

NEW

2022 | POS & IPC SELECTION GUIDE



BLOCKCHAIN IIOT & AIOT

CONNECTED DEVICES
AND TECHNOLOGY



POS

- POS Terminal
- KIOSK
- Handy POS
- Peripheral

IPC

- Industrial CPU Board
- Wall & Rack Mount System
- Applied Computer
- Panel PC
- Full IP66/IP69K Panel PC
- Open Frame Computer
- Industrial Monitor
- IIoT Edge Controller
- Remote I/O Module
- EtherCAT Slave I/O Module



Protech Website

NEW



2022

POS & IPC

SELECTION GUIDE

Established in 1980, Protech Systems Co., Ltd. specializes in the design and manufacturing of industrial PCs, POS and Kiosk solutions for companies around the world. Product lines include Industrial CPU Boards, Applied Computers, Wall/Rack Mount Systems, Panel PCs, Open Frame Computers, Industrial Monitors, Remote I/O modules, Edge Controllers, EtherCAT Slave I/O Module, POS terminals, Mobile POS, POS PCs and Kiosk series. Protech Systems is a member of Intel IoT Solutions Alliance, an ecosystem that integrated members globally to accelerate IoT innovation. Protech is certified by ISO 9001 and ISO 14001. We are proud ourselves with innovative & leading technologies, and dedicating to provide customers with top quality solutions along with reliable professional service in IIoT and AIoT generations.

Worldwide Office



Protech Systems Co., Ltd.

No. 24, Lane 365, Yang Kuang Street,
Nei Hu District, Taipei 114, Taiwan, R.O.C.
TEL: +886-2-8751-1111
FAX: +886-2-8751-1199
E-mail:sales@protech.com.tw
<https://www.protech.com.tw>



Liu-Du Technology Park

No.7, Gongjian N. Rd., Qidu Dist.,
Keelung City 206, Taiwan, R.O.C.
TEL: +886-2-2452-9999
FAX: +886-2-2452-8777
E-mail:sales@protech.com.tw
<https://www.protech.com.tw>



Protech Japan Co., Ltd.

OSK Bldg, 6F, 6-25-14, Minami-ohi
Shinagawa-ku, Tokyo, 140-0013
TEL: +81-3-5753-8411
FAX: +81-3-3763-9282
E-mail:sam@protech-j.com
<http://www.protech-j.com>



PROX SYSTEMS Germany GmbH

Weststrasse 20a, 40721 Hilden
Düsseldorf, Germany
TEL: +49 (0) 2103-41898-0
FAX: +49 (0) 2103-41898-10
E-mail:sales@prox-systems.com
<http://www.prox-systems.com>



Protech Technologies Inc.

950 Fee Ana St., Suite B
Placentia, CA 92870
TEL: +1-714-996-7200
FAX: +1-714-996-7300
E-mail:sales@protech-usa.net
<http://www.protech-usa.net>



PROX SYSTEMS SPAIN S.L.

C/ Albasanz 14 Bis, 2ºD
28037 Madrid, Spain
TEL: (+34) 917648559
Mobile: (+34) 661214507
E-mail:sales.spain@prox-systems.com
<http://www.prox-systems.com>



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2 **PA-R120**

Desktop Non-Cash Self-Payment POS



2 **PA-J600E** *NEW*

Multi-Functional Kiosk

3 All in One Selection Guide



3 **PA-A310**

Highly Integrated Fanless All in One 10.1" POS Terminal



3 **PA-3122**

One-of-a-kind Highly Integrated Fanless 10.4" POS Terminal



3 **PA-3522**

One-of-a-kind Highly Integrated Fanless 15" POS Terminal



3 **PA-A900**

Highly Integrated Fanless All in One 15.6" POS Terminal



3 **PA-A901**

Highly Integrated and High Performance 15.6" All in One POS Terminal

4 Standalone Selection Guide



4 **PA-6222 (PPC)**

12.1" Waterproof Bezel-Free Touch POS Terminal / Panel PC



4 **PA-J500 (PPC)** *NEW*

15.6" Slim POS Terminal



4 **PA-5880 (PPC)**

High Performance 15" POS Terminal / Panel PC



4 **PA-J580 (PPC)** *NEW*

15" Fanless Slim POS Terminal / Panel PC



4 **PA-J670 (PPC)** *NEW*

15" Fanless Slim POS Terminal / Panel PC



5 **PA-6980 (PPC)**

High Performance 15" POS Terminal / Panel PC



5 **PA-6225 (PPC)**

15" Waterproof Bezel-Free Touch POS Terminal / Panel PC



5 **PA-5685 (PPC)**

15.6" Intel® KabyLake U Series POS Terminal



5 **PA-J600 (PPC)** *NEW*

21.5" Fanless Slim POS Terminal

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7 KIOSK Selection Guide

7 **KS-M320**

Multi-Functional Kiosk



7 **KS-M220**

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8 **KS-1130**

Self-Service Payment Kiosk



8 **KF-P230** *NEW*

Multi-Functional Kiosk



8 **KF-7232**

17" Self Payment Kiosk

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Handy POS

10 Handy POS Selection Guide



10 **MH-5752**

7" Integrated Handy POS with Intel® Atom™ x5-Z8550 Quad Core™ CPU



10 **MH-5102**

10.1" Integrated Pad with Intel® Atom™ x5-Z8550 Quad Core™ CPU (1.44GHz up to 2.4GHz) / 2GB or 4GB LPDDR3 / 32GB or 64GB eMMC / Windows 10 IoT (64 bits)



10 **MH-5108**

10.1" Integrated Handy POS with Qualcomm® Snapdragon™ S450 Octa Core 1.8GHz



10 **MH-5106**

10.1" Integrated Pad with Android OS (ARM Cortex A9 R4 CPU) / 2GB DDR3L / 32GB eMMC / Android 5.1 OS

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12 **PA-V560**

Support 15" & 15.6" POS Terminal / Self-Service Kiosk



12 **MP-4815** Customer Display

The industry's thinnest highly integrated module design support POS system



12 **MP-4815** Stand-alone Display

The highly integrated display support different stands with the most modules



12 **MP-4815** Wall Mount Display

The highly integrated display support IPC system with speaker integrated and two wall-mount kits



12 **MP-4003** Customer Display

High quality vacuum fluorescent customer display



13 **MP-1150** Mobile Printer

2" BT Mobile Thermal Printer



13 **MP-1060**

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



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



- 15 **BA-2501**
ATX Intel® 7th / 6th Gen. Core™ i7 / i5 / i3 / Pentium® / Celeron® / Xeon® E3-1200 v6 / v5 CPU



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



- 15 **BU-2509**
MicroATX Intel® 7th / 6th Gen. Core™ i7 / i5 / i3 / Pentium® / Celeron® / Xeon® E3-1200 v6 / v5 CPU



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



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



- 16 **BM-2503**
Mini-ITX Intel® 7th / 6th Gen. Core™ i7 / i5 / i3 / Pentium® / Celeron® CPU



- 16 **BM-2502**
Mini-ITX Intel® 7th / 6th Gen. Core™ i7 / i5 / i3 / Pentium® / Celeron® CPU



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



- 16 **BM-0972** 
Thin Mini-ITX Intel® Pentium® N3710 / Celeron® N3060 Embedded SoC

17 Embedded Boards Selection Guide



- 17 **BE-0996**
3.5" Intel® Kabylake-U Core® i5 / i3 / SoC SBC



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



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



- 17 **BE-0981**
3.5" SBC Intel® Atom™ / Pentium® / Celeron® Processor



- 17 **BE-0961**
3.5" SBC Intel® Celeron® N2930 / N2807 / Atom® E3800 Series SoC / Dual LAN

18 Daughter Boards Selection Guide



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



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



- 18 **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



- 18 **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



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



- 19 **BR-8080**
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- 19 **BR-4010**
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- 19 **BR-6061**
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21 BS-0996

Fanless 1U Rack Mount PC with Intel® Kaby Lake-U CPU / Core™ i5 / i3



21 BS-0981

Fanless 1U Rack Mount PC with Intel® Celeron® N3350



21 BC-K201

Industrial Rack Mount System



21 BC-2602

Industrial Rack Mount System with Intel® 9th / 8th Gen. Core™ i7 / i5 / i3 / Pentium® / Celeron® / Xeon® E-2200 / E-2100 CPU ($\leq 65W$)



21 BS-W025

Industrial Wall Mount System

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23 Applied Computer Selection Guide

Embedded PC High End



23 SE-N207

Intel® 8th Gen. Core™ i7 / i5 / i3 / Celeron® Processor Compact and Fanless Embedded PC



23 BS-E099

High Performance Intel® KabyLake-U Fanless Embedded PC



23 SE-8400

Intel® 7th / 6th Gen. Core™ Fanless and High Performance Embedded PC

Embedded PC Entry



23 BS-U830 *NEW*

Fanless Embedded PC Intel® Celeron® / Pentium® / Atom® SoC Process



23 SE-8134

Intel® Atom™ / Pentium® / Celeron® Processor Compact and Fanless Embedded PC



23 BS-E098

Fanless Embedded PC 12V / DP Intel® Atom™ / Pentium® / Celeron® Processor



23 BS-E097

Fanless Embedded PC 12V / 24V / HDMI Intel® Atom™ / Pentium® / Celeron® Processor



23 SE-8124

Intel® Atom™ E3845 / E3826 / J1900 Processor Slim and Fanless Embedded PC

Box PC



24 SA-5800

Intel® 7th / 6th Gen. Core™ i7 / i5 / i3 / Pentium® / Celeron® Processor Book Size PC



24 SA-N718 *NEW*

Intel® 10th Gen. Core™ i9 / i7 / i5 / i3 / Pentium® / Celeron® Processor Book Size PC



24 PA-8025

Slim and Fanless POS PC

Vehicle PC



25 IV-Z318 *NEW*

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

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Intel® 7th Gen. Core™ High Performance
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- 27 **SP-S216**
Intel® 7th / 6th Gen. Core™ Fanless and High
Performance 21.5" Stainless Steel Panel PC



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



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



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



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



- 28 **SP-7167**
Intel® 7th / 6th Gen. Core™ Fanless and High
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- 28 **SP-6567**
Intel® 7th / 6th Gen. Core™ Fanless and High
Performance 17" Flat Panel PC



- 28 **SP-6267**
Intel® 7th / 6th Gen. Core™ Fanless and High
Performance 17" Panel PC



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



- 29 **SP-6557**
Intel® Atom™ / Pentium® / Celeron® Processor
Fanless and Low Power 17" Panel PC



- 29 **SP-6157**
Intel® Atom™ / Pentium® / Celeron® Processor
Fanless and Low Power 17" Panel PC



- 29 **SP-7256**
Intel® Pentium® N4200 / Celeron® N3350 / J3455 Slim
and Fanless 15.6" Panel PC



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



- 30 **SP-7165**
Intel® 7th / 6th Gen. Core™ Fanless and High
Performance 15" Flat Panel PC



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



- 30 **SP-6265**
Intel® 7th / 6th Gen. Core™ Fanless and High
Performance 15" Panel PC



- 31 **SP-6555**
Intel® Atom™ / Pentium® / Celeron® Processor
Fanless and Low Power 15" Panel PC



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



- 31 **SP-6155**
Intel® Atom™ / Pentium® / Celeron® Processor
Fanless and Low Power 15" Panel PC



- 31 **SP-6145** 
Intel® Atom™ E3845 / E3826 / J1900 Processor
Fanless and Low Power 15" Panel PC



