1 GPU	Optional Cambricon MLU220T-MXM	
M12A-4P DC Cable	DC cable with M12 A-Code Female 4 pin connector to bare wire, PVC Multicore Cable, 100cm	
M12A-4P 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 Cable	Internet cable with M12 X-Code Male 8 pin connector to RJ45 crystal head connector, PVC Multicore Cable, 180cm	

SIGM-U3550

3U CPCI-S.0 R2.0 Enclosure, 3U CPCI-S.0 R2.0 Processor Blade , Intel Coffee lake-H CPU, 9-slot CPCI-S. 0 Backplane, 1+1 redundant 300W PSU, Intelligent Cooling design

Key Specification

- PICMG CompactPCI Serial(CPCI-S.0R2.0) standard
- 3U 84HP Enclosure with 9-slot CPCI-S.0 backplane and
- 2-slot power backplanes
- Intel®Coffee Lake-H CPU+CM246 PCH Processor Blade
- On-board 8G DDR4+1*DDR4 SODIMM, Ram. up to 40G
- 1*DP+1*HDMI, 2 display, 4*G-LAN, 2*USB3.1
- 1*mSATA, optional 4*2.5"SATA3.0 Storage Blades
- 8*3U CPCI-S.0 standard expansion slots
- 1+1 Redundant rail-way standard ultra-wide voltage
- 300W power supply DC 16.6~160V
- 3*12025 double Ball Bearing temperature control Fans,
- 1U chassis easy-plug design
- EN-50155:2021 certification



Product Overview

SIGM-U3550 is a 4U rack-mounted in-vehicle system conforms to the PICMG CompactPCI Serial standard. 3U Enclosure with 9-slot CPCI-S.0 backplane, 1 system slot and 8 expansion slots, 2 power supply slots. Standard with Intel Coffee Lake-H+CM246 3U CPCI-S.0 Processor blade, 2*PCIeX8, 2*PCIeX4, 2*PCIeX1, 2~4*2.5" SATA drive bay, memory on-board, 4*LAN, 1+1 redundant ultra-wide DC 16.6-160V 300W PSU. Aviation-grade reliability, suitable for rail-way and ship transportation, aviation, telecommunications and industrial automation. and other fields.

Product Parameters

System

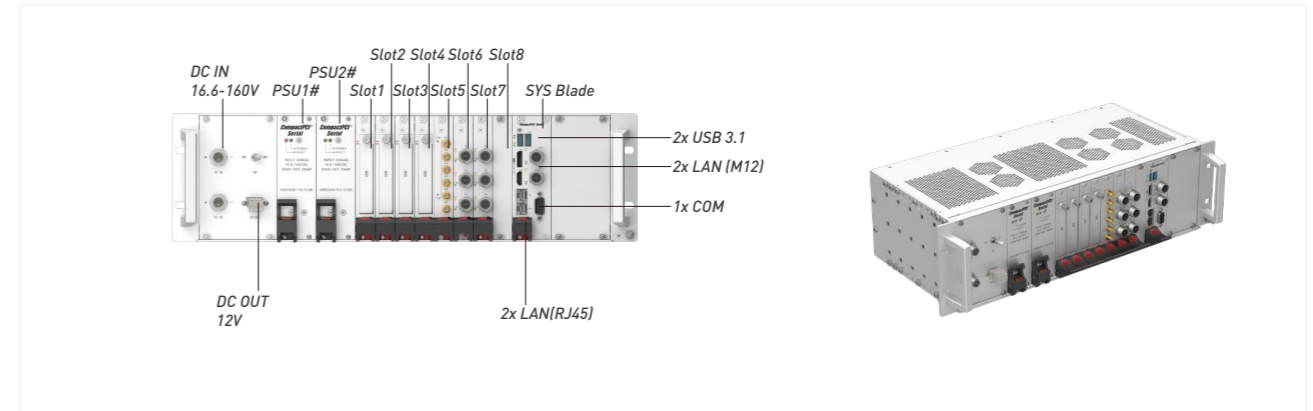
CPU	Intel Coffee lake-H Core I3/I5/I7/Xeon CPU, TDP 25W or 45W
RAM	Dual-channel DDR4, On-board 8GB+ 1*SODIMM, 8+32GB max.
Expansion	Slot7&8: 1*PCIe3.0X8(CPU)+1*USB3.1+1*USB2.0+1*G-LAN; Slot6: 1*PCIeX4+1*USB3.1+1*USB2.0, 1*G-LAN; Slot5: 1*PCIeX4+1*USB3.1+1*USB2.0; Slot3&4: 1*PCIeX1+SATA3.0+1*USB2.0; Slot1&2: 1*SATA3.0+1*USB2.0; Slot9(System): 2*PCIeX8+2*PCIeX4+2*PCIeX1+4*USB3.1+4*SATA3.0+8*USB2.0+3*G-LAN
LAN	1*Intel I210AT(IT)+1*Intel I219LM(2*RJ45); 2*Intel I210AT(IT)[2*M12]; 3*Intel I210AT(IT)
Graphics	Intel UHD Graphics, Supports DirectX11.1, OpenGL 5.0 and OpenCL 2.1 ; DP:4096*2304@60Hz, HDMI:4096*2160@24Hz, support 2 independent displays
Storage	4*2.5" HDD SATA bay(RAID0/1/5/10); 1*mSATA
I/O Port	4*Gig-LAN +2*USB3.1+ 1*DP+1*HDMI+1*COM(8HP); 3*Gig-LAN(Slot 6/7/8,P6); 4*USB3.1(Slot 5/6/7/8,P1); 8*USB2.0(Slot 1/2/3/4/5/6/7/8,P1)
LED	1*Power LED, 1*HDD LED, 4* Network Connection LED (ACT/LINK), LED are all on the 8HP rear
Switches	AT Power form, 1*Clear CMOS SW
Watchdog timer	programmable via software1 to 255 second

Power& TDP	DC IN: 16.6-160V(rail-way standard isolated PSU ,4-pin M12); (opt. 1+1 dual redundant PSU); TDP: TBD
OS	Windows 10/11 Enterprise & IOT Enterprise, Ubuntu, SUSE, Redhat Enterprise , VxWorks
Mechanical	
Structure	Aluminum alloy mold, conductive oxidation process
Color	Silver + Grey
Installation	Desktop/Rack Mounting
Dimension (W*H*D)	482.6*248.2*133mm(w kits) ,435.8*208.5*133mm(n kits)
Weight	TBD

