Overview

Based on Intel® Pentium® N4200 quad-core processor, the DC-1200 is a fanless embedded computer offering an incredible size-performance ratio for the most challenging environments. Despite its compact size, the DC-1200 incorporates extensive connectivities including serial ports, USB 3.0, GbE LAN, full-size Mini-PCIe slot, dual SIM sockets, DVI-D, and DisplayPort. The system also provides 2.5" SATA drive bay and mSATA socket for extensive storage requirements. Furthermore, it is much easier to utilize Cincoze’ ready-to-use CMI& CFM modules for extension of digital I/O, serial ports, power ignition sensing, Power over Ethernet (PoE) even the third output of video for a variety of applications. Featuring with rigorous industrial protections, wide temperature range, and wide range DC power input, the DC-1200 offers a powerful, expandable computing platform to ensure long-lasting performance and reduce maintenance costs.

Highlights

- **Highly Efficient & Compact**
  The DC-1200 is powered by Intel® Pentium® N4200 (4 core, 2.5 GHz) and constructed with a compact size aluminum housing. It can be easily installed into a control cabinet or any other space-limited environments.

- **In-Vehicle Computer**
  Capable of 12V/24V DC power input, wide operating temperature, shock/vibration resistant, power ignition sensing, and E-mark certified, this robust fanless computer is specifically designed for demanding in-vehicle applications.

- **Flexible & Modular Design**
  Based on Cincoze’ exclusive CMI (Combined Multiple I/O) and CFM (Control Function Module) technologies, the DC-1200 can be easily configured to increase specified functions and a variety of I/O modules.
Specifications

**Processor**
- Onboard Intel® Pentium® N4200 Quad Core Processor, up to 2.50 GHz

**BIOS**
- AMI BIOS, 8MB SPI Flash ROM built on board

**Memory**
- 1x DDR3L 1333/1600/1866 MHz 204-Pin SO-DIMM Socket
- Supports up to 8GB (un-buffered and non-ECC)

**Graphics**
- Integrated Intel® HD Graphics 505
- Supports Triple Independent Display (DVI-D, DisplayPort and one output from optional CMI module)

**Audio Codec**
- Realtek® ALC888-GR

**External I/O Interface**
- 1x DVI-D (1920 x 1080 @60Hz)
- 1x DisplayPort (4K x 2K @60Hz)
- 2x GbE LAN [Supports WoL, Teaming, Jumbo Frame & PXE], RJ45
  - GbE1: Intel® I210AT
  - GbE2: Intel® I210AT
- 4x USB 3.0 (Type A)
- 2x RS-232/422/485 with Auto Flow Control [Supports 5V/12V], DB9
- 1x Line-out & 1x Mic-in, Phone Jack 3.5mm
- 1x ATX Power On/Off Button
- 1x AT/ATX Mode Switch
- 1x Clear CMOS Switch
- 1x Remote Power On/Off Connector, 2-pin Terminal Block
- 1x Ignition DIP Switch (12V/24V, need to work with CFM module)

**Storage**
- 1x mSATA Socket (SATA 3.0, Shared by Mini-PCIe Socket)
- 1x 2.5” HDD/SSD Drive Bay (SATA 3.0)

**Expansion**
- 2x Full-size Mini-PCIe Socket
- 2x Control Function Module (CFM) Interface
- 2x Combined Multiple I/O (CMI) Interface
- 2x SIM Card Socket for Signal Redundancy
- 2x Antenna Hole

**Power Requirement**
- Supports AT/ATX Power Type
- Power Input Voltage 9~48VDC
- 1x 3-pin Terminal Block
- Power Adapter AC/DC 12V/5A 60W or 24V/5A 120W [Optional]

**External I/O Interface**
- 1x DVI-D (1920 x 1080 @60Hz)
- 1x DisplayPort (4K x 2K @60Hz)
- 2x GbE LAN [Supports WoL, Teaming, Jumbo Frame & PXE], RJ45
  - GbE1: Intel® I210AT
  - GbE2: Intel® I210AT
- 4x USB 3.0 (Type A)
- 2x RS-232/422/485 with Auto Flow Control [Supports 5V/12V], DB9
- 1x Line-out & 1x Mic-in, Phone Jack 3.5mm
- 1x ATX Power On/Off Button

