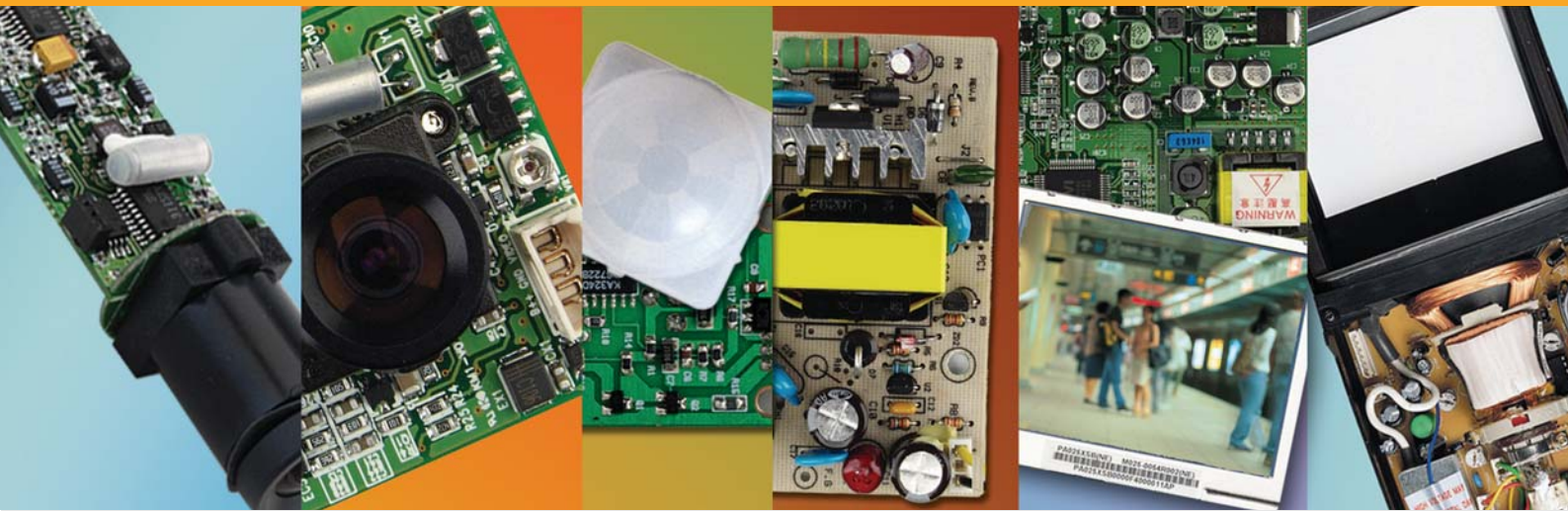


SECURITY MODULE DIVISION

PCB MODULE

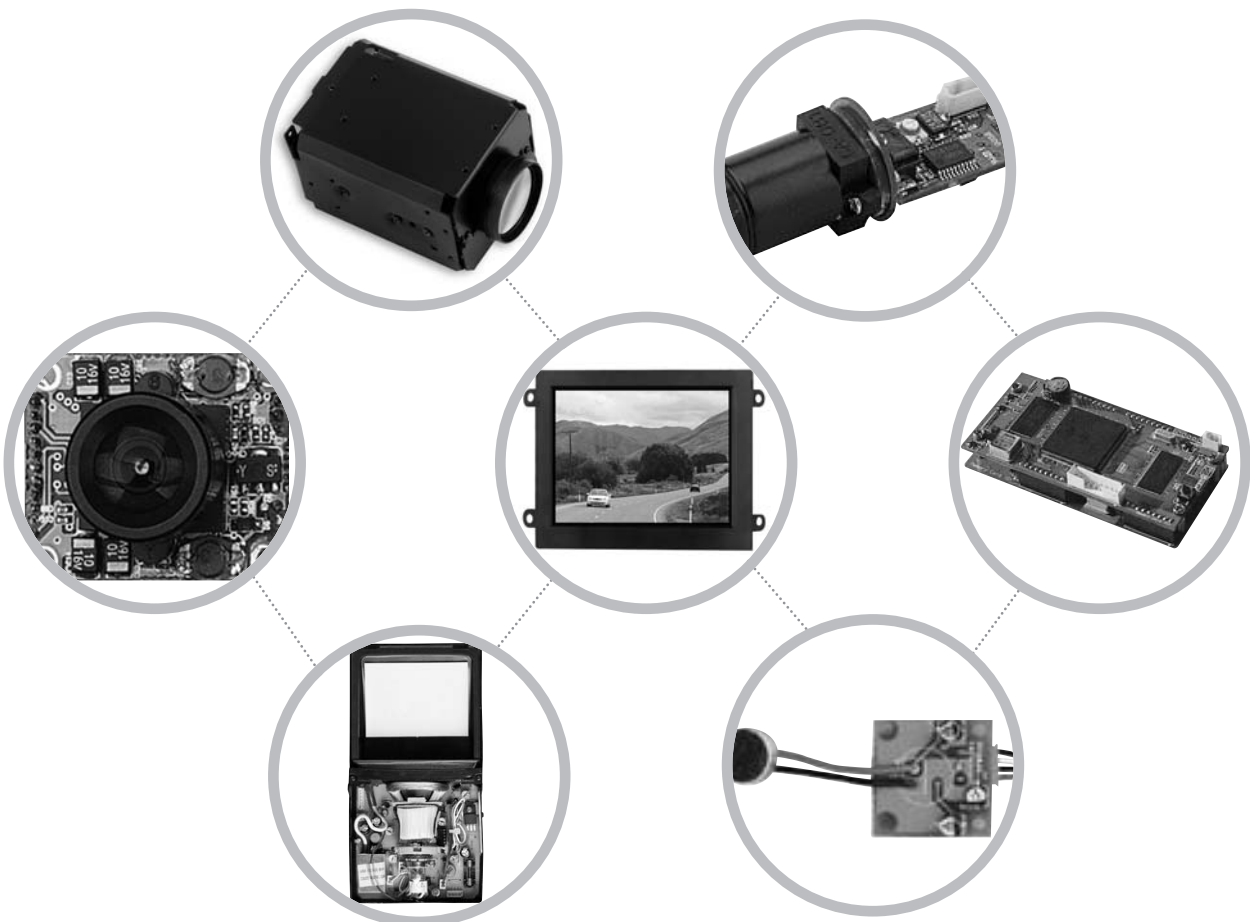


- COLOR DSP CAMERA PCB MODULE
- B/W CAMERA PCB MODULE
- B/W 4" FLAT MONITOR MODULE
- PIR SENSOR PCB MODULE
- AUDIO PCB MODULE
- LENS

- ZOOM CAMERA MODULE
- CMOS CAMERA PCB MODULE
- COLOR 2.5", 3.5", 4", 5", 5.6" & 7" TFT MONITOR MODULE
- VIDEO MEMORY BOARD (COLOR, B/W)
- SMPS MODULE

Keeping to do the reliable high technology and the best quality for the industrial field and consumer field for security as top professional manufacturer.

- COLOR DSP CAMERA PCB MODULE
- B/W CAMERA PCB MODULE
- B/W 4" FLAT MONITOR MODULE
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- SMPS MODULE



Underwriters Laboratories Inc.®



Hanse History

Hanse Electronics Co., Ltd.

- 1994. 9. Established
 - 1994.12. Camera modules (B/W) were developed
 - 1995. 1. CRT module (B/W) was developed
 - 1995. 3. Camera Modules (Color) were developed
 - 1996. 6. Built own factory at Bucheon, Korea
 - 1997. 1. Moved expanded to Incheon, Korea
 - 1998. 1. TFT LCD color module was developed
 - Home TV camera system was developed
 - LCD color observation system was developed
 - 1998. 2. Appointed prospect export SMPC
 - 1998. 5. CCTV Camera (B/W, Color) was Developed
 - 1998. 11. Awarded export tower 5Million USD
 - 1999. 2. Started to manufacturing easy installation DIY products
 - 1999. 9. Approved venture company
 - 2000. 1. 2.4GHz wireless RX/TX developed
 - 2000. 2. 2CH 2way Audio Observation System developed
 - 2000. 3. Overseas Biz. Team and R&D Team moved to new office at Seoul
 - 2001.11 Awarded export tower 10million USD
 - 2002. 6. Miniature camera, pipe camera were developed
 - 2002. 8. Microscope were developed
 - 2002. 9. TFT LCD TV/Monitor (5.6", 7") were developed
 - 2002.11 Organized R&D Institute
 - 2003. 1. Color Memory Card were developed
 - 2003. 5. DVR were developed
 - 2004. 9. TFT LCD Module(4") were developed
 - 2005. 7. TFT LCD Module(2.5", 3.5", 4", 5, 5.6", 7") were developed
- Employees 100 / PI-Capital USD10,000,000 / Y-Turn over USD40,000,000

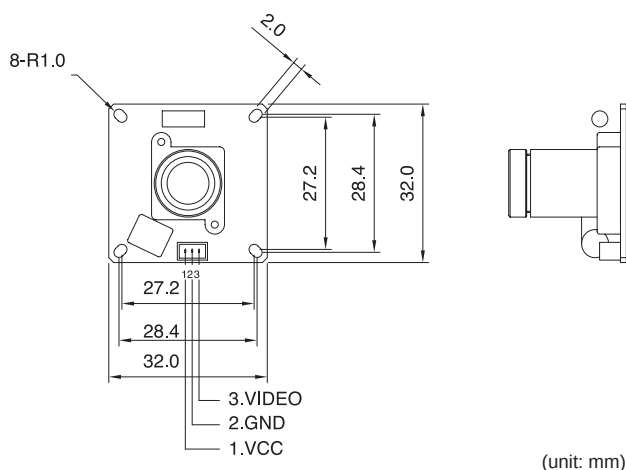
Security Module Division

- Color DSP camera PCB module / 6
- Zoom camera module / 11
- B/W camera PCB module / 11
- CMOS camera PCB module / 15
- Color TFT monitor module / 16
- B/W 4" Flat monitor module / 19
- Video Memory board(Color, B/W) / 22
- PIR Sensor PCB module / 23
- Audio PCB module / 24
- SMPS Module/25
- 2.4GHz Wireless TX & RX/25
- Lens / 26



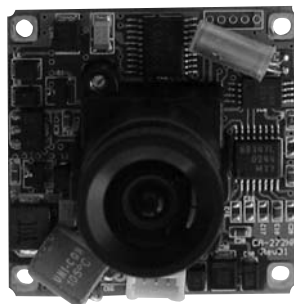
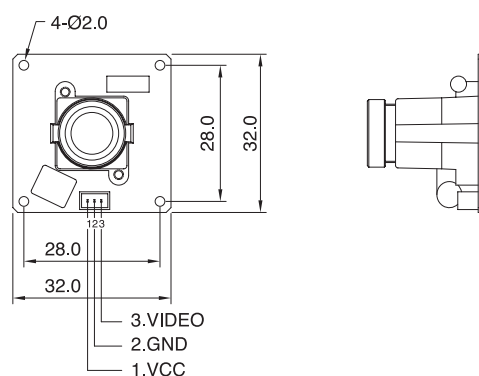
CCTV Camera Module

Hanse Electronics Co., Ltd.

