ED-AIC3100

Datasheet

by EDA Technology Co., Ltd

built: 2025-02-11

ED-AIC3100

Industrial Smart Camera Based on Raspberry Pi CM5

- Broadcom BCM2712, quad core Cortex-A76 (ARM v8) 64-bit SoC @ 2.4GHz
- Up to 8GB LPDDR4 RAM and 64GB eMMC storage
- High-resolution image sensor of 12 million pixels and up to 70 FPS sampling rate for ultra-fast image acquisition
- Support C-Mount lens
- High-quality industrial blue aluminum alloy case, supporting bracket mounting

Specifications

System	
CPU	Broadcom BCM2712, quad core Cortex-A78 (ARM v8) 64-bit SoC @ 2.4GHz
VPU	H.265 (HEVC), up to 4Kp60 decode
GPU	OpenGL ES 3.1 & Vulkan 1.2
Memory	Options for 2GB, 4GB, 8GB LPDDR4-4267 SDRAM
Storage	Options for 16GB, 32GB, 64GB eMMC storage

Software	
Operating System	Raspberry Pi OS (Desktop) 64-bit
Communication Protocol	Ethernet/IP, Modbus TCP, TCP/IP and MC

Panel I/O	
Power & IO (12-Pin)	1 x Power & IO port, 12-Pin aviation connector, which is used to connect the power & IO cable (12-Pin M12 connector to bare wire) to access external signals. The signals include power supply, RS232, DI and DO. • 1 x DC IN: 2-Pin, it supports DC 24V input and the signal is defined as DC-/DC+. • 1 x RS232: 3-Pin, the signal is defined as TX/RX/GND. • 1 x DI: 2-Pin, the signal is defined as DI/COMMON. • 2 x DO: 3-Pin, the signal is defined as DO1/DO2/COMMON. • 1 x Trigger: External trigger signal • 1 x External Strobe: Control signal of screen flicker
Communication (8-Pin)	1 x Communication port, 8-Pin aviation connector, which is used to connect the ethernet cable (8-Pin M12 connector to RJ45 connector) to enable camera to access the network.

Panel I/O	
Lens	C-Mount Lens

Buttons and Indicators	
TUNE	1 x Adjusting button, one-click button for Auto Focus
TRIG	1 x Trigger button, one-click button for camera trigger
Power indicator	1 x Power indicator, which is used to check the status of camera power-on and power-off.
Fault indicator	1 x Fault indicator, which is used to check the fault status of camera.
Working status indicator	1 x Working status indicator, which is used to check the working status of camera.
Network indicator	2 x Network indicators, which is used to view the status of network connection and data communications.

Performance Characteristics	
Image Sensor	12 million pixels
Sampling Rate	Up to 70 FPS

Electrical Characteristics	
Input Voltage	DC 24V (±10%) A DC 24V 2A power adapter is recommended.
Power Consumption	36W (Max)

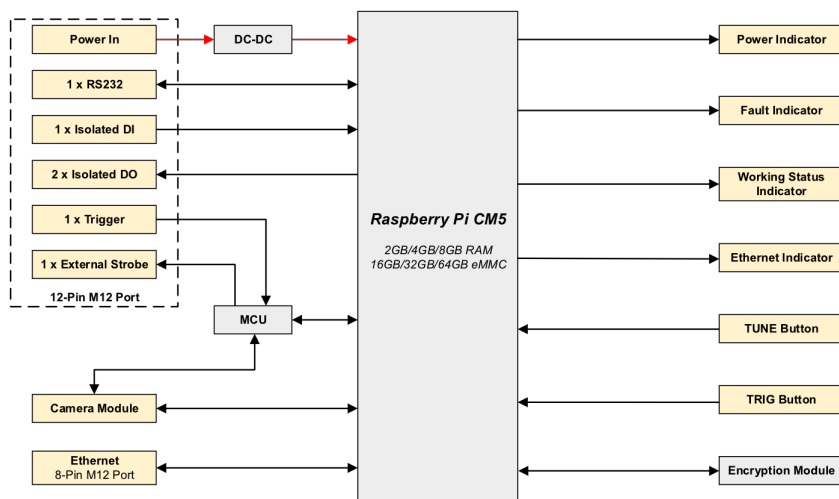| Mechanical Characteristics	
Dimensions	85mm x 60mm x 108.9mm
Weight	About 400g
Installation	Mouting bracket (optional)

Environmental & Regulatory	
Operating Temperature	0°C ~ 45°C
Storage Temperature	-4°C ~ 60°C
Ambient humidity	5% ~ 90% (non-condensing)
Protection degree	IP65
Shock resistance	EN 60068-2-27, 30 g; 11ms; 3 impacts per axial direction

