

SELECTION GUIDE

2024

Smart Service

- POS Terminal
- KIOSK
- Peripheral

Smart Manufacturing

- Tablet
- Industrial Motherboard & SBC
- Wall Mount & Rack Mount System
- Embedded PC
- Industrial Panel PC
- Full IP66/69K Panel PC
- Industrial Monitor
- IIoT Edge Controller
- Remote I/O Module
- EtherCAT Slave I/O Module

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2024



Smart Service | Smart Manufacturing

SELECTION GUIDE

Founded in 1980, Protech Systems is the leading company in the industrial PC industry, bringing intelligent and high-quality products for industrial IoT and AloT applications with our own brand 「PROX」. Committed to innovation, we provide a comprehensive product portfolio with ground-breaking technology, including industrial board, embedded system, panel PC, remote I/O module, EtherCAT slave module, rugged tablet, POS, Kiosk, and integrated solutions. Our goal is to bring smart power to the IoT world and accelerate industrial efficiency and transformation.

"Honesty, Aggressiveness, Stable Growth" are our business philosophy, "Technology, Innovation, Excellence, Sustainability" are our core values, we believe that only "Top Quality, Optimal Function, Best Service" will bring significant progress together with our customers and partners.



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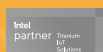


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2 **PA-A902** *NEW*
15.6" All-in-One POS Terminal



2 **PA-A900**
15.6" Fanless All-in-One POS Terminal



2 **PA-A311** *NEW*
10.1" All-in-One POS Terminal

3 Standalone



3 **PA-J602** *NEW*
21.5" Fanless Slim POS Terminal



3 **PA-J560** *NEW*
15.6" Fanless Slim POS Terminal



3 **PA-J500**
15.6" Slim POS Terminal



3 **PA-J501**
15.6" Fanless Slim POS Terminal



4 **PA-J510** *NEW* 
15" Slim POS Terminal



4 **PA-J511** *NEW*
15" Fanless Slim POS Terminal



4 **PA-J581**
15" Fanless Slim POS Terminal

Chapter 2 KIOSK

6 KIOSK



6 **KS-M331**
32" Multi-Function Self Ordering Kiosk



6 **KS-M332**
32" Multi-Function Self Ordering Kiosk



6 **KS-M333**
32" Multi-Function Self Ordering Kiosk



7 **KS-M320**
32" Multi-Function Self Ordering Kiosk



7 **KS-M220** 
21.5" Multi-Function Self Ordering Kiosk



8 **PA-J602E** *NEW*
21.5" Multi-Function Self Ordering Kiosk



8 **KS-Y121** *NEW*
21.5" Multi-Function Self Ordering Kiosk



8 **KF-P400** *NEW*
17" Multi-Function Cash Payment Kiosk



8 **KF-P231**
17" Multi-Function Cash Payment Kiosk

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Chapter 3 Peripheral

10 Peripheral



- 10 **PA-V560**
Support 15" & 15.6" POS Terminal / Self-Service Kiosk



- 10 **MP-4815** **Customer Display** 
The industry's thinnest highly integrated module design support POS system



- 10 **MP-4815** **Stand-alone Display** 
The highly integrated display support different stands with the most modules



- 10 **MP-4815** **Wall Mount Display** 
The highly integrated display support IPC system with speaker integrated and two wall-mount kits



- 10 **MP-4003** **Customer Display**
High quality vacuum fluorescent customer display



- 11 **MP-1150** **Mobile Printer**
2" BT Mobile Thermal Printer



- 11 **MP-1060** **Printer for Kitchen Display**
Printer

Chapter 4 Tablet

13 Rugged Tablet



- 13 **MH-T01T**
10.1" Windows Rugged Tablet with Intel® 11th Gen. Core™ i7 / i5 / i3 / Celeron® Processor



- 13 **MH-0616**
6" Android 10 Rugged Handy Terminal with Qualcomm® S660 Octa-cores 2.2 GHz Processor

14 Industrial Tablet



- 14 **MH-5752** 
7" Windows Handy Terminal with Intel® Atom® x5-Z8550 Quad Core™ 2.4 GHz Processor



- 15 **MH-5102** 
10.1" Windows Tablet with Intel® Atom® x5-Z8550 Quad Core™ 2.4 GHz Processor



- 15 **MH-5108**
10.1" Android 9.0 Tablet with Qualcomm® Snapdragon™ S450 Octa Core™ 1.8 GHz

Chapter 5

Industrial Motherboard & SBC

17 ATX Motherboard



17 **BA-2602**
ATX Intel® 9th / 8th Gen. Core™ i7 / i5 / i3 / Pentium® / Celeron® / Xeon® E-2200 / E-2100 CPU (≤65W)



17 **BA-2601**
ATX Intel® 8th Gen. Core™ i7 / i5 / i3 / Pentium® / Celeron® / Xeon® E-2100 CPU

17 Micro-ATX Motherboard



17 **BU-B015**
Micro-ATX Intel® 10th Gen. Core™ i9 / i7 / i5 / i3 / Pentium® / Celeron® / Xeon® W-1200 CPU

18 Mini-ITX Motherboard



18 **BM-D226** *NEW*
Mini-ITX Intel® 12th Gen. Core™ i9 / i7 / i5 / i3 / Pentium® / Celeron® CPU



18 **BM-D025**
Mini-ITX Intel® 10th Gen. Xeon® / Core™ i9 / i7 / i5 / i3 / Pentium® / Celeron® CPU



18 **BM-2505**
Mini-ITX Intel® 7th / 6th Gen. Core™ i7 / i5 / i3 / Pentium® / Celeron® CPU



18 **BM-0982**
Thin Mini-ITX Intel® Pentium® N4200 / Celeron® N3350 Embedded SoC

19 SBC



19 **BE-U236**
3.5" Intel® 12th Gen. Core™ i7 / i5 / i3 / Celeron® SoC SBC



19 **BE-0996**
3.5" Intel® Kaby Lake-U Core™ i5 / i3 SoC SBC



19 **BE-U830**
EPIC CPU Board with Intel® Elkhart Lake Atom® / Pentium® / Celeron® SoC CPU



19 **BE-0986**
3.5" SBC Intel® Celeron® / Pentium® / Atom® SoC / HDMI / 12V, 19V and 24V



19 **BE-0981**
3.5" SBC with Intel® Atom® x5/ x7/ Celeron® / Pentium® SoC, DC-in 12V

20 Add-on Card



20 **BR-U830-D4**
PCIe (x4) to 4 port GbE LAN, PCIe Card



20 **SR-5700**
PCIe (x1) to 2Power 12V USB / 1 Power 24V USB / 1Cash Drawer, PCIe Card



20 **BR-U830-D2 (pair w/ BR-U830-D1)**
PCIe (x1) to 2 port GbE LAN (option PoE PSE), Kits of mini-PCIe Card & LAN Card



20 **BR-U830-D3 (pair w/ BR-U830-D1)**
PCIe (x1) to 2 port GbE LAN (w/ PoE PD), Kits of mini-PCIe Card & LAN Card



20 **SR-6150**
Speaker Add on Card for Standard mini-PCIe Slot



21 **BR-8080**
DP / eDP to LVDS Daughter Board



21 **BR-4010**
TPM Module w/ LPC Interface



21 **BR-6061**
LPC to 4 COM Ports Daughter Board

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23 Wall Mount System



23 **BC-K300** *NEW*
Industrial Wall Mount System

24 Rack Mount System



24 **BC-K100** *NEW*
Industrial Rack Mount System



24 **BC-K201**
Industrial Rack Mount System



24 **BC-2602**
Industrial Rack Mount System with Intel® 9th / 8th Gen. Core™ i7 / i5 / i3 / Pentium® / Celeron® / Xeon® E-2200 / E-2100 CPU (≤65W)

25 Industrial Box PC



25 **BC-K600** *NEW*
Industrial Book Size PC



25 **SA-N718**
Intel® 10th Gen. Core™ i9 / i7 / i5 / i3 / Pentium® / Celeron® Processor Book Size PC

Chapter 7 Embedded PC

27 Embedded PC High Performance



27 **SE-N108**
Intel® 12th Gen. Core™ i7 / i5 / i3 / Celeron® Processor Compact and Fanless Embedded PC



27 **SE-N207**
Intel® 8th Gen. Core™ i7 / i5 / i3 / Celeron® Processor Compact and Fanless Embedded PC



27 **BS-E099**
High Performance Intel® Kaby Lake-U Fanless Embedded PC



27 **SE-N208** *NEW*
Intel® 14th / 13th / 12th Gen. Core™ Fanless and High Performance Embedded PC

28 Embedded PC Entry



28 **BS-U830**
Fanless Embedded PC Intel® Celeron® / Atom® SoC Processor



28 **SE-8134**
Intel® Atom® / Pentium® / Celeron® Processor Compact and Fanless Embedded PC



28 **BS-E098**
Fanless Embedded PC 12V / DP Intel® Atom® / Pentium® / Celeron® Processor

29 In-Vehicle Embedded Computer



29 **IV-Z318** 
Intel® 11th Gen. Core™ i7 / i5 / i3 Processor Compact and Fanless In-Vehicle Embedded PC

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Industrial Panel PC

31 **Stainless Steel Panel PC**



31 **SP-S218** *NEW*
Intel® 14th / 13th / 12th Gen. Core™ Fanless and High Performance 21.5" Stainless Panel PC



31 **SP-S214**
Intel® 7th Gen. Core™ High Performance 21.5" True-Flat Panel PC with Fan



31 **SP-S211**
Intel® Celeron® Processor Fanless and Low Power 21.5" Stainless Steel Panel PC



31 **SP-S178** *NEW*
Intel® 14th / 13th / 12th Gen. Core™ Fanless and High Performance 17" Stainless Panel PC



31 **SP-S174**
Intel® 7th Gen. Core™ High Performance 17" True-Flat Panel PC with Fan



32 **SP-7157**
Intel® Atom® / Pentium® / Celeron® Processor Fanless and Low Power 17" Flat Panel PC



32 **SP-S168** *NEW*
Intel® 14th / 13th / 12th Gen. Core™ Fanless and High Performance 15.6" Stainless Panel PC



32 **SP-S158** *NEW*
Intel® 14th / 13th / 12th Gen. Core™ Fanless and High Performance 15" Stainless Panel PC



32 **SP-S154**
Intel® 7th Gen. Core™ High Performance 15" True-Flat Panel PC with Fan



32 **SP-7155**
Intel® Atom® / Pentium® / Celeron® Processor Fanless and Low Power 15" Flat Panel PC

33 **Aluminum Panel PC**



33 **SP-6269**
Intel® 7th / 6th Gen. Core™ Fanless and High Performance 19" Panel PC



33 **SP-6159**
Intel® Atom® / Pentium® / Celeron® Processor Fanless and Low Power 19" Panel PC



33 **SP-6567**
Intel® 7th / 6th Gen. Core™ Fanless and High Performance 17" Flat Panel PC



33 **SP-C172** *NEW*
Intel® Atom® / Celeron® X6425RE / J6412 Processor Fanless 17" Panel PC



34 **SP-6565**
Intel® 7th / 6th Gen. Core™ Fanless and High Performance 15" Flat Panel PC



34 **SP-C152** *NEW*
Intel® Atom® / Celeron® X6425RE / J6412 Processor Fanless 15" Panel PC



34 **SP-C122** *NEW*
Intel® Atom® / Celeron® X6425RE / J6412 Processor Fanless 12.1" Panel PC



34 **SP-C102** *NEW*
Intel® Atom® / Celeron® X6425RE / J6412 Processor Fanless 10.4" Panel PC



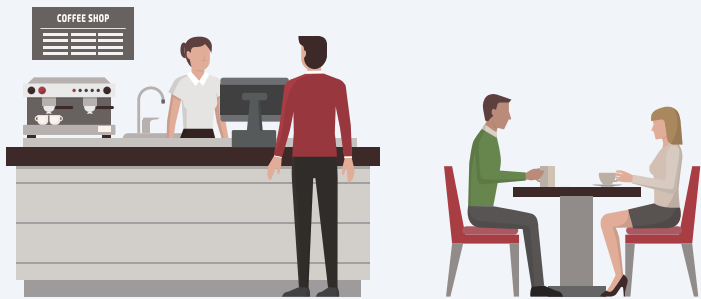
34 **SP-C082** *NEW*
Intel® Atom® / Celeron® X6425RE / J6412 Processor Fanless 8.4" Panel PC

Chapter 1

POS Terminal



All in One



Model		PA-A902	PA-A900	PA-A311
QR Code				
Pictures				
LCD Display		15.6" TFT LCD	15.6" TFT LCD	10.1" TFT LCD
Resolution		1366 x 768	1366 x 768	1280 x 800
Brightness		220 nits	220 nits	400 nits
Touchscreen		Projected capacitive	Projected capacitive	Projected capacitive
CPU Support		Core™ i5-1245UE / i3-1215UE / Celeron® 7305E	Celeron® J3455	Celeron® J6412
Chipset		Intel® SoC	Intel® SoC	Intel® SoC
Max. System Memory		32GB	8GB	16GB
Drive Bays		1 x M.2 2280 1 x 2.5" SATA	1 x M.2 2280 1 x 2.5" SATA	1 x 2.5" SATA
BIOS		AMI	AMI	AMI
Audio		Realtek ALC888	Realtek ALC888	Realtek ALC888
I/O Ports	USB	5 x Type A Female 1 x 12V or 24V Powered USB (option)	5 x Type A Female 1 x 12V or 24V Powered USB (option)	5 x Type A female
	LAN	1 x RJ45	1 x RJ45	1 x RJ45
	Display	1 x HDMI® 1 x VGA (option)	1 x HDMI® 1 x VGA (option)	1 x HDMI® 1 x VGA (option)
	Cash Drawer	1 + 1 (option) x RJ11	1 + 1 (option) x RJ11	1 + 1 (option) x RJ11
	COM Ports	3 x RJ45 + 1 (option) DB9	3 x RJ45 + 1 (option) DB9	3 x RJ45
	Line Out	1 x phone jack	1 x phone jack	1 x phone jack (option)
	Mic In	1 x phone jack	1 x phone jack	1 x phone jack (option)
IP Rating		IP54 (Front Touch)	IP54 (Front Touch)	IP54 (Front Touch)
Power Supply		60W/90W adaptor	60W/90W adaptor	60W/90W adaptor
Dimensions (WxHxD) mm		372 x 169 x 315	372 x 169 x 315	299 x 148 x 300
Weight (approx)		5 kg	5 kg	3.3 kg
Options		printer, customer display, MSR, fingerprint, i-Button reader, RFID barcode scanner	printer, customer display, MSR, fingerprint, i-Button reader, RFID barcode scanner	printer, customer display, MSR, fingerprint, i-Button reader
O.S. Support		Windows 10 Windows 11	Windows 10	Windows 10 Windows 11
Certifications		CE, FCC	CE, FCC	CE, FCC