CA-172N/P**Dimensions****Specifications**

	CA-172N	CA-172P
TV system	NTSC	PAL
Image sensor	1/4inch CCD 270K pixels	1/4inch CCD 320K pixels
Effective pixel	512(H) × 491(V)	512(H) × 581(V)
Scanning system	525 Line 2:1 interlace	625 Line 2:1 interlace
Scanning frequency	15.734KHz(H), 59.94Hz(V)	15.625KHz(H), 50Hz(V)
Sync. system	Internal	
Horizontal resolution	330TV lines (Center)	
Min. Illumination	0.5lx / F=1.2(AGC ON)	
S/N ratio	45dB (AGC OFF)	
Gamma	$\gamma = 0.45$	
White balance	ATW	
AGC	ON	
IRIS	Electrical Auto IRIS	
Shutter speed	1/60~1/100,000 sec.	1/50~1/100,000 sec.
Video output	1.0Vp-p, 75ohm	
BLC	ON	
Power Consumption	DC12V ± 10%, Max. 110mA	
Operating temp	-10°C ~ 60°C	
Dimensions(mm)	32(W) × 32(H)	

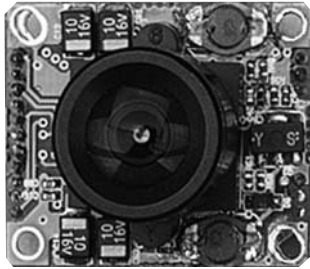
* Board lens(12mm, 8mm, 6mm, 4.3mm, 2.9mm, 2.2mm), Pin-hole lens(Flat lens, Semi cone lens, Super cone lens) & C-Mount are optional

CA-272N/P**Dimensions****Specifications**

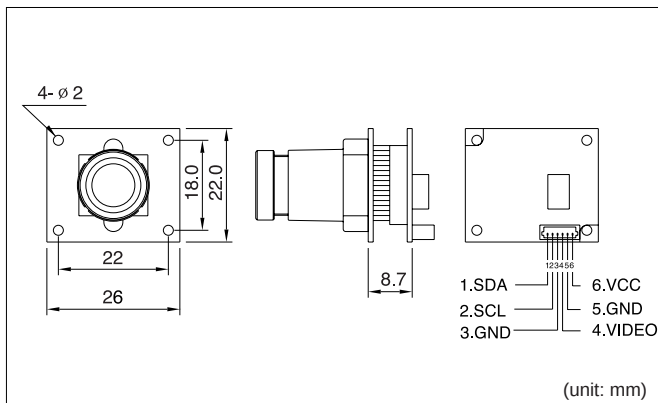
	CA-272N	CA-272P
TV system	NTSC	PAL
Image sensor	1/3inch CCD 270K pixels	1/3inch CCD 320K pixels
Effective pixel	510(H) × 492(V)	500(H) × 582(V)
Scanning system	525 Line 2:1 interlace	625 Line 2:1 interlace
Scanning frequency	15.734KHz(H), 59.94Hz(V)	15.625KHz(H) × 50Hz(V)
Sync. System	Internal	
Horizontal resolution	380TV lines (Center)	
Min. Illumination	0.1lx / F=1.2(AGC ON)	
S/N ratio	48dB (AGC OFF)	
Gamma	$\gamma = 0.45$	
White balance	ATW	
AGC	ON	
IRIS	Electrical Auto IRIS	
Shutter speed	1/60~1/100,000 sec.	1/50~1/100,000 sec.
Video Output	1.0Vp-p, 75ohm	
BLC	ON	
Power Consumption	DC12V ± 10%, Max. 130mA	
OperatingTemp	-10°C ~ 60°C	
Dimensions(mm)	32(W) × 32(H)	
Lens	3.6mm / F=2.0(Default) or Option	

* Board lens(12mm, 8mm, 6mm, 4.3mm, 2.9mm, 2.2mm), Pin-hole lens(Flat lens, Semi cone lens, Super cone lens) & C-Mount are optional

CA-070N/P



Dimensions

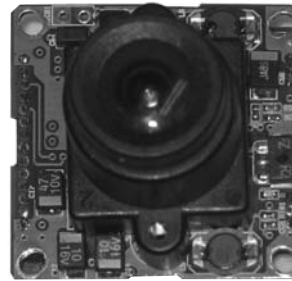


Specifications

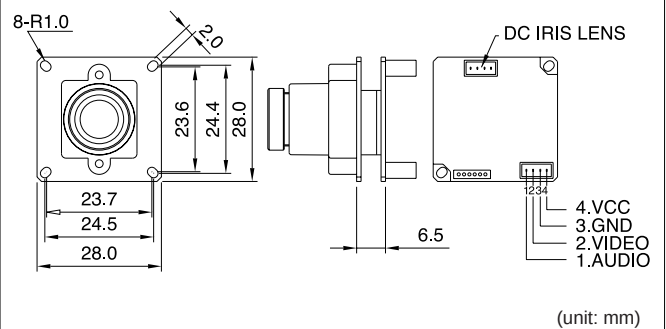
	CA-070N	CA-070P
TV system	NTSC	PAL
Image sensor	1/4inch CCD 270K pixels	1/4inch CCD 320K pixels
Effective pixel	512(H) × 491(V)	512(H) × 581(V)
Scanning system	525 Line 2:1 interlace	625 Line 2:1 interlace
Scanning frequency	15.734KHz(H), 59.94Hz(V)	15.625KHz (H), 50Hz(V)
Sync. System	Internal	
Horizontal resolution	330TV lines (Center)	
Min. Illumination	0.5lx / F=1.2(AGC ON)	
S/N ratio	45dB (AGC OFF)	
Gamma	$\gamma = 0.45$	
White balance	ATW	
AGC	ON	
IRIS	Electrical Auto IRIS	
Shutter speed	1/60~1/100,000 sec.	1/50~1/100,000 sec.
Video Output	1.0Vp-p, 75ohm	
BLC	ON	
Power Consumption	DC5V ± 10%, Max. 200mA	
OperatingTemp	-10°C ~60°C	
Dimensions(mm)	26(W) × 22(H) X 2 Board	

※ Board lens(12mm, 8mm, 6mm, 4.3mm, 2.9mm, 2.2mm), Pin-hole lens(Flat lens, Semi cone lens, Super cone lens) & C-Mount are optional

CA-071N/P



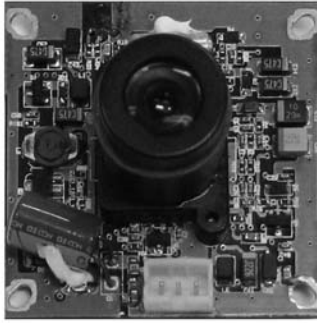
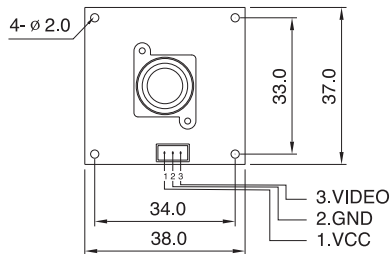
Dimensions



Specifications

	CA-071N	CA-071P
TV System	NTSC	PAL
Image sensor	1/4inch CCD 270K pixels	1/4inch CCD 320K pixels
	1/3inch CCD 410K pixels	1/3inch CCD 470K pixels
Effective pixel	512(H) × 491(V)	512(H) × 581(V)
	711(H) × 492(V)	737(H) × 575(V)
Scanning system	525 Line 2:1 interlace	625 Line 2:1 interlace
Scanning frequency	15.734KHz(H), 59.94Hz(V)	15.625KHz (H), 50Hz(V)
Sync. System	Internal	
Horizontal resolution	330TV lines (Center), 480TV lines (Center)	
Min. Illumination	0.5lx / F=1.2(AGC ON)	
S/N ratio	45dB (AGC OFF)	
Gamma	$\gamma = 0.45$	
White balance	ATW	
Gain control	Auto	
Shutter speed	1/60~1/100,000 sec.	1/50~1/100,000sec.
Video Output	1.0Vp-p, 75ohm	
Power Consumption	DC12V ± 10%, Max. 130mA	
OperatingTemp	-10°C ~60°C	
Dimensions(mm)	28(W) × 28(H) × 2Board	

※ Board lens(12mm, 8mm, 6mm, 4.3mm, 2.9mm, 2.2mm), Pin-hole lens(Flat lens, Semi cone lens, Super cone lens) & C-Mount are optional

