

INDUSTRIAL PC PRODUCT GUIDE

Shuttle[®]

Robust, durable, and reliable computing solutions for your future business,
including factory automation, digital healthcare, smart retail, and IoT Edge-related applications

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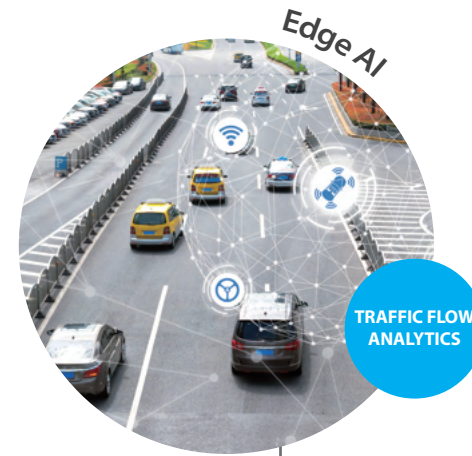
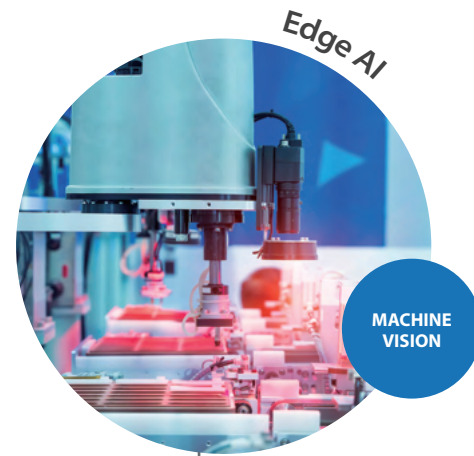
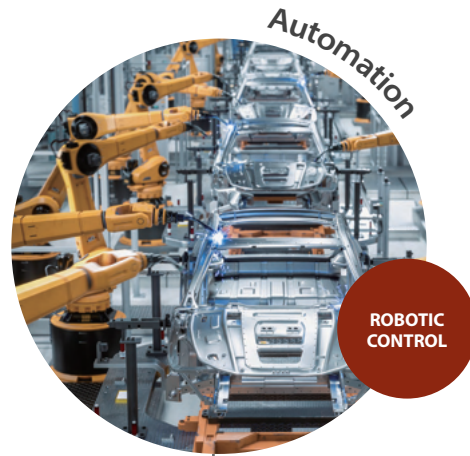


- DIGITAL SIGNAGE
- SMART RETAIL
- EDGE COMPUTING
- IOT SOLUTION
- AUTOMATION CONTROL
- SMART MEDICAL
- KIOSK SOLUTION

Company Profile

Established in 1983, Shuttle Inc. has a solid foundation in manufacturing commercial and industrial computers. We believe that the core value of technology is the combination of technique, humans, and the environment. With years of experience, Digital Signage, Smart Retail, Edge Computing, IoT, Automation Control, etc., are our fields of expertise where the most potent hardware is built. Furthermore, Shuttle synchronously increases the investment in software development and system integration, aiming to become an innovative partnership in the emerging IoT market to keep pace with the fast-growing IoT demands. Among many intelligent application sectors, smart medical is one of the vital business directions of the company. Thus, Shuttle continuously broadens and develops its product portfolio, including Embedded Box PC, medical-grade industrial PC, Kiosks, and other IoT healthcare solutions..

Applications



IPC Product Line



EN01 series



IOT EDGE COMPUTER

ULTRA-COMPACT IOT SOLUTION

The ultra-compact edge computer by Shuttle features a fanless design in a robust 450ml metal chassis intended for DIN-Rail or VESA mounting. Packs the advanced CPU technology and multiple I/O connections, this series can facilitate data-intensive acquisition computing in IoT edge applications.



EN01 series

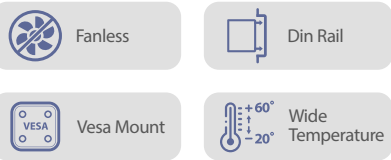
Entering A New Era of IoT

Intelligent Platform for Data-Intensive Edge Applications

Based on a wide selection of Intel® Apollo Lake processor lineup, the low-power, fanless, and a tiny size of only 92mm by 90mm, the Shuttle EN01 series serves as an intelligent platform for IoT edge applications. Areas of use include the industrial automation sector as well as the transportation and communications field.

