

## I. Specifications

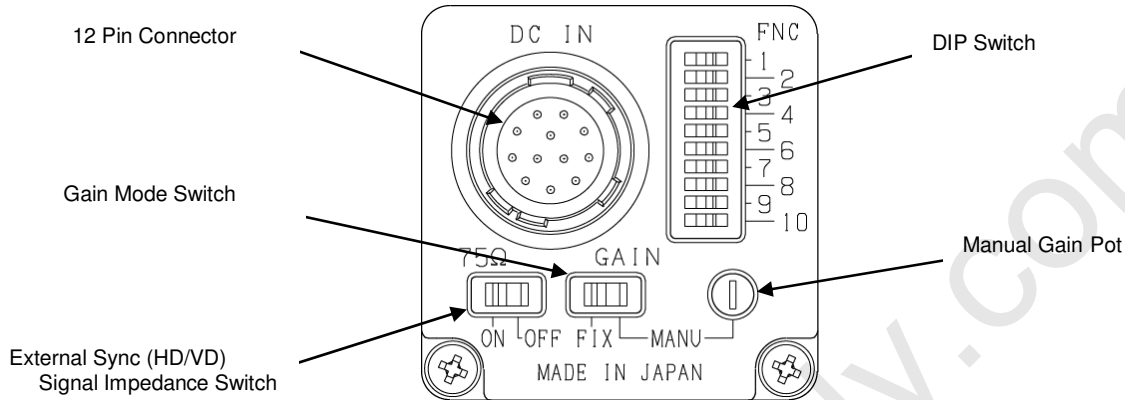
### A. Electronic Specifications / Mechanical Specifications / Environmental Conditions

Product		STC-A33A		
Electronic Specifications	Imager		1/3" Interline VGA Monochrome Progressive CCD: ICX424AL	
	Total Picture Elements		692 (H) x 504 (V)	
	Effective Picture Elements		659 (H) x 494 (V)	
	Active Picture Elements		VGA: 648 (H) x 494 (V)	
	Chip Size		5.79 (H) x 4.89 (V)	
	Cell Size		7.4 (H) x 7.4 (V) $\mu$ m	
	Scanning Systems		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		31.47 (30fps) / 62.94 (60fps) / 94.784 (90fps) Hz	
	Horizontal Frequency		15.7343 (30fps) / 31.4685 (60fps) / 47.2028 (90fps) kHz	
	Pixel Frequency		12.2727 (30fps) / 24.5454 (60fps) / 36.8181 (90fps) 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 $\Omega$ , DC Coupling (0V)	
	Shutter Speed	DIP Switch	OFF; 1/200; 1/500; 1/1000; 1/2000; 1/4000; 1/8000; 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	DC 12V $\pm$ 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 connector	
	Optical Filter		No IR Cut Filter	
	Optical Center Accuracy		Positional Accuracy in H and V directions: +/- 0.31mm	
	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 52g (Camera: 43g, Tripod: 9g)	
Environmental Conditions	Temperature and Humidity	Operational	Temperature: -5 to 50°C; Relative Humidity: 0 to 85% (No Condensation)	
		Storage	Temperature: -30 to 65°C; Relative Humidity: 0 to 90% (No Condensation)	
	Vibration		20Hz to 200Hz to 20Hz (5 min./cycle), Acceleration 10G, 3 Directions 30 Minutes Each	
	Shock		Acceleration 70G, Half Amplitude 6ms, 3 Directions 3 Times Each	
	Standard Compliancy		EMS: EN61000-6-2, EMI: EN55011 (Class B)	
	RoHS		RoHS Compliant	

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## B. Rear Panel Specifications

