# DRPC-W-JL

Fanless DIN-Rail Embedded System
Jasper Lake Intel® Celeron™ Solution (up to 4 cores)

## Features

» Supported CPU: Intel® N5105 2.0 GHz (up to 2.9 GHz, quad-core, TDP 10W)

» Support dual independent display

» 3 x 2.5GbE ports

» 1 x M.2 A Key

» 1 x M.2 B Key (with SIM card slot)

» CE/FCC compliant

## Specifications

| | |
|---|---|
| Form factor | |
| SBC Form Factor | » Supported CPU: |
| | Intel® N5105 2.0 GHz (up to 2.9 GHz, quad-core, TDP 10W) |
| | » Chipset: |
| | SoC |
| | » System Memory: |
| | 1 x DDR4 2933 MHz SO-DIMM (pre-installed 8GB) (up to 16GB) |
| | » Power: |
| | DC Jack: 12 V DC |
| | » Consumption: 12V@2.45A (Intel N5105 with 16GB DDR4 memory) |
| I/O Interface | |
| I/O Ports | » USB: |
| | 2 x USB 3.2 Gen 2 |
| | » Ethernet: |
| | 3 x 2.5 GbE by Intel® I225V (colay I225LM) |
| | » Display: |
| | 1 x HDMI™ |
| | 1 x DP |
| | » TPM: |
| | Support Intel PTT |
| | » Watchdog Timer: |
| | Programmable 1 ~ 255 sec/min |
| Expansion Slots | |
| Expansion Slots | » M.2: |
| | 1 x M.2 A Key 2230 for WIFI & BT (optional) |
| | 1 x M.2 B Key (PCIe x2) 2242/2280 w/SIM slot for 5G (optional) |
| System | |
| Cooling method / System Fan | Fanless |
| | 4-pin external system fan connector |

| | |
|---|---|
| Drive Bays | 1 x 2.5” SATA 6Gb/s HDD/SSD bay |
| Indicator&Buttons | |
| Buttons | 1 x Power button |
| | 1 x Reset button |
| Indicators | 1 x Power LED |
| | 1 x HDD LED |
| Physical Characteristics | |
| Construction | Extruded aluminum alloy |
| Color | |
| Color | Black |
| Dimensions | |
| Dimensions | 176 x 116 x 60.8 (mm) |
| Weight | |
| Weight | 0.91/1.16 kg |
| Environment | |
| Operating Temperature | -20°C ~ 60°C with air flow |
| Humidity | 10% ~ 95% non-condensing |
| Operating Vibration | 10-500 Hz,1.04 Grms, random, 1 hr/axis |
| Operating Shock | Half-sine wave shock 5G, 11ms, 100 shocks per axis |
| Safety & EMC | CE/FCC compliant |
| OS Support | |
| OS Support | Microsoft Windows 10 / Windows 11, Linux |

## Ordering Information

| | |
|---|---|
| DRPC-W-JL-NC-R10 | Fanless System with Intel® Celeron™ N5105 up to 2.9GHz TDP 10W, 3 x 2.5GbE Lan, 1 x HDMI™,1 x DP,8GB memory pre-installed, 12V DC, RoHS |

