

SENTECH

STC-A83A
Product Specification

**Small Cubic Type – XGA CCD
Monochrome Analog Camera**

Contents

I. Specifications	
A. Electronic Specs / Mechanical Specs / Environmental Conditions.....	1
B. Rear Panel Specifications.....	2-4
1. Connector Pin Assignment.....	2
2. DIP Switch Settings.....	3
3. External Sync.....	4
4. Gain Mode Setting.....	4
II. Dimensions	
A. Dimensions.....	5
B. Dimensions (Tripod).....	6
C. Dimensions (Camera with Tripod).....	7

I. Specifications

A. Electronic Specifications / Mechanical Specifications / Environmental Conditions

Product		STC-A83A		
Electronic Specifications	Imager	1/3" interline XGA monochrome progressive CCD: ICX204AL		
	Total Picture Elements	1077 (H) x 788 (V)		
	Effective Picture Elements	1034 (H) x 779 (V)		
	Active Picture Elements	XGA: 1024 (H) x 768 (V)		
	Chip Size	5.8 (H) x 4.92 (V) mm		
	Cell Size	4.65 (H) x 4.65 (V) μ m		
	Scanning System	Progressive		
	Scanning Method	Full scanning, Partial full scanning, 1/2 partial scanning, 1/4 partial scanning, Variable partial scanning, Binning, Binning partial scanning, Binning 1/2 partial scanning, Binning 1/4 partial scanning, Binning variable partial scanning		
	Vertical Frequency (Frame rate)	29.59 Hz		
	Horizontal Frequency	23.23 kHz		
	Pixel Frequency	29.5 MHz		
	S/N Ratio (standard deviation)	56 dB (GAIN 0 dB)		
	Minimum Scene Illumination	1 Lux at F1.4		
	Sync. System	Internal / External		
	Video Output	1.0 Vp-p / 75 Ω . DC coupling (0V)		
	Shutter Speed	DIP Switch	OFF, 1/200, 1/500, 1/1,000, 1/2,000, 1/4,000, 1/8,000, 1/20,000 second	
		Communication	OFF, 1/2 to 1/100,000 sec. (Variable at every H and clock)	
	Gain	0 to 27 dB		
	Gamma	1.0 / 0.45		
	Power supply	Input Voltage	DC12V \pm 10%	
Consumption		Less than 1.8 W		
Trigger Mode	Edge preset trigger (V-reset, Non-reset) Pulse width trigger (V-reset, Non-reset)			
Communication	RS232 via 12 pin connector			
Mechanical Specifications	Dimensions	28 (W) x 28 (H) x 46.3 (D) mm including lens mount and the connector		
	Optical filter	No IR cut filter		
	Optical Center Accuracy	Positional accuracy in H and V directions: +/- 0.31 mm		
	Material	Case	Front, base and rear: Aluminum die cast (ADC12) Cover: Steel sheet covered with zinc	
		Tripod	Polycarbonate ABS	
	Lens mount	C mount		
	Interface Connector	HR10A-10R-12PB (Hirose) or equivalent		
	Tripod	Tripod can be attached to 4 plates (4 screws on the bottom plate, 3 screws on the other 3 plates)		
	Weight	Approximately 52 g (Camera: 43 g, tripod: 9 g)		
Environmental Conditions	Temperature and Humidity	Operational	Temperature: -5 to 50 deg. C, RH: 0 to 85% (No condensation)	
		Storage	Temperature: -30 to 65 deg. C, RH: 0 to 90% (No condensation)	
	Vibration	20Hz to 200Hz to 20Hz (5min/cycle), acceleration 10G, 3 directions 30 min. each		
	Shock	Acceleration 70G, half amplitude 6ms, 3 directions 3 times each		
	Standard Compliancy	EMS: EN61000-6-2, EMI: EN55011 (Class B)		
	RoHS	RoHS compliance		