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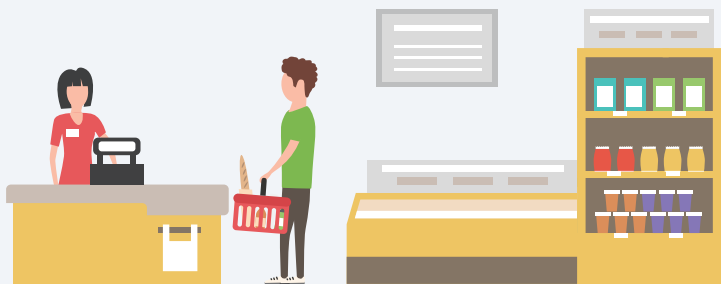
Standalone



Model		PA-J602	PA-J560	PA-J500	PA-J501
QR Code					
Pictures					
LCD Display		21.5" TFT LCD	15.6" TFT LCD	15.6" TFT LCD	15.6" TFT LCD
Resolution		1920 x 1080	1366 x 768	1366 x 768	1366 x 768
Brightness		250 nits	220 nits	220 nits	220 nits
Touchscreen		Projected capacitive	Projected capacitive	Projected capacitive	Projected capacitive
CPU Support		Core™ i5-1245UE / i3-1215UE / Celeron® 7305E	Core™ i5-1245UE / i3-1215UE / Celeron® 7305E	Core™ i5-1145G7E / i3-1115G4E / Pentium® 7505 / Celeron® 6305E	Celeron® J6412
Chipset		Intel® SoC	Intel® SoC	Intel® SoC	Intel® SoC
Max. System Memory		32GB	32GB	32GB	32GB
Drive Bays		1 x M.2 2280 1 x 2.5" SATA	1 x M.2 2280 1 x 2.5" SATA	1 x M.2 2280 1 x M.2 2242	1 x M.2 2280 1 x M.2 2242
BIOS		AMI	AMI	AMI	AMI
Audio		Realtek ALC888	Realtek ALC888	Realtek ALC888	Realtek ALC888
I/O Ports	USB	4 x Type A female	5 + 1 (option) x Type A female	5 + 1 (option) x Type A female + 24V Powered USB (option) x 1 + USB type-C	5 + 1 (option) x Type A female + 24V Powered USB (option) x 1
	LAN	1 x RJ45	1 x RJ45	1 x RJ45	1 x RJ45
	Display	1 x HDMI®	1 x HDMI® 1 x VGA (option)	1 x HDMI®	1 x HDMI®
	Cash Drawer	1 x RJ11	1 x RJ11	1 x RJ11	1 x RJ11
	COM Ports	3 + 1 (option) x RJ45	2 + 1 (option) x RJ45	2 + 1 (option) x J45	2 + 1 (option) x RJ45
	Line Out	1 x phone jack (option)	1 x phone jack (option)	—	—
	Mic In	1 x phone jack (option)	1 x phone jack (option)	—	—
IP Rating		IP54 (Front Touch)	IP54 (Front Touch)	IP54 (Front Touch)	IP54 (Front Touch)
Power Supply		90W/120W adaptor	60W/90W adaptor	60W/90W adaptor	60W/90W adaptor
Dimensions (WxHxD) mm		551 x 450 x 297 (POS) 535 x 342 x 50 (PPC)	375.68 x 287.43 x 194.95 (POS) 375.68 x 235.51 x 60.5 (PPC) 375.68 x 287.43 x 213.26 (POS + 2nd Display)	375.68 x 287.43 x 194.95 (POS) 375.68 x 235.51 x 60.5 (PPC) 375.68 x 287.43 x 213.26 (POS + 2nd Display)	375.68 x 287.43 x 194.95 (POS) 375.68 x 235.51 x 60.5 (PPC) 375.68 x 287.43 x 213.26 (POS + 2nd Display)
Weight (approx)		6.2kg (PPC)	4.23 kg (POS) / 3.6 kg (PPC) 5.33 kg (POS + 2nd Display)	4.23 kg (POS) / 3.6 kg (PPC) 5.33 kg (POS + 2nd Display)	4.23 kg (POS) / 3.6 kg (PPC) 5.33 kg (POS + 2nd Display)
Options		MSR, scanner, RFID, 2nd display	MSR, customer display, fingerprint, scanner, 10.1" 2nd display	MSR, customer display, fingerprint, scanner, 10.1" 2nd display	MSR, customer display, fingerprint, scanner, 10.1" 2nd display
O.S. Support		Windows 10 Windows 11	Windows 10 Windows 11	Windows 10 Windows 11	Windows 10 Windows 11
Certifications		CE, FCC	CE, FCC	CE, FCC	CE, FCC

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Standalone



Model		PA-J510	PA-J511	PA-J581
QR Code				
Pictures				
LCD Display		15" TFT LCD	15" TFT LCD	15" TFT LCD
Resolution		1024 x 768	1024 x 768	1024 x 768
Brightness		400 nits	400 nits	300 nits
Touchscreen		Projected capacitive	Projected capacitive	5-wire analog resistive or projected capacitive
CPU Support		Core™ i5-1145G7E / i3-1115G4E / Pentium® 7505 / Celeron® 6305E	Celeron® J6412	Celeron® J6412
Chipset		Intel® SoC	Intel® SoC	Intel® SoC
Max. System Memory		32GB	32GB	16GB
Drive Bays		1 x M.2 2280 1 x M.2 2242	1 x M.2 2280 1 x M.2 2242	1 x M.2 2280 1 x 2.5" SATA
BIOS		AMI	AMI	AMI
Audio		Realtek ALC888	Realtek ALC888	Realtek ALC888
I / O P O R T S	USB	5 + 1 (option) x Type A female + 24V Powered USB (option) x 1 + USB type-C	5 x Type A female	5 + 1 (option) x Type A female + 24V Powered USB (option) x 1
	LAN	1 x RJ45	1 x RJ45	1 x RJ45
	Display	1 x HDMI®	1 x HDMI®	1 x HDMI®
	Cash Drawer	1 + 1 (option) x RJ11	1 x RJ11	1 x RJ11
	COM Ports	2 + 1 (option) x RJ45	2 + 1 (option) x RJ45	1 x RJ45 2 + 1 (option) x DB-9
	Line Out	—	—	1 x phone jack (option)
	Mic In	—	—	—
IP Rating		IP54 (Front Touch)	IP54 (Front Touch)	IP54 (Front Touch)
Power Supply		60W/90W adaptor	60W/90W adaptor	60W/90W adaptor
Dimensions (WxHxD) mm		367.5 x 319.7 x 266 (Normal Stand POS) 367.5 x 399 x 274.6 (Printer Stand POS) 367.5 x 282 x 75 (PPC)	367.5 x 319.7 x 266 (Normal Stand POS) 367.5 x 399 x 274.6 (Printer Stand POS) 367.5 x 282 x 75 (PPC)	375 x 364.1 x 287.35 (POS) 375 x 305 x 59.2 (PPC)
Weight (approx)		6.4 kg (POS) / 3.8 kg (PPC)	6.4 kg (POS) / 3.8 kg (PPC)	6.1 kg (POS) / 3.9 kg (PPC)
Options		MSR, customer display, 2D scanner, camera, i-Button reader	printer, MSR, customer display, fingerprint, RFID	MSR, 2nd display, 2D scanner, camera, i-Button reader
O.S. Support		Windows 10 Windows 11	Windows 10 Windows 11	Windows 10 Windows 11
Certifications		CE, FCC	CE, FCC	CE, FCC

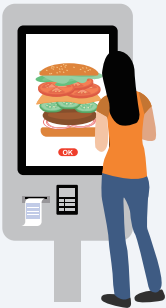
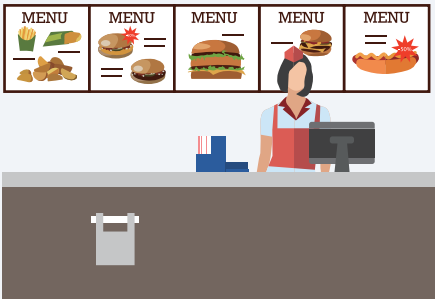
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Chapter 2

KIOSK



KIOSK



Model		KS-M331	KS-M332	KS-M333
QR Code				
Pictures				
D I S P L A Y	Size	32"	32"	32"
	Resolution	1920 x 1080	1920 x 1080	1920 x 1080
	Brightness	400 nits	400 nits	400 nits
	Backlight Life	30,000 hours	30,000 hours	30,000 hours
	Touch	Projected capacitive	Projected capacitive	Projected capacitive
O.S. Support		Windows 11 Windows 10	Windows 11 Windows 10	Android 11
CPU Support		Intel® Core™ i5-1145G7E Intel® Core™ i3-1115G4E Intel® Celeron® 6305E	Intel® Celeron® J6412	Rockchip RK-3399
Chipset / Graphics		Intel® SoC	Intel® SoC	RK3399 SoC
Memory		Up to DDR4 16GB	Up to DDR4 16GB	LPDDR4 4G
Storage		M.2 2280 x 1	M.2 2280 x 1	32G eMMC
Speaker		4W x 2	4W x 2	4W x 2
I / O P O R T S	USB	—	—	—
	Serial Port	—	—	—
	Ethernet	RJ45 LAN Port x 3	RJ45 LAN Port x 3	RJ45 LAN Port x 3
O P T I O N A L A C C E S S O R I E S	Camera	2.1M face camera x 1	2.1M face camera x 1	2.1M face camera x 1
	Document Reader	—	—	—
	Scanner	1D / 2D Barcode x 1	1D / 2D Barcode x 1	1D / 2D Barcode x 1
	MSR	—	—	—
	Card Reader	(Reserved for Design in Credit Card Reader)	(Reserved for Design in Credit Card Reader)	(Reserved for Design in Credit Card Reader)
	2nd Display	—	—	—
	Wireless Module	Option	Option	Option
	Printer Device	2" or 3" Standalone Thermal printer for 80 mm paper roll	2" or 3" Standalone Thermal printer for 80 mm paper roll	2" or 3" Standalone Thermal printer for 80 mm paper roll
	Cash Device	—	—	—
	Sensor	—	—	—
	Card Dispenser	—	—	—
	UPS	—	—	—
IP Rating		IP54 (Front Touch)	IP54 (Front Touch)	IP54 (Front Touch)
Power Supply		AC 100~240V, 50~60Hz	AC 100~240V, 50~60Hz	AC 100~240V, 50~60Hz
Dimensions (WxHxD) mm		With Stand: 440 x 1780 x 550 Without Stand: 478 x 966 x 73	With Stand: 440 x 1780 x 550 Without Stand: 478 x 966 x 73	With Stand: 440 x 1780 x 550 Without Stand: 478 x 966 x 73
Weight (approx)		With Stand: 63 kg Without Stand: 34 kg	With Stand: 63 kg Without Stand: 34 kg	With Stand: 63 kg Without Stand: 34 kg
Certifications		CE, FCC	CE, FCC	CE, FCC

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KIOSK



Model		KS-M320		KS-M220	
QR Code					
Pictures					
D I S P L A Y	Size	32"	32"	21.5"	21.5"
	Resolution	1920 x 1080	1920 x 1080	1920 x 1080	1920 x 1080
	Brightness	400 nits	400 nits	250 nits	250 nits
	Backlight Life	30,000 hours	30,000 hours	50,000 hours	50,000 hours
	Touch	Projected capacitive	Projected capacitive	Projected capacitive	Projected capacitive
O.S. Support		Windows 10	Windows 10	Windows 10 Windows 7	Windows 10 Windows 7
CPU Support		Intel® Core™ i5-7300U Intel® Core™ i3-7100U Intel® Celeron® J3455	Intel® Core™ i5-7300U Intel® Core™ i3-7100U Intel® Celeron® J3455	Intel® Core™ i5-7300U Intel® Core™ i3-7100U Intel® Celeron® J3455	Intel® Core™ i5-7300U Intel® Core™ i3-7100U Intel® Celeron® J3455
Chipset / Graphics		Intel® SoC	Intel® SoC	Intel® SoC	Intel® SoC
Memory		Up to DDR4 16GB Up to DDR3L 8GB	Up to DDR4 16GB Up to DDR3L 8GB	Up to DDR4 16GB Up to DDR3L 8GB	Up to DDR4 16GB Up to DDR3L 8GB
Storage		2.5" SATA x 1	2.5" SATA x 1	2.5" SATA x 1	2.5" SATA x 1
Speaker		2W x 2	2W x 2	2W x 2	2W x 2
I / O P O R T S	USB	—	USB Port x 1	USB Port x 1	—
	Serial Port	—	COM Port x 1	COM Port x 1	—
	Ethernet	RJ45 LAN Port x 2	RJ45 LAN Port x 1	RJ45 LAN Port x 1	RJ45 LAN Port x 2
O P T I O N A L A C C E S S O R I E S	Camera	2.1M face camera x 1	2.1M face camera x 1	2.1M face camera x 1	2.1M face camera x 1
	Document Reader	—	—	—	—
	Scanner	1D / 2D Barcode x 1	—	—	1D / 2D Barcode x 1
	IC Card / RFID	(Reserved for Design in IC card / RFID Reader x 1)	—	—	IC card / ID Reader x 1
	Card Reader	(Reserved for Design in Credit Card Reader)	—	—	(Reserve for Design in Credit Card Reader)
	2nd Display	—	—	—	—
	Wireless Module	Dual-band (2.4/5GHz) 802.11a/b/g/n 2Tx/2Rx WiFi PCIe Half-Mini Card (Option)	Dual-band (2.4/5GHz) 802.11a/b/g/n 2Tx/2Rx WiFi PCIe Half-Mini Card (Option)	Dual-band (2.4/5GHz) 802.11a/b/g/n 2Tx/2Rx WiFi PCIe Half-Mini Card (Option)	Dual-band (2.4/5GHz) 802.11a/b/g/n 2Tx/2Rx WiFi PCIe Half-Mini Card (Option)
	Printer Device	2" or 3" Standalone Thermal printer for 80 mm paper roll w/ paper near end Resolution: 203dpi Printing Speed: 170mm/s	—	—	2" or 3" Standalone Thermal printer for 70 mm paper roll
	Cash Device	—	—	—	Bill/Coin Acceptor and Dispenser
	Sensor	—	—	—	—
IP Rating		IP54 (Front Touch)	IP54 (Front Touch)	IP54 (Front Touch)	IP54 (Front Touch)
Power Supply		AC 100~240V, 50~60Hz	AC 100~240V, 50~60Hz	AC 100~240V, 50~60Hz	AC 100~240V, 50~60Hz
Dimensions (WxHxD) mm		550 x 1807 x 165	488 x 800 x 81	377 x 585 x 70	450 x 1636 x 450
Weight (approx)		64 kg	20.7 kg	18.52 kg	67.52 kg
Certifications		CE, FCC	CE, FCC	CE, FCC	CE, FCC

