

Embedded System Platform Solutions

As the leading Industrial System provider, IEI continues to extend the product footprint from component level to system integration service. Our strong knowledge of market and technology innovation offers reliability, flexibility and interoperability for all of our industrial products with choices of size, performance and features.

1. Transportation System

Model Name	Processor
IKARPC-07A	Intel® Atom™ E3826 1.46GHz
AFOKAR-08A	RockChip RK3399 (Dual-core Cortex-A72 up to 1.8GHz + Quad-core Cortex-A53 up to 1.5GHz)
IKARPC-W10A-BT	Intel® Atom™ E3826 1.46GHz
IVS-200-ULT2	Intel® Core™ i5-5350U 1.8GHz, Intel® Celeron® 3765U 1.9GHz
IVS-110-AL	Intel® Atom™ E3930 1.8GHz, Intel® Atom™ E3940 1.8GHz, Intel® Atom™ E3950 2.0GHz
IRS-100-ULT3	Intel® Core™ i5-6300U 2.4GHz
SBOX-100-QM87	Intel® Core™ i5-4400E 2.7GHz



2. Embedded Edge Computing System

Model Name	Processor
FLEX-BX210-W480	Intel® Xeon® W-1290TE 1.8GHz (up to 4.5GHz)
FLEX-BX210-Q470	Intel® Core™ i9-10900TE 1.8GHz (up to 4.5GHz) Intel® Core™ i5-10500TE 2.3GHz (up to 3.7GHz)
FLEX-BX200-C246	Intel® Xeon® E-2278GE 3.3GHz (up to 4.7GHz)
FLEX-BX200-Q370	Intel® Core™ i7-8700T 2.4GHz (up to 4.0GHz) Intel® Core™ i5-8500T 2.1GHz (up to 3.5GHz) Intel® Pentium® Gold G5400T 3.1GHz
FLEX-BX100-ULT5	Intel® Core™ i5-8365UE 1.6GHz (up to 4.1GHz) Intel® Celeron® 4305UE 2.0GHz



3. Industrial Automation System

Model Name	Processor
TANK-880-Q370	Intel® Core™ i7-9700TE 1.8GHz (up to 3.8GHz) Intel® Core™ i5-9500TE 2.2GHz (up to 3.6GHz)
TANK-871-Q170	Intel® Core™ i7-6700TE 2.4 GHz (up to 3.4GHz) Intel® Core™ i5-6500TE 2.3 GHz (up to 3.3GHz)
TANK-870-Q170	Intel® Core™ i7-6700TE 2.4 GHz (up to 3.4GHz) Intel® Core™ i5-6500TE 2.3 GHz (up to 3.3GHz)
TANK-870e-H110	Intel® Core™ i7-6700TE 2.4 GHz (up to 3.4GHz) Intel® Core™ i5-6500TE 2.3 GHz (up to 3.3GHz)
TANK-802-ULT5	Intel® Core™ i5-8365UE 1.6GHz (up to 4.1GHz), Intel® Celeron® 4205U 1.8GHz
TANK-610-BW	Intel® Celeron® N3160 1.6GHz



4. DIN-Rail Embedded System

Model Name	Processor
DRPC-330-A7K	Marvell® ARMADA® 88F7040 1.4 GHz
DRPC-230-ULT5	Intel® Core™ i5-8265U 1.6GHz (up to 3.9GHz)
DRPC-140-EHL	Intel® Atom™ Elkhart Lake SKU 10 1.9GHz
DRPC-130-AL	Intel® Atom™ x5-E3930 1.3GHz (up to 1.8GHz)
DRPC-120-BT	Intel® Atom™ E3845 1.91GHz



5. Compact Size Embedded System

Model Name	Processor
ITG-100AI	Intel® Atom™ x5-E3930 1.3GHz (up to 1.8GHz)
ITG-100-AL	Intel® Atom™ x5-E3930 1.3GHz (up to 1.8GHz)
ulBX-250-BW	Intel® Celeron® N3160 1.6GHz



6. Digital Signage Embedded System

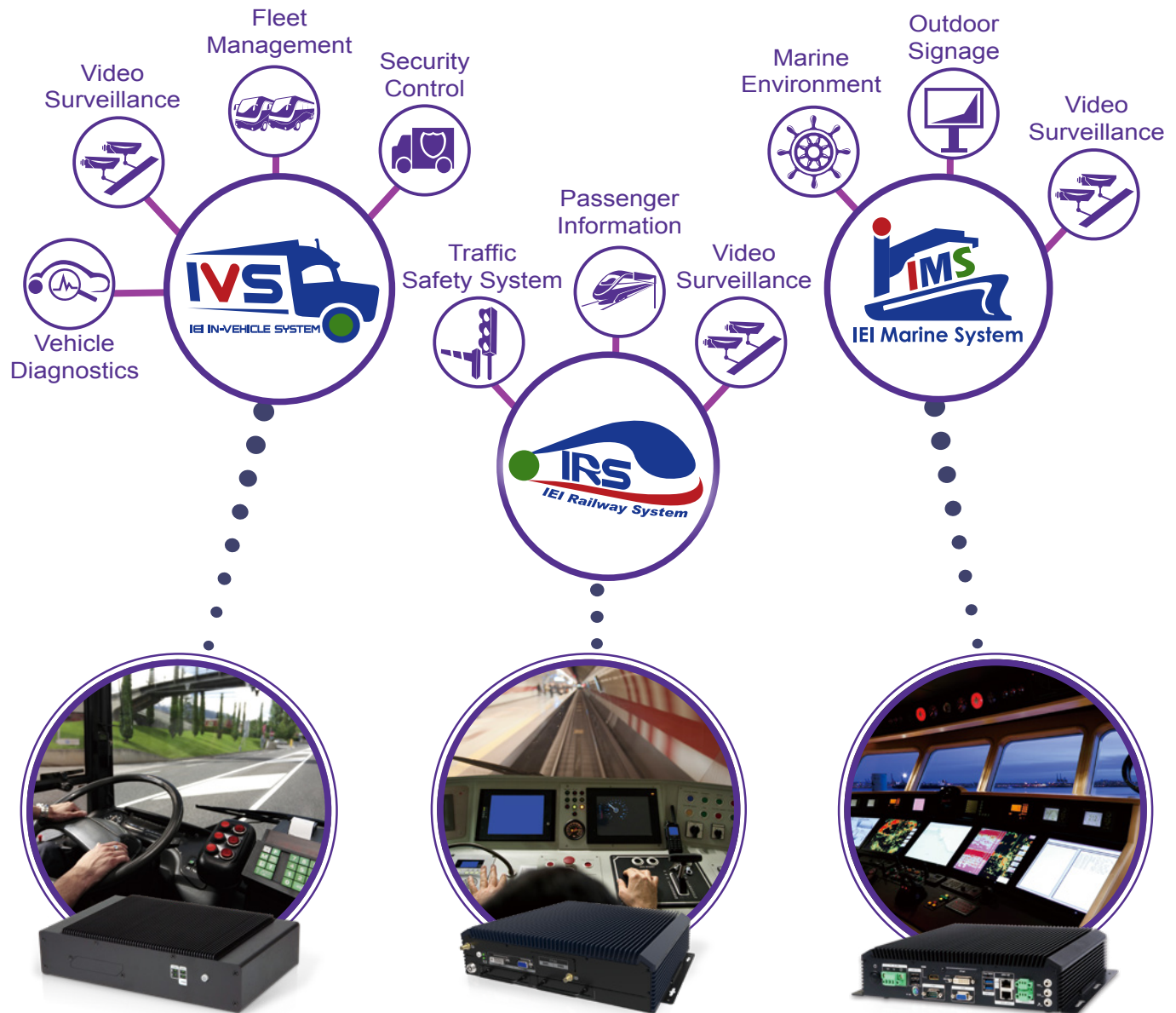
Model Name	Processor
IDS-310AI	Intel® Celeron® N3350 1.1GHz (up to 2.4GHz)
IDS-310-AL	Intel® Celeron® J3455 1.5GHz (up to 2.3GHz) Intel® Celeron® N3350 1.1GHz (up to 2.4GHz)



Transportation Solution

IEI transportation series is divided into three categories for different markets: in-vehicle, railway and marine. All these products have passed harsh vibration and shock test and can withstand in extreme temperature. This series allows wide voltage input and features multiple communication options. In addition, our products are in fanless design suitable for various markets and with rich I/O for different applications.

Ruggedized Solution



■ IVS & In-Vehicle PPC Series

In-Vehicle Features

- Wide working temperature
- Wide DC input range
- E-mark certification
- OBD-II function
- Multi wireless communication
- IP 4X protection

■ IRS Series Railway Features

- Wide working temperature
- Support DVI and VGA dual display
- EN-50155 certification
- Dual SIM slot
- M12 connector

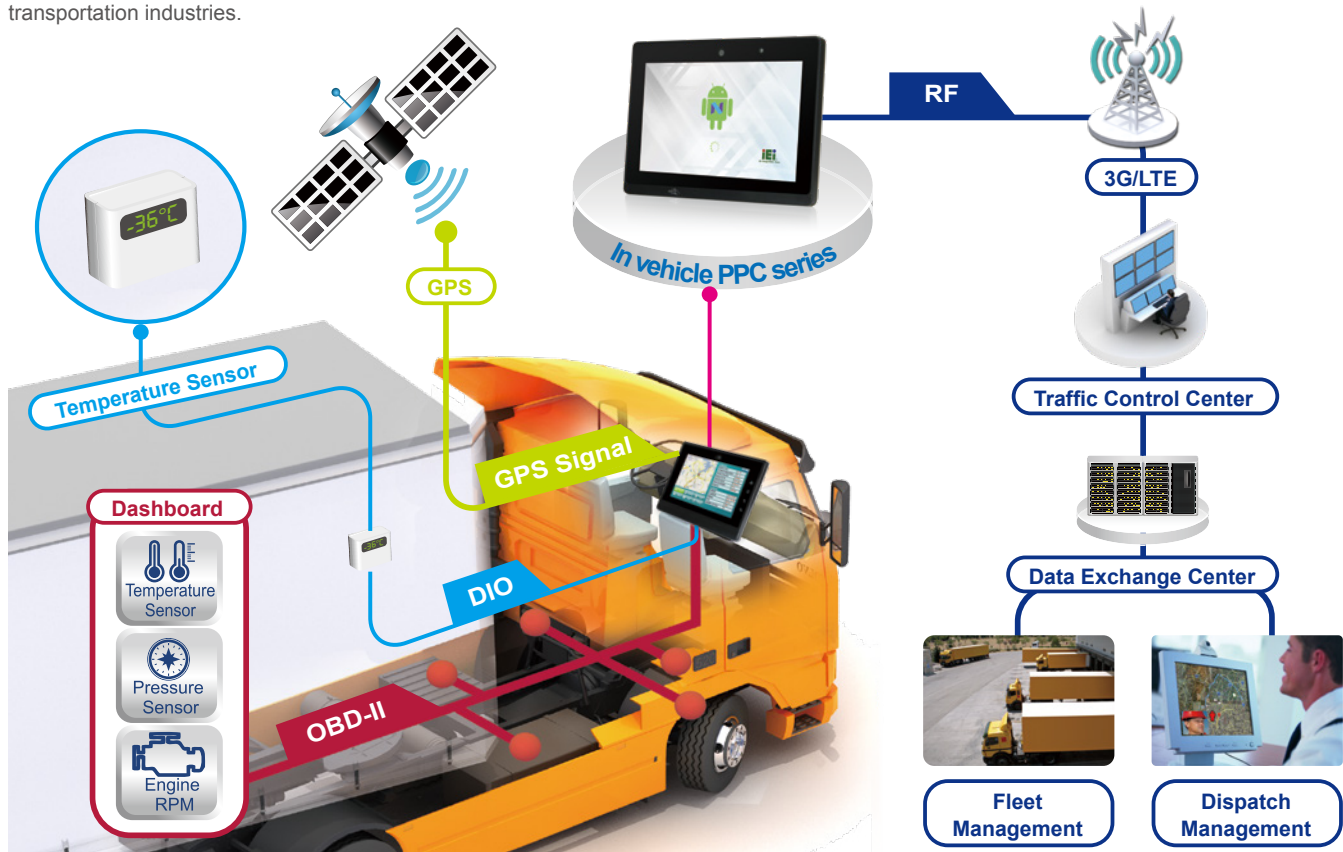
■ SBOX Series Marine Features

- Isolation protection ports
- Three independent displays
- Full range dimming
- DNV, IEC 60945 4th, IACS-E10, IEC 61174 certification
- IP 4X protection



In-Vehicle PPC Series

Logistics industry's commonly used satellite positioning systems, electronic maps, Internet access, mobile communication systems with 3.75G/LTE/Wi-Fi/Bluetooth/GPS/RFID are all combined together in our solutions for fleet management, logistics, manufacturing and passenger transportation industries.



Key Features

■ High Brightness Screen



The in-vehicle panel PC series is equipped with an ultra-high brightness LCD panel to help drivers avoid low visibility caused by direct sunlight.

■ Communication

The transportation series reserves multiple PCIe Mini slots for different network communication. Users can use CDMA/GPRS/HSUPA+/LTE to transmit and receive real-time data, use Wi-Fi for data acquisition, or use GPS to get accurate location data.

■ CAN Bus/OBD-II (Optional)

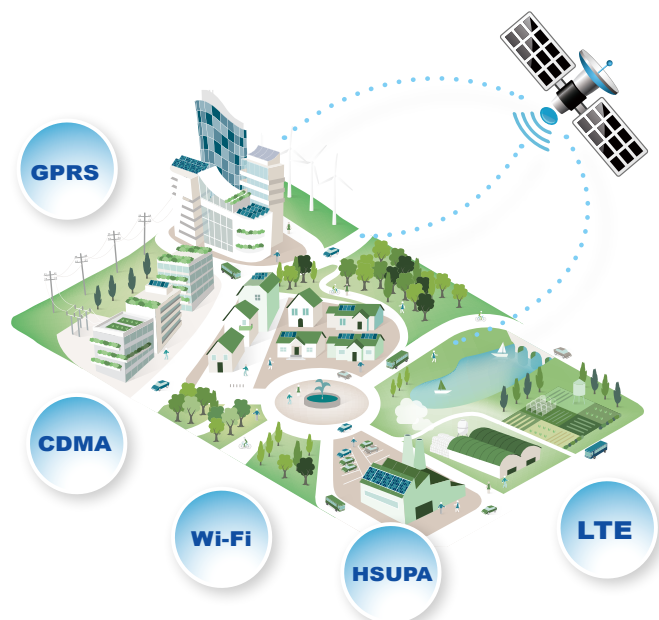


The in-vehicle panel PC series supports On-board Diagnostics (OBD) and Controller Area Network (CAN bus) and is built-in with OBD-II and CAN bus for real time vehicle diagnostic. CAN has a high degree of flexibility to adjust capacity which can be added in the existing network of nodes.

■ X86/ARM Solution



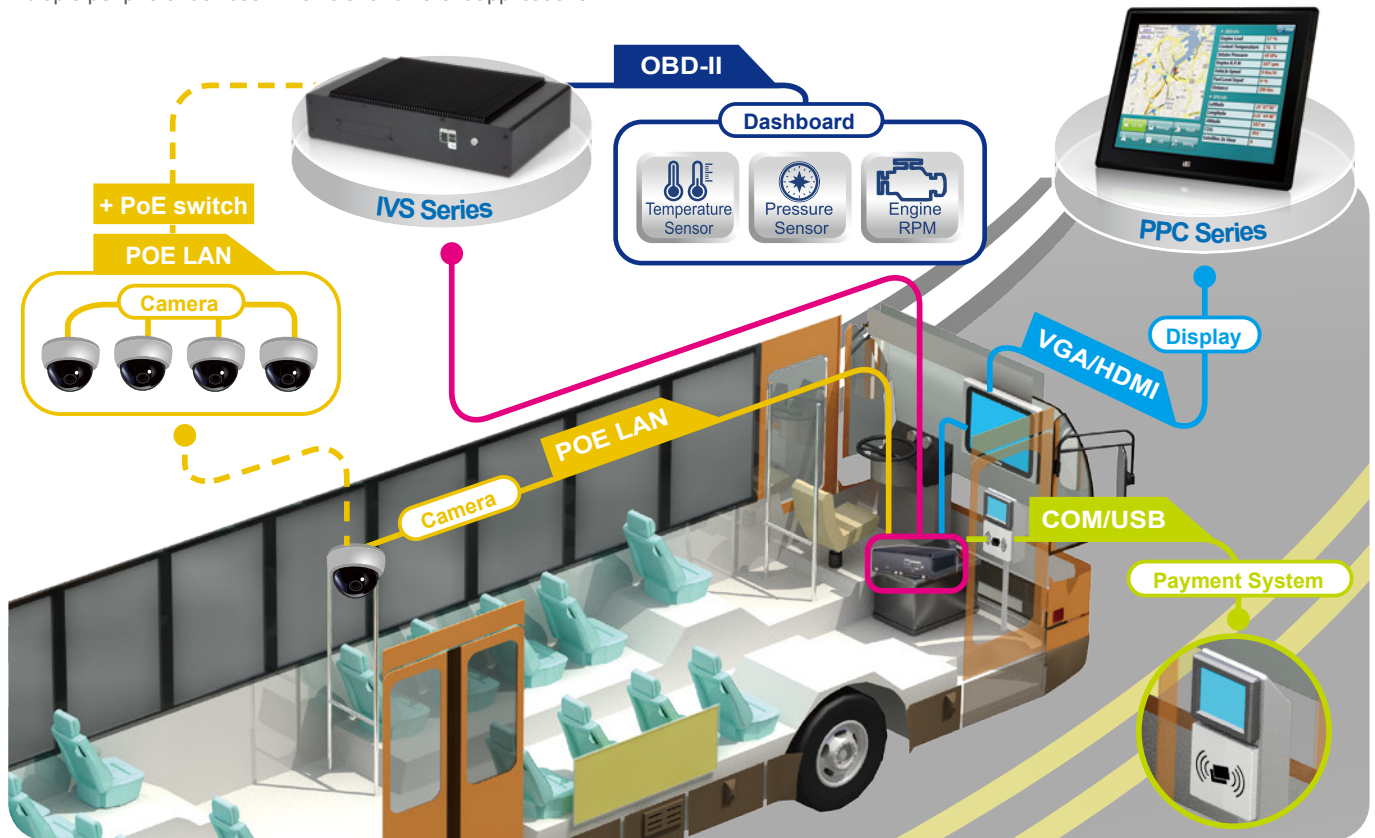
The in-vehicle panel PC series has two solutions, Intel and ARM architecture for customers. You can choose Intel solution which supports Windows OS, or you can choose ARM solution which supports Android OS.





In-Vehicle: IVS Series

The IVS series vehicle box PC is designed with reliable performance for harsh environments. Rich I/O ports are provided to connect with multiple peripheral devices in vehicle for different applications.



Key Features

■ Wide Range Temperature



IEI fanless product series has leading-edge thermal design and has been tested under extreme temperature conditions in order to ensure that IEI fanless products can work in any harsh environment.

■ E-mark Certification



All vehicles, vehicle parts, and electronic products for the car must be enforced EMC testing. All of IEI IVS and in-vehicle panel PC series products have passed E-Mark certification which are required for the European market.

■ Vibration and Shock Resistance



In-vehicle systems must be able to withstand the shock and vibration that comes with driving a vehicle. IEI transportation series meets the requirement for different environments and has passed particular verification dependent on MIL-STD-810G 514.5 standard, EN61373 for railway market, EN60721 for in-vehicle market.

■ Particular Power Solution



We design wide power input to prevent surge when starting engine. We develop power management for users. For in-vehicle market, we design wide DC input and ACC power to ensure users can operate the system well.





Railway: IRS Series

IEI's Railway System (IRS) is focused on the rolling stock market with a variety of advanced technologies designed. The IRS-100 series is compliant with EN 50155 standard. The IRS-100 provides multiple storage bays for data saving, lockable connectors, GPS function and Wi-Fi for wireless communication. Users can control passenger information system (PIS) and network video recorder (NVR) through the IRS-100. The popular IP cameras for surveillance application can also be implemented to provide real time video monitoring to ensure passengers' safety.



Key Features

■ Dual SIM Slot



The IRS-100 offers dual SIM slot with the ability to automatically switch between two different networks in order to maintain seamless connectivity in remote areas. The system supports GPRS/UMTS/HSDPA/LTE technologies for transmission.

■ Lockable M12 Connectors



To against vibration and shock, the M12 connector is used for dual LAN communication which offers a reliable performance for high-quality data acquisition or transmission. The M12 connector can ensure that all cables can be tightly secured and improve anti-vibration capability.

■ Multiple Isolated Port Protection



The IRS-100 provides 1.5kV isolation on the RS-232/422/485, DIO and power in order to protect from any stray electrical signals from other devices and to ensure stable operation in harsh environments.