B. Rear Panel Specifications

1. Connector Pin Assignment

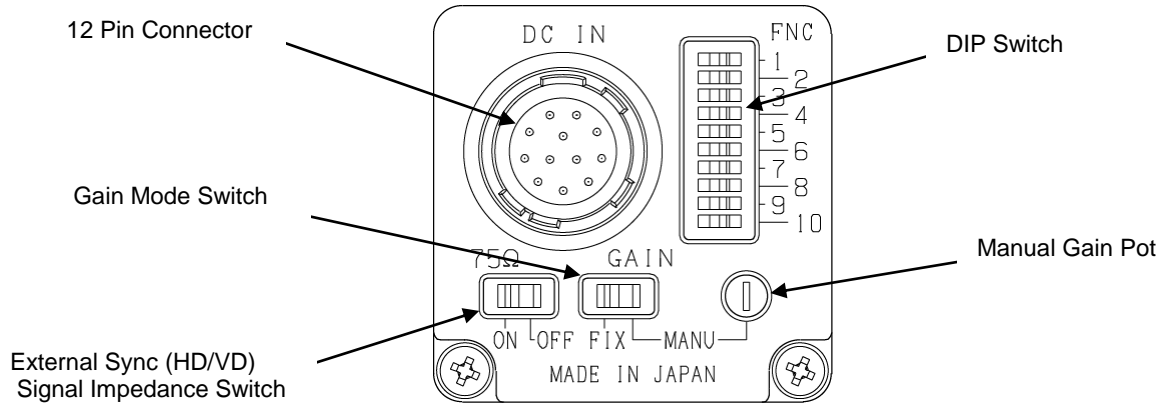


Figure 1

12 Pin Connector Assignment

The connector type: HR10A-10R-12PB (Hirose) or equivalent

Pin Assignment

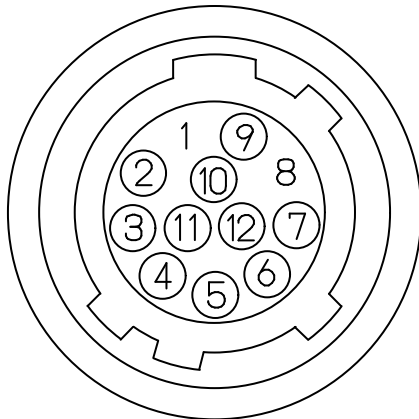


Figure 2

No.	Signal types	
	Internal sync	External sysnc
1	GND	GND
2	+12V DC	+12V DC
3	VIDEO GND	VIDEO GND
4	VIDEO OUT	VIDEO OUT
5	HD GND	HD GND
6	HD OUT	HD IN
7	VD OUT	VD IN
8	GND	GND
9	TXD	TXD
10	WEN OUT	WEN OUT
11	TRG IN	TRG IN
12	RXD (Note)	RXD (Note)

*Note: Pin No.12 can be connected to GND

The camera settings can change by RS232C communication with No. 9 and 12. Please refer the detail for the user's guide.

2. DIP Switch Settings (Refer to Dip Switch in Figure 1)

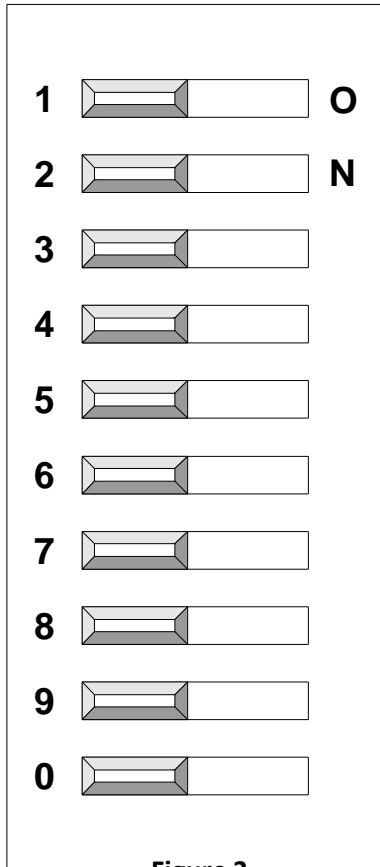


Figure 3

DIP Switch No. 1 to 3: Shutter Speed

Shutter Speed	No. 1	No. 2	No. 3
OFF/Plus width	OFF	OFF	OFF
1/200 sec.	ON	OFF	OFF
1/500 sec.	OFF	ON	OFF
1/1,000 sec.	ON	ON	OFF
1/2,000 sec.	OFF	OFF	ON
1/4,000 sec.	ON	OFF	ON
1/8,000 sec.	OFF	ON	ON
1/20,000 sec.	ON	ON	ON