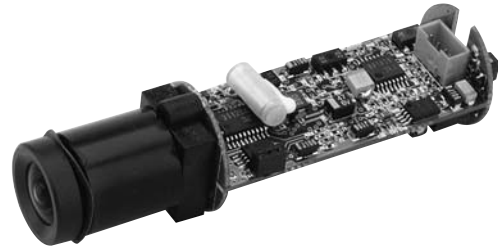
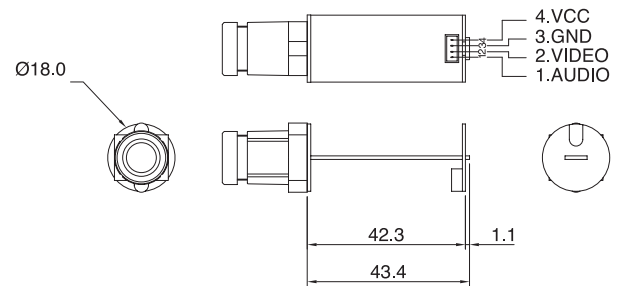
CA-073N/P**Dimensions**

(unit: mm)

Specifications

	CA-073N	CA-073P
TV system	NTSC	PAL
Image sensor	1/4inch CCD 270K pixels	1/4inch CCD 320K pixels
Effective pixel	512(H) × 491(V)	512(H) × 581(V)
Scanning system	525 Line 2:1 interlace	625 Line 2:1 interlace
Scanning frequency	15.734KHz(H), 59.94Hz(V)	15.625KHz(H), 50Hz(V)
Sync. System	Internal	
Horizontal resolution	330TV lines (Center)	
Min. Illumination	0.5lx / F=1.2(AGC ON)	
S/N ratio	45dB (AGC OFF)	
Gamma	$\gamma = 0.45$	
White balance	ATW	
AGC	ON	
IRIS	Electrical Auto IRIS	
Shutter speed	1/60~1/100,000 sec.	1/50~1/100,000 sec.
Video Output	1.0Vp-p, 75ohm	
BLC	ON	
Power Consumption	DC12V ± 10%, Max. 110mA	
Operating Temp	-10°C ~60°C	
Dimensions(mm)	38(W) × 37(H)	

i Board lens(12mm, 8mm, 6mm, 4.3mm, 2.9mm, 2.2mm), Pin-hole lens(Flat lens, Semi cone lens, Super cone lens) & C-Mount are optional

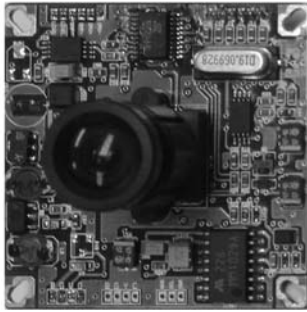
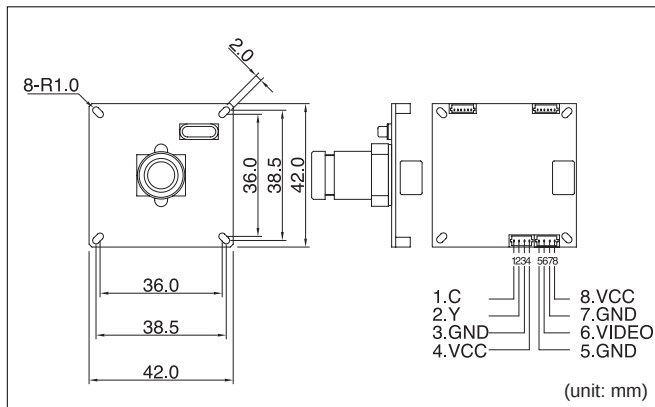
CA-074N/P**Dimensions**

(unit: mm)

Specifications

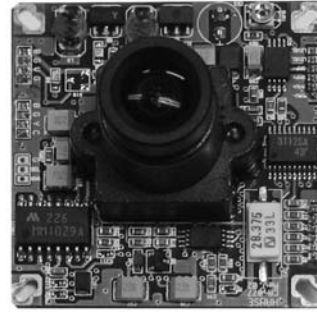
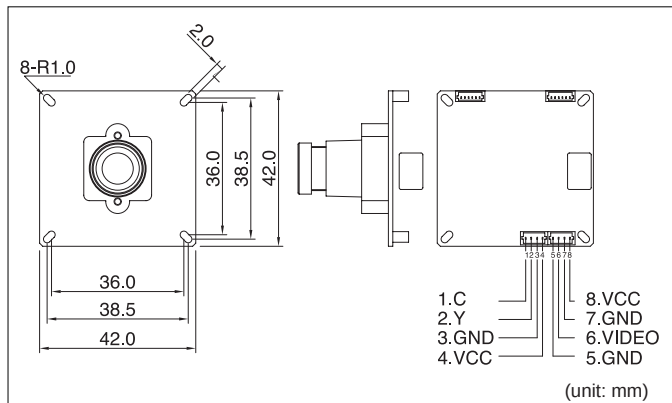
	CA-074N	CA-074P
TV system	NTSC	PAL
Image sensor	1/4inch CCD 270K pixels	1/4inch CCD 320K pixels
Effective pixel	510(H) × 491(V)	512(H) × 581(V)
Scanning system	525 Line 2:1 interlace	625 Line 2:1 interlace
Scanning frequency	15.734KHz(H), 59.94Hz(V)	15.625KHz (H), 50Hz(V)
Sync. System	Internal	
Horizontal resolution	330TV lines (Center)	
Min. Illumination	0.5lx / F=1.2(AGC ON)	
S/N ratio	45dB (AGC OFF)	
Gamma	$\gamma = 0.45$	
White balance	ATW	
AGC	ON	
IRIS	Electrical Auto IRIS	
Shutter speed	1/60~1/100,000 sec.	1/50~1/100,000 sec.
Video Output	1.0Vp-p, 75ohm	
BLC	ON	
Power Consumption	DC12V ± 10%, Max. 120mA	
Operating Temp	-10°C ~60°C	
Dimensions(mm)	ø 18 × 43.4mm	

* Board lens(12mm, 8mm, 6mm, 4.3mm, 2.9mm, 2.2mm), Pin-hole lens(Flat lens, Semi cone lens, Super cone lens) & C-Mount are optional

CA-075N/P**Dimensions****Specifications**

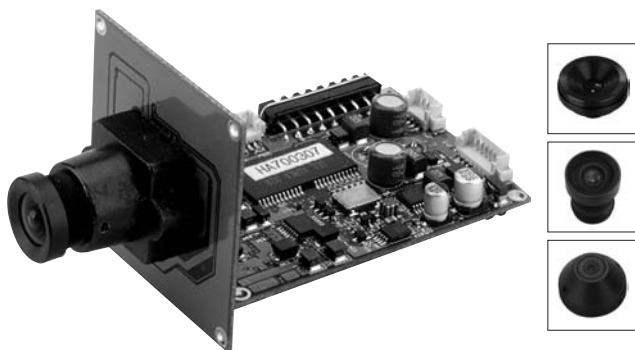
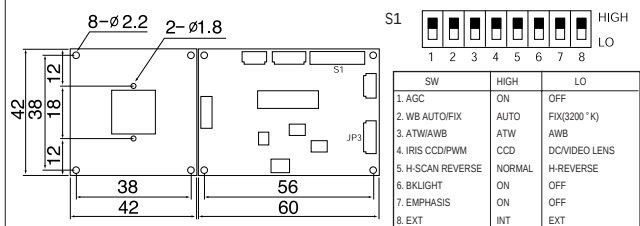
	CA-075N	CA-075P
TV system	NTSC	PAL
Image sensor	1/4inch CCD 270K pixels	1/4inch CCD 320K pixels
Effective pixel	512(H)×491(V)	512(H)×581(V)
Scanning system	525 Line 2:1 interlace	625 Line 2:1 interlace
Scanning frequency	15.734KHz(H), 59.94Hz(V)	15.625KHz (H), 50Hz(V)
Sync. System	Internal	
Horizontal resolution	330TV lines (Center)	
Min. Illumination	0.5lx / F=1.2(AGC ON)	
S/N ratio	45dB (AGC OFF)	
Gamma	$\gamma = 0.45$	
White balance	ATW	
AGC	ON/OFF	
IRIS	Electrical Auto IRIS	
Shutter speed	1/60~1/100,000 sec.	1/50~1/100,000 sec.
Video Output	1.0Vp-p, 75ohm	
BLC	ON	
Power Consumption	DC12V± 10%, Max. 110mA	
OperatingTemp	-10°C~60°C	
Dimensions(mm)	42(W)×42(H)	

※ Board lens(12mm, 8mm, 6mm, 4.3mm, 2.9mm, 2.2mm), Pin-hole lens(Flat lens, Semi cone lens, Super cone lens) Varifocal lens & C-Mount are optional

CA-077N/P**Dimensions****Specifications**

	CA-077N	CA-077P
TV system	NTSC	PAL
Image sensor	1/3inch CCD 410K pixels	1/3inch CCD 470K pixels
Effective pixel	771(H)×492(V)	737(H)×575(V)
Scanning system	525 Line 2:1 interlace	625 Line 2:1 interlace
Scanning frequency	15.734KHz(H), 59.94Hz(V)	15.625KHz (H), 50Hz(V)
Sync. System	Internal	
Horizontal resolution	480TV lines (Center)	
Min. Illumination	0.5lx / F=1.2(AGC ON)	
S/N ratio	45dB (AGC OFF)	
Gamma	$\gamma = 0.45$	
White balance	ATW	
AGC	ON	
IRIS	Electrical Auto IRIS	
Shutter speed	1/60~1/100,000 sec.	1/50~1/100,000 sec.
Video Output	1.0Vp-p, 75ohm	
BLC	ON/OFF	
Power Consumption	DC12V± 10%, Max. 130mA	
OperatingTemp	-10°C~60°C	
Dimensions(mm)	42(W)×42(H)	

※ Board lens(12mm, 8mm, 6mm, 4.3mm, 2.9mm, 2.2mm), Pin-hole lens(Flat lens, Semi cone lens, Super cone lens) Varifocal lens & C-Mount are optional