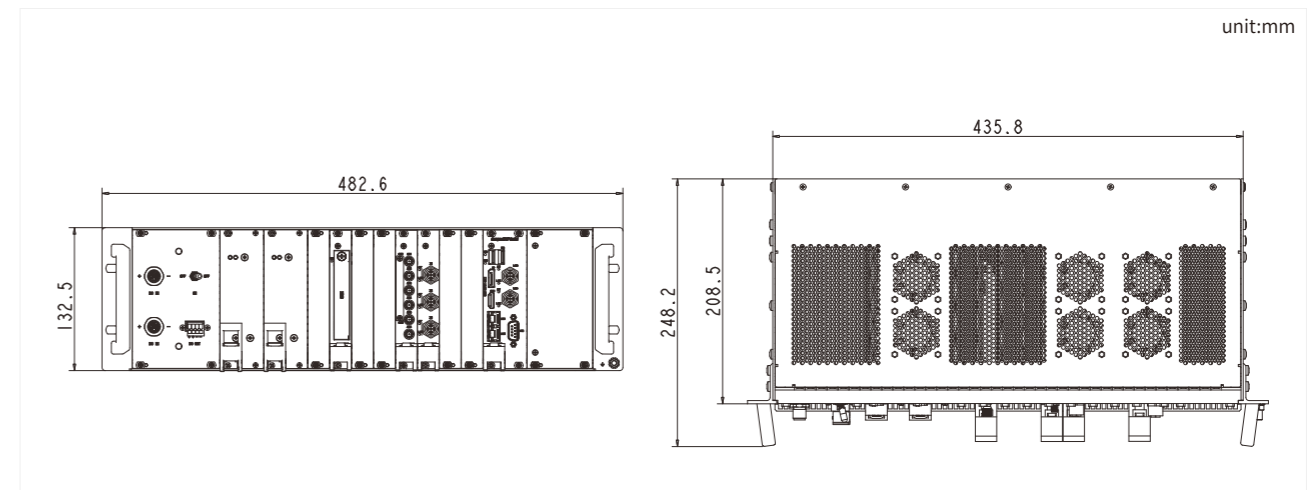
Environmental

Operating temp.	EN50155 QT3: -25~70°C(25W CPU); QT1: -25~55°C(45W CPU)
Storage temp.	-40°C~85°C
Storage humidity	10~95%@40°C, Non-condensing
Vibration	MIL-STD-810G, EN50155:2021
Shock	MIL-STD-810G, EN50155:2021
Certification/EMC	EN50155: 2021 & CE/FCC Class A

I/O View



Dimensions



Ordering information

Model	Processor	Specifications
SIGM-U3550/S001	Intel Core I3-9100HL	3U CPCI-S.0 R2.0 Enclosure+1U Fan Chassis, Intel CM246 PCH+Coffee Lake H CPU,on-board DDR4 8GB+1*SODIMM, 1*DP+1*HDMI, 4*G-LAN, 2*USB3.1, 1*RS232/422/485, 1*mSATA, 8*3U CPCI-S.0 expansion slot,1+1 redundant power slot, default 1*300W PSU DC IN 16.6-160V.
SIGM-U3550/S002	Intel Xeon E-2254ME	
SIGM-U3550/S003	Intel Core I7-9850HE	
CPCIs-282	3*Intel I210AT(IT)Gig. chip, IEEE 802.3af (15.4W/48V), M12 X-Code CPCI-S.0 3U	
CPCIs-283	2.5"SATA3.0 easy-plug design drive bay, CPCI-S.0 3U	
CPCIs-284	2*Full size Mini PCIe (w/SIM), 1*M.2 2230 E-Key, 1*M.2 3052 B-Key w/SIM, CPCI-S.0 3U	
OFX-DC300DC12V	DC 16.6-160V input, DC 12V&5VSB output, 300W PSU, CPCI-S.0 Peripheral Blade	
M12A-4P DC Cable	cable with M12 A-Code Female 4 pin connector to bare wire, PVC Multicore Cable, 4-wires 18AWG PVC, non LSZH cable, 100cm	
M12X-8P LAN/POE Cable	Internet cable with M12 X-Code Male 8pin connector to RJ45 crystal head connector, 8-wires CAT6,LSZH cable,180cm	
PA-300DC48-M12A-4P	AC-DC power supply, DC48V@7.32A ,85-305V AC input, DC 48V output, wide temperature fanless, 300W (non LSZH cable, no in-vehicle certification)	

SIGM-3555

Intel® Comet lake Celeron/Pentium/Core™ i9/i7/i5/i3 CPU,11*LAN, 8*USB, 4*COM, 2*CAN, 3*M.2, 8 bit DIO, DC110V

Key Specification

- Intel® Comet lake 10th-Gen Celeron/Pentium/Core™ i9/i7/i5/i3 CPU
- Aluminum frame, fan-less
- 3*2.5G-LAN+8*Gig-LAN with POE function
- 8-bit DIO, 4*USB3.0, 2*USB3.0, 2*USB2.0, 4*COM
- 2*CAN, supports both CAN2.0A and CAN2.0B protocols, conforms to ISO/DIS 11898-1/2/3 standards
- 2*HDMI, 2 independent display
- 3*M.2 supports Gigabit WiFi6, 4G LTE/5G NR
- DC 110V rail-way standard isolated power supply, with reverse connection, overcurrent, overvoltage protection



Product Overview

SIGM-3555 is a high-performance fanless AI edge computing system, equipped with Intel® Comet lake series processors, multi-network ports, multi-display and multi-I/O functions, 110V DC power supply, It is suitable for rail transit, vehicle-road cooperation C-V2X, special vehicle onboard, intelligent security, high-precision machine vision, medical imaging and other industries.