## Packing List

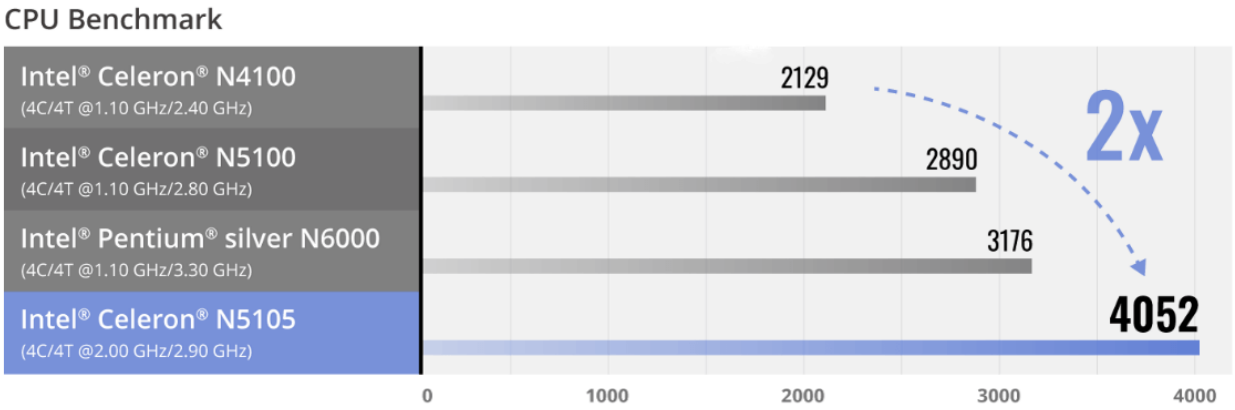
| | |
|---|---|
| 1 x DIN-rail mounting kit | 1 x Screw pack |
| 1 x SATA cable with power cable | |

## High Value Fanless DIN-Rail Embedded System

IEI DRPC-W series are compact, DIN-rail mounted embedded systems designed for IEI 3.5" single board computers. Its compact dimensions are appropriate for applications installed with limited space but requiring multiple I/O connectivity and enhanced performance. IEI DRPC-W series are designed to handle communication on the factory floor for IoT gateway, motion and vision applications.

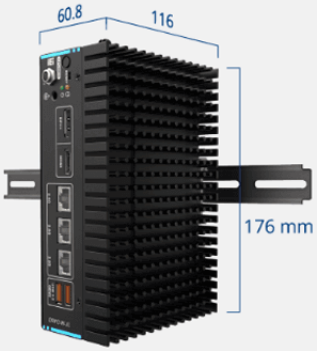
## Optimized for Improved Efficiency and Performance with Intel® Celeron® Quad Core N5105 Processor

Designed with 10nm Intel® Celeron® Quad Core N5105 processor and Intel® UHD graphics, the DRPC-W-JL fanless embedded system offers both excellent performance and energy efficiency. With a 2.0 GHz clock speed and turbo up-to 2.90 GHz, the Intel® Celeron® N5105 Processor powers the core of the DRPC-W-JL fanless embedded system and offers 2 times performance improvement over the predecessor Gemini Lake.

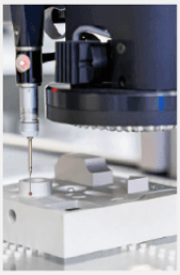

## Optimized Size Saves Cabinet Space

Based on IEI's industrial-grade 3.5" embedded systems, the DRPC -W series are compact without sacrificing the flexibility in I/O expansion that is often required for IoT scalable sensor connectivity. Moreover, the front-side I/O design is easy for in-cabinet installation.





Switchgear


Automatic optical inspection machine

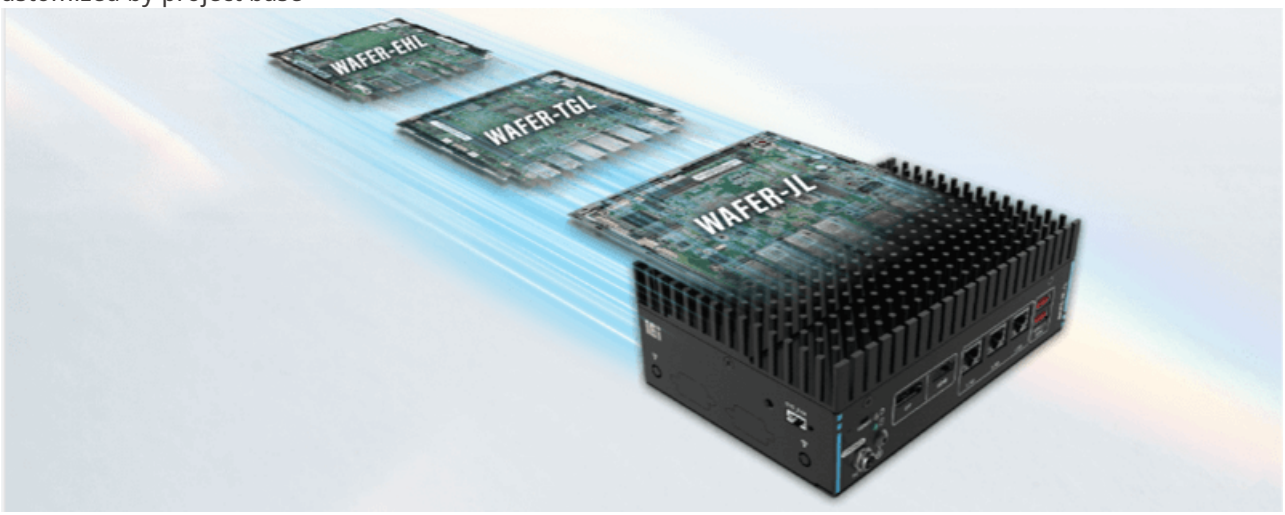

Wrapping machine


Telecom cabinet


Traffic signal control enclosures

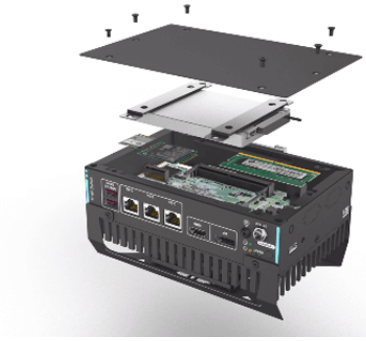
## Time-to-Market Customization

The DRPC-W series' enclosure is designed for 3.5" single board computers. With customizable I/O plates, the DRPC-W series allows customization to satisfy various requirements by using IEI's extensive 3.5" SBCs, WAFER series, offering diverse platform options from low-power to extreme performance. This helps assure an efficient and quick integration for customers' applications.
*Customized by project base




## Easy Assembling & Maintenance

With an easy-to-open bottom cover, the DRPC-W series can deliver advantages of quick maintenance and Configure-to-Order Service (CTOS) for customers to reduce potential time to market and cost consumption.



» Fast assembly for all accessories

» Simple steps to open enclosure for maintenance, such as M.2, HDD, memory modules

» Accelerate system integrator's local configure-to-order assembly service for end customers

## Scalable Wireless Communication Enables Remote Deployments

The DRPC-W-JL is built with multiple wireless connectivity options necessary for remote and mobile deployments, which include Bluetooth, WiFi and 4G/LTE that enable connections with a variety of industrial IoT devices.
*Wireless M.2 modules are optional


## -20°C ~ 60°C Wide Operating Temperature, Shock and Vibration Resistance

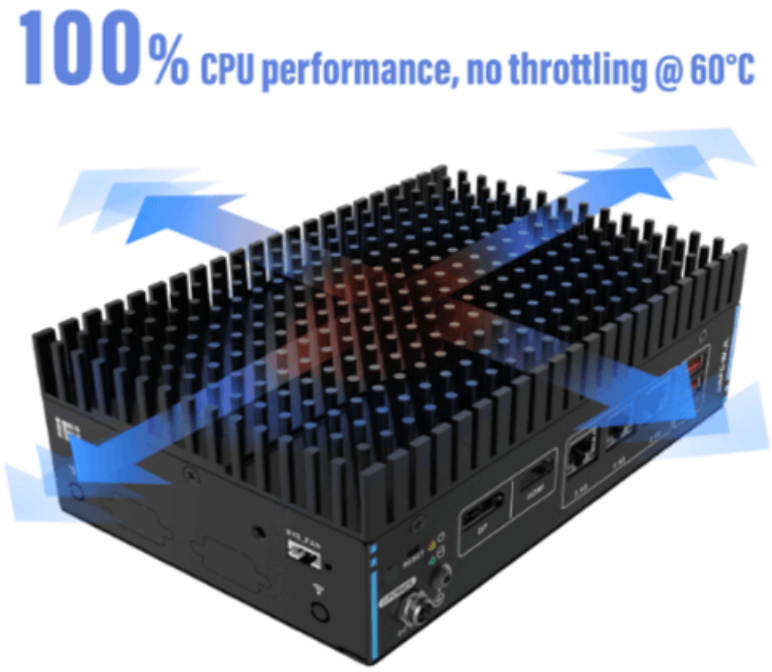
The DRPC-W-JL fanless embedded system features a ruggedized chassis which endures strict testing and validation assurance to ensure mission-critical reliability in the most complex edge IoT computing applications. The series has garnered various safety certificaions, including CE, FCC and CB, and can therefore be marketed in countries that observe strict EMC and safety standards.

» Wide operating temperature range (-20°C to +60°C)

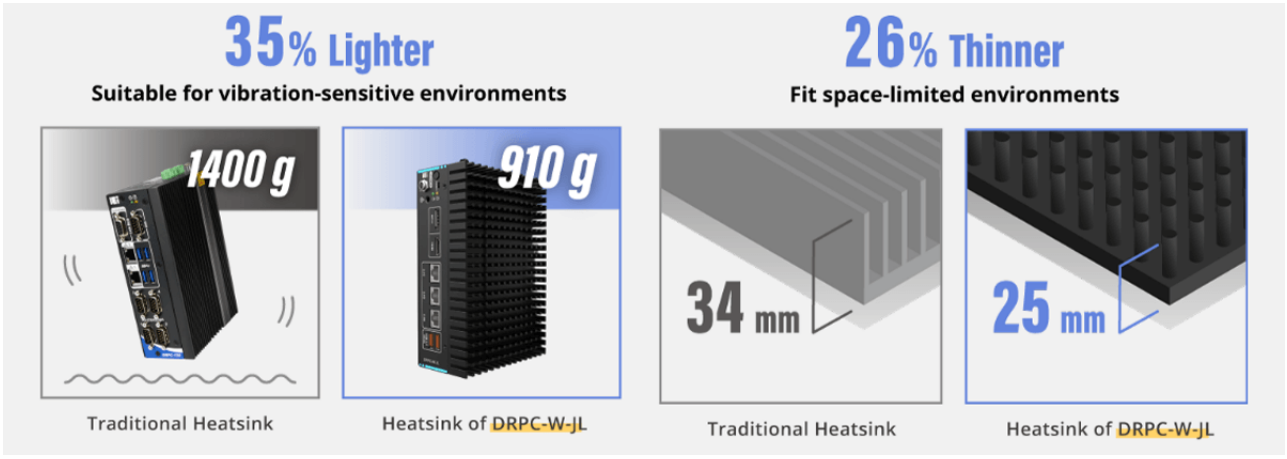
» Half-sine wave shock 5G, 11ms, 3 shocks per axis


## Fanless System with Efficient Thermal Design

The DRPC-W-JL thermal design is optimized for better heat conduction using a pin-fin heatsink concept. This enhances two-dimensional heat conduction and reduces flow impedance for better heat dissipation in this fan-less system. The overall weight is also reduced by 35%. Moreover, the reduced weight enhances system reliability in vibration-sensitive applications, such as AGV, making the DRPC-W-JL has vastly superior performance to the traditional plate fin heat sink with continuous parallel fins.




## Lightweight & Thin Cooling Solution




## Advanced High-efficiency Fan Kit Releases Extreme Computing Power

For computing-intensive applications, users could opt to add an external fan for an active cooling solution maintaining high system performance in high temperature environment. This design also brings high reliability by preventing dust or particles from getting into the hardware, and it is easy to disassemble and clean.

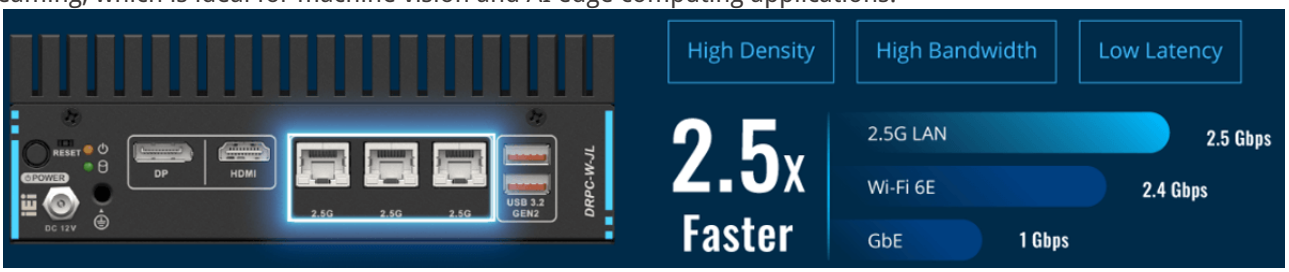

Fan Kit P/N:
SF-DRPC-W-R10

## Comprehensive I/O Interface

The DRPC-W-JL is equipped with comprehensive I/O ports, but sometimes you need more connections. The reserved openings for COM ports and antennas maximize deployment flexibility.

### Triple Intel® 2.5GbE Ports

The 2.5G on-board Ethernet kicks your Ethernet connection up a notch with an up to 2.5X bandwidth improvement. The DRPC-W-JL can meet the bandwidth-intensive requirements such as large file transfers and high resolution video streaming, which is ideal for machine vision and AI edge computing applications.



