SONY

image is everything™

Sony introduces a new addition to its machine vision camera lineup, the all-in-one XCI-SX1 Smart Camera. This camera is equipped with a 1/2-type high resolution (1280 x 1024) progressive scan CCD, an embedded CPU and a 10Base-T/100Base-TX interface for network connectivity.

Incorporating the high-performance and flexible AMD Geode™ GX533 processor with built-in Linux® oprerating system and an option for installing Windows® XPe operating system, the XCI-SX1 camera is designed to allow integrators to install a variety of image-processing software applications or to develop and apply customized applications to meet specific user needs. Unlike conventional machine vision cameras, images captured by the XCI-SX1 are processed within the camera and the processed-data is directly transmitted to a PC over a network. The XCI-SX1 camera eliminates the need for conventional image-processing systems and allows for simple setup and efficient factory workflow.

With its high-performance, flexible integration, and versatile interfaces the durably designed XCI-SX1 Smart Camera is ideal for a wide range of machine vision applications such as object recognition, inspection, measurement, alignment and more!

SMART CAMERA

XCI-SX1

FEATURES

High Performance 400MHz Geode GX533 Processor

- x86-compatible architecture
- 258 MB main memory (DDR-SDRAM) and 1MB flash memory
- Integrated 128 MB Compact Flash™ memory card
- Low power consumption

Operating Systems

- Built-in Linux OS
- Loadable Option for Windows XPe OS

Various Interfaces

- 10Base-T/100Base-TX interface for network operation
- Monitor output
- USB 1.1 interface
- RS-232C serial interface and digital input/output allow cameras to be connected with external equipment such as sensors, strobe lights, and Programmable Logic Controllers (PLC).

1/2-type Progressive Scan CCD With Square Pixels

High-resolution SXGA-sized Images Captured at 15 fps

Partial Scanning Function

- Allows users to select a specific scanning area to reduce data size and increase frame rate.
- Scanning area can be specified from 32 lines up to 1024 lines (vertically) in 32-line increments and from 384 pixels up to 1280 pixels (horizontally) in 128-pixel increments.

Binning Function

- Vertical binning combines image data for every two lines vertically to increase the frame rate and sensitivity.
- Horizontal binning combines image data for every two pixels horizontally, which increases the sensitivity.

External Trigger Input

Trigger Delay Function

- Allows users to delay trigger timing from 0 to 4 seconds in 1 ms increments to capture images accurately

Compact and Lightweight

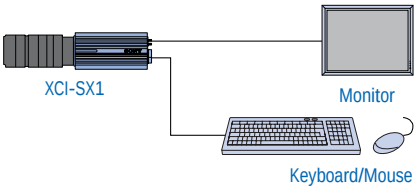
- 2 1/4 x 2 1/4 x 4 3/8 inches (55 (W) x 55 (H) x 110 (D) mm), 14 oz (400 g)

