

AIH10 Series

Intel® Core™ S Series & Xeon® W Fanless Box Computer



Features

- Intel® Xeon® W / Core™ S i9, i7, i5, i3, Pentium®/Celeron® processor
- Supports LGA1200 socket desktop processor up to 35W
- Intelligent eKit with AI function to monitor system health
- Wi-Fi and Wireless Communication: 4G, 5G, WLAN, GPS, GSM/GPRS, WiFi 6 and Bluetooth
- Special Power Design:
  - Wide voltage 9~36V DC input
  - RVP/OVP/UVP/OCp support
  - Surge protection: 200V/1ms
  - Power ignition control
- Easy Expansion & Installation
- Remote on/off power switch

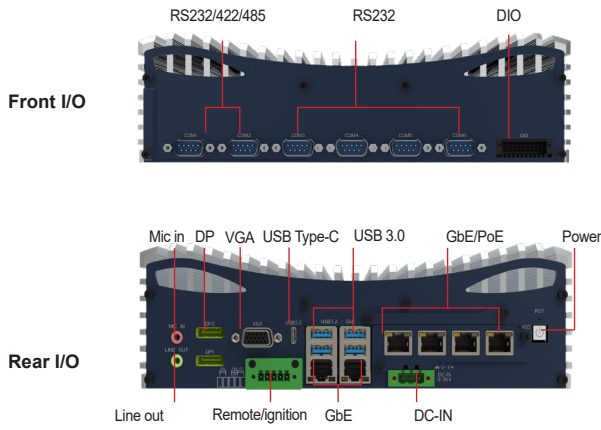


Specifications

|                                   | AIH10                                                                                                                                     | AIH10L                                                           |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| System                            |                                                                                                                                           |                                                                  |
| CPU                               | Intel® Xeon®/Core™S<br>10th gen Intel® Core i9/i7/i5/i3 35W                                                                               | Intel® Pentium®/Celeron®<br>10th gen Intel® Core i9/i7/i5/i3 35W |
| Chipset                           | Intel® W480E                                                                                                                              | Intel® H420E                                                     |
| Memory                            | 2x DDR4 SO-DIMM Slot (Support DDR2933/2666/2400)<br>ECC memory support by CPU                                                             |                                                                  |
| Graphics                          | Intel® UHD Graphics                                                                                                                       |                                                                  |
| BIOS                              | AMI                                                                                                                                       |                                                                  |
| AI Controller (AIC)               | AI for system monitoring and predictive analysis (DMCI Library & DMCT app available)                                                      |                                                                  |
| TPM                               | TPM 2.0 SLB9665                                                                                                                           |                                                                  |
| Power                             |                                                                                                                                           |                                                                  |
| DC Input                          | 9~36VDC                                                                                                                                   |                                                                  |
| Power in Protection               | Reverse-Voltage, Over-Voltage, Under-Voltage, Over-Current                                                                                |                                                                  |
| Remote/Ignition                   | 1x ATX power on/off switch, 5-pin terminal block including 3-pin remote control and 2-pin ignition signals (pitch 3.81 mm)                |                                                                  |
| Power Mode                        | AT/ATX/ Ignition (BIOS setting)                                                                                                           |                                                                  |
| Mechanical                        |                                                                                                                                           |                                                                  |
| Dimensions (WxDxH)                | 260(W) x 206(D) x 77.4(H) mm (10.2" x 8.11" x 3.05")<br>Expansion Box:<br>(EP1/2/3) 260(W) x 219.3(D) x 124.4(H) mm (10.2" x 8.6" x 4.9") |                                                                  |
| Weight (net/gross)                | 3.7kg                                                                                                                                     |                                                                  |
| Mounting                          | (Standard) foot stand<br>(Option) wall mount bracket                                                                                      |                                                                  |
| External IO                       |                                                                                                                                           |                                                                  |
| Display Ports                     | 1x VGA<br>2x Display Port                                                                                                                 |                                                                  |
| Triple Display Ports Combinations | 2x DP+ 1x VGA<br>2x DP+ 1x Type-C<br>1x DP+ 1x Type-C+ 1x VGA                                                                             | 1x DP+ 1x VGA<br>2x DP<br>1x DP+ 1x Type-C<br>1xType-C+ 1x VGA   |
| Ethernet                          | 2x RJ45 GbE (1x i219-LM + 1x i225-IT)                                                                                                     |                                                                  |
| Digital I/O                       | 1x DIO port:<br>(standard): non-isolated 16-bit GPIO<br>(option-i): isolated 8-bit DI & 8-bit DO                                          |                                                                  |
| USB                               | 1x USB3.2 Type C (With 2 DP Lanes, PD Supprot)<br>4x USB3.2 Type A (Gen2)                                                                 |                                                                  |
| COM                               | 2x RS-232/422/485 (auto flow control), 4x RS-232                                                                                          |                                                                  |
| Audio                             | ALC892, Mic in, Line out                                                                                                                  |                                                                  |

