

# PPC2-C08-EHL

8" Fanless Panel PC with Intel® Celeron® Processor J6412



## Features

- » Intel® Elkhart Lake Platform
- » Dual M.2 (M.2 B Key & M.2 M Key) support
- » Anti-glare and Anti-UV PCAP
- » Support Gloved and Wet Hand Operation
- » Newly Designed Panel Mount Kit

## Specifications

<b>System</b>	
Cooling method / System Fan	Fanless
CPU	Intel® Celeron® Processor J6412 1.5M Cache, up to 2.60 GHz / TDP 10W
On-board Memory	on-board dual-channel LPDDR4x 8GB
Storage	1 x M.2 2280 M-key (PCIe Gen3 x2)
<b>I/O Interface</b>	
Ethernet	2 x 2.5GbE LAN via Intel® I225V
Expansion	1 x M.2 2242/2280 B key (PCIe Gen3 x1 + USB 3.0)
<b>Environment</b>	
Operating Temperature	-10°C ~ 60°C
Safety & EMC	CE, FCC Class A, UKCA
Humidity	10% ~ 95%, non-condensing
Storage Temperature	-20°C ~ 60°C
<b>Physical Characteristics</b>	
Color	Black
Mounting	VESA 75, Panel, Wall, Rack, Stand and Arm
Dimensions (LxWxH) (mm)	222.2 x 182.2 x 49.7
Net Weight	1.61 Kg
<b>LCD</b>	
Size	8" (4:3)
Resolution	800 (W) x 600 (H)
Brightness (cd/m2)	500 cd/m <sup>2</sup>
Contrast Ratio	500:1
LCD Color	262K
Pixel Pitch (mm)	0.2025 x 0.0675
Viewing Angle (H-V)	140°/120°
Backlight MTBF	50,000 hours
<b>Touch</b>	
Touch Screen	Multi-point projected capacitive type (anti-UV / anti-glare coating, support gloves)
	Surface hardness: 7H
Touch Controller	EETI 80 series
<b>Other Features</b>	
TPM	Intel® Platform Trust Technology
<b>I/O Interface</b>	

I/O Interface	2 x USB 2.0
	1 x HDMI (up to 3840 x 2160 @30Hz)
	2 x LAN - LAN1: Intel® I225V 2.5GbE controller LAN2: Intel® I225V 2.5GbE controller
	1 x Reset Button
	1 x Power Switch
	1 x AT/ATX switch
	1 x Clear CMOS Button
	1 x RS-232 (by DB9)
	1 x RS-422/485 (by DB9)
	2 x Power In - 1 x 12V-24V power jack 1 x Power terminal block (2-pin)
	2 x USB 3.2 Gen2x1 (10Gb/s (Type A))
OS Support	
OS Support	Windows 10 IOT
	Linux

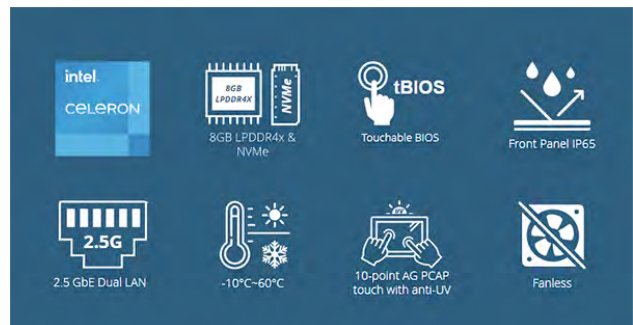
## Ordering Information

PPC2-C08-EHL-J1/8G-R10	8" 500 cd/cm <sup>2</sup> 800x600 Panel PC with Intel® Celeron® Processor J6412 , 8GB LPDDR4x on-board, HDMI output, black, 12-24V DC input, projected capacitive touchscreen with AG, R10
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## Packing List

1 x PPC2-C08-EHL	1 x Power Cord
1 x Power Adapter	1 x Panel Mount Kit
1 x QIG	1 x Screw Pack

The PPC2-C-EHL series heavy industrial panel PC is designed with rugged features to handle harsh work environments of any size. It is fanless, supports wide operating temperature from -10°C to 60°C, and provides features that resist vibration including 8GB on-board memory and NVMe storage. Intel® Celeron® J6412 CPU is selected as the heart of the panel PC to deliver excellent performance at ultra-low power. The equipped 10-point P-CAP touchscreen with anti-glare/anti-UV coating and scratch resistance provides IP65 protection and supports gloved/wet hand operation, making the panel PC an ideal solution for Industrial Internet of Things (IIoT) applications.



## 2.6GHz

Powered by Intel® Celeron® J6412 processor (burst up to 2.6 GHz), the PPC2-C08-EHL can deliver high levels of CPU and graphics performance at low power. Compared to the previous generation (PPC-F08B), the PPC2-C08-EHL offers 204% and 139% boost on for graphics and overall system performance, making it perfect for multitasking. With the feature of low power and excellent throughput, the compact 8" Industrial panel PC can benefit IIoT edge computing by saving lots of energy while maintaining high computation.



