

# Eagle Eyes-AIHV-EP

6th/7th Gen Intel® Xeon® E3/Core™ S Series (FCLGA1151 Socket) Box Computer



## Features

- 6th/7th Gen Intel® platform (formerly Skylake/Kaby Lake), Xeon® E3/Core™ S i7, i5, i3, Pentium® and Celeron® processor
- Supports LGA1151 socket desktop processor up to 35W
- Intelligent eKit with AI function to monitor system health via DDM
- Special Power Design:
  - Wide voltage 9~36V DC input
  - RVP/OVP/UVP/OCF support
  - Surge protection: 200V/1ms
  - Power ignition control
- Easy Expansion & Installation:
  - IOM2: various I/O function modules available
  - Remote on/off power switch with LED
  - Easily replaceable RTC battery holder
  - 3x SIM push-push slots



## I/O Comparison Chart

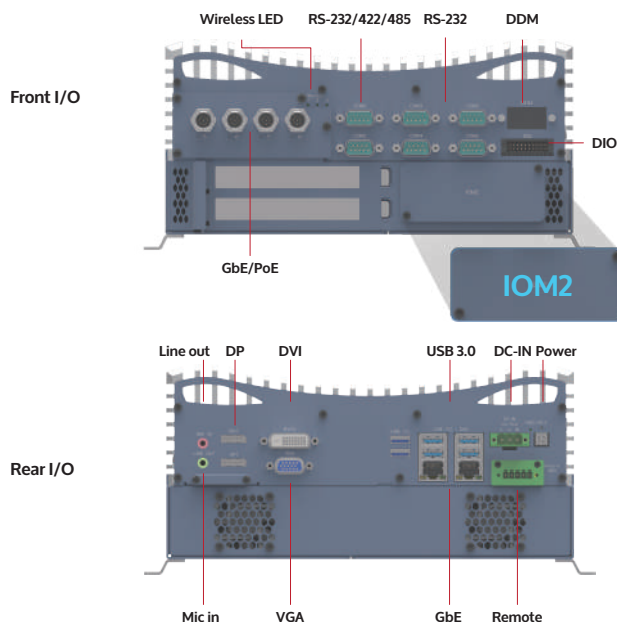
| Model Name | DP | DVI | VGA | GbE (RJ45) | GbE / PoE (M12) | DIO                                   | USB 3.0 | RS-232 | RS-232 / 422 / 485 | Internal 2.5" Disk Bay | Expansion Slot          |
|------------|----|-----|-----|------------|-----------------|---------------------------------------|---------|--------|--------------------|------------------------|-------------------------|
| AIHV-EP1   | 2  | 1   | 1   | 2          | 4               | 16-bit DIO                            | 6       | 4      | 2                  | 3                      | 1x PCIe x16, 1x PCI     |
| AIHV-EP2   | 2  | 1   | 1   | 2          | 4               | 16-bit DIO                            | 6       | 4      | 2                  | 3                      | 1x PCIe x16, 1x PCIe x4 |
| AIHV-EP3   | 2  | 1   | 1   | 2          | 4               | 16-bit DIO                            | 6       | 4      | 2                  | 3                      | 2x PCI                  |
| AIHV-EP1-i | 2  | 1   | 1   | 2          | 4               | 8-bit isolated DI & 8-bit isolated DO | 6       | 4      | 2                  | 3                      | 1x PCIe x16, 1x PCI     |
| AIHV-EP2-i | 2  | 1   | 1   | 2          | 4               | 8-bit isolated DI & 8-bit isolated DO | 6       | 4      | 2                  | 3                      | 1x PCIe x16, 1x PCIe x4 |
| AIHV-EP3-i | 2  | 1   | 1   | 2          | 4               | 8-bit isolated DI & 8-bit isolated DO | 6       | 4      | 2                  | 3                      | 2x PCI                  |