Front View



Rear View



■ Operating Temperature and EN 50155 Compliance

EN50155 is the standard for electronic equipment used on rolling stock. IEI's railway system (IRS-100) complies with EN50155 TX column 2 standard and passed tests for vibration, shock, and wide temperature. IRS-100 can run in an extremely hot or cold environment in -40°C ~ 70°C.

Standard	EN50155 T1	EN50155 T2	EN50155 T3	EN50155 TX
Internal Cabinet Temperature Range	-25°C - +55°C	-40°C - +55°C	-25°C - +70°C	-40°C - +70°C

■ Wide Range of DC/DC Converters

Railway rolling stock is required to meet the requirement of EN50155 for electronic equipment.

IRS-100 has wide range of input voltages of 24VDC~110VDC ($\pm 40\%$), therefore, users are able to install various devices in different railway rolling stock applications.

Nominal Input	24V	37.5V	48V	72V	96V	110V
Input Range (0.7-1.25 Vin)	17-30V	26-47V	34-60V	50-90V	67-120V	77-137V
Brownout 100ms (0.6xVin)	14V	22V	29V	43V	58V	66V
Transient 1s (1.4xVin)	34V	61V	67V	101V	135V	154V

■ Compliant with Electromagnetic Interference Requirements

Railway electronic systems are subjected to different level of electromagnetic interference requirements.

Standard	Parameter		EN50155	
Rolling Equipment	Vibration	Category < 0.3 kg	Shock (half sine)	Long. / Trans. / Vert. axis
	Frequency range	5 - 150 Hz	Peak acceleration	5 g / 2 g / 1 g
	Acceleration	5 g	Duration	50 ms / 20 ms / 20 ms

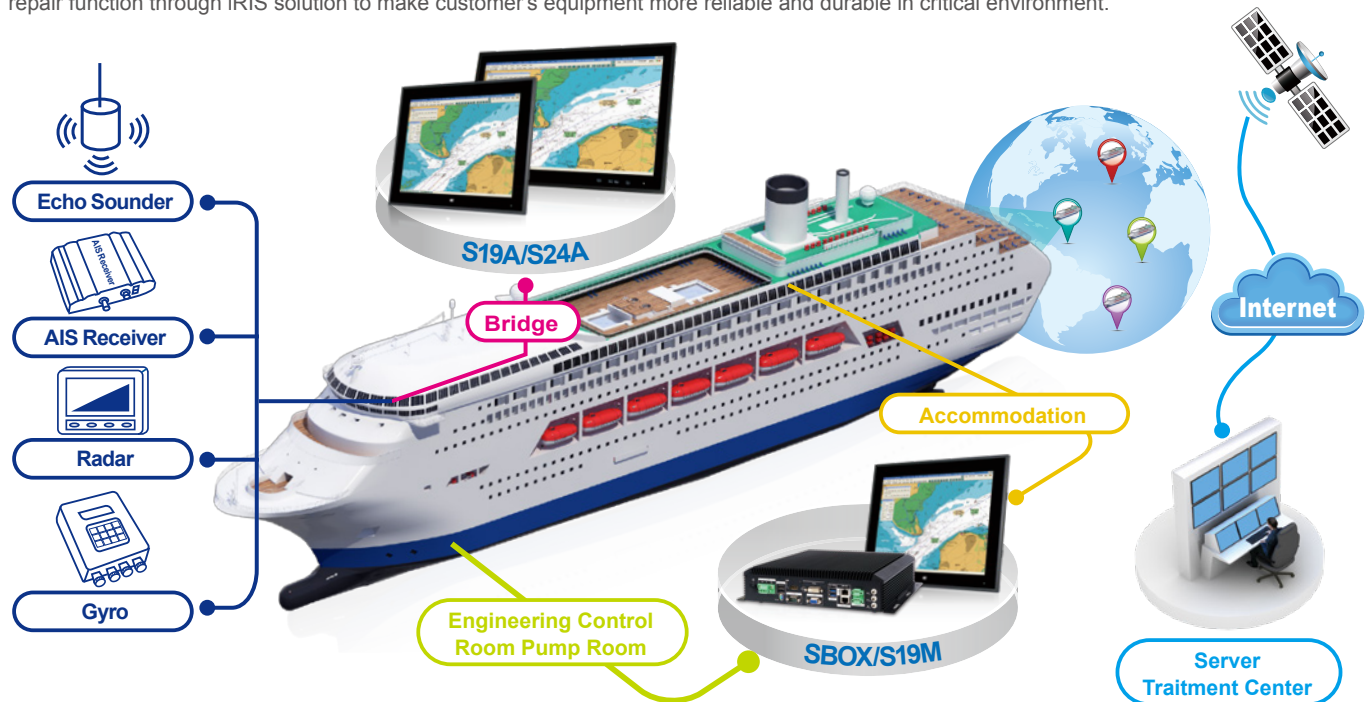
■ Compliant with Mechanical Requirements

Railway electronic systems are subjected to high-level mechanical environmental constraints depending on their implementation.

	Generic Standards	EN 50121-3 and -4	EN 50155
Radio electrical conducted emission <30MHz 0, 15 - 0, 5 MHz (quasi peak) 0, 5 - 5 MHz (quasi peak) 5 - 30 MHz (quasi peak)	EN55032 EN55011	EN55011 level +20 dB : 79 dB/μV/m+20dB (quasi peak) 73 dB/μV/m+20dB (quasi peak) 73 dB/μV/m+20dB (quasi peak)	Level: 70 dB/μV/ qp 70 dB/μV/ qp 70 dB/μV/ qp
Radio magnetic emission qp at 10m >30MHz 30 - 80 MHz 80 - 230 MHz 230 - 1, 000 MHz	EN55032 EN55011	EN55011 level class B : 40 dB/μV/m (quasi peak) 40 dB/μV/m (quasi peak) 47 dB/μV/m (quasi peak)	Level: 70 dB/μV/m < 70 dB/μV/m < 70 dB/μV/m
Electrostatic discharge immunity (Internal)	EN61000-4-2 or IEC-801-2	Level: 6KV contact cond. B Level: 8KV air cond. B	
Radio frequency electromagnetic fields immunity (80 - 1, 000 MHz)	EN61000-4-3 or IEC-801-3 EN50140	Level: 10V/m condition A Level: 20V/m condition A	Level: 10V/m Level: 20V/m
Fast transient/burst immunity (DC power port and I/O ports)	EN61000-4-4 or IEC-801-4	Level: 0.5KV condition A Level: 2KV condition A	Level: 2KV
Surge immunity	EN61000-4-5 or IEC-801-5	Level: 2KV condition B Impedance 42 Ohm	Level: 1.8 KV
Conducted disturbances induced by radio frequency fields immunity (150KHz-80MHz) (DC power port and I/O port)	EN50141 or EN61000-4-6 or EN50121-4	Level: 3V condition A Modulation 80% AM Impedance 150 Ohm Level: 10V condition A	
Damped oscillatory magnetic field immunity	EN61000-4-10	Level: 30A/m condition B	

Marine: SBOX Series

It is difficult to send out technical support for maritime field application due to the location limitation. The best way to solve the urgent issue is remote troubleshooting with IEI iRIS solution. IEI marine-grade solutions provide the most convenient method of real-time system alert notice and repair function through iRIS solution to make customer's equipment more reliable and durable in critical environment.



Key Features

■ 3 independent displays: HDMI, DVI, and VGA

The three simultaneously independent displays are supported via the on-board video output combinations of VGA, DVI and HDMI. This versatile combination of display output options makes the marine system ideal for multi-monitor required applications in the bridge room.

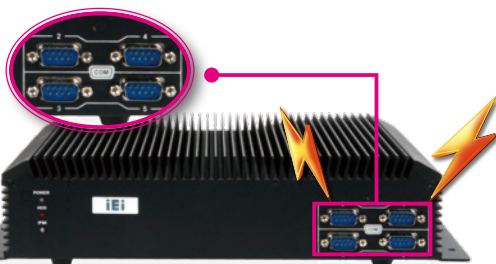


■ Multiple Isolated Ports for Comprehensive Protection against Electrical Surges

Ground loop and electric surges are common in the marine applications of electronic products due to the dense placement of devices. These stray electrical signals can cause equipment damage or malfunction.

■ 2.5 kV isolation protection on the RS-232/422/485

IEI marine computer is protected from any stray electrical signals from other devices on the ship. Electric surges that were generated from other electronic devices which often passed through serial lines to the marine computer can cause severe damage and malfunction to the computers.



■ Two independent CAN 2.0B channels with 2.5 kV isolation protection

CAN 2.0B is a kind of marine electronic data network for communication between marine electronic devices such as chart plotters, navigation instruments, GPS receivers, etc.

■ Isolated 18 V~24 V DC power 2250 V DC Input to Output Basic Insulation



DNV Compliance

The DNV regulation is one of the most stringent standards in the maritime industry. It sets the minimum requirements of devices based on where the device is located. IEI marine series complies with DNV regulations and has passed tests for temperature, humidity, vibration, EMC and water- and dust-proof levels.

■ Operating Temperature

The marine series can run in wide temperature environment from -15°C to 55°C.

Temperature	Class A	Class B	Class C	Class D
Location	Machinery spaces, control rooms, accommodation, bridge	Inside cubicles, desks, etc. with temperature rise of 5° C or more	Pump rooms, holds, rooms with no heating	Open deck, masts
Minimum equipment specification	Ambient temperatures: +5°C to +55°C	Ambient temperatures: +5° C to +70°C	Ambient temperatures: -25°C to +55°C	Ambient temperatures: -25°C to +70°C

■ Humidity

The marine series conforms to DNV class A of humidity.

Humidity	Class A	Class B
Location	Locations where special pre-cautions are taken to avoid condensation	All other locations
Minimum equipment specification	Relative humidity up to 96 % at all relevant temperatures.	Relative humidity up to 100 % at all relevant temperatures

■ Vibration

The marine series is subjected to DNV Class A vibration test and can be widely used on bulkheads, beams, deck and bridge.

Vibration	Class A	Class B	Class C
Location	On bulkheads, beams, deck, bridge	On machinery such as internal combustion engines, com-pressors, pumps, including piping on such machinery	Masts
Minimum equipment specification	Frequency range: 3-13.2 Hz, Amplitude: 1.0 mm (peak value) Frequency range: 13.2-100 Hz, Acceleration amplitude: 0.7 g	Frequency range: 3-25 Hz, Amplitude: 1.6 mm (peak value) Frequency range: 25-100 Hz, acceleration amplitude: 4.0 g	Frequency range: 3-13.2 Hz, Amplitude: 3.0 mm (peak value) Frequency range: 13.2-50 Hz, Acceleration amplitude: 2.1 g

■ EMC

Being different to CE and FCC standards, DNV regulations especially emphasize the importance of electromagnetic compatibility. IEI marine series is compliant with strict class B level and can provide a safe operating environment of sailing period.

Vibration	Class B		
Location	All locations including bridge and open deck		
Minimum equipment specification	Immunity		
	Conducted Low Frequency (Test 3.14.4)	Electrical Fast Transient/Burst (Test 3.14.5)	Electrical Slow Transient Surge (Test 3.14.6)
	AC 50/60 Hz Supply Voltage up to 15 th harmonics: 10% of UN 15 th to 100 th harmonics: decreasing from 10% to 1% of UN 100 th to 200 th : harmonics 1% of UN	DC Supply Voltage Frequency Sweep Range: 50 Hz to 10 kHz Signal Level: 3 V r.m.s. max 2W	Amplitude : 2 kV line on power supply port/earth; 1 kV on I/O data control and communication ports(coupling clamp)
	Conducted Radio Frequency (Test 3.14.7 – Table 3.20/3.21)	Radiated Electromagnetic Field (Test 3.14.8)	Electrostatic Discharge (Test 3.14.9)
	Frequency range:150 kHz - 80 MHz Voltage level (e.m.f.): 3 V r.m.s. Spot frequencies: 2/3/4/6.2/8.2/12.6/16.5/18.8/22/25 MHz. Voltage level (e.m.f.) :10 V r.m.s.	Frequency range: 80 MHz to 2 GHz Electric field strength: 10 V/m	Output voltage Air: 8 kV Contact: 6 kV
	Emission		
	Radiated (Test 3.14.10 - 11)		
	Enclosure Port	Frequency range	Measuring bandwidth
	EMC B All locations including bridge and open deck	0.15-0.3 MHz	9 kHz
		0.30-30 MHz	9 kHz
		30-2000 MHz	120 kHz
		Except: 156-165 MHz	9 kHz
	Conducted (Test 3.14.10 - 12)		
	Power Port	Frequency range	Measuring bandwidth
	EMC B All locations including bridge and open deck	10-150 kHz	200 Hz
		150-350 kHz	9 kHz
		0.35 - 30 MHz	9 kHz
	Limits (quasi-peak)		
	80 - 52 dBμV/m		
	52 - 34 dBμV/m		
	54 dBμV/m		
	24 dBμV/m		
	96 – 50 dBμV		
	60 – 50 dBμV		
	50 dBμV		

■ Enclosure

The marine series is compliant with high waterproof and dustproof level. The front bezel complies with IP66 rating and the rear side complies with IP22.

Enclosure	Class A	Class B	Class C	Class D
Location	Control rooms, accommodation, bridge	Engine room	Open deck, masts, below floor plates in engine room	Submerged application, bilges
Minimum equipment specification	IP22	IP44	IP56	IP68

E-Window Tool Kit



Innovative E-windows technology is a new modular way of adding flexible functionality to a wide range of device. Using standardized component helps system integrators easily add more features without any costly efforts.

E-Window

Features

- Easy maintenance
- Various module & I/O plate with flexible customization
- Integration of multiple functions
- Easy for replacement with different modules

Supported Model

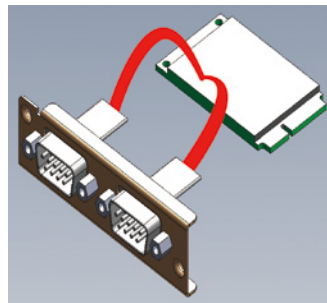
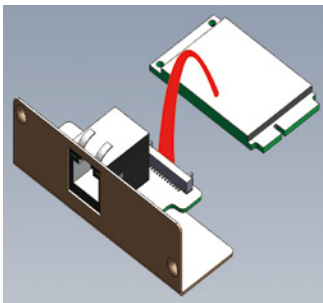
Transportation System

IVS-110-AL

Industrial Automation System

TANK-871-Q170

TANK-870e-H110

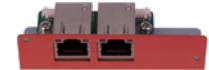


E-Window I/O Plate with PCIe Mini Card

An E-Window module uses a PCIe Mini slot embedded on the motherboard.



E-MPCIE-LAN-R10



E-MPCIE-DLAN-R10

Ordering Information

Part No.	Description
E-MPCIE-DLAN-R10	PCIe Mini card supports 2-port GbE with Intel I211 controller, with PMS 194C I/O bracket and 250mm cable
E-MPCIE-LAN-R10	PCIe Mini card supports 1-port GbE with Realtek RTL8111E controller, with PMS 194C I/O bracket and 250mm cable
E-MPCIE-UART-KIT01-R10	PCI Express Mini supports quad RS-232/422/485 port module
E-MPCIE-CAN-R10	PCI Express Mini Dual CAN Bus module, Full size, RoHs

Transportation System



Model Name		IKARPC-07A-BT	AFOKAR-08A-RK39	IKARPC-W10A-BT
Chassis	Color	Black C + Silver	Black C + Silver	Blue C + Black C
	Dimensions (WxDxH) (mm)	210 x 154 x 28	210 x 154 x 33.9	277 x 186 x 27
	System Fan	Fanless		
	Chassis Construction	PC + ABS plastic	PC + ABS plastic front, metal rear	PC + ABS plastic
Display	Size	7"	8"	10.1"
	Resolution	1024 × 3 (RGB) × 600	800(RGB) × 1280	1280 x 800
	Brightness (cd/m²)	500	500	350
	Contrast Ratio	700:1	800 : 1	800:1
	Pixel Pitch (mm)	0.05 (W) × 0.15 (H)	0.13455(H) × 0.13455(V)	0.0565 (W) × 0.1695 (H)
	Viewing Angle (H/V)	130° (H) / 140° (V)	85/85/85/85 Deg.	150° (H)/145° (V)
	Touchscreen	Projected capacitive touch with USB interface	Projected capacitive with AG coating	Projected capacitive with AG coating
Motherboard	CPU	Intel® Atom™ processor E3826 (dual-core, 1.46 GHz, 7W)	Rockchip RK3399 (Dual-core Cortex-A72 up to 1.8GHz + Quad-core Cortex-A53 up to 1.5GHz)	Intel® Atom™ processor E3826 (dual-core, 1.46 GHz, 7W)
	Chipset	SoC		
	System Memory	On-board 2 GB SDRAM	On-board 2GB LPDDR3-1866	On-board 2 GB DDR3L
Storage	Hard Drive	N/A	N/A	1 x 2.5" SATA 3Gb/s HDD/SSD drive bay
	SD card	1 x microSD slot (supports SD 2.0, max. 32 GB)	1 x microSD slot	1 x SD slot (supports SD 2.0, max. 32 GB)
	Flash	N/A	On-board 16GB eMMC NAND FLASH	N/A
	mSATA	1 x mSATA (SATA 3Gb/s) optional	N/A	N/A
Communication	WLAN	PCIe Mini Wi-Fi 802.11a/b/g/n/ac (optional)	On-board 802.11 a/b/g/n/ac	PCIe Mini Wi-Fi 802.11a/b/g/n/ac (optional)
	Bluetooth	BT 4.0/3.0+HS (combo with Optional WLAN module)	Bluetooth V4.1	BT 4.0/3.0+HS (combo with Optional WLAN module)
	WWAN	PCIe Mini WCDMA/HSDPA/HSUPA (optional)	PCIe Mini LTE (optional)	PCIe Mini WCDMA/HSDPA/HSUPA (optional)
	RFID	N/A	13.56 MHz ISO4443 A/B, read-write capable, ISO 14443A (MIFARE), ISO 14443B (FeliCa)	N/A
	GPS	On-board GPS		
I/O Interfaces	20-pin Connector	1 x GbE LAN, 1 x OBD-II/J1939, 1 x USB 2.0	1 x OBD-II 1 x USB 2.0	N/A
	24-pin Connector	1 x Audio line-out(R+L) 1 x Audio line-in 1 x RS-232 4-bit digital I/O (2-bit input, 2-bit output)	1 x Audio out 1 x RS-232 1 x RS-485 4-bit digital I/O with isolation (2-bit input, 2-bit output)	N/A
	USB 3.2 Gen 1		1	
	USB 2.0	1	20-pin connector	1
	Ethernet	N/A	N/A	1 x RJ-45 PCIe GbE by Realtek 8111E
	COM Port	N/A	24-pin connector	2 x DB-9 RS-232
	Digital I/O	N/A	24-pin connector	8-bit digital I/O (4-bit input, 4-bit output)
	CAN-Bus/OBD-II	N/A	20-pin connector	1 x DB-9 OBD-II
	Display		1 x HDMI	
	SIM	2 x On-board SIM card slot	1 x On-board SIM card slot	2 x On-board SIM card slot
Expansions	Antenna		1 x GPS, 1 x WWAN	
	PCIe Mini	1 x Full-size (reserved for mSATA module), 1 x Full-size (reserved for WWAN module), 1 x Half-size (reserved for WLAN module)	1 x Full-size (reserved for WWAN)	1 x Full-size (reserved for WWAN module), 1 x Full-size (reserved for WLAN module)
Multimedia	Speaker		1 x Speaker (2 W)	
	Camera	2-megapixel CMOS	5-megapixel CMOS	2-megapixel CMOS
Power	Power Input	Cigarette lighter power cable, DC 9 V~30 V		
	Power Consumption	12V @ 1.25 A	12V @ 1.2A	12 V @ 1.73 A
Reliability	Mounting	VESA 75	VESA 75	VESA 100
	Operating Temperature	-10°C ~ 60°C with air flow	-10°C ~ 50°C with air flow	-10°C ~ 60°C with air flow
	Weight (Net/Gross)	0.9 kg/2.1 kg	0.77 kg	1.3 kg/2.8 kg
	Safety/EMC	CE/FCC/E-Mark/IP 54 compliant front panel	CE/FCC (Class A)/E-mark/IP54 front panel compliant	CE/FCC/E-Mark/IP 64 compliant front panel
OS	Supported OS	Microsoft® Windows Embedded 8, Microsoft® Windows Embedded Standard 7 E	Android 7.1	Microsoft® Windows Embedded 8, Microsoft® Windows Embedded Standard 7 E

