

JEA-E88A

Rockchip RK3588J
Arm-based Robot Controller

Features

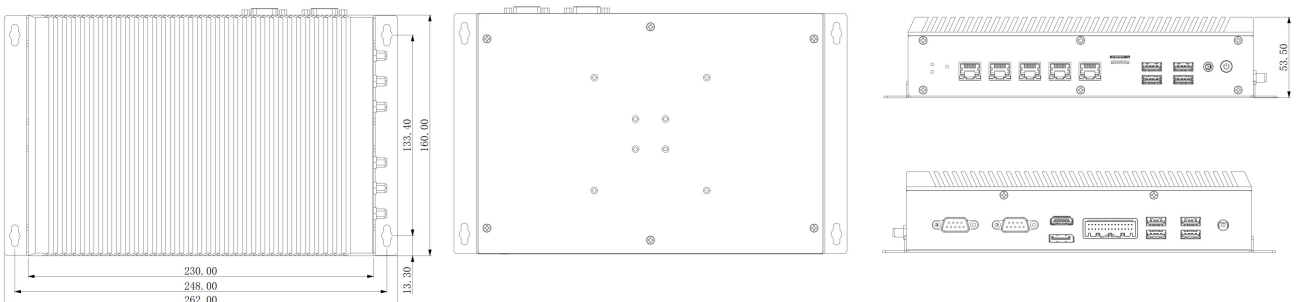
- Integrated CV+SLAM solution for AGVs/AMRs
- Industrial grade Rockchip RK3588J SoC
- 4x Cortex-A76 + 4x Cortex-A55 + 6 TOPS NPU
- Built-in 6-axis IMU for motion tracking
- 5x GbE LAN for LiDAR connectivity
- 8x USB for cameras & sensors
- 4x M.2 for WiFi, 5G/4G, SSD & AI expansion
- Linux Ubuntu OS with ROS support
- Wide temperature & wide voltage support



Product View



Dimensions



System	SoC	Rockchip RK3588J/RK3588
	CPU	Quad core Arm Cortex-A76 up to 2.2 GHz (consumer) / 2.0 GHz (industrial) Quad core Arm Cortex-A55 up to 1.8 GHz (consumer) / 1.7 GHz (industrial)
	MCU	-
	NPU	6 TOPS Neural Network performance
	Memory	On-board 4GB/8GB LPDDR4X
	Flash Memory	On-board 32GB/64GB/128GB eMMC 5.1 for OS
Video	Graphics Engine	Arm Mali-G610 MP4, supports OpenGL ES 1.1/2.0/3.2, OpenCL 2.2, Vulkan 1.2
	HW Video Codec	H.265/H.264/VP9/AV1/AVS2 Decoder up to 8K60 H.265/H.264 Encoder up to 8K30
	Interface	1x HDMI 2.1 Type-A 1x DP 1.4 Type-A 1x LVDS or eDP internal header
Audio	Audio Codec	ES8336
	Interface	1x 3.5mm Line out
I/O	Ethernet	1x RJ45, 10/100/1000 Mbps, independent by RTL8119I 4x RJ45, 10/100/1000 Mbps, switched by RTL8367NI
	USB	4x USB 3.0 Type-A 4x USB 2.0 Type-A (1 supports OTG for OS image flashing)
	Serial Port	1x Isolated RS232 by DB9 1x Isolated RS485 by DB9
Expansion	MIO	1x 28-pin Mixed I/O for chassis module (1x CAN, 1x RS232, 2x RS485, 4x GPI, 4x GPO)
	M.2	1x M.2 Key E 2230 for WiFi 5/WiFi 6 1x M.2 Key B 3042/3052 for 4G/5G 1x M.2 Key M 2280 for SATA SSD 1x M.2 Key M 2280 for AI accelerator (PCIe x2)
	SD Card	1x Micro SD slot
	SIM Card	1x Micro SIM slot
Other Features	Motion Tracking	On-board TDK ICM-42670-P 6-axis IMU sensor
	Watchdog	Watchdog Timer & power on/off management
	Real Time Clock	On-board RTC chip, battery-backed
Power	Power Input	12~36V DC-IN (built-in power supply module)
	Interface	5.5x2.5mm DC Jack
	System Ctrl & Monitoring	1x Power button, 1x Recovery button 2x LEDs for power & SSD
Mechanical	Dimensions	230mm x 160mm x 54mm
Software	OS Support	Ubuntu 20.04 + ROS Noetic, Debian 11, Android 12
Environment	Operating Temp.	0~50°C / -20~60°C optional
	Storage Temp.	-30~70°C
	Humidity	10%~90% RH, non-condensing
	Certifications	CCC

Part Number	SoC	Memory	Flash	SSD	Wireless	Isolation	Power Supply	Operating Temp.
JEA-E88A-AOHL1	RK3588J	8GB	64GB	512GB	LTE Cat 4 included	Serial Ports	DC 12~36V	-20~60°C
JEA-E88A-AOML1	RK3588J	8GB	32GB	512GB	LTE Cat 4 included	Serial Ports	DC 12~36V	-20~60°C
JEA-E88A-AOME1	RK3588J	8GB	32GB	-	LTE Cat 4 included	-	DC 12V	-20~60°C
JEA-E88A-BOML1	RK3588	4GB	32GB	-	WiFi 5 + BT included	-	DC 12~36V	0~50°C

■ Packing List

Article	Description
SATA SSD	Pre-integrated as specified
Wireless module	Pre-integrated as specified
Power Supply module	Pre-integrated as specified
60W Power Adaptor	AC 100~240V to DC 12V/5.0A
Power Cord	CCC 10A 250 V

■ Optional Accessories

Article	Description
Power Supply module	DC 6~36V (typical 12/24V) to DC 12V/5.5A
90W Power Adaptor	AC 100~240V to DC 19V/4.736A
MIO cable	MIO to Dupont 1P-2.54mm, L=2000mm
512GB SATA SSD	TS512GMTS970T-JWC, M.2 2280 SATA 6Gbps (-20~75°C)
512GB SATA SSD (wide temp.)	TS512GMTS970TI-JWC, M.2 2280 SATA 6Gbps (-40~85°C)
AI Accelerator	Cambricon MLU220 8TOPS (INT8) module
WiFi 5 Expansion kit	AW-CB515NF 802.11ac WiFi 1T1R and BT 5.0 combo module with antenna
WiFi 6 Expansion kit	AW-XB547NF 802.11ax WiFi 2T2R and BT 5.2 combo module with antenna
4G Expansion kit	Quectel EM05-CN LTE Cat 4 module with antenna (optional GNSS)
5G Expansion kit	Quectel RM500U-CN 5G Sub-6 GHz module with antenna
Thermal kit for AI module	AI. heatsink with thermal pad & screws
Thermal kit for 5G module	AI. heatsink with thermal pad & screws
Wall mount kit	Wall mount brackets with screws