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KIOSK



Model		PA-J602E	KS-Y121	KF-P400	KF-P231
QR Code					
Pictures					
D I S P L A Y	Size	21.5"	21.5"	17"	17"
	Resolution	1920 x 1080	1920 x 1080	1280 x 1024	1280 x 1024
	Brightness	250 nits	250 nits	350 nits	350 nits
	Backlight Life	30,000 hours	30,000 hours	35,000 hours	50,000 hours
	Touch	Projected capacitive	Projected capacitive	Projected capacitive	Projected capacitive
O.S. Support		Windows 11 Windows 10	Windows 11 Windows 10	Windows 10	Windows 10
CPU Support		Core™ i5-1245UE Core™ i3-1215UE Celeron® 7305E	Core™ i5-1145G7E Core™ i3-1115G4E Celeron® 6305E	Intel® Celeron® J6412, 1.8GHz Atom® X6212RE, 1.2GHz Atom® X6425RE, 1.9GHz	Celeron® Processor J3455
Chipset / Graphics		Intel® SoC	Intel® SoC	Intel® SoC	Intel® SoC
Memory		Up to DDR4 32GB	Up to DDR4 16GB	Up to DDR4 32GB	Up to DDR3L 8GB
Storage		M.2 2280 x 1 / 2.5" SATA x 1	M.2 2280 x 1	2.5" SATA x 1	2.5" SATA x 1
Speaker		2W x 1	4W x 2	2W x 1	4W x 2
I / O P O R T S	USB	—	—	—	—
	Serial Port	—	—	—	—
	Ethernet	RJ45 LAN Port x 2	RJ45 LAN Port x 3	RJ45 LAN Port x 1	RJ45 LAN Port x 2
O P T I O N A L A C C E S S O R I E S	Camera	5.0M face camera x 1	2.1M face camera x 1	—	2.1M face camera x 1
	Document Reader	—	—	—	—
	Scanner	1D / 2D Barcode x 1	1D / 2D Barcode x 1	1D / 2D Barcode x 1	1D / 2D Barcode x 1
	MSR	—	—	—	RFID Reader x 1
	Card Reader	(Reserved for Design in Credit Card Reader)	(Reserved for Design in Credit Card Reader)	(Reserved for Design in Credit Card Reader)	(Reserved for Design in Credit Card Reader)
	2nd Display	—	—	—	—
	Wireless Module	Option	Option	Option	—
	Printer Device	2" or 3" Standalone Thermal printer for 80 mm paper roll	2" or 3" Standalone Thermal printer for 80 mm paper roll	2" or 3" Standalone Thermal printer for 80 mm paper roll	2" or 3" Thermal printer for 80 mm or 130 mm paper roll
	Cash Device	—	—	—	Bill / Coin Acceptor and Dispenser
	Sensor	—	—	—	Light Sensor x 1
	Card Dispenser	—	—	—	—
	UPS	—	—	—	Option
IP Rating		IP54 (Front Touch)	IP54 (Front Touch)	—	IP54 (Front Touch)
Power Supply		AC 100~240V, 50~60Hz	AC 100~240V, 50~60Hz	AC 100~240V, 50~60Hz	AC 100~240V, 50~60Hz
Dimensions (WxHxD) mm		342 x 288 x 1379	With Base Plate: 360 x 749 x 340 With Standing Feet: 360 x 758 x 219	527 x 1788 x 412	670 x 1719 x 450
Weight (approx)		30 kg	With Base Plate: 27.5 kg	About 83 kg (with package)	170 kg
Certifications		CE, FCC	CE, FCC	CE, FCC	CE, FCC

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Chapter 3

Peripheral



Peripheral



Model		PA-V560	MP-4815	MP-4815	MP-4815	MP-4003
Application		Stand	Customer Display	Stand-alone Display	Wall-mounted Display	VFD Customer Display
QR Code						
Pictures						
D I S P L A Y	Size	—	15"	15"	15"	20 columns x 2 lines
	Resolution	—	1024 x 768 pixels	1024 x 768 pixels	1024 x 768 pixels	20 columns x 2 lines by 5 x 7 font
	Brightness	—	300 nits	300 nits	300 nits	—
	Lifetime	—	50,000 hours	50,000 hours	50,000 hours	—
	Viewing Angle	—	Horizontal: 88°, Vertical: 88°	Horizontal: 88°, Vertical: 88°	Horizontal: 88°, Vertical: 88°	Horizontal: 125°, Vertical: 45°
	Touch	—	Resistive touch & P-CAP touch	Resistive touch & P-CAP touch	Resistive touch & P-CAP touch	—
OSD		—	Power button x1, Auto x 1, Menu+ x 1, Menu- x 1	Power button x1, Auto x 1, Menu+ x 1, Menu- x 1	Power button x1, Auto x 1, Menu+ x 1, Menu- x 1	—
I / O P O R T S	VGA	—	1	1	1	—
	DVI	—	DVI-I cable (support DVI-D signal only)	DVI-I cable (support DVI-D signal only)	DVI-I cable (support DVI-D signal only)	—
	USB	—	Type B x 1	Type B x 1	Type B x 1	—
	COM	—	—	—	—	RS232 with cable x 1
	HDMI	—	—	—	—	—
	LAN	—	—	—	—	—
	Cash Drawer	—	—	—	—	—
	Line In	—	—	—	1	—
	Line Out	—	—	—	—	—
	DC In Jack	—	DC12V x 1	DC12V x 1	DC12V x 1	DC12V with cable x 1
O P T I O N A L D E V I C E	Barcode Scanner	1	1	1	1	—
	Camera	—	Front 5M pixels x 1	Front 5M pixels x 1	Front 5M pixels x 1	—
	MSR	—	1	1	1	—
	RFID	1	1	1	1	—
	Fingerprint	—	1	1	1	—
	Smart Card	—	—	—	—	—
	NFC	—	—	—	—	—
Speaker		—	—	—	2W x 2	—
2nd Display Hinge Module		Support 8", 10", 15" 2nd display	Different 2nd display hinge module for POS (PA-6322, PA-6722, PA-6980, PA-6225, PA-5822 & PA-5880)	—	—	—
Stand-alone Stand		Yes	—	Yes	—	—
Wall-mounted Kit		—	—	—	Yes	—
Language		—	English, French, Deutsch, Italiano, Spanish, Japanese, Chinese (Traditional)...etc.	English, French, Deutsch, Italiano, Spanish, Japanese, Chinese (Traditional)...etc.	English, French, Deutsch, Italiano, Spanish, Japanese, Chinese (Traditional)...etc.	US English, French, German, Swedish, Danish, Spanish, Norwegian, Russian, Japanese (Katakana)... etc.
OPOS Driver		—	—	—	—	Yes
IP Rating		—	IP54 (front panel)	IP54 (front panel)	IP54 (front panel)	—
Power Adaptor		—	12V/3.3A/40W	12V/3.3A/40W	12V/3.3A/40W	12V/1A/12W
Dimensions (W x H x D) mm		Stand only: 200 x 351.7 x 241	Panel only: 367 x 37.8 x 299.3	Panel only: 367 x 37.8 x 299.3	Panel only: 367 x 37.8 x 299.3	Panel only: 217.3 x 63.4 x 44.6
Operation Temp.		0°C~40°C	0°C~40°C	0°C~40°C	0°C~40°C	-40°C~80°C
Certifications		—	CE, FCC	CE, FCC	CE, FCC	CE

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Peripheral



Model		MP-1150	MP-1060
Application		Mobile Thermal Printer	Stand-alone Thermal Printer
QR Code			
Pictures			
Paper Width		58 mm (2")	80 mm (3") or 58 mm (2")
Interface		Bluetooth (Ver. 4.0)/USB	Combo with USB/Serial
Print Speed		Up to 100 mm/sec	Up to 200 mm/sec
Cutter Type		Tear bar	Auto cut
Printing Head Endurance		50 km	100 km
Cutter Endurance		1.5 million cuts	1.5 million cuts
Buffer		4KB	4KB
SRAM		128KB	128KB
Paper Roll Diameter		Up to 38 mm	Up to 80 mm
Flash		2MB	2MB
SOFTWARE	Emulation	ESC/POS CMD compatible	ESC/POS CMD compatible
	Driver	Windows10/x86 Windows8/x86 Windows7 x86/x64 WindowsXP x86 OPOS/JPOS	Windows10/x86 Windows8/x86 Windows7 x86/x64 WindowsXP x86 OPOS/JPOS
LANGUAGE	Character	Traditional Chinese, Simple Chinese, Japanese, Korean	Traditional Chinese, Simple Chinese, Japanese, Korean
	Code Page	CP-437, Katakana character set, CP-850,CP-852, CP-860, CP-863, CP-865, CP-1252	CP-437, Katakana character set, CP-850,CP-852, CP-860, CP-863, CP-865, CP-1252
1D / 2D Barcode Support		Yes	Yes
Power Supply		12V/2A	24V/2.5A
Battery Pack		7.4V/2900mA/21.4Wh	--
ENVIRONMENT	Operating Temp.	-10°C~50°C	-10°C~50°C
	Storage Temp.	-30°C~70°C	-30°C~70°C
	Operating Humidity	30%~80% RH (non-condensing)	30%~80% RH (non-condensing)
	Storage Humidity	5%~90% RH (expect for paper)	5%~90% RH (expect for paper)
	Operating Temp.	-10°C~50°C	-10°C~50°C
Weight		250 g (w/o battery & roll paper)	1.6 kg
Detect Sensor		Paper end, cover open	Paper end and near end sensor
Dimensions (W x H x D)		142 x 127 x 154 mm	140 x 146 x 123 mm
Certifications		CE, FCC	CE, FCC

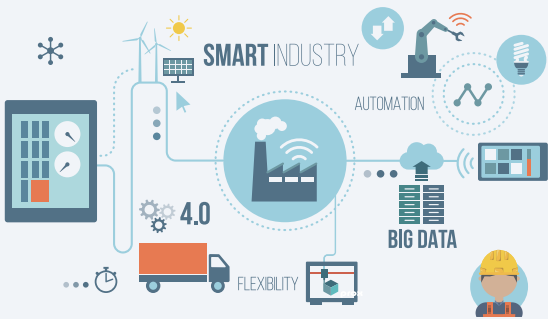
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Chapter 4

Tablet



Rugged Tablet



Model		MH-T01T	MH-0616
QR Code			
Pictures			
DISPLAY	Size	10.1" IPS	6" IPS
	Resolution	1920 x 1200 pixels	1280 x 720 pixels
	Brightness	1000 nits	500 nits
	Lifetime	30,000 hours	30,000 hours
	Touch	Corning Gorilla Glass and Anti-Fingerprint P-CAP Multi-Touch (i), Optical Bonding with WUXGA LCD	Corning Gorilla Glass and Anti-Fingerprint P-CAP Multi-Touch (i), Optical Bonding with HD LCD
O.S. Support		Windows 11 IoT GAC / Windows 10 IoT LTSC	Android 10
CPU Support		Intel® 11th Gen. Core™ i7 / i5 / i3 / Celeron® Processor, Max. 4.4 GHz	Qualcomm S660 octacore 64-bit processor, Max. 2.2 GHz
Memory		1 x 8 GB DDR4 (Max.16 GB)	4 + 64 GB eMCP
Storage		1 x 256 GB M.2 NVMe SSD (Max. 1 TB)	
Audio (Speaker/Mic)		1 x 2W / 1 x Mic	1 x 0.8 W / 1 x Mic
WiFi + BT		WiFi 6E + BT 5.3	WiFi 5 + BT 5.0
Battery Capacity		10.8 V / 4600 mAh / 49.6 Wh (Dual-Main Battery for Hot-swap)	3.85 V / 4380 mAh / 16.8 Wh
Battery Operation		8 hours	10 hours
BIOS		AMI	—
G-Sensor + Gyroscope		1	1
Ambient Light Sensor		1	1
Vibrator		1	1
Buttons		6 (ii)	6 (iii)
Security		TPM 2.0 / K-Lock	—
I/O PORTS	USB	1 x USB Type C (for Fast Charging / Data Transmission / Display) 2 x USB 3.0 Type A (iv)	1 x USB Type C (for Fast Charging / Data Transmission)
	DC Jack	1	—
	Phone Jack	1	—
	SD / SIM	1 (Expansion Slot 1) / 1	1 / 1
	Cradle Connector	1 x POGO pin (for Charging / External Antenna)	1 x POGO pin (for Charging)
	Expansion Slot	2	—
	LAN / COM / HDMI	1 / 1 (Expansion Slot 1) / —	—
OPTIONAL DEVICE	Barcode Scanner	2D Barcode (Expansion Slot 1)	2D Barcode
	FF Front / AF Rear Camera	2 MP (Optional Windows Hello) / 8 MP with Flashlight	— / 13 MP with Flashlight
	3D Camera	—	—
	NFC / RFID	1 (either)	1 (either)
	MSR / Card Reader	—	—
	Payment Card Reader	1 (either, Expansion Slot 1)	1
	4G / 5G + GPS	5G / 4G module with GNSS	4G + GPS on board
ACCESSORIES	Fingerprint	1 (Expansion Slot 2)	—
	Lite Cradle / Vehicle Cradle	1 / 1	1 / —
	Battery Charger	2 bay	1 bay
	Hand Strap / Shoulder Strap	1 / 1	1 / 1
IP Rating		IP65 (Whole)	IP65 (Whole)
Drop Test		1.5 m (MIL-STD-810H)	1.2 m (MIL-STD-810H)
Operating Temp.		-10°C ~ 50°C (Battery mode) and -20°C ~ 60°C (AC mode)	-10°C ~ 50°C
Power Adaptor		19V / 3.42V / 65W for Tablet	QC 3.0 Type C 30W for Tablet and Charging Stand
Dimensions (W x H x D) mm		274 x 195 x 25.5 283 x 203 x 27.5 (with Rubber Corner)	89 x 168 x (19.1-21.1)
Weight (approx)		1.28 kg (Tablet only)	330 g (Tablet only)
Certifications		CE, FCC, PSE, TELEC	CE, FCC, PSE, TELEC

(i) Support Finger / Stylus / Raindrop / Glove

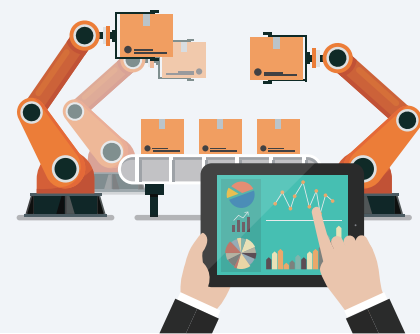
(ii) 1 x Power Button, 1 x Home Key, 2 x Function Key, 1 x Volume+, 1 x Volume-

(iii) 1 x Power Button, 1 x Function Key, 2 x Scan Buttons, 1 x Volume+, 1 x Volume-

(iv) One is on board and another is on Expansion Slot.