Features

- Ultra-small industrial-grade PC, measuring only 92 x 54 x 90 mm
- CPU options of Intel® Celeron® J3355 processor / Pentium® J4205 / Atom™ x5-E3940
*EN01 barebone is also available for Nvidia Jetson TX2
- 2x USB 3.2 Gen1, 1x micro USB, 1x HDMI, Intel® Giga LAN, M.2 3042, and Micro SD card reader
- Optional PoE function (PSE01/PD01) for simplified on-site installation
- Optional video capture function for surveillance and security uses



	EN01J3	EN01J4	EN01E
COOLING SYSTEM	Fanless	Fanless	Fanless
PROCESSOR	Intel® Celeron J3355 10W processor	Intel® Pentium J4205 10W processor	Intel® Atom® x5-E3940 9.5W processor
CHIPSET	Integrated in CPU	Integrated in CPU	Integrated in CPU
VIDEO ENGINE PROCESSOR	Intel® HD Graphics 500	Intel® HD Graphics 505	Intel® HD Graphics 500
MAX RESOLUTION	HDMI 3840x2160@30Hz	HDMI 3840x2160@30Hz	HDMI 3840x2160@30Hz
MEMORY	4GB / LPDDR4 2400 MHz	8GB / LPDDR4 2400 MHz	8GB / LPDDR4 2400 MHz
STORAGE	Max. 64GB eMMC 1 x micro SD card slot	Max. 64GB eMMC 1 x micro SD card slot	Max. 64GB eMMC 1 x micro SD card slot
EXPANSION SLOTS	1 x M.2 3042, B Key	1 x M.2 3042, B Key	1 x M.2 3042, B Key
VIDEO OUTPUT	HDMI Port1 x HDMI 1.4	1 x HDMI 1.4	1 x HDMI 1.4
I/O PORT	USB 3.2 Gen1 2 USB 2.0 (MicroA/B) 1 SIM Slot 1 x Nano SIM slot	2 1 1 x Nano SIM slot	2 1 1 x Nano SIM slot
NETWORK	LAN1 x Intel® Gigabit LAN 1 x POE-PD or POE-PSE (Optional)	1 x Intel® Gigabit LAN 1 x POE-PD or POE-PSE (Optional)	1 x Intel® Gigabit LAN 1 x POE-PD or POE-PSE (Optional)
VESA	Bracket included	Bracket included	Bracket included
DIMENSION	92.4 x 54.4 x 90	92.4 x 54.4 x 90	92.4 x 54.4 x 90
WEIGHT	NW (kg) 0.48 GW (kg) 1.03	0.48 1.03	0.48 1.03
CERTIFICATION	CB, CE, BSMI, cTUVus, FCC, RCM, RoHS, VCCI	CB, CE, BSMI, cTUVus, FCC, RCM, RoHS, VCCI	CB, CE, BSMI, cTUVus, FCC, RCM, RoHS, VCCI
OPERATING TMEPERATURE	0~50	0~50	-20~60
CHASIS	Metal	Metal	Metal
OPERATING SYSTEM	Windows 10 64bit, Linux	Windows 10 64bit, Linux	Windows 10 64bit, Linux
OPTIONAL ACCESSORIES	MCAP01, PLA01, PSE01, PD01	MCAP01, PLA01, PSE01, PD01	MCAP01, PLA01, PSE01, PD01

EMBEDDED BOX PC

PACKED IN A MULTI-REINFORCED ALUMINIUM CHASSIS

Embedded Box PCs combine a fanless thermal and a robust aluminum chassis to remain stable in harsh operating conditions. With customizable modular design and multiple interfaces, the PCs are ready to suit particular tasks.



BPCWL02/BPCWL03

BPCWL02 / BPCWL03

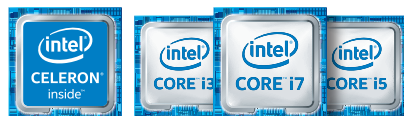
Robust and Fanless Design With Flexible Connectivity and Functionality

The BPCWL02/BPCWL03 are powered by the Intel® Whiskey Lake-UE platform with the Intel® UHD graphics engine, which offers high-definition imaging with dual independent displays. Designed to meet various IoT application needs, the fanless system combines multiple I/O interfaces, including three RS232, eight USB ports, and two HDMI outputs. The BPCWL02/ BPCWL03 have built-in dual Intel® Gigabit LAN support for Wake on LAN and teaming function and one M.2 2230 Type E slot to install a WiFi module, which makes high-speed data conveying possible and better compatibility for business network environment. It is suitable for digital signage, kiosk, data acquisition, industrial automation, etc.

The BPCWL03 is suitable for harsh operating conditions with an extended temperature range of -20° C to +60°C.