DIP Switch No. 4 to 5: Reset Mode

Reset mode	No. 4	No. 5
Non-reset	OFF	OFF
V-reset	ON	OFF

DIP Switch No. 6: Trigger Polarity

Trigger polarity	No. 6
Positive	OFF
Negative	ON

DIP Switch No.7 to 8: Scanning Method

Scanning method	No. 7	No. 8
Full	OFF	OFF
Full	ON	OFF
1/2 partial	OFF	ON
1/4 partial	ON	ON

DIP Switch No.9: Sync. System

Sync. System	No. 9
External	OFF
Internal	ON

DIP Switch No.10: Binning

Binning	No. 10
OFF	OFF
ON	ON

3. External Sync. (HD/VD) signal impedance setting (See **External Sync** in **Figure 1**)

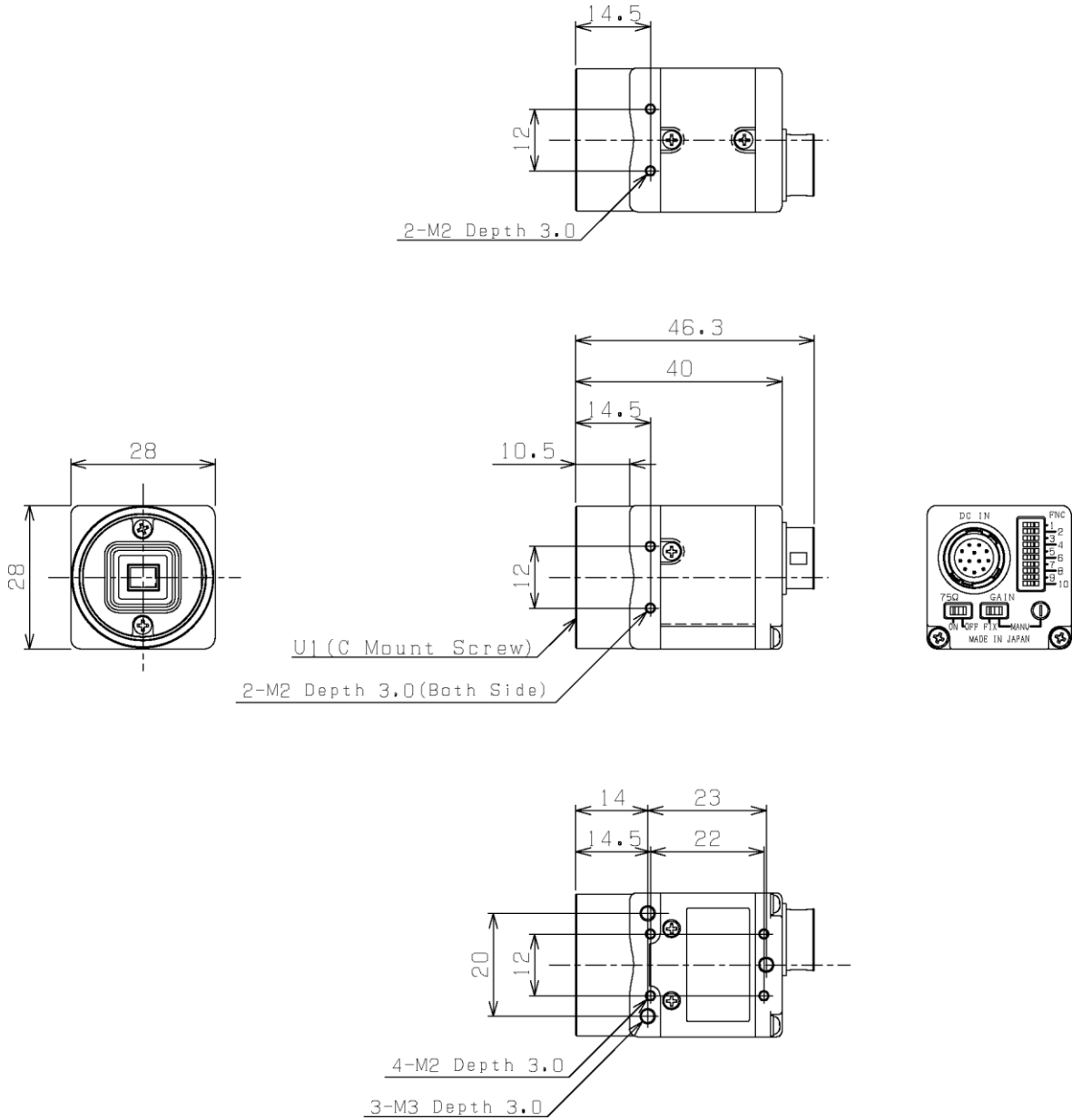
ON: 75Ohm termination
OFF: High impedance

