



MODEL SI-M410 1/2" SI-M510 1/3"

MONOCHROME CCD
PROGRESSIVE SCAN
NORMAL SPEED OR
DOUBLE SPEED

Full 60 Fps at Double Speed

These high-resolution monochrome cameras provide improved dynamic range and smear performance. Now in a new ultra small package.



FEATURES

- High resolution monochrome IT CCD sensor square pixel
- EIA: 659 (H) x 494 (V) pixels
- Extreme sensitivity
- Normal or double speed
- Improved dynamic range and smear performance
- High S/N ratio >56 dB
- Progressive or 2:1 interlace scanning
- Long time exposure with external VD pulses
- *flex trig* Extensive range of customized trigger modes for OEM applications
- HD/VD synchronization input or output - TTL level
- Sub-pixel accuracy possible
- Frame grabber friendly interface
- Rugged and compact construction

Our people make a difference.

Choice. Value. Service.

1045 Armando Street Suite C, Anaheim, CA 92806
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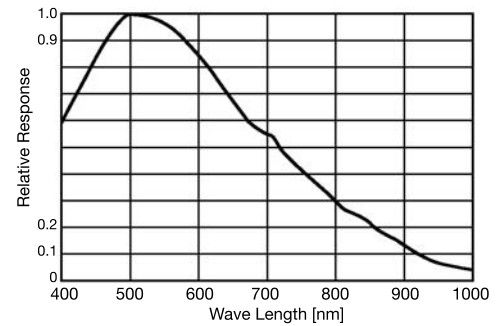
MODEL SI-M410, SI-M510

Specifications for SI-M410, SI-M510

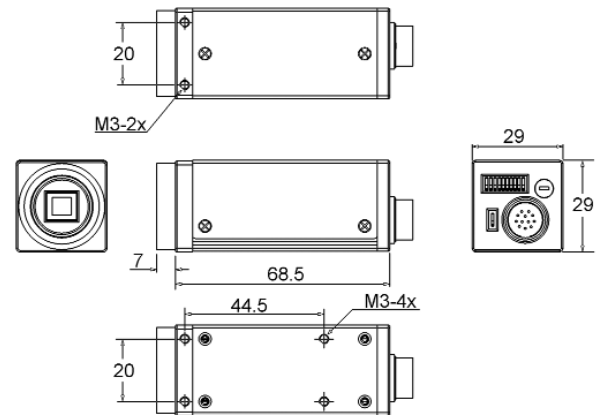
Specifications	SI-M410-EIA	SI-M510-EIA
CCD Sensor	Monochrome 1/2" IT CCD	Monochrome 1/3" IT CCD
Sensing Area	7.48mm(H) x 6.15mm(V)	5.79mm(H) x 4.89mm(V)
Picture Elements (effective)	659(H) x 494(V) pixels	
Cell Size	9.9µm (H) x 9.9µm (V)	7.4µm (H) x 7.4µm (V)
Scanning	2:1 Interlace or progressive scan	
Pixel Clock Frequency	Normal Speed: 12.2727 MHz Double Speed: 24.5454 MHz	
Line Frequency	Normal Speed: 15.735 kHz (780 pixel clock/line) Double Speed: 31.470 kHz (780 pixel clock/line)	
Frame Rate	Normal Speed: 30 frames per second Double Speed: 60 frames per second	
Min. Illumination	Normal Speed: 0.1 Lux F1.4, AGC on Double Speed: 0.2 Lux F1.4, AGC on	
S/N Ratio	>56 dB	
Video Output	1 Vpp at 750 Ohm	
Gain	Auto/Manual/Factory preset	
Gamma	0.45-1.0	
Synchronization	Internal X-tal. or external HD/VD or random trigger	
HD/VD Sync Input/output*	4 Vpp at 75 Ohm or TTL	
Trigger Input	TTL	
WEN Output	TTL	
Pixel Clock Out	TTL	
Shutter Speed	Normal Speed: 1/30, 1/60, 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/8000, 1/10,000, 1/20,000, 1/40,000, 1/80,000 sec. Double Speed: 1/30, 1/60, 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/8000, 1/10,000, 1/20,000, 1/40,000, 1/80,000 1/160,000 sec.	
Long Time Exposure	1 Field to ∞	
DIP Switch Function	Shutter, Gain, Pixel clock output, H reset, etc.	
Lens Mount	C-mount	
Operating Temp	-10°C to +50°C (14°F to 122°F)	
Power	12VDC ± 10%	
Dimensions (HxWxD)	29x29x76 mm (1.14x1.14x2.95 inches) approx.	
Weight	80g ± 5g	

Note: Above specifications are subject to change without notice.
*Option by internal setting.

Spectral Sensitivity



Dimensions



Pin Assignments & Switch Setting

Pin no.	SI-M410 / SI-M510		Default
	1	GND	GND
2	DC+12V Input	DC+12V	DC+12V
3	GND	GND	GND
4	Video Out	Video Out	Video Out
5	GND	GND	GND
6	HDI / HDO	HDI	HDI
7	VDI / VDO / WENO	VDI	VDI
8	GND	GND	GND
9	Trigger / PCLKO	Trigger	Trigger
10	WENO	WENO	WENO
11	PCLKO / Trigger	PCLKO	PCLKO
12	GND	GND	GND

HR10A-10R-12PB-01 (Hirose)



Ordering Information

SI-M410 1/2" Monochrome Camera
SI-M510 1/3" Monochrome Camera

Design and specifications subject to change without notice.

Conversion: 1" = 25.4mm
Measurement conversions are approximate



Distributed by

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