Transportation System



Model Name		IVS-200-ULT2	IVS-110-AL
Chassis	Color	Blue C	Black
	Dimensions (WxDxH) (mm)	290 x 225 x 69	261 x 170 x 60
	System Fan	Fanless	Fanless
	Chassis Construction	Extruded aluminum alloy	Extruded aluminum alloy
Motherboard	CPU	Intel® Core™ i5-5350U 1.8 GHz (up to 2.9 GHz, dual-core, TDP 15W) Intel® Celeron® 3765U 1.9 GHz (dual-core, TDP 15W)	Intel® Atom™ x7-E3950 1.6 GHz (up to 2.0 GHz, quad-core, TDP 12W)
	Chipset	SoC	SoC
	System Memory	2 x SO-DIMM DDR3L 1600/1866 (4GB pre-installed)(up to 16GB)	1 x SO-DIMM DDR3L 1600/1866 (4GB pre-installed)(up to 8GB)
Storage	Hard Drive	1 x 2.5" SATA 6Gb/s HDD/SSD removable bay	1 x 2.5" SATA 6Gb/s HDD/SSD bay
	eMMC	N/A	1 x eMMC5.0 (optional)
Communication	WLAN	802.11 a/b/g/n/ac (optional)	802.11 a/b/g/n/ac (optional)
	Bluetooth	Bluetooth 2.1 (optional)	BT 4.0/3.0+HS (optional)
	WWAN	WCDMA/HSDPA/HSUPA (optional)	WCDMA/HSDPA/HSUPA (optional)
	GPS	N/A	On-board GPS
I/O Interfaces	USB	2 x USB 3.2 Gen1 2 x USB 2.0	4 x USB 3.2 Gen1
	Ethernet	4 x RJ-45: 1 x GbE by Intel® I218 3 x GbE by Intel® I211	1 x RJ-45: 1 x GbE by Intel® I210
	COM Port	2 x RS232/422/485 with AFC (DB9) 4 x RS232 (DB9)	1 x RS232/422/485 with AFC (DB9)
	Digital I/O	8-bit Digital I/O (4-in/ 4-out)(pin header)	16-bit Digital I/O (8-in/ 8-out)
	OBD-II	N/A	1 x OBD-II/J1939 (DB9)
	Display	1 x HDMI (up to 3840 x 2160@30Hz) 1 x VGA (up to 1920 x 1600@60Hz)	1 x HDMI (up to 3840 x 2160@30Hz) 1 x VGA (up to 1920 x 1600@60Hz)
	Audio	1 x Line-out, 1 x Mic-in	1 x Line-out
	Antenna	1 x 3G, 1 x BT, 1 x Wi-Fi	1 x 3G, 1 x GPS, 1 x BT, 1 x Wi-Fi
	Other	1 x Power button, 1 x Reset button, 1 x AT/ATX Switch, 1 x ACC Switch, 1 x LED for Power (Red), 1 x LED for Storage (Green)	1 x Power Button, 1 x LED for HDD, 1 x LED for Wi-Fi, 2 x LED for SIM
Expansions	PCIe Mini	1 x Full-size with SIM card slot (PCIe/USB2.0) 1 x Full-size (PCIe/USB 2.0/SATA)	1 x Full/Half-size with SIM card slot (PCIe/USB 2.0) 1 x Full/Half-size with SIM card slot (PCIe/USB 2.0) 1 x Half-size (PCIe/USB 2.0)
Power	Power Input	DC Jack: 9 ~ 36V DC	Cigarette lighter power cable: 9 ~ 36V DC
	Power Consumption	12V @ 2.1A (Intel® i5-5350U with 4GB memory)	12V @ 5A (Intel® x7-E3950 with 8GB memory)
Reliability	Mounting	VESA 100	Wall-mount/ VESA 100
	Operating Temperature	-20 ~ 60°C with air flow, 10% ~ 95% non-condensing	-30 ~ 70°C with air flow (SSD), 10% ~ 95% non-condensing
	Storage Temperature	-40 ~ 80°C with air flow, 10% ~ 95% non-condensing	-40 ~ 80°C with air flow (SSD), 10% ~ 95% non-condensing
	Operating Shock	Half-sine wave shock 5G, 11ms, 100 shocks per axis (SSD)	Half-sine wave shock 5G, 11ms, 100 shocks per axis (SSD)
	Operating Vibration	MIL-STD-810G 514.6C-1 (SSD)	MIL-STD-810F 514.5C-2 (SSD)
	Weight (Net/ Gross)	1.3KG/ 1.45KG	2.4KG/ 3.8KG
	Safety/EMC	CE/ FCC/ E-Mark	CE/ FCC/ E-Mark
	IP Rating	N/A	IP 4X compliant
	Watchdog Timer	Programmable 1 ~ 255 sec/min	Programmable 1 ~ 255 sec/min
OS	Supported OS	Microsoft® Windows Embedded 8, Microsoft® Windows Embedded Standard 7 E	Microsoft® Windows 10

Transportation System



New



Model Name		IRS-100-ULT3	SBX-100-QM87
Chassis	Color	Blue C	Black
	Dimensions (WxDxH) (mm)	290 x 225 x 69	290 x 225 x 75
	System Fan	Fanless	Fanless
	Chassis Construction	Extruded aluminum alloy	Extruded aluminum alloy
Motherboard	CPU	Intel® Core™ i5-6300U 2.4 GHz (up to 3.0 GHz, dual-core, TDP 15W)	Intel® Core™ i5-4400E 2.7 GHz (up to 3.3 GHz, dual-core, TDP 37W)
	Chipset	SoC	Intel® QM87
	System Memory	2 x SO-DIMM DDR4 2400 (4GB pre-installed)(up to 32GB)	2 x SO-DIMM DDR3 1333/1600 (4GB pre-installed)(up to 16GB)
IPMI	iRIS Solution	N/A	1 x iRIS 2400
Storage	Hard Drive	2 x 2.5" SATA 6Gb/s HDD/SSD removable bay	2 x 2.5" SATA 6Gb/s SSD bay with RAID 0/1
	C-Fast	1 x C-Fast card slot	1 x C-Fast card slot
I/O Interfaces	USB	2 x USB 3.2 Gen1 1 x USB 2.0 (M12)	2 x USB 3.2 Gen1 2 x USB 2.0
	Ethernet	2 x M12: 2 x GbE by Intel® I211	2 x RJ-45: 1 x GbE by Intel® I217 (with 2kV isolation) 1 x GbE by Intel® I211 (with 2kV isolation)
	COM Port	2 x RS232/422/485 with AFC (DB9 with 1.5kV isolation)	1 x Console (DB9) 4 x RS232/422/485 with AFC (DB9 with 2.5kV isolation)
	Digital I/O	8-bit Digital I/O (4-in/ 4-out)(with 1.5kV isolation)	N/A
	CAN-bus	N/A	2 x CAN-bus 2.0b (with 2.5kV isolation)
	Display	1 x VGA (up to 1920 x 1200@60Hz) 1 x DVI-D (up to 1920 x 1200@60Hz)	1 x VGA (up to 1920 x 1200@60Hz) 1 x DVI-D (up to 2500 x 1600@60Hz) 1 x HDMI (up to 2500 x 1600@60Hz)
	Audio	1 x Line-out, 1 x Mic-in	1 x Line-out, 1 x Line-in, 1 x Mic-in
	Wireless	1 x 802.11a/b/g/n/ac (optional)	1 x 802.11a/b/g/n/ac (optional)
	PS2 (KB/MS)	N/A	1 x
	Other	1 x Power Button, 1 x Reset Button, 1 x AT/ATX Switch, 2 x LED for HDD, 2 x LED for LAN, 2 x LED for SIM	1 x Power Button, 1 x Reset Button, 1 x AT/ATX Switch, 1 x LED for Power (Green), 1 x LED for HDD (Red), 1 x LED for IPMI (Yellow)
Expansions	PCIe Mini	1 x Full-size with SIM card slot (PCIe/USB 2.0) 1 x Full-size with SIM card slot (PCIe/USB 2.0/SATA)	2 x Full-size (PCIe/USB 2.0)
Power	Power Input	M12: 24/ 110V DC	Terminal block: isolated 24V DC (18 ~ 31.2V DC)
	Power Consumption	24V @ 2A (Intel® i5-6300U with 4GB memory)	100W (Intel® i5-4400E with 4GB memory)
Reliability	Mounting	Wall mount	Wall mount
	Operating Temperature	-40 ~ 70°C with air flow (SSD), 10% ~ 95% non-condensing	-15 ~ 55°C with air flow (SSD), 10% ~ 95% non-condensing
	Storage Temperature	-40 ~ 85°C with air flow (SSD), 10% ~ 95% non-condensing	-20 ~ 60°C with air flow (SSD), 10% ~ 95% non-condensing
	Operating Shock	Compliant with EN 61373 Category 1 Class B	IEC 60945 and DNV 2.4 IASC-E10 compliant
	Operating Vibration	Compliant with EN 61373 Category 1 Class B	IEC 60945 and DNV 2.4 IASC-E10 compliant
	Weight (Net/ Gross)	3.9KG/ 5.1KG	4.08KG/ 6.03KG
	Safety/EMC	CE/ FCC/ Compliance with EN50155, EN50121	CE/ FCC/ DNV GL CG-0339, IEC 60945 4th, IACS-E10, IEC 61174 compliant
	IP Rating	N/A	IP22 compliant rear cover
OS	Watchdog Timer	Programmable 1 ~ 255 sec/min	Programmable 1 ~ 255 sec/min
	Supported OS	Microsoft® Windows® Embedded 8, Microsoft® Windows® Embedded Standard 7 E	Microsoft® Windows® Embedded 8, Microsoft® Windows® Embedded Standard 7 E

IKARPC-07A

Vehicle Computer Series

Features

- 7" sunlight readable TFT LCD with projected capacitive touchscreen
- Optional HSUPA/GPRS/GSM, Wi-Fi and Bluetooth
- Built-in GPS receiver
- Built-in OBD-II/J1939

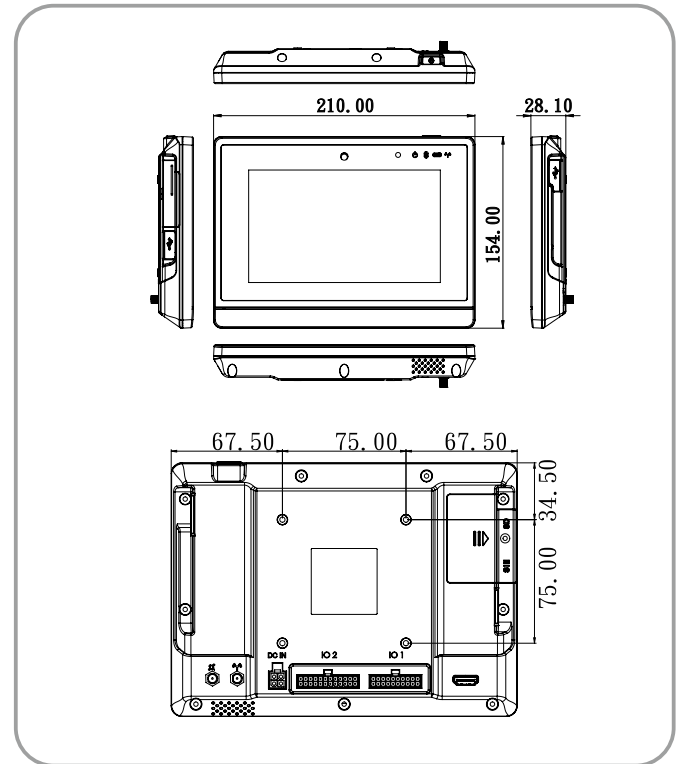


Specifications

Model Name		IKARPC-07A-BT
Chassis	Color	Black C + Silver
	Dimensions (WxHxD) (mm)	210 x 154 x 28
	System Fan	Fanless
	Chassis Construction	PC + ABS plastic
Display	Size	7"
	Resolution	1024 × 3 (RGB) × 600
	Brightness (cd/m²)	500
	Contrast Ratio	700:1
	Pixel Pitch (mm)	0.05 (W) × 0.15 (H)
	Viewing Angle (H/V)	130° (H) / 140° (V)
	Touchscreen	Projected capacitive touch with USB interface
Motherboard	CPU	Intel® Atom™ processor E3826 (dual-core, 1.46 GHz, 7W)
	Chipset	SoC
	System Memory	On-board 2 GB SDRAM
Storage	SD Card	1 x Micro SD slot (supports SD 2.0, max. 32 GB)
	Flash	N/A
	mSATA	1 x mSATA (SATA 3Gb/s) optional
Communication	WLAN	PCIe Mini Wi-Fi 802.11a/b/g/n/ac (optional)
	Bluetooth	BT 4.0/3.0+HS (combo with Optional WLAN module)
	WWAN	PCIe Mini WCDMA/HSDPA/HSUPA (optional)
	RFID	N/A
	GPS	On-board GPS
I/O Interfaces	20-pin Connector	1 x GbE LAN 1 x OBD-II/J1939 1 x USB 2.0
	24-pin Connector	1 x Audio line-out (R+L) 1 x Audio line-in 1 x RS-232 4-bit digital I/O (2-bit input, 2-bit output)
	8-pin Connector	N/A
	USB 3.2 Gen 1	1
	USB 2.0	1
	Display	1 x HDMI
	SIM	2 x On-board SIM card slot
	Antenna	1 x GPS, 1 x WWAN
Expansions	PCIe Mini	1 x Full-size (reserved for mSATA module), 1 x Full-size (reserved for WWAN module), 1 x Half-size (reserved for WLAN module)
Multimedia	Speaker	1 x Speaker (2 W)
	Camera	2-megapixel CMOS
LED Indicator & Button	Indicator	Power/HDD/Wi-Fi/3G
	Button	1 x Power button
Power	Power Input	Cigarette lighter power cable, DC 9 V~30 V
	Consumption	12V @ 1.25 A
Reliability	Mounting	VESA 75
	Operating Temperature	-10°C ~ 60°C with air flow
	Storage Temperature	-20°C ~ 60°C
	Humidity	10% ~ 95%, non-condensing
	Operating Shock	Half-sine wave shock 5G, 11ms, 3 shocks per axis
	Operating Vibration	MIL-STD-810F 514.5C-2 (with SSD)
	Weight (Net/Gross)	0.9 kg/2.1 kg
OS	Safety/EMC	CE/FCC/E-Mark/IP 54 compliant front panel
	Supported OS	Microsoft® Windows® Embedded 8, Microsoft® Windows® Embedded Standard 7 E

Fully Integrated I/O

Dimensions (Unit: mm)



Ordering Information

Part No.	Description
IKARPC-07A-BT-E3/2G-R12	7" 500 cd/m2 1024 x 600 In Vehicle Panel PC with Intel® Atom E3826 1.46GHz, 7W TDP, 2GB DDR3L On-board memory, OBDII, GPS On-board, 2M Camera, R12

Options

Item	Part No.	Description
Power adapter	IVIPOWER-4PIN-R20	Power adapter with 4-pin transfer cable, RoHS
Cigarette lighter power cable	32002-004000-100-RS	Round cable, power cable, car cigarette lighter cable, 2000 mm, 18 AWG, (A) cigarette lighter (5 A 250 V)+ φ 3 green LED, (B) MOLEX 5557-0400 P=4.2, SHANGHAI YING YU, RoHS
OBD-II cable	32025-003400-100-RS	Round cable, OBD-II cable, 2000 mm, 24 AWG, (A) OBD-II 16P male, (B) D-sub 9P female, one piece package with label, NIAN YEONG, RoHS

IKARPC-07A-BT Series

Item	Part No.	Description
I/O connector 1 cable (20-pin)	IVIPOWER-4PIN-R20	Round cable, integration cable, I/O cable, 300 mm, 24 AWG (A)terminal block 3P P=5.08, (B)USB A type female+2 NUT, (C)PCB jack: RJ-45 8P8C, (D)D-sub 9P male, (E)MOLEX 5557-2000 P=3.0, one piece package with label, RoHS
I/O connector 2 cable (24-pin)	32124-003700-100-RS	Round cable, integration cable, I/O cable, 300 mm, 22 AWG, (A)terminal block 8P P=5.08, (B)MOLEX 43025-2400 P=3.0, (C)D-sub 9P male, (D)phone jack 3.5_3P+NUT, (E)phone jack 3.5_5P+NUT, one piece package with label, RoHS
OS: Windows Embedded 7 (DVD-ROM)	IKARPC-07A-BT-WES7P-R10	OS image with Windows® Embedded Standard 7 E for IKARPC-07A-BT Series, DVD-ROM, RoHS
OS: Windows Embedded 8 (DVD-ROM)	IKARPC-07A-WE8S-R10	OS image with Windows® Embedded Standard 8 E for IKARPC-07A-BT Series, WE8S license label, DVD-ROM, RoHS
Wireless kit	IKARPC-WIFI-KIT01-R10	1T1R wifi module kit for embedded system, IEEE 802.11b/g/n, 1 x wifi module, RoHS
WWAN kit	IKARPC-3G-KIT02-R10	F260 3.75G module kit for embedded system, with BT V2.1, RoHS

Packing List

Product	Item	Part No.	Qty	Description
IKARPC-07A-BT	Power cable	32002-001900-100-RS	1	Round cable, power cable, 3000mm, RoHS
	Screw pack	44045-020031-RS	2	Screw pack
	GPS/GSM antenna	32506-000100-100-RS	1	Integration antenna, GPS/GSM, RG 174, 5000mm/5000mm, PPF-5423SA5X-999, Magnetic mount: $\varnothing$ 55x22mm, 1575.42MHz/850MHz/900MHz/1800MHz/1900MHz, SMA plug x 2

AFOKAR-08A-RK39

Vehicle Computer Series

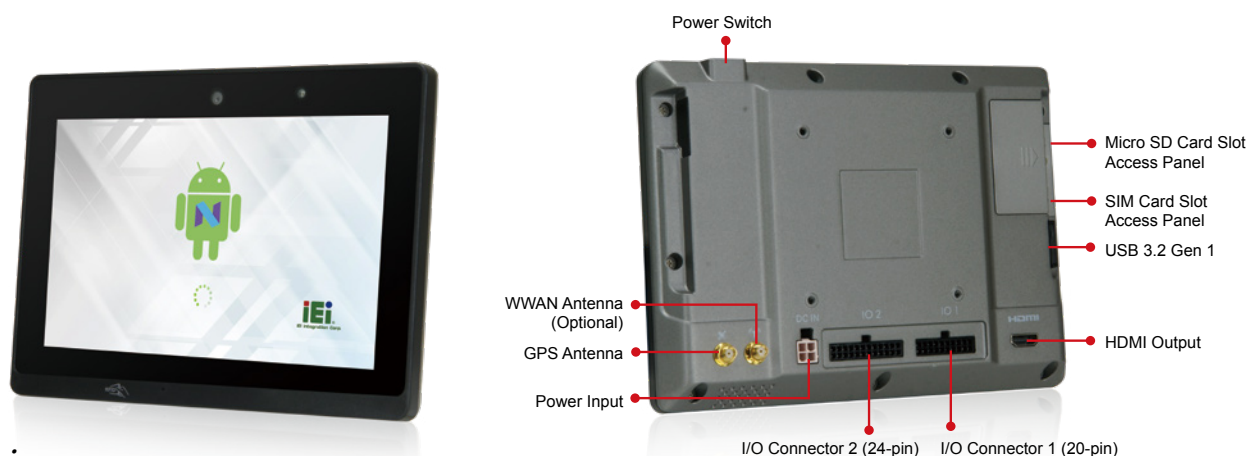
Features

- 8" sunlight readable TFT LCD with projected capacitive touchscreen
- Optional LTE module
- Built-in GPS receiver
- Built-in OBD-II
- OS: Android 9