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, 2933MHz, 64GB max.
Expansion	1*M.2 2230 E-key(PCIeX1/USB2.0+CNVio), WiFi6/BT5.0; 1*M.2 3052 B-key, PCIeX1/USB2.0+SIM, 5G NR/4G LTE; 1*M.2 2280 M-Key(PCIex4), NVME/PCIe module
LAN	3*Intel I226V,10M-2.5G, iAMT 13.0, vPro(Core I5/I7/I9 CPU); 8*Intel I210AT, IEEE 802.3af (15.4W/48V);
Graphics	Intel UHD Graphics, Supports DirectX12, OpenGL 4.5; HDMI:4096*2304@24Hz, HDMI:4096*2304@24Hz
Storage	1*2.5" HDD SATA (RAID0/1); 1*M.2 2280 M-Key(PCIe4X4), NVMe
I/O Port	F:3*2.5G-LAN;8*POE LAN (M12) ;4*USB3.2(10G); 2*USB3.0; 2*SIM; B:2*USB2.0;2*RS232/422/485(DB9); 2*RS485 (DB9); 1*8-bit DIO (2*5Pin); 2*CAN(2*5Pin);1*Line out+1*Mic (3.5mm);
LED	1*Power LED, 1*HDD LED, 3*CPU Temp. LED
Switches	1* Power w/LED,1*Remote SW, 1*F-panel, AT-ATX, Clear Cmos
Watchdog timer	programmable via software1 to 255 second

Power& TDP	DC IN: 110V(rail-way standard isolated power supply , ±40%), maximum output power 250W; TDP: 110W(I7-10700 CPU)
OS	Windows 10 IoT Enterprise (64-bit), Windows 11 IoT Enterprise (64-bit), Windows Server 2019, Ubuntu, SUSE, Redhat Enterprise, Wind River Linux, Yocto Project (64-bit), Wind River VxWorks 7

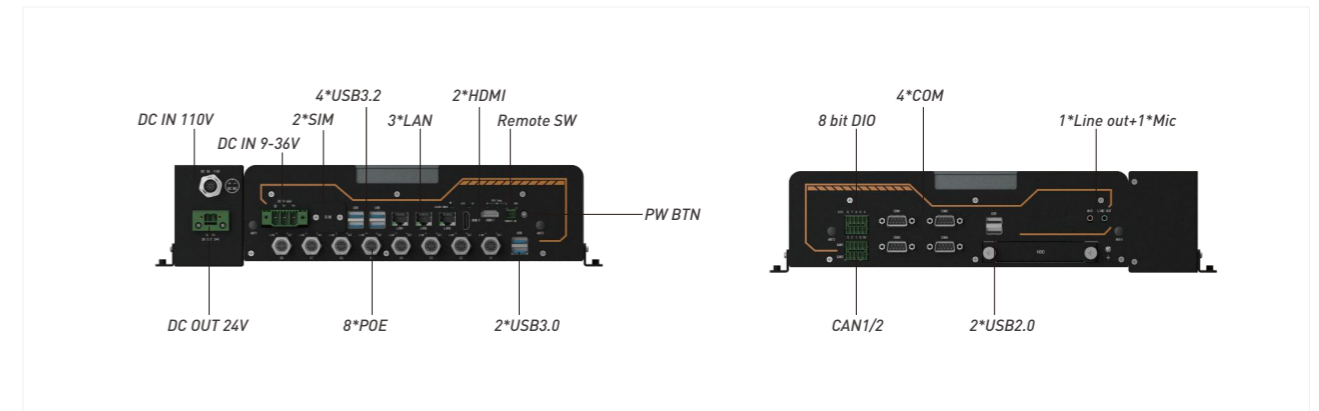
Mechanical

Structure	Aluminum-magnesium alloy, SGCC frame
Color	Black
Installation	Desktop Mounting
Dimension (W*H*D)	374*246*85mm(w kits) , 342*222*85mm(n kits)
Weight	7.76KG

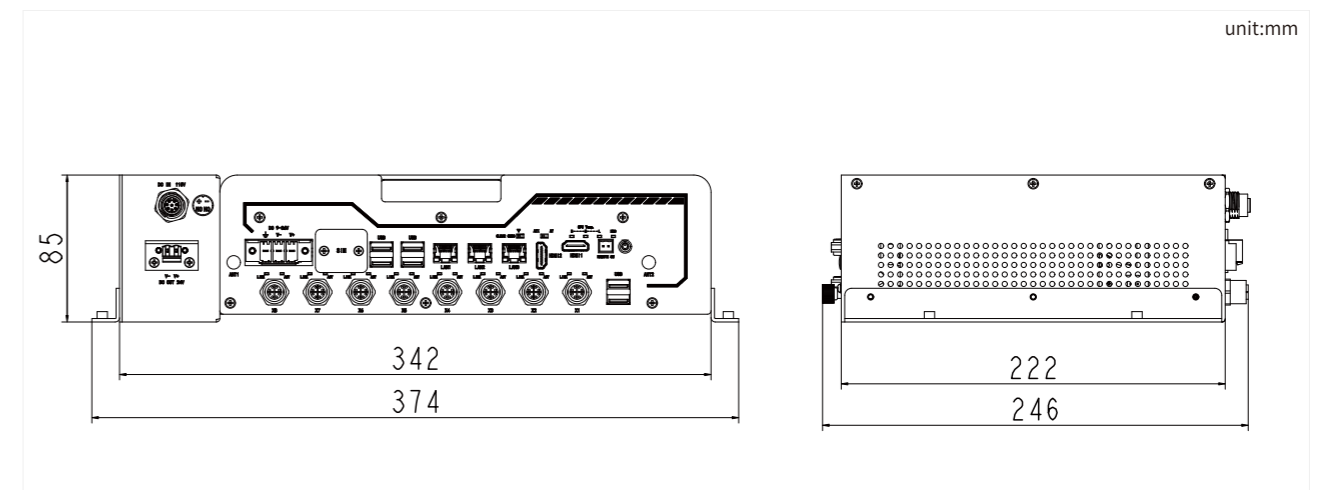
Environmental

Operating temp.	EN50155 QT1: -25~55°C (TDP 35W CPU, airflow)
Storage temp.	-40°C~85°C
Storage humidity	10~95%@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	EN50155: 2021 & CE/FCC Class A

I/O View



Dimensions



Ordering information

Model	Processor	Specifications
SIGM-3555/S001	Intel® Comet lake 10th-Gen Celeron/Pentium/Core™ i9/i7/i5/i3 CPU	Intel Q470 PCH, Intel CML LGA1200 CPU, 4*USB3.2, 2*USB3.0, 2*USB2.0, 4*COM, 8*POE, 2*CAN 1*M.2 E-Key, 1*M.2 B-Key, 2*HDMI, 1*MIC+1*Audio-out, 1*M.2 M-Key, 1*2.5" SATA bay, DC 110V rail-way standard isolated power supply
M12X-8P LAN/POE Cable	LAN cable, M12 X-Code Male 8pin connector to RJ45 , 8-core CAT6, LSZH cable, 180cm	
PA-300DC48-M12A-4P	AC-DC power supply, DC48V@7.32A,85-305V AC input, DC 48V output, wide temp. fanless, 300W (non LSZH cable, no in-vehicle certification)	

ICS-2010

2U dual-channel server, Intel Xeon 2nd-gen scalable series processors,

2x2.5" hot swap drive bay, 3xPCIe slots, 1 VGA, 1xCOM, 4xUSB3.0, 2xLAN, 1xIPMI, support for different power redundancy power supply.

