

# IP70

## Intel® Pentium® N4200 Mini-ITX Embedded SBC



### KEY FEATURES

- Intel® Pentium® N4200 Processor embedded sbc
- Mini ITX Form Factor ( 170 x 170 mm )
- DDR3L 1866MHz SO-DIMM support up to 8 GB
- 12V Single Voltage Power Input
- Multi display supports DP / HDMI (Optional) / LVDS / eDP (Optional) panel

### INTRODUCTION

Winmate's Mini-ITX Embedded Board offers a compact, high-performance solution for a wide range of industrial applications, including automation, transportation, medical, and gaming. Powered by optional processors such as Intel® Core™, Celeron®, or Atom™, and supporting up to 16GB of DDR4 memory, it delivers fast, reliable performance for multitasking and complex tasks. With extensive I/O options, including Gigabit Ethernet, USB 3.0, HDMI, and multi-display support, it ensures seamless integration and enhanced visual experiences. Built with industrial-grade components, it is designed to withstand harsh environments, making it a durable, efficient choice for space-constrained applications.

### SPECIFICATIONS

#### System Specification

<b>Processor</b>	Intel Pentium N4200 1.1GHz (up to 2.5GHz)	<b>Memory</b>	Dual-channel (non-ECC) SO-DIMM RAM.Up to 16GB
<b>Storage</b>	128GB SSD(Default) (Default) 256GB SSD (Optional) 512GB SSD (Optional) 1TB 2 x SATA III for 2.5" SSD/HDD(Supprt RAID) (Optional)	<b>Ethernet controller</b>	2 x Intel® Ethernet Controller
<b>Security</b>	TPM 2.0	<b>Operating System</b>	Windows 10 IoT Enterprise (64 bit) (Optional) Linux Ubuntu 20.04 (Optional)
<b>WLAN</b>	Support (Optional)	<b>BT</b>	Support (Optional)

#### IO Ports

<b>Power Input</b>	1 x 12V DC, Din4 pin connector	<b>USB Port</b>	4 x USB3.2 Gen1x1 (Type-A)
<b>Video</b>	1 x DP1.2 (Default) 1 x HDMI 1.4 (Optional) 1 x VGA (Optional)	<b>Audio</b>	1 x Mic in 1 x Line out
<b>Expansion Port</b>	1 x M.2 2242 B-key Slot (for SATA III SSD) 1 x M.2 2230 E-Key Slot (for Wi-Fi module) 1 x PCIe 2.0 (x1) slot	<b>LAN</b>	2 x Giga LAN RJ45 Connector

#### Internal IO Ports

<b>Power input</b>	1 x 4pin(2x2) for 12V DC in 1 x 6pin(1x6) for 12V DC in	<b>Power output</b>	2 x 2pin(1x2) red wafer for 5V DC out 1 x 2pin(1x2) yellow wafer for 12V DC out
<b>USB</b>	2 x 8pin(2x4) for 4 x USB 2.0	<b>Serial port</b>	1 x 10pin(2x5) for RS232/422/485 (Default) 3 x RS232 (Optional)
<b>Display</b>	1 x 40pin DF13 connector for LVDS (Default)	<b>Backlight</b>	1 x 7pin(1x7) for panel backlight

	1 x 30pin DF13 connector for eDP (Optional) 1 x 10pin P=2.0mm wafer for VGA (Optional)		
<b>SATA</b>	2 x SATA III 1 x 8pin(2x4) for SATA power (SATA2 is only available when M.2 SATA is not in use; SATA2 and M.2 SATA cannot be used concurrently.)	<b>DIDO</b>	1 x 14pin(2x7) for Digital input/output
<b>VR</b>	1 x 3pin(1x3) for Digital panel backlight brightness control 1 x 3pin(1x3) VR/Software brightness switch jumper 1 x 3pin(1x3) PWM/DC brightness switch jumper 1 x 3pin(1x3) 3.3V/5V PWM Level switch jumper	<b>Fan</b>	2 x 3pin(1x3) for Fan
<b>OSD</b>	1 x 10pin(2x5) for OSD control	<b>Speaker</b>	2 x 2pin(1x2) for Speaker
<b>Backup battery</b>	1 x 2pin(1x2) for RTC battery		

### Certification

**Certification** CE, FCC

### Mechanical

**Dimension** 170 x 170 mm

### Environment

**Operating Humidity** 10% to 95% RH, Non-Condensing

**Operating Temperature** 0°C to 60°C

**Storage Temperature** -40°C to 70°C

### Accessory

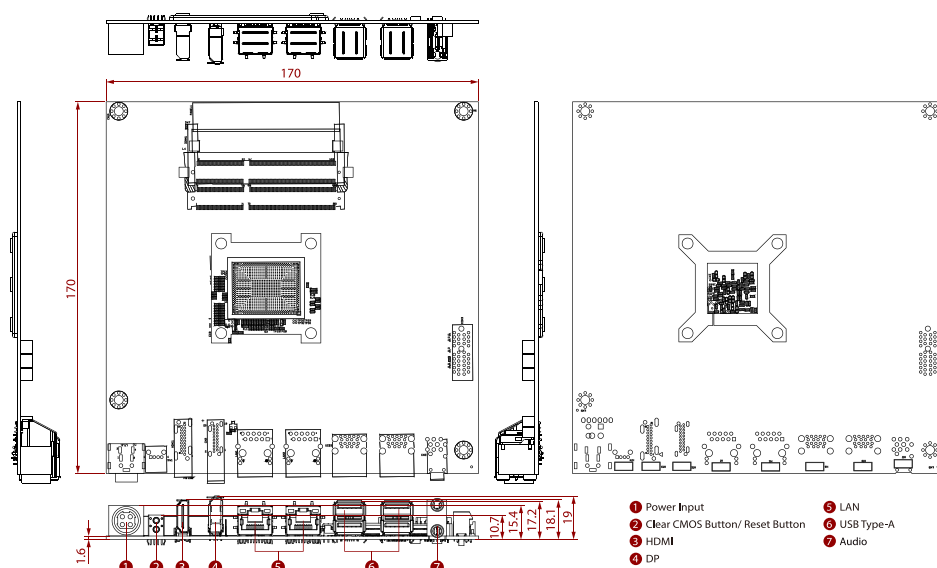
**Accessory** 1 x Installation Guide

**Optional Accessory**  
 1 x SATA cable (94H007Z070K0) (Optional)  
 1 x SATA Power cable (94HE08Z150E0) (Optional)  
 2 x COM cable (94G309E100E1) (Optional)  
 1 x 2-Port USB 2.0 Type A cable (94E808E080K0) (Optional)  
 1 x 12V 84W Adapter (922D084W12V0) (Optional)  
 1 x Power cord (Varies by country) (Optional)  
 1 x CPU Heatspreader with Fan (98K000A000N5) (Optional)  
 1 x Membrane (98K000A000N1) (Optional)  
 2 x Speaker (61262000007) (Optional)

### Power

**Power Rating** 12V DC in

## DIMENSIONS UNIT:MM



## NOTE

1. This is a simplified drawing and some components are not marked in detail.
2. Please contact our sales representative if you need further product information.
3. All specifications are subject to change without prior notice.
4. The product shown in this datasheet is a standard model. For diagrams that contain customized or optional I/O, please contact the Winmate Sales Team for more information.