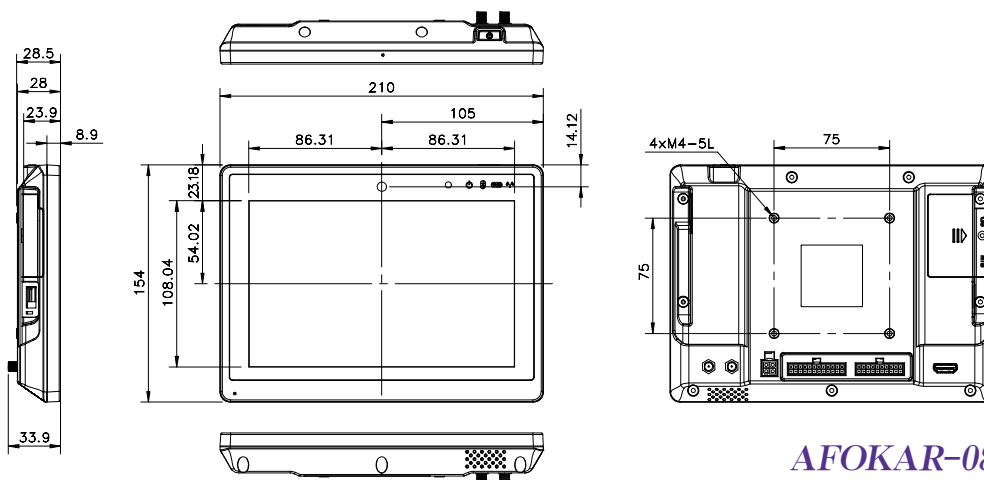


Specifications

Model Name		AFOKAR-08A-RK39
Chassis	Color	Black C + Silver
	Dimensions (WxHxD) (mm)	210 x 154 x 33.9
	System Fan	Fanless
	Chassis Construction	PC + ABS plastic front, Metal rear
Display	Size	8"
	Resolution	800 (RGB) × 1280
	Brightness (cd/m²)	500 cd/m² (typ.)
	Contrast Ratio	800 : 1 (typ.)
	Pixel Pitch (mm)	0.13455 (H) × 0.13455 (V)
	Viewing Angle (H/V)	85/85/85/85 Deg.
	Touchscreen	Projected capacitive with AG coating
Motherboard	CPU	Rockchip RK3399 (Dual-core Cortex-A72 up to 1.8GHz + Quad-core Cortex-A53 up to 1.5GHz)
Storage	System Memory	2GB LPDDR4
	SD Card	1 x Micro SD slot
Communication	Flash	16GB eMMC NAND flash
	WLAN	802.11 a/b/g/n/ac
	Bluetooth	Bluetooth V4.1
	WWAN	PCIe Mini LTE (optional)
	RFID	13.56 MHz ISO4443 A/B, read-write capable, ISO 14443A (MIFARE), ISO 14443B (FeliCa)
	GPS	On-board GPS
I/O Interfaces	20-pin Connector	1 x OBD-II 1 x USB 2.0 2 x CVBS Video input
		1 x Audio out 1 x RS-232 1 x RS-485 4-bit digital I/O with isolation (2-bit input, 2-bit output)
		1 x USB 3.2 Gen 1 Type A
	Display	1 x HDMI output
	SIM	1 x On-board SIM card slot
	Antenna	1 x GPS, 1 x WWAN
	PCIe Mini	1 x Full-size (reserved for WWAN)
Expansions	Speaker	1 x Speaker (2 W)
Multimedia	Camera	5-megapixel CMOS
	Indicator	Power/BT/Wi-Fi/WWAN
LED Indicator & Button	Button	1 x Power button
	Power Input	DC 9 V~30 V, 4-pin connector (with ACC ignition)
Power	Power Consumption	12V @ 1.2A
	Mounting	VESA mount 75mm x 75mm
Reliability	Operating Temperature	-10°C ~ 50°C with air flow
	Storage Temperature	-20°C ~ 60°C
	Humidity	10% ~ 90%, non-condensing
	IP Level	IP54 front panel compliant
	Operating Shock	Half-sine wave shock 5G, 11ms, 3 shocks per axis
	Operating Vibration	MIL-STD-810F 514.5C-2
	Weight (Net)	0.77 kg
	Safety/EMC	CE/FCC (Class A)/E-mark
OS	Supported OS	Android 9
	Watchdog timer	Yes



Dimensions (Unit: mm)



AFOKAR-08A-RK39

Ordering Information

Part No.	Description
AFOKAR-08A-RK39-R20-TW	8" 500 cd/m ² , Android 9 in- vehicle panel PC with Rockchip 3399 processor, 2GB LPDDR4, 16GB eMMC flash, GPS, Wi-Fi/Bluetooth, OBD-II, 5-megapixel camera, RFID reader, TW reg, R20
AFOKAR-08A-RK39-R20-CN	8" 500 cd/m ² , Android 9 in- vehicle panel PC with Rockchip 3399 processor, 2GB LPDDR4, 16GB eMMC flash, GPS, Wi-Fi/Bluetooth, OBD-II, 5-megapixel camera, RFID reader, CN reg, R20
AFOKAR-08A-RK39-R20-US	8" 500 cd/m ² , Android 9 in- vehicle panel PC with Rockchip 3399 processor, 2GB LPDDR4, 16GB eMMC flash, GPS, Wi-Fi/Bluetooth, OBD-II, 5-megapixel camera, RFID reader, US reg, R20
AFOKAR-08A-RK39-R20-EU	8" 500 cd/m ² , Android 9 in- vehicle panel PC with Rockchip 3399 processor, 2GB LPDDR4, 16GB eMMC flash, GPS, Wi-Fi/Bluetooth, OBD-II, 5-megapixel camera, RFID reader, EU reg, R20

Options

Item	Part No.	Description
Power Adapter	IVIPOWER-4PIN-R20	Adapter power with 4-pin transfer cable, RoHS
Cigarette Lighter Power Cable	32002-004000-100-RS	Car cigarette lighter cable
VESA Mount Stand	IVI-MK03-R10	138mm 75x75 VESA mount stand
VESA Mount Stand	IVI-MK04-R10	286mm 75x75 VESA mount stand
OBD-II Cable	32025-003400-100-RS	OBDII CABEL;2;2000MM;24AWG;(A)OBD2-16P MALE;(B)D-SUB 9PIN FEMALE
ACC Power Cable	32002-001900-100-RS	Vehicle battery to device power cable;3000MM;16AWG
GPS/LTE Antenna	32506-000500-100-RS	Magnetic Antenna Base_GPS+GLOANSS & 3G/LTE 2 In 1 Antenna;RG 174;5000MM
I/O Connector (20-pin)	32024-003800-100-RS	1 x DB-9 for OBD-II, 1 x USB 2.0 TYPE A, 2 x CVBS Video input
I/O Connector (24-pin)	32124-004400-100-RS	1 x Audio line-out (R+L), 1 x RS-232, 1 x RS-485, 1 x terminal block 4 bit digital I/O
LTE Module	27552-000004-RS	WCDMA/HSPA+/LTE;SIM7500SA
	27552-000005-RS	GSM/LTE/WCDMA;SIM7500E
	27552-000006-RS	LTE/WCDMA;SIM7500A

Packing List

1 x AFOKAR Device

IKARPC-W10A

Vehicle Computer Series

Features

- 10.1" TFT LCD with projected capacitive touchscreen
- Intel® Atom™ E3826 1.46 GHz CPU
- Windows® Embedded Standard 7
- Optional HSUPA/GPRS/GSM, Wi-Fi and Bluetooth
- Built-in GPS function
- Built-in OBD-II

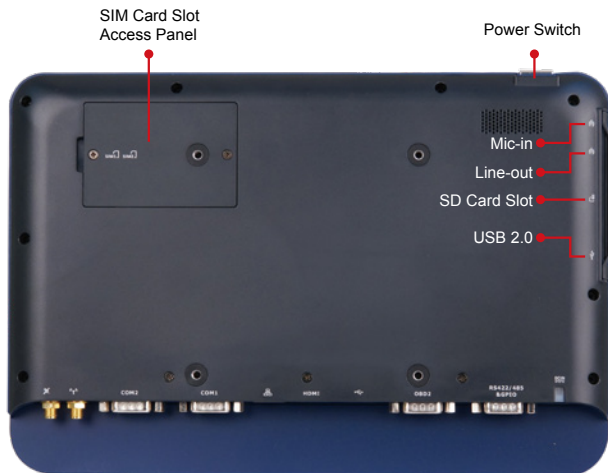


Specifications

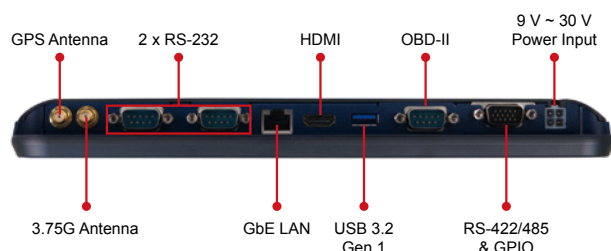
Model Name		IKARPC-W10A
Chassis	Color	Blue C + Black C
	Dimensions (WxHxD) (mm)	277 x 186 x 27
	System Fan	Fanless
	Chassis Construction	PC + ABS plastic
Display	Size	10.1"
	Resolution	1280 x 800
	Brightness (cd/m ²)	350
	Contrast Ratio	800:1
	Pixel Pitch (mm)	0.0565 (W) x 0.1695 (H)
	Viewing Angle (H/V)	150° (H)/145° (V)
	Touchscreen	Projected capacitive touch with USB interface, AG coating, anti-UV protection
Motherboard	CPU	Intel® Atom™ processor E3826 (dual-core, 1.46 GHz, 7W)
	Chipset	SoC
	System Memory	1 x 204-pin DDR3L SO-DIMM (pre-installed 2GB DDR3L, system max. 4GB)
Storage	Hard Drive	1 x 2.5" SATA 3Gb/s HDD/SSD drive bay
	SD Card	1 x SD slot (supports SD 2.0, max. 32 GB)
Communication	WLAN	PCIe Mini Wi-Fi 802.11a/b/g/n/ac (optional)
	Bluetooth	BT 4.0/3.0+HS (combo with optional WLAN module)
	WWAN	PCIe Mini WCDMA/HSDPA/HSUPA (optional)
	GPS	On-board GPS
I/O Interfaces	USB 3.2 Gen 1	1
	USB 2.0	1
	Ethernet	1 x RJ-45 PCIe GbE by Realtek 8111E
	COM Port	2 x DB-9 RS-232
	Digital I/O	8-bit digital I/O (4-bit input / 4-bit output)
	CAN-bus/OBD-II	1 x DB9 OBD-II
	Display	1 x HDMI
	Resolution	HDMI: Up to 1920 x 1080 @ 60 Hz
	Audio	1 x Line out, 1 x Mic in
	SIM	2 x On-board SIM card slot
	Antenna	1 x GPS, 1 x WWAN
Expansions	PCIe Mini	1 x Full-size (reserved for WWAN module), 1 x Full-size (reserved for WLAN module)
Multimedia	Audio	1 x Speaker (2 W)
	Camera	2-megapixel CMOS
LED Indicator & Button	Indicator	Power/Wi-Fi/HDD/3.5G
	Button	1 x Power button
Power	Power Input	Cigarette lighter power cable, DC 9 V~30 V
	Consumption	12 V @ 1.73 A
Reliability	Mounting	VESA 100
	Operating Temperature	-10°C ~ 60°C with air flow
	Storage Temperature	-20°C ~ 70°C
	Humidity	10% ~ 95%, non-condensing
	Operating Shock	Half-sine wave shock 5G, 11ms, 3 shocks per axis
	Operating Vibration	MIL-STD-810F 514.5C-2 (with SSD)
	Weight (Net/Gross)	1.3 kg/2.8 kg
	Safety/EMC	CE/FCC/E-Mark/IP 64 compliant front panel
OS	Supported OS	Microsoft® Windows® Embedded 8, Microsoft® Windows® Embedded Standard 7 E

Fully Integrated I/O

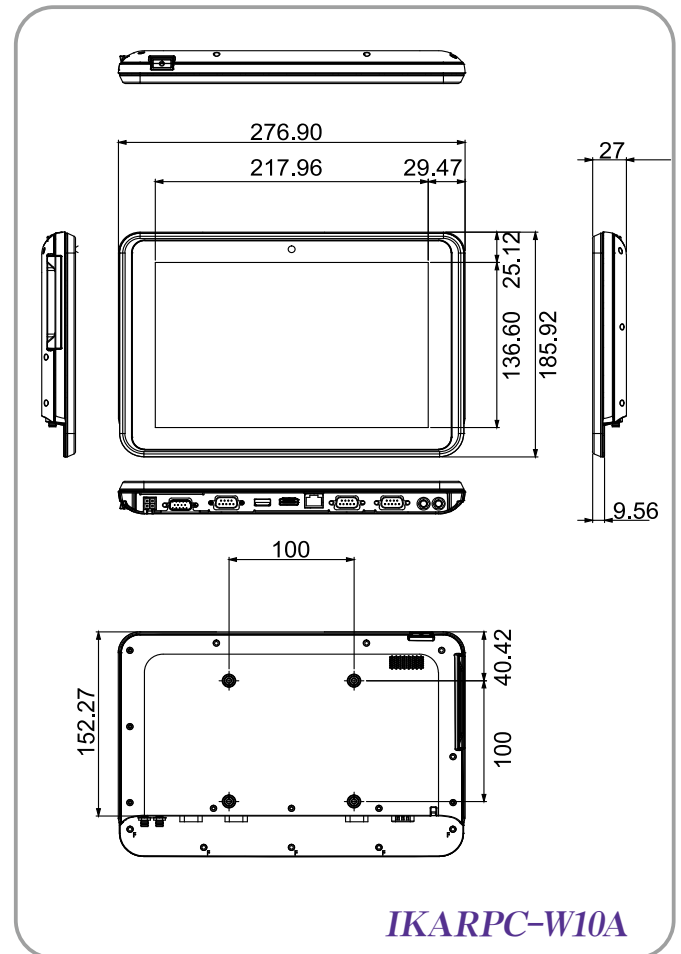
Rear view



Bottom view



Dimensions (Unit: mm)



Ordering Information

Part No.	Description
IKARPC-W10A-BT-E3/2G-R11	10.1" 350 cd/m2 1280 x 800, in-vehicle panel PC with Intel® Atom E3826 1.46GHz, 7W TDP, 2GB DDR3L on-board memory, OBD-II, on-board GPS, 2-megapixel camera, R11

Options

Item	Part No.	Description
Power adapter	IVIPOWER-4PIN-R20	Power adapter with 4-pin transfer cable, RoHS
Cigarette lighter power cable	32002-004000-100-RS	Round cable, power cable, car cigarette lighter cable, 2000 mm, 18 AWG, (A) cigarette lighter (5 A 250 V)+ ψ3 green LED, (B) MOLEX 5557-0400 P=4.2, RoHS
OBD-II cable	32025-003400-100-RS	Round cable, OBD-II cable, 2000 mm, 24 AWG, (A) OBD-II 16P male, (B) D-sub 9P female, one piece package with label, RoHS
OS: Windows Embedded 7 (DVD-ROM)	IKARPC-W10A-BT-WES7P-R10	OS image with Windows® Embedded Standard 7 E for IKARPC-W10A-BT Series, DVD-ROM, RoHS
OS: Windows Embedded 8 (DVD-ROM)	IKARPC-W10A-WE8S-R10	OS image with Windows® Embedded Standard 8 E for IKARPC-W10A Series, WE8S license label, DVD-ROM, RoHS
Wireless kit	IKARPC-WIFI-KIT02-R10	1T1R wifi module kit for embedded system, IEEE802.11a/b/g/n/ac WiFi with Bluetooth 4.0/3.0+HS, 1 x wifi module, RoHS
WWAN kit	IKARPC-3G-KIT02-R10	F260 3.75G module kit for embedded system, with BT V2.1, RoHS
VESA mount stand	IVI-MK02-R10	286mm 75x75 / 100x100 VESA mount stand

Packing List

Item	Part No.	Qty	Description
Power Cable w/ core	32002-001900-100-RS	1	Round cable, power cable, 3000mm, RoHS
	30600-000056-RS	1	Cable Core 13φ, 33x31.5x33mm, RoHS
GPS/GSM Antenna	32506-000100-100-RS	1	Integration antenna, GPS/GSM, RG 174, 5000mm/5000mm, PPF-5423SA5X-999, Magnetic mount: φ55x22mm. 1575.42MHz/850MHz/900MHz/1800MHz/1900MHz. SMA plug x 2

IVS-200-ULT2

Vehicle Surveillance System



Features

- Intel® i5-5350U dual-core 1.8 GHz CPU or Intel® Celeron® 3755U dual-core 1.7 GHz CPU
- Four Intel® GbE LAN ports
- 9 V ~ 36 V DC input
- Two RS-232/422/485
- E-Mark certification



Specifications

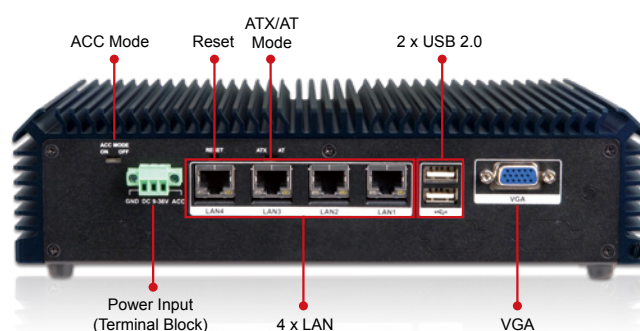
Model Name		IVS-200-ULT2
Chassis	Color	Blue C
	Dimensions (WxHxD) (mm)	255 x 63 x 150
	System Fan	Fanless
	Chassis Construction	Extruded aluminum alloy
Motherboard	CPU	Intel® Core™ i5-5350U 1.8 GHz (up to 2.9 GHz, dual-core, TDP 15W) Intel® Celeron® 3755U 1.9 GHz (dual-core, TDP 15W)
	Chipset	SoC
	System Memory	2 x SO-DIMM DDR3L 1600/1866 (4GB pre-installed)(up to 16GB)
Storage	Hard Drive	1 x 2.5" SATA 6Gb/s HDD/SSD removable bay
Communication	WLAN	802.11 a/b/g/n/ac (optional)
	Bluetooth	Bluetooth 2.1 (optional)
	WWAN	WCDMA/HSDPA/HSUPA (optional)
I/O Interfaces	USB	2 x USB 3.2 Gen1 2 x USB 2.0
	Ethernet	4 x RJ-45: 1 x GbE by Intel® I218 3 x GbE by Intel® I211
	COM Port	2 x RS232/422/485 with AFC (DB9) 4 x RS232 (DB9)
	Digital I/O	8-bit Digital I/O (4-in/ 4-out)(pin header)
	Display	1 x HDMI (up to 3840 x 2160@30Hz) 1 x VGA (up to 1920 x 1600@60Hz)
	Audio	1 x Line-out, 1 x Mic-in
	Antenna	1 x 3G, 1 x BT, 1 x Wi-Fi
	Other	1 x Power button, 1 x Reset button, 1 x AT/ATX Switch, 1 x ACC Switch, 1 x LED for Power (Red), 1 x LED for HDD (Green)
Expansions	PCIe Mini	1 x Full-size with SIM card slot (PCIe/USB 2.0) 1 x Full-size (PCIe/USB 2.0/SATA)
Power	Power Input	DC Jack: 9 ~ 36V DC
	Power Consumption	12V @ 2.1A (Intel® i5-5350U with 4GB memory)
Reliability	Mounting	VESA 100
	Operating Temperature	-20°C ~ 60°C with air flow, 10% ~ 95% non-condensing
	Storage Temperature	-30°C ~ 70°C with air flow, 10% ~ 95% non-condensing
	Operating Shock	Half-sine wave shock 5G, 11ms, 100 shocks per axis (SSD)
	Operating Vibration	MIL-STD-810F 514.5C-2 (SSD)
	Weight (Net/Gross)	2.2KG/ 3.0KG
	Safety/EMC	CE/ FCC/ E-Mark
	Watchdog Timer	Programmable 1 ~ 255 sec/min
OS	Supported OS	Microsoft® Windows Embedded 8, Microsoft® Windows Embedded, Standard 7 E

Fully Integrated I/O

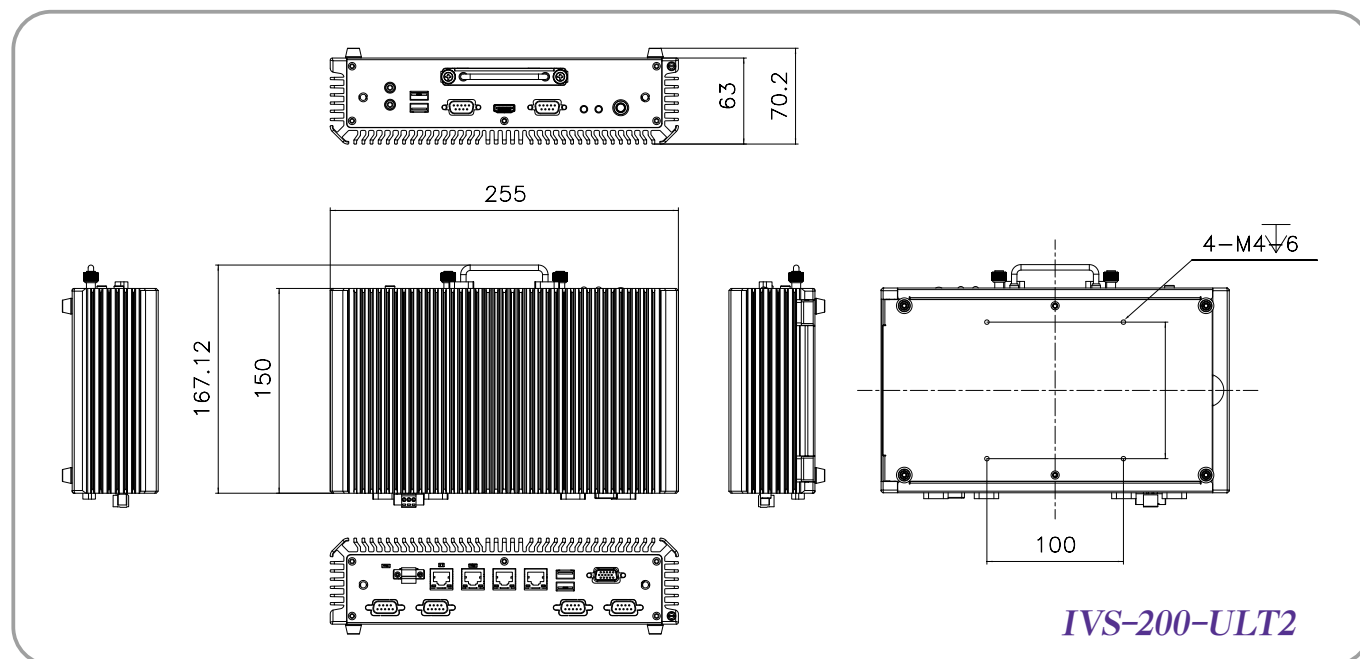
Front view



Rear view



Dimensions (Unit: mm)



IVS-200-ULT2

Ordering Information

Part No.	Description
IVS-200-ULT2-i5/4G-R11	Fanless system with Intel® Core™ i5-5350U CPU, up to 2.9GHz, TDP 15W, four GbE LAN ports, one HDMI, one VGA, two RS-232/422/485, one 2.5" removable SATA HDD bay, 4 GB memory pre-installed, 9 V~36 V DC, RoHS
IVS-200-ULT2-C/4G-R11	Fanless system with Intel® Celeron® 3765U 1.7GHz CPU, TDP 15W, four GbE LAN ports, one HDMI, one VGA, two RS-232/422/485, one 2.5" removable SATA HDD bay, 4 GB memory pre-installed, 9 V~36 V DC, RoHS

Options

Item	Part No.	Description
OS	IVS-200-ULT2-WES7E64-R10	OS image with Windows® Embedded Standard 7 E 64-bit for IVS-200-ULT2, DVD-ROM, RoHS
Serial cable	32205-005400-100-RS	RS-232 cable, 150 mm, 2x5 pin
DIO cable	32231-000100-200-RS	DIO cable, 150 mm, 2x5 pin
Wireless kit	EMB-WIFI-KIT01-R20	1T1R wifi module kit for embedded system, IEEE802.11a/b/g/n/ac WiFi with Bluetooth 4.0/3.0+HS, 1 x wifi module, 2 x 250mm RF cable, 2 x Antenna, RoHS

Packing List

Item	Part No.	Qty	Description
Screw pack	44013-030041-RS	4	Screw pack
	44005-030083-RS	4	Screw pack
Wall mount kit	41020-0433C2-00-RS	2	Wall mount bracket

IVS-110-AL

Vehicle Fleet Management System

Features

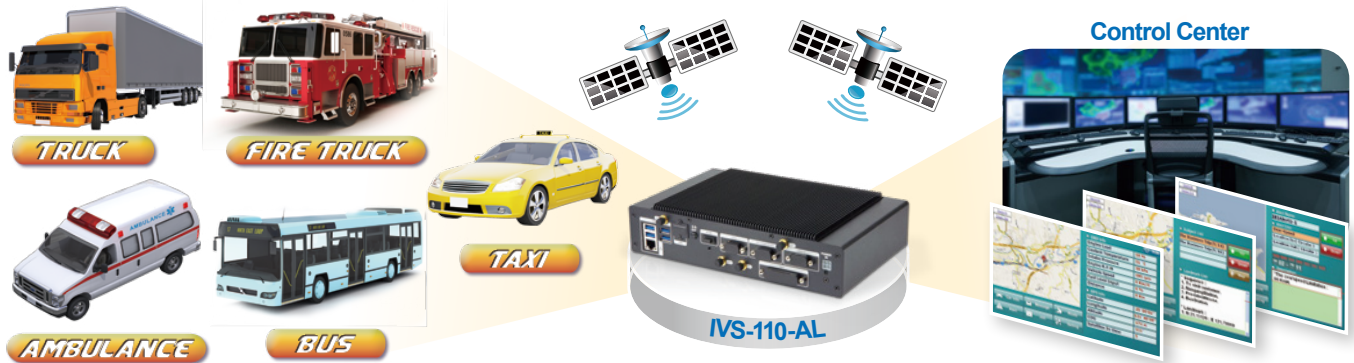
- Intel® Apollo Lake processor
- Dual SIM slot
- 16 x DI/DO
- 1 x HDMI (lockable), 1 x VGA
- Built-in GPS function
- E-Mark certification
- Built-in OBD-II/J1939
- IP4X protection



Specifications

Model		IVS-110-AL
Chassis	Color	Black
	Dimensions (WxDxH) (mm)	261 x 170 x 60
	System Fan	Fanless
	Chassis Construction	Extruded aluminum alloy
Motherboard	CPU	Intel® Atom™ x7-E3950 1.6 GHz (up to 2.0 GHz, quad-core, TDP 12W)
	Chipset	SoC
	System Memory	1 x SO-DIMM DDR3L 1600/1866 (4GB pre-installed)(up to 8GB)
Storage	Hard Drive	1 x 2.5" SATA 6Gb/s HDD/SSD bay
	eMMC	1 x eMMC5.0 (optional)
Communication	WLAN	802.11 a/b/g/n/ac (optional)
	Bluetooth	BT 4.0/3.0+HS (optional)
	WWAN	WCDMA/HSDPA/HSUPA (optional)
	GPS	On-board GPS
I/O Interfaces	USB	4 x USB 3.2 Gen1
	Ethernet	1 x RJ-45: 1 x GbE by Intel® I210
	COM Port	1 x RS232/422/485 with AFC (DB9)
	Digital I/O	16-bit Digital I/O (8-in/ 8-out)
	OBD-II	1 x OBD-II/J1939 (DB9)
	Display	1 x HDMI (up to 3840 x 2160@30Hz) 1 x VGA (up to 1920 x 1600@60Hz)
	Audio	1 x Line-out
	Antenna	1 x 3G, 1 x GPS, 1 x BT, 1 x Wi-Fi
	Other	1 x Power Button, 1 x LED for HDD, 1 x LED for Wi-Fi, 2 x LED for SIM
Expansions	PCIe Mini	1 x Full/Half-size with SIM card slot (PCIe/USB 2.0) 1 x Full/Half-size with SIM card slot (PCIe/USB 2.0) 1 x Half-size (PCIe/USB 2.0)
Power	Power Input	Cigarette lighter power cable: 9 ~ 36V DC
	Power Consumption	12V @ 5A (Intel® x7-E3950 with 8GB memory)
Reliability	Mounting	Wall-mount/ VESA 100
	Operating Temperature	-30 ~ 70°C with air flow (SSD), 10% ~ 95% non-condensing
	Storage Temperature	-40 ~ 80°C with air flow (SSD), 10% ~ 95% non-condensing
	Operating Shock	Half-sine wave shock 5G, 11ms, 100 shocks per axis (SSD)
	Operating Vibration	MIL-STD-810F 514.5C-2 (SSD)
	Weight (Net/Gross)	2.4KG/ 3.8KG
	Safety/EMC	CE/ FCC/ E-Mark
	IP Rating	IP 4X compliant
	Watchdog Timer	Programmable 1 ~ 255 sec/min
OS	Supported OS	Microsoft® Windows 10

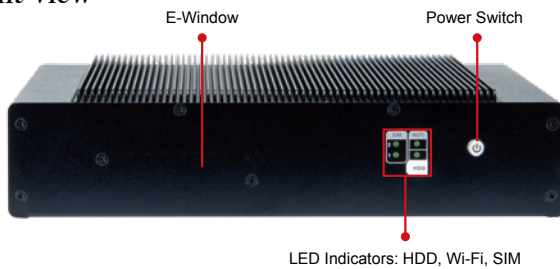
Fleet Management Tracking System



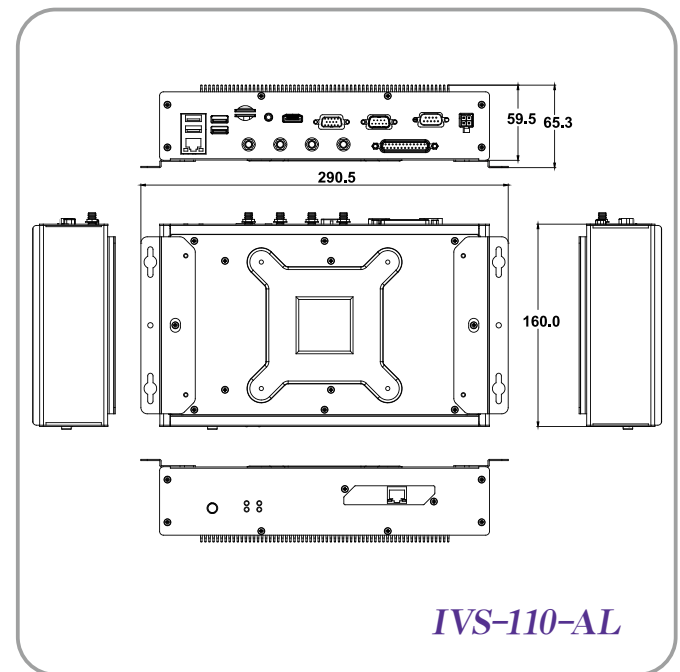
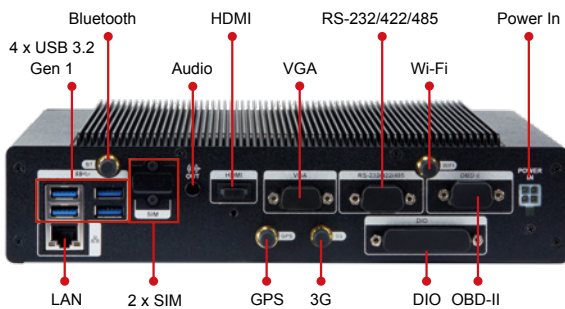
Fully Integrated I/O

Dimensions (Unit: mm)

Front view



Side view



Ordering Information

Part No.	Description
IVS-110-AL-E3/4G-R10	Fanless embedded system with Intel® Atom™ x7-E3950 (12W) Processor with 4GB DDR3L pre-installed memory, on-board GPS, HDMI, VGA, one GbE LAN, one 2.5" SATA HDD bay, two SIM slots, RoHS

Options

Item	Part No.	Description
GPS/LTE antenna	32506-000400-100-RS	Integration Antenna, Magnetic Antenna Base+GPS/4G LTE ANTENNA, RG 174, 5000MM, AU-4S-LTE, GPS Gain:27dB, LTE, Gain:0dBi, 50Ω, SANAV, 1575.42MHz/704-960MHz/1710-2766MHz, VSWR ≤ 2.0, SMA PLUG, REVERSE SMA PLUG, RoHS
Power adapter	IVIPOWER-4PIN-R20	Power adapter with 4-pin transfer cable, RoHS
OBD-II cable	32025-003400-100-RS	Round cable, OBD-II cable, 2000 mm, 24 AWG, (A) OBD-II 16P male, (B) D-sub 9P female, one piece package with label, RoHS
Cigarette lighter power cable	32002-004000-100-RS	Round cable, power cable, car cigarette lighter cable, 2000 mm, 18 AWG, (A) cigarette lighter (5 A 250 V)+ ψ3 green LED, (B) MOLEX 5557-0400 P=4.2, SHANGHAI YING YU, RoHS
ACC power cable	32002-001900-100-RS	Round cable, power cable, 3000 mm, 16 AWG, (A) MOLEX 5557-04P P=4.2, SHANGHAI YING YU, RoHS

Packing List

Item	Part No.	Qty	Description
Screw pack	44005-030083-RS	4	Screw pack
	42005-000603-RS	4	Screw pack
	44003-030052-RS	4	Screw pack
	44045-020031-RS	5	Screw pack
SATA cable	32801-003608-100-RS	1	Sata cable, 3, 150mm/150mm, 26AWG, SATA 7+15P female 180°, SATA 7P female 90°+lock, JST PHR-2 P=2.0, One pcs PKG W/ label, RoHS
Wall mount kit	41020-0482C2-00-RS	2	Wall mount bracket

E-Window (for ATO assembly) E-Window

Part No.	Description
E-MPCIE-LAN-R10	PCIe Mini card supports 1-port GbE with Realtek RTL8111E controller, with PMS 194C I/O bracket and 250mm cable, R10
E-MPCIE-DLAN-R10	PCIe Mini card supports 2-port GbE with Intel I211 controller, with PMS 194C I/O bracket and 250mm cable, R10
E-MPCIE-UART-KIT02-R10	PCI Express Mini supports Dual RS-232/422/485, 16-bit GPIO module, full-size, RoHS

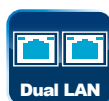
IRS-100-ULT3

Railway Surveillance System



Features

- Intel® Skylake ULT processor
- Dual M12 LAN port
- VGA / DVI dual display
- Dual SIM card design
- 24V and 110V DC input (±40%) DC input
- 2 x 2.5" hot-swappable SATA SSD drive bay
- EN 50155

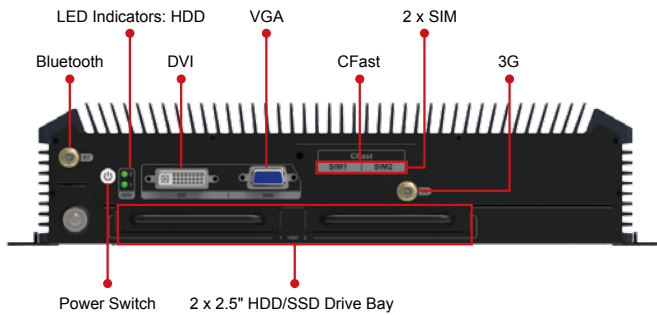


Specifications

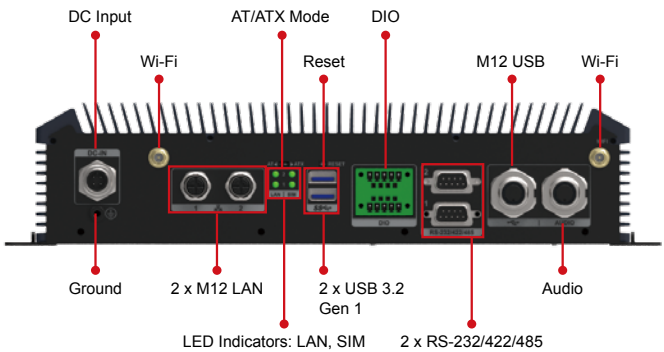
Model Name		IRS-100-ULT3
Chassis	Color	Blue C
	Dimensions (WxHxD) (mm)	290 x 225 x 69
	System Fan	Fanless
	Chassis Construction	Extruded aluminum alloy
Motherboard	CPU	Intel® Core™ i5-6300U 2.4 GHz (up to 3.0 GHz, dual-core, TDP 15W)
	Chipset	SoC
	System Memory	2 x SO-DIMM DDR4 2400 (4GB pre-installed)(up to 32GB)
Storage	Hard Drive	2 x 2.5" SATA 6Gb/s HDD/SSD removable bay
	C-Fast	1 x C-Fast card slot
I/O Interfaces	USB	2 x USB 3.2 Gen1 1 x USB 2.0 (M12)
	Ethernet	2 x M12: 2 x GbE by Intel® I211
	COM Port	2 x RS232/422/485 with AFC (DB9 with 1.5kV isolation)
	Digital I/O	8-bit Digital I/O (4-in/ 4-out)(with 1.5kV isolation)
	Display	1 x VGA (up to 1920 x 1200@60Hz) 1 x DVI-D (up to 1920 x 1200@60Hz)
	Audio	1 x Line-out, 1 x Mic-in
	Wireless	1 x 802.11a/b/g/n/ac (optional)
	Other	1 x Power Button, 1 x Reset Button, 1 x AT/ATX Switch, 2 x LED for HDD, 2 x LED for LAN, 2 x LED for SIM
Expansions	PCIe Mini	1 x Full-size with SIM card slot (PCIe/USB 2.0) 1 x Full-size with SIM card slot (PCIe/USB 2.0/SATA)
Power	Power Input	M12: 24/ 110V DC
	Power Consumption	4V @ 2A (Intel® i5-6300U with 4GB memory)
Reliability	Mounting	Wall mount
	Operating Temperature	-40 ~ 70°C with air flow (SSD), 10% ~ 95% non-condensing
	Storage Temperature	-40 ~ 85°C with air flow (SSD), 10% ~ 95% non-condensing
	Operating Shock	Compliant with EN 61373 Category 1 Class B
	Operating Vibration	Compliant with EN 61373 Category 1 Class B
	Weight (Net/Gross)	3.9KG/ 5.1KG
	Safety/EMC	CE/ FCC/ Compliance with EN50155, EN50121
	Watchdog Timer	Programmable 1 ~ 255 sec/min
OS	Supported OS	Microsoft® Windows® Embedded 8, Microsoft® Windows® Embedded Standard 7 E

Fully Integrated I/O

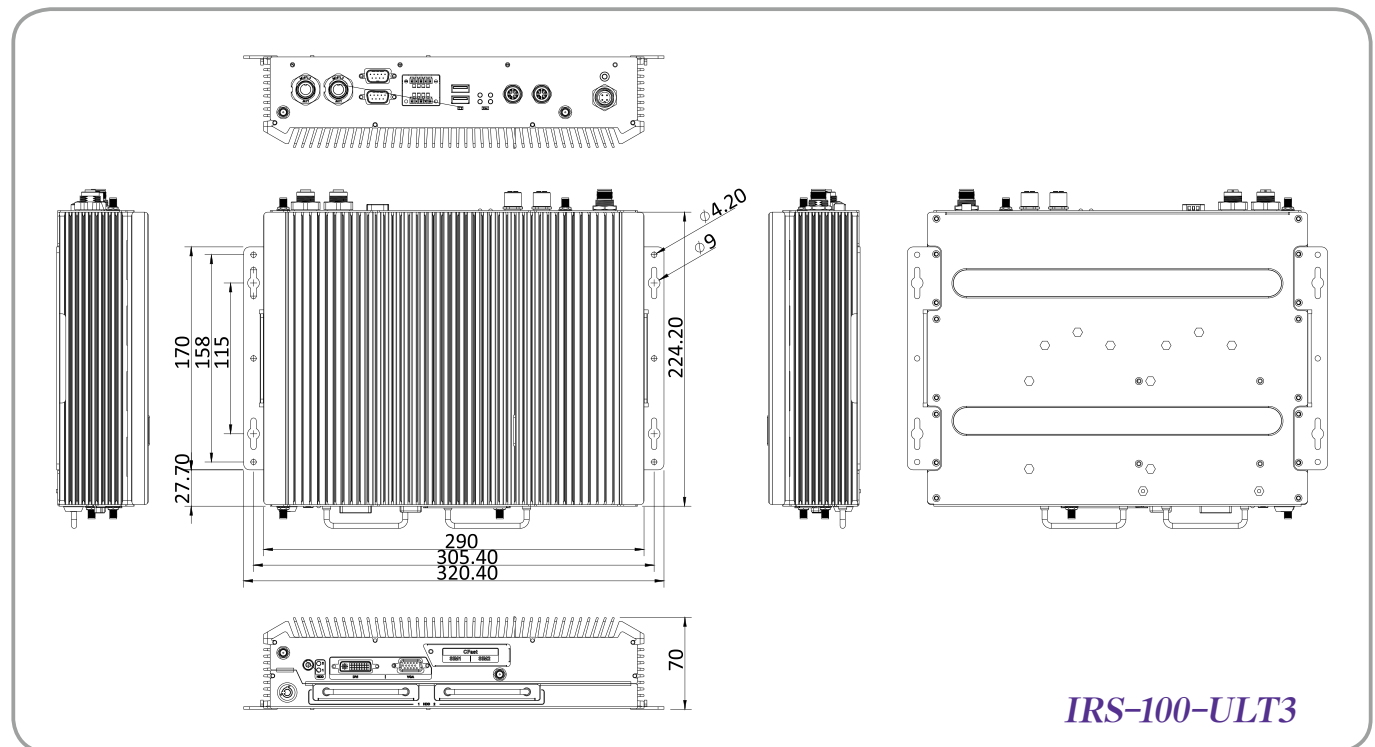
Front view



Rear view



Dimensions (Unit: mm)



IRS-100-ULT3

Ordering Information

Part No.	Description
IRS-100-ULT3-I5/4G-R10	Fanless railway system with Intel® Core™ i5-6300U processor (15W), 4GB DDR4 pre-installed memory, two 2.5" SATA SSD bays, VGA, DVI, two M12 GbE LAN

Options

Item	Part No.	Description
OS	IRS-100-ULT3-WES7E64-R10	OS image with Windows® Embedded Standard 7 E 64-bit for IRS-100-ULT3, DVD-ROM, RoHS
DC cable	32002-009000-100-RS	Power cable, 2000 mm, 16AWG, M12 5-pin female; label: V+, V-, GND; RoHS
USB cable	32001-022700-200-RS	USB cable, 2000 mm, 24AWG; (A) Amphenol LTW: M12 5-pin male IP68 (12-05BMMA-SL8001), (B) USB Type A 4-pin female; RoHS
LAN cable	32013-003400-100-RS	LAN cable, 1000 mm, 26AWG; (A) METZ: M12 plug 8-pin (MNF881A315-001), (B) RJ-45 8P8C plug; RoHS
Audio cable	32007-005400-100-RS	Audio cable, 1200 mm, 28AWG; (A) Amphenol LTW: M12 5-pin male (12-05BMMA-SL8001), (B) DC stereo jack: 3.5mm*2; RoHS
Wireless kit	IRS-100-WIFI-KIT02-R10	1T1R Wi-Fi module kit for embedded system, IEEE802.11a/b/g/n/ac Wi-Fi with Bluetooth 4.0/3.0+HS, 1 x Wi-Fi module, 2 x antennas, 2 x cables RoHS
WWAN kit	IRS-100-3G-KIT02-R10	3G module kit for embedded system, F260, 1 x 3G module, 1 x antenna, 2 x cables, RoHS

Packing List

Item	Part No.	Qty	Description
Wall mount kit	41020-0474C2-00-RS	2	Wall mount bracket
Screw pack	44015-030061-RS	16	Screw pack

SBOX-100-QM87

Maritime Embedded System

Features

- Fanless marine computer with 4th generation Intel® Core™ i5 dual-core processor
- -15°C ~ +55°C wide temperature
- Isolation protection
 - » 4 x RS-232/422/485 isolated serial ports
 - » Isolated 24 VDC (with tolerance from 18V to 36V)
 - » 2 x Isolated CAN-bus 2.0B
- 2 x 2.5" SSD bay with RAID 0/1 function
- Supports IEI iRIS-2400 (IPMI 2.0 compliant)



Intel® Core™ i5 High Performance Computing Power in a Fanless Design

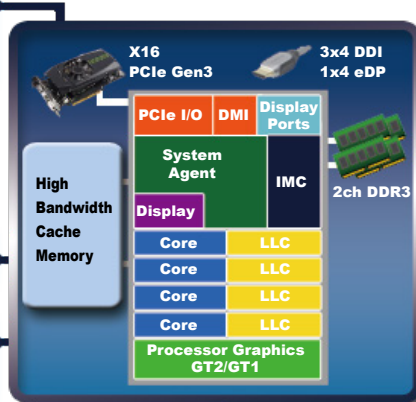
IEI's high performance marine solutions are built with the powerful Intel® Core™ i5 CPU within a fanless system architecture. No matter your applications are general marine system management, monitoring or conning systems, radar systems, or ECDIS navigation, IEI's marine computers will give you the most stability than ever.