4. Gain Mode Setting (See **Gain Mode Switch** in **Fig. 1**)

FIX: Fixed gain
MAN: Manual gain
The gain can be adjustable by the manual gain pot (See **Manual Gain Pot** in **Fig. 1**).

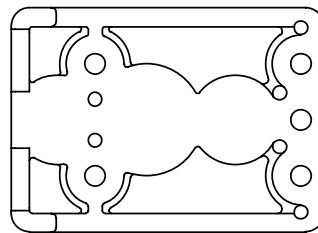
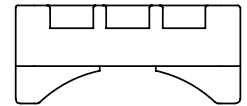
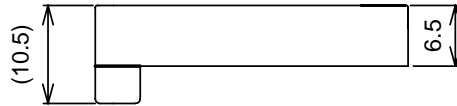
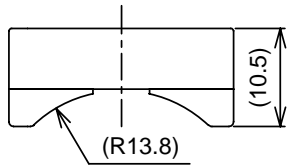
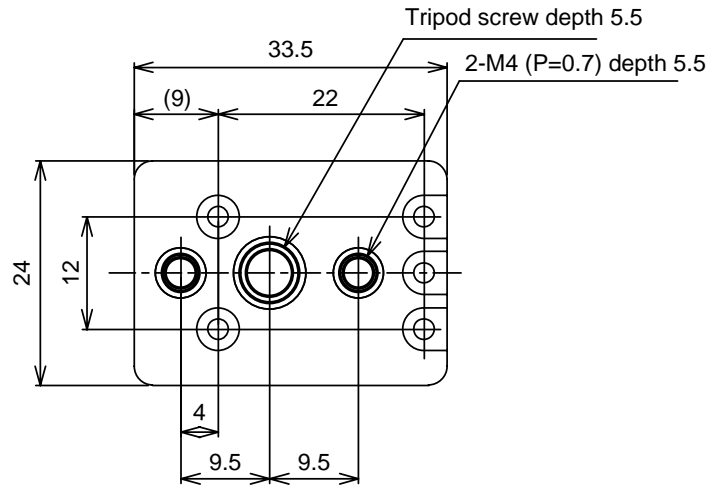
II. Dimensions

