

GENERAL DESCRIPTION

The camera is equipped with SONY CMOS image ,is supplied with an M12 lens that is focused and glued in our factory, can be adapted to difference SOC platforms.

KEY PARAMETERS

Sensor	SONY 2.12MP IMX390 RGGB
ISP	/
Image Size	1/2.7 inch CMOS
Output Pixels	1920H*1080V
Frame Rate	Up to 60 fps
Pixel Size	3um
HDR Support	Yes
Output data	MIPI/RAW@10bit/12bit
Power Supply	3.3V
Current	<300mA@3.3VDC
Camera interface	FPC
Connector	FH67-30S-0.5SV
Operating temp.	-40~+85°C
Dimensions	W: 20mm, L:35mm, H:25mm
Weight	<50g



Features

- Output format: Uncompressed RAW format
- Industrial high performance
- Support different focal length lens
- Support external triggering
- Multi-Camera synchronization



Application

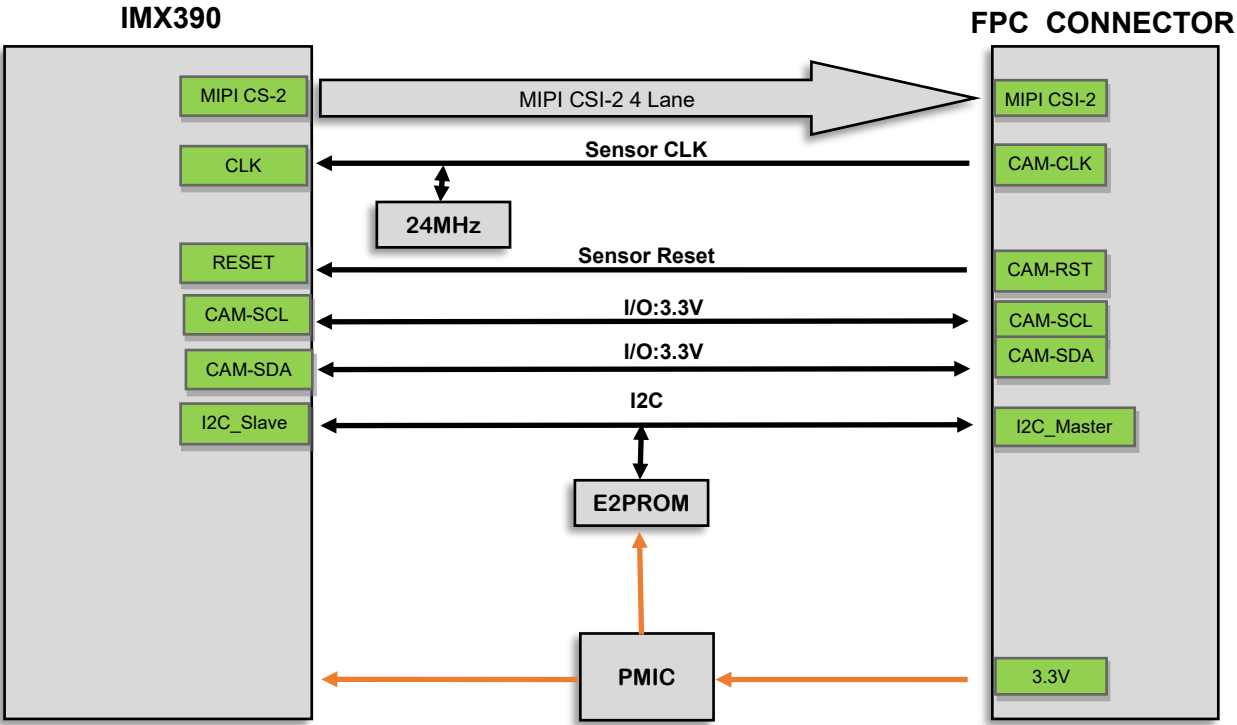
- Machine-vision
- Intelligent transportation
- Aeronautics and Astronautics
- Industrial inspection



HARDWARE SETTING

EEPROM	
I2C Address	0xA0(8bit address)

Sensor	
Model	IMX390
I2C Address	0x20 (8bit address)