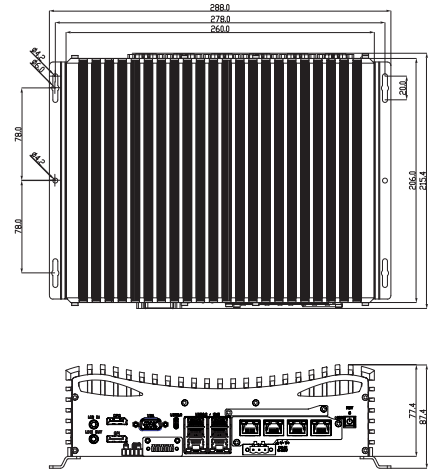
|                             |                                                                                                                                              |                                                                   |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| IOM Option                  | AIH10 4x i210 RJ45 GbE<br>AIH10P 4x i210 RJ45 GbE PoE+<br>AIH10V 4x i210 M12 GbE<br>AIH10VP 4x i210 M12 GbE PoE+<br>AIH10U 8x USB 3.0 Type A | NA                                                                |
| Storage                     |                                                                                                                                              |                                                                   |
| Internal Drive Bay          | 3x internal SATA port for 2.5" HDD/SSD                                                                                                       |                                                                   |
| M.2                         | 2x PCIe4 NVMe, M.2 M Key 2280                                                                                                                | 1x PCIe4 NVMe, M.2 M Key 2280                                     |
| mSATA                       | 1x full length mSATA (muxed with Mini PCIe)                                                                                                  |                                                                   |
| Micro SD                    | 1x Micro SD                                                                                                                                  |                                                                   |
| Expansion Slot              |                                                                                                                                              |                                                                   |
| Mini-PCIe                   | 1x MiniCard (mPCIe/mSATA/USB2.0/SIM) (Support Power On/Off, SIM Detect)<br>1x MiniCard (mPCIe/USB2.0/SIM) (Support Power On/Off, SIM Detect) | 1x MiniCard (mSATA/USB2.0/SIM) (Support Power On/Off, SIM Detect) |
| M.2                         | 1x M.2 B Key 3052 (USB3.0/PCIe/SIM)(Support Power On/Off, SIM Detect)<br>1x M.2 E Key 2230                                                   |                                                                   |
| PCI/PCIe (Expension Box)    | *EP1 (1x PCIe x16, 1x PCI)<br>*EP2 (1x PCIe x16, 1x PCIe x4)<br>*EP3 (2x PCI)<br>(standard type w/ fan kit)                                  | *EP2 (1x PCIe x16)<br>*EP3 (2x PCI)<br>(standard type w/ fan kit) |
| Other                       |                                                                                                                                              |                                                                   |
| Internal USB                | 1x Internal USB 2.0 header                                                                                                                   |                                                                   |
| Antenna                     | 4x antenna openings                                                                                                                          |                                                                   |
| Environment                 |                                                                                                                                              |                                                                   |
| Operating Temperature (TBD) | 35W CPU: -20°C~60°C                                                                                                                          | 35W CPU: -20°C~60°C                                               |
| Storage Temperature         | -40°C to 85°C (-40°F to 185°F)                                                                                                               |                                                                   |
| Relative Humidity           | 95% @ 40°C (104°F), non-condensing                                                                                                           |                                                                   |
| Vibration During Operation  | 5Grms with SSD (IEC60068-2-64: random 5~500Hz)                                                                                               |                                                                   |
| Shock During Operation      | 50Grms with SSD (IEC60068-2-27: Half Sine, 11ms duration)                                                                                    |                                                                   |
| Certification               |                                                                                                                                              |                                                                   |
| EMC                         | CE<br>FCC Class A                                                                                                                            |                                                                   |
| OS Support                  |                                                                                                                                              |                                                                   |
| Windows                     | Windows 10 64-bit<br>Windows 10 IoT<br>Windows 11 (AIC TBD)                                                                                  |                                                                   |
| Linux                       | Linux                                                                                                                                        |                                                                   |