**Dimensions****JP3**

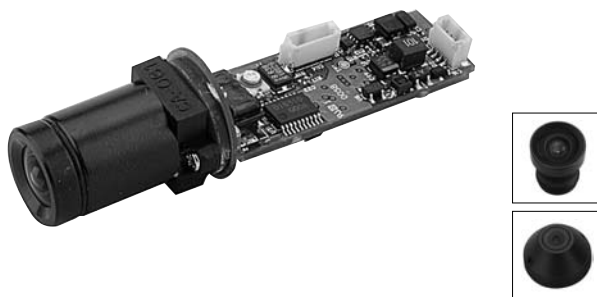
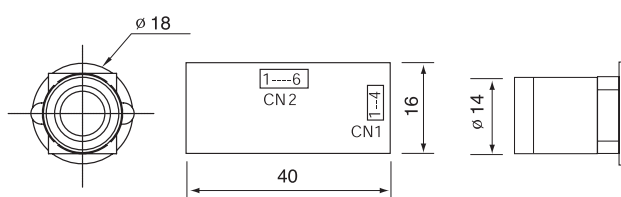
1. +12V 2. GND 3. VIDEO OUT 4. IGND 5. EXIN 6. HSSW 7. IGND

(unit: mm)

Specifications

	CA-062N	CA-062P
TV system	NTSC	PAL
Image sensor	1/3inch CCD 410K pixels	1/3inch CCD 470K pixels
Effective pixel	768(H) × 494(V)	752(H) × 582(V)
Scanning system	525 Line 2:1 interlace	625 Line 2:1 interlace
Scanning frequency	15.734KHz(H), 59.94Hz(V)	15.625KHz (H), 50Hz(V)
Sync. System	Internal	
Horizontal resolution	450TV lines (Center)	
Min. Illumination	5lx / F=1.4(AGC ON)	
S/N ratio	48dB (AGC OFF)	
Gamma	$\gamma = 0.45$	
White balance	ATW/AWB, Manual control function DIP S/W, 3200K	
AGC	ON/OFF	
Auto IRIS Mode	DC DRV., VIDEO DRV. select function	
Shutter speed	1/60~1/100,000 sec.	1/50~1/100,000 sec.
Video Output	1.0Vp-p, 75ohm	
BLC	ON/OFF	
Power Consumption	DC12V ± 10%, Max. 200mA	
OperatingTemp	-10j ~60°C	
Dimensions(mm)	Image:42(W)×42(H) Main:60(W)×42(H)	

※ Board lens(12mm, 8mm, 6mm, 4.3mm, 2.9mm, 2.2mm), Pin-hole lens(Flat lens, Semi cone lens, Super cone lens) & C-Mount are optional

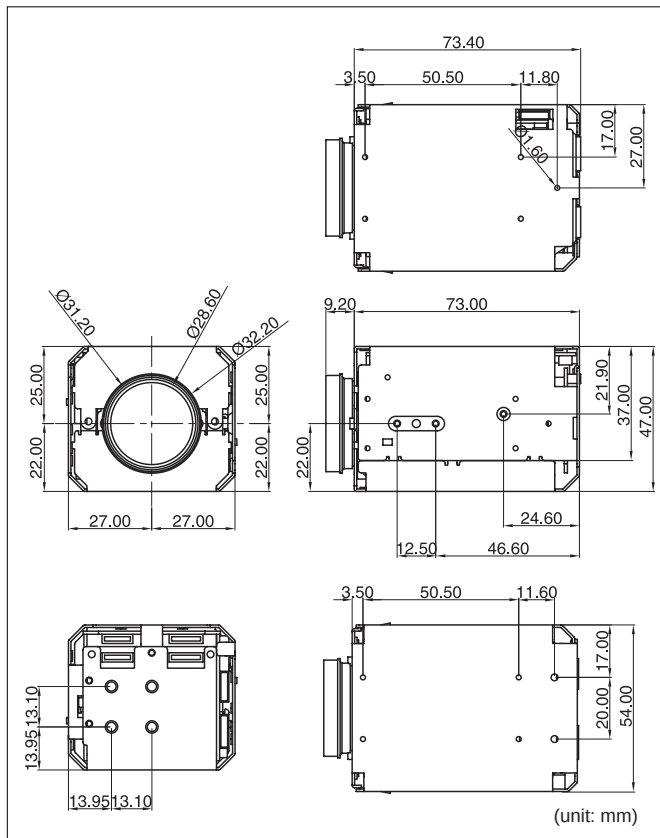
**Dimensions****CN1:** 1. DC +12V 2. GND 3. VIDEO OUT 4. MIRROR**CN2 :** 1. DC +3.3V 2. SDO 3. SDI 4. STB 5. SCK 6. GND

(unit: mm)

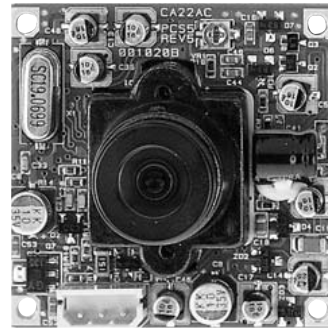
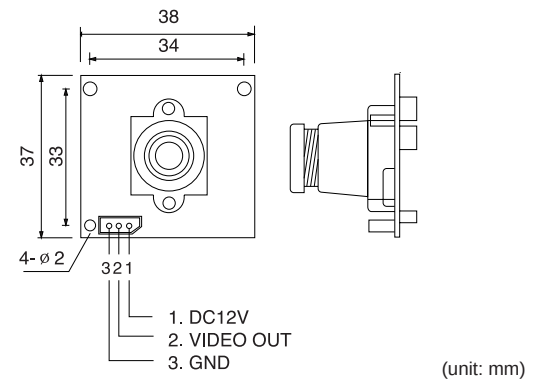
Specifications

	CA-064N	CA-064P
TV system	NTSC	PAL
mage sensor	1/4inch CCD 410K pixels	1/4inch CCD 480K pixels
	1/4inch CCD 270K pixels	1/4inch CCD 320K pixels
Effective pixel	768(H) × 494(V)	752(H) × 582(V)
	512(H) × 492(V)	500(H) × 582(V)
Scanning system	525 Line 2:1 interlace	625 Line 2:1 interlace
Scanning frequency	15.734KHz(H), 59.94Hz(V)	15.625KHz (H), 50Hz(V)
Sync. System	Internal	
Horizontal resolution	420TV lines (Center), 330TV lines (Center)	
Min. Illumination	1lx / F=1.4(AGC ON)	
S/N ratio	48dB (AGC OFF)	
Gamma	$\gamma = 0.45$	
White balance	ATW	
AGC	ON	
IRIS	Electrical Auto IRIS	
Shutter speed	1/60~1/100,000 sec.	1/50~1/100,000 sec.
Video Output	1.0Vp-p, 75ohm	
BLC	ON	
Power Consumption	DC12V ± 10%, Max. 100mA	
OperatingTemp	-10°C ~60°C	
Dimensions(mm)	ø 18 × 40	

※ Board lens(12mm, 8mm, 6mm, 4.3mm, 2.9mm, 2.2mm), Pin-hole lens(Flat lens, Semi cone lens, Super cone lens) & C-Mount are optional

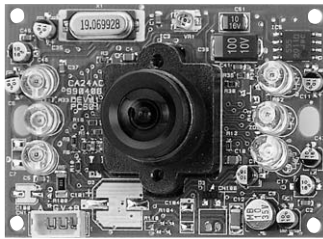
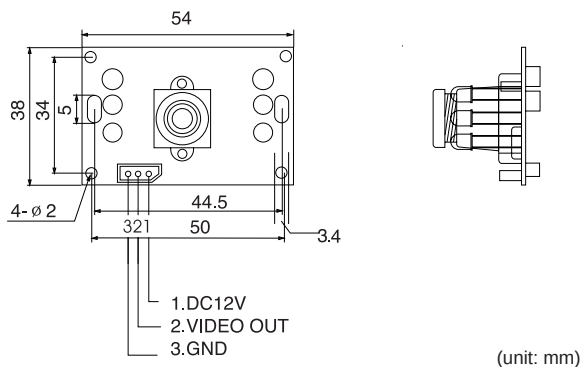
CA-Z260N/P**Dimensions****Specifications**

	CA-Z260N(260X)	CA-Z260P(260X)
TV system	NTSC	PAL
Image sensor	1/3inch CCD 410K pixels	1/3inch CCD 470K pixels
Effective Pixels	380K pixels	430K pixels
Scanning frequency	15.734KHz(H), 59.94Hz(V)	15.625KHz (H), 50Hz(V)
Total Zoom	260X (Optical 26X, Digital 10X)	
Lens	f=3.5mm~91mm, F1.6~F3.8	
Focus	Auto/ Manual	
Min. Illumination	1lx / F=1.4(AGC ON), 0.05lx(Slow scan)	
White Balance	Auto (ATW or AWB) / Fix	
OperatingTemp	-10°C ~60°C	
Power Consumption	DC12V ± 10%	
Dimension	54(W) X 47(H) X 73.4(D)	