## Specifications

|                                   |   |
|-----------------------------------|---|
| <b>System</b>                     |   |
| CPU                               | 6th/7th Gen Intel® Xeon® E3/Core™ S (formerly Skylake/Kaby Lake)<br>LGA1151 socket type CPU (supports TDP up to 35W)  |
| Chipset                           | Intel®C236 Chipset  |
| Memory                            | 2x DDR4 SO-DIMM Max. 64GB (Skylake: DDR4-2133; Kaby Lake: DDR4-2400)  |
| Graphic                           | Xeon®: HD Graphics P530 (Skylake)/P630 (Kaby Lake)<br>Core™ I Series: HD Graphics 530 (Skylake)/630 (Kaby Lake)<br>Pentium®/Celeron®: HD Graphics 510 (Skylake)/610 (Kaby Lake) |
| BIOS                              | AMI 128Mbit SPI BIOS  |
| AI Controller (AIC)               | AI for system monitoring and predictive analysis  |
| Watchdog Timer                    | Runtime: 10 – 65535 seconds<br>Powerup: 120 – 65535 seconds   |
| TPM (optional)                    | SLB9665 (TPM 2.0) / SLB9635 (TPM 1.2)   |
| <b>Power</b>                      |   |
| DC Input                          | 9~36VDC   |
| Surge Protection                  | 200V/1ms  |
| 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 (BIOS setting)   |
| <b>Mechanical</b>                 |   |
| Dimensions (W x D x H)            | 260(W) x 206(D) x 124.4(H) mm (10.24" x 8.11" x 4.90")  |
| Weight (net/gross)                | 5.3kg   |
| Mounting                          | Foot stand; wall mount bracket (optional)   |
| Construction                      | Aluminum and metal chassis with fanless design  |
| Battery                           | Easily replaceable RTC battery holder   |
| Dynamic Display Module (DDM)      | 0.96 inch LCM work with AIC to display system status  |
| <b>External I/O</b>               |   |
| Display Ports / Resolution        | 2x DP /4096x2304@60Hz<br>1x DVI/1920x1200@60Hz<br>1x VGA/1920x1200@60Hz   |
| Triple Display Ports Combinations | 2x DP + 1x DVI<br>2x DP + 1x VGA<br>1x DP + 1x DVI + 1x VGA   |
| Ethernet                          | 2x RJ45 GbE (Intel®i219 + Intel®i210) / Wake-on-LAN and PXE/i219 supports iAMT 11.0   |
| PoE                               | 4x M12 GbE PoE+ (Intel®i210 ) 802.3at support up to 30W   |
| USB 3.0/2.0                       | 6x USB 3.0 ports via native XHCI controller (0.9A each port)  |
| COM                               | 2x RS-232/422/485 (auto flow control), 4x RS-232 port   |
| Digital I/O                       | 16-bit programmable DIO (AIHV-EP)   |
|                                   | 8-bit isolated DI & 8-bit isolated DO, Sink/Source Mode, 5~48V, 100mA (AIHV-EP-i)   |
| Audio                             | ALC892 HD Audio Codec, Mic in, Line out   |
| SIM                               | 3x SIM push-push slots  |