- 32 **SP-C121** **NEW**
Intel® Atom™ / Pentium® / Celeron® Processor Fanless
and Low Power 12" Panel PC



- 32 **SP-6550**
Intel® Atom™ / Pentium® / Celeron® Processor
Fanless and Low Power 10.4" Panel PC



- 32 **SP-6150**
Intel® Atom™ / Pentium® / Celeron® Processor
Fanless and Low Power 10.4" Panel PC



- 32 **SP-6140**
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Intel® 7th Gen. Core™ i5-7300U / i3-7100U Processor
Fanless and All-around IP66 / IP69K Stainless 21.5"
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34 **SG-S211**

Intel® Celeron® J3455 Processor Fanless and
All-around IP66 / IP69K Stainless 21.5" Panel PC



34 **SG-S176**

Intel® 7th Gen. Core™ i5-7300U / i3-7100U Processor
Fanless and All-around IP66 / IP69K Stainless 17"
Panel PC



34 **SG-S171**

Intel® Celeron® J3455 / Atom™ x7-E3950 Processor
Fanless and All-around IP66 / IP69K Stainless 17"
Panel PC



35 **SG-S156**

Intel® 7th Gen. Core™ i5-7300U / i3-7100U Processor
Fanless and All-around IP66 / IP69K Stainless 15"
Panel PC



35 **SG-G156**

Intel® Core® i5 / i3 Platform Fanless and All-around IP66
15" Panel PC



35 **SG-S151**

Intel® Celeron® J3455 / Celeron® N3350 / Atom™ x7-E3950
Processor Fanless and All-around IP66 / IP69K Stainless 15"
Panel PC



35 **SG-G151** **NEW**

Intel® Celeron® N3350 / J3455 Processor Fanless
and All-around IP66 15" Panel PC

Chapter 10

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37 High End OFC Selection Guide



37 **SP-626x OFC Series**

Intel® 7th / 6th Gen. Core™ Fanless and High
Performance 15" / 17" / 19" Open Frame Panel PC

38 Entry OFC Selection Guide



38 **SP-615x OFC Series**

Intel® Atom™ / Pentium® / Celeron® Processor
Fanless and Low Power 10.4" / 15" / 17" / 19" Panel PC

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40 Industrial Monitor Selection Guide



40 **SP-C175**

17" VESA Mount / Wall Mount Standalone
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40 **SP-C155**

15" VESA Mount / Wall Mount Standalone
Touch Monitor



40 **SP-C105**

10.4" VESA Mount / Wall Mount Standalone
Touch Monitor



40 **SP-C085**

8.4" VESA Mount / Wall Mount Standalone
Touch Monitor

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42 IIoT Edge Controller Selection Guide



42 **SI-W000**

IIoT Edge Controller

Chapter 13

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44 Remote I/O Module Selection Guide



44 **SI-W109**

Multi-Function I/O Module



44 **SI-W309**

8 Channels Digital Input and 8 Channels Digital
Output I/O Module



44 **SI-W509**

5 Channels Digital Input and 6 Channels Relay Output
Remote I/O Module



44 **SI-W709**

8 Channels Differential Analog Input I/O Module

Chapter 14

EtherCAT Slave I/O Module

46 EtherCAT Slave I/O Module



46 **SI-X208**

16-Channel Isolated Digital Input EtherCAT
Slave I/O Module



46 **SI-X308**

8-Channel Isolated Digital Input and 8-Channel
Isolated Digital Output EtherCAT Slave I/O Module



46 **SI-X408**

16-Channel Isolated Digital Output EtherCAT
Slave I/O Module



46 **SI-X608**

8-Channel Isolated Analog Input EtherCAT
Slave I/O Module

Chapter 1

POS Terminal



Payment POS Selection Guide



Model		PA-R120	PA-J600E
QR Code			
Pictures			
Dimensions (W x H x D)		558 x 523 x 173 mm	550 x 1379 x 480 mm
Weight		Without packing approx. 16.8 kg With packing approx. 19 kg	Without packing approx. 40 kg
Power Supply		AC 100-240V available	120 watt power adaptor
Certifications		EMI: Class A; ESD: Air 8KV / Contact 4KV	--
O.S. Support		Windows 10 IoT Enterprise / POSReady 7	Windows 10
Temperature		Operating: 0°C~35°C; Storage: -20°C~60°C	0°C~35°C
Humidity		Operating & Storage: 20%~85% (no condensation)	20%~90%
I/O Ports (in rear lower of cube-body)	Power Input	1 x C5-type socket, AC 100V-240V available	
	Power Switch	1 x power button	
	USB	PPC I/O: 2 x USB 2.0 Type-A (optional) Chassis I/O: 2 x USB 3.0 Type-A	
	RS232	PPC I/O: 1 x D-sub + 1 (optional) x RJ45 Chassis I/O: 2 (optional) x D-sub	
	LAN Port	1 x RJ45	
Panel-PC	LCD	21.5" TFT LCD/ Resolution: 1920 x 1080 / Brightness: 250cd/m²	
	Touchscreen	projected capacitive	
	CPU	Kaby Lake U Core™-i5 7300U / Core™-i3 7100U Celeron® 3965U	
	Memory	1 x DDR4 SO-DIMM (default 4GB, up to 16GB)	
	Storage	1 x 2.5" SATA + 1 x M.2 (2242 type, SATA interface)	
	Options	Vertical MSR & iButton (JIS-I or II, ISO Track1+2+3); Vertical Fingerprint (8-bit grayscale reader)	
Note Acceptor & Recycling Units Capacity		--	
Coin Acceptor		--	
Hopper Capacity		--	
Touch Display		--	
Thermal Printer		2" or 3" standalone thermal printer for 58 mm or 80 mm paper roll	
Barcode Reader		1D: UPC-A, UPC-E, EAN-8, EAN-13, UCC/EAN-128, Code 39, Code 93, Interleaved 2 of 5, Codabar, MSI, GS1 Databar 2D: PDF417, MicroPDF417, DataMatrix, QR Code, MaxiCode	

*All information contained in this document is subject to change without prior notice. Please log on www.protech.com.tw to acquire latest information.

All in One Selection Guide



Model		PA-A310	PA-3122	PA-3522	PA-A900	PA-A901
QR Code						
Pictures						
LCD Display		10.1" TFT LCD	10.4" TFT LCD	15" TFT LCD	15.6" TFT LCD	15.6" TFT LCD
CPU Support		Celeron® J3355 / 3455	Celeron® J1900	Celeron® J1900	Celeron® J3455	Intel® 7th / 6th Gen. Core™ i5 / i3 / Celeron® / Pentium®
Max. CPU Speed		2.3~2.5 GHz	2.0 GHz	2.0 GHz	2.3 GHz	3.2 GHz
Chipset		Built-in CPU	Built-in CPU	Built-in CPU	Built-in CPU	H110
Max. System Memory		8GB	8GB	8GB	8GB	32GB
BIOS		AMI	AMI	AMI	AMI	AMI
Audio		Realtek ALC888	Realtek ALC888	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	5 x Type A female	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	1 x RJ45	1 x RJ45
	Display	1 x HDMI 1 x VGA (option)	1 x VGA	1 x VGA	1 x HDMI 1 x VGA (option)	1 x VGA
	Cash Drawer	1 + 1 (option) x RJ11	1 + 1 (option) x RJ11	1 + 1 (option) x RJ11	1 + 1 (option) x RJ11	1 + 1 (option) x RJ11
	COM Ports	3 x RJ45 + 1 (option) DB9	3 + 1 (option) DB9	3 + 1 (option) x DB9	3 x RJ45 + 1 (option) DB9	2 x DB9 + 1 x RJ45
	Keyboard / Mouse	—	—	—	—	—
	Line Out	1 x phone jack	1 x phone jack	1 x phone jack	1 x phone jack	1 x phone jack
	Mic In	—	—	—	1 x phone jack	—
Parallel Port		—	1 x DB25 (option)	1 x DB25 (option)	—	—
Drive Bays		1 x 2.5" SATA HDD	1 x 2.5" SATA 1 x mSATA	1 x 2.5" SATA 1 x mSATA	1 x 2.5" HDD or SSD	1 x 2.5" SATA HDD
Touchscreen		10.1" capacitive	5-wire analog resistive	5-wire analog resistive	15.6" capacitive	15.6" ELO capacitive
Power Supply		60W~90W adaptor	72W~120W adaptor	72W~120W adaptor	60W~90W adaptor	120W~150W adaptor
Dimensions (WxHxD) mm		299 x 148 x 300	299 x 148 x 300	360 x 183 x 309	372 x 169 x 315	372 x 169 x 315
Weight (approx)		4 kg	4.5 kg	6 kg	5 kg	5 kg
Options		printer, customer display, MSR, fingerprint, i-Button reader, RFID barcode scanner	printer, customer display, MSR, fingerprint, RFID	printer, customer display, MSR, fingerprint	printer, customer display, MSR, fingerprint, i-Button reader, RFID barcode scanner	printer, customer display, MSR, fingerprint, i-Button reader, RFID barcode scanner
O.S. Support		Windows 10	Windows 10 Windows 8.1 POSReady 7 Android 4.4	Windows 10 Windows 8.1 POSReady 7	Windows 10	Windows 10 Windows 7 POSReady 7
Certifications		CE, FCC	CE, FCC	CE, FCC	CE, FCC	CE, FCC

*All information contained in this document is subject to change without prior notice. Please log on www.protech.com.tw to acquire latest information.