CA-22A/C**Dimensions****Specifications**

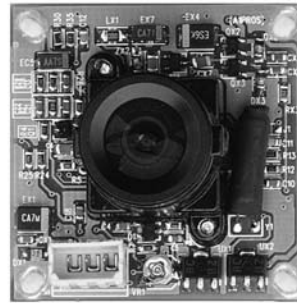
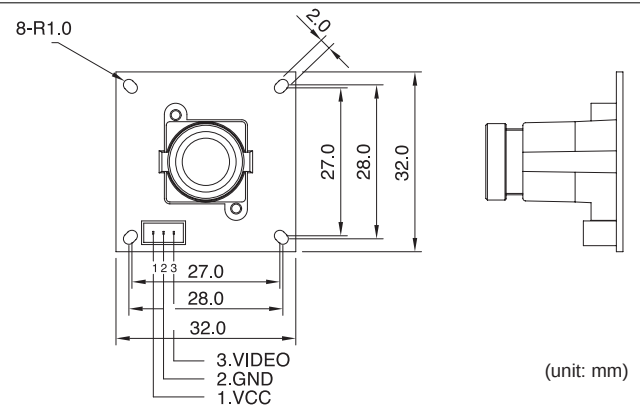
	CA-22A	CA-22C
TV system	EIA	CCIR
Image sensor	1/3inch, 270k pixels	1/3inch, 320k pixels
Effective pixel	510(H) × 492(V)	512(H) × 582(V)
Scanning system	525 Line 2:1 interlace	625 Line 2:1 interlace
Scanning frequency	15.734KHz(H), 59.94Hz(V)	15.625KHz (H), 50Hz(V)
Sync. System	Internal	
Horizontal resolution	380TV lines (Center)	
Min. Illumination	0.1lx / F=1.4(AGC ON)	
S/N ratio	45dB (AGC OFF)	
Gamma	$\gamma = 0.45$	
IRIS	Electrical Auto IRIS	
Shutter speed	1/60~1/120,000 sec.	1/50~1/120,000 sec.
Video Output	1.0Vp-p, 75ohm	
Power Consumption	DC12V ± 10%, Max. 120mA	
OperatingTemp	-10°C ~60°C	
Dimensions(mm)	38(W) × 37(H)	

i Board lens(12mm, 8mm, 6mm, 4.3mm, 2.9mm, 2.2mm), Pin-hole lens(Flat lens, Semi cone lens, Super cone lens) & C-Mount are optional

CA-24A/C**Dimensions****Specifications**

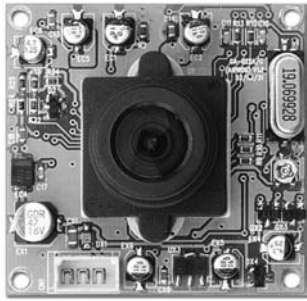
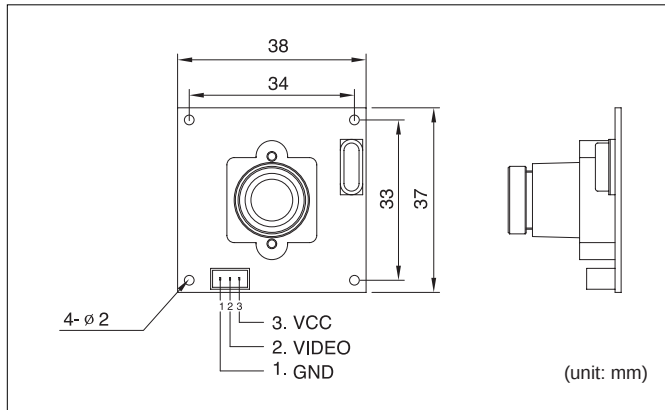
	CA-24A	CA-24C
TV system	EIA	CCIR
Image sensor	1/3inch, 270k pixels	1/3inch, 320k pixels
Effective pixel	510(H) × 492(V)	500(H) × 582(V)
Scanning system	525 Line 2:1 interlace	625 Line 2:1 interlace
Scanning frequency	15.734KHz(H), 59.94Hz(V)	15.625KHz (H), 50Hz(V)
Sync. System	Internal	
Horizontal resolution	380TV lines (Center)	
Min. Illumination	0.001 lx / F1.4, infrared Led (Built-in 6 IR LED) ON	
S/N ratio	50dB (AGC OFF)	
Gamma	$\gamma = 0.45$	
AGC	ON	
IRIS	Electrical Auto IRIS	
Shutter speed	1/60~1/120,000 sec.	1/50~1/120,000 sec.
Video Output	1.0Vp-p, 75ohm	
Power Consumption	DC12V ± 10%, Max. 180mA	
OperatingTemp	-10°C ~60°C	
Dimensions(mm)	54(W) × 38(H)	

※ Board lens(12mm, 8mm, 6mm, 4.3mm, 2.9mm, 2.2mm), Pin-hole lens(Flat lens, Semi cone lens, Super cone lens) & C-Mount are optional

CA-81A/C**Dimensions****Specifications**

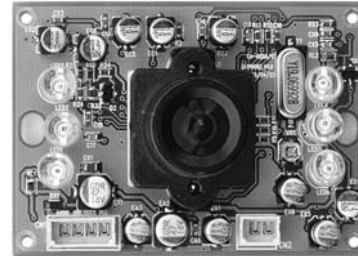
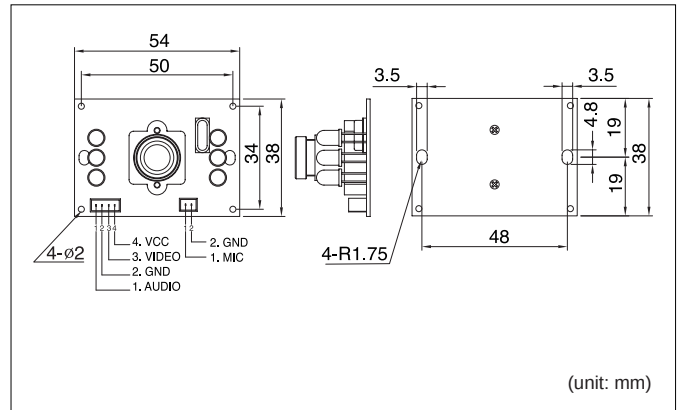
	CA-81A	CA-81C
TV system	EIA	CCIR
Image sensor	1/3inch, 270k pixels	1/3inch, 320k pixels
Effective pixel	510(H) × 492(V)	500(H) × 582(V)
Scanning system	525 Line 2:1 interlace	625 Line 2:1 interlace
Scanning frequency	15.734KHz(H), 59.94Hz(V)	15.625KHz (H), 50Hz(V)
Sync. System	Internal	
Horizontal resolution	380TV lines (Center)	
Min. Illumination	0.1 lx F1.4(AGC ON)	
S/N ratio	50dB (AGC OFF)	
Gamma	$\gamma = 0.45$	
AGC	ON	
IRIS	Electrical Auto IRIS	
Shutter speed	1/60~1/100,000 sec.	1/50~1/100,000 sec.
Video Output	1.0Vp-p, 75ohm	
Power Consumption	DC12V ± 10%, Max. 100mA	
OperatingTemp	-10°C ~60°C	
Dimensions(mm)	32(W) × 32(H)	

※ Board lens(12mm, 8mm, 6mm, 4.3mm, 2.9mm, 2.2mm), Pin-hole lens(Flat lens, Semi cone lens, Super cone lens) & C-Mount are optional

CA-82A/C**Dimensions****Specifications**

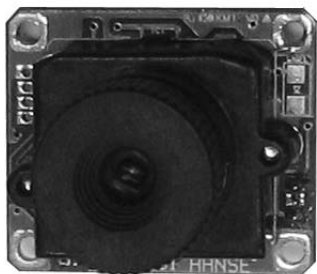
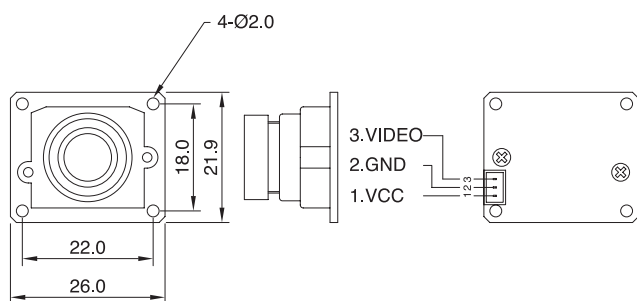
	CA-82A	CA-82C
TV system	EIA	CCIR
Image sensor	1/3inch, 270k pixels	1/3inch, 320k pixels
Effective pixel	510(H)×492(V)	500(H)×582(V)
Scanning system	525 Line 2:1 interlace	625 Line 2:1 interlace
Scanning frequency	15.734KHz(H), 59.94Hz(V)	15.625KHz (H), 50Hz(V)
Sync. System	Internal	
Horizontal resolution	380TV lines (Center)	
Min. Illumination	0.1 lx / F=1.4(AGC ON)	
S/N ratio	50dB (AGC OFF)	
Gamma	$\gamma = 0.45$	
AGC	ON	
IRIS	Electrical Auto IRIS	
Shutter speed	1/60~1/100,000 sec.	1/50~1/100,000 sec.
Video Output	1.0Vp-p, 75ohm	
Power Consumption	DC12V± 10%, Max. 90mA	
OperatingTemp	-10℃~60℃	
Dimensions(mm)	38(W)×37(H)	

i Board lens(12mm, 8mm, 6mm, 4.3mm, 2.9mm, 2.2mm), Pin-hole lens(Flat lens, Semi cone lens, Super cone lens) & C-Mount are optional

CA-84A/C**Dimensions****Specifications**

	CA-84A	CA-84C
TV system	EIA	CCIR
Image sensor	1/3inch, 270k pixels	1/3inch, 320k pixels
Effective pixel	510(H)×492(V)	500(H)×582(V)
Scanning system	525 Line 2:1 interlace	625 Line 2:1 interlace
Scanning frequency	15.734KHz(H), 59.94Hz(V)	15.625KHz (H), 50Hz(V)
Sync. System	Internal	
Horizontal resolution	380TV lines (Center)	
Min. Illumination	0.001 lx / F1.4, infrared Led (Built-in 6 IR LED) ON	
S/N ratio	50dB (AGC OFF)	
Gamma	$\gamma = 0.45$	
AGC	ON	
IRIS	Electrical Auto IRIS	
Shutter speed	1/60~1/100,000 sec.	1/50~1/100,000 sec.
Video Output	1.0Vp-p, 75ohm	
Power Consumption	DC12V± 10%, Max. 150mA	
OperatingTemp	-10℃~60℃	
Dimensions(mm)	54(W)×38(H)	

