Ultra-compact Fanless Computer
POC Series

Compact | Wide Temperature | Support Multiple Expansion Modules

www.neousys-tech.com
Ultra-compact Fanless Embedded Computer
Operating in confined spaces with poor ventilation is a tough task even for embedded computers. The Neousys Technology POC series ultra-compact embedded computers are specifically designed for this purpose. POC series are fanless, features extreme-compact dimensions (52x 89x 112mm), can function under wide temperature conditions (-25 to 70°C) and accepts 8 to 35V wide range DC input. It also comes with various flexible interface connections making it suitable for a variety of industrial applications that require installation into ideal confined spaces!

Product Highlights
- **Compact dimension**: Ultra-compact dimensions, the smallest POC measures just 49x 89x 112mm.
- **Wide Temperature**: Patented Neousys thermal dissipation design offers true wide temperature operation from -25°C to 70°C.
- **Rich I/O Ports**: Comes with various I/O connections such as USB3.1, COM, PoE+, GbE and video ports.
- **Expansion Module**: Incorporating Neousys patented MeziO™ interface, users can expand via MeziO™ modules for additional isolated digital I/O, GbE, USB, COM, ignition control or SATA port for 2.5” HDD/SSD.

Product Applications
- **Factory Automation**
- **Autonomous Mobile Robot (AMR)**
- **Vision Inspection**
- **Edge Gateway**
**Expansion Module—MezIO™ Module**

Neousys MezIO™ interface offers computer signals, power rails and control signals via a high-speed connector. The MezIO™ module transforms Neousys embedded systems into application-specific systems with application-oriented I/Os. Mechanical and structure wise, MezIO™ benefits from 3-point mounted mezzanine structure for extra reliability in implementing comprehensive I/O functions.

- **MezIO™-C180/181**
  - 8-port RS-232/422/485

- **MezIO™-G4**
  - 4x GigE Ports by 4x Intel® I210 Controllers

- **MezIO™-R11/R12**
  - SATA Port for 2.5" HDD/SSD, 4-CH Isolated DI and 4-CH Isolated DO

- **MezIO™-D230/D220**
  - 32/16-CH Isolated Digital I/O

- **MezIO™-U4-30**
  - 4 x USB 3.1 Gen 1 Ports

- **MezIO™-V20**
  - 16-mode Ignition Power Control

**Expansion Module: Supercapacitor-based Power Backup Module**

Neousys supercapacitor power backup module addresses issues faced by the traditional UPS. It can operate in wide temperature range up to 65°C. Also the inclusion of the patented CAP Energy Management Technology can maximize the utilization of the supercapacitors and power consumption via real-time monitoring to initiate a proper shutdown, ensuring data integrity in the process.

- **SuperCAP Lifespan Configuration**
  - In addition to the 10 years or 500,000 charge-discharge cycles, users can also extend the lifespan of supercapacitors up to 4.8x via its parameter configuration utility.

- **Versatile Operating Mode**
  - Depending on the environment you wish to deploy in, there are three modes to choose from and can be set accordingly: normal, ignition control, ignition relay.

- **Rugged Wide-temp Operation**
  - Neousys’ supercapacitor power backup module supports -25 to 65°C wide temperature operation which is ideal for harsh industrial environmental conditions.

- **Patented CAP Energy Management**
  - Patented CAP energy management technology that monitors real-time power consumption to ensure proper shutdown during unforeseen power outages.

**Supercapacitor-based Power Backup Modules**

[Satalone] PB-9250-J-SA
9250 w.s Standalone Intelligent Supercapacitor-based Uninterruptible Power Backup Module

[Satalone] PB-4600-J-SA
4600 w.s Standalone Intelligent Supercapacitor-based Uninterruptible Power Backup Module

[Satalone] PB-2580-J-SA
2500 w.s Standalone Intelligent Supercapacitor-based Uninterruptible Power Backup Module
Neousys Ultra-compact Embedded Computer

POC-500
- AMD Ryzen™ embedded V1605B/ V1807B series quad-core 15W/ 45W CPU
- -25 °C to 70 °C rugged wide-temperature operation
- Four Gigabit PoE+ ports with screw-lock
- Four USB 3.1 Gen1 ports with screw-lock
- M.2 2280 M key NVMe (Gen3 x2) socket for fast storage access
- DP + VGA dual display outputs
- Front I/O access and DIN-rail mounting design
- MeziO™ compatible

POC-400
- Intel® Elkhart Lake Atom® x6425E quad-core 2.0GHz/ 3.0GHz 12W processor
- Rugged -25 °C to 70 °C fanless operation
- 2x 2.5Gbe PoE+ ports and 1x 2.5Gbe port with screw-lock
- 2x USB 3.1 Gen1 and 2x USB 2.0 ports with screw-lock
- M.2 2280 M key SATA interface
- Dual DP display outputs supporting 4096 x 2160 resolution
- Front I/O access DIN-mounting design
- MeziO™ compatible

POC-300
- Intel® Apollo Lake Pentium® N4200 and Atom® E3950 quad-core processor
- Fanless and rugged, wide temperature operation (-25 °C to 70 °C)
- One GbE port and two Gigabit PoE+ ports
- Two USB 3.1 Gen1 and two USB 2.0 ports
- DVI + VGA dual display outputs
- Front I/O access DIN-mounting design
- MeziO™ compatible