Key Specification

- 1/2 Intel Xeon Gen2 Scalable series processors
- 16*DDR4, 2133/2400 /2666/2933 MHz ECC LRDIMM /RDIMM
- 2*2.5" hot-swap hard drive bay
- Supports 2*PCIe3.0X16, 1*PCIe3.0X8
- 4*USB3.0, 1*VGA, 1*COM, 2*LAN, 1*IPMI
- 3*8038 hot swap high-speed fan
- In line with OTII standard
- 100-240V input, 550/800/1200/1600W 1+1 redundant power supply



Product Overview

ICS-2010 is a dual-channel edge computing server, equipped with 1 or 2nd-gen Intel® Xeon extensible series processors, C621 chipsets, 16 ECC LRDIMM/RDIMM DDR4 memory slots, 2 M.2 ports, 2 Gigabit network ports, 1 management network port, 3 PCIe expansion slots. It supports a maximum of 2 full-height double-width GPU cards, which is oriented to the 5G edge server market and meets OTII standards, and is very suitable for inference servers in the edge AI field.

Product Parameters

System

CPU 1/2 Gen2 Intel® Xeon® Scalable Processors, Intel® C621 PCH

RAM 16*DDR4, 2933MHz ECC LRDIMM/RDIMM LRDIMM:4T (16*256GB); RDIMM:2T (16*128GB)

Expansion 2*PCIe3.0X16+1*PCIe3.0X8; 1*M.2 22110/2280 M-Key (PCIe3.0X4), 1*M.2 2280 M-Key (PCIe3.0X4)

LAN 2*Intel I210AT 10M-1000M; 1*IPMI2.0, Aspeed AST2500 BMC

display VGA: 1920*1200@60Hz,

Storage 2*2.5" SAS/SATA3.0, RAID0, 1

I/O Port F: 2*USB3.0; B: 1*VGA, 1*COM, 2*USB3.0, 1*IPMI (RJ45), 2*LAN (RJ45)

LED 1*Power LED, 1*ERROR LED, 1*HDD LED, 2*NIC network LED

Switches 1*Power SW, 1*RST, 1*UID

Watchdog timer programmable via software 1 to 255 second

Power& TDP 550W, 800W, 1200W, 1600W, 1+1 hot swap redundant power supply

OS Windows Server 2012/2008 R2(64-bit), Windows SBS 2011(64-bit), Red Hat Enterprise Linux Server(32/64-bit), Suse Enterprise Linux Server(32/64-bit), Ubuntu Server(32/64-bit)

Mechanical

Structure Imported SGCC hot dip galvanized steel sheet

Color black + silvery

Installation Desktop Mounting

Dimension (W*H*D) 442*447*87mm

Weight TBD

Environmental

Operating temp. 0~50°C

Storage temp. -20°C~75°C

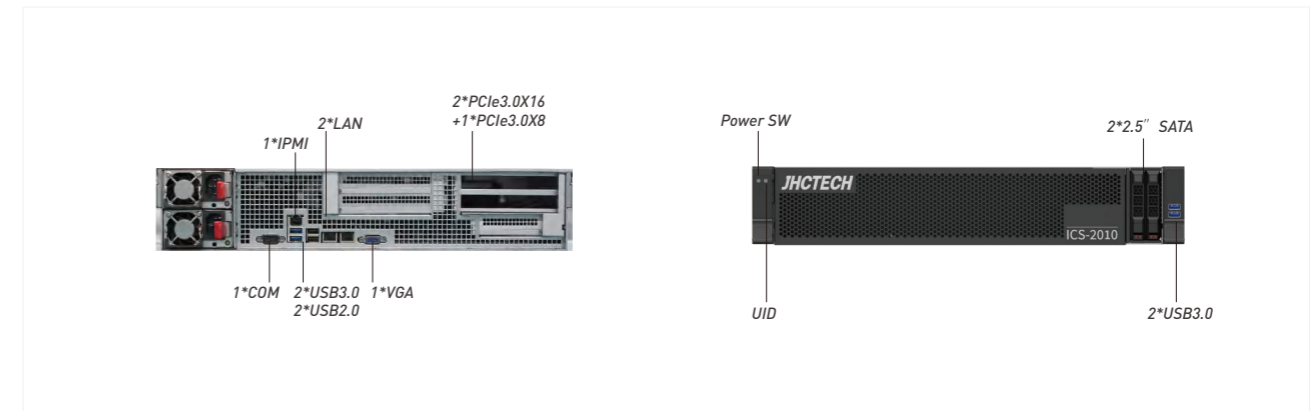
Storage humidity 5~95%@40°C, Non-condensing