Features

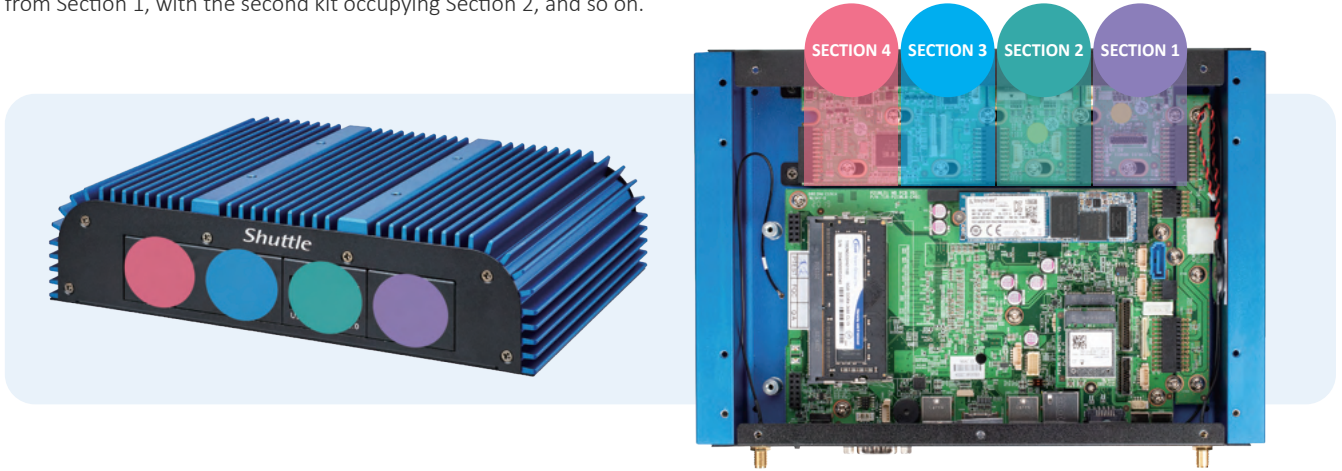
- Intel® Whiskey Lake-UE Processors, from commercial to industrial
- Fanless thermal and robust aluminum chassis
- Modularity for I/O configurations to meet diverse application needs
- Multiple mounting supports: VESA, Ear Mount, DIN-rail
- Dual independent displays via HDMI outputs (Support up to triple display through optional video output expansion kit)
- Built-in Intel® Dual Gigabit LAN
- Operating Temperature: BPCWL02: 0°C ~ 40°C BPCWL03: -20°C ~ 60°C



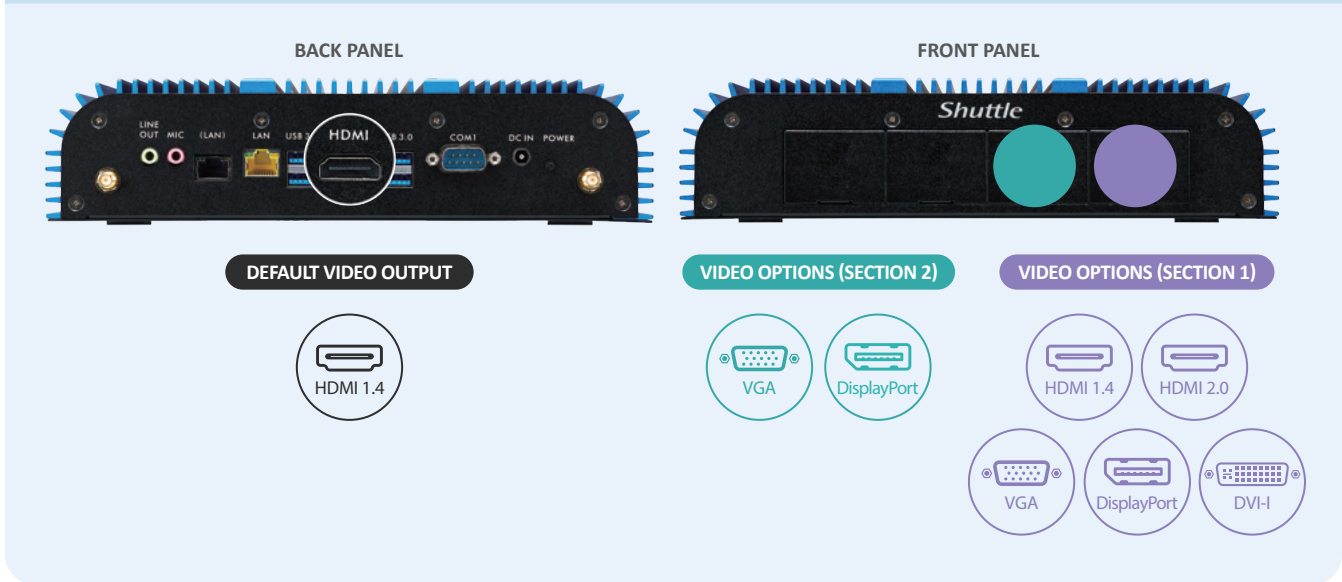
Flexible I/O Customization with Expansion Kits

Other than the standard model of BPCWL02 and BPCWL03, the Embedded Box PC family of products comes with high flexibility in I/O design that can facilitate easier customization to optimize IoT applications efficiently.

