

EVS Camera

Datasheet



SE1-S4-USB

Version 1.3

Compatible with PROPHESEE METAVISION SOFTWARE

THE SOLUTION

SE1-S4-USB is an EVS camera jointly developed by SENSING ,[PROPHESSEE](#) and Sony. The camera uses SONY [IMX646](#) EVS image sensor and outputs USB3.0 interface. It is fully compatible with **MetaVision** software and is widely used in industrial detection, auxiliary driving and aviation fields.

START YOUR EVENT- BASED VISION EXPLORATION WITH HD SENSOR. THE ULTRA- LIGHT AND COMPACT, HD METAVISION® EVALUATION KIT BUILT TO ENDURE FIELD TESTING CONDITIONS.

DIFFERENT VARIANTS



M12 Mount



CS Mount

* Please contact sales to get information of lens. Sales@sensing-world.com

- Integrates [IMX646 \(HD\)](#), stacked Event-based Vision Sensor released by Sony Semiconductor Solutions (“Sony”) and realized in collaboration between Sony and PROPHESEE
- Type 1/2.5 “ (Diagonal 7.14mm)
- Event camera evaluation kit with M12 and C/CS mount optics
- High-Quality Aluminum alloy casing
- Ultra-compact and light: 35x35x35.27mm
- Easy to embed: 4x M3 front + 8x M2.5 back fixing points
- Bus-powered USB 3.0 compliant
- Adjustable Contrast Detection (CD) threshold for events
- Provided with:
 - SE1-S4-USB-HxxxM:**
M12 Mount: 1x M12-mount lens + 1x USB–A to USB-A cable + 1x 4Pin Connector cable
 - SE1-S4-USB-HxxxC:**
CS Mount: 1x C-mount 1/2.5’’ lens + 1x USB–A to USB-A cable + 1x 4Pin Connector cable
- Free access to the most comprehensive Event-Based Vision software suite: [Metavision Intelligence 3.1 onward](#)

CHARACTERISTICS

Resolution (px)	1280 x 720	Pixel size (μm)	4.86 x 4.86	Interface (data output)	USB 3.0
Latency (μs)	800 us @ 1000lux	Camera Max. Bandwidth (Gbps)	1.6	Trigger In	4Pin Connector
Dynamic Range (dB)	>110*	Camera power (W)	<3	Sync In/Out	4Pin Connector
Nominal contrast threshold (%)	25	Readout throughput	20Mevents/s (default, setting changeable)	Part number	SE1-S4-USB-HxxxC SE1-S4-USB-HxxxM xxx is HFOV, C is CS mount of lens, M is M12 mount of lens

*5 lux is the minimum light condition that guarantees imaging characteristics.
DR >120 dB can be reached based on low light cutoff measurement being: 0.08 lux (imaging characteristics not guaranteed).

MECHANIC		OPTIC		ADDITIONAL INFO	
dimensions	35mm x 35mm x 35mm	DFOV	Please consult the manufacturer for details	Power	Via USB
Weight	80g (excl. optic)	VFOV			

No.	Color	Definition	I/O	Voltage	Remark
1	Red	External Trigger	INPUT	3.3V	The external trigger function outputs the timing when the EXTTRIG pin changes to High or Low as an event to the outside with a time stamp.
2	Yellow	Clock Synchronization	I/O	3.3V	Timestamp clock synchronization
3	Black	GND	GND	/	
4	White	Pixel Matrix Reset	INPUT	3.3V	The pixel reset function resets the pixels with changed brightness



Back View

MODEL AND LENS

Part Number	Model	HFOV	VFOV	F.No	EFL	Lens interface
190300-0003	SE1-S4-USB-H70FM	66	35	F1.6	5.8	M12
190300-0002	SE1-S4-USB-H110FM	110	58	F1.6	3.55	M12
190300-0601	SE1-S4-USB-H130LM	131	72	F2.8	2.8	M12
190300-0005	SE1-S4-USB-H40LC	44	25	F1.8	8	CS
190300-0004	SE1-S4-USB-H130LC	134	72	F2.0	2.6	CS

