

## QY-P8121



### Products Features:

1. Industrial-Grade Embedded Fanless design Panel PC
2. 12.1 inch LED Screen, 1024\*768 Resolution
3. Capacitive and Resistive Touch Screen
4. Intel Celeron and Core 4/6/7/8/10th-i3 / i5 / i7 CPU
5. 2\*LAN, 4\*USB, 6\*COM, 1\*HDMI
6. 1\*Multifunction Daughter card slot
7. 1\*Mini PCIE Expansion Slot, Support 4G and WIFI Module
8. -30°C~70°C Temperature Can Keep 24/7 Work Stably
9. DC 9-36V Power Input with Overvoltage Protection
10. Anti-Static, Anti-Pulse, Anti-Surge, Anti-Radiation

 **Windows 7**  **Windows 10**  **Windows 11**

**Linux** 

**FC**

**IEC**

**RoHS**

**CE**

**EAC**

## 1-1.Mother Board Specification:

Model	QY-P8121
CPU	J1900
Memory	1*DDR III RAM Slot, Up to 8GB
Storage	1*MSATA SSD Slot 1*SATA SSD Slot
Display <sup>[1]</sup>	1*HDMI: Resolution up to 4090*2160@24Hz
Expansion	1*Mini PCIE Slot, Support 4G and WIFI module
Ethernet	2*Intel i210V LAN chip (10 / 100 / 1000 Mbps, RJ-45)
USB	1*USB 3.0 (Type-A) 3*USB 2.0 (Type-A)
COM	2*RS-485 / 422 / 232 (DB9 type) 4*RS-232 (DB9 type)
Audio	1*Line-out
Daughter Card	Support expansion more I/O interfaces and functional slots

### Notes:

[1]: The maximum resolution that can be output by the display interface depends on the CPU, please refer to the Intel official website for detailed output resolution.

## 1-2.Mother Board Specification:

Model	QY-P8121
CPU	i3: 4010U i5: 4260U i7: 4650U
Memory	2*DDR III RAM Slots, Up to 16GB
Storage	1*MSATA SSD Slot 1*SATA SSD Slot
Display <sup>[1]</sup>	1*HDMI: Resolution up to 4090*2160@24Hz
Expansion	1*Mini PCIE Slot, Support 4G and WIFI module
Ethernet	2*Intel i210V LAN chip (10 / 100 / 1000 Mbps, RJ-45)
USB	4*USB 3.0 (Type-A)
COM	2*RS-485 / 422 / 232 (DB9 type) 4*RS-232 (DB9 type)
Audio	1*Line-out
Daughter Card	Support expansion more I/O interfaces and functional slots

### Notes:

[1]: The maximum resolution that can be output by the display interface depends on the CPU, please refer to the Intel official website for detailed output resolution.

## 1-3.Mother Board Specification:

Model	QY-P8121
CPU	J6412 i3: 7100U i5: 6200U / 7200U / 8260U / 10210U i7: 7500U / 10610U
Memory <sup>[1]</sup>	2*DDR III RAM Slots, Up to 32GB
Storage <sup>[2]</sup>	1*MSATA SSD Slot 1*SATA SSD Slot (Support RAID 1)
Display <sup>[3]</sup>	1*HDMI: Resolution up to 4090*2160@24Hz
Expansion	1*Mini PCIE Slot, Support 4G and WIFI module
Ethernet	2*Intel i210V LAN chip (10 / 100 / 1000 Mbps, RJ-45)
USB	4*USB 3.0 (Type-A)
COM	2*RS-485 / 422 / 232 (DB9 type) 4*RS-232 (DB9 type)
Audio	1*Line-out
Daughter Card	Support expansion more I/O interfaces and functional slots

### Notes:

[1]: The maximum resolution that can be output by the display interface depends on the CPU, please refer to the Intel official website for detailed output resolution.

[2]: It needs add a SATA SSD expansion card and CPU generation needs more than 7th if you want built RAID 1.

[3]: The maximum memory capacity and the maximum capacity per strip supported by this motherboard depend on the CPU.

## 2.LED Screen Specification:

Screen Size	12.1 inch TFT LED Screen, 4:3 Size	
Resolution	1024*768	
Brightness	350nits	
	Support optional 500 / 700 / 1000 nits	
Contrast	800:1	
Largest Colorful	16M	
Touch Screen Type	Capacitive	Resistive
Light Transmittance	More than 95%	More than 95%
Touch Life	50 million times	35 million times
Response Time	< 5ms	< 5ms
Touch Hardness	7 Mohs	

### 3.Device Specification:

BIOS	AMI UEFI BIOS (Support Watch Dog Timer)
Watch Dog	Support
Power Input	DC 9-36V with overvoltage protection
	Support AT / ATX
	2*Pin Phoenix Terminal DC Plug
Working Temperature	-30°C~70°C, Support 24/7 Working
Size	298.3mm*238.3mm*68mm
Structure	Fully Enclosed Aluminum Alloy Material
Heat dissipation	Fanless Design, Conduction Heat Dissipation
Installation	Desktop / Embedded / Wall-Mounted
System	Windows 7 / 10 / 11 and Linux