- Improved CPU performance with Intel® 22nm 4th Generation Mobile Core™ i5-4400E 2.7 GHz processor
- Two 204-pin 1600/1333MHz dual-channel DDR3 SDRAM support up to 16 GB

Next Generation Intel® HD Graphics with DX 11.1, OpenGL 4.x, OpenCL 1.2

Fully Integrated VR

3 Independent Displays High Resolution DP v1.2, HDMI 1.4a



Built-in 22 nm Processor

Intel® Turbo Boost Technology

2 Ch DDR3L 1600 MHz 1/2 DIMM per Channel

Up to 4C and 8MB of Intel® Smart Cache

Intel® AVX 2.0 + Intel® AES New Instructions and Improvements

-15°C~55°C FANLESS!



With IEI's fanless solutions, your vessels can avoid the bothersome of replacement of fan, increasing safety and efficiency for the crew and the entire ship.

Three independent aluminum heat sinks help the heat dissipate averagely, and help the system efficiently achieve wide operating temperature range between -15°C~55°C.

3 independent displays: HDMI, DVI, and VGA

The three simultaneously independent displays are supported via the on-board video output combinations of VGA, DVI and HDMI. This versatile combination of display output options make the marine system ideal for multi-monitor required applications in the bridge room.

Display 1



Display 2



VGA

DVI

Display 3



Multiple Isolated Ports for Comprehensive Protection against Electrical Surges

Ground loop and electric surges are common in the marine applications of electronic products due to the dense placement of devices. These stray electrical signals can cause equipment damage or malfunction.

■ 2.5 kV isolation protection on the RS-232/422/485

IEI marine computer is protected from any stray electrical signals from other devices on the ship. Electric surges that were generated from other electronic devices which often passed through serial lines to the marine computer can cause severe damage and malfunction to the computers.

■ Isolated 24 VDC (with tolerance from 18 to 36V) power 2250 V DC Input to Output Basic Insulation

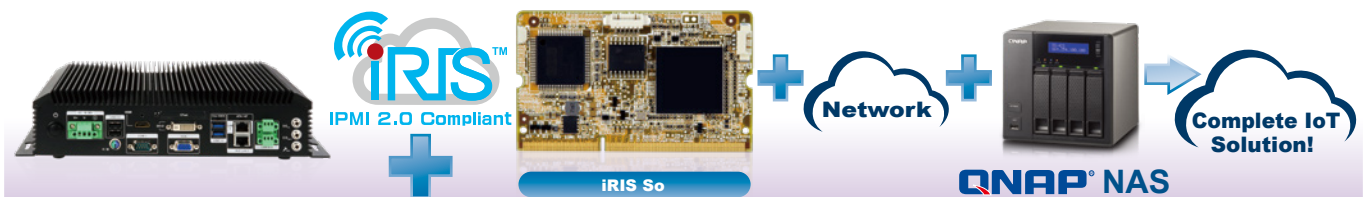
■ Two independent CAN 2.0B channels with 2.5 kV isolation protection

CAN 2.0B is a kind of marine electronic data network for communication between marine electronic devices such as chart plotters, navigation instruments, GPS receivers, etc.



IEI Remote Intelligent Management System

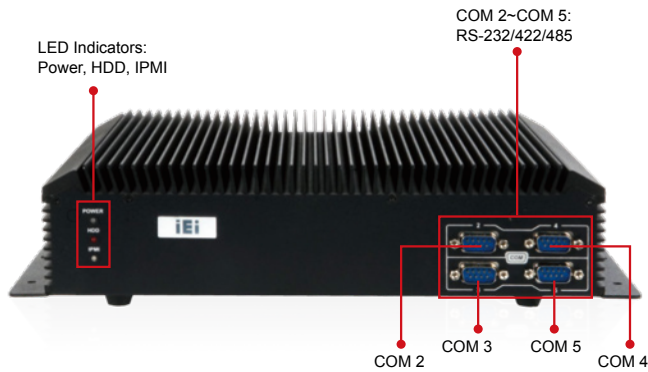
The marine computer supports IEI iRIS remote management solution which helps users to manage multiple devices through single management interface and elevates work efficiency. The iRIS solution only requires a module and Internet connection!



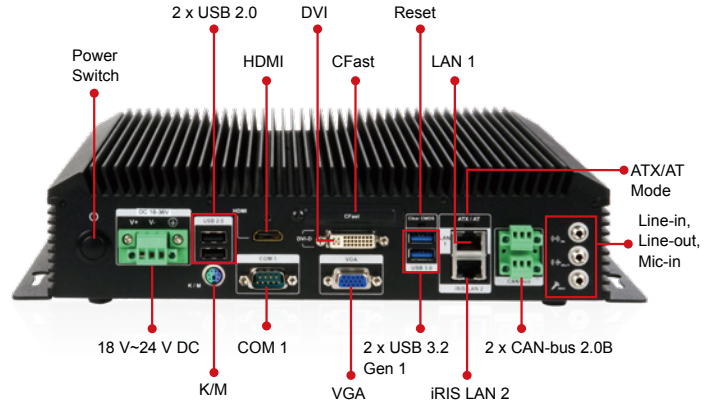
iRIS Key Feature	Detailed Functions	iRIS Key Feature	Detailed Functions
System health monitor	- Hardware monitor - Health log - Event log	Screen record	- Remote video streaming record - Event Trigger Setting & video record
Remote system maintenance	- Remote BIOS update - Remote OS recovery - Remote KVM + One Key Recovery - Remote out-of-band backup	Remote power control	- Reset Power - Power Off Server — Immediately - Power Off Server — Orderly - Power On Server - Power Cycle Server
Active alert & notice	- Send instant system alerts via e-mail - Send instant system alerts via SMS - Send instant system alerts to management server	Remote troubleshooting	- Remote software update - Remote OS installation & recovery - Remote KVM - Post code display
Remote device control	- Fan control - Remote KVM - Remote setting BIOS	Diagnose before dispatch	- Health log analysis - Event log analysis
		Group control	Group control

Fully Integrated I/O

Front view



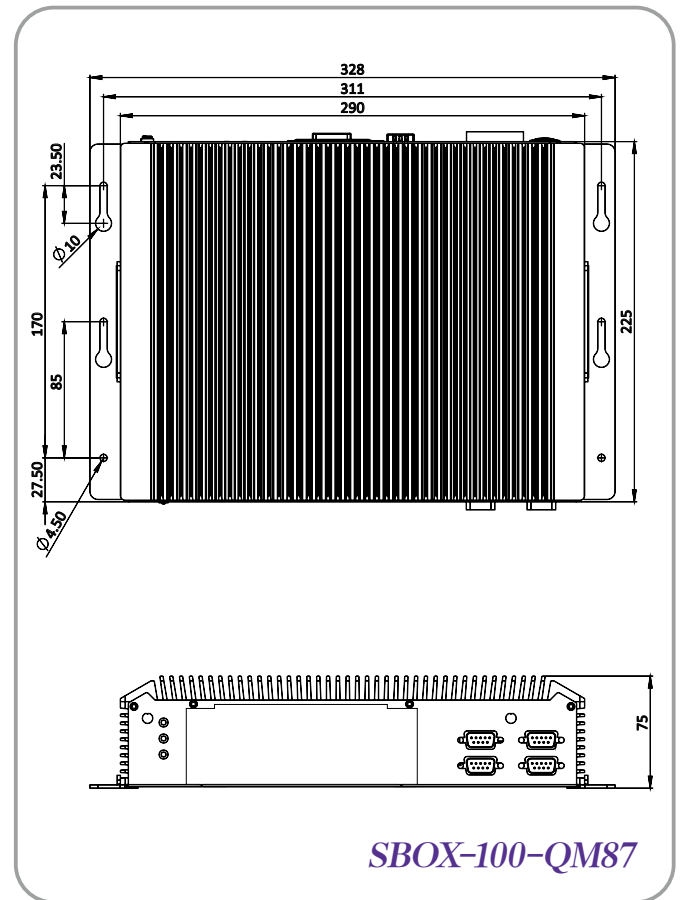
Rear view



Specifications

Model Name		SBOX-100-QM87
Chassis	Color	Black
	Dimensions (WxHxD) (mm)	290 x 75 x 225
	System Fan	Fanless
	Chassis Construction	Extruded aluminum alloy
Motherboard	CPU	Intel® mobile Core™ i5-4400E (2.7 GHz, 37W)
	Chipset	Intel® QM87
	System Memory	2 x 204-pin DDR3 SO-DIMM slot (system max. 16 GB) Pre-installed 4 GB DDR3 SO-DIMM
IPMI	iRIS Solution	iRIS-2400
Storage	Hard Drive	2 x 2.5" SATA 6Gb/s SSD bay with RAID 0/1 function
	CF Card/CFast	1 x CFast
	PS2 (KB/MS)	1
I/O Interfaces	USB 3.2 Gen 1	2
	USB 2.0	2
	Ethernet	2 x RJ-45 with teaming support 1 x PCIe GbE by Intel® I217LM 1 x PCIe GbE by Intel® I210-AT (2 with 2 kV isolation)
	COM Port	1 x DB-9 (non-isolated) 4 x RS-232/422/485 (with 2.5 kV isolation)
	CAN-bus/OBD-II	2 x CAN-bus (with 2.5 kV isolation)
	Display	1 x VGA, 1 x DVI-D, 1 x HDMI
	Resolution	VGA: Up to 1920 x 1200 @ 60 Hz HDMI: Up to 2500 x 1600 @ 60 Hz DVI-D: Up to 2500 x 1600 @ 60 Hz
	Audio	1 x Line-out, 1 x Line-in, 1 x Mic-in
	Wireless	2 x Antenna SMA hole (reserved)
	Expansions	PCIe Mini 2 x Full size
LED Indicator & Button	Indicator	Power (power on: green, power off: orange), storage (red, blinking), IPMI (blue)
	Power Input	Terminal block: Isolated 24 VDC (with tolerance from 18 to 36V)
Power	Consumption	100 W (Intel® mobile Core™ i5-4400E with 4 GB DDR3 memory)
	Mounting	Wall mount
Reliability	Operating Temperature	-15°C ~ 55°C (5°F ~ 131°F) with air flow (SSD)
	Storage Temperature	-20°C ~ 60°C (-4°F ~ 140°F)
	Humidity	5% ~ 95%, non-condensing
	Operating Shock	IEC 60945 and DNV 2.4 IASC-E10 compliant
	Operating Vibration	IEC 60945 and DNV 2.4 IASC-E10 compliant
	Weight (Net/Gross)	4.08 kg / 6.03 kg
	Safety/EMC	EMC/CE/FCC/DNV, IEC 60945 4th, IACS-E10, IEC 61174 compliant IP rating: IP22 compliant rear cover
OS	Supported OS	Microsoft® Windows® Embedded 8, Microsoft® Windows® Embedded Standard 7 E

Dimensions (Unit: mm)



SBOX-100-QM87

Ordering Information

Part No.	Description
SBOX-100-QM87I-5/4G-R10	Fanless marine computer with Intel® Mobile Core™ i5-4400E 2.7 GHz processor, 4 GB DDR3 memory, iRIS-2400 supported, isolated 18 V~36 V DC, R10

Packing List

Item	P/N	Qty	Description
PS/2 cable	32006-000300-100-RS	1	PS/2 cable
Rubber pad & screw pack		1	Rubber pad & screw pack

FLEX System



New



Model Name		FLEX-BX100-ULT5	FLEX-BX200-Q370
Chassis	Color	PANTONE 296 C	Black
	Dimensions (WxDxH) (mm)	356.5 x 222 x 44	357 x 230 x 88
	System Fan	Fanless	System Fan x3, CPU Cooler x1
	Chassis Construction	Sheet Metal with aluminum	Metal Housing
Motherboard	CPU	Intel® Core™ i5-8365UE Processor (6M Cache, up to 4.10 GHz) Intel® Celeron® Processor 4305UE (2M Cache, 2.00 GHz)	Intel® Core™ i7-8700T Processor (12M Cache, up to 4.00 GHz) Intel® Core™ i5-8500T Processor (9M Cache, up to 3.50 GHz) Intel® Pentium® Gold G5400T Processor (4M Cache, 3.10 GHz)
	Chipset	Intel® Whiskey Lake	Intel® 300 Series Chipsets Q370 (Coffee Lake)
	System Memory	2 x 260-pin 2400 MHz dual-channel DDR4 unbuffered SO-DIMM supporting up to 32GB	2 x 288-pin 2666/2400 MHz dual-channel DDR4 unbuffered DIMM supporting up to 64GB
IPMI	iRIS Solution	N/A	N/A
Storage	Hard Drive	1 x 2.5" SATA 6Gb/s HDD/SSD bay	4 x 2.5" SATA 6Gb/s HDD/SSD bay
	eMMC	N/A	N/A
	Micro SD	N/A	N/A
I/O Interfaces	USB	4 x USB 3.2 Gen.2	6 x USB 3.2 Gen.1
	Ethernet	3 x RJ-45: 1 x GbE LAN 2 x PoE(PD) GbE LAN (IEEE802.3af/at/bt)	2 x RJ-45: 1 x GbE by Intel® I219 1 x GbE by Intel® I211
	COM Port	1 x RS-232/422/485 1 x RS-232	2 x RS-232
	Digital I/O	N/A	N/A
	CAN-bus	N/A	N/A
	Display	1 x HDMI (up to 3840 x 2160@30Hz)	1 x HDMI (up to 3840 x 2160@30Hz)
	Audio	1 x Line-out	1 x Line-out, 1 x Mic-in
	Wireless	1 x 802.11a/b/g/n/ac (optional)	1 x 802.11a/b/g/n/ac (optional)
	TPM	1 x TPM 2.0 (Optional)	1 x TPM 2.0 (2 x 10 pin) (optional)
	Motor Connector	N/A	N/A
	Other	1 x Power switch w/ LED, 1 x AT/ATX switch, 1 x Reset button	1 x Power switch w/ LED, 1 x AT/ATX switch, 1 x Reset button, 1 x HDD LED
Expansions	PCIe Mini	N/A	N/A
	M.2	1 x 2230 A-Key (PCIe x 1/USB 2.0) 1 x 2280 M-Key (support NVMe SSD)	1 x M.2 A-Key (2230 for Wi-Fi) Optional 1 x M.2 B-Key (2242 for 3G, LTE, 5G) with SIM slot (Optional) 1 x M.2 M Key (2280) socket (support NVMe SSD)
	Backplane	N/A	On board PCIe slot: 2 x PCIe 3.0 x8 (x16 Slot) 2 x PCIe 3.0 x4
Power	Power Input	DC jack 12V DC	100 ~ 240V AC
	Power Consumption	12V @ 3.6A (Intel® Core™ i5-8365UE with 4GB memory)	100 ~ 240V AC @ 4 ~ 2A
	Remote PWR	N/A	N/A
Reliability	Mounting	Wall-Mount	Rack/Wall-Mount
	Operating Temperature	-10°C ~ 50°C (with air flow), 10% ~ 95% (non-condensing)	-10°C ~ 50°C (with air flow), 10% ~ 95% (non-condensing)
	Storage Temperature	-20°C ~ 60°C, 10% ~ 95% (non-condensing)	-20°C ~ 60°C, 10% ~ 95% (non-condensing)
	Operating Shock	Half-sine wave shock 5G, 11ms, 100 shocks per axis (SSD)	Half-sine wave shock 5G, 11ms, 100 shocks per axis (SSD)
	Operating Vibration	MIL-STD-810G 514.6C-1 (SSD)	MIL-STD-810G 514.6C-1 (SSD)
	Weight (Net/Gross)	3KG/5.5KG	4.1KG/7.2KG
	Safety/EMC	CE/ FCC	CE/ FCC
	Watchdog Timer	Programmable 1 ~ 255 sec/min	Programmable 1 ~ 255 sec/min
OS	Supported OS	Microsoft® Windows 10, Linux	Microsoft® Windows 10, Linux

