

❖ **SW-4000M-PMCL**

❖ **SW-8000M-PMCL**

CMOS Monochrome Line Scan Cameras

- 4096 pixels
- 199.5 kHz
- 8192 pixels
- 99.9 kHz

Sweep Series



- **Monochrome CMOS Line Scan Camera**
- **Resolution:** 4096 pixels in a line (SW-4000M-PMCL)  
8192 pixels in a line (SW-8000M-PMCL)
- **Scan rate:** 200,000 lines per second - 199.5 kHz (SW-4000M-PMCL)  
100,000 lines per second - 99.9 kHz (SW-8000M-PMCL)
- **Sensor scanning width:** 30.72 mm
- **Video signal output:** 8-bit or 10-bit via Mini Camera Link
- **Interface:** Power over Mini Camera Link
- **JAI SDK and GenICam compliant**
- **F-mount and M-42x1 mount**

# Specifications for Sweep SW-4000M-PMCL and SW-8000M-PMCL

## Specifications

Scanning system	CMOS line scan sensor		
Sensors type	JAI custom made sensor (APS-C)		
Sensor resolution (effective pixels)	<b>SW-4000M:</b> 4096 pixels horizontal <b>SW-8000M:</b> 8192 pixels horizontal		
Scan rate (max)	<b>SW-4000M:</b> 199.5 kHz (Full Camera Link 8-bit config.) <b>SW-8000M:</b> 99.9 kHz (Full Camera Link 8-bit config.)		
Sensor scanning width	<b>SW-4000M:</b> 30.72 mm (Mode-A, Small well) 30.72 mm (Mode-B, Large well) <b>SW-8000M:</b> 30.72 mm		
Cell size	<b>SW-4000M:</b> 7.5 um (H) x 7.5 um (V) (Mode-A, Small well) 7.5 um (H) x 10.5 um (V) (Mode-B, Large well) <b>SW-8000M:</b> 3.75 um (H) x 5.78 um (V)		
Responsivity	<b>SW-4000M:</b> 58 DN/(n)/cm <sup>2</sup> (Mode-A, Small well) (@10bits, gain= 1x, λ = 650nm)  53 DN/(n)/cm <sup>2</sup> (Mode-B, Large well) (@10bits, gain= 1x, λ = 650nm) <b>SW-8000M:</b> 23 DN/(n)/cm <sup>2</sup> (@10bits, gain= 1x, λ = 650nm)		
S/N ratio	60 dB @10bit (Typical)		
Pixel clock	31.70 / 42.41 / 63.39 / 84.82 MHz adjustable		
Video signal output	8-bit or 10-bit via Mini Camera Link connector		
Inputs/Outputs	GPIO in/out via 12-pin connector		
Trigger mode	Line start		
Exposure mode (Exposure time)	Off: Line period minus 3.6 μs (SW-4000M) Line period minus 3.8 μs (SW-8000M) Timed: 1.8 μs to 15.148 ms Trigger Width: 3 μs ~		
Shading correction	Flat shading		
Gain	Manual/Auto Digital: odB ~ +24dB (SW-4000), odB ~ +36dB (SW-8000)		
Gamma	9 Step 1.0 ~ 0.45		
LUT	256 point		
Interface	Power over Mini Camera Link NB: Running Power over Camera Link requires 2 cables		
Operating temperature	-5°C to +45°C		
Storage temperature	-25°C to +60°C		
Humidity	20 - 80% non-condensing		
Vibration	10G (20 Hz to 200 Hz XYZ direction)		
Shock	80G		
Regulations	CE (EN 61000-6-2, EN 61000-6-3), FCC part 15 class B		
Power and power consumption	PoCL or 12pin (12V to 24V DC ± 10%). 435 mA/ 5.22W typical (full frame @ 12V) NB: Running Power over Camera Link requires 2 lines		
Lens mount	Mount type:	<b>F-Mount</b> Bayonet	<b>M-42X1 mount</b> Metric screw thread
	Diameter:	44 mm	42 mm
	Flange Back Distance:	46.5 mm	16 mm
Dimensions (H x W x L)	62 x 62 x 84 mm (F-mount, excluding connectors) 62 x 62 x 53.5 (M42-mount, excluding connectors)		
Weight	320 g		