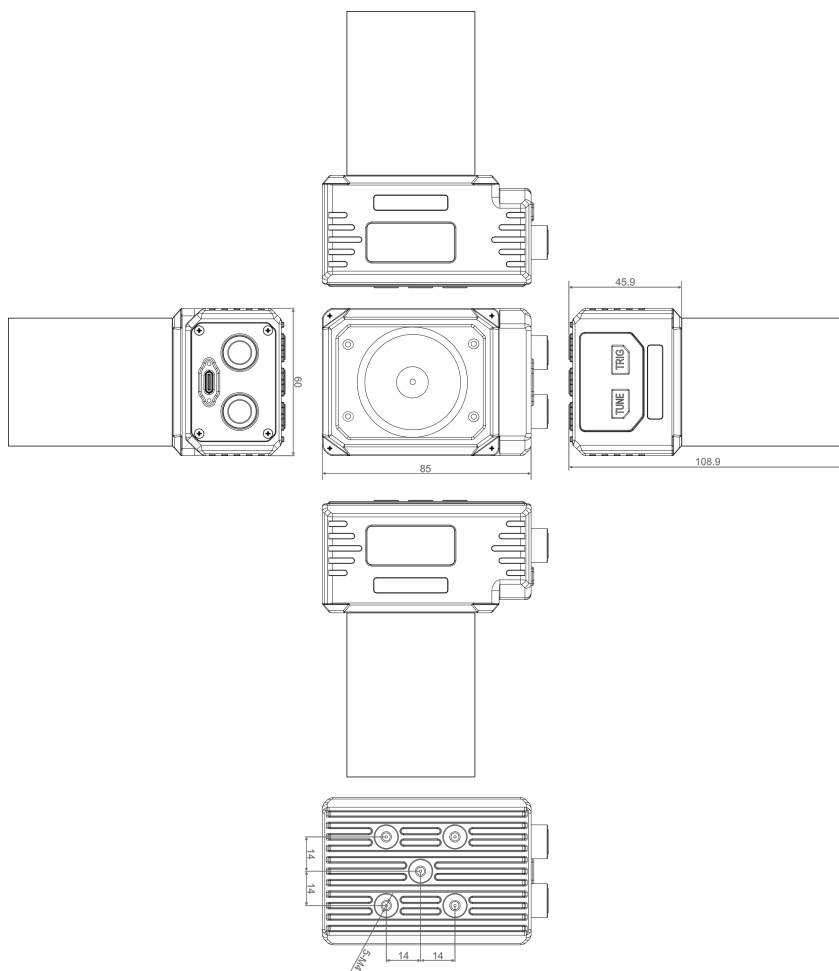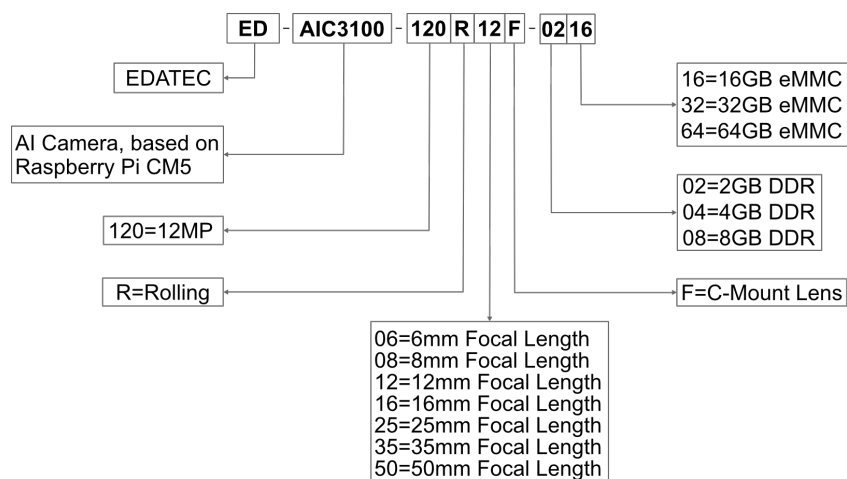| Environmental & Regulatory	
Vibration resistance	EN 60068-2-6, 14 mm @ 2 ~ 10 Hz, 1.5mm @ 13 ~ 55 Hz
	2 g @ 70 ~ 500 Hz, 2-way 2 hours per axial direction

System Diagram

Dimensions

Unit: mm

Ordering Code

ED - AIC3100 - 120 R 12 F - 02 16

EDATEC

AI Camera, based on Raspberry Pi CM5

120=12MP

R=Rolling

16=16GB eMMC
32=32GB eMMC
64=64GB eMMC

02=2GB DDR
04=4GB DDR
08=8GB DDR

F=C-Mount Lens

06=6mm Focal Length
08=8mm Focal Length
12=12mm Focal Length
16=16mm Focal Length
25=25mm Focal Length
35=35mm Focal Length
50=50mm Focal Length

Example

P/N : **ED-AIC3100-120R12F-0216**
Configuration : AI Camera Based on Raspberry Pi CM5, with 2GB DDR,
16GB eMMC, 12MP, Rolling shut and 12mm C-Mount lens.

Optional Accessories

Optional cables and mounting accessories are available.

Ordering Code	Description	Picture
ED-ACC-AIC-ETH-A-03	3m ethernet cable of 8-Pin M12 male connector to RJ45 connector	
ED-ACC-AIC-ETH-A-05	5m ethernet cable of 8-Pin M12 male connector to RJ45 connector	
ED-ACC-AIC-ETH-A-10	10m ethernet cable of 8-Pin M12 male connector to RJ45 connector	
ED-ACC-AIC-ETH-A-15	15m ethernet cable of 8-Pin M12 male connector to RJ45 connector	
ED-ACC-AIC-PWR-A-03	3m power&IO cable of 8-Pin M12 female connector to bare wire	
ED-ACC-AIC-PWR-A-05	5m power&IO cable of 8-Pin M12 female connector to bare wire	
ED-ACC-AIC-PWR-A-10	10m power&IO cable of 8-Pin M12 female connector to bare wire	
ED-ACC-AIC-PWR-A-15	15m power&IO cable of 8-Pin M12 female connector to bare wire	
ED-ACC-AIC-DW-FIX001	Mounting Bracket for fixing device	

Ordering Code	Description	Picture
ED-ACC-AIC-DW-FIX002	3 x M4*8 Screws (with 3 spring washers and 3 flat washers) 1 x M6*10 Screw (with 1 spring washer and 1 flat washer)	

Packing List

- 1 x ED-AIC3100 Unit