Block Diagram





Pin Definitions

NO	Pin Name	Type	Description
1	E2PPROM-WP	INPUT:3.3V	Write protection for E2PROM L:Write disable; H:writable
2	ERROR1	OUTPUT:1.8V	Error indicating output
3	ERROR0	OUTPUT:1.8V	Error indicating output
4	GND	POWER	
5	SENSOR-COMREADY	OUTPUT:1.8V	Ready signal before communication connection
6	SENSOR-FRSYNC	OUTPUT:1.8V	Frame synchronization signal
7	GND	POWER	
8	D1_N	OUTPUT	MIPI
9	D1_P	OUTPUT	MIPI
10	GND	POWER	
11	D2_N	OUTPUT	MIPI
12	D2_P	OUTPUT	MIPI
13	GND	POWER	
14	CLK_N	OUTPUT	MIPI
15	CLK_P	OUTPUT	MIPI
16	GND	POWER	
17	D3_N	OUTPUT	MIPI
18	D3_P	OUTPUT	MIPI
19	GND	POWER	
20	D4_N	OUTPUT	MIPI
21	D4_P	OUTPUT	MIPI
22	GND	POWER	
23	SENSOR-RESETn	INPUT:1.8V	Sensor reset signal
24	CAM-CLK	时钟信号 (24MHZ)	Clock signal input (module default built-in crystal oscillator)
25	GND	POWER	
26	CAM-SCL	I/O:3.3V	Pull up 10K(address: 7'H21 or 0X21)
27	CAM-SDA	I/O:3.3V	Pull up 10K(address: 7'H21 or 0X21)
28	GND	POWER	
29	VCC-3.3V	POWER	
30	VCC-3.3V	POWER	



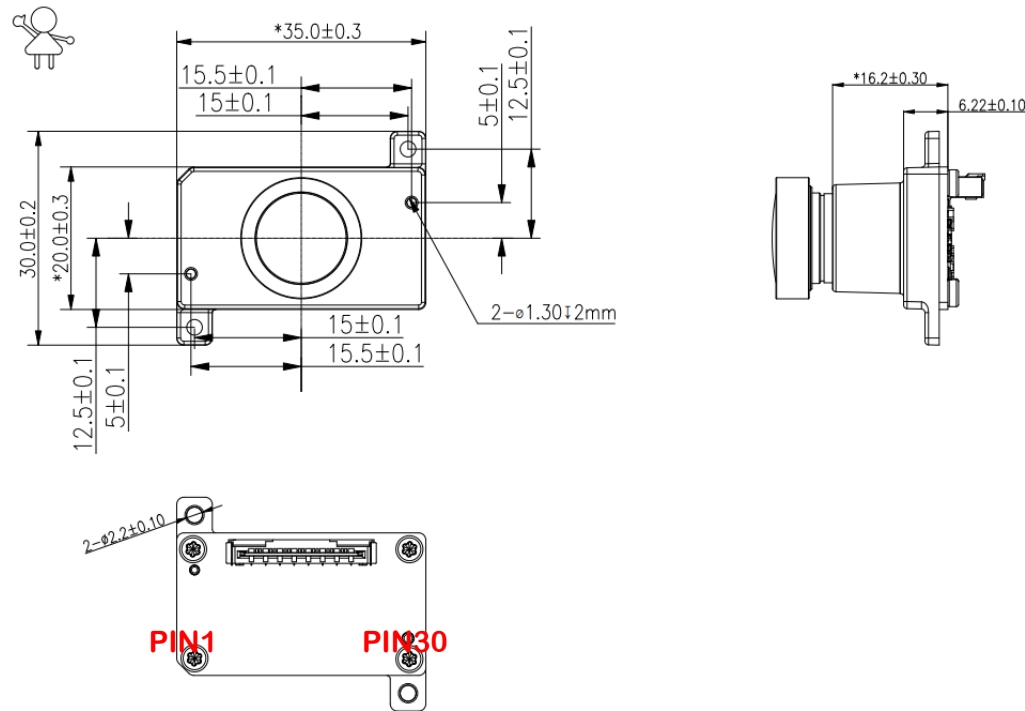


MODEL AND LENS

Model	HFOV	VFOV	F.No	EFL	Max Optical Distortion	Lens Mount
SG2-IMX390C-MIPI-H30X	30°	17°	1.6	10.96mm	-2%	M12
SG2-IMX390C-MIPI-H60F	60°	32°	1.6	5.8mm	-21.5%	M12
SG2-IMX390C-MIPI-H100F1	100°	53°	1.6	3.55mm	-45%	M12
SG2-IMX390C-MIPI-H120L	121°	66°	2.8	2.8mm	-61%	M12



DIMENSIONS



- Note:
- △ There are different heights of this size to match different lenses. Please refer to 3D digital analog size for details.
 - △  This icon indicates the imaging direction is positive.