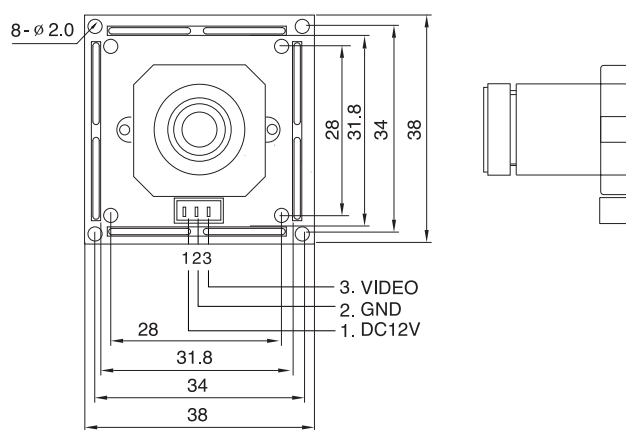
* Board lens(12mm, 8mm, 6mm, 4.3mm, 2.9mm, 2.2mm), Pin-hole lens(Flat lens, Semi cone lens, Super cone lens) & C-Mount are optional

CA-CM503N/P**Dimensions**

(unit: mm)

Specifications

CA-CM503N/P	
Image sensor	1/4inch, CMOS Image Sensor
Effective pixel (mm)	510(H) X 480(V)
Pixel size	7.0 μ m X 5.6 μ m
Image area	3.63mm X 2.73mm
Horizontal resolution	310TV lines
Scanning system	2:1 interlace
Video output	1.2Vp-p.37.5ohm
Electronic Exposure	1/60~1/300,000sec
S/N ratio	38dB
Min. Illumination	7 lx
Operation Voltage	DC 3~5V
Current consumption	150mA (Max)
Operating Temp.	-30° C ~ 40° C
Dimensions(mm)	22(W) × 26(H)

CA-CM505N/P**Dimensions**

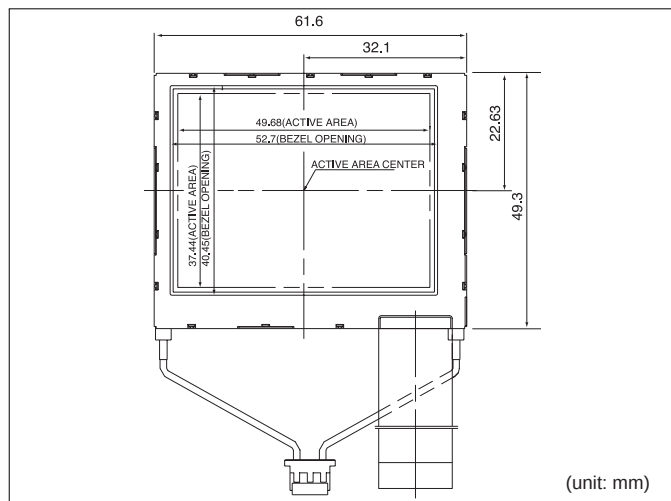
(unit: mm)

Specifications

CA-CM505N/P	
Image sensor	1/4inch, CMOS Image Sensor
Effective pixel (mm)	510(H) X 480(V)
Pixel size	7.0 μ m X 5.6 μ m
Image area	3.63mm X 2.73mm
Horizontal resolution	310TV lines
Scanning system	2:1 interlace
Video output	1.2Vp-p.37.5ohm
Electronic Exposure	1/60~1/300,000sec
S/N ratio	38dB
Min. Illumination	7 lx
Operation Voltage	DC 3~5V
Current consumption	150mA (Max)
Operating Temp.	-30° C ~ 40° C
Dimensions(mm)	38(W) × 38(H)

CRT & LCD

Hanse Electronics Co., Ltd.

LCD-2500F**Dimensions****Features**

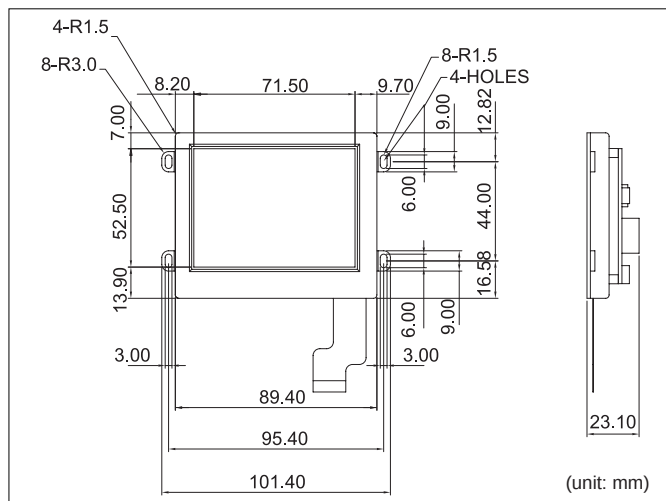
- Color Video Doorphone
- CCTV Monitor
- Low power consumption
- Best quality image

Specifications**Optical Characteristics**

Screen size	2.5" Diagonal
Color configuration	RGB Delta Configuration
Dot Pitch	0.1035(W) X 0.160(H)mm
Resolution	480 X 234(dot)
Active Area	49.68(W) X 37.44(H)mm
View angle	(CR. ≥ 10) Horizontal ±45° Vertical 30°, 10°
Contrast Ratio	350
Brightness	250 cd/ m ²

Electrical Characteristics

TV system	NTSC/ PAL available
Input Signal	Composite video signal 1Vp-p, 75ohm
Operating Voltage	11V~13V
Power consumption	DC 12V 220mA, 2.7W

LCD-3500F**Dimensions****Features**

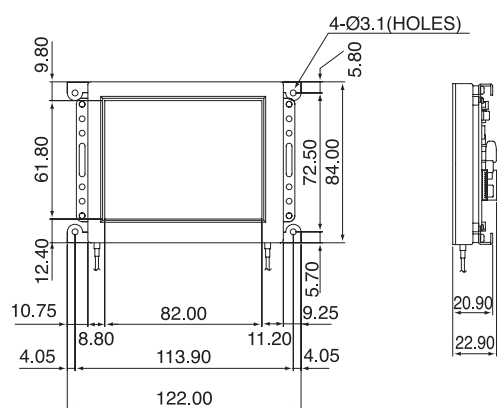
- Color Video Doorphone
- CCTV Monitor
- Low power consumption
- Best quality image

Specifications**Optical Characteristics**

Screen size	3.5" Diagonal
Color configuration	RGB Delta Configuration
Dot Pitch	0.0745(W) X 0.225(H)mm
Resolution	960 X 234(dot)
Active Area	71.60(W) X 52.65(H)mm
View angle	(CR. ≥ 10) Horizontal ±45° Vertical 30°, 10°
Contrast Ratio	350
Brightness	250 cd/ m ²

Electrical Characteristics

TV system	NTSC/ PAL available
Input Signal	Composite video signal 1Vp-p, 75ohm
Operating Voltage	11V~13V
Power consumption	DC 12V 240mA, 2.8W

LCD-4000F**Dimensions**

(unit: mm)

Features

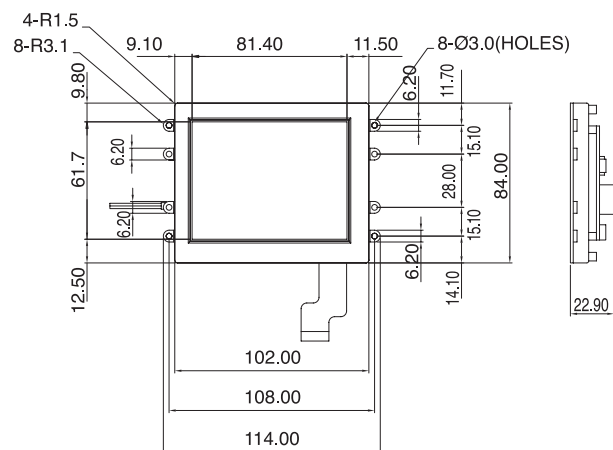
- Color Video Doorphone
- CCTV Monitor
- Low power consumption
- Best quality image

Specifications**Optical Characteristics**

Screen size	4" Diagonal
Color configuration	RGB Delta Configuration
Dot Pitch	0.171(W) X 0.264(H)mm
Resolution	480 X 234(dot)
Active Area	82.1(W) X 61.8(H)mm
View angle	(CR. ≥ 10) Horizontal ±45° Vertical 30°, 10°
Contrast Ratio	150
Brightness	250 cd/ m ²

Electrical Characteristics

TV system	NTSC/ PAL vailable
Input Signal	Composite video signal 1Vp-p, 75ohm
Operating Voltage	11V~13V
Power consumption	DC 12V 320mA, 3.9W

LCD-4001F**Dimensions**

(unit: mm)

Features

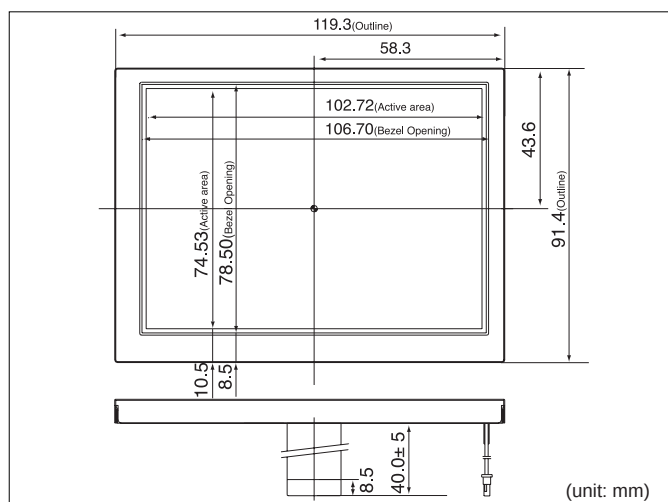
- Color Video Doorphone
- CCTV Monitor
- Low power consumption
- Best quality image