Standalone Selection Guide



Model		PA-6222 (PPC)	PA-J500 (PPC)	PA-5880 (PPC)	PA-J580 (PPC)	PA-J670 (PPC)
QR Code						
Pictures						
LCD Display		12.1" TFT LCD	15.6" TFT LCD	15" TFT LCD	15" TFT LCD	15" TFT LCD
CPU Support		Celeron® J1900	Tiger Lake U Intel® Core™ i5-1145G7E / i3-1115G4E / Pentium® 7505 / Celeron® 6305E	Intel® 7th / 6th Gen. Core™ i7 / i5 / i3 / Celeron®	Kaby Lake U Core™ i5 7300U Core™ i3 7100U Celeron® 3965U	Celeron® J3455
Max. CPU Speed		2.0 GHz	—	2.30~3.80 GHz	2.2~3.5 GHz	2.3 GHz
Chipset		Built-in CPU	Built-in CPU	Intel® H110	Built-in CPU	Built-in CPU
Max. System Memory		8GB	16GB	32GB	16GB	8GB
BIOS		AMI	AMI	AMI	AMI	AMI
VGA		Built-in CPU	Built-in CPU	Built-in CPU	Built-in CPU	Built-in CPU
Audio		Realtek ALC888	Realtek ALC888	Realtek ALC888	Realtek ALC888	Realtek ALC888
I/O PORTS	USB	5 x Type A female	4 x Type A female 1 x Type C	5 x Type A female	4 + 2 (option) x Type A female	4 + 1 (option) x Type A female + 1 Powered USB 12V or 24V x1 (option)
	LAN	1 x RJ45	1 x RJ45	1 x RJ45	1 x RJ45	1 x RJ45
	Display	1 x DB15	1 x HDMI	1 x DB15	1 x DB15	1 x DB15
	Cash Drawer	1 + 1 (option) x RJ11	1 + 1 (option) x RJ11	1 x RJ11	1 x RJ11	1 + 1 (option) x RJ11 (+12V or +24V selectable)
	COM Ports	3 + 1 (option) x RJ45	2 x RJ45	1 + 1 (option) x RJ45 2 x DB-9	1 x RJ45 1 + 1 (option) x DB9	3 + 1 (option) x RJ45
	Keyboard / Mouse	—	—	—	—	—
	Line Out	1 x phone jack	—	1 x phone jack	1 x phone jack	1 x phone jack
	Mic In	—	—	—	1 x phone jack	1 x phone jack
	Parallel Port	—	—	—	—	—
Drive Bays		1 x 2.5" SATA	1 x M.2 2280 1 x M.2 2242	1 x 2.5" SATA	1 x 2.5" SATA	1 x 2.5" SATA
Touchscreen		5-wire analog resistive	projected capacitive	5-wire analog resistive or projected capacitive	projected capacitive	5-wire analog resistive or projected capacitive
Power Supply		72W adaptor	60W~90W adaptor	120W~150W adaptor	60W~90W adaptor	60W~90W adaptor
Dimensions (WxHxD) mm		320 x 303 x 236 (POS) 320 x 261 x 58 (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 x 378.6 x 288.4 (POS) 3375 x 305 x 69.8 (PPC)	375 x 378.6 x 288.4 (POS) 375 x 305 x 69.8 (PPC)	388 x 234 x 223 (POS) 388 x 300 x 94 (PPC / w 60W power adapter)
Weight (approx)		5 kg	4.23 kg (POS) / 3.6 kg (PPC) 5.33 kg (POS + 2nd Display)	6.7 kg (POS) / 4.6 kg (PPC)	6.7 kg (POS) / 4.6 kg (PPC)	6 kg (POS) / 5 kg (PPC)
Options		MSR, customer display, fingerprint	MSR, customer display, fingerprint, scanner, 10.1" 2nd display	printer, MSR, customer display, fingerprint, RFID, 2D scanner, camera, i-Button reader	printer, MSR, customer display, fingerprint, RFID, 2D scanner, camera, i-Button reader	printer, MSR, customer display, fingerprint, RFID, i-Button reader
O.S. Support		Windows 10 Windows 8.1 POSReady 7	Windows 10	Windows 10 Windows 8.1 POSReady 7	Windows 10	Windows 10
Certifications		CE, FCC	CE, FCC	CE, FCC	CE, FCC	CE, FCC

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Standalone Selection Guide



Model		PA-6980 (PPC)	PA-6225 (PPC)	PA-5685 (PPC)	PA-J600 (PPC)
QR Code					
Pictures					
LCD Display		15" TFT LCD	15" TFT LCD	15.6" TFT LCD	21.5" TFT LCD
CPU Support		Intel® 7th / 6th Gen. Core™ i7 / i5 / i3 / Celeron®	Celeron® J1900	Kaby Lake U Core™-i3 7100U Celeron® 3965U	Kaby Lake U Core™-i5 7300U Core™-i3 7100U Celeron® 3965U
Max. CPU Speed		2.30~3.80 GHz	2.0 GHz	2.2~2.4 GHz	2.2~3.5 GHz
Chipset		Intel® H110	Built-in CPU	Built-in CPU	Built-in CPU
Max. System Memory		32GB	8GB	16GB	16GB
BIOS		AMI	AMI	AMI	AMI
VGA		Built-in CPU	Built-in CPU	Built-in CPU	Built-in CPU
Audio		Realtek ALC888	Realtek ALC888	Realtek ALC888	Realtek ALC888
I/O Ports	USB	5 x Type A female	5 x Type A female	5 x Type A female	4 + 2 (option) x Type A female
	LAN	1 x RJ45	1 x RJ45	1 x RJ45	1 x RJ45
	Display	1 x DB15	1 x DB15	1 x DB15	1 x DB15
	Cash Drawer	1 x RJ11	1 + 1 (option) x RJ11	1 x DB15	1 x RJ11
	COM Ports	1 x RJ45 2 + 1 (option) x DB-9	3 + 1 (option) x RJ45	1 x DB9 + 2 x RJ45 + 1 (option) x RJ45	2 + 1 (option) x RJ45 1 x DB9
	Keyboard / Mouse	—	—	—	—
	Line Out	1 x phone jack	1 x phone jack	1 x phone jack (option)	1 x phone jack
	Mic In	—	—	1 x phone jack (option)	1 x phone jack
	Parallel Port	—	—	—	—
Drive Bays		1 x 2.5" SATA	1 x 2.5" SATA	1 x 2.5" SATA	1 x 2.5" SATA
Touchscreen		5-wire analog resistive or projected capacitive	5-wire analog resistive or projected capacitive	projected capacitive	projected capacitive
Power Supply		120W~150W adaptor	72W~120W adaptor	60W~90W adaptor	90W~120W 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)	377 x 318 x 240 (POS) 377 x 308 x 58 (PPC)	391 x 250 x 49 (POS)	536 x 450 x 297 (with PA-V560) 535 x 389 x 293 (with Big stand) 535 x 342 x 50 (PPC)
Weight (approx)		7 kg	8 kg	6 kg (POS) / 4 kg (PPC)	6.2 kg (PPC)
Options		printer, MSR, customer display, fingerprint, RFID	printer, MSR, customer display, fingerprint, RFID, i-Button reader	printer, MSR, customer display, fingerprint	printer, MSR, customer display, fingerprint, RFID, 2D scanner, camera, i-Button reader
O.S. Support		Windows 10 Windows 8.1 POSReady 7	Windows 10 Windows 8.1 POSReady 7	Windows 10	Windows 10
Certifications		CE, FCC	CE, FCC	CE, FCC	CE, FCC

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Chapter 2

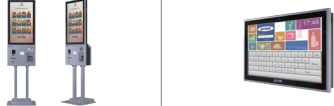
KIOSK



KIOSK

Selection Guide



Model		KS-M320		KS-M220	
QR Code					
Pictures					
DISPLAY	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	P-CAP	P-CAP	P-CAP	P-CAP
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		DDR4 4GB DDR3L 4GB	DDR4 4GB DDR3L 4GB	DDR4 4GB DDR3L 4GB	DDR4 4GB DDR3L 4GB
Storage		2.5" HDD or SSD x 1	2.5" HDD or SSD x 1	2.5" HDD or SSD x 1	2.5" HDD or SSD x 1
Speaker		2 x Omnidirectional Speaker	2 x Omnidirectional Speaker	2 x Omnidirectional Speaker	2 x Omnidirectional Speaker
I/O PORTS	USB	--	1 Port	1 Port	--
	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
OPTIONAL	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	--	--	--	--
ACCESSORIES	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	--	--	--	--
	Card Dispenser	--	--	--	--
	UPS	--	--	--	--
	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

Selection Guide



Model		KS-1130	KF-P230	KF-7232
QR Code				
Pictures				
DISPLAY	Size	32"	21.5"	17"
	Resolution	1920 x 1080	1920 x 1080	1280 x 1024
	Brightness	500 nits	250 nits	350 nits
	Backlight Life	50,000 hours	30,000 hours	50,000 hours
	Touch	P-CAP	P-CAP	P-CAP
O.S. Support		Windows 10 Windows 7 POSReady 7	Windows 10 Windows 7	Windows 10 Windows 7 POSReady 7
CPU Support		Intel® Core™ i5-6500 Intel® Core™ i3-6100 Intel® Celeron® J1900	Intel® Core™ i5-7300U Intel® Core™ i3 7100U	Intel® Atom™ J1900
Chipset / Graphics		Intel® H110 Bay Trail SoC	Intel® SoC	Bay Trail SoC
Memory		DDR4 4GB DDR3L 4GB	DDR4 4GB	DDR3L 4GB
Storage		2.5" HDD or SSD x 1	2.5" HDD or SSD x 1	2.5" HDD or SSD x 1
Speaker		4W x 2	2 x Omnidirectional Speaker	4W x 2
I/O PORTS	USB	--	--	--
	Serial Port	--	--	--
	Ethernet	RJ45 LAN Port x 2 RJ45 LAN Port x 1	RJ45 LAN Port x 2	RJ45 LAN Port x 2 RJ45 LAN Port x 1
OPTIONAL	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	MSR / IC card / RFID Reader x 1	--	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)
ACCESSORIES	2nd Display	--	--	--
	Wireless Module	Option	--	--
	Printer Device	2" or 3" Standalone Thermal printer for 80 mm paper roll	2" 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)
	Power Supply	AC 100~240V, 50~60Hz	AC 100~240V, 47~63Hz	AC 100~240V, 50~60Hz
Dimensions (WxHxD) mm		With Stand: 580 x 1750 x 600 Without Stand: 500 x 1050 x 152	540 x 1630 x 380	670 x 1719 x 450
Weight (approx)		With Stand: 78.2 kg Without Stand: 46 kg	97.63 kg	170 kg
Certifications		CE, FCC	CE, FCC	CE, FCC

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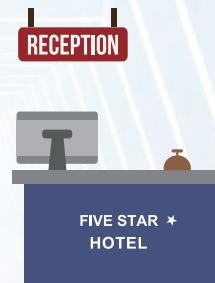
Chapter 3