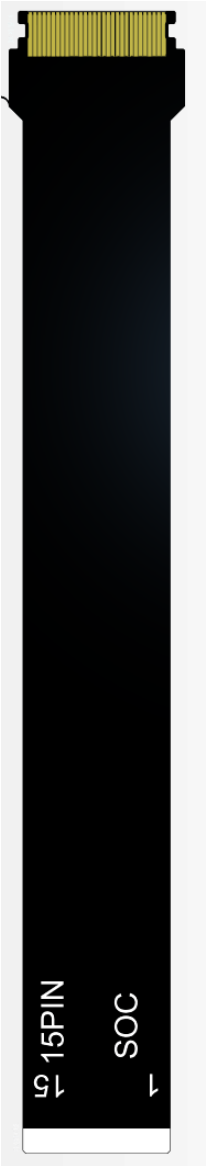


 Attachment

Through 2 types of FPC cables, 15pin and 22pin signals can be output. Different specifications can be selected according to the needs.

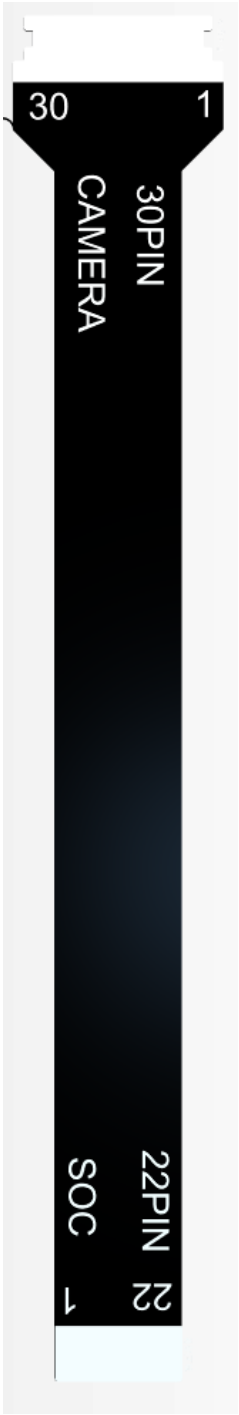
Part number	Name	description	remark
339901-0010	22Pin FPC	Spacing 0.5mm length 120mm	Jetson Orin Nano/NX DK 4lane
339901-0011	15Pin FPC	Spacing 1mm length 120mm	Jetson Nano/Raspberry Pi 2lane

15Pin	
1	GND
2	D1N
3	D1 P
4	GND
5	D2 N
6	D2 P
7	GND
8	CLK N
9	CLK P
10	GND
11	SENSOR-RESETn
12	CAM-CLK
13	CAM-SCL
14	CAM-SDA
15	VCC-3.3V



 Attachment

22Pin	
1	GND
2	D1 N
3	D1 P
4	GND
5	D2 N
6	D2 P
7	GND
8	CLK N
9	CLK P
10	GND
11	D3 N
12	D3 P
13	GND
14	D4 N
15	D4 P
16	GND
17	SENSOR-RESETn
18	CAM-CLK
19	GND
20	CAM-SCL
21	CAM-SDA
22	VCC-3.3V





PLATFORMS SUPPORT

Platforms	Product Link
NVIDIA Jetson Platforms (Jetson Orin Nano/NX) 	Provide development driver package https://www.sensing-world.com/jetson_camera_ecosystem/ 





Revision History

Version	Description	Release date
Rev1	First Release	2023.04
Rev2	Added remarks about FPC	2023.06
Rev3	Remove the H120H module	2024.04
Rev4	Add pin definitions, block diagrams, lens specifications, etc	2024.06