## 4. Daughter Card Specification:



COM Port-2	2*RS-232 / 485 (DB9 type)
COM Port-6	4*RS-232 / 485+2*RS-232 (Phoenix terminal type)
Ethernet Port-2	2*Intel i211V LAN Chip (RJ-45 type)
Ethernet Port-4 <sup>[1]</sup>	4*Intel i211V LAN Chip, Support POE function (RJ-45type)
USB Port-4 <sup>[2]</sup>	4*USB 3.0 (Type-A)
GPIO Port-14	14 ports GPIO, 7*GPI+7*GPO, 3.3V (Phoenix terminal type)
DIDO Port-16	16 ports DIDO, 8*DI+8*DO, 24V (Phoenix terminal type) Comes with 4*RS-485 COM ports (Phoenix terminal type)
Mini PCIE Slot-2	2*Mini PCIE slots, Support 4G and WIFI module
M.2 Slot-1	1*M.2 Key-B slot, Support 5G module
M.2 NVME SSD Slot-1 <sup>[3]</sup>	1*M.2 NVME SSD slot
SATA SSD Slot-1 <sup>[4]</sup>	1*SATA 3.0 SSD Slot, Support RAID 1
CAN Port-2 <sup>[5]</sup>	2*CAN interfaces (Phoenix terminal type)
UPS battery	1.2AH or 4.8AH

### Notes:

[1]: When using POE function, it needs 24V 5A adapter to supply power.

[2]: J1900 CPU not support it.

[3]: J1900 and 4th CPU not support it.

[4]: J1900 CPU not support it. It needs CPU generation more than 7th if you want to built RAID 1.

[5]: CAN module is optionally available.

## 5.Ordering Information:

Model	CPU	LAN	USB	COM	Display	RAM	Storage	Expansion	Power Input
QY-P8121	J1900	2	4	6	1*HDMI	1*DDR 3	1*MSATA 1*SATA	1*Mini PCIE	DC 9-36V
	4th					2*DDR 3			
	J6412					2*DDR 4			
	6th/7th 8th/10th								

## 6.CPU Information:

CPU	Specification
J1900	4 core, 4 total threads, 2.00 GHz to 2.42GHz, 2 MB cache
J6412	4 core, 4 total threads, 2.00 GHz to 2.60GHz, 1.5 MB cache
i3-4010U	2 core, 4 total threads, 1.70 GHz, 3 MB cache
i5-4260U	2 core, 4 total threads, 1.40 GHz to 2.70GHz, 3 MB cache
i7-4650U	2 core, 4 total threads, 1.70 GHz to 3.30GHz, 4 MB cache
i5-6200U	core, 4 total threads, 2.30 GHz to 2.80GHz, 3 MB cache
i3-7100U	2 core, 4 total threads, 2.40 GHz, 3 MB cache
i5-7200U	2 core, 4 total threads, 2.50 GHz to 3.10 GHz, 3 MB cache
i7-7500U	2 core, 4 total threads, 2.70 GHz to 3.50 GHz, 4 MB cache
i5-8260U	4 core, 8 total threads, 1.60 GHz to 3.90 GHz, 6 MB cache
i3-10110U	2core, 4 total threads, 2.10 GHz to 4.10 GHz, 4 MB cache



i5-10210U	4 core, 8 total threads, 1.60 GHz to 4.20 GHz, 6 MB cache
i7-10610U	4 core, 8 total threads, 1.80 GHz to 4.90 GHz, 8 MB cache

## 7.System Information:

CPU	Specification
J1900	Windows 7 / 10 and Linux
4th / 6th	Windows 7 / 10 and Linux
7th <sup>[1]</sup>	Windows 7 / 10 and Linux
J6412	Windows 10 / 11 and Linux
8th / 10th	Windows 10 / 11 and Linux

## 8.Fittings Information:

RAM <sup>[2]</sup>	DDR 3	4GB / 8GB
	DDR 4	4GB / 8GB / 16GB
Storage <sup>[3]</sup>	MSATA	64GB / 128GB / 256GB / 512GB / 1TB
	SATA	128GB / 240GB / 256GB / 480GB / 512GB / 960GB 1TB / 2TB / 4TB
	M.2 NVME	128GB / 256GB / 512GB / 1TB / 2TB / 4TB
GSM Module <sup>[4]</sup>	4G	4G+GPS
	5G	5G+GPS
WIFI Module	Intel 7260AC / AX210	
CAN Module <sup>[5]</sup>	2*CAN interfaces	

## 9.Package List:

Adapter <sup>[6]</sup>	1*12V 5A adapter
Power Cable <sup>[7]</sup>	1*Power Cable

### Notices:

[1]: The windows 7 system doesn' t have the USB 3.0 driver.

[2][3]: By default the industrial grade for RAM and SSD are used, and the minimum configuration is recommended to be 4+64GB.

[4]: Different countries and regions are applicable to different versions, please inform the business staff in advance when ordering.

[5]: Please inform the business staff in advance which system you are using the CAN module (it cannot be adapted to both Windows and Linux systems)

[6]: CPU low than 8th equipped 5A adapter, More than 8th equipped 7A adapter

[7]: Different countries and regions use different types of power cord plugs, please inform the business personnel in advance.

## 10.Dimensions:

