

# DA-1100

Intel® Pentium® N4200 / Celeron® N3350 Processor Affordable Fanless Embedded Computer



## Overview

[CONTACT](#)

Cincoze' DA-1100 affordable fanless embedded computer is based on the Intel® Pentium® N4200 / Celeron® N3350 processor. This mainstream Intel® SoC (Apollo Lake) integrates the Intel® Gen 9 graphics architecture with triple display support in 4K/2K UHD resolution. DA-1100 supports both Combined Multiple I/O (CMI) and Control Function Module (CFM) which are specially designed for flexible I/O and function expandabilities, such as COM ports, optical isolated digital I/O, LPT/PS2, HDMI, DisplayPort, DVI-D, VGA, and Power over Ethernet (PoE).

Leveraging a reliable fanless and durable cable-free design in an ultra-compact aluminum housing, DA-1100 is ideally for deployment in space-constrained place and continuous operation under harsh environments.

### Key Features

- Onboard Intel® Pentium® N4200 / Celeron® N3350 Processor
- Supports Triple Independent Display
- Supports PoE+ Function (with optional CFM module)
- Supports CMI Interface for I/O Expandability
- 1x 2.5" SATA Drive Bay, 1x mSATA Socket
- 2x Full Size Mini-PCIe Socket, 1x SIM Card Socket
- Ultra Compact Size (150 x 105 x 52.3 mm)
- Wide Operating Temperature -40°C to 70°C
- Safety: UL, cUL, CB, IEC/EN62368-1

### Certifications



## Ultra Compact & Powerful

DA-1100 is powered by Intel Apollo Lake SoC (up to 4 core, 2.5 GHz) and constructed with a palm-sized aluminum housing. It can be easily installed into a control cabinet or any other space-limited environments.



## Triple Displays

DA-1100 offers enhanced graphics performance to enable three simultaneous displays and support 4K/2K UHD resolution. The third display output can be added via CMI module and is available with VGA, DisplayPort, HDMI, or DVI-D.

## Power over Ethernet

By utilizing optional Cincoze Control Function Module (CFM), the system can add power over ethernet (PoE+) function with up to 25.5W per port. It is ideal for applications like machine vision or video surveillance.



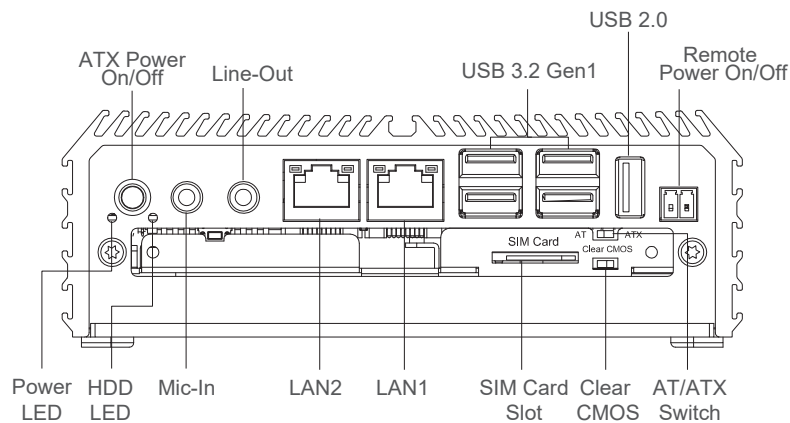
## Specifications

| Model Name                              | DA-1100                                                                                                                                                                                                                                                                     |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>System</b>                           |                                                                                                                                                                                                                                                                             |
| Processor                               | <ul style="list-style-type: none"> <li>Onboard Intel® Pentium® N4200 Quad Core Processor, up to 2.50 GHz</li> <li>Onboard Intel® Celeron® N3350 Dual Core Processor, up to 2.40 GHz</li> </ul>                                                                              |
| BIOS                                    | <ul style="list-style-type: none"> <li>AMI BIOS, 8MB SPI Flash ROM built on board</li> </ul>                                                                                                                                                                                |
| Memory                                  | <ul style="list-style-type: none"> <li>1x DDR3L 1333/1600/1866 MHz SO-DIMM Socket, with up to 1600 MHz operation</li> <li>Supports Un-buffered and Non-ECC Type, Up to 8GB</li> </ul>                                                                                       |
| <b>Graphics</b>                         |                                                                                                                                                                                                                                                                             |
| Graphics Engine                         | <ul style="list-style-type: none"> <li>Integrated Intel® HD Graphics 505 (Pentium® N4200)</li> <li>Integrated Intel® HD Graphics 500 (Celeron® N3350)</li> <li>Supports Triple Independent Display (DVI-D + VGA from DVI-I, one output from optional CMI module)</li> </ul> |
| <b>Audio</b>                            |                                                                                                                                                                                                                                                                             |
| Audio Codec                             | <ul style="list-style-type: none"> <li>Realtek ALC888-GR</li> </ul>                                                                                                                                                                                                         |
| <b>I/O</b>                              |                                                                                                                                                                                                                                                                             |
| Connector                               | <ul style="list-style-type: none"> <li>1x DVI-I (1920 x 1080 @60Hz)</li> </ul>                                                                                                                                                                                              |
| LAN                                     | <ul style="list-style-type: none"> <li>2x GbE LAN (Supports WoL, Teaming, Jumbo Frame &amp; PXE), RJ45 <ul style="list-style-type: none"> <li>GbE1: Intel® I210</li> <li>GbE2: Intel® I210</li> </ul> </li> </ul>                                                           |
| USB                                     | <ul style="list-style-type: none"> <li>4x USB3.2 Gen1 (Type A)</li> <li>1x USB 2.0 (Type A)</li> </ul>                                                                                                                                                                      |
| Auto Flow Control                       | <ul style="list-style-type: none"> <li>2x RS-232/422/485 with , DB9</li> </ul>                                                                                                                                                                                              |
| Mic-in                                  | <ul style="list-style-type: none"> <li>1x Line-out &amp; 1x Mic-in, Phone Jack 3.5mm</li> </ul>                                                                                                                                                                             |
| Power On/Off Button                     | <ul style="list-style-type: none"> <li>1x ATX Power On/Off Button</li> </ul>                                                                                                                                                                                                |
| Mode Switch                             | <ul style="list-style-type: none"> <li>1x AT/ATX Mode Switch</li> </ul>                                                                                                                                                                                                     |
| Clear CMOS Switch                       | <ul style="list-style-type: none"> <li>1x Clear CMOS Switch</li> </ul>                                                                                                                                                                                                      |
| Remote Power On/Off Connector           | <ul style="list-style-type: none"> <li>1x Remote Power On/Off Connector, 2-pin Terminal Block</li> </ul>                                                                                                                                                                    |
| <b>Storage</b>                          |                                                                                                                                                                                                                                                                             |
| SSD / HDD                               | <ul style="list-style-type: none"> <li>1x 2.5" HDD/SSD or 1x Half-Slim SSD (SATA 3.0)</li> <li>* The 2.5" HDD/SSD bracket has to be removed when installing Mini-PCIe MEC LAN Module or Half Slim SSD.</li> </ul>                                                           |
| mSATA                                   | <ul style="list-style-type: none"> <li>1x mSATA (SATA 3.0, Shared by Mini-PCIe Socket)</li> </ul>                                                                                                                                                                           |
| <b>Expansion</b>                        |                                                                                                                                                                                                                                                                             |
| Mini PCIe                               | <ul style="list-style-type: none"> <li>2x Full-size Mini-PCIe Socket</li> </ul>                                                                                                                                                                                             |
| SIM Socket                              | <ul style="list-style-type: none"> <li>1x SIM Card Socket</li> </ul>                                                                                                                                                                                                        |
| CMI (Combined Multiple I/O) Interface   | <ul style="list-style-type: none"> <li>1x Combined Multiple I/O (CMI) Interface</li> </ul>                                                                                                                                                                                  |
| CFM (Control Function Module) Interface | <ul style="list-style-type: none"> <li>1x Control Function Module (CFM) Interface</li> </ul>                                                                                                                                                                                |
| Universal I/O Bracket                   | <ul style="list-style-type: none"> <li>1x Universal I/O Bracket</li> </ul>                                                                                                                                                                                                  |
| Antenna Hole                            | <ul style="list-style-type: none"> <li>2x Antenna Holes</li> </ul>                                                                                                                                                                                                          |
| <b>Other Function</b>                   |                                                                                                                                                                                                                                                                             |
| WatchDog Timer                          | <ul style="list-style-type: none"> <li>Software Programmable Supports 256 Levels System Reset</li> </ul>                                                                                                                                                                    |

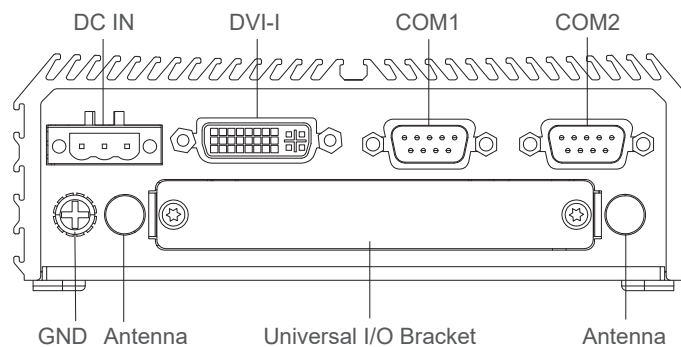
| Power Requirement              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power Type                     | • AT / ATX                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Power Supply Voltage           | • 9~48VDC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Connector                      | • 1x 3-pin Terminal Block                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Power Adaptor                  | • Power Adapter AC/DC 12V/5A 60W or 24V/5A 120W (Optional)                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Physical                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Dimensions (W x D x H)         | • 150 x 105 x 52.3 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Weight                         | • 0.87 kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Construction                   | • Extruded Aluminum with Heavy Duty Metal                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Mounting                       | • Wall / VESA (Optional DIN-Rail/Side Mounting)                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Physical Design                | <ul style="list-style-type: none"> <li>• Unibody Chassis</li> <li>• Fanless Design</li> <li>• Jumper-less Design</li> <li>• Cable-less Design</li> </ul>                                                                                                                                                                                                                                                                                                                                                           |
| Protection                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Reverse Power Input Protection | • Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Over Voltage Protection        | <ul style="list-style-type: none"> <li>• Protection Range: 51~58V</li> <li>• Protection Type: shut down operating voltage, re-power on at the preset level to recover</li> </ul>                                                                                                                                                                                                                                                                                                                                   |
| Over Current Protection        | • 20A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Operating System               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Windows                        | • Windows® 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Linux                          | • Supports by project                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Environment                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Operating Temperature          | <ul style="list-style-type: none"> <li>• -40°C to 70°C</li> <li>* With extended temperature peripherals; Ambient with air flow</li> <li>* According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14</li> </ul>                                                                                                                                                                                                                                                                                                        |
| Storage Temperature            | • -40°C to 85°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Relative Humidity              | • 95%RH @ 70°C (non-Condensing)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Shock                          | <ul style="list-style-type: none"> <li>• Operating, 50 Grms, Half-sine 11 ms Duration</li> <li>* w/ SSD, according to IEC60068-2-27</li> </ul>                                                                                                                                                                                                                                                                                                                                                                     |
| Vibration                      | <ul style="list-style-type: none"> <li>• Operating, 5 Grms, 5-500 Hz, 3 Axes</li> <li>* w/ SSD, according to IEC60068-2-64</li> </ul>                                                                                                                                                                                                                                                                                                                                                                              |
| MTBF                           | • 632,353 Hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| EMC                            | • CE, UKCA, FCC, ICES-003 Class A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| EMI                            | <ul style="list-style-type: none"> <li>• CISPR 32 Conducted &amp; Radiated: Class A</li> <li>• EN/BS EN 55032 Conducted &amp; Radiated: Class A</li> <li>• EN/BS EN IEC 61000-3-2 Harmonic current emissions: Class A</li> <li>• EN/BS EN61000-3-3 Voltage fluctuations &amp; flicker</li> <li>• FCC 47 CFR Part 15B, ICES-003 Conducted &amp; Radiated: Class A</li> </ul>                                                                                                                                        |
| EMS                            | <ul style="list-style-type: none"> <li>• EN/IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV</li> <li>• EN/IEC 61000-4-3 RS: 80 MHz to 1000 MHz: 3 V/m</li> <li>• EN/IEC 61000-4-4 EFT (with optional PPM module): AC Power: 2 kV; DC Power: 1 kV; Signal: 1 kV</li> <li>• EN/IEC 61000-4-5 Surges: AC Power: 2 kV; Signal: 1 kV</li> <li>• EN/IEC 61000-4-6 CS: 3V</li> <li>• EN/IEC 61000-4-8 PFMF: 50 Hz, 1A/m</li> <li>• EN/IEC 61000-4-11 Voltage Dips &amp; Voltage Interruptions: 0.5 cycles at 50 Hz</li> </ul> |
| Safety                         | • Safety: UL, cUL, CB, IEC/EN62368-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

## External Layout

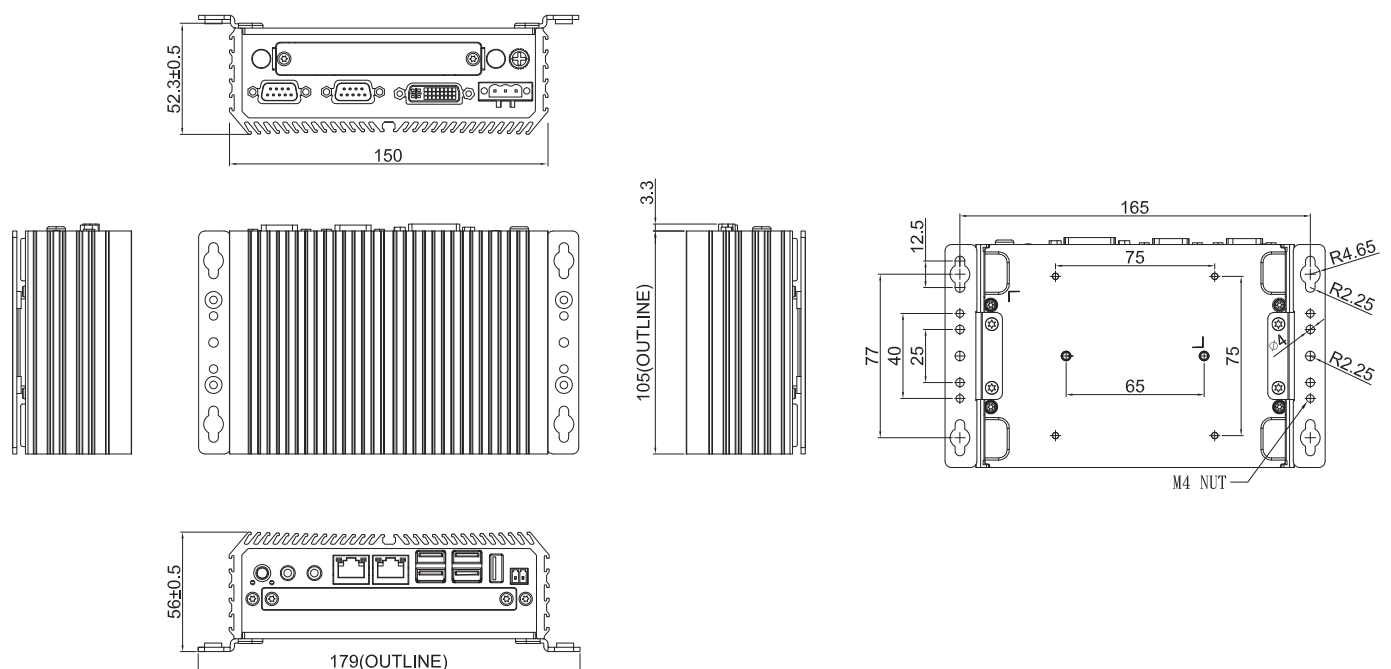
Front I/O



Rear I/O



## Dimensions



Unit: mm

Ordering Information

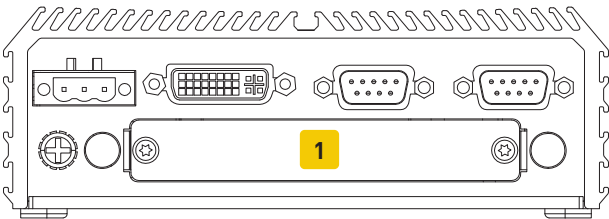
Available Models

| Model No.       | Description                                                          |
|-----------------|----------------------------------------------------------------------|
| DA-1100-N42-R10 | Intel® Pentium® Processor N4200 Affordable Fanless Embedded Computer |
| DA-1100-N33-R10 | Intel® Celeron® Processor N3350 Affordable Fanless Embedded Computer |

Package Checklist

|                                                    |                            |
|----------------------------------------------------|----------------------------|
| • DA-1100 Affordable Fanless Embedded Computer     | • DVI-I to VGA Adapter x 1 |
| • Thermal Pad (for CPU Thermal Block) x 1          | • Screw Pack x 1           |
| • Power Terminal Block Connector x 1               | • Wall Mounting Kit x 1    |
| • Remote Power On/Off Terminal Block Connector x 1 |                            |

Optional I/O Modules



| Model No.              | Description                                                                                                                                               | 1 |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| CMI-COM102/UB0403      | CMI Module with 2x RS232/422/485, 1x Universal Bracket (96 x 15 mm)                                                                                       | V |
| CMI-DIO100/UB0415      | CMI Module with 8x Optical Isolated DIO (4 in/4 out), 1x Universal Bracket (96 x 15 mm)                                                                   | V |
| CMI-DP101/UB0406       | CMI Module with 1x Display Port, 1x Universal Bracket (96 x 15 mm)                                                                                        | V |
| CMI-DVI101/UB0407      | CMI Module with 1x DVI-D Connector, 1x Universal Bracket (96 x 15 mm)                                                                                     | V |
| CMI-LPPS102/UB0409     | CMI Module with 1x LPT Port, 1x PS/2, 1x Universal Bracket (96 x 15 mm)                                                                                   | V |
| CMI-VGA101/UB0416      | CMI Module with 1x VGA Port, 1x Universal Bracket (96 x 15 mm)                                                                                            | V |
| CMI-HD01/UB0408        | CMI Module with 1x HDMI Port for DA Series, 1x Universal Bracket with HDMI Cutout for DA Series                                                           | V |
| MEC-LAN-M102-15/UB0411 | Mini-PCIe Module with 2x LAN Ports, 1x Universal Bracket (96 x 15 mm)<br>* Only can be compatible with half slim SSD and mSATA when MEC-LAN is installed. | V |

Optional Function Modules

| Model No. | Description                                                 |
|-----------|-------------------------------------------------------------|
| CFM-PoE02 | CFM Module with PoE Control Function, Individual Port 25.5W |

Optional Function Modules

| Model No.       | Description                                                                              |
|-----------------|------------------------------------------------------------------------------------------|
| SIDE02          | Side Mount Kit for DA Series, with KMRH-K175 for DIN-Rail option                         |
| DINRAIL-R10     | Diamond series DIN-RAIL Mount Kit                                                        |
| GST60A12-CIN1   | Adapter AC/DC 12V 5A 60W, with 3pin Terminal Block Plug 5.0mm Pitch with Tubes, Level VI |
| GST120A24-CIN   | Adapter AC/DC 24V 5A 120W, GST120A24-CIN, wide temp (-30°C ~ +70°C), level VI            |
| PPM-I180-01-R10 | 180W Power Protection Module for DA-1100 Series                                          |