Vibration TBD

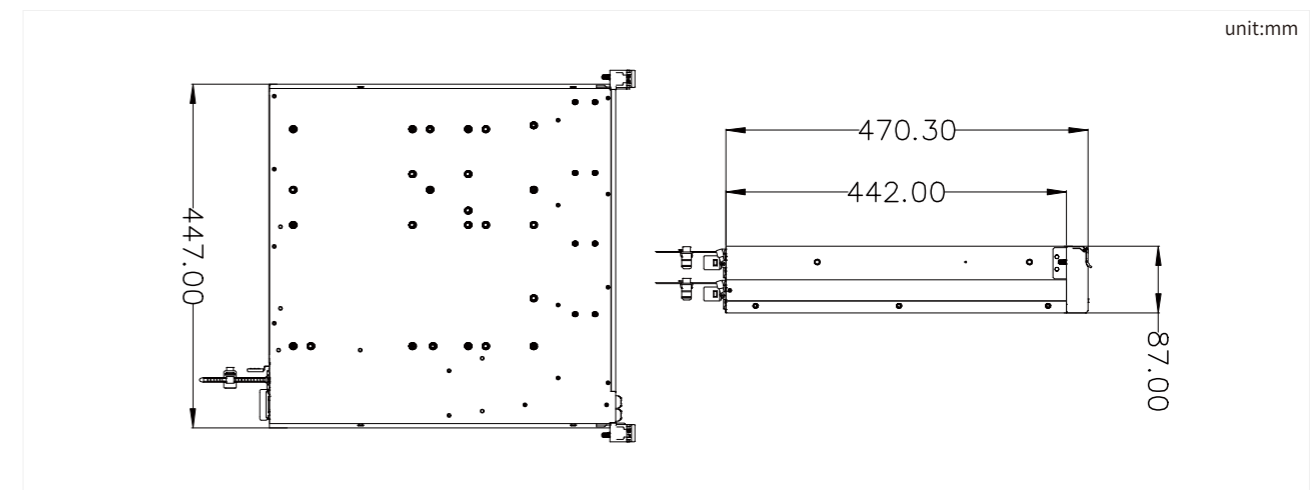
Shock TBD

Certification/EMC CCC/CE/FCC Class A

I/O View



Dimensions



Ordering information

Model	Processor	Specifications	
ICS-2010-S001-1600	1/2 Gen2 Intel® Xeon® Scalable Processors, Intel® C621 PCH	16*DDR4 LRDIMM/RDIMM, 2*LAN, 1*IPMI, 4*USB3.0, 2*USB2.0, 1*COM, 1*VGA, 2*2.5" SAS/SATA bay, 2*PCIe 3.0X16, 1*PCIe3.0X8, 2*M.2(PCIe3.0X4), 3*8038 temperature-controlled fan	1600W, 1+1 redundant power supply
ICS-2010-S001-1200			1200W, 1+1 redundant power supply
ICS-2010-S001-800			800W, 1+1 redundant power supply
ICS-2010-S001-550			550W, 1+1 redundant power supply

ICS-2020

2U dual-channel server, Intel Xeon 4 expandable series processors, 2*2.5" hot swap drive bay, three PCIe expansion slots, 1*VGA, 1*COM, 4*USB3.0, 2*LAN, 1*IPMI, support for different power supply redundancy.

Key Specification

- 1/2 Intel Xeon Gen4 Scalable series processors
- 16*DDR5,5600/5200/4800/4400/4000 MT/s ECC RDIMM(3D),4TB max.
- 2*2.5" hot-swap hard drive bay,
- Supports 2*PCIe5.0X16, 1*PCIe5.0X8
- 4*USB3.0, 1*VGA, 1*COM, 2*LAN, 1*IPMI
- 3*8038 hot swap high-speed fan
- In line with OTII standard
- 100-240V input, 550/800/1200/1600W 1+1 redundant power supply



Product Overview

ICS-2020 is a dual-channel edge computing server, equipped with 1 or 2 4th-gen Intel® Xeon extensible series processors, C741 chipsets, 16 3DS RDIMM/RDIMM DDR5 ECC memory slots, 2 M.2 ports, 2 Gigabit network ports, 1 management network port, 3 PCIe expansion slots. It supports a maximum of 2 full-height double-width GPU cards, which is oriented to the 5G edge server market and meets OTII standards, and is very suitable for inference servers in the edge AI field.

Product Parameters

System

CPU	1/2 Gen4 Intel® Xeon® Scalable Processors, Intel® C741 PCH
RAM	16*DDR5,5600MHz ECC RDIMM(3DS) 4TB max. (16*256GB)
Expansion	2*PCIe5.0X16+1*PCIe5.0X8; 1*M.2 22110/2280 M-Key (PCIe4.0X2), 3*MCIOX8(6*PCIe5.0X4,NVMe)
LAN	2*Broadcom BCM5720,1GBase-T; 1*IPMI2.0, Aspeed AST2600 BMC
display	VGA: 1920*1200@60Hz,
Storage	2*2.5" SAS/SATA3.0,RAID0,1
I/O Port	F:2*USB3.0; B:1*VGA, 1*COM, 4*USB3.0, 1*IPMI (RJ45), 2*LAN (RJ45)
LED	1*Power LED, 1*ERROR LED, 1*HDD LED, 2*NIC network LED
Switches	1*Power SW, 1*RST, 1*UID
Watchdog timer	programmable via software 1 to 255 second

Power& TDP	550W, 800W, 1200W, 1600W, 1+1 hot swap redundant power supply
OS	Windows Server 2012/2008 R2(64-bit), Windows SBS 2011(64-bit), Red Hat Enterprise Linux Server(32/64-bit), Suse Enterprise Linux Server(32/64-bit), Ubuntu Server(32/64-bit)

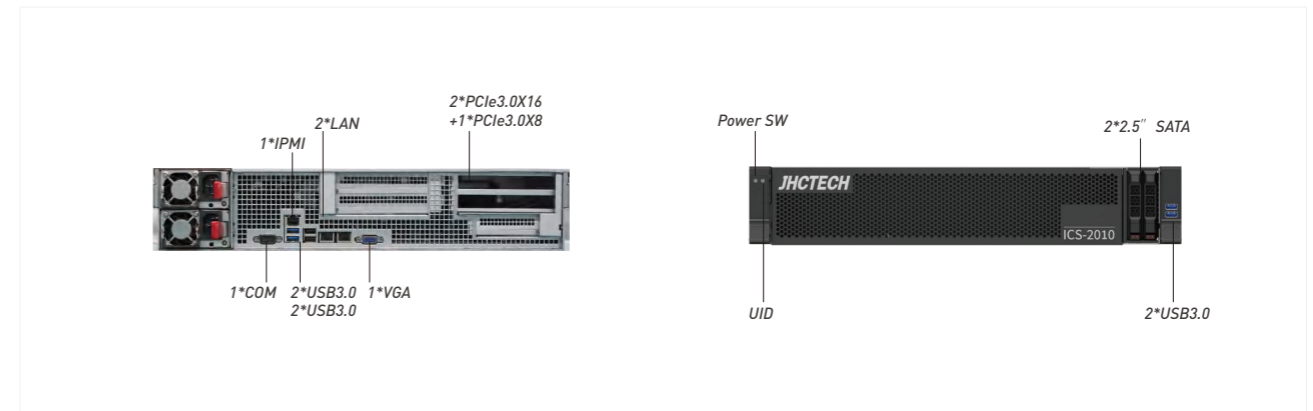
Mechanical

Structure	Imported SGCC hot dip galvanized steel sheet
Color	black + silvery
Installation	Desktop Mounting
Dimension (W*H*D)	442*447*87mm
Weight	TBD