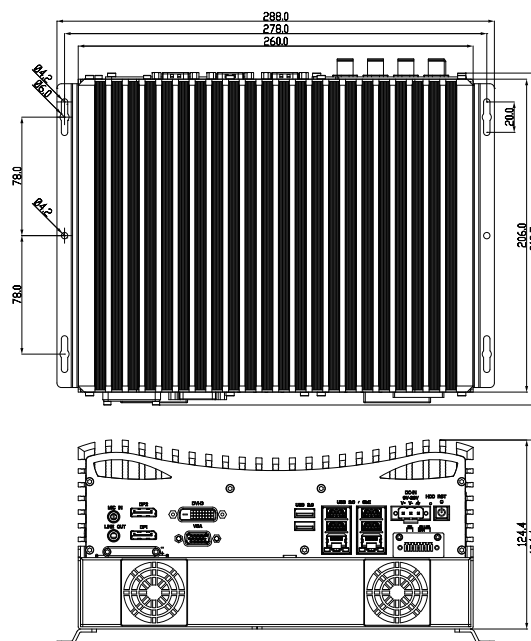
|  |   |
|--|---|
| <b>Storage</b>   |   |
| Internal Drive Bay   | 3x internal SATA port for 2.5" HDD/SSD  |
| mSATA  | 3x full length mSATA (muxed with Mini-PCIe)   |
| Removable Drive Bay  | NA  |
| RAID Mode  | RAID 0/1/5  |
| <b>Expansion slot</b>  |   |
| Mini-PCIe  | 3x full length Mini-PCIe (muxed with mSATA, auto detection)   |
| IOM1/IOM2 (optional)   | Supports IOM1/IOM2 module   |
| PCI / PCIe   | AIHV-EP1: 1x PCIe x16 + 1x PCI (PCI slot can't concurrent with IOM2)<br>AIHV-EP2: 1x PCIe x16 + 1x PCI x4 (PCIe x4 slot can't concurrent with IOM2)<br>AIHV-EP3: 2x PCI   |
| <b>Other</b>   |   |
| USB 2.0 Dongle   | Internal 1x USB 2.0 for dongle security key   |
| Antenna  | 4x antenna openings   |
| LED  | Power status, HDD status, IO status   |
| <b>Environment</b>   |   |
| Operating Temperature  | Standard: -20°C to 50°C (-4°F~122°F), supports CPU TDP up to 35W<br>Extended temperature: -25°C to 70°C (-13°F~158°F) (For more information, please contact your representative)  |
| Storage Temperature  | -40°C to 85°C (-40°F to 185°F)  |
| Relative Humidity  | 95% @ 40°C (104°F), non-condensing  |
| Vibration During Operation (IEC60068-2-64: Random 5~500Hz)       | 5Grms with SSD; 1Grms with HDD  |
| Shock During Operation (IEC60068-2-27: Half Sine, 11ms Duration) | 50Grms with SSD; 20Grms with HDD  |
| <b>Certification</b>   |   |
| EMC  | CE/FCC Class A  |
| Safety Certifications  | CB  |
| <b>OS Support</b>  |   |
| Optional OS Installation   | Windows 7 32-bit/64-bit (Skylake only)<br>Windows 8.1 32-bit/64-bit (Skylake only)<br>Windows Embedded Standard 7(Skylake only)<br>Windows Embedded 8 Standard (Skylake only)<br>Windows 10 64-bit<br>Windows 10 IoT<br>Linux |

## I/O Interfaces



## Dimensions

Units: mm



## Ordering Information

| Model Name |                 | Remark: Following models include 6th/7th Gen Intel® Skylake S/Kaby Lake S (SKL-S/KBL-S) platform, LGA 1151 socket desktop CPU, 2x DP, 1x DVI, 1x VGA, 2x GbE (RJ45), 4x GbE/PoE (M12), 6x USB 3.0, 2x RS-232/422/485, 4x RS-232, 3x internal SATA port for 2.5" HDD/SSD |
|------------|-----------------|---|
| AIHV-EP1   | Barebone System | 16-bit DIO, 1x PCIe x16, 1x PCI   |
| AIHV-EP2   | Barebone System | 16-bit DIO, 1x PCIe x16, 1x PCIe x4   |
| AIHV-EP3   | Barebone System | 16-bit DIO, 2x PCI  |
| AIHV-EP1-i | Barebone System | 8-bit isolated DI & 8-bit isolated DO, 1x PCIe x16, 1x PCI  |
| AIHV-EP2-i | Barebone System | 8-bit isolated DI & 8-bit isolated DO, 1x PCIe x16, 1x PCIe x4  |
| AIHV-EP3-i | Barebone System | 8-bit isolated DI & 8-bit isolated DO, 2x PCI   |

## CPU (Optional)

## 6th Gen Skylake

|            |  |
|------------|--|
| E3-1268Lv5 | Xeon® E3-1268L v5 (4 cores/8 threads, 2.4 GHz/3.4 GHz, 8MB cache, 35W TDP) |
| i7-6700TE  | Core™ i7-6700TE (4 cores/8 threads, 2.4 GHz/3.4 GHz, 8MB cache, 35W TDP)   |
| i5-6500TE  | Core™ i5-6500TE (4 cores/4 threads, 2.3 GHz/3.3 GHz, 6MB cache, 35 W TDP)  |
| i3-6100TE  | Core™ i3-6100TE (2 cores/4 threads, 2.7 GHz, 4MB cache, 35 W TDP)          |
| G4400TE    | Pentium® G4400TE (2 cores/2 threads, 2.4 GHz, 3MB cache, 35 W TDP)         |
| G3900TE    | Celeron® G3900TE (2 cores/2 threads, 2.3 GHz, 2MB cache, 35 W TDP)         |

