

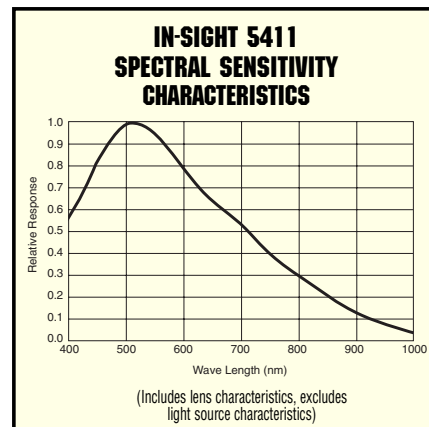
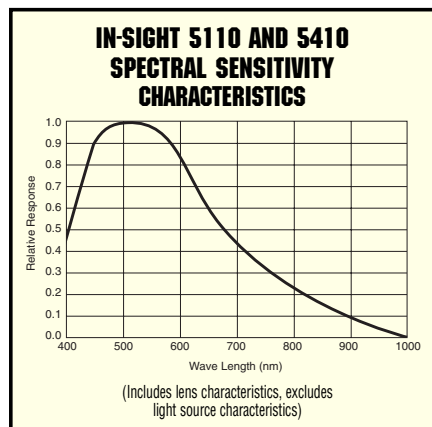
COGNEX® IN-SIGHT® HARDWARE SPECIFICATIONS

IN-SIGHT 5110, 5410, AND 5411

Note: All measurements are provided in millimeters (first number) and inches (number in parenthesis).

ID Tools		
1D Codes	Code 3 of 9; Code 128; Interleaved 2 of 5; Reduced Space Symbology (RSS); UPC/EAN; PostNet; Planet Code; Pharma Code; UPU-57	
2D Codes	Data Matrix; QR Code; PDF417; Composite Symbology (CS)	
Quality Assessment Metrics		
1D Codes	ISO 15416	
2D Codes		
Data Matrix	ISO 16022, AS9132, Cognex Supplemental Metrics	
QR Code	ISO 18004, Cognex Supplemental Metrics	
Firmware		
	In-Sight version 2.52 and later	
Memory		
Job/Program	16MB non-volatile flash memory; Unlimited storage via remote network device	
Image processing	64MB	
Image		
Sensor	<i>In-Sight 5110 and 5410</i>	<i>In-Sight 5411</i>
	1/3-inch CCD (5.84mm x 4.94mm; 6mm diagonal) 640 x 480 pixel display (307,200 sq. pixels, 7.4 x 7.4µm pixel size)	1/3-inch CCD (5.80mm x 4.92mm; 6mm diagonal) 1024 x 768 pixel display (786,432 sq. pixels, 7.65 x 7.65µm pixel size)
	Electronic shutter speed: 32µs to 1000ms	
Acquisition	Rapid reset, progressive scan, full-frame integration	
	256 gray levels (8 bits/sec)	
	Gain/Offset controlled by software	
	<i>In-Sight 5110 and 5410</i>	<i>In-Sight 5411</i>
	Up to 60 full frames per second (exposure dependent)	Up to 20 full frames per second (exposure dependent)
Lens type	C-mount	
I/O		
Trigger	1 opto-isolated, acquisition trigger input	
	Remote software commands via Ethernet and RS232	
Trigger voltage	ON 20 to 28V (24V nominal); OFF 0 to 3V (12V nominal threshold)	
Trigger current	ON 0.9 to 1.3mA; OFF <150µA	
	Resistance ~22,000 Ohms	
Trigger delay	250µSec latency between leading edge of trigger and start of acquisition. Input pulse should be minimum of 1ms wide.	
Discrete inputs	8 inputs available, using optional Model 1450 I/O Expansion Module.	
Discrete outputs	2 built-in, high-speed outputs	
	8 additional outputs available, using optional Model 1450 I/O Expansion Module.	

I/O (cont.)	
High-speed output voltage	28V maximum through external load
High-speed output current	200mA maximum sink current
	OFF state leakage current 200µA maximum
	External load resistance 120 to 10K Ohms
	Each line rated at a maximum 200mA, protected against overcurrent, short circuit, and transients from switching inductive loads. High current inductive loads require external protection diode.
Status LEDs	Power, Network Status, Network Traffic, 2 user configurable
Lighting	
Lighting methods	May be used with Cognex external light modules, or with the integrated light ring included in optional Image Formation System (IFS) kits. Kits include ring light, lens, and protective lens cover.
Communications	
Network	1 Ethernet port, 10/100 BaseT, TCP/IP protocol. Supports Ethernet/IP and ModBus/TCP. Supports DHCP (factory default) or static IP address
Serial	1 RS-232C port (1200 to 115,200 baud rates. 1200 and 2400 baud is not supported by the Model 1450 I/O Expansion Module.)
Power	
Power consumption	24VDC ± 10%, 125mA
Mechanical	
Material and finish	Die-cast aluminum housing, painted
Mounting	Eight M4 threaded mounting holes (four front and four back)
Dimensions	84mm (3.34 in) x 124.7mm (4.91 in) x 61.6mm (2.43 in) with lens cover installed 41mm (1.62 in) x 124.7mm (4.91 in) x 61.6mm (2.43 in) without lens cover installed
Weight	297.6 g (10.5 oz) lens cover installed, w/o lens
Environmental	
Operating temperature	0°C to 45°C (32°F to 113°F)
Operating humidity	0 to 95%, non-condensing
Storage temperature	-30°C to 80°C (-22°F to 176°F)
Storage humidity	0 to 95%, non-condensing
Protection	IP67 (NEMA Type 6) with lens cover installed
Shock	80 Gs (800 M/S ² at 11 ms) per IEC 68-2-27 EA
Vibration	10 Gs (10-to 500 Hz at 100 M/S ² / 15mm for two hours in each axis) per IEC 68-2-6 FC
Certifications	
Approvals	CE, CUL, FCC