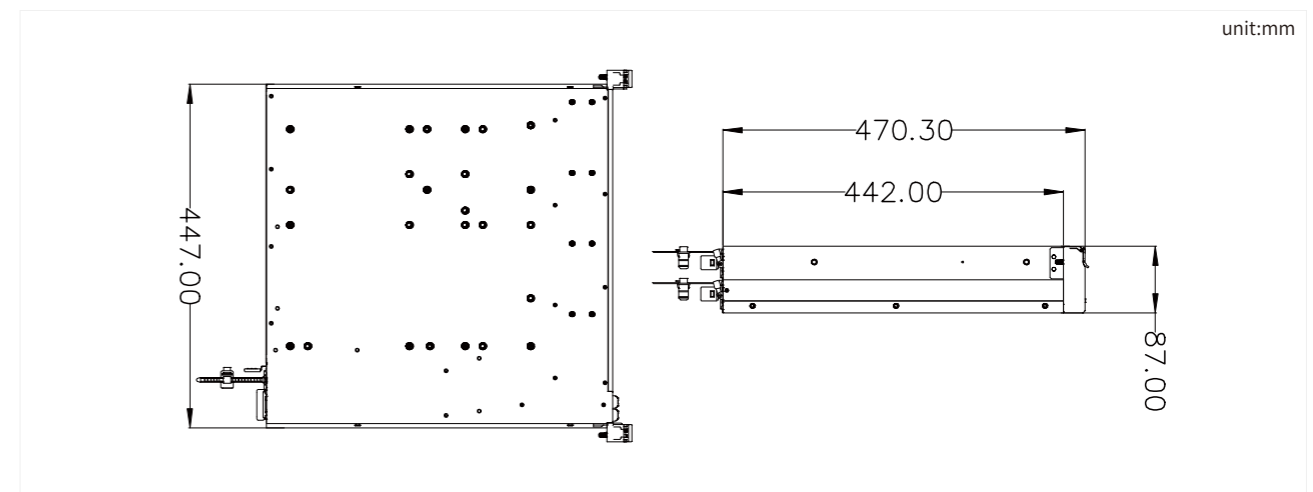
Environmental

Operating temp.	0~50°C
Storage temp.	-20°C~75°C
Storage humidity	5~95%@40°C, Non-condensing
Vibration	TBD
Shock	TBD
Certification/EMC	CCC/CE/FCC Class A

I/O View



Dimensions



Ordering information

Model	Processor	Specifications	
ICS-2020-S001-1600	1/2 Gen4 Intel® Xeon® Scalable Processors, Intel® Q741 PCH	16*DDR5 3DS RDIMM/RDIMM, 2*LAN, 1*IPMI, 6*USB3.0, 1*COM, 1*VGA, 2*2.5" SAS/SATA bay, 2*PCIe 5.0X16, 1*PCIe5.0X8, 2*M.2(PCIe4.0X2), 3*8038 temperature-controlled fan	1600W, 1+1 redundant power supply
ICS-2020-S001-1200			1200W, 1+1 redundant power supply
ICS-2020-S001-800			800W, 1+1 redundant power supply
ICS-2020-S001-550			550W, 1+1 redundant power supply

ICS-4010

4U dual-channel server, Intel Xeon 2 expandable series processors, 2*2.5" hot swap drive bay, three PCIe expansion slots, 1*VGA, 1*COM, 4*USB3.0, 2*LAN, 1*IPMI, support for different power supply redundancy.

Key Specification

- 1/2 Intel Xeon Gen2 scalable series processors
- 16*DDR4, 2133/2400 /2666/2933 MHz ECC LRDIMM /RDIMM,4TB max.
- 8x2.5/3.5" hot-swap drive bay and 2x2.5"SAS/ SATA drive bay(built-in)
- 6*PCIe3.0X16, 1*PCIe3.0X8(X4 signal)
- 4*USB3.0, 2*USB2.0, 1*VGA,1*COM, 2*LAN,1*IPMI
- 4x8038 hot-swap high-speed fan+2x8038 fan module(rear)
- Supports 550/800/1200/1600/2000/2200W 1+1 redundant power supply



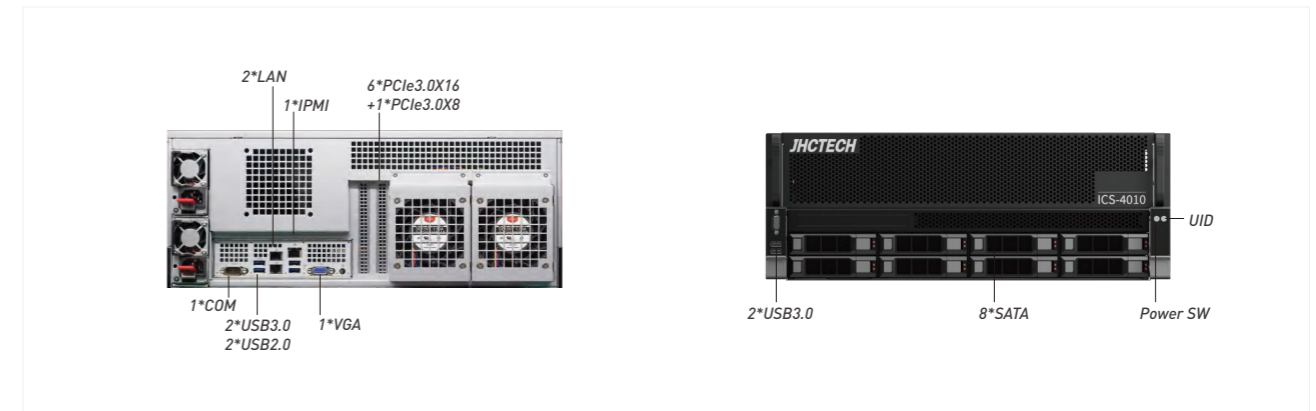
Product Overview

ICS-4010 is a dual-channel edge computing server, equipped with 1 or 2 2nd-gen Intel® Xeon extensible series processors, C621 chipsets, 16 ECC LRDIMM/RDIMM DDR4 memory slots, 1 M.2 ports, 2 Gigabit network ports, 1 management network port, 7 PCIe expansion slots, supports a maximum of four full-height, dual-width GPU cards.It has computing and storage capabilities, suitable for artificial intelligence, virtualization, cloud computing, big data processing, distributed storage, enterprise market or telecom business applications.