The front panel comprises four sections to support optional expansion kits with daughter boards to add I/O ports. Every expansion must start from Section 1, with the second kit occupying Section 2, and so on.



Guidance for Video Output Port Customized Configuration



SYSTEM	Processor	8 th Gen. Intel® Whiskey Lake Core i3-8145UE (default) Optional: i5-8265U, i5-8365UE, i7-8565U, i7-8665UE, Celeron® 4305UE
	Memory	2 x 260 pin SO-DIMM up to 64GB Dual Channel DDR4 2400MHz
	BIOS	AMI UEFI 64 Mbit
GRAPHICS	Chipset	Intel UHD Graphics
	Display Interface	2 x HDMI 1.4b: 4096 x 2160@30Hz Supports dual displays (Up to triple displays through optional video output expansion kit)
STORAGE	Internal	1 x M.2 2280 M key (PCIe NVMe / SATA)
AUDIO	Audio Codec	Realtek ALC662/ALC888S 2-channel
NETWORK	Ethernet	2 x Intel® Gigabit LAN
	WLAN	Realtek RTL8821CE 802.11a/b/g/n/ac + Bluetooth 4.2 WLAN card M.2 2230 E key (Optional) External antenna (Dipole) x2 (Optional)
I/O INTERFACE	LAN	2 x RJ-45 (10/100/1000Mbps) Support Wake On LAN
	Serial Ports	1 x RS-232 (DB-9) 2 x RS-232/422/485 (DB-9) (RS-232 with power supply: ring in/ 5V (standard) &12V (with specific optional board))
	USB	4 x USB3.2 Gen 1 (Type A) 4 x USB2.0
	Audio	1 x Line-out 1 x Mic-in
POWER	Adapter	19V/4.74A 90W external adapter
	Type	With option wide range board, MB support 9-36V DC-in
WATCHDOG TIMER	Watchdog	Support watchdog
OS SUPPORT	OS Support	Windows 10 64bit Linux 64bit
MECHANISM	Mounting	VESA Mount 75 x 75 mm Ear Mount 256 x 100 mm Din Rail
	Dimension (L/W/H) mm	245 x 169 x 57
	Weight	2.85kg
ENVIRONMENT	Operating Temperature	0°C ~ 40°C
	Relative Humidity	20%- 80% RH (non-condensing)
	EMC	CE, FCC, VCCI, BSMI, RCM
	Safety	CB, cTUVus, BSMI

-20°C ~ 60°C
20%- 80% RH (non-condensing)
CE, FCC, VCCI, RCM
CB, cTUVus

TOUCH PANEL PC

P21WL01



RUGGED PANEL PC IN IP65 BEZEL DESIGN

Industrial-grade Panel PC is designed with a capacitive touch screen and robust housing made of thick aluminium to provide powerful performance. In particular, the I/O interfaces are customizable.



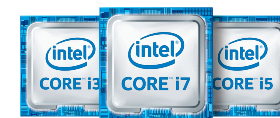
P21WL01

21.5" Multi-Touch Panel Computer

The P21WL01 is an industrial-grade panel PC that integrates a 21.5-inch FHD TFT LCD panel and supports a 10-point touch function. It is powered by Intel® Whiskey Lake-UE platform and features an IP65 front bezel design and rugged steel housing, providing the powerful and reliable performance of multitasking capabilities. Rich I/O interfaces include four USB 3.2 Gen 1, three RS232, and dual Intel Gigabit LAN, making the system easily integrated into various business and industrial applications.

Features

- Intel® Whiskey Lake-UE Processors, from commercial to embedded
- IP65 front panel waterproof protection
- I/O interfaces: 1x HDMI 1.4, 1x DVI-I, 4x USB 3.2 Gen1, 1x RS232, 2x RS232 /422 /485 [RS232 with power supply: ring in/ 5V (standard) &12V (with specific optional board)], 2x RJ-45
- Dual Intel Gigabit LAN and WiFi 802.11ac+BT 4.2



MEDICAL PANEL PC

MEDICAL CERTIFICATED TO DELIVER A SAFE HEALTHCARE ENVIRONMENT

Medical-grade panel PC by Shuttle features a rugged aluminum chassis with an antibacterial coating and an IP65-rated front panel that helps with hygiene and infection control. The series is suitable for any healthcare center with safety IEC/EN 60601-1, CE, and FCC Class- B medical certificates. This high-value panel PC comes with a customizable modular design to enhance system versatility.