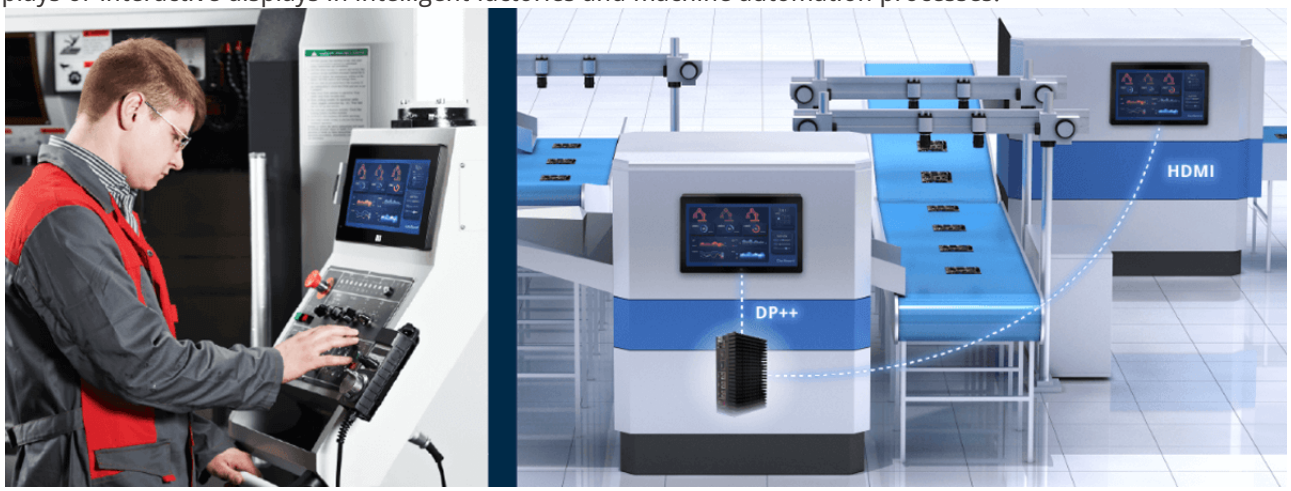


### 10 Gbps USB 3.2 Gen 2 Ports

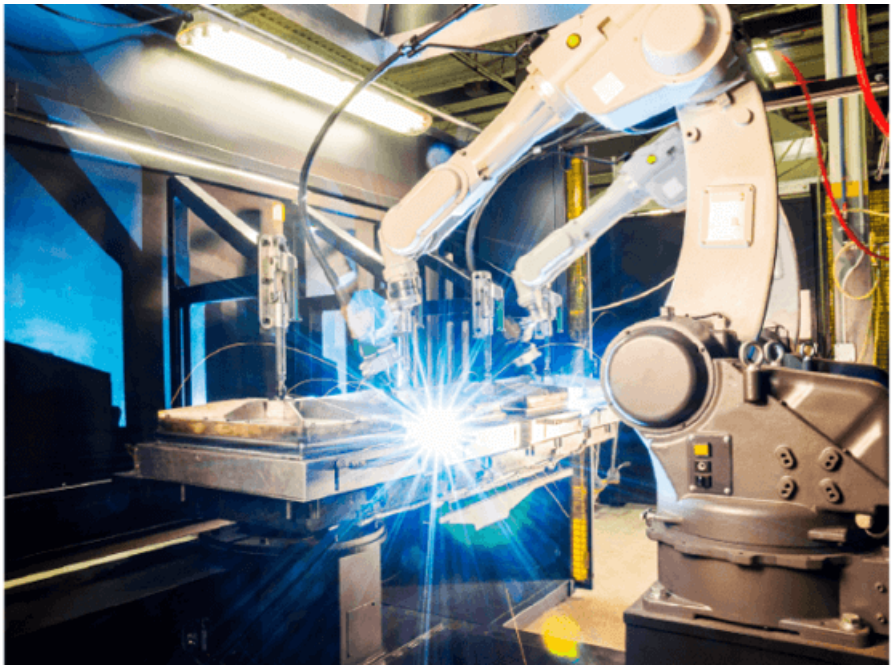
With twice of the bandwidth compared to its previous generation, and backwards compatible with USB 2.0 and 3.0, the much improved USB 3.2 protocol accommodates data traffic needs of a variety of peripheral technologies for external storage devices, RAID enclosure, high-resolution digital cameras, webcam, video devices, and all other USB electronic devices.


### Dual 4K Display with Immersive Graphics and Media Performance

The DRPC-W-JL is equipped with Intel® UHD Graphics @450 MHz to display videos and images in stunning 4K resolutions. Among its dual independent display ports, the HDMI™ 1.4 and DisplayPort 1.4 can both support up to 4K high resolution. The DRPC-W-JL empowers manufacturers to access clearer analysis and management via panel displays or interactive displays in intelligent factories and machine automation processes.



