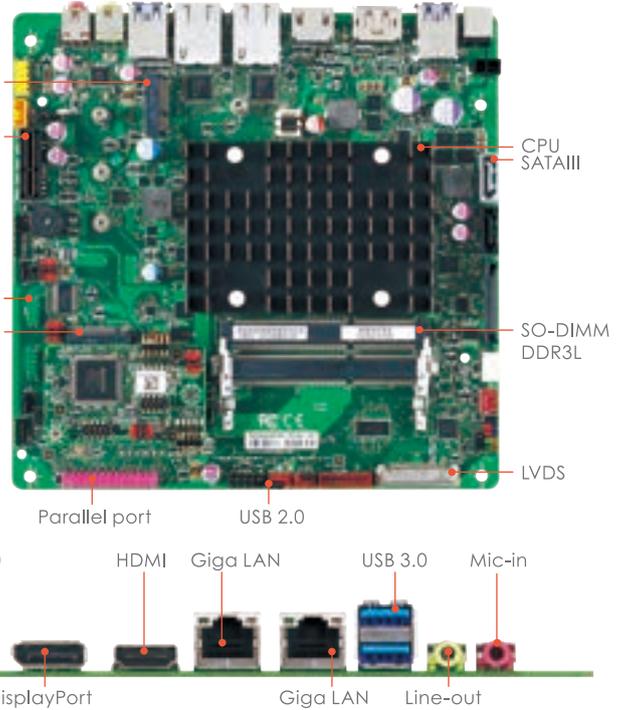# PD10AI

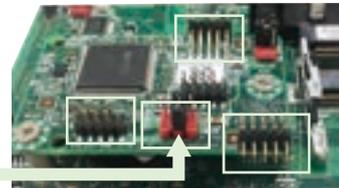*Thin Mini-ITX Form Factor*
*Intel® Apollo Lake Processor*

## Features

- Intel®Apollo Lake / Celeron/Pentium BGA processor
- 2 x DDR3L SO-DIMM and support up to 8GB
- Support triple display for HDMI, DisplayPort and LVDS / eDP
- Support 1 x PCIe X1 (Gen 2) slot and 2 x M.2 slot 2 x SATA III
- 2 x Intel® Gigabit Ethernet
- 2 x USB 2.0, 4 x USB 3.0, 2 x COM and 1 x Parallel Port / MiAPI (configurable digital I/O)
- 8V~24V wide voltage power input



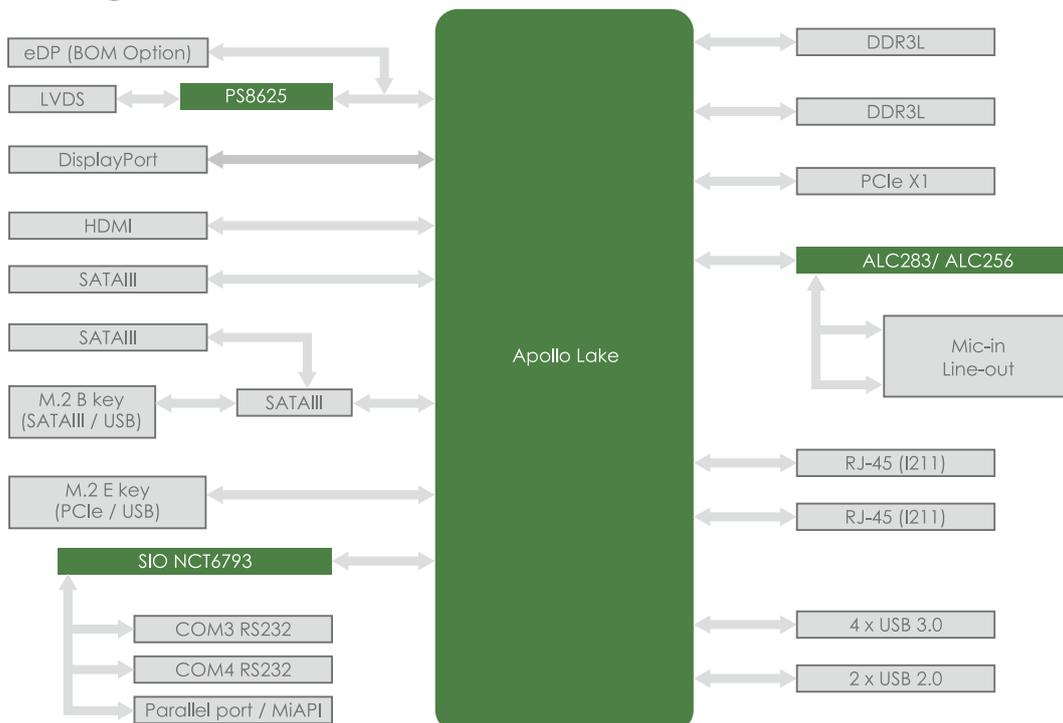| DC Jack | M.2 Support | USB3.0 | All Solid Capacitor | MiAPI | EMC Class B FCC Blass B |