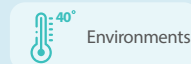
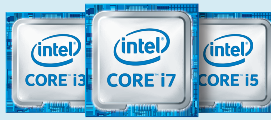
M21WL01

M21WL01

Medical-Grade Fanless 21.5" Touch Panel Computer

Highly Customizable to Meet Healthcare Applications

The M21WL01 is a medical-grade panel PC with safety IEC/EN 60601-1, CE, and FCC class-B medical certificated, featuring a sizeable 21.5-inch FHD TFT LCD antibacterial touch housing that helps with infection control. Powered by Intel® Whiskey Lake-UE processor with a fanless design, M21WL01 delivers high-performance computing in durability and functionality. In terms of its flexible connectivity, the model includes four USB 3.2 Gen1, three RS232, dual Intel® Gigabit LAN, and WiFi 802.11ac+BT 4.2 and allows users to select different I/O ports to enhance system versatility. It is purpose-built for a medical application that complies with the requirement of medical electrical equipment and is suitable for the healthcare sector as an information terminal in the operating room, bedside, medical cart, and digital signage in hospital, etc.



Features

- Intel® Whiskey Lake-UE Celeron®, Core™ i3/i5/i7 processor
- Antibacterial substance throughout the front touch panel, rear and cable cover
- IP65 front panel waterproof protection
- I/O interfaces: 1x HDMI 1.4, 1x DVI-I, 4x USB 3.2 Gen1, 1x RS232, 2x RS232 /422 /485, RS232 with power supply: ring in/ 5V (standard) &12V (with specific optional board), 2x RJ-45, POAG
- Dual Intel Gigabit LAN and WiFi 802.11ac+BT 4.2
- Medical Certificate EMC & Safety: FCC Class-B, CE Mark Class-B, IEC/EN 60601-1



P21WL01

SYSTEM	Processor	8th Gen. Intel® Whiskey Lake Core i3-8145UE (default) Optional: i5-8265U, i5-8365UE, i7-8565U, i7-8665UE, Celeron® 4305UE
	Memory	2 x 260 pin SO-DIMM up to 64GB Dual Channel DDR4 2400MHz
	BIOS	AMI UEFI 64 Mbit
DISPLAY & TOUCH	Display	21.5" 1920x1080 Full HD TFT LED with 10-Point Projected Capacitive Multi-Touch
	Viewing Angle (H/V°)	89 (left), 89 (right), 89 (up), 89 (down)
	Brightness	500/350 cd/m2
	Contrast	1000:1
	Backlight Lifetime	30,000 hrs
GRAPHICS	Chipset	Intel UHD Graphics
	Display Interface	1 x HDMI 1.4b: 4096 x 2160@30Hz 1 x DVI-I: 1920 x 1080@60Hz Supports triple displays
STORAGE	Internal	1 x M.2 2280 M key (PCIe NVMe / SATA) 1 x Swappable 2.5" SSD SATA 3.0 drive bay (compatible 7mm)
AUDIO	Audio Codec	Realtek ALC662/ALC888S 2-channel
NETWORK	Ethernet	2 x Intel® Gigabit LAN
	WLAN	Realtek RTL8821CE 802.11a/b/g/n/ac + Bluetooth 4.2 (M.2 2230 E key) with 2 internal antenna(default)/external antenna(optional)
I/O INTERFACE	LAN	2 x RJ-45 (10/100/1000Mbps) Support Wake On LAN
	Serial Ports	1 x RS-232 (DB-9) 2 x RS-232/422/485 (DB-9) (RS-232 with power supply: ring in/ 5V (standard) &12V (with specific optional board))
	USB	4 x USB3.2 Gen 1 (Type A)
	Audio	1 x Line-out 1 x Mic-in
POWER	Adapter	19V/4.74A 90W external adapter
WATCHDOG TIMER	Watchdog	Support watchdog
OS SUPPORT	OS Support	Windows 10 64bit Linux 64bit
MECHANISM	IP Rating	IP65 Front Panel Protection
	Mounting	VESA Mount 100 x 100 mm
	Dimension (W/H/D) mm	543 x 334 x 49.9
	Weight	7.6kg
ENVIRONMENT	Operating Temperature	0°C ~ 40°C
	Storage Temperature	-20°C ~ 60°C
	Relative Humidity	20%- 80% RH (non-condensing)
	EMC	CE, FCC, VCCI, BSMI
	Safety	cTUVus, CB, BSMI
	RF	US, EU, Taiwan