### 1. Connector Pin Assignment

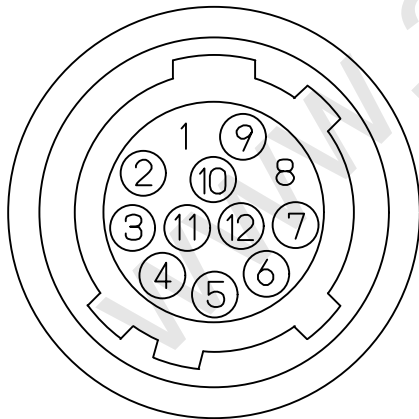


**Figure 1**

#### 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)

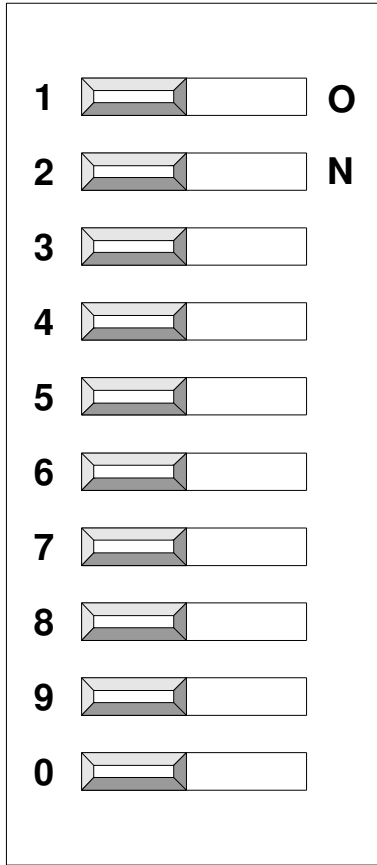


Figure 3

### 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**)

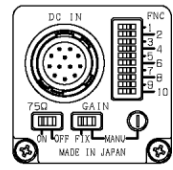
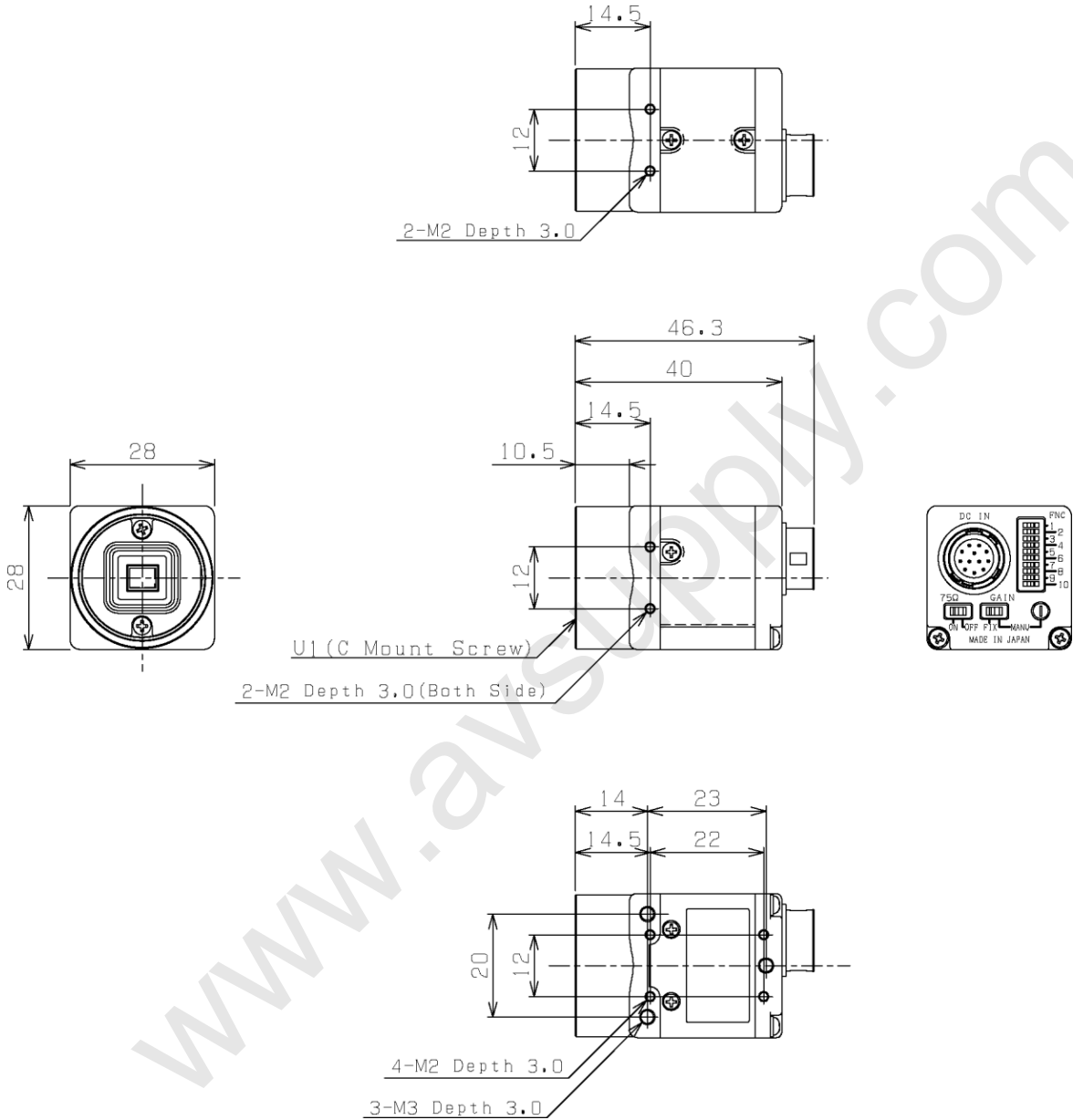
FIX: Fixed gain  
MAN: Manual gain  
The gain can be adjustable by the manual gain pot (See **Manual Gain Pot** in **Fig. 1**).

