

AE-3588LBT | Edge AI computer | Up to 36 TOPS| BITECH



Features:

- Fanless industrial AI edge computer for harsh environments
- Built-in NPU with expandable AI computing power up to 36 TOPS
- Native Android OS with open root access for deep customization
- Supports AI frameworks: TensorFlow, ONNX, Caffe, MXNet, Darknet
- Rich industrial I/O with isolated GPIO, CAN Bus, RS232/RS485
- Designed for 7×24 continuous operation



SKU		AE-3588LBT
Product type		AE-3588LBT focuses on fieldbus-integrated edge AI control, while AE-3588BT targets maximum AI scalability and I/O density
Product color		Extruded Aluminum with Heavy Duty Metal
Operating system		Android 12/ Debian 11/Ubuntu20.04 etc
HARDWARE		
CPU		RK3588, Octa core, 4x A76, 4x A55, Up to 2.4GHz
Graphic card		Mali-G610, Support OpenGL ES3.2, OpenGL2.2, 450 GFLOFS
NPU		• Built-in Neural Processing Unit (NPU) for high-efficiency AI inference • Supports multiple data precisions: IN4 / IN8 / INT16 / FP16 • Onboard AI performance up to 6.0 TOPS • Supports expansion via 1 × PCIe M.2 NPU accelerator modules (26 TOPS each) • Total AI computing power scalable up to 32 TOPS • Compatible with mainstream AI frameworks including Caffe, MXNet, TensorFlow, TensorFlow Lite, ONNX, Darknet • Provides AI development tools for fast model conversion and deployment
Memory		On board LPDDR4 8GB (16G/32G Option)
Storage		On baord 128GB EMCC (256GB for option) Support SATA HDD
PCIe extension		1x PCIe M.2 Extension, 4-lane(PICex 4) high-speed communication, support M2242, M2260
Network	WI-FI	Support Dual wifi 2.4G&5G, WIFI 6 option
	Bluetooth	BT5.2
	4G	Built-in 4G Module, Mini PCIe port Support LTE-TDD/LTE-FDD/TD-SCDMA/EDGE/GPRS/GSM option
	5G	Built-in 5G Module, Mini PCIe port Support 5G-NR-NSA/5G-NR-SA/LTE-TDD/LTE-FDD/LAA/WCDMA/MIMO/GNSS option
	Ethernet	2x LAN 10/100/1000 Mbps
GPS	GPS/BD	Built-In GPS/BD, Sensitive: -162dBm, Receiving Frequency: 1575.42MHZ, Satellite channel: 20 Channels

Gravity sensor	Supports manual rotation at 0, 90, 180, and 270 degrees, and automatic screen rotation via gravity sensor (optional).
Display	1x eDP (Compliant with eDP 1.3 4 lanes, up to 5.4 Gbps per lane Supports 3.3V / 5V) 1 × LVDS (single-channel / dual-channel, 6-bit / 8-bit color depth, 1080P @ 60Hz output Supports 3.3V / 5V / 12V panel power output 1 × HDMI 2.1 (up to 8K @ 60Hz output) 1 × HDMI 2.0 (up to 4K @ 60Hz input) 1 × MIPI display output (up to 5.7 Gbps) Support Multi-display independent output
Camera	1x MIPI Camera, support max 4800w
Audio	1x Speaker (2x 18W 4R), 1x Microphone, 1x Earphone
INTERFACE	
I/O ports	Power Button 1x Power on/off
	DC 1x DC12V/5A 4.5*2.1mm
	Phonex terminal 1x 12PIN Phonex terminal (Power/232*1/485*1/CAN*1/GPIO*3)
	HDMI 1x HDMI 2.1, 8K 60Hz Output 1x HDMI 2.0, 4K 60Hz Input
	USB 2x 5Gbps USB 3.2 Gen1, Type A 2x 480Mbps USB2.0, Type A
	GPIO 4-Bit GPIO
	COM 4× RS232, 2× RS485/RS232
	CAN Bus None
	Ethernet 2x LAN 10/100/1000 Mbps
	Audio 1x 3.5mm Combo audio jack
	SIM 1x Sim Slot, Support 4G/5G LTE, Support eSIM
	TF 1x TF card slot
Systems support	
Android systems	• Native Android operating system with open root access, supporting customized product development • Enables system-level application development and deep functional customization • Supports real-time remote monitoring with automatic system recovery, designed for 24/7 unattended operation • Supports OTA remote system and application upgrades • Supports WiFi Display for wireless screen casting
Watchdog	• Built-in system watchdog, with both software and hardware watchdog support to ensure long-term system stability
RTC	• Built-in real-time clock (RTC) with backup battery to maintain accurate system time during power loss • Integrated super capacitor design for improved power-off protection and system reliability • Supports scheduled power on/off for unattended operation and centralized device management
Compatibility	
Operation Temperature	• -40°C to +80°C
Storage Temperature	• -20°C to +70°C
Relative Humidity	• 10-80 % RH @ 70°C (Non-condensing)
Shock	15G, 11ms
Vibration	5 - 500 Hz/1 Grms
EMI	• CE certification
ESD	• Terminal ±4KV, Air ± 8KV
Dimensions And Weight	
Dimensions (W x D x H)	148*126*40mm
Weight	1.3 kg

Mounting	Rack mount or Desk
Power adapter	Input: 100-240V 50/60HZ, Output: DC DIAMETER ϕ 5.5mm, 12V/5A
Physical Design	• Fanless Design • Cableless Design • Jumper-less Design • Unibody Design
Lifetime/Warranty/After sales service (For more details, Pls check our after-sales service policy document)	
Lifetime	5-7 years lifecycle for mainboard, modules, shells, ICs.
Technical support	lifetime for OS support, BIOS/Firmware updates, CAN/RS485/PLC debugging,
Warranty	24-Month for completely unit
* We deliver audited consistency with AQL inspection, 100% 6-hour power-on burn-in under load, full SN traceability	

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BITECH provides scalable hardware platform solutions with optional SDK and OS customization for fast system integration