Handy POS



Handy POS

Selection Guide



Model		MH-5752	MH-5102	MH-5108	MH-5106
QR Code					
Pictures					
D I S P L A Y	Size	7" IPS	10.1" IPS	10.1" IPS	10.1"
	Resolution	800 x 1280 pixels	1920 x 1200 pixels	1920 x 1200 pixels	1280 x 800 pixels
	Brightness	400 nits	450 nits	450 nits	400 nits
	Lifetime	30,000 hours	30,000 hours	30,000 hours	30,000 hours
	Touch	P-CAP OCA direct bonding with LCD Panel, AF (Anti-Fingerprint)	P-CAP OCA direct bonding with LCD Panel, AF (Anti-Fingerprint)	P-CAP OCA direct bonding with LCD Panel, AF (Anti-Fingerprint)	P-CAP
O.S. Support		Windows 10 IoT LTSC 2016 64 bit	Windows 10 IoT LTSC 2019 64 bit Windows 10 IoT LTSC 2016 64 bit	Android 9	Android 5.1.1
CPU Support		Intel® Atom™ x5-Z8550 Quad Core™	Intel® Atom™ x5-Z8550 Quad Core™	Qualcomm S450 octacore 64-bit processor	ARM Cortex A9 Quad Core™
CPU Speed		1.44 GHz up to 2.4 GHz	1.44 GHz up to 2.4 GHz	1.8 GHz	1.33 GHz
Chipset / Graphics		Built-in CPU	Built-in CPU	Built-in CPU	Built-in CPU
Memory		2GB / 4GB LPDDR3	2GB / 4GB / 8GB LPDDR3	2GB + 16GB eMCP	1GB / 2GB DDR3L
Storage		32GB / 64GB eMMC	32GB / 64GB eMMC	4GB + 64GB eMCP	16GB / 32GB / 64GB eMMC
Speaker		1W x 1	1W x 1	1W x 1	1W x 1
WiFi + BT		802.11 b/g/n + BT 4.0	802.11 ac/a/b/g/n + BT 4.1	802.11 ac/a/b/g/n BT2.1+EDR/ 3.0/ 4.2LE	802.11 b/g/n + BT 4.0
Battery Capacity		3.8V/7400mAh hours / 28.1 Wh	3.6V/7900mAh hours / 28.4 Wh	3.8V/7400mAh hours / 28.1 Wh	3.6V/7900mAh hours / 28.4 Wh
Battery Operation		Up to 8 hours	Up to 8 hours	Up to 8 hours	Up to 8 hours
BIOS		Insyde	Insyde	—	—
G-Sensor		1	1	1	1
Ambient Light Sensor		1	1	1	—
I O P O R T S	USB	USB Type C x 1	USB 3.0 Type A x 1	USB Type C x 1	USB 2.0 Type A x 1
	DC Jack	DC 5V	DC 12V / 24V	DC 12V~24V	DC 12V
	Phone Jack	—	1	1	1
	SD	1 (internal)	1 (internal)	1 (internal)	1 (internal)
	SIM	1 (internal)	1 (internal)	1 (internal)	1 (internal)
	Cradle Connector	POGO pin x 1	POGO pin x 1	POGO pin x 1	POGO pin x 1
	HDMI	—	—	—	—
O P T I O N A L D E V I C E	Barcode Scanner	2D Barcode	2D Barcode	2D Barcode	2D Barcode
	Camera	Rear 8M pixels	Front / Rear 5M pixels	8MP Front FF camera 8MP Rear AF camera	Rear 5M pixels
	NFC	1	—	1	1
	MSR	1	1	1	1
	Smart Card Reader	1	1	1	1
	RFID + Smart Card Reader	—	1	—	—
	Vibrator	1	—	—	—
	3G / 4G + GPS	4G + GPS module	4G + GPS module	4G + GPS on board	3G + GPS on board
	Fingerprint	—	1	—	—
A C C E S S O R I E S	Lite Cradle	1	1	1	1
	Battery Charger	2 bay/4 bay	2 bay/4 bay	—	2 bay/4 bay
	Wall-Mount Arm	—	1	1	1
	Hand Strap	1	1	1	1
	Neck Strap	—	1	1	1
IP Rating		IP54 (front Panel)	IP54 (front Panel)	IP65 (front Panel)	IP54 (front Panel)
Power Adaptor		Pad with 5V/3A/15W Cradle with 12V/5A/60W	Pad with 12V/2A/24W 24V/1A/24W Cradle with 12V/5A/60W	Pad with 12V/2A/24W	Pad with 12V/2A/24W Cradle with 12V/5A/60W
Dimensions (W x H x D) mm		120.6 x 192.6 x (21 - 25.3)	267.84 x 188.5 x 25.2	257 x 169 x 17	267.84 x 188.5 x 25.2
Weight (approx)		499 g (Pad only)	838 g (Pad only)	700 g (Pad only)	838 g (Pad only)
Certifications		CE, FCC	CE, FCC, TELEC	CE, FCC	CE, FCC

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Chapter 4

Peripheral



Peripheral Selection Guide



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						
DISPLAY	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 PORTS	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 x1
OPTIONAL DEVICE	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 Selection Guide

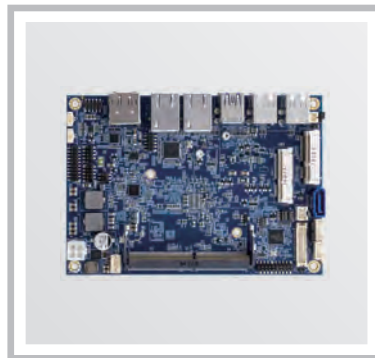


Model		MP-1150	MP-1060
Application		Mobile Thermal Printer	Stand-alone Thermal Printer
QR Code			
			
Pictures			
Paper Width		58 mm (2")	80 mm (3") or 58 mm (2")
Interface		Bluetooth (Ver. 4.0)/USB	Combo with USB/Serial
Print Speed		Up to 100 mm/sec	Up to 200 mm/sec
Cutter Type		Tear bar	Auto cut
Printing 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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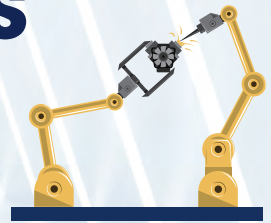
Chapter 5

Industrial CPU Board



Industrial Motherboards

Selection Guide

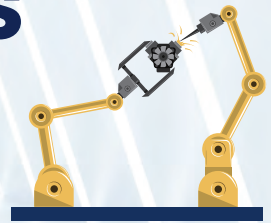


Model		BA-2602	BA-2601	BA-2501	BU-B015	BU-2509
QR CODE						
Pictures						
Form Factor		ATX	ATX	ATX	Micro-ATX	Micro ATX
CPU Support		8th Gen. Core™ / Pentium® / Celeron® / Xeon® E-2200/2100 CPU	8th Gen. Core™ / Pentium® / Celeron® / Xeon® E-2100 CPU	7th / 6th Gen. Core™ / Pentium® / Celeron® / Xeon® E3-1200 v5/v6	10th Gen. Core™ / Pentium® / Celeron® / Xeon® W-1200 CPU	7th / 6th Gen. Core™ / Pentium® / Celeron® / Xeon® E3-1200 v5/v6
CPU Socket		LGA1151	LGA1151	LGA1151	LGA1200	LGA1151
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)	E3-1275 v6/v5 E3-1225 v5 E3-1268L v5 i7-7700(T)/6700(TE) i5-7500(T)/6500(TE) i3-7101E/6100(TE) G4400(TE) G3930E/TE G3900(TE)	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	E3-1275 v6/v5 E3-1225 v5 E3-1268L v5 i7-7700(T)/6700(TE) i5-7500(T)/6500(TE) i3-7101E/6100(TE) G4400(TE) G3930E/TE G3900(TE)
Chipset		Intel® Q370 / Intel® C246	Intel® H310 / Intel® Q370 / Intel® C246	Intel® H110 / Intel® Q170 / Intel® C236	Intel® W480E / Intel® Q470E / Intel® H420E	Intel® H110 / Intel® Q170 / Intel® C236
Max. System Memory		64GB	64GB	64GB	128GB	64GB
Display		1 x VGA 2 x DP 1 x eDP	1 x VGA 1 x DVI-D 1 x eDP	1 x VGA 1 x DVI-D 1 x eDP	1 x VGA 2 x DP 1 x eDP	1 x VGA 1 x DVI-D 1 x DP (internal)
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	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	6 x SATA 3.0	6 x SATA 3.0
	FDD Interface	—	—	—	—	—
	Serial Ports	6	6	6	6	6
	Parallel Port	1	1	—	—	—
	LAN	Dual (1G)	Dual (1G)	Dual (1G)	Dual (1G)	Dual (1G)
	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	6 x USB 3.0 4 x USB 2.0	2 x USB 3.1 4 x USB 3.0 6 x USB 2.0	6 x USB 3.0 4 x USB 2.0
	PS/2	1	2	2	1	2
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) 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	1 x PCIe (x16) 2 x PCIe (x4) 1 x PCIe (x1) 1 x mini PCIe
Power Requirement		ATX Power	ATX Power	ATX Power	ATX Power	ATX Power
Certifications		CE, FCC	CE, FCC	CE, FCC	CE, FCC	CE, FCC

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Industrial Motherboards

Selection Guide

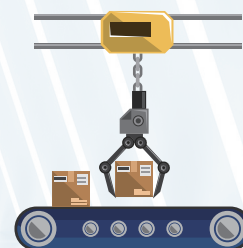


Model		BM-D025	BM-2505	BM-2503	BM-2502	BM-0982	BM-0972
QR CODE							
Pictures							
Form Factor		Mini-ITX	Mini-ITX	Mini-ITX	Mini-ITX	Mini-ITX	Thin Mini-ITX
CPU Support		10th Gen. Core™ / Pentium® / Celeron® / Xeon® W-1200 (up to TDP 65W)	7th / 6th Gen. Core™ / Pentium® / Celeron®	7th / 6th Gen. Core™ / Pentium® / Celeron®	7th / 6th Gen. Core™ / Pentium® / Celeron®	N4200: 1.1GHz N3350: 1.1GHz J3455: 1.5GHz	N3710: 1.6GHz N3060: 1.6GHz
CPU Socket		LGA1200	LGA1151	LGA1151	LGA1151	onboard	onboard
CPU List		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)	i7-7700(T) i7-6700(TE) i5-7500(T) i5-6500(TE) i3-7101E/TE i3-6100(TE) G4400(TE) G3930E/TE G3900(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	N3710: 1.6GHz N3060: 1.6GHz
Chipset		Intel® H420E / Intel® Q470E / Intel® W480E	Intel® H110 / Intel® Q170	Intel® H110 / Intel® Q170	Intel® H110 / Intel® Q170	—	—
Max. System Memory		64GB	32GB	32GB	32GB	8GB	8GB
Display		2 x DVI-D 1 x DP (internal)	2 x DVI-D 1 x DP (internal)	1 x VGA 1 x DP 1 x LVDS	2 x DVI-D 1 x DP (internal)	1 x VGA 1 x DP/HDMI 1 x LVDS	1 x VGA 1 x DP 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	Line In Line Out Mic In	Line In Mic In
I / O P O R T S	SATA Interface	2 x SATA 3.0	2 x SATA 3.0	2 x SATA 3.0	2 x SATA 3.0	2 x SATA 3.0	1 x SATA 3.0 1 x mSATA
	FDD Interface	—	—	—	—	—	—
	Serial Ports	6	6	2	6	6	6
	Parallel Port	1	1	1	1	0	—
	LAN	Dual (1G)	Dual (1G)	Dual (1G)	Dual (1G)	Dual (1G)	Dual (1G)
	USB	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 4 x USB 2.0	4 x USB 3.0 5 x USB 2.0	4 x USB 3.0 2 x USB 2.0	4 x USB 3.0 3 x USB 2.0
	PS/2	1	1	—	—	2	—
Expansion Bus		1 x PCIe (x16) 1 x M.2 (2242) NVMe	1 x PCIe (x16) 1 x mini PCIe	1 x PCIe (x16) 1 x M.2 (2242)	1 x PCIe (x16) 1 x mini PCIe	1 x PCIe (x1) 1 x mini PCIe 1 x M.2 (2242)	1 x PCIe (x1) 1 x mini PCIe
Power Requirement		ATX Power	ATX Power	DC 12V	ATX Power	DC 12~24V	DC 12V
Certifications		CE, FCC	CE, FCC	CE, FCC	CE, FCC	CE, FCC	CE, FCC