## 7th Gen Kaby Lake

|           |   |
|-----------|---|
| i7-7700T  | Core™ i7-7700T (4 cores/8 threads, 2.9 GHz/3.8 GHz, 8MB cache, 35W TDP) |
| i5-7500T  | Core™ i5-7500T (4 cores/4 threads, 2.7 GHz/3.3 GHz, 6MB cache, 35W TDP) |
| i3-7101TE | Core™ i3-7101TE (2 cores/4 threads, 3.4 GHz, 3MB cache, 35W TDP)        |

## Optional Accessories

(Please contact sales representative)

## IOM2 Module

|  |           |  |
|--|-----------|--|
|  | IOM-4GR   | 4x RJ45 GbE                            |
|  | IOM-4GRP  | 4x RJ45 GbE with PoE (30.4W each port) |
|  | IOM-4GM   | 4x M12 GbE                             |
|  | IOM-4GMP  | 4x M12 GbE with PoE (30.4W each port)  |
|  | IOM-2SFP+ | 2x 10GbE Fiber ethernet                |

## Isolated Module

|           |  |
|-----------|--|
| iDIO-818O | 8-bit isolated DI & 8-bit isolated DO module |
|-----------|--|

## Other Accessories

(Please contact sales representative)

## AC-DC Power Adapter

|                |  |
|----------------|--|
| ADT-24V60-T3A  | 24V/60W AC-DC power adapter with pitch 5.08mm 3-pin terminal block plug  |
| ADT-24V90-T3A  | 24V/90W AC-DC power adapter with pitch 5.08mm 3-pin terminal block plug  |
| ADT-24V120-T3A | 24V/120W AC-DC power adapter with pitch 5.08mm 3-pin terminal block plug |
| ADT-24V160-T3A | 24V/160W AC-DC power adapter with pitch 5.08mm 3-pin terminal block plug |
| ADT-24V220-T3A | 24V/220W AC-DC power adapter with pitch 5.08mm 3-pin terminal block plug |
| ADT-24V280-T3A | 24V/280W AC-DC power adapter with pitch 5.08mm 3-pin terminal block plug |

## AC Power Cord

|          |  |
|----------|--|
| PCBL-B12 | YP12-YC12:category B type plug, H05VV-F 3G 0.75mm2, 1.8m, 250V, 10A, TW/JP/US/CA/TH/PH/Central America |
| PCBL-D03 | YP03-YC12:category D type plug, H05VV-F 3G 0.75mm2, 1.8m, 250V, 10A, CN                                |
| PCBL-D35 | YP35-YC12:category D type plug, H05VV-F 3G 0.75mm2, 1.8m, 250V, 10A, AU/NZ                             |
| PCBL-G22 | YP22-YC12:category G type plug, H05VV-F 3G 0.75mm2, 1.8m, 250V, 10A, DE                                |
| PCBL-I61 | YP61-YC12:category I type plug, H05VV-F 3G 0.75mm2, 1.8m, 250V, 10A, UK/HK/MO/SG/MY                    |

## SO-DIMM Memory

|     |  |
|-----|--|
| 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

|          |   |
|----------|---|
| Cable    | Mini-PCIe wireless module for 3G/4G LTE/Wi-Fi/BT/NB-IoT/GPS/BDS       |
| CBL-S01  | SATA (Data + Power) cable x1  |
| TBP5-S03 | 3-Pin, pitch5.08mm Female Terminal Block Plug for DC input x1         |
| TBP3-S05 | 5-Pin, pitch3.81mm Female Terminal Block Plug for Remote Connector x1 |
| TBP3-D20 | 2x10-Pin, pitch3.5mm Female Terminal Block Plug for DIO Connector x1  |

## Mounting Kit

|         |   |
|---------|---|
| WBK-AIH | Wall Mount Bracket x2 with M3x6 screws x6 |
|---------|---|

## Packing List

| Item No. |                                       |
|----------|---------------------------------------|
| 1        | Eagle Eyes Embedded Box PC AIHV-EP x1 |
| 2        | Rubber Foot x4 with M3x6 screws x6    |

\* Please contact sales representative