

ABP-3000 Series



8th Gen Intel® Core™ U-series Processor (Whiskey Lake)
Ultra-slim Fanless Edge AI Computing System

- 8th Generation Intel® Core™ U-series processor (Whiskey Lake) supports up to 40% greater productivity than former generation
- Ultra-slim and cableless design supports wide range temperature of -40°C to 75°C with fanless operation
- Advanced AI Accelerator supports up to 26 Tera-Operations Per Second (TOPS) with best-in-class power efficiency of 3 TOPSW
- 2 DDR4 2400MHz memory, up to 64GB
- 4-port USB 3.1 support up to 10Gbps data transfer
- 4 Independent GigE LAN with 2 IEEE 802.3at PoE+
- SIM Socket for 5G/WiFi/4G/3G/LTE/GPRS/UMTS
- 4 COM RS-232/422/485, 16 Isolated DIO
- 9V to 50V DC wide range Power Input
- Ignition Power Control, TPM 2.0
- Expansion : M.2 Key B, M.2 Key M, M.2 Key E and Mini PCIe
- Optional VHub One-Stop AIoT Solution Service supports OpenVINO based AI accelerator and advanced Edge AI applications

Machine Vision



In-vehicle Computing



AMR/AGV



Intelligent Control



intel partner
Gold IoT Solutions



Specifications

System

| | |
|-----------|---|
| Processor | Quad Core Intel® Core™ i7-8665UE/i3-8145UE Processor (Whiskey Lake) |
| Chipset | Intel® SoC (Cannon Lake) |
| BIOS | AMI |
| SIO | IT8786E |
| Memory | 2 DDR4 2400MHz SO-DIMM, up to 64GB |
| OS | Windows 10, Linux |

AI Accelerator (ABP-3000 AI)

| | |
|-----------|--------------------------------------|
| Processor | Hailo-8™ AI Processor, up to 26 TOPS |
| Framework | TensorFlow, ONNX |

I/O Interface

| | |
|--------------|--------------------------------|
| Serial | 4 COM RS-232/422/485 (ESD 8kV) |
| USB | 4 USB 3.1 (External) |
| Isolated DIO | 16 Isolated DIO : 8 DI, 8 DO |
| LED | HDD, PoE* |
| SIM Card | 2 Internal SIM Card Socket |

Expansion

| | |
|-----------|---|
| M.2 | - 1 M.2 Key E Socket (2230, PCIe) - 1 M.2 Key B Socket (3042/3052, PCIe x2/USB3) |
| Mini PCIe | 1 Mini PCIe Socket for PCIe/USB/SIM Card |

Graphics

| | |
|--------------------|---|
| Graphics Processor | Intel® UHD Graphics 620 |
| Interface | 2 DisplayPort : Up to 4096 x 2304 @60Hz |

Storage

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|-----|---|
| M.2 | - 1 M.2 Key M Socket (2280, PCIe x4/SATA, ABP-3000 only) - 1 M.2 Key B Socket (2280, PCIe x2/SATA) |
|-----|---|

Audio

| | |
|-----------------|--|
| Audio Codec | Realtek ALC888S-VD, 7.1 Channel HD Audio |
| Audio Interface | 1 Mic-in, 1 Line-out |

Ethernet

| | |
|-------|---|
| LAN 1 | GigE LAN by Intel® Ethernet Controller I350 |
| LAN 2 | GigE LAN by Intel® Ethernet Controller I350 |

PoE

| | |
|-------|---|
| LAN 3 | GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I350 with Power On/Off Control |
| LAN 4 | GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I350 with Power On/Off Control |

Power

| | |
|------------------|-------------------------------------|
| Power Input | DC 9V to 50V |
| Power Interface | Mini DIN |
| Ignition Control | 16 Mode |
| Remote Switch | 3-pin Terminal Block : On, Off, IGN |

Others

| | |
|----------------|---|
| TPM | Optional Infineon SLB9665 supports TPM 2.0, LPC Interface |
| Watchdog Timer | Reset : 1 to 255 sec./min. per step |
| Smart Mgmt. | Wake on LAN, PXE supported |
| HW Monitor | Monitoring temperature, voltages. Auto throttling control when CPU overheats. |

Mechanical

| | |
|------------|--|
| Dimensions | 224.0mm x 149.0mm x 32.6mm (8.82" x 5.87" x 1.28") |
| Weight | 1.4 kg (3.09 lb) |

Environment

| | |
|-------------------|--|
| Operating Temp. | ABP-3000 : -40°C to 75°C (-40°F to 167°F) ABP-3000 AI : 0°C to 60°C (32°F to 140°F) |
| Storage Temp. | ABP-3000 : -40°C to 85°C (-40°F to 185°F) ABP-3000 AI : 0°C to 70°C (32°F to 158°F) |
| Humidity | 5% to 95% Humidity, non-condensing |
| Relative Humidity | 95% @75°C |
| Shock | - IEC 60068-2-27 - SSD : 50G @ wallmount, Half-sine, 11ms |
| Vibration | - IEC 60068-2-64 - SSD : 5Grms, 5Hz to 500Hz, 3 Axis |
| EMC | CE, FCC, EN50155, EN50121-3-2 |

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Order Information

| Model No. | CPU | AI Accelerator | GigE LAN (PoE) | USB 3.1 | COM | Isolated DIO | M.2 |
|-------------------|----------------|----------------|----------------|---------|-----|--------------|-----|
| ABP-3000-8665U | Core i7-8665UE | - | 4 (2) | 4 | 4 | 16 | 4 |
| ABP-3000 AI-8665U | Core i7-8665UE | Hailo-8 | | | | | 3 |
| ABP-3000-8145U | Core i3-8145UE | - | 4 (2) | 4 | 4 | 16 | 4 |
| ABP-3000 AI-8145U | Core i3-8145UE | Hailo-8 | | | | | 3 |

Optional Software

| | |
|-------------------|----------------------|
| VHub AI Developer | AI Development Kit |
| VHub ROS | AMR Development Kit |
| VHub EtherCAT | I/O Control Platform |

Accessories

| | |
|--------------------|---|
| DDR4 32G | Certified DDR4 32GB 2666MHz RAM |
| DDR4 16G | Certified DDR4 16GB 2666/2400/2133 MHz RAM |
| DDR4 8G | Certified DDR4 8GB 2666/2400/2133 MHz RAM |
| DDR4 4G | Certified DDR4 4GB 2666/2400/2133 MHz RAM |
| PWA-120WM4P1 | 120W, 24V, 90V AC to 264V AC Power Adapter with 4-pin Mini-DIN Connector |
| M.2 Storage Module | M.2 Key M/Key B PCIe Storage Module |
| TMK2-20P-100 | Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm |
| TMK2-20P-500 | Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm |
| TMB-TMBK-20P | Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting |
| 5G Module | 5G Module with Antenna |
| 4G Module | 4G/GPS Module with Antenna |
| WiFi & Bluetooth | WiFi & Bluetooth Module with Antenna |

Dimensions & Drawing

Unit : mm (inch)