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Embedded Boards

Selection Guide

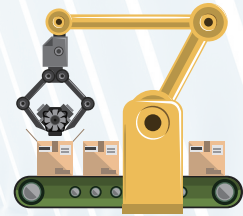


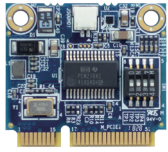
Model		BE-0996	BE-U830	BE-0986	BE-0981	BE-0961
QR Code						
Pictures						
Form Factor		3.5"	EPIC	3.5"	3.5"	3.5"
CPU Support		Core i5-7300U, 2.6GHz Core i3-7100U, 2.4GHz	Intel® Celeron J6412, 1.8GHz Atom X6212RE, 1.2GHz Atom X6425RE, 1.9GHz	Celeron J3455, 1.5GHz Celeron N3350, 1.1GHz Atom E3950, 1.6GHz	Celeron J3455, 1.5GHz Celeron N3350, 2.4GHz Pentium N4200, 2.5GHz Atom E3950, 2.0GHz	E3815: 1.46GHz E3825: 1.33GHz N2807: 2.16GHz N2930: 2.16GHz
Chipset		--	--	--	--	--
Max. System Memory		DDR4, 16GB	DDR4, 32GB	DDR3L, 8GB	DDR3L, 8GB	DDR3L, 4GB
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 VGA 1 x HDMI 1 x LVDS	1 x VGA 1 x DP 1 x LVDS	1 x VGA 1 x LVDS
Audio		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	HD Line Out / Line In / Mic In
I / O P O R T S	Serial Ports	2	2	4	4	4
	Parallel Port	--	--	--	--	--
	LAN	Dual (1G)	Dual (1G)	Dual (1G)	Dual (1G)	Dual (1G)
	USB	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	1 x USB 3.0 2 x USB 2.0
	SATA Interface	1	1	1	1	SKU A: 1 x SATA SKU B: 0 x SATA
		CF/CFast/SD	--	--	--	1 x CFast
Expansion Bus		1 x full-sized mPCIe slot (PCIe/USB) 1 x full-sized mSATA slot (SATA/USB) 1 x I ² C	1 x full-sized mPCIe slot 1 x M.2 (2280) NVMe 1 x I ² C	1 x full-sized mPCIe slot 1 x full-sized mSATA slot 1 x I ² C	1 x full-sized mPCIe slot 1 x full-sized mSATA slot 1 x I ² C	SKU A: 1 x half-sized mPCIe slot SKU B: 1 x half-sized mSATA slot
FAN conn		1 x 4 pin FAN conn	--	1 x 4 pin FAN conn	1 x 4 pin FAN conn	1 x 3 pin FAN conn
Power Requirement		DC In 12V/24V	DC In 12V/24V	DC In 12V&19V&24V	DC In 12V	DC In 12V
Certifications		CE, FCC	CE, FCC	CE, FCC	CE, FCC	CE, FCC

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Daughter Boards

Selection Guide

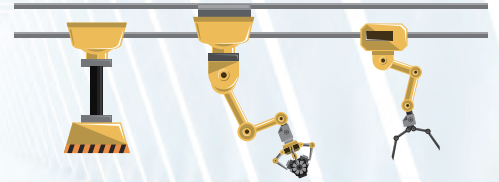


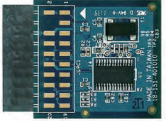
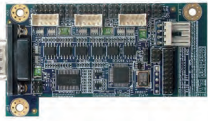
Model	BR-U830-D4	SR-5700	BR-U830-D2 (pair w/ BR-U830-D1)	BR-U830-D3 (pair w/ BR-U830-D1)	SR-6150
QR Code					
Pictures					
Function	4 Ports LAN	Power USB	2 Ports LAN	2 Ports LAN	Speaker
Input I/F	PCIe x4 (Golden Finger)	PCIe x1 (Golden Finger)	30-pin board to board connector	30-pin board to board connector	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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Daughter Boards

Selection Guide



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 & Rack Mount System



Wall & Rack Mount System

Selection Guide



Model		BS-0996	BS-0981	BC-K201	BC-2602	BS-W025
QR Code						
Pictures						
Mounting Type		1U Rack mount	1U Rack mount	2U Rack mount	4U Rack mount	Wall mount
Dimensions (W x H x D) mm		482 x 45 x 250	482 x 45 x 250	428.2 x 88 x 310	430 x 177 x 330	277 x 136 x 316
CPU Support		Intel® Core™ i5-7300U Core™ i3-7100U	Intel® Celeron® N3350: 2C, 2.4GHz Celeron® J3455: 4C, 1.5GHz	Intel® 10th Gen. Core™ / Pentium® / Celeron® / Xeon® W-1200 CPU	Intel® 9th / 8th Xeon® / Core™ / Pentium® / Celeron® CPU (socket: LGA1151) (≤ 65W)	Intel® 7th / 6th Core™ / Pentium® / Celeron® CPU (socket: LGA1151)
Chipset		--	--	Intel® W480E / Q470E / H420E	Intel® Q370 / H310 / C246	Intel® Q170 / H110 / C236
Max. System Memory		16GB	16GB	128GB	64GB	32GB
Drive Bay		1 x 2.5" SSD/HDD (SATA 3.0)	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)	2 x 2.5" SSD/HDD (SATA 3.0)
Display		1 x HDMI 1 x DP	1 x DP	VGA 2 x DP	VGA 2 x DP	1 x VGA 1 x DVI-D
Audio		Line Out	Line Out	Mic In / Line In / Line Out	Mic In / Line In / Line Out	Mic In / Line In / Line Out
I / O P O R T S	Serial Ports	2	4	2	6	2
	Parallel Port	--	--	--	1	--
	LAN	2	2	Dual (1G)	Dual (1G)	Dual (1G)
	USB	8	6	2 x USB 3.1 2 x USB 3.0 2 x USB 2.0	2 x USB 3.1 2 x USB 3.0 4 x USB 2.0	2 x USB 2.0 4 x USB 3.0
Expansion Slots		1 x mSATA 1 x mini PCIe	1 x mSATA 1 x PCIe (x1)	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	1 x PCIe (x16) 2 x PCIe (x4) 1 x PCIe (x1)
Power Requirement		DC In 12V/24V	DC In 12V	ATX	ATX	DC In 24V
O.S. Support		Windows 10	Windows 10 / Windows 7	Windows 10	Windows 10	Windows 10 / Windows 7
Certifications		CE, FCC	CE, FCC	CE, FCC	CE, FCC	CE, FCC

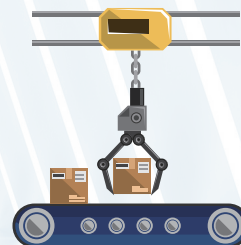
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Chapter 7

Applied Computer



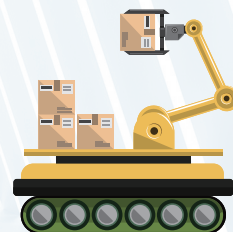
Applied Computer Selection Guide



		Embedded PC High End			Embedded PC Entry				
Model		SE-N207	BS-E099	SE-8400	BS-U830	SE-8134	BS-E098	BS-E097	SE-8124
QR Code									
Pictures									
Processor		Intel® i7-8665UE 1.80GHz i5-8365UE 1.60GHz i3-8145UE 2.10GHz Celeron® 4305U	Intel® Core i5-7300U 2.6GHz i3-7100U 2.4GHz 2.3GHz	Intel® i7-6700TE 2.4GHz i5-6500TE 2.3GHz i3-6100TE 2.7GHz Pentium® G4400TE Celeron® G3900TE	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	Intel® E3940: 4C, 1.8GHz J3455: 4C, 2.3GHz N3350: 2C, 1.1GHz	Intel® E3845 1.91GHz J1900 2.0GHz
Chipset		--	--	Intel® Q170/H110	--	--	--	--	--
Max. System Memory		32GB DDR4	16GB DDR4	32GB DDR4	32GB DDR4	8GB DDR3L	8GB DDR3L	8GB DDR3L	8GB DDR3L
I / O P O R T S	Display	1 x HDMI 2 x HDMI/DP (option)	1 x DP 1 x HDMI	1 x DVI-I 1 x HDMI	1 x DP 1 x HDMI	1 x DVI-D 2 x HDMI	1 x VGA 1 x DP	1 x VGA 1 x HDMI	1 x DVI-I 1 x DVI-D
	USB	4 x USB 3.0 + 6 x USB 2.0 (option)	4 x USB 3.0 2 x USB 2.0	6 x USB 3.0 (Q170) 4 x USB 3.0 + 2 x USB 2.0 (H110)	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	4 x USB 3.0 2 x USB 2.0	3 x USB 2.0 1 x USB 3.0
	Audio Line In / Line Out / Mic In	1 / 1 / 1	0 / 1 / 0	1 / 1 / 1	0 / 1 / 0	0 / 1 / 1	1 / 0 / 0	1 / 0 / 0	0 / 1 / 1
	LAN	2 or 4 x GbE with PoE as option or 6 x GbE (option)	2 x GbE	2 x GbE with PoE as option	2 x GbE or 4 x GbE (option, max. 2 x PoE)	2 x GbE with PoE as option	2 x GbE	2 x GbE or 4 x GbE (option, max. 2 x PoE)	2 x GbE with PoE as option
	Serial Ports	2 or 4 or 6 (option)	2 + 2 (option)	4 + 2 (option)	1 or 2 (option)	4	4	3 or 4 (option)	4
	Parallel Port	1 (option)	--	1 (option)	--	--	--	--	--
	Digital I/O Port	8in / 8out	8in / 8out	8in / 8out	8in / 8out	4in / 4out	8	8	4in / 4out
	CAN Bus	2 (option)	--	--	--	--	--	--	--
	SIM Card	--	--	1	1	2	--	--	1
	SD Card	1	--	--	--	1	--	--	1
	DC Out	12V / 5V (1A)	--	12V / 5V (1A)	--	--	--	--	--
Expansion Slots		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 full-sized mPCIe (USB 2.0/PCIe/ external SIM card) 1 x half-sized mPCIe (USB 2.0/PCIe)	1 x full-sized mPCIe 1 x NVMe M.2 (2280)	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)	1 x full-sized mPCIe (USB/PCIe) 1 x full-sized mSATA (SATA/USB)	1 x full-sized mPCIe (USB 2.0/PCIe/ external SIM card) 1 x half-sized mPCIe (USB 2.0/PCIe)
Drive Bays		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 CFAST	1 x 2.5" SATAIII HDD/SSD	1 x 2.5" SATAIII HDD/SSD	1 x 2.5" SATAIII HDD/SSD	1 x 2.5" SATAIII HDD/SSD	1 x 2.5" SATAIII HDD/SSD 1 x CFAST
Power		+9V~36V DC In	+12V/+24V DC In	+9V~36V DC In	+12V/+24V DC In	+9V~36V DC In	+12V DC In	+12V/+16V~24V DC In	+12V~24V DC In
Dimensions (W x H x D) mm		228 x 71 x 212	217.5 x 46 x 140.6	260 x 80 x 200	217.5 x 46.6 x 140.6	217.5 x 45 x 148	217.5 x 46 x 140.6	217.5 x 46.6 x 140.6	217.5 x 45 x 148
System Weight		3.0 kg	2.0 kg	4.0 kg	2.0 kg	2.0 kg	2.0 kg	2.0 kg	2.0 kg
Operation Temperature		-40°C~70°C with SSD	-10°C~60°C with SSD	0°C~50°C with SSD	0°C~40°C with SSD	-20°C~50°C with SSD	0°C~40°C with SSD	-40°C~40°C for E3940 0°C~40°C for J3455 with SSD	-20°C~55°C with SSD
Operating System		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 2019/ LTSC 2016/ Windows 8.1 (64bit)/ Windows 7 (64bit)/ Linux ubuntu 14.04 (64bit)	Windows 10 IoT LTSC 2019 64 bit/ Ubuntu 20.04 (kernel: 5.04)	Windows 10 IoT LTSC 2016 64 bit/ Ubuntu 16.04 (kernel: 4.4)	Windows 10 64 bit/ Ubuntu 17.04 (kernel: 4.4)	Windows 10 64 bit/ Ubuntu 17.04 (kernel: 4.4)	Windows 10 IoT/ Windows 8.1/ Windows 7/ Ubuntu 14.04/ WES 8.1 Industry Pro/ WES 7/

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Applied Computer Selection Guide