**External I/O Interface**
- 1x DVI-D (1920 x 1080 @60Hz)
- 1x DisplayPort (4K x 2K @60Hz)
- 2x GbE LAN [Supports WoL, Teaming, Jumbo Frame & PXE], RJ45
  - GbE1: Intel® I210AT
  - GbE2: Intel® I210AT
- 4x USB 3.0 (Type A)
- 2x RS-232/422/485 with Auto Flow Control [Supports 5V/12V], DB9
- 1x Line-out & 1x Mic-in, Phone Jack 3.5mm
- 1x ATX Power On/Off Button

**Physical**
- Dimensions (WxDxH, mm): 185 x 131 x 56.5 mm
- Weight: 1.42 kg
- Construction: Extruded Aluminum with Heavy Duty Metal
- Mounting: Wall / VESA / Din Rail [Optional: Side + Din Rail Mounting Kit]
- Unibody Chassis
- Fanless Design
- Jumper-less Design
- Cable-less Design

**Protection**
- Reverse Power Input Protection
- Over Voltage Protection: 58V
- Over Current Protection: 15A
- ESD Protection: +/-15kV [air], +/-8kV [contact]
- Surge Protection: 3.84 kV [impedance 12 ohm 1.2/50us waveform]

**Operating System**
- Windows® 10
- Linux: Supports by project

**Environment**
- Operating Temperature: -40°C to 70°C
  - With extended temperature peripherals; Ambient with air flow
  - According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14
- Storage Temperature: -40°C to 85°C
- Relative Humidity: 95%RH @ 70°C [non-Condensing]
- Shock: Operating, 50 Grms, Half-sine 11 ms Duration
  - w/ SSD, according to IEC60068-2-27
- Vibration: Operating, 5 Grms, 5-500 Hz, 3 Axes
  - w/ SSD, according to IEC60068-2-64
- MTBF: 479,119 Hours

**Certification**
- EMC: CE, FCC Class A
- Safety: LVD (EN60950-1), Pending
- Vehicle: E-mark [E13] Certified, Pending
**External Layout**

**Front**
- Power LED
- Reset Button
- AT/ATX Switch
- HDD LED
- Line-Out
- ATX Power On/Off
- Mic-In
- USB 3.0
- LAN1
- LAN2
- USB 3.0
- DisplayPort
- SIM Card Slot
- Clear CMOS
- IGN Setting Switch
- Universal I/O Bracket
- Remote Power On/Off
- Line-Out
- LAN1
- LAN2
- USB 3.0
- DisplayPort
- SIM Card Slot
- Clear CMOS
- IGN Setting Switch
- Universal I/O Bracket
- Remote Power On/Off

**Rear**
- DC IN
- COM1
- COM2
- DVI-D
- Remote Power On/Off
- Antenna

**Dimensions**

<table>
<thead>
<tr>
<th>Unit: mm</th>
</tr>
</thead>
</table>

COMP-MALL GmbH - www.comp-mall.de
## Ordering Information

### Available Models

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Product Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC-1200-N42-R10</td>
<td>Intel® Pentium® Processor N4200 Compact Size Fanless Computer</td>
</tr>
</tbody>
</table>

### Package Checklist

- DC-1200 Compact Size Fanless Embedded Computer x1
- Thermal Pad (for CPU Thermal Block) x1
- Screw Pack x1
- Wall Mounting Kit x1
- Utility DVD Driver x1
- Power Terminal Block Connector x1
- Remote Power On/Off Terminal Block Connector x1
- DIN Rail Mounting Kit x1