Specifications**Optical Characteristics**

Screen size	4" Diagonal
Color configuration	RGB Stripe Configuration
Dot Pitch	0.0845(W) X 0.264(H)mm
Resolution	960 X 234(dot)
Active Area	82.12(W) X 52.65(H)mm
View angle	(CR. ≥ 10) Horizontal ±45° Vertical 30°, 10°
Contrast Ratio	350
Brightness	350 cd/ m ²

Electrical Characteristics

TV system	NTSC/ PAL vailable
Input Signal	Composite video signal 1Vp-p, 75ohm
Operating Voltage	11V~13V
Power consumption	DC 12V 250mA, 3W

LCD-5000F**Dimensions****Features**

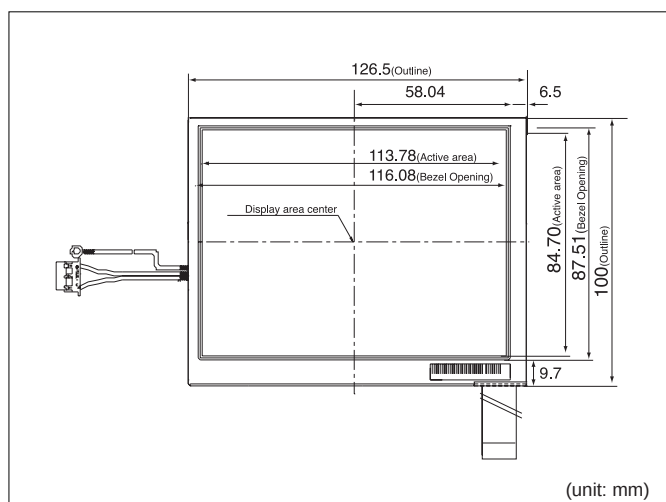
- Color Video Doorphone
- CCTV Monitor
- Low power consumption
- Best quality image

Specifications**Optical Characteristics**

Screen size	5" Diagonal
Color configuration	RGB Stripe Configuration
Dot Pitch	0.107(W) X 0.319(H)mm
Resolution	960 X 234(dot)
Active Area	102.72(W) X 74.53(H)mm
View angle	(CR. ≥ 10) Horizontal ± 45° Vertical 30°, 10°
Contrast Ratio	150
Brightness	400 cd/ m ²

Electrical Characteristics

TV system	NTSC/ PAL vailable
Input Signal	Composite video signal 1Vp-p, 75ohm
Operating Voltage	11V~13V
Power consumption	DC 12V 390mA, 4.7W

LCD-5600F**Dimensions****Features**

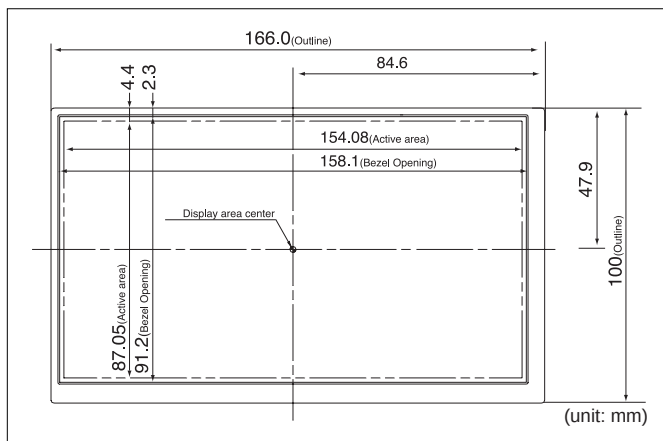
- Color Video Doorphone
- CCTV Monitor
- Low power consumption
- Best quality image

Specifications**Optical Characteristics**

Screen size	5.6" Diagonal
Color configuration	RGB Stripe Configuration
Dot Pitch	0.118(W) X 0.362(H)mm
Resolution	960 X 234(dot)
Active Area	113.78(W) X 84.70(H)mm
View angle	(CR. ≥ 10) Horizontal ± 45° Vertical 30°, 10°
Contrast Ratio	150
Brightness	300 cd/ m ²

Electrical Characteristics

TV system	NTSC/ PAL vailable
Input Signal	Composite video signal 1Vp-p, 75ohm
Operating Voltage	11V~13V
Power consumption	DC 12V 480mA, 5.8W

LCD-7000PM**Dimensions****Features**

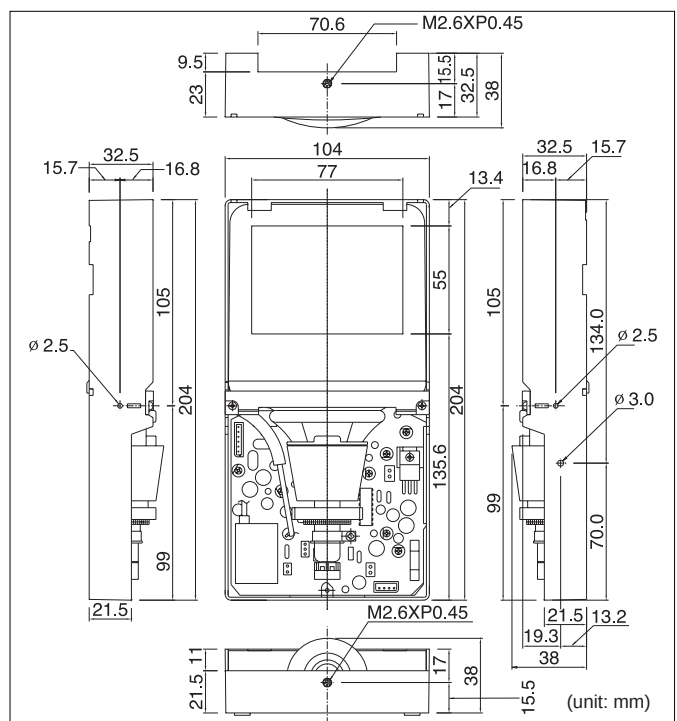
- Color TFT LCD
- Low power consumption
- Best quality image

Specifications**Optical Characteristics**

Screen size	7" Diagonal
Color configuration	RGB Stripe Configuration
Dot Pitch	0.107(W) X 0.370(H)mm
Resolution	1440 X 234(dot)
Active Area	154.08(W) X 87.05(H)
View angle	(CR. ≥ 10) Horizontal $\pm 60^\circ$ Vertical $40^\circ, 50^\circ$
Contrast Ratio	150
Brightness	400 cd/ m ²

Electrical Characteristics

TV system	NTSC/ PAL Automatically switching
Input Signal	Composite video signal 1Vp-p, 75ohm
Operating Voltage	11V~13V
Power consumption	DC 12V, 540mA, 6.5W

510F CRT**Dimensions****Specifications****PRINCIPAL SPECIFICATIONS OF THE 4-INCH FLAT CRT DISPLAY UNIT**

CRT	4-inch flat CRT, Screen size W81 x H59, Diagonal 101mm
Horizontal resolution	450TV line
Frequency	CCIR 15.625KHz(H), 50Hz(V) EIA 15.735KHz(H), 60Hz(V)

Input Signal	Composite video signal 1Vp-p, 75 Ω
Input Terminal	Signal/Power consumption: 4Pin Connector
Operating Voltage	DC 11V~13V
Power Consumption	DC 12V, 370 $\pm$ 10 mA, 4.5W
External Control	Contrast and brightness
Weight / Dimensions	650g / 104(W) x 204(H) x 38(D)

PRINCIPAL SPECIFICATIONS OF THE 4-INCH FLAT CRT

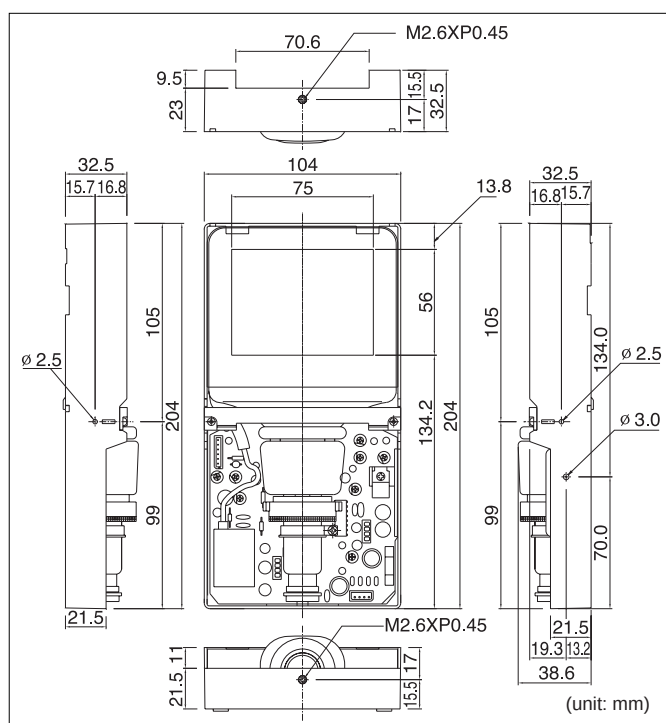
Neck Diameter	13 ϕ
Effective Screen Area	81(W) x 59(H), Diagonal 101mm
Brightness	Over 100nits
Resolution	450TV lines
Deflection System	Electromagnetic
Fluorescent Material	P45 white
Use	Portable TV, TV door phone, etc.
Features	Thin, low power consumption and high resolution

4" B/W Flat Monitor

520F CRT



Dimensions



Specifications

PRINCIPAL SPECIFICATIONS OF THE 4-INCH FLAT CRT DISPLAY UNIT

CRT	4-inch flat CRT, Screen size W81 × H59, Diagonal 101mm
Horizontal resolution	450TV line
Frequency	CCIR 15.625KHz(H), 50Hz(V) EIA 15.735KHz(H), 60Hz(V)
Input Signal	Composite video signal 1Vp-p, 75 Ω
Input Terminal	Signal/Power consumption: 4Pin Connector
Operating Voltage	DC 11V~13V
Power Consumption	DC 12V, 320 ± 10 mA, 4W
External Control	Contrast and brightness
Weight / Dimensions	650g / 104(W) × 204(H) × 38.6(D)