		Box PC		
Model		SA-5800	SA-N718	PA-8025
QR Code				
Pictures				
Processor		Intel® 7th / 6th Gen. Core™ i7 / i5 / i3 / Pentium® / Celeron® (LGA1151) 3.4~4.0GHz	Intel® 10th Gen. Core™ / Pentium® / Celeron® / Xeon® W-1200 (up to TDP 65W)	Intel® Celeron® J1900 2.0GHz
Chipset		Intel® H110/Q170	Intel® H420E / Q470E / W480E	Build-in CPU
Max. System Memory		32GB DDR4	64GB DDR4	8GB DDR3L
I / O P O R T S	Display	1 x VGA 1 x DP	2 x DVI-D	1 x VGA
	USB	4 x USB 3.0 2 x USB 2.0	4 x USB 3.0 4 x USB 2.0	5 x USB 2.0
	Audio Line In / Line Out / Mic In	1 / 1 / 1	1 / 1 / 1	0 / 1 / 0
	LAN	2	2	1
	Serial Ports	2	4 + 2 (option)	4
	Parallel Port	--	1 (option)	1
	Keyboard / Mouse	--	1	--
	Cash Drawer Port	--	--	1
Drive Bays		1 x 2.5" SATA HDDs	2 x 2.5" SATA HDDs	1 x 2.5" SATA HDD
Expansion Slots		1 x M.2 (2242) 1 x PCIe (x16)	1 x PCIe (x16) 1 x NVMe M.2 (2242)	--
Power		DC In 12V	AC In 100~240V 50~60Hz	72~120W (AC Adapter)
Dimensions (W x H x D) mm		203 x 106 x 215	300 x 94 x 270	277 x 53 x 192
System Weight		3.5 kg	5 kg	3 kg
Certifications		CE, FCC	CE, FCC	CE, FCC
Operating System		Windows 10 IoT / Windows 8.1 / Windows 7 / Ubuntu 16.04	Windows 10 IoT 2019, Linux Ubuntu 20.04 LTS	Windows 10 IoT Enterprise / Windows 7 / POSReady 7

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In-Vehicle Computing System Selection Guide



		Vehicle PC
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		--
Max. System Memory		32GB DDR4-3200
I / O P O R T S	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 IoT LTSC 2019 64 bit/ Ubuntu 20.04 (kernel: 5.04)

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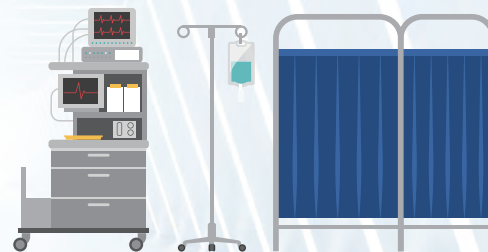
Chapter 8

Panel PC



Panel PC

Selection Guide



		21.5" High End		21.5" Entry	19" High End	19" Entry
Model		SP-S214	SP-S216	SP-S211	SP-6269	SP-6159
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	0.294 x 0.294	0.294 x 0.294
	Brightness (cd/m²)	350	350 / 1600	350 / 1600	350	350
	Response Time (Tr + Td)	22 ms	22 ms	22 ms	10 ms	10 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® Core™ i7-7700T Core™ i5-7500T Core™ i3-7101TE Celeron® G3930TE	Intel® Core™ i7-7700T/6700TE Core™ i5-7500T/6500TE Core™ i3-7101TE/6100TE Pentium® G4400TE Celeron® G3930TE Celeron® G3900TE	Intel® Celeron® J3455 4C 2.3 GHz	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
Chipset		Intel® Q170/H110	Intel® Q170/H110	SoC	Intel® Q170/H110	SoC
Max. System Memory		32GB DDR4 SO-DIMM	32GB DDR4 SO-DIMM	8GB DDR3L	32GB DDR4 SO-DIMM	8GB DDR3L
I/O PORTS	Display	2 x DVI-D	1 x DVI-I	1 x DVI-D 1 x HDMI (4K)	1 x DVI-I	1 x DVI-D 1 x HDMI
	USB	4 x USB 3.0 4 x USB 2.0	4 x USB 3.0	3 x USB 3.0	4 x USB 3.0	3 x USB 3.0
	Audio Line In / Line Out / Mic In	1 / 1 / 1	1 / 1 / 1	— / 1 / 1	1 / 1 / 1	— / 1 / 1
	LAN	2	2	2	2	2
	Serial Ports	4	4	2	4	2
	Parallel Port	1	--	—	--	—
	Digital I/O Port	—	8in / 8out	—	8in / 8out	—
	Keyboard / Mouse	—	--	—	--	—
Fan		Fan	Fanless	Fanless	Fanless	Fanless
Drive Bays		2 x 2.5" SATAIII HDD	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 HDD
Touchscreen		Projected capacitive touch	Projected capacitive touch	Projected capacitive touch	5W analog resistive	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 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 75/100	VESA 100	VESA 100	VESA 100	VESA 100
Power		AC In 100V~240V 50Hz~60Hz	DC In 9V~36V	DC In 9V~36V	DC In 9V~36V	DC In 9V~36V
Dimensions (W x H x D) mm		585 x 377 x 107	585 x 377 x 132	585 x 377 x 92	471 x 396 x 131	471 x 396 x 91
System Weight		11.8 kg	12.8 kg	10 kg	11.5 kg	10.7 kg
Operating System		Windows 10 IoT LTSC 2019	Windows 10 IoT LTSC 2019 / Ubuntu LTS 16.04	Windows 10 IoT LTSC 2019 / Ubuntu LTS 16.04	Windows 10 IoT LTSC 2019 / Windows 8.1 / Windows 7 / Ubuntu LTS 16.04	Windows 10 IoT LTSC 2019 / Ubuntu LTS 16.04
Certifications		CE, FCC	CE, FCC	CE, FCC	CE, FCC	CE, FCC

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Panel PC

Selection Guide

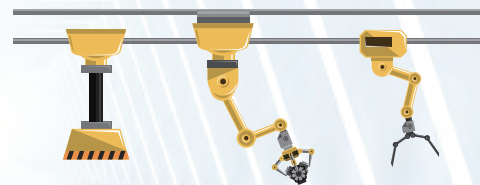


		17" High End			
Model		SP-S174	SP-7167	SP-6567	SP-6267
QR Code					
Pictures					
Panel Spec	Display Type	SXGA	SXGA	SXGA	SXGA
	Max. Resolution	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024
	Pixel Pitch	0.264 x 0.264	0.264 x 0.264	0.264 x 0.264	0.264 x 0.264
	Brightness (cd/m ²)	350	350	350	350
	Response Time (Tr + Td)	30 ms	30 ms	30 ms	30 ms
	Viewing Angle (up / down / left / right)	80/80/85/85	80/80/85/85	80/80/85/85	80/80/85/85
Processor		Intel® Core™ i7-7700T Core™ i5-7500T Core™ i3-7101TE Celeron® G3930TE	Intel® Core™ i7-6700TE Core™ i5-6500TE Core™ i3-6100TE Pentium® G4400TE Celeron® G3900TE	Intel® Core™ i7-6700TE Core™ i5-6500TE Core™ i3-6100TE Pentium® G4400TE Celeron® G3900TE	Intel® Core™ i7-6700TE Core™ i5-6500TE Core™ i3-6100TE Pentium® G4400TE Celeron® G3900TE
Chipset		Intel® Q170/H110	Intel® Q170/H110	Intel® Q170/H110	Intel® Q170/H110
Max. System Memory		32GB DDR4 SO-DIMM	32GB DDR4 SO-DIMM	32GB DDR4 SO-DIMM	32GB DDR4 SO-DIMM
I/O PORTS	Display	2 x DVI-D	1 x DVI-I	1 x DVI-I	1 x DVI-I
	USB	4 x USB 3.0 4 x USB 2.0	4 x USB 3.0	4 x USB 3.0	4 x USB 3.0
	Audio Line In / Line Out / Mic In	1 / 1 / 1	1 / 1 / 1	1 / 1 / 1	1 / 1 / 1
	LAN	2	2	2	2
	Serial Ports	4	4	4	4
	Parallel Port	1	—	—	—
	Digital I/O Port	--	8in / 8out	8in / 8out	8in / 8out
	Keyboard / Mouse	--	—	—	—
Fan		Fan	Fanless	Fanless	Fanless
Drive Bays		2 x 2.5" SATAIII HDD	2 x 2.5" SATAIII HDD 1 x CFast card on board	2 x 2.5" SATAIII HDD 1 x CFast card on board	2 x 2.5" SATAIII HDD 1 x CFast card on board
Touchscreen		Projected capacitive touch 5W analog resistive	Projected capacitive touch 5W analog resistive	Projected capacitive touch 5W analog resistive	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 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 75/100	VESA 100	VESA 100	VESA 100
Power		AC In 100V~240V 50Hz~60Hz	DC In 9V~36V	DC In 9V~36V	DC In 9V~36V
Dimensions (W x H x D) mm		436 x 368 x 103	434 x 366 x 127	395 x 327 x 127	448 x 352 x 129
System Weight		9.1 kg	10.9 kg	10.5 kg	10.5 kg
Operating System		Windows 10 IoT LTSC 2019	Windows 10 IoT LTSC 2019 / Ubuntu LTS 16.04	Windows 10 IoT LTSC 2019 / Windows 8.1 / Windows 7 / Ubuntu LTS 16.04	Windows 10 IoT LTSC 2019 / Windows 8.1 / Windows 7 / Ubuntu LTS 16.04
Certifications		CE, FCC	CE, FCC	CE, FCC	CE, FCC

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Panel PC

Selection Guide



		17" Entry			15.6" Entry
Model		SP-7157	SP-6557	SP-6157	SP-7256
QR Code					
Pictures					
Panel Spec	Display Type	SXGA	SXGA	SXGA	WXGA
	Max. Resolution	1280 x 1024	1280 x 1024	1280 x 1024	1366 x 768
	Pixel Pitch	0.264 x 0.264	0.264 x 0.264	0.264 x 0.264	0.252 x 0.252
	Brightness (cd/m²)	350	350	350	400
	Response Time (Tr + Td)	30 ms	30 ms	30 ms	8 ms
	Viewing Angle (up / down / left / right)	80/80/85/85	80/80/85/85	80/80/85/85	70/80/80/80
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® 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® 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® Celeron® N3350 Intel® Celeron® J3455 Intel® Pentium® N4200
Chipset		SoC	SoC	SoC	SoC
Max. System Memory		8GB DDR3L	8GB DDR3L	8GB DDR3L	8GB DDR3L
I/O PORTS	Display	1 x DVI-D 1 x HDMI	1 x DVI-D 1 x HDMI	1 x DVI-D 1 x HDMI	1 x HDMI
	USB	3 x USB 3.0	3 x USB 3.0	3 x USB 3.0	4 x USB 3.0 1 x USB 2.0
	Audio Line In / Line Out / Mic In	— / 1 / 1	— / 1 / 1	— / 1 / 1	— / 1 / 1
	LAN	2	2	2	2
	Serial Ports	2	2	2	1
	Parallel Port	—	—	—	—
	Digital I/O Port	—	—	—	4in / 4out
	Keyboard / Mouse	—	—	—	—
Fan		Fanless	Fanless	Fanless	Fanless
Drive Bays		1 x 2.5" SATAIII HDD	1 x 2.5" SATAIII HDD	1 x 2.5" SATAIII HDD	1 x 2.5" SATAIII HDD
Touchscreen		Projected capacitive touch 5W analog resistive	Projected capacitive touch 5W analog resistive	5W analog resistive	Projected capacitive touch
Construction		Electro galvanized steel chassis Stainless steel front bezel	Electro galvanized steel chassis Aluminum front bezel	Electro galvanized steel chassis Aluminum front bezel	Plastic front bezel Aluminum die casting back cover
Waterproof Level		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
Power		DC In 9V~36V	DC In 9V~36V	DC In 9V~36V	DC In 12V/24V
Dimensions (W x H x D) mm		436 x 368 x 87	396 x 328 x 75	448 x 352 x 89	391 x 246 x 48
System Weight		6.9 kg	6.5 kg	7.1 kg	3.2 kg
Operating System		Windows 10 IoT LTSC 2019 / 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 2019 / Ubuntu LTS 16.04
Certifications		CE, FCC	CE, FCC	CE, FCC	CE, FCC