A. Camera Dimensions



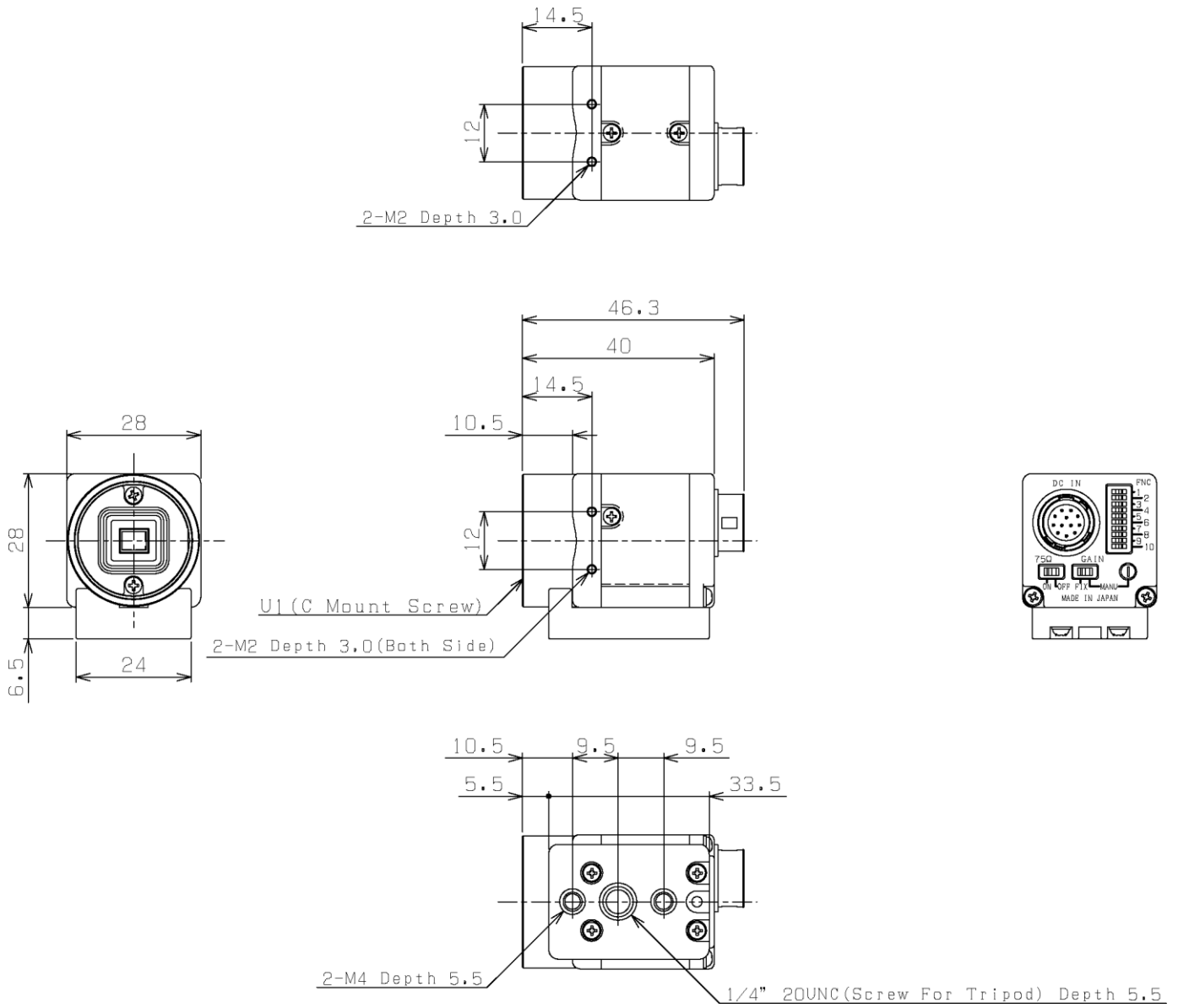
Unit: mm

B. Tripod Dimensions



Unit: mm

C. Camera with Tripod Dimensions



Unit: mm

Revisions

Revision	Date (D/M/Y)	Changes	Name	Changes
1.0	23/08/2006	Created Document	Sam Aimono	
1.1	22/08/2006	Update whole document	Sam Aimono	
1.2	19/09/2006	Change document structure	Sam Aimono	
1.3	25/04/2007	Update 1) Output timing chart 2) Connector	Sam Aimono	
1.4	01/10/2007	Update 1) Mechanical Specifications (optical center accuracy) 2) Communication Specifications (Add the initial data and the data range) 3) Tripod drawing (Change Japanese to English) 4) Camera Modes	Sam Aimono	
2.0	16/04/2008	Separate document from "Specification" to "Specification" and "User's Guide"	Sam Aimono	
2.1	12/05/2008	Edited English	Michelle Campbell	

Sensor Technologies America, Inc.

1345 Valwood Pkwy, Suite 320
Carrollton, Texas 75006-6891
TEL (972) 481-9223 FAX (972) 481-9209
URL <http://www.sentechamerica.com/>

Sensor Technology Co., Ltd.

7F, Harada Center Building
9-17, Naka cho 4chrome
Atsugi-city, Kanagawa
243-0018 Japan
TEL +81-46-295-7061 FAX +81-46-295-7066
URL <http://www.sentech.co.jp/>

Taiwan Sensor Technology, Inc.

3F-6, No. 9, Aiguo W, Rd., Jhong Jheng District
Taipei City 100, Taiwan, R.O.C.
TEL 886-2-2383-2331 FAX 886-2-2370-8775
EMAIL: sentech0501@yahoo.com.tw