## Industrial Robotic Solution

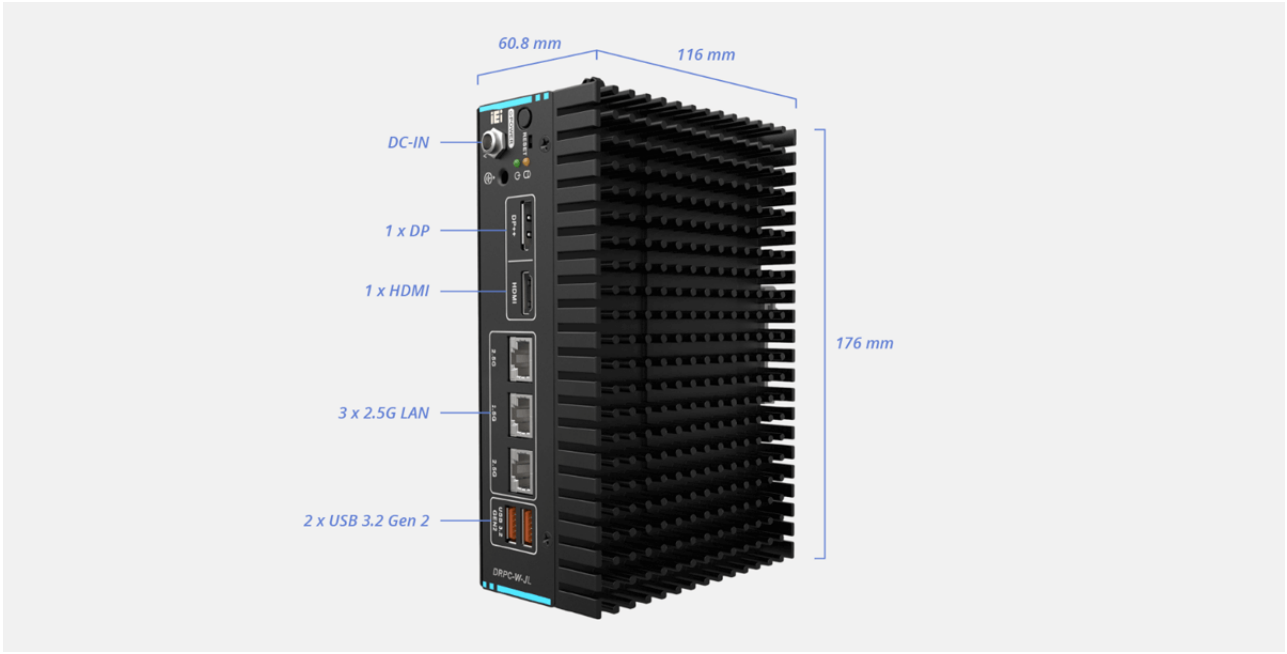


IEI's DRPC-W series features optimal IoT integration capability to offer faster connection speed, larger bandwidth, and rich I/O interface to easily connect with PLM, collaborative robotic arms, sensors or control centers through 2.5GbE LAN ports and USB 3.2 Gen 2 ports.

## Warehouse Management Solution

IEI's DRPC-W series features up to three 2.5GbE LAN port to connect with IP cameras for real-time access and storage control, and also rich USB ports for multi-device connection. Moreover, it is designed with flexible expansions to support well communication through 5G, Bluetooth or Wi-Fi modules.

## Hardware I/O & Dimensions:




## Selection of DRPC-W Total Solution

The DRPC-W is a series of compact DIN-rail embedded system with fanless design developed for entry, middle to high-end 3.5" single board computers, IEI WAFER series.

### DRPC-W-JL

» Intel® Celeron® N5105 processor

» DIN-rail palm-size for limited space

» Fanless -20°C ~ 60°C operating temp

» 3 x 2.5 GbE, 2 x USB 3.2

» Dual display via HDMI & DP

» 1 x M.2 A key for Wi-Fi & BT

» 1 x M.2 B key for 5G/NVMe/AI accelerator

### DRPC-W-EHL

» Intel® Celeron® J6412 processor

» DIN-rail palm-size for limited space

» Fanless -20°C ~ 60°C operating temp

» 2 x 2.5 GbE, 2 x USB 3.2

» Dual display via HDMI & DP

» 1 x M.2 A key 2230 for Wi-Fi & BT

» 1 x M.2 B key for 5G

### DRPC-W-TGL

» Intel® Core™ i5-1145G7E/Intel® Celeron® 6305 processor

» DIN-rail palm-size for limited space

» Fanless -20°C ~ 60°C operating temp

» 3 x 2.5 GbE, 4 x USB 3.2

» Triple display via 2 HDMI & DP

» 1 x M.2 A key 2230 for Wi-Fi & BT

» 1 x M.2 B key for 5G