M21WL01

SYSTEM	Processor	8th Gen. Intel® Whiskey Lake Core i3-8145UE (default) Optional: i5-8265U, i5-8365UE, i7-8565U, i7-8665UE, Celeron® 4305UE
	Memory	2 x 260 pin SO-DIMM up to 64GB Dual Channel DDR4 2400MHz
	BIOS	AMI UEFI 64 Mbit
DISPLAY & TOUCH	Display	21.5" 1920x1080 Full HD TFT LED with Antibacterial 10-Point Projected Capacitive Multi-Touch
	Viewing Angle (H/V°)	89 (left), 89 (right), 89 (up), 89 (down)
	Brightness	500/350 cd/m2
	Contrast	1000:1
	Backlight Lifetime	30,000 hrs
GRAPHICS	Chipset	Intel UHD Graphics
	Display Interface	1 x HDMI 1.4b: 4096 x 2160@30Hz 1 x DVI-I: 1920 x 1080@60Hz Supports triple displays
STORAGE	Internal	1 x M.2 2280 M key (PCIe NVMe / SATA) 1 x Swappable 2.5" SSD SATA 3.0 drive bay (compatible 7mm)
AUDIO	Audio Codec	Realtek ALC662/ALC888S 2-channel
NETWORK	Ethernet	2 x Intel® Gigabit LAN
	WLAN	Realtek RTL8821CE 802.11a/b/g/n/ac + Bluetooth 4.2 (M.2 2230 E key) with 2 internal antenna(default)/external antenna(optional)
I/O INTERFACE	LAN	2 x RJ-45 (10/100/1000Mbps) Support Wake On LAN
	Serial Ports	1 x RS-232 (DB-9) 2 x RS-232/422/485 (DB-9) (RS-232 with power supply: ring in/ 5V (standard) &12V (with specific optional board))
	USB	4 x USB3.2 Gen 1 (Type A)
	Audio	1 x Line-out 1 x Mic-in
	POAG	1 x POAG
POWER	Adapter	19V/4.74A 90W external medical adapter
WATCHDOG TIMER	Watchdog	Support watchdog
OS SUPPORT	OS Support	Windows 10 64bit Linux 64bit
MECHANISM	IP Rating	IP65 Front Panel Protection
	Mounting	VESA Mount 100 x 100 mm
	Dimension (W/H/D) mm	543 x 334 x 49.9
	Weight	7.6kg
ENVIRONMENT	Operating Temperature	0°C ~ 40°C
	Storage Temperature	-20°C ~ 60°C
	Relative Humidity	20%- 80% RH (non-condensing)
	EMC	FCC Class B, CE Mark Class B
	Safety	CB (IEC/EN 60601-1: 2005+A1: 2012), cTUVus (ANSI/AAMI ES60601-1:2005/(R)2012)
	RF	US, EU



KIOSK

INTERACTIVE SELF-SERVICE IS AN ACCESS TO FUTURE

The interactive kiosk is a computer-like device featuring specialized hardware and software that can be deployed in any venue to offer self-service options and access applications.

K11WL02 / K15WL01 / K21WL01 / K27WL04
K11RK02 / K15RK01 / K21RK01 / K27RK04

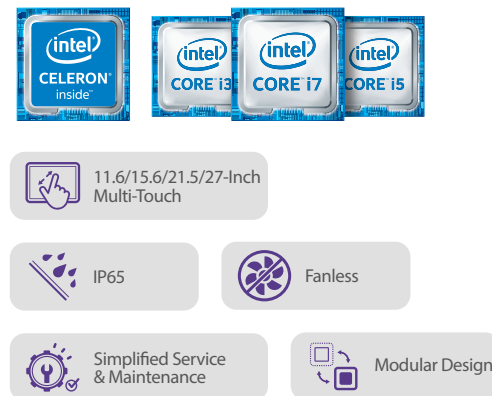
K11WL02 / K15WL01 K21WL01 / K27WL04

X86-Based Interactive Self-Service KIOSK

The kiosk is a self-service terminal that integrates hardware and software for businesses to offer automation and efficiency. Based on Intel® 8th Gen Whiskey Lake processor and integrated Intel® UHD Graphics, the x86-based interactive kiosk is robust in computing and provides four USB 3.2 Gen1, an RS232, and an Intel® Gigabit LAN. The modular design is customizable to support a wide range of peripherals of the 1D/2D scanner, thermal printer, NFC reader, IC card reader, a payment device, and webcam. It can be deployed for ticketing, queue management, check-in, guide map, and other information services in entertainment and healthcare applications.

Features

- Intel® Whiskey Lake-U/UE processors
- 11.6/15.6/21.5/27-inch 1080P FHD, PCAP 10-point multi-touch screen
- Sturdy and robust SECC metal enclosure
- Mounting supports: Counter mount, Pole mount(optional), Wall mount
- Provide 4 x USB 3.2 Gen1, 1 x RS232, 1 x Intel® Gigabit LAN, and WiFi 802.11ac + Bluetooth 4.2
- Support a wide range of peripherals of 1D/2D scanner, thermal printer, NFC/RFID reader, IC card reader, a payment device, and webcam

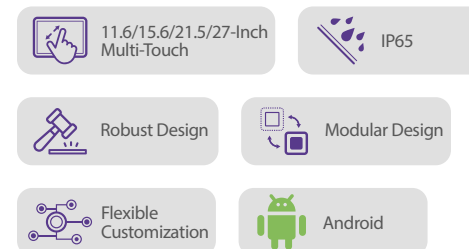


K11RK02
K15RK01
K21RK01
K27RK04



ARM-Based Interactive Self-Service KIOSK

The ARM-based interactive self-service kiosks are designed with functionality in mind and well-suited for delivering extensive self-service capability for desktop, counter, or wall mount deployment. Equip with a Rockchip RK3368 ARM processor, the kiosk supports DDR3L 2GB memories and an onboard 16GB eMMC and provides eight USB 2.0, a Realtek Gigabit LAN. In addition, it can house a variety of peripheral of 1D/2D scanner, thermal printer, NFC, IC card reader, a payment device, and webcam, customizing based on the functional requirements and service purposes to meet any needs for queue management, ticketing, payments, check-in, guide map, information services, etc.



