

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



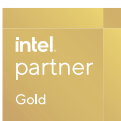
In-vehicle Computing



AMR/AGV



Intelligent Control



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 (PCIe x1) - 1 M.2 Key B Socket (PCIe x2/USB 3.1)
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

M.2	- 1 M.2 Key M Socket (PCIe x4/SATA, ABP-3000 only) - 1 M.2 Key B Socket (PCIe x2/SATA)
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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-120WM4P	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)

