



ACA302

Stereo Depth Camera

The ACA302 camera module is a depth camera based on active stereo structured light for 3D imaging. It consists of two IR image sensors, one RGB image sensor, one infrared speckle projector, and one IMU. It is suitable for applications such as robot, AGV, AMR, drone obstacle avoidance and navigation.



- 3D imaging based on structured light
- Depth measurement up to 25m
- Maximum output of 1280x800@30fps image data
- 6-axis IMU supports 3D positioning data
- Support hardware frame synchronization
- USB 3.0 Type-C interface

Application



Robot



AGV / AMR



Drone Obstacle
Avoidance / Navigation



Depth Image	Technical Solution	Active Stereo, also supports Passive Stereo	
	Baseline	54.5mm	
	Recommended Working Distance	0.25m–5m	
	Maximum Working Distance	25m (supports depth calculation)	
	Blind zone	0.25m	
	Accuracy	≤2% @2m	
	Field of View	H84° X V59°±3°	
	Resolution & Frame Rate	1280x800p15/30;1280x720p15/30;640x480p15/30;640x400p15/30;320x200p15/30	
IR Image	Field of View	H84° X V59° ±3°	
	Field of View	1280x800p15/30;1280x720p15/30;640x480p15/30;640x400p15/30;320x200p15/30	
	Shutter	Global Shutter	
RGB Image	Field of View	H94° X V66° ±3°	
	Field of View	1280x800p15/30 1280x720p15/30 640x480p15/30 640x400p15/30 320x200p15/30	
	Shutter	Global Shutter	
IR Pattern Projector	Wavelength	850nm speckle	
IMU	Type	3-axis accelerometer, 3-axis gyroscope	
Synchronization	Hardware Frame Synchronization	Support	
Hardware	Interface	USB3.0 Type-C	
	Dimensions	90.75mm X 25mm X 30mm	
	Average Power Consumption	<3.2W@640x400p30	
Reliability	Operating Temperature	-20~50℃	
	Storage Temperature	-30~70℃	
	Protection Rating	IP54	

— Data Format

Depth	Z(16bit)
IR	Y(8bit)
RGB	NV12
IMU	X[16 bits] ; Y[16 bits] ; Z[16 bits]