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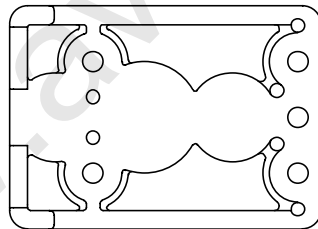
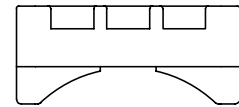
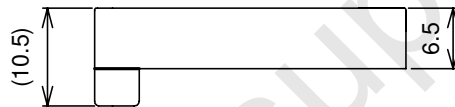
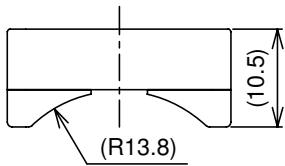
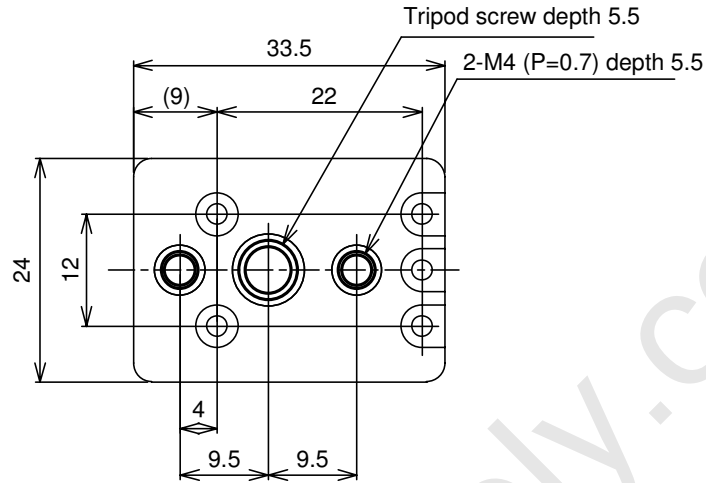
## II. Dimensions

