

CIS

HD Smart Camera

SCM-2M1

Product Specification
& Operational Manual

(Preliminary)

CIS Corporation

Table of Contents

1. Handling Precautions..... 2

1.1. Camera Handling Precautions..... 2

1.2. Restrictions on Applications..... 2

1.3. Disclaimers (Exception Clause)..... 2

2. Product Outline..... 3

2.1. Features..... 3

2.2. Accessories..... 3

3. Specifications..... 4

3.1. General Specifications..... 4

3.2. External Connectors..... 5

3.3. Video Output Format..... 6

4. Software..... 7

5. Dimensions..... 8

5.1. Camera Dimensions..... 8

6. Case for Indemnity (Limited Warranty)..... 9

6.1. Product Warranty..... 9

6.2. CMOS Defective Pixels..... 9

6.3. Product Support..... 9

1. Handling Precautions

1.1. Camera Handling Precautions

- Do not use or store camera module in dusty or humid places.
- Do not apply excessive force, vibration, or static electricity that could damage camera module. Please handle camera module with care.
- Do not shoot direct images that are extremely bright (e.g., strong light source, sun, etc.). When extremely strong light source is shot, smear or blooming may occur.
- Follow the instructions in Chapter 3.2, "External Connector" for connecting the camera module. Improper connection may cause damage not only to the camera module but also to the connected devices.
- Confirm mutual ground potential carefully before connecting the camera module to monitors or computers. Any AC leak from the connected devices may cause damages or destroy the camera module.
- Do not apply excessive voltage. (Use only the specified voltage.) Unstable or improper power supply voltage may cause damages or malfunction of the camera module.
- Voltage ripple of camera power DC+12V±10% must be within ±50mV. Improper power supply voltage may cause noises on video signals.
- Rise time of camera power supply voltage must be less than +10.8V, Max. 60ms. Please avoid noises like chattering.

Our warranty does not apply to damage or defects caused by neglecting the instructions and precautions explained in this manual.

1.2. Restrictions on Applications

- The camera module must not be used for any nuclear equipment or aerospace equipment with which mechanical failure or malfunction could result in serious bodily injury or loss of human life.
- The camera module must not be used under conditions or environments other than those specified in this manual.

1.3. Disclaimers (Exception Clause)

- Damage or malfunction caused by natural disasters such as earthquakes, lightning, floods, fires, or other acts of God is not covered under warranty.
- Damage resulting from customer negligence or failure to comply with the specifications described in this document is not covered under warranty.
- Any malfunction resulting from repairs or modifications performed by parties other than our company is not covered under warranty.

2. Product Outline

SCM-2M1 is a compact and lightweight AI smart camera that features NXP Semiconductor's i.MX 8M Plus and a 2M pixel global shutter CMOS sensor. The application processor can be used for both rule-based image processing and/or edge AI processes such as object recognition & tracking.

The camera supports USB 3.0 interface, and by adding an optional I/F board, it also supports HDMI and 1000BASE-T Ethernet interface.

※i.MX 8M Plus is a registered trademark of NXP Semiconductors N.V.

2.1. Features

- Compact and light weight smart camera
- Equipped with an processor from NXP Semiconductors, i.MX8MP
- micro USB Type-B(USB3.0) connector
- UVC supported (TBD)
- M12 (S mount) lens mount

