5.1.1 In-Sight Standard Vision Sensor Specifications

Table 5-1: 5000, 5100, 5100C, 5401, 5400C, 5403 and 5400 Sensor Specifications

Specification		In-Sight 5000	In-Sight 5100	In-Sight 5100C[1]	In-Sight 5401	In-Sight 5400C	In-Sight 5403	In-Sight 5400
Performance Class								►
Minimum Firmware Requirement		In-Sight version 2.80.01 PR1		In-Sight version 3.4.0	In-Sight version 2.80.01 PR1			
Memory	**Job/Program**	32MB non-volatile flash memory; unlimited storage via remote network device.						
	Image Processing	32MB	64MB					
Image	**Sensor**	1/4-inch CCD	1/3-inch CCD				1/1.8-inch CCD	1/3-inch CCD
	Optical Properties	4.5mm diagonal, 5.6 x 5.6µm sq. pixels	6mm diagonal, 7.4 x 7.4µm sq. pixels		6mm diagonal, 4.65 x 4.65µm sq. pixels	6mm diagonal, 7.4 x 7.4µm sq. pixels	8.923mm diagonal, 4.4 x 4.4µm sq. pixels	6mm diagonal, 7.4 x 7.4µm sq. pixels
	Resolution (pixels)	640 x 480			1024 x 768	640 x 480	1600 x 1200	640 x 480
	Electronic Shutter Speed	32µs to 1000ms	16µs to 1000ms		32µs to 1000ms	16µs to 1000ms	27µs to 1000ms	16µs to 1000ms
	Acquisition[2]	Rapid reset, progressive scan, full-frame integration.						
		256 grey levels (8 bits/ pixel)		24 bit color	256 grey levels (8 bits/pixel)	24 bit color	256 grey levels (8 bits/ pixel)	
		Gain/Offset controlled by software.						
		25 full frames per second.	42 full frames per second.		17 full frames per second.	42 full frames per second.	13 full frames per second.	42 full frames per second.
	Lens Type	C-mount						
	Image Repeatability[3]	±0.127mm (0.005in), (both x and y) from lens C-mount axis to center of imager.						
I/O	**Trigger**	1 opto-isolated, acquisition trigger input.						
		Remote software commands via Ethernet and RS-232.						
	Discrete Inputs	8 inputs available, using the optional 1450, 1460 I/O Expansion Module. Unlimited inputs when using an Ethernet I/O system.						
	Discrete Outputs	2 built-in, high-speed outputs.						
		8 additional outputs available, using the optional 1450/1460 I/O Expansion Module. Unlimited outputs when using an Ethernet I/O system.						
	Status LEDs	Power, Network Status, Network Traffic, 2 user configurable.						
Communications	**Network**	1 Ethernet port, 10/100 BaseT, TCP/IP protocol. Supports DHCP (factory default) or static IP address.						
	Serial	RS-232C (4800 to 115,200 baud rates; 1200 to 115,200 baud rates when connected to a 1450/ 1460 I/O Expansion Module).						

Table 5-1: 5000, 5100, 5100C, 5401, 5400C, 5403 and 5400 Sensor Specifications (Cont.)

Specification		In-Sight 5000	In-Sight 5100	In-Sight 5100C[1]	In-Sight 5401	In-Sight 5400C	In-Sight 5403	In-Sight 5400
Power		24VDC ±10%, 350mA maximum.					24VDC ±10%, 500mA maximum.	24VDC ±10%, 350mA maximum.
Mechanical	**Material**	Die-cast aluminum housing.						
	Finish	Painted.						
	Mounting	Eight M4 threaded mounting holes (four front and four back).						
	Dimensions	83.3mm (3.28in) x 123.2mm (4.85in) x 61.4mm (2.42in) with Lens Cover installed.						
		43.5mm (1.71in) x 123.2mm (4.85in) x 61.4mm (2.42in) without Lens Cover installed (includes Thread Guard).						
	Weight	350 g (12.3 oz.) Lens cover installed, without lens.						
Environmental	**Temperature**	0°C (32°F) to 45°C (113°F) (Operating), -30°C (-22°F) to 80°C (176°F) (Storage)						
	Humidity	95%, non-condensing (Operating and Storage)						
	Protection	IP67 (with appropriate Lens Cover properly installed).						
	Shock	80 G Shock with 150 gram lens attached per IEC 68-2-27.						
	Vibration	10 G from 10-500 Hz with 150 gram lens per IEC 68-2-6.						
Regulatory Compliance		CE, UL, CUL, FCC						

1. In-Sight 5100C sensors with P/N 800-5837-1 are compatible with firmware version 2.65.00 and higher. In-Sight 5100C sensors with P/N 800-5837-4 are compatible with firmware version 3.4.0 and higher. To locate the Part Number, refer to the Part Number label on the back of your sensor.
2. Maximum frames per second is job dependent and based on an 8ms exposure and a full image frame capture.
3. Expected repeatability between sensors. This equates to ~ ±17 pixels on a 640 x 480 resolution sensor, ~ ±27 pixels on a 1024 x 768 resolution sensor and ~ ±29 pixels on a 1600 x 1200 resolution sensor.