## I/O Interfaces



## Dimensions

Units: mm



## I/O Comparison Chart

| Model Name | DP | VGA | On Board Lane |                | GbE (RJ45) | GbE / PoE (RJ45) | GbE (M12) | GbE/POE (M12) | GPIO | Isolated DIO | M.2 Key-M 2280 | Mini-PCle | USB type A | USB type C | RS-232 | RS-232 / 422 / 485 |
|------------|----|-----|---------------|----------------|------------|------------------|-----------|---------------|------|--------------|----------------|-----------|------------|------------|--------|--------------------|
|            |    |     | GbE (GbE)     | GbE (2.5G GbE) |            |                  |           |               |      |              |                |           |            |            |        |                    |
| AIH10L     |    |     |               |                | 4          | 0                | 0         | 0             |      |              | 2              | 2         | 4          |            |        |                    |
| AIH10P     |    |     |               |                | 0          | 4                | 0         | 0             |      |              | 2              | 2         | 4          |            |        |                    |
| AIH10V     | 2  | 1   | 1             | 1              | 0          | 0                | 4         | 0             | 1    | 0            | 2              | 2         | 4          | 1          | 4      | 2                  |
| AIH10VP    |    |     |               |                | 0          | 0                | 0         | 4             |      |              | 2              | 2         | 4          |            |        |                    |
| AIH10U     |    |     |               |                | 0          | 0                | 0         | 0             |      |              | 2              | 2         | 12         |            |        |                    |
| AIH10L     |    |     |               |                | 0          | 0                | 0         | 0             |      |              | 1              | 1         | 4          |            |        |                    |
| AIH10-i    |    |     |               |                | 4          | 0                | 0         | 0             |      |              | 2              | 2         | 4          |            |        |                    |
| AIH10P-i   |    |     |               |                | 0          | 4                | 0         | 0             |      |              | 2              | 2         | 4          |            |        |                    |
| AIH10V-i   | 2  | 1   | 1             | 1              | 0          | 0                | 4         | 0             | 0    | 1            | 2              | 2         | 4          | 1          | 4      | 2                  |
| AIH10VP-i  |    |     |               |                | 0          | 0                | 0         | 4             |      |              | 2              | 2         | 4          |            |        |                    |
| AIH10U-i   |    |     |               |                | 0          | 0                | 0         | 0             |      |              | 2              | 2         | 12         |            |        |                    |
| AIH10L-i   |    |     |               |                | 0          | 0                | 0         | 0             |      |              | 1              | 1         | 4          |            |        |                    |