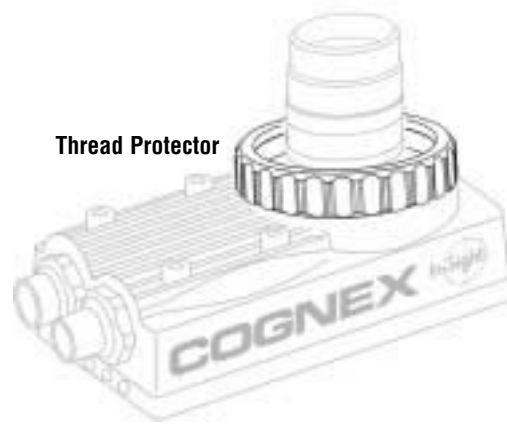
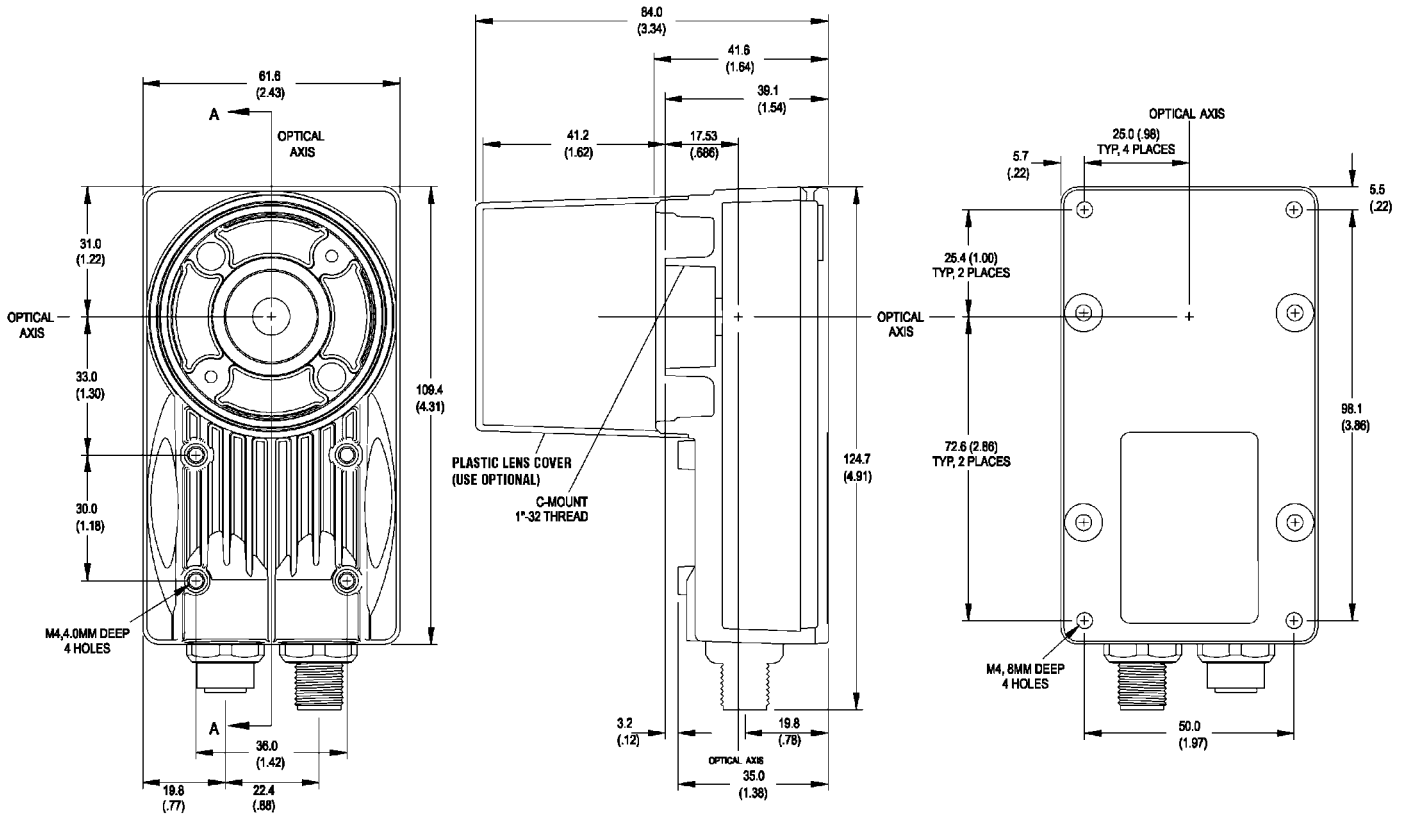


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IN-SIGHT HARDWARE

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The lens cover included with In-Sight 5000 Series vision sensors provides wash-down and dust protection. A thread protector, also included, protects the threads when the lens cover is not used.

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OPTIONAL IMAGE FORMATION SYSTEM (IFS) KIT

Seven kits are available, each with a different lens