2.2. Accessories

- TBD

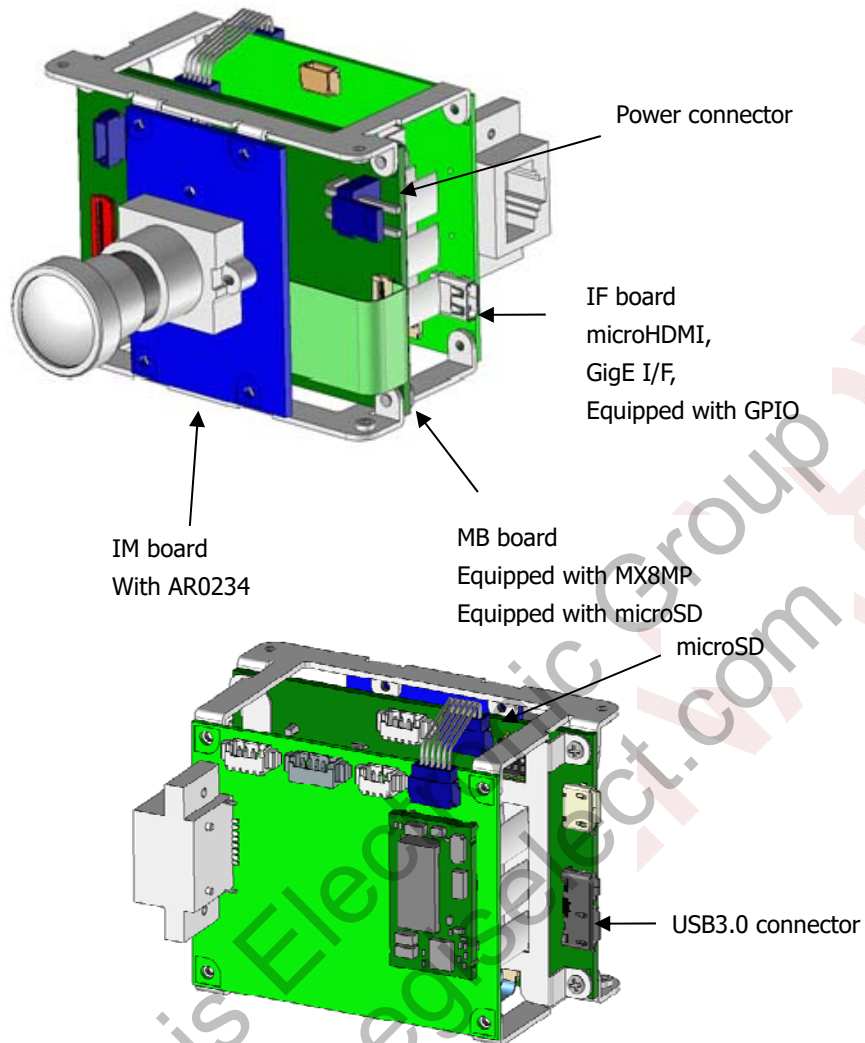
3. Specifications

3.1. General Specifications

Electrical Specifications			
Image sensor	Model	AR0234 (1/2.6 type CMOS)	
	Effective pixels	1920(H) × 1200(V)	
	Unit cell size	3.0μm(H) × 3.0μm(V)	
Frame rate		30fps	
Sync system		Internal sync.	
Video output resolution		1920(H) × 1080(V) with IF board, HDMI output	
Processor		i.MX8MP(MIMX8ML8DVNLZAB)	
Main memory		LPDDR4 4GB	
Storage		eMMC 8GB	
		QSPI Flash 32MB	
		microSD slot SDHC supported	
I/F	microUSB3.0		
	MicroHDMI (with IF board)		
	Gigabit Ethernet (with IF board)		
Power requirements		DC+12V±10%	
Power consumption		TBD W (@12V)	
Mechanical Specifications			
Dimensions (targeted)		TBD:H:50mm W:65mm D:60mm (HW board size) excluding projection.	
Weight (targeted)		TBD: Under 80 g	
Lens mount		M12 mount	
Environmental Specifications			
Safety/Quality standards		UL: Conform to UL Standard including materials	
		RoHS: ~2011/65/EU EN50581 (RoHS2)	
Durability	Vibrations	Acceleration	TBD(CIS standard criteria 98m/s ² (10G))
		Frequency	TBD(CIS standard criteria 20 ~ 200Hz)
		Direction	X,Y, and Z, 3 directions
		Testing time	TBD(CIS standard criteria 120 min. each)
	Shock	TBD (CIS standard criteria: No malfunction with 980m/s ² (100) G for ±X, ±Y, and ±Z, 6 directions without packaging.	
Operational Temperature		0 ~ +45°C Humidity 20 ~ 80%RH with no condensation	
Storage Temperature		-25 ~ +60°C Humidity 20 ~ 80%RH with no condensation	

3.2. External Connectors

■ Outline drawing



■ Specifications on Connector

MB board

- ① USB connector (MicroUSB3.0 Type B)
- ② Power connector (CN9)

IF board

- ① microSD
- ② microHDMI
- ③ Gigabit Ethernet (not shown in the above figure)
- ④ GPIO (not shown in the above figure)

3.3. Video Output Format

- Output Signal

 - Full HD video signal

 - Application processing output signal

- Output Format

 - UVC/UAC

 - Others

PRELIMINARY
Aegis Electronic Group
www.aegiselect.com

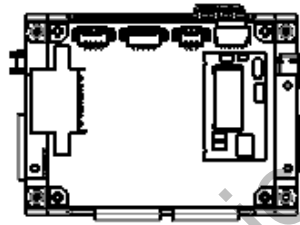
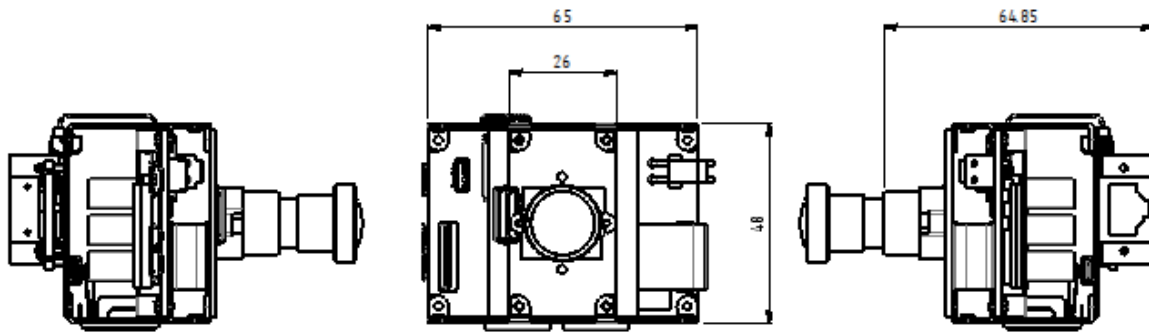
4. Software

For software and control function, separate specification documents are under preparation.

- SCM series CIS protocol manual
This document describes camera command protocol in general for SCM series
- SCM series SCM Library User Guide (for Linux)
This document is a Library API manual for SCM series
- SCM series USB Serial Driver Installation Manual
This document is a manual for USB serial driver installation
- SCM series Linux Manual
This document describes Outline of Linux that can be operated with SCM series cameras, and some typical configuration

5. Dimensions

5.1. Camera Dimensions



(Unit:mm)

6. Case for Indemnity (Limited Warranty)

6.1. Product Warranty

The warranty period for this product is one (1) year from the date of shipment from our factory.

If you use the product properly and discover a defect during this period, and if that was caused by designing or manufacturing, CIS Corporation, at its option, repairs or replaces it free of charge. However, failures or damages resulting from customer mishandling, or from natural disasters such as fire, earthquake, lightning, storm, or flood, as well as other force majeure events, are not covered under this warranty.

After the warranty period has expired, repairs will be carried out on a chargeable basis, provided that repair is technically possible.

6.2. CMOS Defective Pixels

CMOS defective pixel function is not supported with this model.

6.3. Product Support

Should you have any problems in function of the product you purchased, and if you need our further analysis and/or repair, please contact your local distributor.