## Expansion Box Comparison Chart

| Front View         |          | Rear View |     | Rear View |                                  |
|--------------------|----------|-----------|-----|-----------|----------------------------------|
|                    |          |           |     |           |                                  |
| Expansion Box Type | PCIe x16 | PCIe x4   | PCI | Fan kit   | Available Model                  |
| EP1                | 1        | 0         | 1   | 1         | AIH10-P/V/VP/U/L <sup>*(1)</sup> |
| EP2                | 1        | 1         | 0   | 1         | AIH10-P/V/VP/U/L <sup>*(2)</sup> |
| EP3                | 0        | 0         | 2   | 1         | AIH10-P/V/VP/U                   |

note

<sup>\*(1)</sup>:For EP1, AIH10-L series only supports 1x PCIe x16, no PCI.

<sup>\*(2)</sup>:For EP2, AIH10-L series only supports 1x PCIe x16, no PCIe x4.

## Ordering Information

| Model Name |                 | Article Number (A/N) |
|------------|-----------------|----------------------|
| AIH10      | Barebone System | 20010-000477-A.0     |
| AIH10P     | Barebone System | 20010-000478-A.0     |
| AIH10V     | Barebone System | 20010-000479-A.0     |
| AIH10VP    | Barebone System | 20010-000480-A.0     |
| AIH10U     | Barebone System | 20010-000481-A.0     |
| AIH10L     | Barebone System | 20010-000482-A.0     |
| AIH10-i    | Barebone System | 20010-000483-A.0     |
| AIH10P-i   | Barebone System | 20010-000484-A.0     |
| AIH10V-i   | Barebone System | 20010-000485-A.0     |
| AIH10VP-i  | Barebone System | 20010-000486-A.0     |
| AIH10U-i   | Barebone System | 20010-000487-A.0     |
| AIH10L-i   | Barebone System | 20010-000488-A.0     |

### CPU (Optional)

#### AIH10

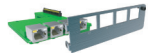
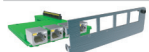
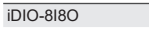
|            |                                                                         |
|------------|-------------------------------------------------------------------------|
| W-1290TE   | Xeon® W-1290TE, 10 cores/20 threads, 1.80 GHz/4.50 GHz, 20MB Cache, 35W |
| W-1270TE   | Xeon® W-1270TE, 8 cores/16 threads, 2.00GHz/4.40GHz, 16MB Cache, 35W    |
| W-1250TE   | Xeon® W-1250TE, 6 cores/12 threads, 2.40GHz/3.80GHz, 12MB Cache, 35W    |
| i9-10900TE | Core™ i9-10900TE, 10 cores/20 threads, 1.80GHz/4.50GHz, 20MB Cache, 35W |
| i7-10700TE | Core™ i7-10700TE, 8 cores/16 threads, 2.00GHz/4.40GHz, 16MB Cache, 35W  |
| i5-10500TE | Core™ i5-10500TE, 6 cores/12 threads, 2.30GHz/3.70GHz, 12MB Cache, 35W  |
| i3-10100TE | Core™ i3-10100TE, 4 cores/8 threads, 2.30GHz/3.60GHz, 6MB Cache, 35W    |

#### AIH10L

|            |                                                                         |
|------------|-------------------------------------------------------------------------|
| i9-10900TE | Core™ i9-10900TE, 10 cores/20 threads, 1.80GHz/4.50GHz, 20MB Cache, 35W |
| i7-10700TE | Core™ i7-10700TE, 8 cores/16 threads, 2.00GHz/4.40GHz, 16MB Cache, 35W  |
| i5-10500TE | Core™ i5-10500TE, 6 cores/12 threads, 2.30GHz/3.70GHz, 12MB Cache, 35W  |
| i3-10100TE | Core™ i3-10100TE, 4 cores/8 threads, 2.30GHz/3.60GHz, 6MB Cache, 35W    |
| G6400TE    | Pentium® G6400TE, 2 cores/4 threads, 3.20GHz, 4MB Cache, 35W            |
| G5900TE    | Celeron® G5900TE, 2 cores/2 threads, 3.00GHz, 2MB Cache, 35W            |