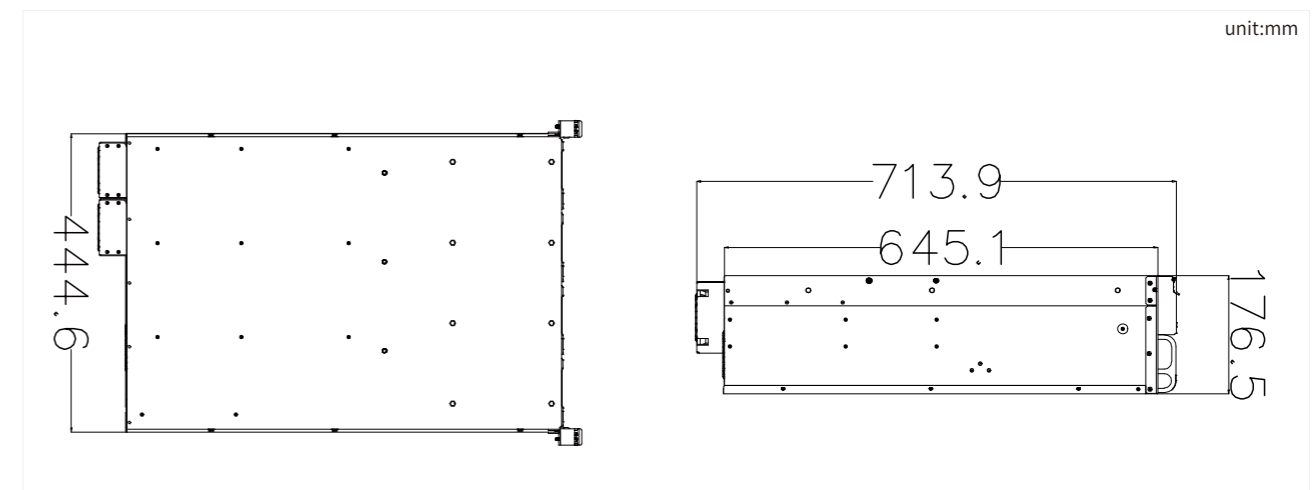
Product Parameters

System	1/2 Gen2 Intel® Xeon® Scalable Processors, Intel® C621 PCH	Power& TDP	550W/800W/1200W/1600W/2000W/2200W, 1+1 hot swap redundant power supply
RAM	16*DDR4,2933MHz ECC LRDIMM/RDIMM LRDIMM:4TB max.(16*256GB); RDIMM:2TB max.(16*128GB)	OS	Windows Server 2012/2008 R2(64-bit) , Windows SBS 2011(64-bit), Red Hat Enterprise Linux Server(32/64-bit), Suse Enterprise Linux Server(32/64-bit), Ubuntu Server(32/64-bit)
Expansion	6*PCIe3.0X16+1*PCIe3.0X8(X4); 1*M.2 22110/2280 M-Key (PCIe3.0X4)	Mechanical	
LAN	2*I210AT,10M-1000M; 1*IPMI2.0, Aspeed AST2500 BMC	Structure	Imported SGCC hot dip galvanized steel sheet
display	VGA: 1920*1200@60Hz,	Color	black + silvery
Storage	8*2.5" SAS/SATA3.0,hot swap hard drive bay,RAID0,1, 5, 10; 2*2.5" SAS/SATA hard drive bay	Installation Dimension (W*H*D)	Desktop Mounting 645*445*176.5mm
I/O Port	F:2*USB3.0; B:1*VGA, 1*COM, 2*USB3.0, 2*USB2.0,1*IPMI (RJ45) , 2*LAN (RJ45)	Weight	TBD
LED	1*Power LED, 1*ERROR LED, 1*HDD LED, 2*NIC network LED	Environmental	
Switches	1*Power SW, 1*RST, 1*UID	Operating temp.	0~50°C
Watchdog timer	programmable via software1 to 255 second	Storage temp.	-20°C~75°C
		Storage humidity	5~95%@40°C, Non-condensing
		Vibration	TBD
		Shock	TBD
		Certification/EMC	CCC/CE/FCC Class A

I/O View



Dimensions



Ordering information

Model	Processor	Specifications	
ICS-4010-S001-2200	Intel®Xeon Gen2 Scalable series processors Intel® C621 PCH	16*DDR4 LRDIMM/RDIMM, 2*LAN, 1*IPMI, 4*USB3.0, 2*USB2.0, 1*COM, 1*VGA, 8*3.5/2.5"SAS/SATA bay, 2*2.5"SAS/SATA bay(built-in) , 6*PCIe 3.0X16, 1*PCIe3.0X8(X4 signal), 2*M.2(PCIe3.0X4), 4x8038 temperature control fan+2x8038 fan module(rear)	2200W, 1+1 redundant power supply
ICS-4010-S001-2000			1600W, 1+1 redundant power supply
ICS-4010-S001-1600			1200W, 1+1 redundant power supply
ICS-4010-S001-1200			800W, 1+1 redundant power supply
ICS-4010-S001-800			800W, 1+1 redundant power supply
ICS-4010-S001-550			550W, 1+1 redundant power supply

ICS-4040

4U dual-channel server, Intel Xeon 4th-gen scalable series processors, support 8x2.5/3.5" hot-swap drive bay and 2x2.5" SAS/SATA drive bay(built-in), 7xPCIe expansion slots,1xVGA, 1xCOM, 6xUSB3.0, 2xLAN, 1xIPMI

Key Specification

- 1/2 Intel Xeon Gen4 scalable series processors
- 16*DDR5, 5600/5200/4800/4400/4000 MT/s,3DS RDIMM, 4TB max.
- 8x2.5/3.5" hot-swap drive bay and 2x2.5" SAS/ SATA drive bay(built-in)
- 6*PCIe5.0X16, 1*PCIe5.0X8
- 6*USB3.0, 1*VGA,1*COM, 2*LAN, 1*IPMI
- 4x8038 hot-swap high-speed fan+2x8038 fan module(rear)
- Supports 550/800/1200/1600/2000/2200W 1+1 redundant power supply