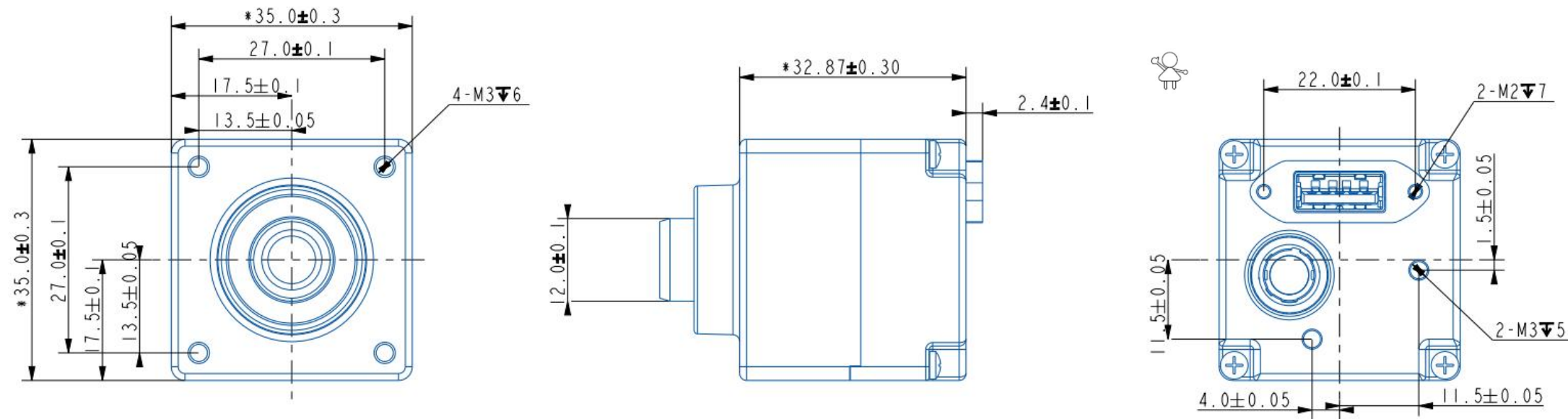
ACCESSORIES



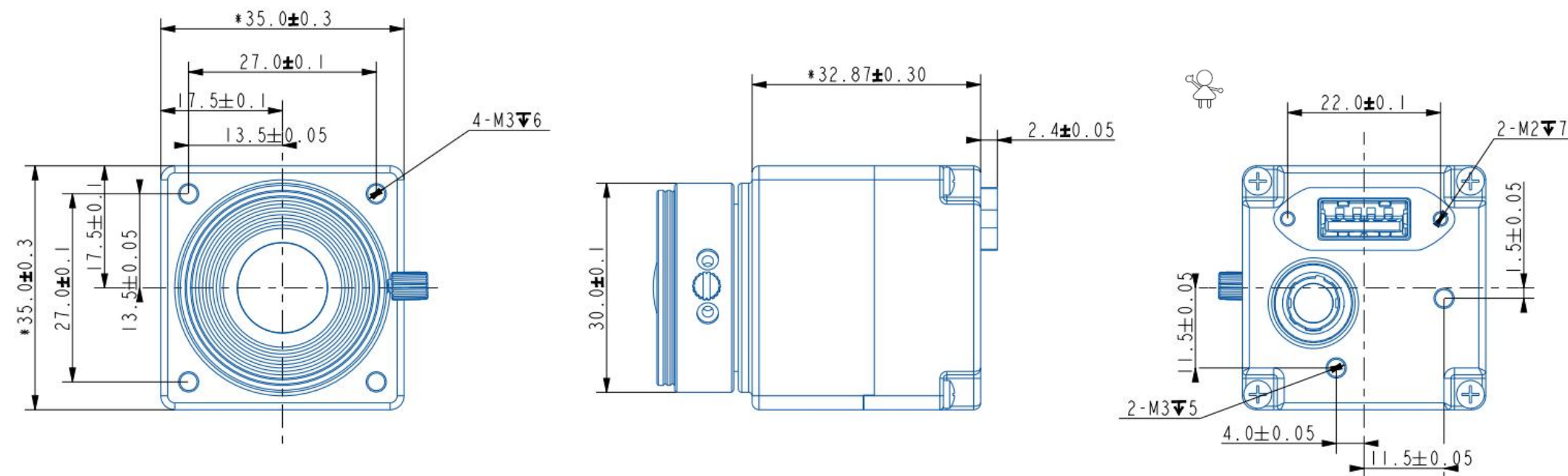
Part Number	Description	Quantity
311060-0055	CS to M12mount	1

Part Number	Description	Quantity
311099-0019	EVS tripod mounting bracket	1
311070-0049	M3*8 hexagon socket head cap screws	2

DIMENSIONS



SE1-S4-USB-HxxxM



SE1-S4-USB-HxxxC

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.

Revision History

- Oct.2022, Release V1.0
- Feb.2023, Release V1.1. ①Latency is changed from 100us to 800us@1000lux; ②Metavision Intelligence 2.3->Metavision Intelligence 3.1; ③C mount->CS mount
- Aug.2023,Release V1.2 ①Add product model; ②Add accessories; ③Update product pictures; ④Add product dimensions
- Sep.2023,Release V1.3 Modify screw type
- Jun.2024,Release V 1.4 SE1-S4-USB-H130HM is changed to SE1-S4-USB-H130LM

Getting Started

- Download and install [METAVISION™ INTELLIGENCE](#) from the PROPHESEE website.
- Connect the Camera to your PC via USB cable.
- Open a terminal on your PC and run metavision_studio. Verify that the image is ready.
- PROPHESEE's METAVISION™ INTELLIGENCE site introduces various [examples of processing execution](#). Please try it out.