Features

- Rockchip RK3368 Octa-core Cortex-A53 processor
- 11.6/15.6/21.5/27-inch 1080P FHD, PCAP 10-point multi-touch screen
- Customizable configurations to suit your brand and function
- Mounting supports: Counter mount, Pole mount (optional), Wall mount
- Provide 8 x USB 2.0, Realtek Gigabit LAN, and WiFi 802.11ac + Bluetooth 5.0
- Support with customizable configurations: Thermometer, 1D/2D scanner, RFID/NFC/IC card reader, thermal printer, webcam, and hand sanitizer dispenser

		K11WL02	K15WL01	K21WL01	K27WL04
SYSTEM	Processor	Intel® Whiskey Lake-U/UE platform, Core™ i7-8565U / i5-8265UE / i3-8145UE / Celeron-4305UE			
	Memory	2 x DDR4 2400/2666MHz, Max. 32GB			
	Storage	1 x 2.5''' HDD / SSD SATA3.0 drive bay (max. 7mm) 1 x M.2 2280 B+M Key (PCIw NVMe / SATA)			
	Graphics	Intel® UHD Graphics			
	Operation System	Windows 10 64bit / Linux 64bit			
DISPLAY & TOUCH	LCD	11.6" LED	15.6" LED	21.5" LED	27.0" LED
	Resolution	1366 x 768 (HD)	1920 x 1080 (Full HD)	1920 x 1080 (Full HD)	1920 x 1080 (Full HD)
	Screen Position	Landscape	Landscape	Portrait	Portrait
	Touch	True-Flat PCAP Multi Touch	True-Flat PCAP Multi Touch	True-Flat PCAP Multi Touch	True-Flat PCAP Multi Touch
	Viewing Angle (H/V°)	45 (left), 45 (right), 20 (up), 40 (down)	89 (left), 89 (right), 89 (up), 89 (down)	89 (left), 89 (right), 89 (up), 89 (down)	89 (left), 89 (right), 89 (up), 89 (down)
	Brightness	250 cd/m2	250 cd/m2	300 cd/m2	300 cd/m2
	Contrast	500:1	400:1	3000:1	3000:1
	Backlight Lifetime	30,000hrs	30,000hrs	30,000hrs	30,000hrs
COMMUNICATION	Ethernet	1 x Intel® Gigabit LAN			
	Wireless	802.11a/b/g/n/ac + Bluetooth 4.2 with 2 external antenna			
I/O INTERFACE	USB	4x USB3.2 Gen1 (Type A)			
	Serial Port	1 x RS232 (DB-9)			
	Audio	2 x Internal 2W speaker			
PERIPHERALS	Camera	2MP FHD camera			
	IC Card Reader	Friction Type User Card PC/SC 1.0 Standard Approval CPU card and Memory card compliant			
	NFC/RFID Reader	EM compatible 64 bits, A SK Manchester coding or Mifare: ISO14443A standard			
	Scanner	1D/2D barcode scanner			
	Printer	Optional	3" thermal printer w/auto cutter, 200mm/sec		
POWER	Adapter	19V/4.74A 90W external adapter			
MECHANISM	Mouting	Counter-mount, Pole-mount, Wall-mount			
	Counter mount	340 x 225 x 365 mm 11Kg	370 x 310 x 500 mm 22kg	370 x 310 x 825 mm 35kg	370 x 517 x 870 mm 36kg
ENVIRONMENT	Operating Temperature	0 ~ 35°C			
	Storage Temperature	-20°C ~ 60°C			
	Relative Humidity	20%- 80% RH (non-condensing)			
CERTIFICATION	EMC	TBD			
	Safety	TBD			