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Industrial Tablet



Model		MH-5752
QR Code		
Pictures		
DISPLAY	Size	7" IPS
	Resolution	800 x 1280 pixels
	Brightness	400 nits
	Lifetime	30,000 hours
	Touch	Anti-Fingerprint P-CAP Optical Bonding with LCD Panel
O.S. Support		Windows 10 IoT LTSC 2019 64 bit
CPU Support		Intel® Atom™ x5-Z8550 Quad Core™ Max. 2.4 GHz
Memory		4 GB LPDDR3
Storage		64 GB eMMC
Audio (Speaker/Mic)		1 x 1W / –
WIFI + BT		WIFI 4 + BT 4.0
Battery Capacity		3.8 V / 7400 mAh / 28.1 Wh
Battery Operation		8 hours
BIOS		Insyde
G-Sensor + Gyroscope		1
Ambient Light Sensor		1
Vibrator		–
Buttons		2
Security		–
I/O PORTS	USB	1 x USB Type C
	DC Jack	–
	Phone Jack	–
	SD / SIM	1 / 1
	Cradle Connector	1 x POGO pin
	Expansion Slot	1
	LAN / COM / HDMI	–
	Barcode Scanner	2D Barcode
OPTIONAL DEVICE	FF Front / AF Rear Camera	– / 8 MP
	3D Camera	–
	NFC / RFID	1 / –
	MSR / Card Reader	– / --
	Payment Card Reader	–
	4G / 5G + GPS	4G + GPS module
	Fingerprint	–
ACCESSORIES	Lite Cradle / Vehicle Cradle	1 / –
	Battery Charger	2 bay / 4 bay
	Hand Strap / Shoulder Strap	1 / 1
IP Rating		IP54 (front Panel)
Drop Test		1.2 m
Operating Temp.		0°C ~ 40°C
Power Adaptor		Pad with 5V / 3A / 15W Cradle with 12V / 5A / 60W
Dimensions (W x H x D) mm		120.6 x 192.6 x (21 - 25.3)
Weight (approx)		499 g (Tablet only)
Certifications		CE, FCC, PSE, TELEC

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Industrial Tablet

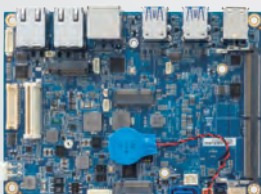


Model		MH-5102	MH-5108
QR Code			
Pictures			
DISPLAY	Size	10.1" IPS	10.1" IPS
	Resolution	1920 x 1200 pixels	1920 x 1200 pixels
	Brightness	450 nits	450 nits
	Lifetime	30,000 hours	30,000 hours
	Touch	Anti-Fingerprint P-CAP Optical Bonding with LCD Panel	Anti-Fingerprint P-CAP Optical Bonding with LCD Panel
O.S. Support		Windows 10 IoT LTSC 2019 64 bit	Android 9
CPU Support		Intel® Atom™ x5-Z8550 Quad Core™ Max. 2.4 GHz	Qualcomm S450 octacore 64-bit processor, Max. 1.8 GHz
Memory		4 GB / 8 GB LPDDR3	2 GB + 16 GB eMCP
Storage		64 GB / 128 GB eMMC	
Audio (Speaker/Mic)		1 x 1W / –	1 x 1W / –
WiFi + BT		WiFi 5 + BT 4.1	WiFi 5 + BT 4.2
Battery Capacity		3.6 V / 7900 mAh / 28.4 Wh	3.8 V / 7400 mAh / 28.1 Wh
Battery Operation		8 hours	8 hours
BIOS		Insyde	–
G-Sensor + Gyroscope		1	1
Ambient Light Sensor		1	1
Vibrator		–	–
Buttons		3	2
Security		TPM 2.0 / –	–
I/O PORTS	USB	1 x USB 3.0 Type A	1 x USB Type C
	DC Jack	1	1
	Phone Jack	1	1
	SD / SIM	1 / 1	1 / 1
	Cradle Connector	1 x POGO pin	1 x POGO pin
	Expansion Slot	–	1
	LAN / COM / HDMI	–	–
OPTIONAL DEVICE	Barcode Scanner	2D Barcode	2D Barcode
	FF Front / AF Rear Camera	5 MP / 5 MP	8 MP / 8 MP
	3D Camera	–	–
	NFC / RFID	1 / –	1 / –
	MSR / Card Reader	1 / 1	– / –
	Payment Card Reader	1	1
	4G / 5G + GPS	4G + GPS module	4G + GPS on board
ACCESSORIES	Fingerprint	–	–
	Lite Cradle / Vehicle Cradle	1 / –	1 / –
	Battery Charger	2 bay / 4 bay	–
	Hand Strap / Shoulder Strap	1 / 1	1 / 1
IP Rating		IP54 (front Panel)	IP65 (front Panel)
Drop Test		1.2 m	1.2 m
Operating Temp.		0°C ~ 40°C	0°C ~ 40°C
Power Adaptor		Pad with 12V / 2A / 24W 24V / 1A / 24W Cradle with 12V / 5A / 60W	Pad with 12V / 2A / 24W
Dimensions (W x H x D) mm		267.84 x 188.5 x 25.2	257 x 169 x 17
Weight (approx)		838 g (Tablet only)	700 g (Tablet only)
Certifications		CE, FCC, PSE, TELEC	CE, FCC, PSE, TELEC

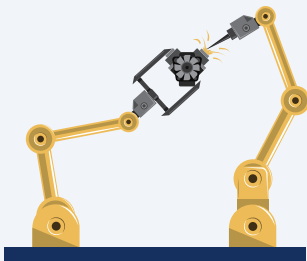
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Chapter 5

Industrial Motherboard & SBC



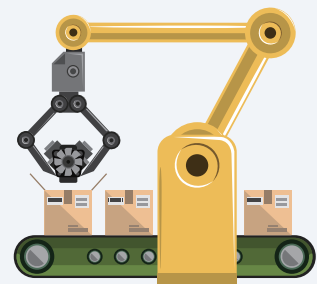
ATX & Micro-ATX Motherboard



Model		BA-2602	BA-2601	BU-B015
QR CODE				
Pictures				
Form Factor		ATX	ATX	Micro-ATX
CPU Support		8th Gen. Core™ / Pentium® / Celeron® / Xeon® E-2200/2100 CPU	8th Gen. Core™ / Pentium® / Celeron® / Xeon® E-2100 CPU	10th Gen. Core™ / Pentium® / Celeron® / Xeon® W-1200 CPU
CPU Socket		LGA1151	LGA1151	LGA1200
CPU List		E-2278GE(GEL) E-2276GE E-2176G E2124G i7-9700E(TE)/8700(T) i5-9500E(TE)/8500(T) i3-9100E(TE)/8100(T) G5400(T) G4900(T)	E-2176G E-2124G i7-8700(T) i7-8500(T) i3-8100(T) G5400(T) G4900(T)	W-1290E(TE) W-1270E(TE) W-1250E(TE) i9-10900E(TE) i7-10700E(TE) i5-10500E(TE) i3-10100E(TE) G6400E G6400TE G5900E G5900TE
Chipset		Intel® Q370 / Intel® C246	Intel® H310 / Intel® Q370 / Intel® C246	Intel® W480E / Intel® Q470E / Intel® H420E
Max. System Memory		64GB	64GB	128GB
Display		1 x VGA 2 x DP 1 x eDP	1 x VGA 1 x DVI-D 1 x eDP	1 x VGA 2 x DP 1 x eDP
Audio		Line In Line Out Mic In	Line In Line Out Mic In	Line In Line Out Mic In
I / O P O R T S	SATA Interface	6 x SATA 3.0	6 x SATA 3.0	6 x SATA 3.0
	FDD Interface	--	--	--
	Serial Ports	6	6	6
	Parallel Port	1	1	--
	LAN	2	2	2
	USB	4 x USB 3.1 2 x USB 3.0 6 x USB 2.0	4 x USB 3.1 2 x USB 3.0 4 x USB 2.0	2 x USB 3.1 4 x USB 3.0 6 x USB 2.0
	PS/2	1	2	1
	IrDA	--	--	--
Expansion Bus		1 x PCIe (x16) 3 x PCIe (x4) 1 x PCIe (x1) 2 x PCI 1 x mini PCIe 1 x M.2 (2242) NVMe	1 x PCIe (x16) 1 x PCIe (x4) 5 x PCI 1 x mini PCIe	1 x PCIe (x16) 2 x PCIe (x4) 1 x PCIe (x1) 1 x mini PCIe 1 x M.2 (2280) NVMe
Power Requirement		ATX Power	ATX Power	ATX Power
O.S. Support		Windows 10 64-bit	Windows 10 64-bit	Windows 10 IoT LTSC 64bit / Windows 11 IoT Enterprise (GAC) / Ubuntu 20.04 LTS (kernel: 5.4)
Operating Temperature		0°C~60°C	0°C~60°C	0°C~60°C
Certifications		CE, FCC	CE, FCC	CE, FCC

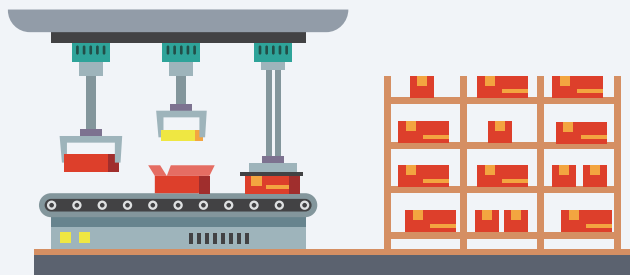
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Mini-ITX Motherboard



Model		BM-D226	BM-D025	BM-2505	BM-0982
QR CODE					
Pictures		NEW			
Form Factor		Mini-ITX	Mini-ITX	Mini-ITX	Mini-ITX
CPU Support		12th Gen. & 13th Gen. & 14th Gen Core™ / Pentium® / Celeron®	10th Gen. Core™ / Pentium® / Celeron® / Xeon® W-1200 (up to TDP 65W)	7th / 6th Gen. Core™ / Pentium® / Celeron®	N4200: 1.1GHz N3350: 1.1GHz J3455: 1.5GHz
CPU Socket		LGA1700	LGA1200	LGA1151	onboard
CPU List		i9-13900TE/E i9-12900TE/E i7-13700TE/E i7-12700TE/E i5-13500TE i5-13400E i5-12500TE/E i3-13100TE/E i3-12100TE/E Pentium®: G7400TE/E Celeron®: G6900TE/E	W-1290TE W-1270TE W-1250TE i9-10900E(TE) i7-10700E(TE) i5-10500E(TE) i3-10100E(TE) G6400E(TE) G5900E(TE)	i7-7700(T) i7-6700(TE) i5-7500(T) i5-6500(TE) i3-7101E/TE i3-6100(TE) G4400(TE) G3930E/TE G3900(TE)	N4200: 1.1GHz N3350: 1.1GHz J3455: 1.5GHz
Chipset		Intel® Q670E / Intel® H610E	Intel® H420E / Intel® Q470E / Intel® W480E	Intel® H110 / Intel® Q170	--
Max. System Memory		64GB	64GB	32GB	8GB
Display		1 x DVI-D + 1 x HDMI® + 1 x DP + 1 x DP (onboard)	2 x DVI-D 1 x DP (internal)	2 x DVI-D 1 x DP (internal)	1 x VGA 1 x DP/HDMI® 1 x LVDS
Audio		Line In Line Out Mic In	Line In Line Out Mic In	Line In Line Out Mic In	Line In Line Out Mic In
I/O PORTS	SATA Interface	2 x SATA 3.0, 1 x M.2 B-Key	2 x SATA 3.0	2 x SATA 3.0	2 x SATA 3.0
	FDD Interface	--	--	--	--
	Serial Ports	4	6	6	6
	Parallel Port	--	1	1	0
	LAN	2	2	2	2
	USB	4 x USB 3.2 2 x USB 2.0 2 x USB 2.0 (pin header)	6 x USB 3.0 2 x USB 2.0	4 x USB 3.0 4 x USB 2.0	4 x USB 3.0 2 x USB 2.0
	PS/2	--	1	1	2
	rDA	--	--	--	--
Expansion Bus		1 x PCIe (x16) 2 x PCIe (x4) 1 x PCIe (x1) 1 x mini PCIe 1 x M.2 (2280) NVMe	1 x PCIe (x16) 1 x M.2 (2242) NVMe	1 x PCIe (x16) 1 x mini PCIe	1 x PCIe (x1) 1 x mini PCIe 1 x M.2 (2242)
Operating Temperature		DC 12V~24V	ATX Power	ATX Power	DC 12V~24V
O.S. Support		Windows 10 IoT LTSC 64bit / Windows 11 IoT Enterprise (GAC) / Ubuntu 22.04 LTS (kernel: 5.15)	Windows 10 64bit / Ubuntu 20.04 (kernel: 5.4) / Windows 11 IoT Enterprise (GAC)	Windows 10 64-bit	Windows 10 64-bit
Operating Temperature		0°C~60°C	0°C~60°C	0°C~60°C	0°C~60°C
Certifications		CE, FCC	CE, FCC	CE, FCC	CE, FCC

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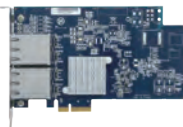