Easy Camera Settings

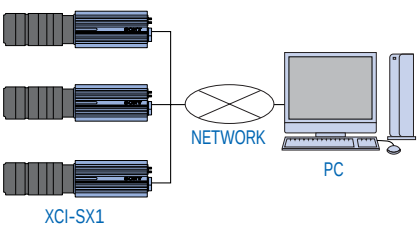
High Shock and Vibration Resistance

SYSTEM CONFIGURATIONS

Application Development



Operation Over Network

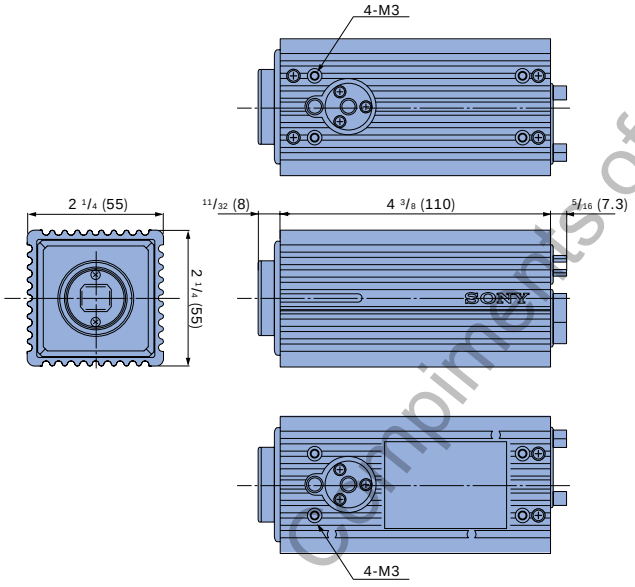


SPECIFICATIONS

Sensor Block	
Image device	1/2-type progressive scan IT monochrome CCD
Effective resolution (H x V)	1,280 x 1,024 (SXGA)
Cell size (H x V)	4.65 x 4.65 µm
Frame rate	15 fps (SXGA)
Gain control	Manual (0 to +18 dB, 1 dB steps)
Electronic shutter	2 to 1/50,000 s (trigger mode), 2 to 1/100,000 s (free run mode)
Binning function	Vertical / Horizontal binning
Partial scanning function	
Vertical random scanning	32 to 1,024 lines, 32 line steps
Horizontal random scanning	384 to 1,280 pixels, 128 pixel steps
Typical frame rate	34 fps (VGA), 21 fps (XGA)
External trigger input	Pulse-edge detection mode/pulse-width detection mode
Trigger delay function	0 to 4 s, 1ms steps
External trigger latency	Less than 10 us
Hardware Look Up Table	Gamma compensation, binarization, negative/positive reverse, etc.
Processor	
CPU	x 86, AMD Geode GX533, 400 MHz
Memory	258 MB DDR-SDRAM 128 MB Compact Flash
Operating system	Monta Vista Linux Professional edition 3.0 (built-in) Windows XPe (with optional downloadable SDK)

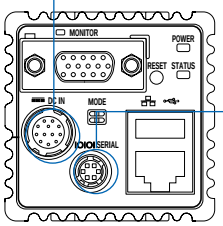
Interfaces	
Ethernet	10Base-T/100Base-TX (Network protocols: TCP/IP (IPv4), HTTP, FTP)
Monitor output	D-sub 15pin for multi scan monitor
USB	version 1.1
Serial interface	RS-232C
Digital I/Os	TTL IN/OUT, Isolated IN/OUT, Trigger IN, Exposure OUT
General	
Lens mount	C-mount
Minimum illumination	4 lx (F1.4, +18 dB gain)
Power requirements	10.5 to 26.4 V
Power consumption	7.8 W
Dimensions (W x H x D)	2 1/4 x 2 1/4 x 4 3/8 inches (55 x 55 x 110 mm)
Weight	14 oz (400 g)
Operating temperature	23 to 113 ºF (-5 to +45 ºC)
Storage temperature	-40 to +140 ºF (-20 to +60 ºC)
Operating humidity	20 to 80% non condensing
Storage humidity	20 to 95% non condensing
Vibration	10 G (20 to 200 Hz)
Shock resistance	70 G
Regulations	FCC / CE / IC / VCCI Class A
Supplied Accessories	
	Lens mount cap, Operating instructions

DIMENSIONS



Unit: inch (mm)

PIN ASSIGNMENT



Rear panel

12-pin connector

1	GND	7	TTL OUT
2	+12V IN	8	GND
3	GND	9	ISO OUT –
4	ISO OUT +	10	EXP OUT
5	GND	11	TRIG IN
6	TTL IN	12	GND

6-pin connector

1	TXD (RS-232C)
2	RXD (RS-232C)
3	GND
4	ISO IN +
5	ISO IN –
6	NC

OPTIONAL ACCESSORIES

Camera Adaptor

DC-700/DC-700CE

12-pin Camera Cable

CCXC-12P02N (2 m)
CCXC-12P05N (5 m)
CCXC-12P10N (10 m)
CCXC-12P25N (25 m)

SONY

Sony Electronics Inc.
1 Sony Drive
Park Ridge, NJ 07656
201-930-7000
www.sony.com/videocameras

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