## Optional Accessories

### IOMH Module

|                                                                                    |              |                                                |
|------------------------------------------------------------------------------------|--------------|------------------------------------------------|
|  | IOMH-4GR25   | 4x RJ45 2.5GbE (TBD)                           |
|  | IOMHH-4GRP25 | 4x RJ45 2.5GbE with PoE (30.4W each port)(TBD) |
|  | IOMH1-4GR    | 4x RJ45 GbE                                    |
|  | IOMH1-4GRP   | 4x RJ45 GbE with PoE (30.4W each port)         |
|  | IOMH1-4GM    | 4x M12 GbE                                     |
|  | IOMH1-4GMP   | 4x M12 GbE with PoE (30.4W each port)          |
|  | IOMH-8U3     | 4x USB 3.0                                     |

### Isolated Module

|           |                                              |
|-----------|----------------------------------------------|
| iDIO-8i8O | 8-bit isolated DI & 8-bit isolated DO module |
|-----------|----------------------------------------------|

## Other Accessories

| AC-DC Power Adapter |          | AC-DC power adapter with pitch 5.0mm 3-pin terminal block plug |
|---------------------|----------|----------------------------------------------------------------|
| ADT-24V120-T3A      | 24V/120W |                                                                |
| ADT-24V160-T3A      | 24V/160W |                                                                |
| ADT-24V220-T3A      | 24V/220W |                                                                |
| ADT-24V280-T3A      | 24V/280W |                                                                |

| AC Power Cord |                                                                  | H05VV-F 3G 0.75mm <sup>2</sup> , 1.8m, 250V, 10A |
|---------------|------------------------------------------------------------------|--------------------------------------------------|
| PCBL-B12      | YP12-YC12:category B type plug, TW/J/US/CA/TH/PH/Central America |                                                  |
| PCBL-D03      | YP03-YC12:category D type plug, CN                               |                                                  |
| PCBL-D35      | YP35-YC12:category D type plug, AU/NZ                            |                                                  |
| PCBL-G22      | YP22-YC12:category G type plug, DE                               |                                                  |
| PCBL-I61      | YP61-YC12:category I type plug, UK/HK/MO/SG/MY                   |                                                  |

| SO-DIMM Memory |               | DDR4-2133/2400 2GB/4GB/8GB/16GB/32GB |
|----------------|---------------|--------------------------------------|
| SSD            | mSATA SSD:    | 16GB/32GB/64GB/128GB/256GB/512GB/1TB |
|                | 2.5 inch SSD: | 16GB/32GB/64GB/128GB/256GB/512GB/1TB |
|                | 2.5 inch HDD: | 500GB/1TB/1.5TB/2TB                  |

| Wireless Module | Mini PCIe wireless module for 4G/5G LTE/Wi-Fi/BT/NB-IoT/GPS/BDS |
|-----------------|-----------------------------------------------------------------|
|-----------------|-----------------------------------------------------------------|

### Cable & Connector

|          |                                                                       |
|----------|-----------------------------------------------------------------------|
| CBL-S01  | 1x SATA (Data + Power) cable                                          |
| TBP5-S03 | 1x 3-Pin, pitch5.0mm Female Terminal Block Plug for DC input          |
| TBP3-S05 | 1x 5-Pin, pitch3.81mm Female Terminal Block Plug for remote connector |
| TBP3-D20 | 1x 2x10-Pin, pitch2.54mm Female Terminal Block Plug for DIO connector |

### Mounting Kit

|         |                                           |
|---------|-------------------------------------------|
| WBK-AIH | 2x Wall mount bracket with 6x M3x6 screws |
|---------|-------------------------------------------|

## Packing List

| Item No. |                                     |
|----------|-------------------------------------|
| 1        | 1x Eagle Eyes Embedded Box PC AIH10 |
| 2        | 4x Rubber foot with 6x M3x6 screws  |