Model		BE-U236	BE-0996	BE-U830	BE-0986	BE-0981
QR Code						
Pictures						
Form Factor		3.5"	3.5"	EPIC	3.5"	3.5"
CPU Support		Core™ i7-1265UE, 2P8E, 96EU Core™ i5-1245UE, 2P8E, 80EU Core™ i3-1215UE, 2P6E, 64EU Celeron® 7305E, 1P4E, 48EU	Core™ i5-7300U, 2.6GHz Core™ i3-7100U, 2.4GHz	Celeron® J6412, 1.8GHz Atom® X6212RE, 1.2GHz Atom® X6425RE, 1.9GHz	Celeron® J3455, 1.5GHz Celeron® N3350, 1.1GHz Atom® E3950, 1.6GHz	Celeron® J3455, 1.5GHz Celeron® N3350, 2.4GHz Pentium® N4200, 2.5GHz Atom® E3950, 2.0GHz
Chipset		—	--	--	—	--
Max. System Memory		DDR5, 32GB	DDR4, 16GB	DDR4, 32GB	DDR3L, 8GB	DDR3L, 8GB
BIOS		AMI	AMI	AMI	AMI	AMI
Watchdog Timer		1~255 secs	1~255 secs	1~255 secs	1~255 secs	1~255 secs
Display		1 x HDMI® 1 x DP 1 x LVDS	1 x HDMI® 1 x DP 1 x LVDS	1 x HDMI® 1 x DP 1 x LVDS	1 x VGA 1 x HDMI® 1 x LVDS	1 x VGA 1 x DP 1 x LVDS
Audio		Line In / Line Out / Mic In (pin header)	Line In / Line Out / Mic In (pin header)	Line In / Line Out / Mic In (pin header)	HD Line Out / Line In / Mic In	HD Line Out / Line In / Mic In
I / O P O R T S	Serial Ports	2	2	2	4	4
	Parallel Port	—	--	--	—	--
	LAN	2	2	2	2	2
	USB	4 x USB 3.0 4 x USB 2.0	2 x USB 3.0 6 x USB 2.0	2 x USB 3.0 6 x USB 2.0	4 x USB 3.0 2 x USB 2.0	4 x USB 3.0 2 x USB 2.0
	SATA Interface	1	1	1	1	1
	CF/CFast/SD	—	--	--	—	--
Expansion Bus		1 x M.2 (2230) slot 1 x M.2 (3042) slot 1 x M.2 (2280) NVMe	1 x full-sized mPCIe slot (PCIe/USB) 1 x full-sized mSATA slot (SATA/USB) 1 x I²C	1 x full-sized mPCIe slot 1 x M.2 (2280) NVMe 1 x I²C	1 x full-sized mPCIe slot 1 x full-sized mSATA slot 1 x I²C	1 x full-sized mPCIe slot 1 x full-sized mSATA slot 1 x I²C
FAN conn		1 x 4 pin FAN conn	1 x 4 pin FAN conn	--	1 x 4 pin FAN conn	1 x 4 pin FAN conn
Power Requirement		DC In 12V~24V	DC In 12V/24V	DC In 12V/24V	DC In 12V&19V&24V	DC In 12V
O.S. Support		Windows IoT Enterprise 2021 LTSC/ Windows 11 IoT Enterprise (GAC)/ Ubuntu 22.04 LTS (kernel: 5.15)	Windows 10 64bit/ Ubuntu 16.04 (kernel: 4.4)	Windows 10 64bit/ Ubuntu 20.04 (kernel: 5.4) / Windows 11 IoT Enterprise (GAC)	Windows 10 64bit/ Ubuntu 16.04 (kernel: 4.4)	Windows 10 64bit/ Ubuntu 16.04 (kernel: 4.4)
Operating Temperature		0°C~60°C	0°C~60°C	0°C~60°C	0°C~60°C	0°C~60°C
Certifications		CE, FCC	CE, FCC	CE, FCC	CE, FCC	CE, FCC

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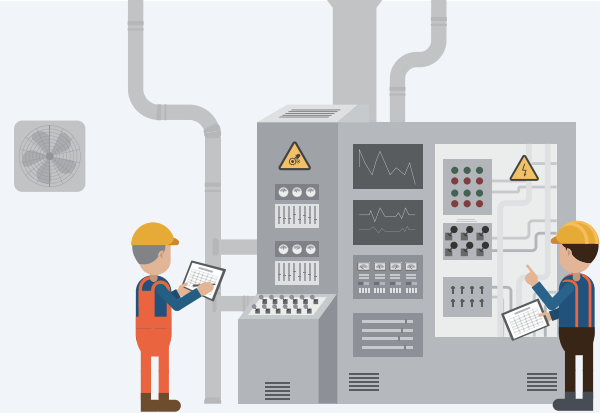
Add-on Card

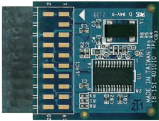
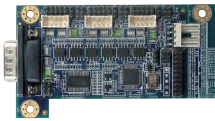


Model	BR-U830-D4	SR-5700	BR-U830-D2 (pair w/ BR-U830-D1)	BR-U830-D3 (pair w/ BR-U830-D1)	SR-6150
QR Code					
Pictures					
Function	4 Ports LAN	Power USB	2 Ports LAN	2 Ports LAN	Speaker
Input I/F	PCIe x4 (Golden Finger)	PCIe x1 (Golden Finger)	30-pin board to board connector	30-pin board to board connector	mPCIe
Output I/F	4 x GbE LAN (Option PoE) 15W (802.3 af)	3 x USB & Power	2 x GbE LAN (Option PoE PSE) 30W (802.3 at)	2 x GbE LAN (w/ PoE PD)	2-pin speaker out
Dimensions	175.3 x 106.7 mm (w/o bracket)	106 x 100.4 mm (w/o bracket)	70 x 80 mm	90 x 80 mm	27 x 30 mm

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Add-on Card



Model	BR-8080	BR-4010	BR-6061
QR Code			
Pictures			
Function	Display	TPM module version (2.0)	I/O Expansion
Input I/F	DP/eDP	LPC	LPC
Output I/F	LVDS	n/a	4 x COM
Dimensions	50 x 80 mm	31.3 x 29.7 mm	50 x 89 mm

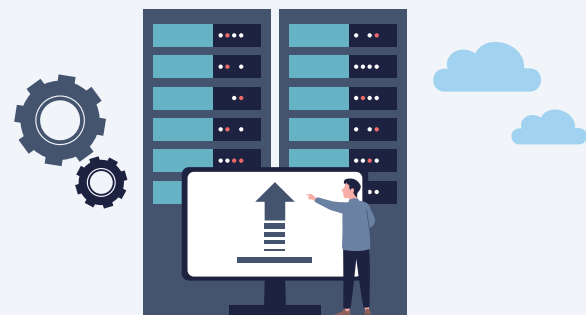
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Chapter 6

Wall Mount & Rack Mount System



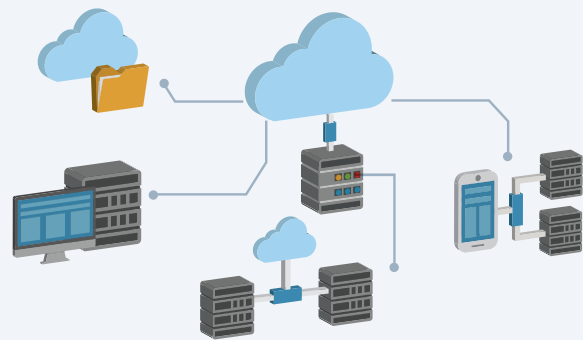
Wall Mount System



Model		BC-K300
QR Code		
Pictures		 
Mounting Type		Wall Mount
Dimensions (W x H x D) mm		277 x 136 x 315.5
CPU Support		Intel® 10th Gen. Core™ / Pentium® / Celeron® / Xeon® W-1200 CPU
Chipset		Intel® W480E / Q470E / H420E
Max. System Memory		128GB
Drive Bay		2 x 2.5" SSD/HDD (SATA 3.0)
Display		1 x VGA 2 x DP
Audio		Mic In / Line In / Line Out
I / O PORTS	Serial Ports	2
	Parallel Port	---
	LAN	2
	USB	2 x USB 3.2 2 x USB 3.0 4 x USB 2.0
Expansion Slots		1 x PCIe (x16) 2 x PCIe (x4) 1 x PCIe (x1)
Power Requirement		ATX
O.S. Support		Windows 10 IoT LTSC 64bit / Windows 11 IoT Enterprise (GAC)
Operating Temperature		0°C~40°C
Certifications		CE, FCC

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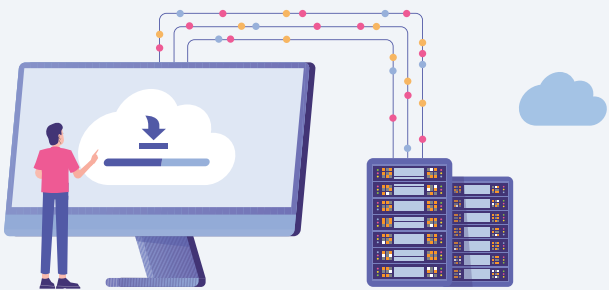
Rack Mount System



Model		BC-K100	BC-K201	BC-2602
QR Code				
Pictures				
Mounting Type		1U Rack mount	2U Rack mount	4U Rack mount
Dimensions (W x H x D) mm		482 x 45 x 250	428.2 x 88 x 310	430 x 177 x 330
CPU Support		Intel® Celeron® J6412, Atom® X6425RE	Intel® 10th Gen. Core™ / Pentium® / Celeron® / Xeon® W-1200 CPU	Intel® 9th / 8th Xeon® / Core™ / Pentium® / Celeron® CPU (socket: LGA1151) (≤ 65W)
Chipset		--	Intel® W480E / Q470E / H420E	Intel® Q370 / H310 / C246
Max. System Memory		32GB	128GB	64GB
Drive Bay		1 x 2.5" SSD/HDD (SATA 3.0)	2 x 2.5" SSD/HDD (SATA 3.0) or 1 x 3.5" HDD (SATA 3.0)	3.5" x 4 (SATA 3.0) 2.5" x 2 (optional)
Display		1 x HDMI® 1 x DP	VGA 2 x DP	VGA 2 x DP
Audio		Line Out	Mic In / Line In / Line Out	Mic In / Line In / Line Out
I/O PORTS	Serial Ports	2	2	2
	Parallel Port	--	--	--
	LAN	2	2	2
	USB	8	2 x USB 3.1 2 x USB 3.0 2 x USB 2.0	2 x USB 3.2 2 x USB 3.0 4 x USB 2.0
Expansion Slots		1 x M.2 (2280) NVMe 1 x mini PCIe	1 x PCIe (x16) 2 x PCIe (x4) 1 x PCIe (x1)	1 x PCIe (x16) 3 x PCIe (x4) 1 x PCIe (x1) 2 x PCI 1 x mini PCIe 1 x M.2 (2242) NVMe
Power Requirement		DC In 12V/24V	ATX	ATX
O.S. Support		Windows 10 64bit / Ubuntu 20.04 (kernel: 5.4) / Windows 11 IoT Enterprise (GAC)	Windows 10 IoT LTSC 64bit / Windows 11 IoT Enterprise (GAC)	Windows 10 IoT LTSC 64bit
Operating Temperature		0°C~40°C	0°C~40°C	0°C~40°C
Certifications		CE, FCC	CE, FCC	CE, FCC

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Industrial Box PC



Model		BC-K600	SA-N718
QR Code			
Pictures		NEW 	
Mounting Type		Box PC	Box PC
Dimensions (W x H x D) mm		200 x 145 x 200	300 x 94 x 270
CPU Support		Intel® 12th Gen. & 13th Gen. & 14th Gen. Core™ / Pentium® / Celeron®	Intel® 10th Gen. Core™ / Pentium® / Celeron® / Xeon® W-1200
Chipset		LGA1700	Intel® W480E / Q470E / H420E
Max. System Memory		64GB	64GB DDR4
Drive Bay		2 x 2.5" SSD/HDD (SATA 3.0)	2 x 2.5" SSD/HDD (SATA 3.0)
Display		1 x DVI-D + 1 x HDMI® + 1 x DP	2 x DVI-D
Audio		Mic In / Line In / Line Out	Mic In / Line In / Line Out
I / O PORTS	Serial Ports	2	2
	Parallel Port	--	—
	LAN	2	2
	USB	4 x USB 3.0 2 x USB 2.0	4 x USB 3.0 4 x USB 2.0
Expansion Slots		1 x PCIe (x16) 1 x mini PCIe 1 x M.2 (2242) SATA 1 x M.2 (2230) E-key	1 x PCIe (x16) 1 x M.2 (2242) NVMe
Power Requirement		DC in 12V~24V	ATX
O.S. Support		Windows 10 IoT LTSC 64bit / Windows 11 IoT Enterprise (GAC)	Windows 10 IoT LTSC 64bit / Windows 11 IoT Enterprise (GAC)
Operating Temperature		0°C~40°C	0°C~40°C
Certifications		CE, FCC	CE, FCC

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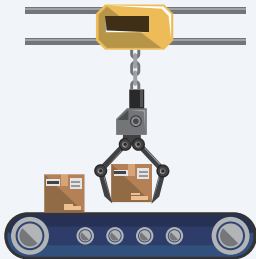
Chapter 7

Embedded PC



Embedded PC

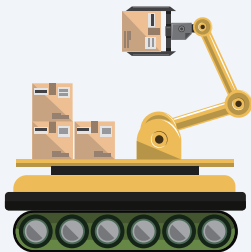
High Performance



Model		SE-N108	SE-N207	BS-E099	SE-N208
QR Code					
Pictures					
Processor		Intel® Core™ i7-1265UE, 2P8E, 96EU i5-1245UE, 2P8E, 80EU i3-1215UE, 2P6E, 64EU Celeron® 7305E, 1P4E, 48EU	Intel® Core™ i7-8665UE 1.80GHz i5-8365UE 1.60GHz i3-8145UE 2.10GHz Celeron® 4305U	Intel® Core™ i5-7300U 2.6GHz i3-7100U 2.4GHz	Intel® 12th/13th/14th Gen. Core™ i3/i5/i7/i9/ Pentium® Celeron®, up to 35W
Chipset		Intel® SOC	Intel® SOC	Intel® SOC	Intel® Q670E/H610E
Max. System Memory		32GB DDR5	32GB DDR4	16GB DDR4	64GB DDR5
I/O PORTS	Display	1 x DP 1 x HDMI®	1 x HDMI® 2 x HDMI®/DP (option)	1 x DP 1 x HDMI®	1 + 1 (Q670E) DP 1 x HDMI®
	USB	4 x USB 3.2 Gen 2 4 x USB 2.0	4 x USB 3.0 + 6 x USB 2.0 (option)	2 x USB 3.0 4 x USB 2.0	6 x USB 3.0 + 1 x USB type-C (Q670E) 4 x USB 3.0 + 2 x USB 2.0 (H610E)
	Audio Line In / Line Out / Mic In	0 / 1 / 1	1 / 1 / 1	0 / 1 / 0	0 / 1 / 1
	LAN	2 x 2.5GbE	2 or 4 x GbE with PoE as option or 6 x GbE (option)	2 x GbE	2 + 2 (Q670E) x 2.5GbE with PoE + as option
	Serial Ports	2	2 or 4 or 6 (option)	2 + 2 (option)	4 + 2 (option)
	Parallel Port	—	1 (option)	—	—
	Digital I/O Port	4in / 4out	8in / 8out	8in / 8out	8in / 8out (option)
	CAN Bus	—	2 (option)	—	—
	SIM Card	1	—	—	2
	SD Card	—	1	—	—
	DC Out	—	12V/5V (1A)	—	—
Expansion Slots		1 x M.2 2230-E (PCIe/USB 2.0) 1 x M.2 3042-B (SATA/PCIe/USB2.0) 1 x Protech Defined Expansion Slot	1 x M.2 slot (2242-E) PCIe/USB 2.0 support 1 x full-sized mPCIe (USB 2.0/PCIe)	1 x full-sized mPCIe (USB/PCIe) 1 x full-sized mSATA (SATA/USB)	1 x M.2 2230-E 1 x M.2 3042-B 1 x M.2 3042-B 1 x MXM Type-A 1 x Protech Defined Expansion Slot
Drive Bays		1 x 2.5" SATAIII SSD 1 x M.2 2280-M (PCIe Gen4x4)	1 x 2.5" SATAIII HDD/SSD 1 x M.2 slot (2242-B) PCIe/SATA support	1 x 2.5" SATAIII HDD/SSD	2 x 2.5" SATAIII HDD/SSD 1 x M.2 2280-M (PCIe Gen4x4) (Q670E)
Power		+12V~24V DC In	+9V~36V DC In	+12V/+24V DC In	+9V~36V DC In
Dimensions (W x H x D) mm		215 x 50 x 142.6	228 x 71 x 212	217.5 x 46 x 140.6	TBD
System Weight		1.65 kg	3.0 kg	2.0 kg	TBD
Operation Temperature		-20°C~70°C with WT SSD	-40°C~70°C with SSD	-10°C~60°C with SSD	-20°C~70°C with WT SSD
Operating System		Windows 10 IoT LTSC 2021 64 bit/ Windows 11 IoT Enterprise (GAC)/ Ubuntu 22.04 (kernel: 5.15)	Windows 10 IoT LTSC 2019 64 bit/ Ubuntu 18.04 (kernel: 4.19)	Windows 10 IoT LTSC 2016 64 bit/ Ubuntu 16.04 (kernel: 4.4)	Windows 10 IoT LTSC 2021 64 bit/ Windows 11 IoT Enterprise (GAC)/ Ubuntu 22.04 (kernel: 5.15)