FLEX System



New



Model Name		FLEX-BX200-C246	FLEX-BX210-Q470	FLEX-BX210-W480
Chassis	Color	Black	Black	Black
	Dimensions (WxDxH) (mm)	357 x 230 x 88	357 x 230 x 88	357 x 230 x 88
	System Fan	System Fan x3, CPU Cooler x1	System Fan x3, CPU Cooler x1	System Fan x3, CPU Cooler x1
	Chassis Construction	Metal Housing	Metal Housing	Metal Housing
Motherboard	CPU	Intel® Xeon® E-2278GE Processor (16M Cache, 3.30 GHz)	Intel® Core™ i9-10900TE Processor (20M Cache, up to 4.60 GHz) Intel® Core™ i5-10500TE Processor (12M Cache, up to 3.70 GHz)	Intel® Xeon® W-1290TE Processor (20M Cache, up to 4.50 GHz)
	Chipset	Intel® C240 Series Chipsets C246 (Coffee Lake)	Intel® 400 Series Chipsets (Comet Lake)	Intel® 400 Series Chipsets (Comet Lake)
	System Memory	2 x 288-pin 2666/2400 MHz dual-channel DDR4 unbuffered DIMM supporting up to 64GB	2 x 288-pin 2933/2666 MHz dual-channel DDR4 unbuffered DIMM supporting up to 64GB	2 x 288-pin 2933/2666 MHz dual-channel DDR4 unbuffered DIMM supporting up to 64GB
IPMI	IRIS Solution	N/A	N/A	N/A
Storage	Hard Drive	4 x 2.5" SATA 6Gb/s HDD/SSD bay	4 x 2.5" SATA 6Gb/s HDD/SSD bay	4 x 2.5" SATA 6Gb/s HDD/SSD bay
	eMMC	N/A	N/A	N/A
	Micro SD	N/A	N/A	N/A
I/O Interfaces	USB	6 x USB 3.2 Gen.1	6 x USB 3.2 Gen.1	6 x USB 3.2 Gen.1
	Ethernet	2 x RJ-45: 1 x GbE by Intel® I219 1 x GbE by Intel® I211	3 x RJ-45: 1 x GbE by Intel® I219 2 x GbE by Intel® I210	3 x RJ-45: 1 x GbE by Intel® I219 2 x GbE by Intel® I210
	COM Port	2 x RS-232	2 x RS-232	2 x RS-232
	Digital I/O	N/A	N/A	N/A
	CAN-bus	N/A	N/A	N/A
	Display	1 x HDMI (up to 3840 x 2160@30Hz)	1 x HDMI (up to 3840 x 2160@30Hz) 1 x DP (up to 4096 x 2304@60Hz)	1 x HDMI (up to 3840 x 2160@30Hz) 1 x DP (up to 4096 x 2304@60Hz)
	Audio	1 x Line-out, 1 x Mic-in	1 x Line-out, 1 x Mic-in	1 x Line-out, 1 x Mic-in
	Wireless	1 x 802.11a/b/g/n/ac (optional)	1 x 802.11a/b/g/n/ac (optional)	1 x 802.11a/b/g/n/ac (optional)
	TPM	1 x TPM 2.0 (2 x 10 pin) (optional)	1 x TPM 2.0 (2 x 10 pin) (optional)	1 x TPM 2.0 (2 x 10 pin) (optional)
	Motor Connector	N/A	N/A	N/A
	Other	1 x Power switch w/LED 1 x AT/ATX switch 1 x Reset button 1 x HDD LED	1 x Power switch w/LED 1 x AT/ATX switch 1 x Reset button 1 x HDD LED	1 x Power switch w/LED 1 x AT/ATX switch 1 x Reset button 1 x HDD LED
Expansions	PCIe Mini	N/A	N/A	N/A
	M.2	1 x M.2 A-Key (2230 for Wi-Fi) Optional 1 x M.2 B-Key (2242 for 3G, LTE, 5G) with SIM slot (Optional) 1 x M.2 M Key (2280) socket (support NVMe SSD)	1 x M.2 A-Key (2230 for Wi-Fi) Optional 1 x M.2 B-Key (2242 for 3G, LTE, 5G) with SIM slot (Optional) 1 x M.2 M Key (2280) socket (support NVMe SSD)	1 x M.2 A-Key (2230 for Wi-Fi) Optional 1 x M.2 B-Key (2242 for 3G, LTE, 5G) with SIM slot (Optional) 1 x M.2 M Key (2280) socket (support NVMe SSD)
	Backplane	On board PCIe slot: 2 x PCIe 3.0 x8 (x16 Slot) 2 x PCIe 3.0 x4	On board PCIe slot: 2 x PCIe 3.0 x8 (x16 Slot) 2 x PCIe 3.0 x4	On board PCIe slot: 2 x PCIe 3.0 x8 (x16 Slot) 2 x PCIe 3.0 x4
Power	Power Input	100 ~ 240V AC	100 ~ 240V AC	100 ~ 240V AC
	Power Consumption	100 ~ 240V AC @ 4 ~ 2A	100 ~ 240V AC @ 6 ~ 3A	100 ~ 240V AC @ 6 ~ 3A
	Remote PWR	N/A	N/A	N/A
Reliability	Mounting	Rack/Wall-Mount	Rack/Wall-Mount	Rack/Wall-Mount
	Operating Temperature	-10°C ~ 50°C (with air flow), 10% ~ 95% (non-condensing)	-10°C ~ 50°C (with air flow), 10% ~ 95% (non-condensing)	-10°C ~ 50°C (with air flow), 10% ~ 95% (non-condensing)
	Storage Temperature	-20°C ~ 60°C, 10% ~ 95% (non-condensing)	-20°C ~ 60°C, 10% ~ 95% (non-condensing)	-20°C ~ 60°C, 10% ~ 95% (non-condensing)
	Operating Shock	Half-sine wave shock 5G, 11ms, 100 shocks per axis (SSD)	Half-sine wave shock 5G, 11ms, 100 shocks per axis (SSD)	Half-sine wave shock 5G, 11ms, 100 shocks per axis (SSD)
	Operating Vibration	MIL-STD-810G 514.6C-1 (SSD)	MIL-STD-810G 514.6C-1 (SSD)	MIL-STD-810G 514.6C-1 (SSD)
	Weight (Net/Gross)	4.1KG/7.2KG	4.1KG/7.2KG	4.1KG/7.2KG
	Safety/EMC	CE/ FCC	CE/ FCC	CE/ FCC
	Watchdog Timer	Programmable 1 ~ 255 sec/min	Programmable 1 ~ 255 sec/min	Programmable 1 ~ 255 sec/min
OS	Supported OS	Microsoft Windows 10 / Windows 11, Linux	Microsoft® Windows 10, Linux	Microsoft® Windows 10, Linux

FLEX-BX100-ULT5

New

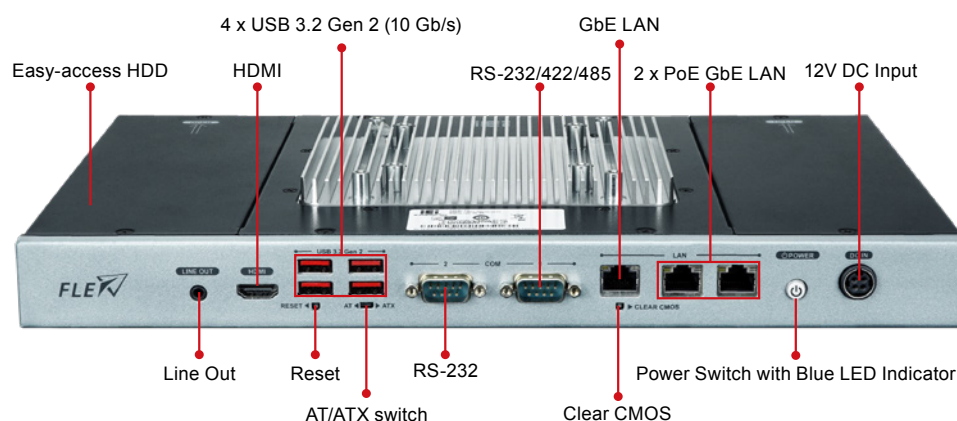

Features

- Fanless embedded system with Intel® Whiskey Lake Intel® Core™ i5-8365UE or Intel® Celeron® 4305UE CPU
- Triple GbE LAN ports
- Support IEEE 802.3bt PoE PD power
- Support M.2 2280 M-Key NVMe SSD

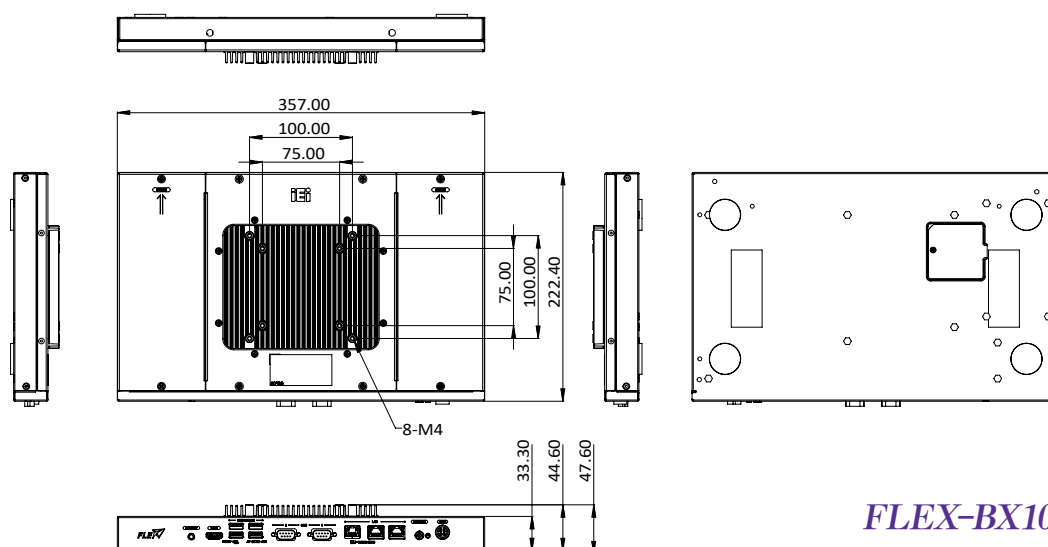
Specifications

Model Name	FLEX-BX100-ULT5
CPU	8 th Generation Intel® Core™ i5-8365UE 4.10GHz 8 th Generation Intel® Celeron® 4305UE 2.00GHz
Memory	2 x 260-pin 2400 MHz dual-channel DDR4 unbuffered SO-DIMM supporting up to 32GB
Graphics Engine	Intel® HD Graphics Gen 9 Engines with 16 low-power execution units, 4K codec decode
Ethernet	Intel® I211/I219 controller
Storage	2.5" HDD/SSD SATA 6Gb/s bay
I/O Ports and Switches	4 x USB 3.2 Gen 2 (10Gbps) 1 x HDMI output 1 x RS-232/422/485 1 x RS-232 3 x GbE LAN (2 for IEEE802.3 PoE PD GbE LAN) 1 x 12V DC jack 1 x Power switch with LED indicator (blue) 1 x AT/ATX switch 1 x Line-out 1 x Reset button
Expansion Slots	1 x NGFF M.2 2230 A Key (PCIe x1, USB signal) 1 x NGFF M.2 2280 M Key (support PCIe 3.0 x 4 NVMe) 2 x PoE PD module socket (by IEI pin definition)
Thermal Solution	Fanless
Watchdog Timer	Software programmable support 1 ~ 255 sec. system reset
Dimensions (mm) (WxHxD)	356.5 x 222 x 44
Net Weight (kgs)	3
Color	PANTONE 296 C
Front Frame	Aluminum
Rear Cover	Sheet Metal
Mouting	Wall mount
Operating Temp.	-10°C ~ 60°C (with air flow)
Storage Temp.	-20°C ~ 70°C
Humidity	10% ~ 95% (non-condensing)
Vibration	5 ~ 17Hz, 0.1 double amplitude displacement 17 ~ 640Hz 1.5G acceleration peak to peak
Shock	10G acceleration part to part (11ms)
Power Input	12V DC input

Fully Integrated I/O



Dimensions (Unit: mm)



FLEX-BX100-ULT5

Ordering Information

Part No.	Description
FLEX-BX100-ULT5-i5/4G-R10	Fanless embedded system with 8 th generation 14nm Intel® Whiskey Lake Core™ i5-8365UE on-board processor (15W TDP, ULT), 4GB DDR4 RAM, 12V DC input, R10
FLEX-BX100-ULT5-C/4G-R10	Fanless embedded system with 8 th generation 14nm Intel® Whiskey Lake Celeron® 4305UE on-board processor (15W TDP, ULT), 4GB DDR4 RAM, 12V DC input, R10

Options

Part No.	Description
PoE PD Kit	GPOE-PD-AT01-R10 (PoE IEEE802.3 af/at, 25.5W) GPOE-PD-BT01-R10 (PoE IEEE802.3 af/at/bt, 71W)
Wi-Fi Kit	EMB-WIFI-KIT03E-R10 (2T2R, 802.11ac/a/b/g/n and Bluetooth v4.1, NGFF 2230 Type A-E)

Packing List

Item	Qty	Remark
63040-010096-200-RS	1	AC power adapter
AC power cord	1	
Wall mount bracket	2	
Screws (M4 x 6)	4	for mounting bracket
Screws (M3 x 4)	4	for HDD installation

FLEX-BX200-Q370

2U AI Modular PC with 8th/9th Generation LGA 1151
Intel® Core™ i7/i5/i3, Pentium® and Xeon® Processor



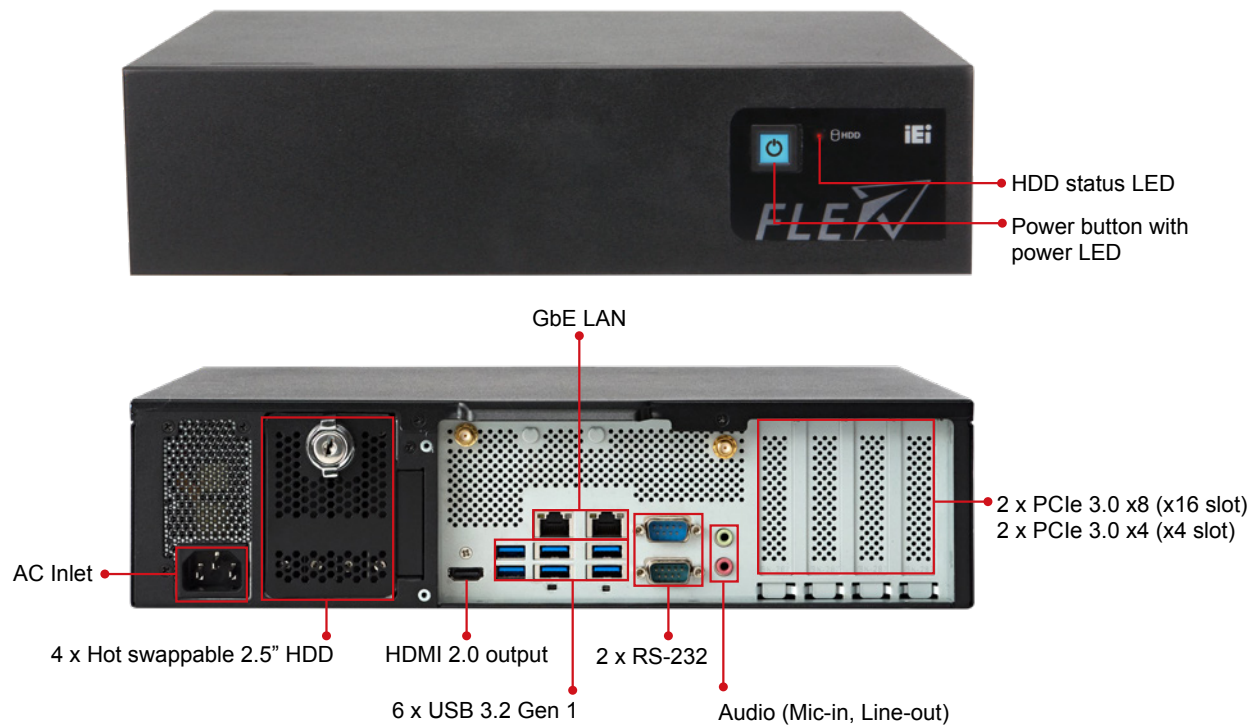
Features

- 2U AI Modular PC supports 8th/9th Gen. LGA 1151 Intel® Core™ i7/i5/i3 and Pentium® processor with Intel® Q370 chipset, or Intel® Xeon® Processor with Intel® C246 chipset
- Four hot-swappable and accessible HDD drive bays, support RAID 0/1/5/10
- Two PCIe 3.0 by 4 and two PCIe 3.0 by 8 slots
- M.2 2280 PCIe Gen 3.0 x4 NVMe™ SSD support

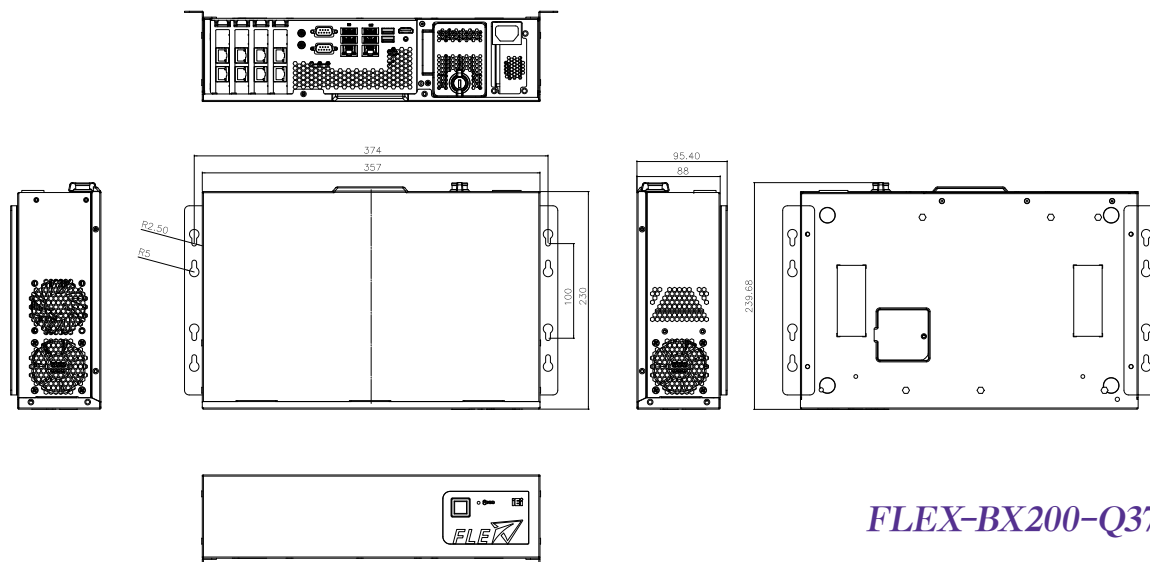
Specifications

Model Name	FLEX-BX200-Q370
CPU	8 th /9 th Generation Intel® Core™ i7/i5/i3 processors in the LGA 1151 package (Please choose the TDP of the the processor under 65W)
Chipset	Intel® 300 Series Chipsets Q370 (Coffee Lake)
Memory	2 x 288-pin 2666/2400 MHz dual-channel DDR4 unbuffered DIMM supporting up to 64GB
Graphics Engine	Intel® HD Graphics Gen 9 Engines with Low power 16 execution unit, supports DX2015, OpenGL 5.X and OpenCL2.x, ES 2.0
Ethernet	Intel® I211/I219 controller
Storage	4 x accessible 2.5" HDD/SSD SATA 6 Gb/s bay (with RAID 0/1/5/10 support) with LED indicator 1 x NGFF M.2(2280) M Key socket (support NVMe SSD)
I/O Ports and Switches	1 x HDMI output 2 x GbE LAN 6 x USB 3.2 Gen 1 (5Gb/s) Type-A 2 x RS-232 DB-9 type 1 x Mic in 1 x Line out 1 x AC Inlet Power button with power LED (power on=Blue) AT/ATX mode switch Reset button
Expansion Slots	2 x PCIe 3.0 by 8 (by 16 slot) 2 x PCIe 3.0 by 4 (Maximum card size supported: 68 mm x 167 mm) 1 x NGFF M.2 (2230) A Key socket (support Wi-Fi) 1 x NGFF M.2 (3042) B Key socket (support WWAN wits SIM slot)
Thermal Solution	System Fan x3, CPU Cooler x1
Power supply	AC input ATX power supply 350W power supply - Input: 115VAC~264VAC, 50/60Hz - Output (Max.): 3.3V@14A, 5V@16A, 12V@29A, -12V@0.3A, +5Vsb@3A - Efficiency: Full load (100%) 87%, Typical load (50%) 90%, Light load (20%) 87%
Watchdog Timer	Software Programmable support 1 ~ 255 sec. System reset
Chassis Construction	Metal Housing
Mounting	Wall and Rack Mount
Color	Black
Dimensions (LxDxH) (mm)	357 x 230 x 88
Weight (kg) Net/Gross	4/6
Operating Temperature	-20°C ~ 50°C (with SSD and TDP 65W processor) -20°C ~ 40°C (with HDD or add-on cards without fan)
Storage Temperature	-20°C ~ 60°C
Operating Humidity	5% ~ 95%, non-condensing
Vibration	5 ~ 17Hz, 0.1 double amplitude displacement 17 ~ 640Hz 1.5G acceleration peak to peak
shock	10G acceleration part to part (11ms)

Fully Integrated I/O



Dimensions (Unit: mm)



FLEX-BX200-Q370

Ordering Information

Part No.	Description
FLEX-BX200-C246-XE/35-R20	2U AI Modular Box PC, Intel® Xeon® E-2176G Processor (6-core, 12-thread, 3.7 GHz), TDP 80W, two PCIe x4 and two PCIe x8 slots, four HDD bays, 350W PSU, R20
FLEX-BX200-Q370-P/35-R20	2U AI Modular Box PC, Intel® Pentium® Gold G5400T Processor (2-core, 4-thread, 3.10 GHz) TDP 35W, two PCIe x4 and two PCIe x8 slots, four HDD bays, 350W PSU, R20
FLEX-BX200-Q370-i3/35-R20	2U AI Modular Box PC, Intel® Core™ i3-8100T Processor (4-core, 4-thread, 3.10 GHz) TDP 35W, two PCIe x4 and two PCIe x8 slots, four HDD bays, 350W PSU, R20
FLEX-BX200-Q370-i5/35-R20*	2U AI Modular Box PC, Intel® Core™ i5-8500T Processor (6-core, 6-thread, 2.1 GHz) TDP 35W, two PCIe x4 and two PCIe x8 slots, four HDD bays, 350W PSU, R20
FLEX-BX200-Q370-i7/35-R20*	2U AI Modular Box PC, Intel® Core™ i7-8700T Processor (6-core, 12-thread, 2.4 GHz) TDP 35W, two PCIe x4 and two PCIe x8 slots, four HDD bays, 350W PSU, R20