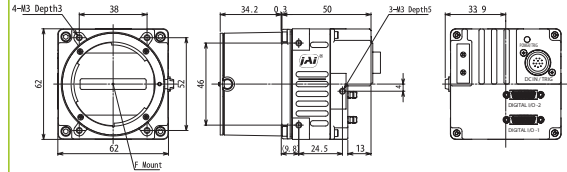
## Ordering Information

<b>SW-4000M-PMCL-F</b>	CMOS Monochrome Line Scan Camera with F-mount (4096 pixels)
<b>SW-4000M-PMCL-M42A</b>	CMOS Monochrome Line Scan Camera with M42-mount* (4096 pixels)
<b>SW-8000M-PMCL-F</b>	CMOS Monochrome Line Scan Camera with F-mount (8192 pixels)
<b>SW-8000M-PMCL-M42A</b>	CMOS Monochrome Line Scan Camera with M42-mount* (8192 pixels)

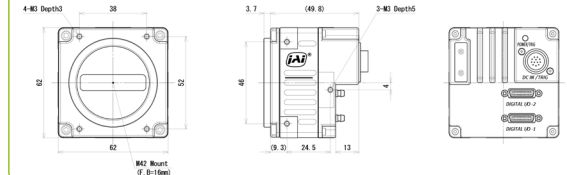
\*Note: M42-mount is M42x1 with 16 mm flange back

## Dimensions

### F-mount

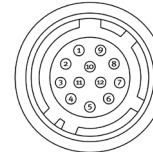


### M-42x1 mount



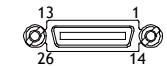
## Connector pin-out

### DC In / Trigger



12-pin connector

### Mini-CL interface

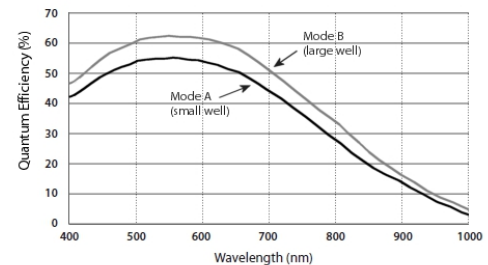


Pin no.	Attribute	Signal	Remarks
1		GND	
2	Power In	DC In	DC 12V I <sub>c</sub> 24V+/- 10%
3		GND	
4		RESERVED	
5		GND	
6	I	RxD in	
7	O	TxD out	
8		GND	
9	O	TTL Outs	
10	I	TTL ins	
11	Power In	DC In	DC 12V I <sub>c</sub> 24V+/- 10%
12		GND	

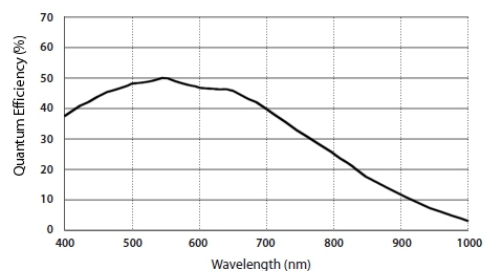
Pin no.	In/Out	Name	Note
1,26	Power	Power	DC In
3(1,15(+))	O	TxOUT <sub>0</sub>	Data output
3(1,16(+))	O	TxOUT <sub>1</sub>	
4(1,17(+))	O	TxOUT <sub>2</sub>	Data output
5(1,18(+))	O	TxCLK	
6(1,19(+))	O	TxOUT <sub>3</sub>	Data output
7(+),26(+)	I	Serial (RxD)	LVD5 serial control (CC1 only)
8(1,21(+))	O	Serial (TxD)	Serial control (CC1 only)
9(1,22(+))	I	CC1 (Trigger)	Trigger input (CC1 only)
10(1,23(+))		CC1 (Reserved)	(CC1 only)
11,24		NC	
12,25		NC	
13,14		Shield	GND

## Spectral Response

### SW-4000M-PMCL



### SW-8000M-PMCL



See the possibilities