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Embedded PC Entry



Model		BS-U830	SE-8134	BS-E098
QR Code				
Pictures				
Processor		Intel® Celeron® J6412, 1.8GHz Atom® X6212RE, 1.2GHz Atom® X6425RE, 1.9GHz	Intel® N3350: 2C, 2.4GHz N4200: 4C, 2.5GHz J3455: 4C, 2.3GHz E3950: 4C, 1.8GHz	Intel® N3350: 2C, 2.4GHz N4200: 4C, 2.5GHz J3455: 4C, 2.3GHz E3950: 4C, 1.8GHz
Chipset		Intel® SOC	Intel® SOC	Intel® SOC
Max. System Memory		32GB DDR4	8GB DDR3L	8GB DDR3L
I / O P O R T S	Display	1 x DP 1 x HDMI®	1 x DVI-D 2 x HDMI®	1 x VGA 1 x DP
	USB	2 x USB 3.0 5 x USB 2.0	4 x USB 3.0	4 x USB 3.0 2 x USB 2.0
	Audio Line In / Line Out / Mic In	0 / 1 / 0	0 / 1 / 1	1 / 0 / 0
	LAN	2 x GbE or 4 x GbE (option, max. 2 x PoE)	2 x GbE with PoE as option	2 x GbE
	Serial Ports	1 or 2 (option)	4	4
	Parallel Port	—	—	--
	Digital I/O Port	6in / 6out	4in / 4out	8
	CAN Bus	—	—	--
	SIM Card	1	2	--
	SD Card	—	1	--
	DC Out	—	—	--
Expansion Slots		1 x full-sized mPCIe 1 x NVMe M.2 (2280) 1 x M.2 E-key (Wifi)	1 x full-sized mPCIe (USB 2.0/PCIe/external SIM card) 1 x full-sized mSATA (SATA/USB 2.0/external SIM card)	1 x full-sized mPCIe (USB/PCIe) 1 x full-sized mSATA (SATA/USB)
Drive Bays		1 x 2.5" SATAIII HDD/SSD	1 x 2.5" SATAIII HDD/SSD	1 x 2.5" SATAIII HDD/SSD
Power		+12V/+24V DC In	+9V~36V DC In	+12V DC In
Dimensions (W x H x D) mm		217.5 x 46.6 x 140.6	217.5 x 45 x 148	217.5 x 46 x 140.6
System Weight		2.0 kg	2.0 kg	2.0 kg
Operation Temperature		0°C~40°C with SSD	-20°C~50°C with SSD	0°C~40°C with SSD
Operating System		Windows 10 IoT LTSC 64 bit/ Ubuntu 20.04 (kernel: 5.4)/ Windows 11 IoT Enterprise (GAC)	Windows 10 IoT LTSC 2016 64 bit/ Ubuntu 16.04 (kernel: 4.4)	Windows 10 64 bit/ Ubuntu 17.04 (kernel: 4.4)

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In-Vehicle Embedded Computer



Model		IV-Z318
QR Code		
Pictures		
Processor		Intel® Core™ i7-1185GRE (15W, 12MB Cache, 1.80GHz), WT Intel® Core™ i5-1145GRE (15W, 8MB Cache, 1.50GHz), WT Intel® Core™ i3-1115GRE (15W, 6MB Cache, 2.20GHz), WT
Chipset		Intel® SOC
Max. System Memory		32GB DDR4-3200
I/O Ports	Display	1 x DP 2 x HDMI®
	USB	2 x USB 3.2 Gen 2 2 x USB 2.0
	Audio Line In / Line Out / Mic In	0 / 1 / 1
	LAN	4 x GbE with PoE as option
	Serial Ports	4
	Parallel Port	0
	Digital I/O Port	4in / 4out
	CAN Bus	2 (option)
	SIM Card	2
	SD Card	--
	DC Out	--
Expansion Slots		1 x M.2 slot (2230-E) 1 x M.2 slot (3042/3052-B) 1 x full-sized mPCIe (USB 2.0/PCIe) 1 x full-sized mPCIe (USB 2.0)
Drive Bays		2 x 2.5" SATAIII HDD/SSD 1 x M.2 slot (2280-M) NVMe SSD
Power		+9V~48V DC In
Dimensions (W x H x D) mm		259.5 x 72 x 184.8
System Weight		3.2 kg
Operation Temperature		-40°C~70°C with SSD
Operating System		Windows 10 LTSC 2019/2021 Windows 11 IoT Enterprise (GAC) Ubuntu 20.04 LTS

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Chapter 8

Industrial Panel PC



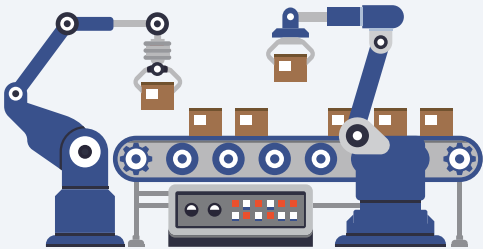
Stainless Steel Panel PC



		21.5" High End		21.5" Entry	17" High End	
Model		SP-S218	SP-S214	SP-S211	SP-S178	SP-S174
QR Code						
Pictures						
Panel Spec	Display Type	FHD	FHD	FHD	SXGA	SXGA
	Max. Resolution	1920 x 1080	1920 x 1080	1920 x 1080	1280 x 1024	1280 x 1024
	Pixel Pitch	0.248 x 0.248	0.248 x 0.248	0.248 x 0.248	0.264 x 0.264	0.264 x 0.264
	Brightness (cd/m²)	350	350	350 / 1600	350	350
	Response Time (Tr + Td)	22 ms	22 ms	22 ms	30 ms	30 ms
	Viewing Angle (up / down / left / right)	89/89/89/89	89/89/89/89	89/89/89/89	80/80/85/85	80/80/85/85
Processor		Intel® 12th/13th/14th Gen. Core™ i3/i5/i7/i9/ Pentium® Celeron®, up to 35W	Intel® Core™ i7-7700T Core™ i5-7500T Core™ i3-7101TE Celeron® G3930TE	Intel® Celeron® J3455 4C 2.3 GHz	Intel® 12th/13th/14th Gen. Core™ i3/i5/i7/i9/ Pentium® Celeron®, up to 35W	Intel® Core™ i7-7700T Core™ i5-7500T Core™ i3-7101TE Celeron® G3930TE
Chipset		Intel® Q670E/H610E	Intel® Q170/H110	Intel® SoC	Intel® Q670E/H610E	Intel® Q170/H110
Max. System Memory		64GB DDR5	32GB DDR4 SO-DIMM	8GB DDR3L	64GB DDR5	32GB DDR4 SO-DIMM
I / O P O R T S	Display	1 x DP 1 x HDMI®	2 x DVI-D	1 x DVI-D 1 x HDMI®	1 x DP 1 x HDMI®	2 x DVI-D
	USB	4 x USB 3.0	4 x USB 3.0 4 x USB 2.0	3 x USB 3.0	4 x USB 3.0	4 x USB 3.0 4 x USB 2.0
	Audio Line In / Line Out / Mic In	0 / 1 / 1	1 / 1 / 1	– / 1 / 1	0 / 1 / 1	1 / 1 / 1
	LAN	2 + 2 (optional)	2	2	2 + 2 (optional)	2
	Serial Ports	4	4	2	4	4
	Parallel Port	–	1	–	–	1
	Digital I/O Port	8in / 8out (option)	–	–	8in / 8out (option)	–
	Keyboard / Mouse	–	–	–	–	–
Fan		Fanless	Fan	Fanless	Fanless	Fan
Drive Bays		2 x 2.5" SATAIII HDD	2 x 2.5" SATAIII HDD	1 x 2.5" SATAIII HDD	2 x 2.5" SATAIII SSD	2 x 2.5" SATAIII HDD
Touchscreen		Projected capacitive touch	Projected capacitive touch	Projected capacitive touch	Projected capacitive touch / 5W analog resistive	Projected capacitive touch / 5W analog resistive
Construction		Electro galvanized steel chassis Stainless steel front bezel	Electro galvanized steel chassis Stainless steel front bezel	Electro galvanized steel chassis Stainless steel front bezel	Electro galvanized steel chassis Stainless steel front bezel	Electro galvanized steel chassis Stainless steel front bezel
Waterproof Level		IP65 (for front panel only)	IP65 (for front panel only)	IP65 (for front panel only)	IP65 (for front panel only)	IP65 (for front panel only)
Wall Mount Type		VESA 100	VESA 75/100	VESA 100	VESA 100	VESA 75/100
Power		DC In 9V~36V	AC In 100V~240V 50Hz~60Hz	DC In 9V~36V	DC In 9V~36V	AC In 100V~240V 50Hz~60Hz
Dimensions (W x H x D) mm		TBD	585 x 377 x 107	585 x 377 x 92	TBD	436 x 368 x 103
System Weight		TBD	11.8 kg	10 kg	TBD	9.1 kg
Operating System		Windows 10 IoT LTSC 2021 64 bit/ Windows 11 IoT Enterprise (GAC)/ Ubuntu 22.04 (kernel: 5.15)	Windows 10 IoT LTSC 2019	Windows 10 IoT LTSC 2019 / Ubuntu LTS 16.04	Windows 10 IoT LTSC 2021 64 bit/ Windows 11 IoT Enterprise (GAC)/ Ubuntu 22.04 (kernel: 5.15)	Windows 10 IoT LTSC 2019
Certifications		CE, FCC	CE, FCC	CE, FCC	CE, FCC	CE, FCC

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Stainless Steel Panel PC



		17" Entry	15.6" High End	15" High End		15" Entry
Model		SP-7157	SP-S168	SP-S158	SP-S154	SP-7155
QR Code						
Pictures						
Panel Spec	Display Type	SXGA	HD/FHD	XGA	XGA	XGA
	Max. Resolution	1280 x 1024	1366 x 768/1920 x 1080	1024 x 768	1024 x 768	1024 x 768
	Pixel Pitch	0.264 x 0.264	0.252 x 0.252/ 0.1795 x 0.1795	0.297 x 0.297	0.297 x 0.297	0.297 x 0.297
	Brightness (cd/m²)	350	400/500	450	450	400
	Response Time (Tr + Td)	30 ms	8 ms/25 ms	8 ms	8 ms	8 ms
	Viewing Angle (up / down / left / right)	80/80/85/85	80/80/85/85 89/89/89/89	70/80/80/80	70/80/80/80	80/80/80/80
Processor		Intel® Celeron® N3350 2C 2.4 GHz Pentium® N4200 4C 2.5 GHz Celeron® J3455 4C 2.3 GHz Atom® x7 E3950 4C 1.8 GHz	Intel® 12th/13th/14th Gen. Core™ i3/i5/i7/i9/ Pentium® Celeron®, up to 35W	Intel® 12th/13th/14th Gen. Core™ i3/i5/i7/i9/ Pentium® Celeron®, up to 35W	Intel® Core™ i7-7700T Core™ i5-7500T Core™ i3-7101TE Celeron® G3930TE	Intel® Celeron® N3350 2C 2.4 GHz Pentium® N4200 4C 2.5 GHz Celeron® J3455 4C 2.3 GHz Atom® x7 E3950 4C 1.8 GHz
Chipset		Intel® SoC	Intel® Q670E/H610E	Intel® Q670E/H610E	Intel® Q170/H110	Intel® SoC
Max. System Memory		8GB DDR3L	64GB DDR5	64GB DDR5	32GB DDR4 SO-DIMM	8GB DDR3L
I / O PORTS	Display	1 x DVI-D 1 x HDMI®	1 x DP 1 x HDMI®	1 x DP 1 x HDMI®	2 x DVI-D	1 x DVI-D 1 x HDMI®
	USB	3 x USB 3.0	4 x USB 3.0	4 x USB 3.0	4 x USB 3.0 4 x USB 2.0	3 x USB 3.0
	Audio Line In / Line Out / Mic In	– / 1 / 1	0 / 1 / 1	0 / 1 / 1	1 / 1 / 1	-- / 1 / 1
	LAN	2	2 + 2 (optional)	2 + 2 (optional)	2	2
	Serial Ports	2	4	4	4	2
	Parallel Port	–	–	--	1	–
	Digital I/O Port	–	8in / 8out (option)	8in / 8out (option)	–	–
	Keyboard / Mouse	–	–	--	–	–
Fan		Fanless	Fanless	Fanless	Fan	Fanless
Drive Bays		1 x 2.5" SATAIII HDD	2 x 2.5" SATAIII SSD	2 x 2.5" SATAIII SSD	2 x 2.5" SATAIII HDD	1 x 2.5" SATAIII HDD
Touchscreen		Projected capacitive touch / 5W analog resistive	Projected capacitive touch	Projected capacitive touch / 5W analog resistive	Projected capacitive touch / 5W analog resistive	Projected capacitive touch / 5W analog resistive
Construction		Electro galvanized steel chassis Stainless steel front bezel	Electro galvanized steel chassis Stainless steel front bezel	Electro galvanized steel chassis Aluminum front bezel	Electro galvanized steel chassis Stainless steel front bezel	Electro galvanized steel chassis Stainless steel front bezel
Waterproof Level		IP65 (for front panel only)	IP65 (for front panel only)	IP65 (for front panel only)	IP65 (for front panel only)	IP65 (for front panel only)
Wall Mount Type		VESA 100	VESA 100	VESA 100	VESA 75/100	VESA 100
Power		DC In 9V~36V	DC In 9V~36V	DC In 9V~36V	AC In 100V~240V 50Hz~60Hz	DC In 9V~36V
Dimensions (W x H x D) mm		436 x 368 x 87	TBD	TBD	408 x 320 x 98	408 x 320 x 82
System Weight		6.9 kg	TBD	TBD	8.1 kg	6.0 kg
Operating System		Windows 10 IoT LTSC 2019 / Ubuntu LTS 16.04	Windows 10 IoT LTSC 2021 64 bit/ Windows 11 IoT Enterprise (GAC)/ Ubuntu 22.04 (kernel: 5.15)	Windows 10 IoT LTSC 2019 / Ubuntu LTS 16.04	Windows 10 IoT LTSC 2019	Windows 10 IoT LTSC 2019 / Ubuntu LTS 16.04
Certifications		CE, FCC	CE, FCC	CE, FCC	CE, FCC	CE, FCC

