

5603, 5600 and 5605 Vision System Specifications

Table 3-3: 5603, 5600 and 5605 Vision System Specifications

Specification	5603/5613	5600/5610	5605/5615
Minimum Firmware Requirement	In-Sight version 4.4.3		In-Sight version 4.4.1
Job/Program Memory	128MB non-volatile flash memory; unlimited storage via remote network device.		
Image Processing Memory	256MB		
Sensor Type	1/1.8-inch CCD	1/3-inch CCD	2/3-inch CCD
Sensor Properties	8.8mm diagonal, 4.4 x 4.4µm sq. pixels	5.92mm diagonal, 7.4 x 7.4µm sq. pixels	11.01mm diagonal, 3.45 x 3.45µm sq. pixels
Resolution (pixels)	1600 x 1200	640 x 480	2448 x 2048
Electronic Shutter Speed	27µs to 1000ms	16µs to 1000ms	28.8µs to 1000ms
Acquisition	Rapid reset, progressive scan, full-frame integration.		
Bit Depth	256 grey levels (8 bits/pixel)		
Image Gain/Offset	Controlled by software.		
Frames Per Second ¹	14 full frames per second.	60 full frames per second.	16 full frames per second.
Lens Type	C-mount		
CCD Alignment Variability ²	±0.127mm (0.005in), (both x and y) from lens C-mount axis to center of imager.		
Trigger	1 opto-isolated, acquisition trigger input. Remote software commands via Ethernet and RS-232C.		
Discrete Inputs	None built-in. Additional inputs available using a compatible I/O module (see Table 1-3 on page 2). Unlimited inputs when using an Ethernet I/O system.		
Discrete Outputs	2 built-in, high-speed outputs. Additional outputs available using a compatible I/O module (see Table 1-3 on page 2). Unlimited outputs when using an Ethernet I/O system.		
Status LEDs	Power, Network Status, Network Traffic, 2 user configurable.		
Network Communication	1 Ethernet port, 10/100/1000 ³ BaseT with auto MDIX. IEEE 802.3 TCP/IP protocol. Supports DHCP (factory default), static and link-local IP address configuration.		
1588 Support ⁴	Timestamp Resolution: 8ns Synchronization Accuracy Through Transparent Clock: 5µs		
Serial Communication	RS-232C when connected to a compatible I/O module (see Table 1-3 on page 2).		
Power Consumption	24VDC ±10%, 600mA maximum.		

¹ Maximum frames per second is job-dependent and based on the minimum exposure for a full image frame capture.

² Expected variability in the physical position of the CCD, from vision system-to-vision system. This equates to ~±17 pixels on a 640 x 480 resolution CCD, ~±29 pixels on a 1600 x 1200 resolution CCD and ~±37 pixels on a 2448 x 2048 resolution CCD.

³ To ensure reliable communication using 1000 BaseT operation, the Ethernet cable must not exceed 75 meters (from the vision system to the endpoint).

⁴ 1588 is only supported on vision systems running firmware version 4.5.0 and higher.

Specification	5603/5613	5600/5610	5605/5615
Material	Die-cast aluminum housing.		
Finish	Painted/Powder coat (back plate).		
Mounting	Eight M4 threaded mounting holes (four front and four back).		
Dimensions	99.9mm (3.93in) x 124.2mm (4.89in) x 61.4mm (2.42in) with lens cover installed. 60.1mm (2.37in) x 124.2mm (4.89in) x 61.4mm (2.42in) without lens cover installed.		134.4mm (5.29in) x 124.1mm (4.88in) x 61.4mm (2.42in) with lens cover installed. 53.2mm (2.09in) x 124.1mm (4.88in) x 61.4mm (2.42in) without lens cover installed.
Weight	463 g (16.3 oz.) Lens cover installed, without lens.	409 g (14.4 oz.) Lens cover installed, without lens.	538 g (19.0 oz.) Lens cover installed, without lens.
Operating Temperature (non-circulating air)	0°C to 45°C (32°F to 113°F) ¹		
Operating Temperature (circulating air)	0°C to 50°C (32°F to 122°F) ²	0°C to 50°C (32°F to 122°F) ³	0°C to 50°C (32°F to 122°F) ⁴
Storage Temperature	-30°C to 80°C (22°F to 176°F)		
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, FCC, KCC, TÜV SÜD NRTL, RoHS		