### Optional Modules & Accessories

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMI-DVI01/UB1107</td>
<td>CMI Module with 1x DVI-D Connector for DC-1200, 1x Universal Bracket with 1x DVI-D Cutout for DC-1200</td>
</tr>
<tr>
<td>CMI-VGA01/UB1116</td>
<td>CMI Module with 1x VGA Port for DC-1200, 1x Universal Bracket with 1x VGA Cutout for DC-1200</td>
</tr>
<tr>
<td>CMI-HDMI02/UB1108</td>
<td>CMI Module with 1x HDMI Port for DC-1200, 1x Universal Bracket with 1x HDMI Cutout for DC-1200</td>
</tr>
<tr>
<td>CMI-COM03/UB1103</td>
<td>CMI Module with 2x RS232/422/485 (Support 5V/12V) for DC-1200, 1x Universal Bracket with 2x DB9 Cutout for DC-1200</td>
</tr>
<tr>
<td>CMI-DIO03/UB1115</td>
<td>CMI Module with 8x Optical Isolated DIO (4 in/4 out) for DC-1200, 1x Universal Bracket with DIO Cutout for DC-1200</td>
</tr>
<tr>
<td>CFM-IGN02</td>
<td>CFM Module with Power Ignition Sensing Control Function, Select 12V/24V</td>
</tr>
<tr>
<td>CFM-PoE02</td>
<td>CFM Module with PoE Control Function, Individual Port 25.5W</td>
</tr>
<tr>
<td>MEC-COM-M212-TDB9/UB1103</td>
<td>Mini-PCIe Module with 2x COM Ports, 1x Universal Bracket with 2x DB9 Cutout for DC-1200</td>
</tr>
<tr>
<td>MEC-LAN-M002-15/UB1111</td>
<td>Mini-PCIe Module with 2x LAN Ports, 1x Universal Bracket with 2x RJ45 Cutout for DC-1200</td>
</tr>
<tr>
<td>SIDE03</td>
<td>Side Mount Kit for DC-1200 Series, with KMRH-K175 for DIN-Rail option</td>
</tr>
<tr>
<td>GST60A12-CIN</td>
<td>Adapter AC/DC 12V 5A 60W, GST60A12-CIN, wide temp(-30°C ~ +70°C)</td>
</tr>
<tr>
<td>GST120A24-CIN</td>
<td>Adapter AC/DC 24V 5A 120W, GST120A24-CIN, wide temp(-30°C ~ +70°C), level VI</td>
</tr>
<tr>
<td>SL2-SL3</td>
<td>EU 2 heads power cord, EU G type to IEC C13, H05VV-F 0.75mm2/3G Black 1.8M SL -2+SL -3</td>
</tr>
<tr>
<td>GP026-SL3</td>
<td>UK 2 heads power cord, UK I type to IEC C13, H05VV-F 0.75mm2/3G Black 1.8M QP026+SL -3</td>
</tr>
</tbody>
</table>

### Optional Module Configuration

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Description</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMI-DVI01/UB1107</td>
<td>CMI Module with 1x DVI-D Connector for DC-1200, 1x Universal Bracket with 1x DVI-D Cutout for DC-1200</td>
<td></td>
<td></td>
<td>V</td>
</tr>
<tr>
<td>CMI-VGA01/UB1116</td>
<td>CMI Module with 1x VGA Port for DC-1200, 1x Universal Bracket with 1x VGA Cutout for DC-1200</td>
<td></td>
<td></td>
<td>V</td>
</tr>
<tr>
<td>CMI-HDMI02/UB1108</td>
<td>CMI Module with 1x HDMI Port for DC-1200, 1x Universal Bracket with 1x HDMI Cutout for DC-1200</td>
<td></td>
<td></td>
<td>V</td>
</tr>
<tr>
<td>CMI-COM03/UB1103</td>
<td>CMI Module with 2x RS232/422/485 (Support 5V/12V) for DC-1200, 1x Universal Bracket with 2x DB9 Cutout for DC-1200</td>
<td>V</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CMI-DIO03/UB1115</td>
<td>CMI Module with 8x Optical Isolated DIO (4 in/4 out) for DC-1200, 1x Universal Bracket with DIO Cutout for DC-1200</td>
<td>V</td>
<td></td>
<td>V</td>
</tr>
<tr>
<td>MEC-COM-M212-TDB9/UB1103</td>
<td>Mini-PCIe Module with 2x COM Ports, 1x Universal Bracket with 2x DB9 Cutout for DC-1200</td>
<td>V</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MEC-LAN-M002-15/UB1111</td>
<td>Mini-PCIe Module with 2x LAN Ports, 1x Universal Bracket with 2x RJ45 Cutout for DC-1200</td>
<td>V</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>