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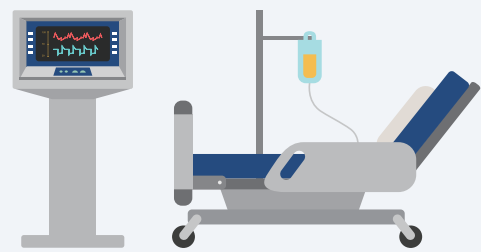
Aluminum Panel PC



		19" High End	19" Entry	17" High End	17" Entry
Model		SP-6269	SP-6159	SP-6567	SP-C172
QR Code					
Pictures					NEW 
Panel Spec	Display Type	SXGA	SXGA	XGA	SXGA
	Max. Resolution	1280 x 1024	1280 x 1024	1024 x 768	1280 x 1024
	Pixel Pitch	0.294 x 0.294	0.294 x 0.294	0.297 x 0.297	0.264 x 0.264
	Brightness (cd/m²)	350	350	450	350
	Response Time (Tr + Td)	10 ms	10 ms	8 ms	30 ms
	Viewing Angle (up / down / left / right)	80/80/85/85	80/80/85/85	70/80/80/80	80/80/85/85
Processor		Intel® Core™ i7-6700TE Core™ i5-6500TE Core™ i3-6100TE Pentium® G4400TE Celeron® G3900TE	Intel® Celeron® N3350 2C 2.4 GHz Pentium® N4200 4C 2.5 GHz Atom® x7 E3950 4C 2.0 GHz	Intel® Core™ i7-6700TE Core™ i5-6500TE Core™ i3-6100TE Pentium® G4400TE Celeron® G3900TE	Intel® Celeron® J6412 Atom® X6425RE
Chipset		Intel® Q170/H110	Intel® SoC	Intel® Q170/H110	--
Max. System Memory		32GB DDR4 SO-DIMM	8GB DDR3L	32GB DDR4 SO-DIMM	32GB DDR4
I/O PORTS	Display	1 x DVI-I	1 x DVI-D 1 x HDMI®	1 x DVI-I	1 x DP 1 x HDMI®
	USB	4 x USB 3.0	3 x USB 3.0	4 x USB 3.0	2 x USB 3.0 3 x USB 2.0
	Audio Line In / Line Out / Mic In	1 / 1 / 1	-- / 1 / 1	1 / 1 / 1	0 / 1 / 0
	LAN	2	2	2	2 x GbE or 4 x GbE (option, max. 2 x PoE)
	Serial Ports	4	2	4	1 or 2 (option)
	Parallel Port	--	--	--	--
	Digital I/O Port	8in / 8out	--	8in / 8out	6in / 6out
	Keyboard / Mouse	--	--	--	--
Fan		Fanless	Fanless	Fanless	Fanless
Drive Bays		2 x 2.5" SATAIII HDD 1 x CFast card on board	1 x 2.5" SATAIII HDD	2 x 2.5" SATAIII HDD 1 x CFast card on board	1 x 2.5" SATAIII SSD 1 x NVMe M.2 (2280)
Touchscreen		5W analog resistive	5W analog resistive	Projected capacitive touch / 5W analog resistive	Projected capacitive touch / 5W analog resistive
Construction		Electro galvanized steel chassis Aluminum front bezel	Electro galvanized steel chassis Aluminum front bezel	Electro galvanized steel chassis Aluminum front bezel	Electro galvanized steel chassis Aluminum front bezel
Waterproof Level		IP65 (for front panel only)	IP65 (for front panel only)	IP65 (for front panel only)	IP65 (for front panel only)
Wall Mount Type		VESA 100	VESA 100	VESA 100	VESA 75
Power		DC In 9V~36V	DC In 9V~36V	DC In 9V~36V	DC In +12V/+24V
Dimensions (W x H x D) mm		471 x 396 x 131	471 x 396 x 91	364 x 279 x 118	396 x 328 x 75
System Weight		11.5 kg	10.7 kg	10 kg	6.5 kg
Operating System		Windows 10 IoT LTSC 2019 / Windows 8.1 / Windows 7 / Ubuntu LTS 16.04	Windows 10 IoT LTSC 2019 / Ubuntu LTS 16.04	Windows 10 IoT LTSC 2019 / Ubuntu LTS 16.04	Windows 10 IoT LTSC / Windows 11 IoT Enterprise (GAC)
Certifications		CE, FCC	CE, FCC	CE, FCC	CE, FCC

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Aluminum Panel PC



		15" High End	15" Entry	12" Entry	10.4" Entry	8.4" Entry
Model		SP-6565	SP-C152	SP-C122	SP-C102	SP-C082
QR Code						
Pictures			NEW 	NEW 	NEW 	NEW 
Panel Spec	Display Type	XGA	XGA	XGA	XGA	SVGA
	Max. Resolution	1024 x 768	1024 x 768	1024 x 768	1024 x 768	800 x 600
	Pixel Pitch	0.297 x 0.297	0.297 x 0.297	0.24 x 0.24	0.264 x 0.264	0.264 x 0.264
	Brightness (cd/m²)	450	400	500	400	600
	Response Time (Tr + Td)	8 ms	8 ms	35 ms	35 ms	16 ms
	Viewing Angle (up / down / left / right)	70/80/80/80	80/80/80/80	80/80/80/80	60/70/80/80	70/65/75/75
Processor		Intel® Core™ i7-6700TE Core™ i5-6500TE Core™ i3-6100TE Pentium® G4400TE Celeron® G3900TE	Intel® Celeron® J6412 Atom® X6425RE	Intel® Celeron® J6412 Atom® X6425RE	Intel® Celeron® J6412 Atom® X6425RE	Intel® Celeron® J6412 Atom® X6425RE
Chipset		Intel® Q170/H110	--	--	--	--
Max. System Memory		32GB DDR4 SO-DIMM	32GB DDR4	32GB DDR4	32GB DDR4	32GB DDR4
I / O PORTS	Display	1 x DVI-I	1 x DP 1 x HDMI®	1 x DP 1 x HDMI®	1 x DP 1 x HDMI®	1 x DP 1 x HDMI®
	USB	4 x USB 3.0	2 x USB 3.0 3 x USB 2.0	2 x USB 3.0 3 x USB 2.0	2 x USB 3.0 3 x USB 2.0	2 x USB 3.0 3 x USB 2.0
	Audio Line In / Line Out / Mic In	1 / 1 / 1	0 / 1 / 0	0 / 1 / 0	0 / 1 / 0	0 / 1 / 0
	LAN	2	2 x GbE or 4 x GbE (option, max. 2 x PoE)	2 x GbE or 4 x GbE (option, max. 2 x PoE)	2 x GbE or 4 x GbE (option, max. 2 x PoE)	2 x GbE or 4 x GbE (option, max. 2 x PoE)
	Serial Ports	4	1 or 2 (option)	1 or 2 (option)	1 or 2 (option)	1 or 2 (option)
	Parallel Port	--	--	--	--	--
	Digital I/O Port	8in / 8out	6in / 6out	6in / 6out	6in / 6out	6in / 6out
	Keyboard / Mouse	--	--	--	--	--
Fan		Fanless	Fanless	Fanless	Fanless	Fanless
Drive Bays		2 x 2.5" SATAIII HDD 1 x CFast card on board	1 x 2.5" SATAIII SSD 1 x NVMe M.2 (2280)	1 x 2.5" SATAIII SSD 1 x NVMe M.2 (2280)	1 x 2.5" SATAIII SSD 1 x NVMe M.2 (2280)	1 x 2.5" SATAIII SSD 1 x NVMe M.2 (2280)
Touchscreen		Projected capacitive touch / 5W analog resistive	Projected capacitive touch / 5W analog resistive	5W analog resistive	Projected capacitive touch / 5W analog resistive	Projected capacitive touch / 5W analog resistive
Construction		Electro galvanized steel chassis Aluminum front bezel	Electro galvanized steel chassis Aluminum front bezel	Electro galvanized steel chassis Aluminum front bezel	Electro galvanized steel chassis Aluminum front bezel	Electro galvanized steel chassis Aluminum front bezel
Waterproof Level		IP65 (for front panel only)	IP65 (for front panel only)	IP65 (for front panel only)	IP65 (for front panel only)	IP65 (for front panel only)
Wall Mount Type		VESA 100	VESA 75	VESA 75	VESA 75	VESA 75
Power		DC In 9V~36V	DC In +12V/+24V	DC In +12V/+24V	DC In +12V/+24V	DC In +12V/+24V
Dimensions (W x H x D) mm		364 x 279 x 118	365 x 278 x 75	324 x 253 x 71	260 x 217 x 73	225 x 177 x 76
System Weight		10 kg	6 kg	3.55 kg	3 kg	2 kg
Operating System		Windows 10 IoT LTSC 2019 / Ubuntu LTS 16.04	Windows 10 IoT LTSC / Windows 11 IoT Enterprise (GAC)	Windows 10 IoT LTSC / Windows 11 IoT Enterprise (GAC)	Windows 10 IoT LTSC / Windows 11 IoT Enterprise (GAC)	Windows 10 IoT LTSC / Windows 11 IoT Enterprise (GAC)
Certifications		CE, FCC	CE, FCC	CE, FCC	CE, FCC	CE, FCC

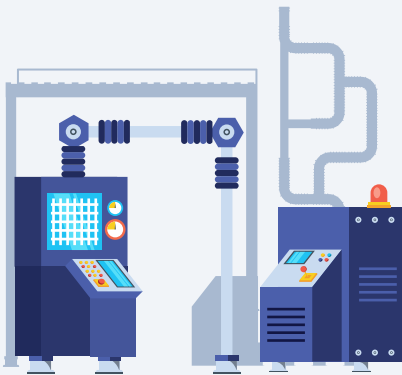
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Chapter 9

Full IP66/69K Panel PC



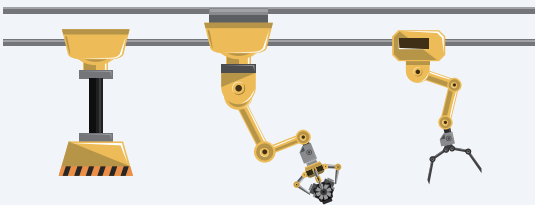
Full IP66/69K Panel PC



		23.8" High End	23.8" Entry	21.5" High End	21.5" Entry
Model		SG-S238	SG-S232	SG-S218	SG-S212
QR Code					
Pictures					
Panel Spec	Display Type	FHD	FHD	FHD	FHD
	Max. Resolution	1920 x 1080	1920 x 1080	1920 x 1080	1920 x 1080
	Pixel Pitch	0.274 x 0.274	0.274 x 0.274	0.248 x 0.248	0.248 x 0.248
	Brightness (cd/m²)	400	400	350	350
	Response Time (Tr + Td)	14 ms	14 ms	22 ms	22 ms
	Viewing Angle (up / down / left / right)	89/89/89/89	89/89/89/89	89/89/89/89	89/89/89/89
Processor		Intel® 12th Gen. Core™ i7-1265UE Core™ i5-1245UE Core™ i3-1215UE Celeron® 7305E	Intel® Celeron® J6412 Atom® x6425RE	Intel® 12th Gen. Core™ i7-1265UE Core™ i5-1245UE Core™ i3-1215UE Celeron® 7305E	Intel® Celeron® J6412
Chipset		Intel® SoC	Intel® SoC	Intel® SoC	Intel® SoC
Max. System Memory		DDR5 32GB	DDR4 32GB	DDR5 32GB	DDR4 32GB
I / O P O R T S	Display	—	--	—	—
	USB	2 x M12 waterproof connector (4 x USB 2.0)	2 x M12 waterproof connector (4 x USB 2.0)	2 x M12 waterproof connector (4 x USB 2.0)	2 x M12 waterproof connector (4 x USB 2.0)
	Audio Line In / Line Out / Mic In	—	--	—	—
	LAN	2	2	2	2
	Serial Ports	2	2	2	2
	Parallel Port	—	--	—	—
	Digital I/O Port	—	--	—	—
	Keyboard / Mouse	—	--	—	—
Fan		Fanless	Fanless	Fanless	Fanless
Drive Bays		1 x 2.5" SSD	1 x 2.5" SSD	1 x 2.5" SSD	1 x 2.5" SSD
Touchscreen		Projected capacitive touch	Projected capacitive touch	Projected capacitive touch / 5W analog resistive	Projected capacitive touch / 5W analog resistive
Construction		Stainless SUS304	Stainless SUS304	Stainless SUS304	Stainless SUS304
Waterproof Level		IP66 / IP69K	IP66 / IP69K	IP66 / IP69K	IP66 / IP69K
Wall Mount Type		VESA 100	VESA 100	VESA 100	VESA 100
Power		DC In 12V/24V	DC In 12V/24V	DC In 12V/24V	DC In 12V/24V
Dimensions (W x H x D) mm		635 x 404 x 91.8	635 x 404 x 91.8	590 x 395 x 92.3	590 x 395 x 92.3
System Weight		19 kg	19 kg	16.5 kg	16.5 kg
Operating System		Windows 10 IoT LTSC 2021 64 bit/ Windows 11 IoT Enterprise (GAC)	Windows 10 IoT LTSC 2021 64 bit/ Windows 11 IoT Enterprise (GAC)	Windows 10 IoT LTSC 2021 64 bit/ Windows 11 IoT Enterprise (GAC)	Windows 10 IoT LTSC 2021 64 bit/ Windows 11 IoT Enterprise (GAC)
Operating Temperature		0°C~40°C	0°C~50°C	0°C~40°C	0°C~50°C
Certifications		CE, FCC, IP66/69K, NEMA 4X	CE, FCC, IP66/69K, NEMA 4X	CE, FCC, IP66/69K, NEMA 4X	CE, FCC, IP66/69K, NEMA 4X

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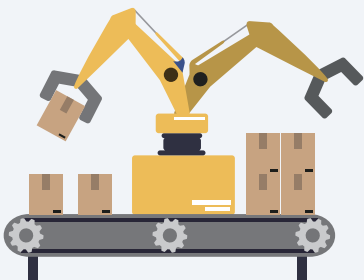
Full IP66/69K Panel PC