## Legacy I/O Expansion



6 x COM port
- 2 x RS232 from Motherboard
- 4 x RS232 from Legacy I/O Board

2 x Configurable Power RS232
2 x Configurable RS232/422/485

## Block Diagram

**MiTAC**

# PD10AI  *Thin Mini-ITX*

## MECHANICAL
| | |
|---|---|
| Form Factor | Thin Mini-ITX: 6.7" x 6.7" (170mm x 170mm) |

## SYSTEM
| | |
|---|---|
| Processor | Intel® Apollo Lake-M N3350 Processor<br>Option: N4200 |
| Chipset | Intel® SoC Integrated |
| Memory | DDR3L 1866MHz, 2 x 204-pin SO-DIMM, Max. 8GB (Non-ECC) |
| Graphics | Intel® HD Graphics |
| Ethernet | Intel® I211-AT Giga LAN + Intel® I211-AT Giga LAN |
| Audio | Realtek® ALC283 / ALC256 |
| I/O Chipset | Nuvoton NCT6793D |
| TPM | Nuvoton NPCT650AAAWX TPM2.0 (Optional) |
| Expansion Slot | 1 x PCIe X1 slot<br>1 x  M.2 2280/2260/2242 B key (SATA / USB)<br>1 x  M.2 2230 E key (PCIe / USB) |
| BIOS | AMI BIOS |
| H / W Monitor | Temperature Monitor, Voltage Monitor, Fan Monitor |
| Watchdog Timer | 1~255 Steps by Software Program |
| Smart Fan Control | — |

## GRAPHICS
| | |
|---|---|
| VGA | — |
| DVI | — |
| HDMI | Up to 4K (3840 x 2160) @30 Hz |
| DisplayPort | Up to 4K (4096 x 2160) @60 Hz |
| LVDS | Up to 1920 x 1200 @60 Hz |
| eDP (Option) | Up to 4K (3840 x 2160) @60 Hz |

## REAR I/O
| | |
|---|---|
| USB | 4 x USB 3.0 |
| Display I/O | 1 x HDMI 1.4, 1 x DisplayPort 1.2 |
| Audio I/O | 1 x Mic-in, 1 x Line-out |
| LAN I/O | 2 x RJ-45 |
| Serial Port | — |
| PS/2 Port | — |
| Others | DC-in Jack 8-24V (2.5mm/ ID, 5.5mm/ OD) |

## INTERNAL CONNECTORS
| | |
|---|---|
| Storage | 2 x SATAIII (One SATA is multiplexed with an M.2 port) |
| USB | 2x USB 2.0 |
| Display I/O | 1 x LVDS, 1 x eDP<br>1 x Backlight Connector |
| Audio I/O | 1 x Stereo Speaker Header<br>1 x Front Audio Header (Mic/HP) |
| Serial Port | 2x RS232 |
| PS/2 Port | — |
| Parallel Port | 1 x MiAPI Header (Programmable. Support 10-bit GPIO) |
| GPIO | — |
| Fan | 2 x 4-pin PWM Fan Header |
| Power | 1 x 2-pin Power Connector, 1 x AT/ATX Mode Select Jumper |
| Others | MiAPI (Optional): Programmable header (support 10 x GPIO, 1 x SMBUS, 1 x UART,<br>1 x Watchdog) with API library supported for Windows OS<br>1 x CMOS Jumper<br>1 x Legacy I/O Board Header<br>(Optional Legacy I/O Board for Extra RS232*2 and RS232/422/485*2 Expansion) |

## POWER REQUIREMENT
| | |
|---|---|
| Power Input | 2-pin Internal Power Connector + DC Jack<br>DC-in 8-24 |

## ENVIRONMENTAL
| | |
|---|---|
| Operating Temperature | 0 ~ 60°C (32 ~ 140°F) |
| Storage Temperature | -20 ~ 80°C (-4 ~176°F) |
| Operating Humidity | 10% ~ 95% R/H, non-condensing |
| Certification | CE, FCC  Class B |

## OS
| | |
|---|---|
| OS Support | Windows® 10 64bit, Linux (support by request) |

## Ordering Information

| Model Number | Processor | DisplayPort / HDMI | LVDS / eDP | Mic-in / Line-out | USB3.0 / 2.0 | LAN | SATA | M.2 2230 E key / M.2 2280 B key | Parallel / MiAPI | PCIe X1 | Power |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PD10AI-N3350 | N3350 | 1 / 1 | 1 / 1 | 1 / 1 | 4 / 2 | 2 | 1 | 1 / 1 | 1 / 0 | 1 | DC-in Jack 8-24V |
| PD10AI-N4200 | N4200 | 1 / 1 | 1 / 1 | 1 / 1 | 4 / 2 | 2 | 1 | 1 / 1 | 0 / 1 | 1 | DC-in Jack 8-24V |

| Legacy I/O Board | RS232 with 5V/12V | RS232/422/485 |
|---|---|---|
| MS-04COM-D10 | 2 | 2 |

## Packing List

### Packing
- 1 x Motherboard
- 2 x I/O Bracket (Half and Full Height)
- 1 x 50cm SATA Cable
- 1 x 45cm SATA Power Cable