POC-40
- Intel® Elkhart Lake Atom® x6211E dual-core 1.3GHz/ 3.0GHz 6W processor
- 52 x 89 x 112 mm extremely compact form factor
- Rugged -25°C to 70°C fanless wide-temperature operation
- Two GigE ports, two USB 3.1 Gen1 ports and two USB2.0 ports
- M.2 2280 M key SATA storage interface
- One M.2 B key 3042/ 3052 socket supporting 5G/ 4G modules
- One M.2 E key socket for WiFi 5/ WiFi 6 modules
- One COM port with RS-232/ 422/ 485 modes and three RS-232 COM ports
<table>
<thead>
<tr>
<th>Model Name</th>
<th>POC-500</th>
<th>POC-400</th>
<th>POC-300</th>
<th>POC-40</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dimensions</strong> (W x D x H)</td>
<td>60x 116x 176 mm (POC-515) 82x 118x 176 mm (POC-545)</td>
<td>56x 108x 153 mm</td>
<td>56x 108x 153 mm</td>
<td>52x 89x 112 mm</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>1.2 kg (POC-515) 1.4 kg (POC-545)</td>
<td>0.96 kg</td>
<td>0.96 kg</td>
<td>0.6 kg</td>
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<tr>
<td><strong>Chassis</strong></td>
<td>Aluminum alloy with heavy duty metal</td>
<td>Aluminum alloy with heavy duty metal</td>
<td>Aluminum alloy with heavy duty metal</td>
<td>Aluminum alloy with heavy duty metal</td>
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<tr>
<td><strong>Processor</strong></td>
<td>AMD Ryzen V1605BE (POC-515) AMD Ryzen V1807BE (POC-545)</td>
<td>Intel® E3950 quad-core</td>
<td>Intel® Pentium N4200 quad-core</td>
<td>Intel® E3950 quad-core</td>
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<tr>
<td><strong>Graphics</strong></td>
<td>Vega GPU with 8 compute units (POC-515) Vega GPU with 11 compute units (POC-545)</td>
<td>Intel® UHD Graphics</td>
<td>Intel® HD Graphics 505</td>
<td>Intel® UHD Graphics</td>
</tr>
<tr>
<td><strong>Memory</strong></td>
<td>Up to 32GB DDR4-2400 (POC-515)</td>
<td>Up to 32GB DDR4-3200 (POC-545)</td>
<td>Up to 8GB DDR3L-1866</td>
<td>Up to 32GB DDR4-3200</td>
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<tr>
<td><strong>PoE</strong></td>
<td>IEEE 802.3at (25.5W) for 4x GbE ports</td>
<td>Optional (Port 2-3, IEEE 802.3at, 25.5W)</td>
<td>Optional (Port 2-3, IEEE 802.3at, 25.5W)</td>
<td>2x GbE by Intel® I210</td>
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<tr>
<td><strong>Ethernet</strong></td>
<td>4x GbE by Intel® E50</td>
<td>3x 2.5GbE by Intel® I225</td>
<td>3x GbE by Intel® I210</td>
<td>2x GbE by Intel® I210</td>
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<tr>
<td><strong>Video Port</strong></td>
<td>1x VGA 1x DisplayPort</td>
<td>2x DisplayPort</td>
<td>1x DVI-I</td>
<td>1x DisplayPort</td>
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<tr>
<td><strong>Serial Port</strong></td>
<td>1x RS-232/422/485 3x 3-wire RS-232</td>
<td>1x RS-232/422/485 3x 3-wire RS-232</td>
<td>1x RS-232/422/485 3x 3-wire RS-232</td>
<td>1x RS-232/422/485 3x 3-wire RS-232</td>
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<td><strong>USB 2.0</strong></td>
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<td><strong>USB 3.1 Gen 1</strong></td>
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<td>2</td>
<td>2</td>
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<tr>
<td><strong>Audio</strong></td>
<td>1x Mic-in and speaker-out</td>
<td>Optional 1x Mic-in and speaker-out</td>
<td>1x Mic-in and speaker-out</td>
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<tr>
<td><strong>Digital I/O</strong></td>
<td>Optional via MezIO™ module</td>
<td>Optional via MezIO™ module</td>
<td>Optional via MezIO™ module</td>
<td>Optional 4 DI + 4 DO</td>
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<td><strong>SATA HDD</strong></td>
<td>Optional via MezIO™ module</td>
<td>Optional via MezIO™ module</td>
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<tr>
<td><strong>mSATA</strong></td>
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<td>-</td>
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<td><strong>M.2 (M-key)</strong></td>
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<td><strong>Mini PCIe</strong></td>
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<tr>
<td><strong>M.2 (B-key/E-key)</strong></td>
<td>-</td>
<td>1x M.2 2230 E-key</td>
<td>-</td>
<td>1x M.2 3042/3052 B-key 1x M.2 2230 E-key</td>
</tr>
<tr>
<td><strong>SIM</strong></td>
<td>1</td>
<td>-</td>
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<td>1</td>
</tr>
<tr>
<td><strong>MezIO™</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>-</td>
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<tr>
<td><strong>DC Input</strong></td>
<td>8-35V DC</td>
<td>8-35V DC</td>
<td>8-35V DC</td>
<td>12-20V DC</td>
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<tr>
<td><strong>Ignition Control</strong></td>
<td>Optional via MezIO™ module</td>
<td>Optional via MezIO™ module</td>
<td>Optional via MezIO™ module</td>
<td>(Optional)</td>
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<tr>
<td><strong>Operating Temperature</strong></td>
<td>-25°C ~ 70°C</td>
<td>-25°C ~ 70°C</td>
<td>-25°C ~ 70°C</td>
<td>-25°C ~ 70°C</td>
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<td><strong>Certification</strong></td>
<td>CE / FCC</td>
<td>CE / FCC</td>
<td>CE / FCC</td>
<td>CE / FCC</td>
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</table>
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