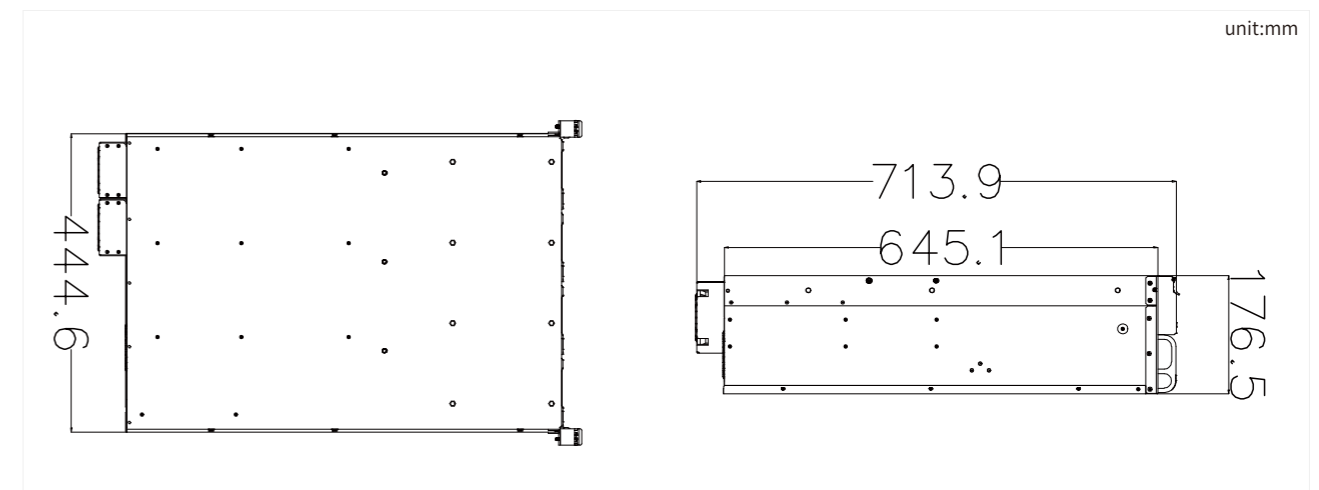
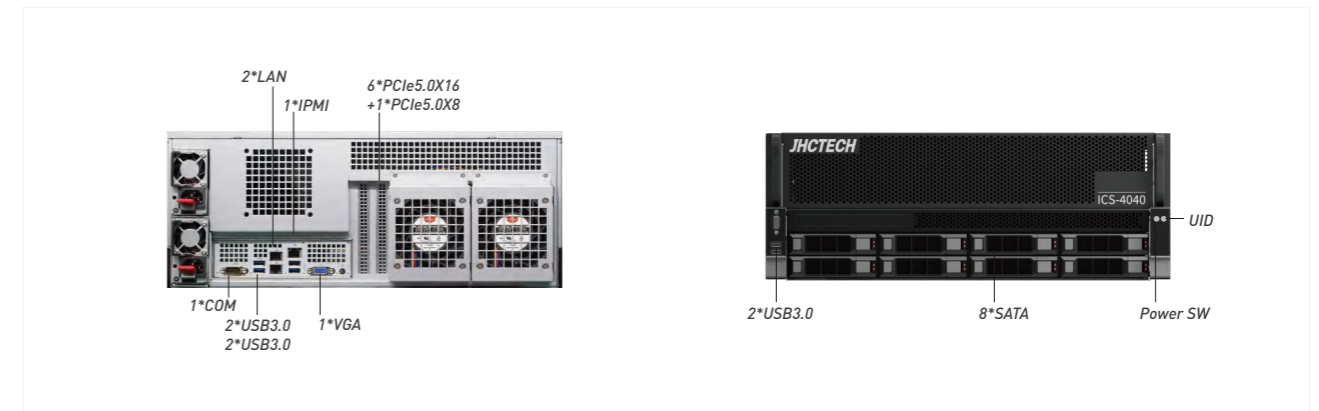
Product Overview

ICS-4040 is a dual-channel edge computing server, equipped with 1 or 2 4th-gen Intel® Xeon extensible series processors, C741 chipsets, 16 ECC RDIMM/3DS RDIMM DDR5 memory slots, 2 M.2 ports, 2 Gigabit network ports, 1 management network port, 7 PCIe expansion slots, supports a maximum of four full-height, dual-width GPU cards.It has computing and storage capabilities, suitable for artificial intelligence, virtualization, cloud computing, big data processing, distributed storage, enterprise market or telecom business applications.

Product Parameters

System	1/2 Gen4 Intel® Xeon® Scalable Processors, Intel® C741 PCH	Power& TDP	550W/800W/1200W/1600W/2000W/2200W, 1+1 hot swap redundant power supply
RAM	16*DDR5,5600MHz, 3DS RDIMM/RDIMM 4T max.(16*256GB)	OS	Microsoft Windows Server, Microsoft Hyper-V Server, Red Hat Enterprise Linux, SUSE Linux Enterprise Server, CentOS, Ubuntu, Oracle Linux, VMware ESXi, Citrix XenServer
Expansion	6*PCIe5.0X16+1*PCIe5.0X8(X4); 1*M.2 22110/2280 M-Key(PCIe4.0X4); 3*M.2(PCIe5.0X8), 6*NVM(PCIe5.0X4)	Mechanical	Imported SGCC fingerprint resistant galvanized steel, 19-inch rack 4U standard
LAN	2*Intel I210AT 10M-1000M; 1*IPMI2.0, Aspeed AST2600 BMC	Structure	19-inch rack 4U standard
display	VGA:1920*1200@60Hz,	Color	black + silvery
Storage	8*2.5"/3.5" SAS/SATA, RAID0/1/5/10; 2*2.5" SAS/SATA	Installation	Desktop Mounting
I/O Port	F:2*USB3.0; B:1*VGA, 1*COM, 4*USB3.0;1*IPMI (RJ45), 2*LAN (RJ45)	Dimension (W*H*D)	645*445*176.5mm
LED	1*Power LED(on power button), 2*LAN LED, 1*HDD LED	Weight	18KG
Switches	1*Power SW, 1*RST, 1*UID	Environmental	
Watchdog timer	programmable via software 1 to 255 second	Operating temp.	5~35°C
		Storage temp.	-40°C~65°C
		Storage humidity	5~95%@40°C, Non-condensing
		Vibration	TBD
		Shock	TBD
		Certification/EMC	CCC/CE/FCC Class A

I/O View



Ordering information

Model	Processor	Specifications
ICS-4040-S001-2200	Intel®Xeon Gen4 Scalable series processors Intel® C741 PCH	2200W, 1+1 redundant power supply
ICS-4040-S001-2000		1600W, 1+1 redundant power supply
ICS-4040-S001-1600		1200W, 1+1 redundant power supply
ICS-4040-S001-1200		800W, 1+1 redundant power supply
ICS-4040-S001-800		800W, 1+1 redundant power supply
ICS-4040-S001-550		550W, 1+1 redundant power supply