K11RK02	K15RK01	K21RK01	K27RK04
Rockchip RK3368 Octa-core 1.5GHz (ARM Cortex-A53)			
DDR3L 2GB			
16GB eMMC onboard			
-			
Android 8.1			
11.6" LED 1366 x 768 (HD) Landscape True-Flat PCAP Multi Touch 45 (left), 45 (right), 20 (up), 40 (down) 250 cd/m2 500:1 30,000hrs	15.6" LED 1920 x 1080 (Full HD) Landscape True-Flat PCAP Multi Touch 89 (left), 89 (right), 89 (up), 89 (down) 250 cd/m2 400:1 30,000hrs	21.5" LED 1920 x 1080 (Full HD) Portrait True-Flat PCAP Multi Touch 89 (left), 89 (right), 89 (up), 89 (down) 300 cd/m2 3000:1 30,000hrs	27.0" LED 1920 x 1080 (Full HD) Portrait True-Flat PCAP Multi Touch 89 (left), 89 (right), 89 (up), 89 (down) 300 cd/m2 3000:1 30,000hrs
1 x Realtek Gigabit LAN			
802.11b/g/n/ac + Bluetooth 5.0 with 1 external antenna			
8 x USB2.0 for USB Peripherals 1 x USB2.0 (OTG)			
-			
2 x Internal 2W speaker			
2MP FHD camera			
Friction Type User Card PC/SC 1.0 Standard Approval CPU card and Memory card compliant"			
EM compatible 64 bits, A SK Manchester coding or Mifare: ISO14443A standard			
1D/2D barcode scanner			
Optional	3" thermal printer w/auto cutter, 200mm/sec		
19V/4.74A 90W external adapter			
Counter-mount, Pole-mount, Wall-mount			
340 x 225 x 365 mm 11Kg	370 x 310 x 500 mm 22kg	370 x 310 x 825 mm 35kg	370 x 517 x 870 mm 36kg
0 ~ 35°C			
-20°C ~ 60°C			
20%- 80% RH (non-condensing)			
TBD			
TBD			

OPTIONAL EXPANSION KIT

			EMBEDDED BOX PC		TOUCH PANEL PC	MEDICAL PANEL PC
			BPCWL02	BPCWL03	P21WL01	M21WL01
VIDEO OUTPUT	1x HDMI 1.4	1	●	●	●	●
	1x HDMI 2.0	1	●	●	●	●
	1x DisplayPort	1	●	●	●	●
	1x DVI-I	1	●	●	●	●
	1x VGA	1	●	●	●	●
I/O INTERFACE	1x COM (RS232)	1	●	●	●	●
	2x COM (RS232/RS422/RS485)	2	●	●	●	●
	4x COM (RS232)	2	●	●	—	—
	6x COM (4x RS232 + 2x RS232/RS422/RS485)	3	●	●	—	—
	4x USB 2.0	1	●	●	●	●
	1x DIO	1	●	●	●	●
	2nd LAN module	1	●	●	●	●
	Dual LAN module (M.2)	1	●	●	●	●
NETWORK	WiFi module kit (RTL8821CE)	-	●	●	—	—
	WiFi antenna set	-	●	●	—	—
	4G/LTE connection module (M.2)	2	●	●	●	●
BOARD	Wide voltage range board (9~36V)	-	●	●	●	●
	M.2 2280 M key / SATA port board	-	●	●	●	●
MOUNT KIT	VESA monut	-	●	●	●	●
	Ear mount	-	●	●	—	—
	Din rail	-	●	●	—	—
	Stand	-	—	—	●	●
OTHERS	Dummy bracket	1	●	●	—	—
	150W power adapter (Wide temp.)	-	—	●	—	—
	eDP cable (for 3rd video output)	-	●	●	—	—
	External antenna back cover	-	—	—	●	●
	POAG	-	—	—	●	●

		KIOSK			
		K11WL02	K15WL01	K21WL01	K27WL04
VIDEO OUTPUT	1x HDMI 1.4	●	●	●	●
	1x HDMI 2.0	●	●	●	●
	1x DisplayPort	●	●	●	●
	1x DVI-I	●	●	●	●
	1x VGA	●	●	●	●
I/O INTERFACE	1x COM (RS232)	●	●	●	●
	2x COM (RS232/RS422/RS485)	●	●	●	●
	4x COM (RS232)	●	●	●	●
	6x COM (4x RS232 + 2x RS232/RS422/RS485)	●	●	●	●
	4x USB 2.0	●	●	●	●
	1x DIO	●	●	●	●
	2nd LAN module	●	●	●	●
NETWORK	WiFi module kit (RTL8821CE)	—	—	—	—
	WiFi antenna set	—	—	—	—
	4G/LTE connection module (M.2)	●	●	●	●
BOARD	Wide voltage range board (9~36V)	—	—	—	—
	M.2 2280 M key / SATA port board	●	●	●	●
MOUNT KIT	VESA monut	—	—	—	—
	Ear mount	—	—	—	—
	Din rail	—	—	—	—
	Stand	—	—	—	—
OTHERS	Dummy bracket	—	—	—	—
	150W power adapter (Wide temp.)	—	—	—	—
	eDP cable (for 3rd video output)	—	—	—	—
	External antenna back cover	—	—	—	—
	POAG	—	—	—	—