		19" High End	19" Entry	17" High End	17" Entry
Model		SG-S198	SG-S192	SG-S178	SG-S172
QR Code					
Pictures					
Panel Spec	Display Type	SXGA	SXGA	SXGA	SXGA
	Max. Resolution	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024
	Pixel Pitch	0.294 x 0.294	0.294 x 0.294	0.264 x 0.264	0.264 x 0.264
	Brightness (cd/m²)	350	350	350 / 800	350 / 800
	Response Time (Tr + Td)	10 ms	10 ms	30 ms	30 ms
	Viewing Angle (up / down / left / right)	80/80/85/85	80/80/85/85	85/85/85/85	85/85/85/85
Processor		Intel® 12th Gen. Core™ i7-1265UE Core™ i5-1245UE Core™ i3-1215UE Celeron® 7305E	Intel® Celeron® J6412 Atom® x6212RE Atom® x6425RE	Intel® 12th Gen. Core™ i7-1265UE Core™ i5-1245UE Core™ i3-1215UE Celeron® 7305E	Intel® Celeron® J6412 Atom® x6425RE
Chipset		Intel® SoC	Intel® SoC	Intel® SoC	Intel® SoC
Max. System Memory		DDR5 32GB	DDR4 32GB	DDR5 32GB	DDR4 32GB
I/O PORTS	Display	—	—	—	—
	USB	2 x M12 waterproof connector (4 x USB 2.0)	2 x M12 waterproof connector (4 x USB 2.0)	2 x M12 waterproof connector (4 x USB 2.0)	2 x M12 waterproof connector (4 x USB 2.0)
	Audio Line In / Line Out / Mic In	—	—	—	—
	LAN	2	2	2	2
	Serial Ports	2	2	2	2
	Parallel Port	—	—	—	—
	Digital I/O Port	—	—	—	—
	Keyboard / Mouse	—	—	—	—
Fan		Fanless	Fanless	Fanless	Fanless
Drive Bays		1 x 2.5" SSD	1 x 2.5" SSD	1 x 2.5" SSD	1 x 2.5" SSD
Touchscreen		5W analog resistive	5W analog resistive	Projected capacitive touch / 5W analog resistive	Projected capacitive touch / 5W analog resistive
Construction		Stainless SUS304	Stainless SUS304	Stainless SUS304	Stainless SUS304
Waterproof Level		IP66 / IP69K	IP66 / IP69K	IP66 / IP69K	IP66 / IP69K
Wall Mount Type		VESA 100	VESA 100	VESA 100	VESA 100
Power		DC In 12V/24V	DC In 12V/24V	DC In 12V/24V	DC In 12V/24V
Dimensions (W x H x D) mm		488 x 416 x 95.3	488 x 416 x 95.3	450 x 381 x 96	450 x 381 x 96
System Weight		16 kg	16 kg	15 kg	15 kg
Operating System		Windows 10 IoT LTSC 2021 64 bit/ Windows 11 IoT Enterprise (GAC)	Windows 10 IoT LTSC 2021 64 bit/ Windows 11 IoT Enterprise (GAC)	Windows 10 IoT LTSC 2021 64 bit/ Windows 11 IoT Enterprise (GAC)	Windows 10 IoT LTSC 2021 64 bit/ Windows 11 IoT Enterprise (GAC)
Operating Temperature		0°C~40°C	0°C~50°C	0°C~40°C	0°C~50°C
Certifications		CE, FCC, IP66/69K, NEMA 4X	CE, FCC, IP66/69K, NEMA 4X	CE, FCC, IP66/69K, NEMA 4X	CE, FCC, IP66/69K, NEMA 4X

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Full IP66/69K Panel PC



		15.6" High End	15.6" Entry	15" High End		15" Entry	
Model		SG-S168	SG-S162	SG-S158	SG-G156	SG-S152	SG-G151
QR Code							
Pictures							
Panel Spec	Display Type	HD	HD	XGA	XGA	XGA	XGA
	Max. Resolution	1366 x 768	1366 x 768	1024 x 768	1024 x 768	1024 x 768	1024 x 768
	Pixel Pitch	0.252 x 0.252	0.252 x 0.252	0.297 x 0.297	0.297 x 0.297	0.297 x 0.297	0.297 x 0.297
	Brightness (cd/m²)	400	400	450 / 1600	450	450 / 1600	450
	Response Time (Tr + Td)	8 ms	8 ms	8 ms	8 ms	8 ms	8 ms
	Viewing Angle (up / down / left / right)	80/80/85/85	80/80/85/85	70/80/80/80	70/80/80/80	70/80/80/80	70/80/80/80
Processor		Intel® 12th Gen. Core™ i7-1265UE Core™ i5-1245UE Core™ i3-1215UE Celeron® 7305E	Intel® Celeron® J6412 Atom® x6425RE	Intel® 12th Gen. Core™ i7-1265UE Core™ i5-1245UE Core™ i3-1215UE Celeron® 7305E	Intel® Core™ i5-7300U Core™ i3-7100U	Intel® Celeron® J6412 Atom® x6425RE	Intel® Celeron® J3455 Atom® x7-E3950
Chipset		Intel® SoC	Intel® SoC	Intel® SoC	Intel® SoC	Intel® SoC	Intel® SoC
Max. System Memory		DDR5 32GB	DDR4 32GB	DDR5 32GB	DDR4 16GB	DDR4 32GB	DDR3L 8GB
I/O PORTS	Display	—	—	—	—	--	--
	USB	2 x M12 waterproof connector (4 x USB 2.0)	2 x M12 waterproof connector (4 x USB 2.0)	2 x M12 waterproof connector (4 x USB 2.0)	2 x M12 waterproof connector (4 x USB 2.0)	2 x M12 waterproof connector (4 x USB 2.0)	2 x M12 waterproof connector (4 x USB 2.0)
	Audio Line In / Line Out / Mic In	—	—	—	—	--	--
	LAN	2	2	2	2	2	2
	Serial Ports	2	2	2	1	2	1
	Parallel Port	—	—	—	—	--	--
	Digital I/O Port	—	—	—	—	--	--
	Keyboard / Mouse	—	—	—	—	--	--
Fan		Fanless	Fanless	Fanless	Fanless	Fanless	Fanless
Drive Bays		1 x 2.5" SSD	1 x 2.5" SSD	1 x 2.5" SSD	1 x 2.5" SSD	1 x 2.5" SSD	1 x 2.5" SSD
Touchscreen		Projected capacitive touch / 5W analog resistive	Projected capacitive touch / 5W analog resistive	Projected capacitive touch / 5W analog resistive	Projected capacitive touch / 5W analog resistive	Projected capacitive touch / 5W analog resistive	Projected capacitive touch / 5W analog resistive
Construction		Stainless SUS304	Stainless SUS304	Stainless SUS304	Aluminum	Stainless SUS304	Aluminum
Waterproof Level		IP66 / IP69K	IP66 / IP69K	IP66 / IP69K	IP66	IP66 / IP69K	IP66
Wall Mount Type		VESA 100	VESA 100	VESA 100	VESA 100	VESA 100	VESA 100
Power		DC In 12V/24V	DC In 12V/24V	DC In 12V/24V	DC In 12V/24V	DC In 12V/24V	DC In 12V/24V
Dimensions (W x H x D) mm		450 x 305 x 91	450 x 305 x 91	450 x 335 x 92.1	365 x 279 x 99	450 x 335 x 92.1	365 x 279 x 99
System Weight		13.2 kg	13.2 kg	13.2 kg	7.2 kg	13.2 kg	7.2 kg
Operating System		Windows 10 IoT LTSC 2021 64 bit/ Windows 11 IoT Enterprise (GAC)	Windows 10 IoT LTSC 2021 64 bit/ Windows 11 IoT Enterprise (GAC)	Windows 10 IoT LTSC 2021 64 bit/ Windows 11 IoT Enterprise (GAC)	Windows 10 IoT LTSC 2019/ Ubuntu 16.04	Windows 10 IoT LTSC 2021 64 bit/ Windows 11 IoT Enterprise (GAC)	Windows 10 IoT LTSC 2019/ Ubuntu 16.04
Operating Temperature		0°C~40°C	0°C~50°C	0°C~40°C	0°C~40°C	0°C~50°C	0°C~40°C
Certifications		CE, FCC, IP66/69K, NEMA 4X	CE, FCC, IP66/69K, NEMA 4X	CE, FCC, IP66/69K, NEMA 4X	CE, FCC, IP66	CE, FCC, IP66/69K, NEMA 4X	CE, FCC, IP66

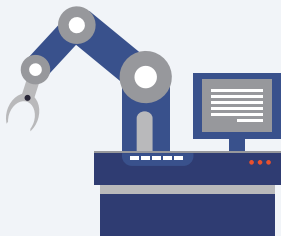
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Chapter 10

Industrial Monitor



Industrial Monitor



Model		SP-C175	SP-C155	SP-C105	SP-C085
QR Code					
Pictures					
D I S P L A Y	Sizes	17"	15"	10.4"	8.4"
	Resolution	1280 x 1024 pixels	1024 x 768 pixels	800 x 600 pixels	800 x 600 pixels
	Brightness	350 nits	450 nits / 300 nits	450 nits	600 nits
	Lifetime	50,000 hours	50,000 hours	50,000 hours	30,000 hours
	Viewing Angle	Horizontal: -80°~80°, Vertical: -80°~70°			
	Touch	P-CAP touch / Resistive touch			
I / O P O R T S	VGA	1			
	DVI	DVI-I cable (support DVI-D signal only)			
	USB	Type A x 1 for connecting touch			
	HDMI	1			
	DC In Jack	DC12V x 1			
	OSD	Power Button x1, Auto x 1, Menu x 1, SEL+ x 1, SEL- x 1			
Stand-alone Stand		Option			
Wall-mounted Kit		Option			
IP Rating		IP65 (front Panel)			
Power Adaptor		12V/3.3A/40W			
Dimensions (W x H x D) mm		396 x 328 x 54	365 x 280 x 54	260 x 217 x 48	225 x 177 x 49
Weight		4.4 kg	3.5 kg	1.8 kg	1.4 kg
Operation Temp.		-20°C~60°C / 0°C~50°C			
Certifications		CE, FCC			

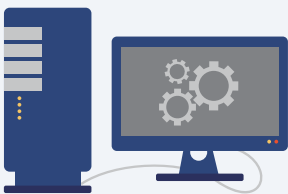
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Chapter 11

IIoT Edge Controller



IIoT Edge Controller



Model		SI-W000
QR Code		
Pictures		
SYSTEM	Processor	ARM Cortex-A8 32-bit RISC
	Speed	1 GHz
	Memory	512MB DDR3L
	Storage	8GB eMMC
	Display	1 x VGA
	Communications	1 x GbE LAN 2 x RS-232 (Tx, Rx, GND) 2 x RS-485 (D+, D-)
	Firmware	Protech Firmware
I/O PORTS	USB	1 x USB 2.0 Type A
	LAN	1 channel
	RS-232 (Tx, Rx, GND)	2 channels
	RS-485 (D+, D-)	1 channel
	RS-485 (D+, D-, GND.ISO)	1 channel
	SD Card Slot	1 x micro SD Card Slot
	SIM Slot	1
	Digital Input	--
	Digital Output	--
	Relay Output	--
	Thermocouple Input	--
Local I/O Module		1 channel with RS-232 Signal
Remote I/O Module		2 x Modbus RTU Module 1 x Modbus TCP Module
Expansion Slot		1 x full-sized mini-PCle with USB2.0 Signal
Protocol Support		Modbus TCP/RTU, DHCP, HTTP, OPC UA, MQTT, CGI, FTP
Enclosure		Plastic
Mount Type		DIN-Rail, Wall Mount
Power		DC In 9V~50V
Dimensions (W x H x D) mm		90 x 115 x 49
Weight (approx)		285 g
Certifications		CE, FCC
Operation Systems		Embedded Linux

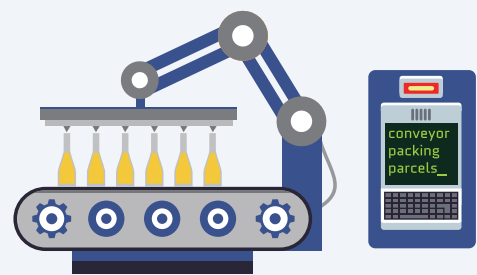
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Chapter 12

Remote I/O Module



Remote I/O Module



Model		SI-W109	SI-W309	SI-W509	SI-W709
QR Code					
Pictures					
SYSTEM	Processor	8-bit Micro Controller			
	Memory	2 KB on-chip			
	Storage	64KB on-chip flash			
	Communications	RS-485 (D+, D-)			
	Firmware	Protech Firmware			
I/O PORTS	RS-485 (D+, D-)	1 channel			
	Analog Input	4 channels	--	--	--
	Analog Output	2 channels	--	--	--
	Digital Input	4 channels	8 channels	5 channels	--
	Digital Output	4 channels	8 channels	--	--
	Relay Output	--	--	6 channels	--
	Thermocouple Input	--	--	--	8 channels
Protocol Support		Modbus RTU			
Enclosure		Plastic			
Mount Type		DIN-Rail, Wall Mount			
Power		DC In 9V~50V			
Dimensions (W x H x D) mm		90 x 115 x 29			
Weight (approx)		220 g			
Certifications		CE, FCC			

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Chapter 13

EtherCAT Slave I/O Module

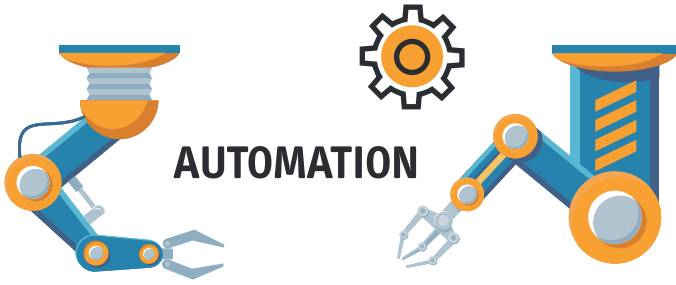


EtherCAT Slave I/O Module



Model		SI-X208	SI-X308	SI-X408	SI-X608
QR Code					
Pictures					
SYSTEM	Controller	EtherCAT Slave Controller			
	Interface	Ethernet			
	Connector	2 x RJ-45			
	Distance Between Stations	Max. 100m 100 BASE-TX			
I/O PORTS	Analog Input	--	--	--	8 channels
	Analog Output	--			
	Digital Input	16 channels	8 channels	--	--
	Digital Output	--	8 channels	16 channels	--
	Relay Output	--			
	Thermocouple Input	--			
Protocol Support		EtherCAT			
Enclosure		Plastic			
Mount Type		DIN-Rail			
Power		DC In 9V~48V			
Dimensions (W x H x D) mm		90 x 115 x 29			
Weight (approx)		285 g			
Certifications		CE, FCC			

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