Options

Part No.	Description
FLEX-BXRK-R10	Rack mount kit

Packing List

Item	Qty	Remark
32702-000200-100-RS	1	European power cord, 1830mm
41020-0521C2-00-RS	2	wall mount kit, black
44035-040062-RS	4	M4 x 6 oval head screw for wall mount kit, black
	1	Key for HDD cover

FLEX-BX200-C246

2U AI Modular PC with 8th/9th Generation LGA 1151 Intel® Core™ i7/i5/i3, Pentium® and Xeon® Processor



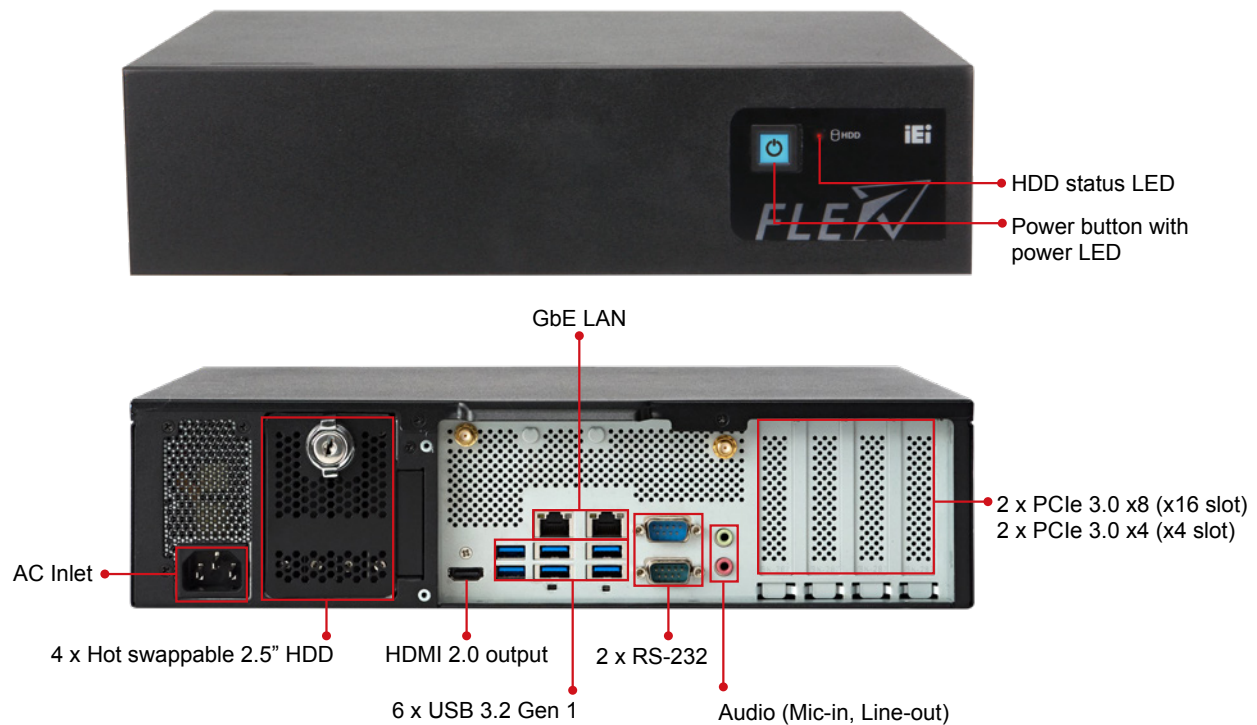
Features

- 2U AI Modular PC supports 8th/9th Gen. LGA 1151 Intel® Core™ i7/i5/i3 and Pentium® processor with Intel® Q370 chipset, or Intel® Xeon® Processor with Intel® C246 chipset
- Four hot-swappable and accessible HDD drive bays, support RAID 0/1/5/10
- Two PCIe 3.0 by 4 and two PCIe 3.0 by 8 slots
- M.2 2280 PCIe Gen 3.0 x4 NVMe™ SSD support

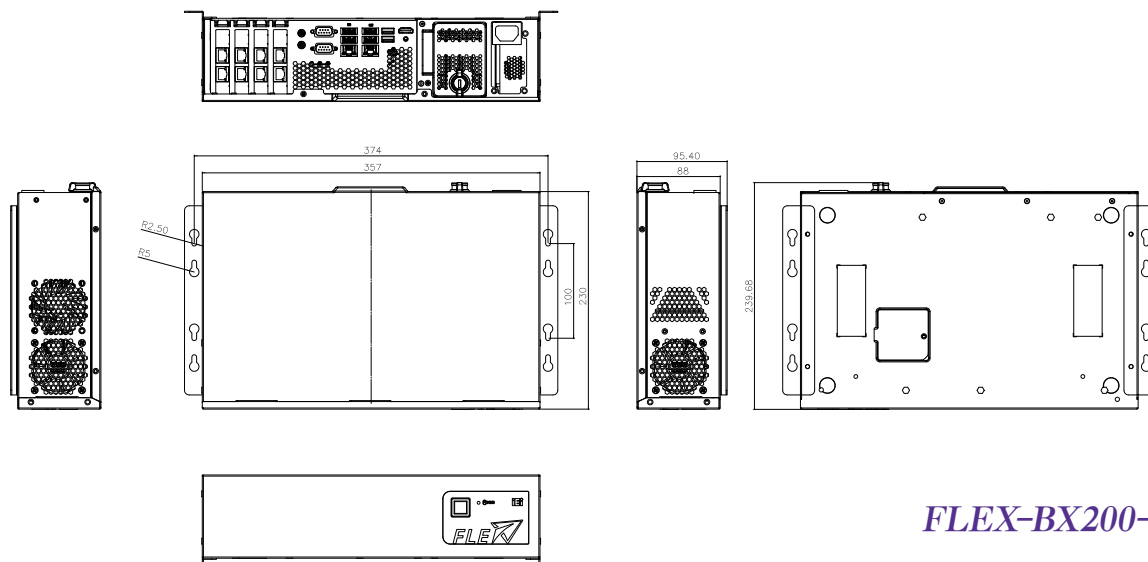
Specifications

Model Name	FLEX-BX200-C246
CPU	Intel® Xeon® E-2176G Processor in the LGA 1151 package
Chipset	Intel® C240 Series Chipsets C246 (Coffee Lake)
Memory	2 x 288-pin 2666/2400 MHz dual-channel DDR4 SDRAM ECC and non-ECC unbuffered DIMMs support up to 64 GB
Graphics Engine	Intel® HD Graphics Gen 9 Engines with Low power 16 execution unit, supports DX2015, OpenGL 5.X and OpenCL2.x, ES 2.0
Ethernet	Intel® I211/I219 controller
Storage	4 x accessible 2.5" HDD/SSD SATA 6 Gb/s bay (with RAID 0/1/5/10 support) with LED indicator 1 x NGFF M.2(2280) M Key socket (support NVMe SSD)
I/O Ports and Switches	1 x HDMI output 2 x GbE LAN 6 x USB 3.2 Gen 1 (5Gb/s) Type-A 2 x RS-232 DB-9 type 1 x Mic in 1 x Line out 1 x AC Inlet Power button with power LED (power on=Blue) AT/ATX mode switch Reset button
Expansion Slots	2 x PCIe 3.0 by 8 (by 16 slot) 2 x PCIe 3.0 by 4 (Maximum card size supported: 68 mm x 167 mm) 1 x NGFF M.2 (2230) A Key socket (support Wi-Fi) 1 x NGFF M.2 (3042) B Key socket (support WWAN with SIM slot)
Thermal Solution	System Fan x3, CPU Cooler x1
Power supply	AC input ATX power supply 350W power supply - Input: 115VAC~264VAC, 50/60Hz - Output (Max.): 3.3V@14A, 5V@16A, 12V@29A, -12V@0.3A, +5Vsb@3A - Efficiency: Full load (100%) 87%, Typical load (50%) 90%, Light load (20%) 87%
Watchdog Timer	Software Programmable support 1 ~ 255 sec. System reset
Chassis Construction	Metal Housing
Mounting	Wall and Rack Mount
Color	Black
Dimensions (LxDxH) (mm)	357 x 230 x 88
Weight (kg) Net/Gross	4/6
Operating Temperature	-20°C ~ 40°C (with SSD and TDP 80W processor)
Storage Temperature	-20°C ~ 60°C
Operating Humidity	5% ~ 95%, non-condensing
Vibration	5 ~ 17Hz, 0.1 double amplitude displacement 17 ~ 640Hz 1.5G acceleration peak to peak
Shock	10G acceleration part to part (11ms)
Supported OS	Microsoft Windows 10 / Windows 11, Linux

Fully Integrated I/O



Dimensions (Unit: mm)

**FLEX-BX200-C246**

Ordering Information

Part No.	Description
FLEX-BX200-C246-XE/35-R20	2U AI Modular Box PC, Intel® Xeon® E-2176G Processor (6-core, 12-thread, 3.7 GHz), TDP 80W, two PCIe x4 and two PCIe x8 slots, four HDD bays, 350W PSU, R20
FLEX-BX200-Q370-P/35-R20	2U AI Modular Box PC, Intel® Pentium® Gold G5400T Processor (2-core, 4-thread, 3.10 GHz) TDP 35W, two PCIe x4 and two PCIe x8 slots, four HDD bays, 350W PSU, R20
FLEX-BX200-Q370-I3/35-R20	2U AI Modular Box PC, Intel® Core™ i3-8100T Processor (4-core, 4-thread, 3.10 GHz) TDP 35W, two PCIe x4 and two PCIe x8 slots, four HDD bays, 350W PSU, R20
FLEX-BX200-Q370-I5/35-R20*	2U AI Modular Box PC, Intel® Core™ i5-8500T Processor (6-core, 6-thread, 2.1 GHz) TDP 35W, two PCIe x4 and two PCIe x8 slots, four HDD bays, 350W PSU, R20
FLEX-BX200-Q370-I7/35-R20*	2U AI Modular Box PC, Intel® Core™ i7-8700T Processor (6-core, 12-thread, 2.4 GHz) TDP 35W, two PCIe x4 and two PCIe x8 slots, four HDD bays, 350W PSU, R20

Options

Part No.	Description
FLEX-BXRK-R10	Rack mount kit

Packing List

Item	Qty	Remark
32702-000200-100-RS	1	European power cord, 1830mm
41020-0521C2-00-RS	2	wall mount kit, black
44035-040062-RS	4	M4 x 6 oval head screw for wall mount kit, black
	1	Key for HDD cover

FLEX-BX210-Q470/W480

New

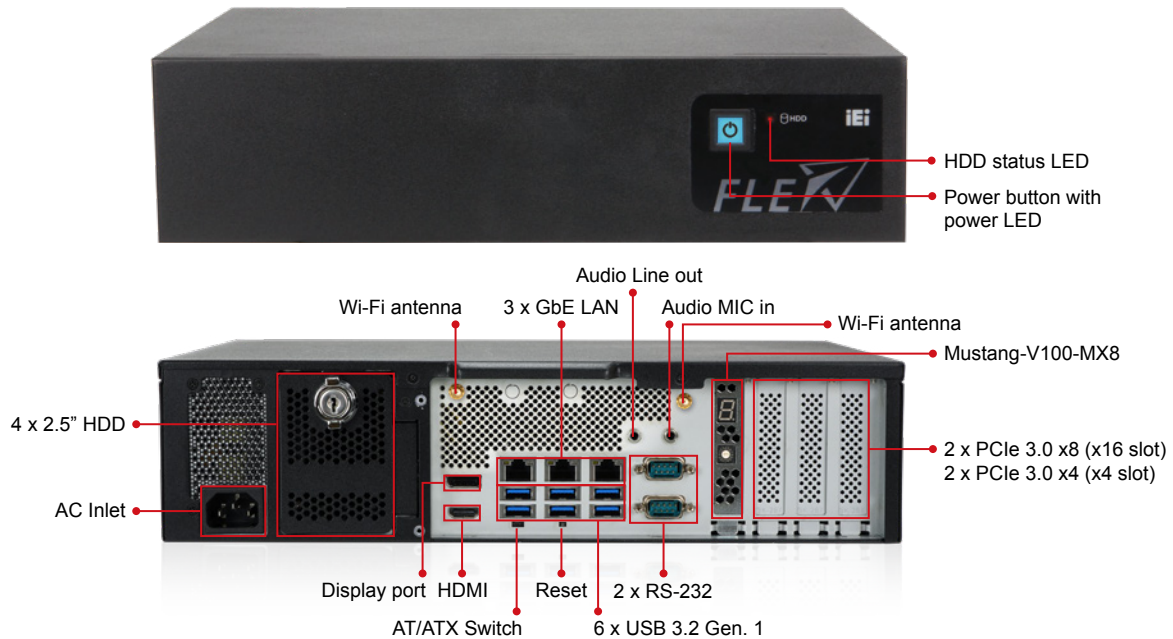

Features

- 2U AI PC with 10th Generation LGA 1200 Intel® Core™/Xeon® processor with Intel® Q470/W480 chipset and DDR4 memory
- Four hot-swappable and accessible HDD drive bays support RAID 0/1/5/10
- Support PCIe 3.0 by 4 and PCIe 3.0 by 8 slots
- M.2 2280 PCIe 3.0 x4 NVMe™ SSD support
- Dual independent display with high resolution support
- TPM data protection and reliable authentication
- Support for optional Mustang series PCIe Accelerator Card for offloading AI/DL workloads

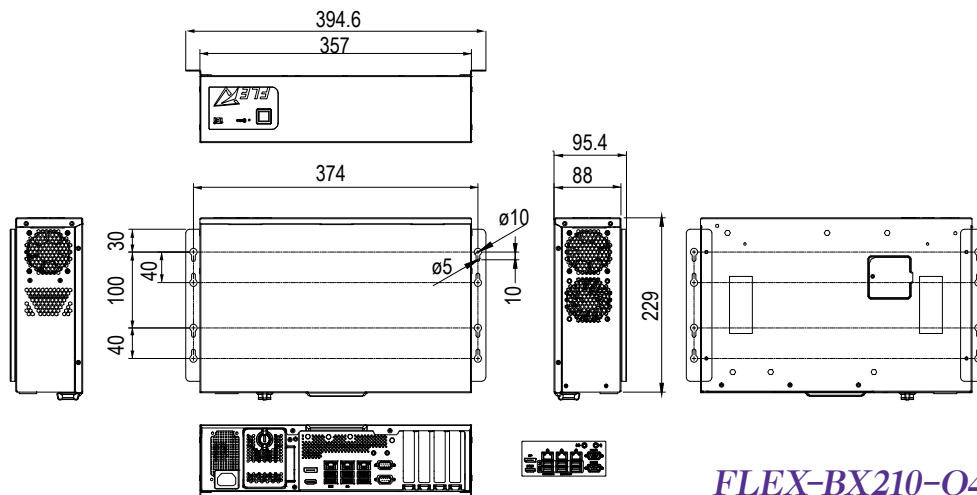
Specifications

Model Name		FLEX-BX210-Q470/W480
System	CPU	Intel® Xeon® W-1290TE 1.8GHz (up to 4.5GHz, 10-core, TDP 35W) Intel® 10 th Generation Core™ i9-10900TE 1.8GHz (up to 4.5GHz, 10-core, TDP 35W) Intel® 10 th Generation Core™ i5-10500TE 2.3GHz (up to 3.7GHz, 6-core, TDP 35W)
	Chipset	Intel® 400 Series Chipsets (Comet Lake)
	Memory	2 x 288-pin 2933/2666 MHz dual-channel DDR4 unbuffered DIMM supporting up to 64GB Xeon W with 32GB RAM Pre-installed Core i9 with 16GB RAM Pre-installed Core i5 with 8GB RAM Pre-installed
	Graphics Engine	Intel® HD Graphics Gen 9.5 Engines with Low power 16 execution unit, supports DX2015, OpenGL 5.X and OpenCL2.x, ES 2.0
	Ethernet	LAN1: Intel® I219LM with Intel® AMT 11.0 supported LAN2/LAN3: Intel® I210 PCIe controller
	Storage	4 x accessible 2.5" HDD/SSD SATA 6 Gb/s bay (with RAID 0/1/5/10 support) with LED indicator 1 x NGFF M.2(2280) M Key socket (support NVMe SSD) Pre-installed 1 x 2.5" 1TB HDD
Wireless Communication	WLAN	Intel® AC 9260 802.11ac, 2.5/5GHz, 2T/2R (by M.2 2230)
	Bluetooth	Bluetooth V5.1
	WWAN and GNSS	M.2 3042 LTE (optional)
I/O Ports and Switches	I/O Ports and Switches	1 x Display port output 1 x HDMI output 1 x Line out 1 x AC inlet 2 x RS-232 DB-9 1 x Mic in
	TPM	TPM 2.0 (pre-installed)
Expansion Slots		2 x PCIe 3.0 x8 2 x PCIe 3.0 x4 1 x M.2 B-Key 2242 socket (with SIM slot for 3G/LTE, supports PCIe 3.0 x1 & USB 3.2 Gen1) 1 x M.2 M-Key 2280 socket (supports PCIe 3.0 x4)
Thermal Solution		3 x System fan, 1 x CPU cooler
Power supply		AC input ATX power supply - 350W Power supply - Input: 90VAC~264VAC, 50/60Hz - Output (max.): 3.3V@14A, 5V@16A, 12V@29A, -12V@0.3A
Watchdog Timer		Software programmable support 1~255 sec. system reset
Construction	Chassis Construction	Metal housing
	Mounting	Wall/Rack mount
	Color	Black
	Dimensions (LxDxH) (mm)	357 x 230 x 88
	Net Weight	4 kgs
Environmental	Operating Temperature	-10°C ~ 50°C
	Storage Temperature	-20°C ~ 60°C
	Operating Humidity	5% ~95%, non-condensing
	Vibration	5~17Hz, 0.1 double amplitude displacement 17~640Hz 1.5G acceleration peak to peak
	Shock	10G acceleration part to part (11ms)
	Safety/EMC	CE/FCC/RoHS

Fully Integrated I/O



Dimensions (Unit: mm)



FLEX-BX210-Q470/W480

Ordering Information

Part No.	Description
With Mustang-V100-MX8	
FLEX-BX210AI-XE/32G/V-R10	2U AI Modular box PC, Intel® Xeon® W-1290TE 1.8GHz (up to 4.5GHz, 10-core, TDP 35W), 32GB DDR4, 2.5" 1TB HDD, TPM 2.0, 350W PSU, with Mustang-V100-MX8, Wi-Fi 802.11ac, R10
FLEX-BX210AI-I9/16G/V-R10	2U AI Modular box PC, Intel® 10 th Generation Core™ i9-10900TE 1.8GHz (up to 4.5GHz, 10-core, TDP 35W), 16GB DDR4, 2.5" 1TB HDD, TPM 2.0, 350W PSU, with Mustang-V100-MX8, Wi-Fi 802.11ac, R10
FLEX-BX210AI-I5/8G/V-R10	2U AI Modular box PC, Intel® 10 th Generation Core™ i5-10500TE 2.3GHz (up to 3.7GHz, 6-core, TDP 35W), 8GB DDR4, 2.5" 1TB HDD, TPM 2.0, 350W PSU, with Mustang-V100-MX8, Wi-Fi 802.11ac, R10
Without Mustang-V100-MX8	
FLEX-BX210-Q470/35-R10	Barebone, 2U AI Modular BOX PC, Intel® COMET Lake, Q470 chipset, 2xPCIex4 and 2xPCIex8 slots, 4x HDD bay, w/o CPU, 350W PSU, R10
FLEX-BX210-W480/35-R10	Barebone, 2U AI Modular BOX PC, Intel® COMET Lake, W480 chipset, 2xPCIex4 and 2xPCIex8 slots, 4x HDD bay, w/o CPU, 350W PSU, R10
FLEX-BX210AI-XE/32G-R10	2U AI Modular box PC, Intel® Xeon® W-1290TE 1.8GHz (up to 4.5GHz, 10-core, TDP 35W), 32GB DDR4, 2.5" 1TB HDD, TPM 2.0, 350W PSU, Wi-Fi 802.11ac, R10
FLEX-BX210AI-I9/16G-R10	2U AI Modular box PC, Intel® 10 th Generation Core™ i9-10900TE 1.8GHz (up to 4.5GHz, 10-core, TDP 35W), 16GB DDR4, 2.5" 1TB HDD, TPM 2.0, 350W PSU, Wi-Fi 802.11ac, R10
FLEX-BX210AI-I5/8G-R10	2U AI Modular box PC, Intel® 10 th Generation Core™ i5-10500TE 2.3GHz (up to 3.7GHz, 6-core, TDP 35W), 8GB DDR4, 2.5" 1TB HDD, TPM 2.0, 350W PSU, Wi-Fi 802.11ac, R10

Packing List

1 x Mounting Bracket	2 x Wi-Fi Antennas
1 x Power Cord	1 x QSG

Hardware Features