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Panel PC

Selection Guide



		15" High End			
Model		SP-S154	SP-7165	SP-6565	SP-6265
QR Code					
Pictures					
Panel Spec	Display Type	XGA	XGA	XGA	XGA
	Max. Resolution	1024 x 768	1024 x 768	1024 x 768	1024 x 768
	Pixel Pitch	0.297 x 0.297	0.297 x 0.297	0.297 x 0.297	0.297 x 0.297
	Brightness (cd/m²)	450	450	450	450
	Response Time (Tr + Td)	8 ms	8 ms	8 ms	8 ms
	Viewing Angle (up / down / left / right)	70/80/80/80	70/80/80/80	70/80/80/80	70/80/80/80
Processor		Intel® Core™ i7-7700T Core™ i5-7500T Core™ i3-7101TE Celeron® G3930TE	Intel® Core™ i7-6700TE Core™ i5-6500TE Core™ i3-6100TE Pentium® G4400TE Celeron® G3900TE	Intel® Core™ i7-6700TE Core™ i5-6500TE Core™ i3-6100TE Pentium® G4400TE Celeron® G3900TE	Intel® Core™ i7-6700TE Core™ i5-6500TE Core™ i3-6100TE Pentium® G4400TE Celeron® G3900TE
Chipset		Intel® Q170/H110	Intel® Q170/H110	Intel® Q170/H110	Intel® Q170/H110
Max. System Memory		32 GB DDR4 SO-DIMM	32 GB DDR4 SO-DIMM	32 GB DDR4 SO-DIMM	32 GB DDR4 SO-DIMM
I/O PORTS	Display	2 x DVI-D	1 x DVI-I	1 x DVI-I	1 x DVI-I
	USB	4 x USB 3.0 4 x USB 2.0	4 x USB 3.0	4 x USB 3.0	4 x USB 3.0
	Audio Line In / Line Out / Mic In	1 / 1 / 1	1 / 1 / 1	1 / 1 / 1	1 / 1 / 1
	LAN	2	2	2	2
	Serial Ports	4	4	4	4
	Parallel Port	1	—	—	—
	Digital I/O Port	—	8in / 8out	8in / 8out	8in / 8out
	Keyboard / Mouse	—	—	—	—
Fan		Fan	Fanless	Fanless	Fanless
Drive Bays		2 x 2.5" SATAIII HDD	2 x 2.5" SATAIII HDD 1 x CFast card on board	2 x 2.5" SATAIII HDD 1 x CFast card on board	2 x 2.5" SATAIII HDD 1 x CFast card on board
Touchscreen		Projected capacitive touch 5W analog resistive	Projected capacitive touch 5W analog resistive	Projected capacitive touch 5W analog resistive	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 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 75/100	VESA 100	VESA 100	VESA 100
Power		AC In 100V~240V 50Hz~60Hz	DC In 9V~36V	DC In 9V~36V	DC In 9V~36V
Dimensions (W x H x D) mm		408 x 320 x 98	408 x 320 x 122	364 x 279 x 118	408 x 308 x 133
System Weight		8.1 kg	8.9 kg	10 kg	10.1 kg
Operating System		Windows 10 IoT LTSC 2019	Windows 10 IoT LTSC 2019 / Ubuntu LTS 16.04	Windows 10 IoT LTSC 2019 / Ubuntu LTS 16.04	Windows 10 IoT LTSC 2019 / Ubuntu LTS 16.04
Certifications		CE, FCC	CE, FCC	CE, FCC	CE, FCC

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Panel PC

Selection Guide

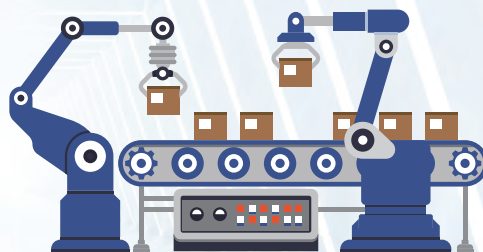


		15" Entry			
Model		SP-6555	SP-7155	SP-6155	SP-6145
QR Code					
Pictures					
Panel Spec	Display Type	XGA	XGA	XGA	XGA
	Max. Resolution	1024 x 768	1024 x 768	1024 x 768	1024 x 768
	Pixel Pitch	0.297 x 0.297	0.297 x 0.297	0.297 x 0.297	0.297 x 0.297
	Brightness (cd/m²)	400	400	400	400
	Response Time (Tr + Td)	8 ms	8 ms	8 ms	8 ms
	Viewing Angle (up / down / left / right)	80/80/80/80	80/80/80/80	80/80/80/80	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® 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® 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® E3845 1.91 GHz E3826 1.46 GHz J1900 2.0 GHz
Chipset		SoC	SoC	SoC	—
Max. System Memory		8GB DDR3L	8GB DDR3L	8GB DDR3L	8GB DDR3L
I/O PORTS	Display	1 x DVI-D 1 x HDMI	1 x DVI-D 1 x HDMI	1 x DVI-D 1 x HDMI	1 x DVI-I
	USB	3 x USB 3.0	3 x USB 3.0	3 x USB 3.0	2 x USB 2.0 1 x USB 3.0
	Audio Line In / Line Out / Mic In	— / 1 / 1	— / 1 / 1	— / 1 / 1	— / 1 / 1
	LAN	2	2	2	2
	Serial Ports	2	2	2	4
	Parallel Port	—	—	—	—
	Digital I/O Port	—	—	—	—
	Keyboard / Mouse	—	—	—	—
Fan		Fanless	Fanless	Fanless	Fanless
Drive Bays		1 x 2.5" SATAIII HDD	1 x 2.5" SATAIII HDD	1 x 2.5" SATAIII HDD	1 x 2.5" SATAIII HDD 1 x CFast card on board
Touchscreen		Projected capacitive touch 5W analog resistive	Projected capacitive touch 5W analog resistive	5W analog resistive	5W analog resistive
Construction		Electro galvanized steel chassis Aluminum front bezel	Electro galvanized steel chassis Stainless steel 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 75/100
Power		DC In 9V~36V	DC In 9V~36V	DC In 9V~36V	DC In 9V~36V
Dimensions (W x H x D) mm		365 x 280 x 75	408 x 320 x 82	408 x 308 x 93	408 x 308 x 87.7
System Weight		6.0 kg	6.0 kg	6.3 kg	5.4 kg
Operating System		Windows 10 IoT LTSC 2019 / 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 2019 / Windows 8.1 / Windows 7 / WES 8.1 Industry Pro / WES 7
Certifications		CE, FCC	CE, FCC	CE, FCC	CE, FCC

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Panel PC

Selection Guide



		12.1" Entry	10.4" Entry			8.4" Entry
Model		SP-C121	SP-6550	SP-6150	SP-6140	SP-6558
QR Code						
Pictures						
Panel Spec	Display Type	XGA	SVGA	SVGA	XGA	SVGA
	Max. Resolution	1024 x 768	800 x 600	800 x 600	1024 x 768	800 x 600
	Pixel Pitch	0.24 x 0.24	0.264 x 0.264	0.264 x 0.264	0.264 x 0.264	0.264 x 0.264
	Brightness (cd/m²)	500	400	400	400	600
	Response Time (Tr + Td)	35 ms	35 ms	35 ms	35 ms	16 ms
	Viewing Angle (up / down / left / right)	80/80/80/80	60/70/80/80	60/70/80/80	60/70/80/80	70/65/75/75
Processor		Intel® Celeron® J3455 4C 2.3 GHz	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® 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® E3845 1.91 GHz E3826 1.46 GHz J1900 2.0 GHz	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		SoC	SoC	SoC	—	SoC
Max. System Memory		8GB DDR3L	8GB DDR3L	8GB DDR3L	8GB DDR3L	8GB DDR3L
I/O PORTS	Display	1 x VGA 1 x DP	1 x DVI-D 1 x HDMI	1 x DVI-D 1 x HDMI	1 x DVI-I	1 x DVI-D 1 x HDMI
	USB	4 x USB 3.0 2 x USB 2.0	3 x USB 3.0	3 x USB 3.0	2 x USB 2.0 1 x USB 3.0	3 x USB 3.0
	Audio Line In / Line Out / Mic In	1 / 0 / 0	— / 1 / 1	— / 1 / 1	— / 1 / 1	— / 1 / 1
	LAN	2 x GbE	2	2	2	2
	Serial Ports	4	2	2	4	2
	Parallel Port	—	—	—	—	—
	Digital I/O Port	8	—	—	—	—
	Keyboard / Mouse	—	—	—	—	—
Fan		—	Fanless	Fanless	Fanless	Fanless
Drive Bays		1 x 2.5" SATAIII HDD/SSD	1 x 2.5" SATAIII HDD	1 x 2.5" SATAIII HDD	1 x 2.5" SATAII HDD 1 x CFAST card on board	1 x 2.5" SATAIII HDD
Touchscreen		5W analog resistive	Projected capacitive touch 5W analog resistive	5W analog resistive	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)
Wall Mount Type		VESA 75	VESA 100	VESA 100	VESA 75/100	VESA 100
Power		+12V DC In	DC In 9V~36V	DC In 9V~36V	DC In 9V~36V	DC In 9V~36V
Dimensions (W x H x D) mm		324 x 253 x 71	259 x 216 x 74	278 x 229 x 78	278 x 229 x 77	224 x 176 x 76
System Weight		3.55 kg	3 kg	3.4 kg	3.5 kg	2 kg
Operating System		Windows 10 64 bit	Windows 10 IoT LTSC 2019 / Windows 7 / Ubuntu LTS 14.04	Windows 10 IoT LTSC 2019 / Ubuntu LTS 16.04	Windows 10 IoT LTSC 2019 / Windows 8.1 / Windows 7 / WES 8.1 Industry Pro / WES 7	Windows 10 IoT LTSC 2019 / Windows 7 / Ubuntu LTS 14.04
Certifications		CE, FCC	CE, FCC	CE, FCC	CE, FCC	CE, FCC