## Large and Reliable 8GB LPDDR4x Memory

Upgraded with 8GB dual-channel LPDDR4x soldered memory brings the benefits with faster memory speeds at 3200MT/s, lower voltage and reliable hardware. It reduces the power consumption of the memory system by 18~20% through cutting output driver power by 50%, from 1.2 V to 0.6 V. It takes lesser space on-chip for better system airflow and shorten the trace for better signal transmission. Stability is a necessity in applications where vibration is present. The soldered-on-board type enables the industrial panel PC to deliver much more stable, solid operation compared to the socket-type memory for critical usage such as transportation, AMR and other mobile applications.



## Effortless Upgrade

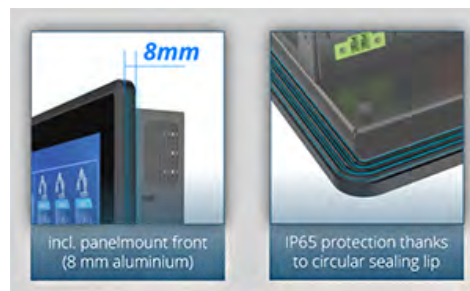


The PPC2-C08's mechanical cut-out size is designed to be 100% compatible with the previous PPC-F08 panel PC, offering an economical and easy replacement or upgrade solution. With the identical mechanical design, customers can directly upgrade to the latest technology without any need to modify the existing machine cabinets.

## Front IP65 Ingress Protection

Water and dust ingress protection is crucial for harsh environments such as food processing factory where sanitation and cleanliness are required or the daily cleaning of automation. The PPC2-C08 has a rugged aluminum die-casting front bezel framed with strong waterproof gasket seal on the back to protect against pressure water. IEI prudent hardware design provides the following protective features:

- » Dust-tight protection for maximum performance against flying dust, dirt, debris and other particulates
  - » High degree of protection against water ingress at least 3 minutes of water spraying from a 6.3-millimeter nozzle from any direction
- 8 Truly flat surface makes it easy to maintain and clean, and prevents water or liquid droplets from penetrating through the opening, or clogging dust on edges.



## True Flat Surface with Industrial Grade TFT LCD

True flat surface makes it easy to maintain and clean, and prevents water or liquid droplets from penetrating through the opening, or clogging dust on edges.

MTBF: 50000 hrs

Luminance: 500 nits

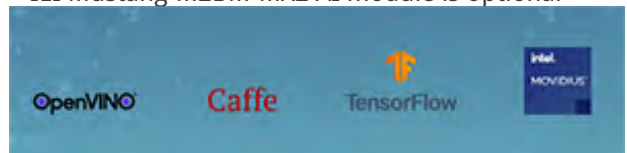


## AI Acceleration Enhances Machine Learning at the Rugged Edge

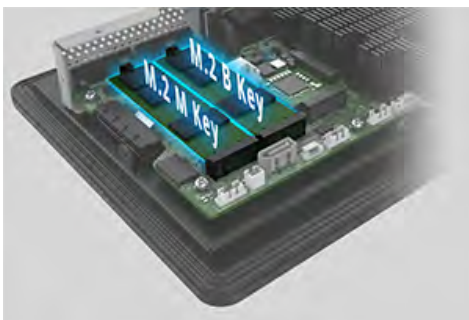


With the M.2 2280 B-key socket and PCI Express® 3.0 x2 signals, edge AI deployments can be achieved by integrating a low-power Movidius™ Myriad™ X VPU module with an IEI industrial-grade IP65 panel PC to process deep learning and AI inference analysis, and enhance diverse vision inference applications such as facial recognition, vehicle registration plate recognition, and many other machine vision workloads in real-time.

\*IEI Mustang-M2BM-MX2 AI module is optional



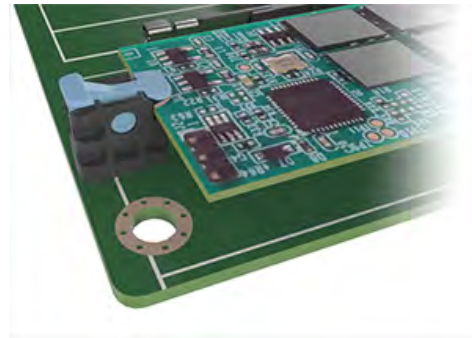
## NVMe SSD Powers Inference and Analysis



Compared to a SATA SSD drive, an NVMe-based drive can write to disk up to 2x faster. Thus, the NVMe system is a great solution to enable applications that require real-time data processing and analysis, such as autonomous vehicles, machine learning, surveillance and industrial automation.