### A. Camera Dimensions



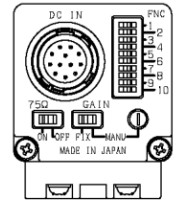
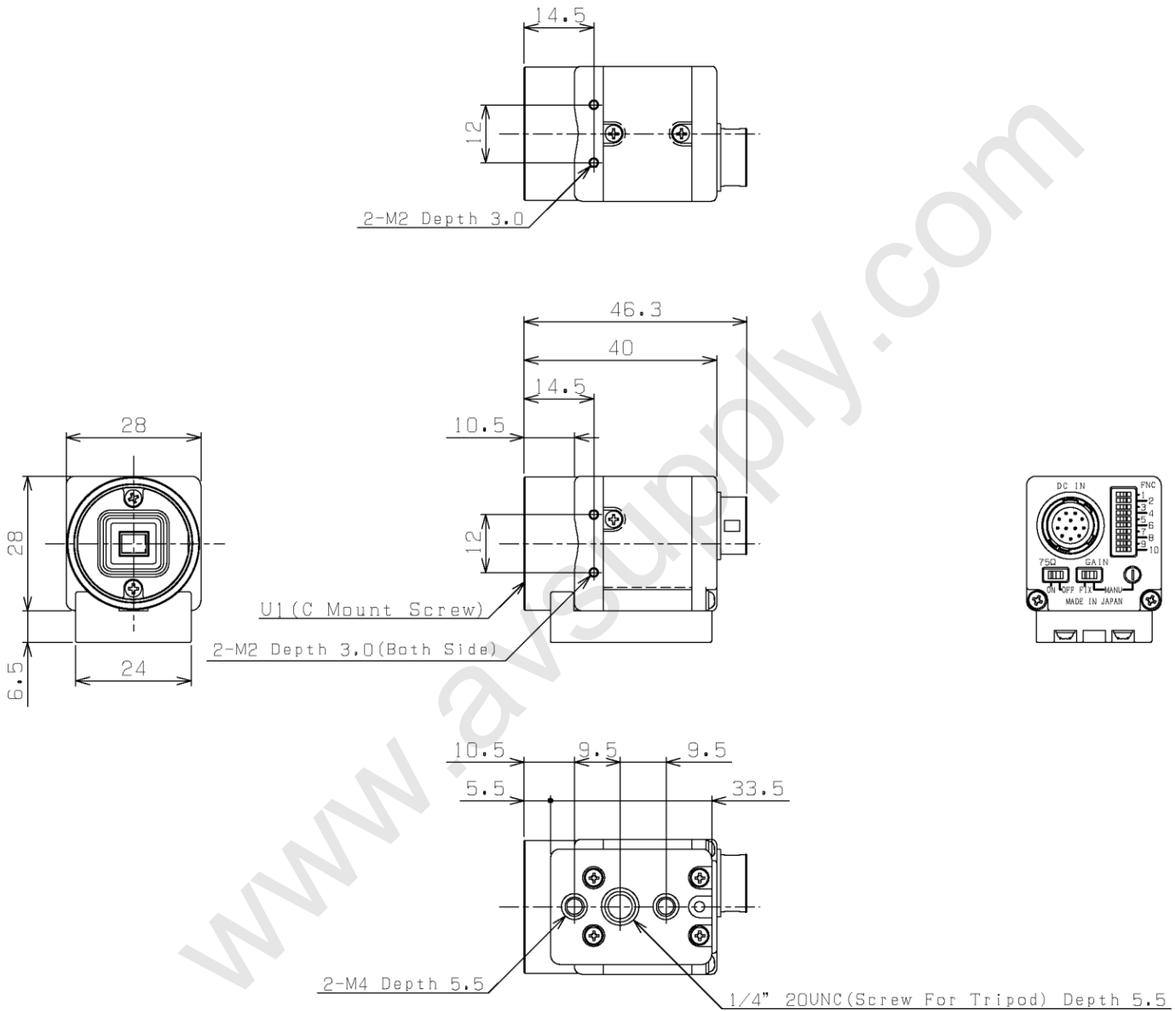
Unit: mm

## 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	