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Chapter 9

Full IP66 / IP69K Panel PC



Full IP66 / IP69K Panel PC

Selection Guide



		21.5" High End	21.5" Entry	17" High End	17" Entry
Model		SG-S216	SG-S211	SG-S176	SG-S171
QR Code					
Pictures					
Panel Spec	Display Type	TFT LCD (LED backlight)	TFT LCD (LED backlight)	TFT LCD (LED backlight)	TFT LCD (LED backlight)
	Max. Resolution	1920 x 1080	1920 x 1080	1280 x 1024	1280 x 1024
	Pixel Pitch	0.248 x 0.248	0.248 x 0.248	0.264 x 0.264	0.264 x 0.264
	Brightness (cd/m ²)	350	350	350 / 800	350 / 800
	Response Time (Tr + Td)	22 ms	22 ms	30 ms	30 ms
	Viewing Angle (up / down / left / right)	89/89/89/89	89/89/89/89	85/85/85/85	85/85/85/85
Processor		Intel® 7th Gen. Core™ i5-7300U	Intel® Celeron® J3455	Intel® 7th Gen. Core™ i5-7300U	Intel® Celeron® J3455 Atom™ x7-E3950
Chipset		KabyLake-U SoC	Apollo Lake SoC	KabyLake-U SoC	Apollo Lake SoC
Max. System Memory		DDR4 16GB	DDR3L 8GB	DDR4 16GB	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
	Audio Line In / Line Out / Mic In	—	—	—	—
	LAN	2	2	2	2
	Serial Ports	1	1	1	—
	Parallel Port	—	—	—	—
	Digital I/O Port	—	—	—	—
	Keyboard / Mouse	—	—	—	—
Fan		Fanless	Fanless	Fanless	Fanless
Drive Bays		1 x 2.5" HDD	1 x 2.5" HDD	1 x 2.5" HDD	1 x 2.5" HDD
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
Construction		Stainless SUS304 / SUS316	Stainless SUS304 / SUS316	Stainless SUS304 / SUS316	Stainless SUS304 / SUS316
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 9V~36V
Dimensions (W x H x D) mm		590 x 395 x 70	590 x 395 x 70	450 x 381 x 70	450 x 381 x 70
System Weight		13 kg	13 kg	11.5 kg	11.5 kg
Operating System		Windows 10 IoT LTSC 2019 / Ubuntu 16.04	Windows 10 IoT LTSC 2019 / Ubuntu 16.04	Windows 10 IoT LTSC 2019 / Ubuntu 16.04	Windows 10 IoT LTSC 2019 / Ubuntu 16.04
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 / IP69K Panel PC

Selection Guide



		15" High End		15" Entry	
Model		SG-S156	SG-G156	SG-S151	SG-G151
QR Code					
Pictures					
Panel Spec	Display Type	XGA	XGA	XGA	XGA
	Max. Resolution	1024 x 768	1024 x 768	1024 x 768	1024 x 768
	Pixel Pitch	0.297 x 0.297	0.297 x 0.297	0.297 x 0.297	0.297 x 0.297
	Brightness (cd/m²)	450 / 1600	450	450 / 1600	450
	Response Time (Tr + Td)	8 ms	8 ms	8 ms	8 ms
	Viewing Angle (up / down / left / right)	70/80/80/80	70/80/80/80	70/80/80/80	70/80/80/80
Processor		Intel® Core™ i5-7300U	Intel® Core™ i5-7300U Intel® Core™ i3-7100U	Intel® Celeron® J3455 Intel® Celeron® N3350 Intel® Atom™ x7 E3950	Intel® Celeron® J3455 Intel® Atom™ x7 E3950
Chipset		SoC	SoC	SoC	SoC
Max. System Memory		16GB DDR4	16GB DDR4	8GB DDR3L	8GB DDR3L
I/O PORTS	Display	--	--	--	--
	USB	4 x USB 2.0	4 x USB 2.0	4 x USB 2.0	2 x USB 2.0
	Audio Line In / Line Out / Mic In	--	--	--	--
	LAN	2	2	2	2
	Serial Ports	1	1	1	1
	Parallel Port	--	--	--	--
	Digital I/O Port	--	--	--	--
	Keyboard / Mouse	--	--	--	--
Fan		Fanless	Fanless	Fanless	Fanless
Drive Bays		1 x 2.5" SATAIII HDD	1 x 2.5" SATAIII HDD	1 x 2.5" SATAIII HDD	1 x 2.5" SATAIII HDD
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
Construction		Stainless SUS304 / SUS316	Aluminum	Stainless SUS304 / SUS316	Aluminum
Waterproof Level		IP66 / IP69K	IP66	IP66 / IP69K	IP66
Wall Mount Type		VESA 100	VESA 100	VESA 100	VESA 100
Power		DC In 12V/24V	DC In 12V/24V	DC In 12V/16V~24V	DC In 12V/24V
Dimensions (W x H x D) mm		420 x 335 x 70	365 x 279 x 99	420 x 335 x 70	365 x 279 x 99
System Weight		10.5 kg	7.2 kg	10.5 kg	7.2 kg
Operating System		Windows 10 IoT LTSC 2019 / Ubuntu 16.04	Windows 10 IoT LTSC 2019 / Ubuntu 16.04	Windows 10 IoT LTSC 2019 / Ubuntu 16.04	Windows 10 IoT LTSC 2019 / Ubuntu 16.04
Certifications		CE, FCC	CE, FCC	CE, FCC	CE, FCC

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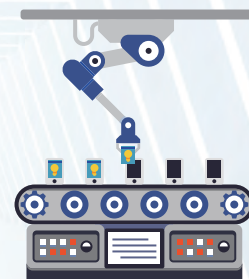
Chapter 10

Open Frame Computer



High End OFC

Selection Guide



		19"	17"	15"
Model		SP-626x OFC Series		
QR Code				
Pictures				
Panel Spec	Display Type	XGA	SXGA	SXGA
	Max. Resolution	1024 x 768	1280 x 1024	1280 x 1024
	Pixel Pitch	0.297 x 0.297	0.294 x 0.294	0.264 x 0.264
	Brightness (cd/m²)	400	350	350
	Response Time (Tr + Td)	8 ms	10 ms	30 ms
	Viewing Angle (up/down/left/right)	80/80/80/80	80/80/85/85	80/80/85/85
Processor		Intel® Core™ i7-6700TE Core™ i5-6500TE Core™ i3-6100TE Pentium® G4400TE Celeron® G3900TE	Intel® Core™ i7-6700TE Core™ i5-6500TE Core™ i3-6100TE Pentium® G4400TE Celeron® G3900TE	Intel® Core™ i7-6700TE Core™ i5-6500TE Core™ i3-6100TE Pentium® G4400TE Celeron® G3900TE
Chipset		Intel® Q170/H110	Intel® Q170/H110	Intel® Q170/H110
Max. System Memory		32GB DDR4 SO-DIMM	32GB DDR4 SO-DIMM	32GB DDR4 SO-DIMM
I / O PORTS	Display	1 x DVI-D	1 x DVI-D	1 x DVI-D
	USB	4 x USB 3.0	4 x USB 3.0	4 x USB 3.0
	Audio Line In / Line Out / Mic In	1 / 1 / 1	1 / 1 / 1	1 / 1 / 1
	LAN	2	2	2
	COM Ports	4	4	4
	Parallel Port	--	—	—
	Digital I/O	8in / 8out	8in / 8out	8in / 8out
	Keyboard / Mouse	--	—	—
Storage		1 x 2.5" SATAIII HDD 1 x CFast card on board	1 x 2.5" SATAIII HDD 1 x CFast card on board	1 x 2.5" SATAIII HDD 1 x CFast card on board
Touchscreen		(ELO) 5W analog resistive	(ELO) 5W analog resistive	(ELO) 5W analog resistive
Construction		Electro galvanized steel chassis	Electro galvanized steel chassis	Electro galvanized steel chassis
Wall Mount Type		VESA 100	VESA 100	VESA 100
Power		DC In 9V~36V	DC In 9V~36V	DC In 9V~36V
Dimensions (W x H x D) mm		451 x 376 x 130.9	428 x 322 x 118.6	388 x 288 x 122.6
System Weight		10.0 kg	9.3 kg	9.0 kg
Operating System		Windows 10 IoT LTSP 2016 64 bit / Windows 8.1 / Windows 7 / Ubuntu LTS 16.04	Windows 10 IoT LTSP 2016 64 bit / Windows 8.1 / Windows 7 / Ubuntu LTS 16.04	Windows 10 IoT LTSP 2016 64 bit / Windows 8.1 / Windows 7 / Ubuntu LTS 16.04

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Entry OFC

Selection Guide



		19"	17"	15"	10.4"
Model		SP-615x OFC Series			
QR Code					
Pictures					
Panel Spec	Display Type	SXGA	SXGA	XGA	SVGA
	Max. Resolution	1280 x 1024	1280 x 1024	1024 x 768	800 x 600
	Pixel Pitch	0.294 x 0.294	0.264 x 0.264	0.297 x 0.297	0.264 x 0.264
	Brightness (cd/m²)	350	350	400	400
	Response Time (Tr + Td)	10 ms	30 ms	8 ms	35 ms
	Viewing Angle (up/down/left/right)	80/80/85/85	80/80/85/85	80/80/80/80	60/70/80/80
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® 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® 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® 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		—	—	—	—
Max. System Memory		8GB DDR3L	8GB DDR3L	8GB DDR3L	8GB DDR3L
I/O PORTS	Display	1 x DVI-D / 1 x HDMI	1 x DVI-D / 1 x HDMI	1 x DVI-D / 1 x HDMI	1 x DVI-D / 1 x HDMI
	USB	3 x USB 3.0	3 x USB 3.0	3 x USB 3.0	3 x USB 3.0
	Audio Line In / Line Out / Mic In	— / 1 / 1	— / 1 / 1	— / 1 / 1	— / 1 / 1
	LAN	2	2	2	2
	COM Ports	2	2	2	2
	Parallel Port	—	—	—	—
	Digital I/O	—	—	—	—
	Keyboard / Mouse	—	—	—	—
Storage		1 x 2.5" SATAIII HDD	1 x 2.5" SATAIII HDD	1 x 2.5" SATAIII HDD	1 x 2.5" SATAIII HDD
Touchscreen		5W analog resistive	5W analog resistive	5W analog resistive	5W analog resistive
Construction		Electro galvanized steel chassis	Electro galvanized steel chassis	Electro galvanized steel chassis	Electro galvanized steel chassis
Wall Mount Type		VESA 100	VESA 100	VESA 100	VESA 100
Power		DC In 9V~36V	DC In 9V~36V	DC In 9V~36V	DC In 9V~36V
Dimensions (W x H x D) mm		451 x 376 x 90.28	428 x 332 x 88	388 x 288 x 86.7	217.5 x 202.8 x 68
System Weight		9.2 kg	5.6 kg	4.8 kg	2.8 kg
Operating System		Windows 10 IoT LTSC 2016 64 bit / Ubuntu LTS 16.04	Windows 10 IoT LTSC 2016 64 bit / Ubuntu LTS 16.04	Windows 10 IoT LTSC 2016 64 bit / Ubuntu LTS 16.04	Windows 10 IoT LTSC 2016 64 bit / Ubuntu LTS 16.04

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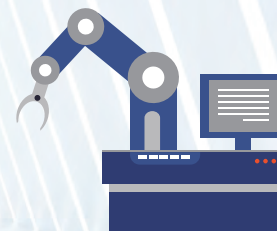
Chapter 11

Industrial Monitor



Industrial Monitor

Selection Guide



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 12

IIoT Edge Controller



IIoT Edge Controller

Selection Guide



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-PCIe 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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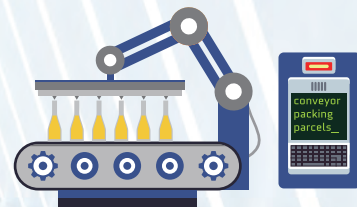
Chapter 13

Remote I/O Module



Remote I/O Module

Selection Guide



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 14

EtherCAT Slave I/O Module



EtherCAT Slave I/O Module

Selection Guide



Model		SI-X208	SI-X308	SI-X408	SI-X608
QR Code					
Pictures					
S Y S T E M	Controller	EtherCAT Slave Controller			
	Interface	Ethernet			
	Connector	2 x RJ-45			
	Distance Between Stations	Max. 100m 100 BASE-TX			
I / O P O R T S	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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