## Tool-less M.2 Installation

The two M.2 slots both contain a quick-release retainer, allowing tool-less installation and removal of an M.2 module. With just a simple press of the retainer, the module can be securely seated into the slot or be released.



## Industrial-grade Hardened Hardware Design with 12V~24V DC Wide-range Power Input

Ruggedized hardware architecture safeguards the small factor computer in harsh, remote and dynamic environments.

- » Fanless cooling eliminates failure points
- » -10°C to 60°C Wide operating temperature
- » 50 G shock and 3 Grms vibration
- » 50 G shock and 3 Grms vibration
- » Intel® Platform Trust Technology (Intel® PTT) to enable password protection, device authentication and future-ready cybersecurity



## Dual 2.5GbE Low Latency LAN Ports Boost for Your Applications

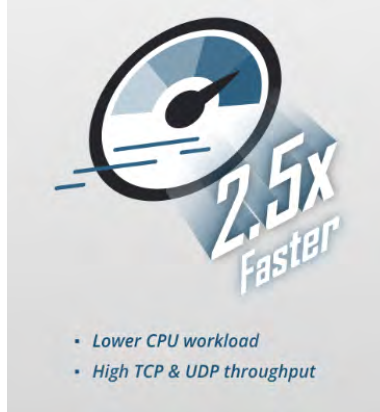
### ▪ Network Redundancy

With dual LAN port configuration, network redundancy is achieved through the addition of alternate network paths, which are implemented through redundant standby routers and switches. When the primary path is unavailable, the alternate path can be instantly deployed to ensure minimal downtime and continuity of network services.



### ▪ 2.5GbE Higher Bandwidth

2.5GbE is 2.5 times faster than standard Ethernet (1GbE), increasing network performance to boost productivity. Higher bandwidth allows connecting to devices that need intensive bandwidth, like high-resolution cameras and video streaming on playback quality of 4K/8K videos.



### ▪ Multiple Device Connections

The two full-speed 2.5 GbE LAN ports provide the industrial panel PC with more bandwidth to handle multiple connections to sensors, high-resolution cameras, the Internet, and other IoT devices with Ethernet connection.



## High Speed 10Gbps USB Integration

The PPC2-C08 industrial panel PC boasts several generations of USB connections to accommodate data traffic needs of a variety of peripheral technologies. It has two USB 2.0 ports and two USB 3.2 (Gen 2) ports for rapid 10 Gbps transfers.



## 4K HDMI Dual Independent Display



Featuring the latest Intel® UHD Graphics with 16 EUs, the panel PC can connect with a second display via the HDMI port to deliver powerful hard decoding capability and pixel-accurate 4K resolution.

## Touch-enabled BIOS



IEI's tBIOS allows users to navigate with finger on a touch-enabled monitor to make BIOS configuration easily. It helps eliminate excessive steps and unnecessary keyboard connection.

### Shortcut to boot device setup

Shortcut to boot device setupThe main menu provides quick access to the boot device configuration, helping users save time on boot option priority setting.



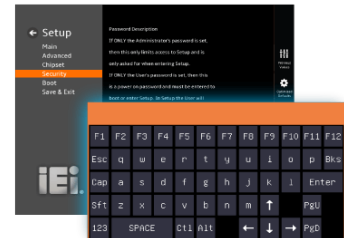
### Easy-access function keys

The BIOS function keys are arranged vertically on the side of the screen and indicated by icons, so that users can access them without the need of using a keyboard.



### On-screen keyboard

An on-screen keyboard is available when it is needed to enter text in BIOS, such as administration password setup.



## Various Mounting Methods to Best Fit Your Needs

The PPC2-C08 features a 75 x 75mm VESA-mountable design that allows you to mount the display on a monitor stand or on a wall, depending on your specific needs. In addition, IEI developed a brand new way for panel mounting. It requires fewer clamps and can be easily fastened by hand.



## Customizable I/O Interface Simplifies Functionality Expansion





serial ports or CAN bus becomes a much easier task when compared to the traditional design.

The motherboard of the PPC2-C-EHL series has an expansion slot on the board edge. It is used to connect with an I/O board to add extra inputs including M.2 slot, serial ports and USB ports, depending on model size. This modular design strongly enhances its flexibility in ODM/OEM projects. Without re-designing the motherboard from the ground up, adding functionality such as network,

## Proven Rugged

To verify the rugged design, experienced IEI team will conduct the MIL-STD test with our own qualified laboratory. Ruggedness and durability testing items as following are subject the industrial panel PC to harsh environment.



Shock and Vibration Test



Drop Test



Temperature and Humidity  
Cycle Test



IP6X Dust Tight Test



Water Hosedown

## Ideal for Diverse IIoT Applications



CNC Machine Operator Control Panel



Process Automation System



Production Monitoring System



Inventory Management



Air Traffic Control System



Weiging Terminal

## I/O Interfaces & Dimensions