PRINCIPAL SPECIFICATIONS OF THE 4-INCH FLAT CRT

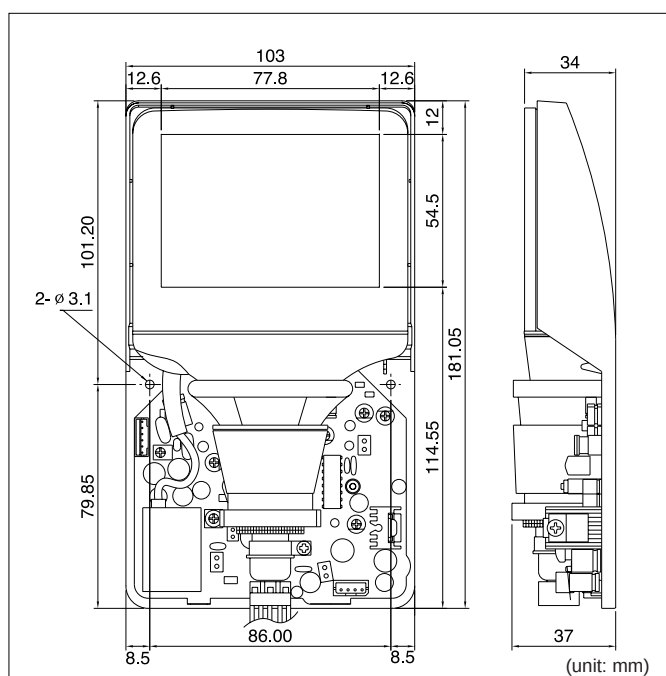
Neck Diameter	20 φ
Effective Screen Area	81(W) × 59(H), Diagonal 101mm
Brightness	600cd/mm ²
Resolution	450TV lines
Deflection System	Electromagnetic
Fluorescent Material	P45 white
Use	Portable TV, TV door phone, etc.
Features	Thin, low power consumption and high resolution

4" B/W Short Neck Flat Monitor

530F CRT



Dimensions



Specifications

PRINCIPAL SPECIFICATIONS OF THE 4-INCH FLAT CRT DISPLAY UNIT

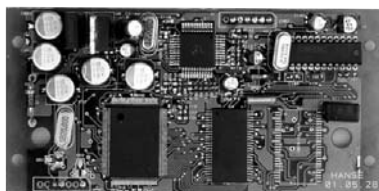
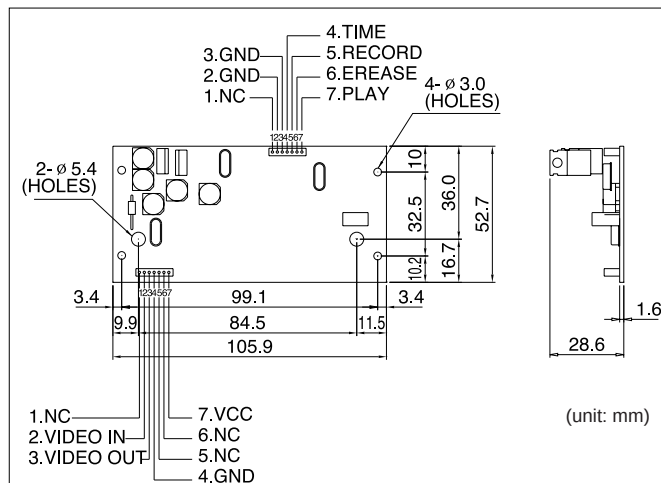
CRT	4-inch flat CRT
Screen size	76(W) × 58(H), Diagonal 101mm
Horizontal resolution	450TV line
Frequency	CCIR 15.625KHz(H), 50Hz(V) EIA 15.735KHz(H), 60Hz(V)
Input Signal	Composite video signal 1Vp-p, 75 Ω
Input Terminal	Signal/Power consumption: 4Pin Connector
Operating Voltage	DC 11~13V
Power Consumption	DC 12V 320 ± 10 mA4W
External Control	Contrast and brightness
Weight	480g
External Dimensions	103(W) × 181.05mm(H) × 37(D)

PRINCIPAL SPECIFICATIONS OF THE 4-INCH FLAT CRT

Neck Diameter	13 φ
Effective Screen Area	76(W) × 58(H), Diagonal 101mm
Brightness	Over 100nits
Resolution	450TV lines
Deflection System	Electromagnetic
Fluorescent Material	P45 white
Use	Portable TV, TV door phone, etc.
Features	Thin, low power consumption and high resolution

ETC System

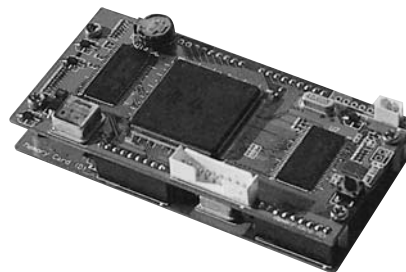
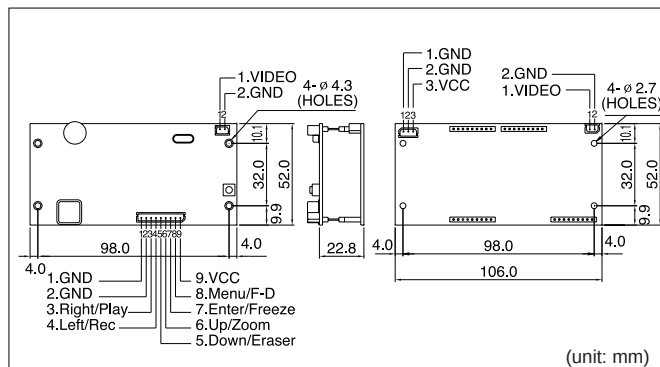
Hanse Electronics Co., Ltd.

HMU-640**Dimensions****Features**

- This video memory unit can be easily connected to any CCTV system.
- Stores 32 images in it's memory bank.
- OSD function for Y/M/D/T memory image
- Memory backup rechargeable
- Can be extention 64 image memory(option)
- Can be adjusted memory interval time

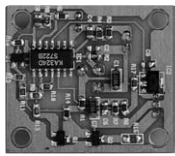
Specifications

	HMU-640A	HMU-640C
TV system	EIA	CCIR
Dimensions(mm)	50W × 106L × 2H (unit:mm)	
Operating Voltage	DC +12V ± 10%	
Power Consumption	3 W	
Number of Memories	NTSC: 32 CUT Image, PAL: 32 CUT Image	
Effective Pixel	256(H) × 240(H) 8bit-EIA 256(H) × 256(H) 8bit-CCIR	
Method of Matrix	Interlace : In normal, Non Interlace : In Recording	
Image Output	Composite Video 1Vp-p/75 Ω	
	Input, 1Vp-p ± 100mV Output	
Setup Image Data	HI32A⇒ None, HI32A⇒ Keeping Function of Memories	
In use Temperature	0°C ~ 50°C	
In use Humidity	RH10%~80%	
OperatingTemp	-20 jC~+70°C	
Weight	100g	
Dimensions(mm)	105.9(W) × 52.7(H)	

HMU-740**Dimensions**

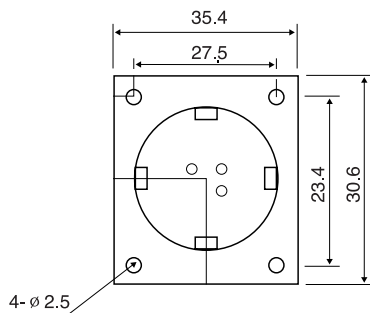
SE-10

• FRONT SIDE



f BACK SIDE

ALARM(AL)
GND
DC 12V(+B)

Dimensions

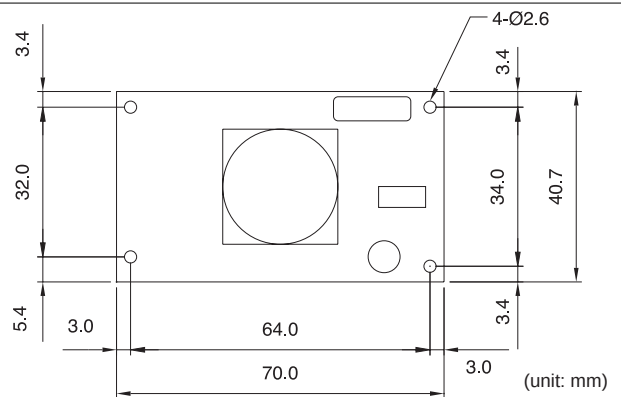
(unit: mm)

Features

- Small size
- Low power consumption.
- High sensiveness.
- Wide angle detection

Specifications

ITEM		Specification	Condition
Sensor Type		Dual Element	
Housing		TO 5	
Element Size		2 × 1mm	
Spacing		1mm	
Responsivity	Min Typ	3.2xv/w 4.0	7...14mm, 1Hz, 100°C (One element cover)
Match	Max	<10%	7...14mm, 1Hz, 100°C (Both element expose)
Noise	Typ Max	20 μ Vp-p 50V	25°C, 0.4...10Hz
Effect Voltage	Min Max	0.2 1.5	Re=47XO
Window Material		Silicon, coated	
Spectral Range	Transmission Blocking	T>30 average% T<0.1	7...14mm <5mm
Operating Voltage		DC12 ± 10%V	
Operating Temperature		-10~40°C	
Storage Temperature		-40~80°C	

SE-20**Dimensions**

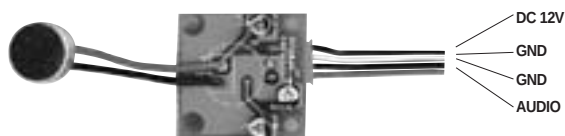
(unit: mm)

Features

- Low power consumption.
- High sensiveness.
- Wide angle detection

Specifications

ITEM		Specification	Condition
Sensor Type		Dual Element	
Housing		TO 5	
Element Size		2 × 1mm	
Spacing		1mm	
Responsivity	Min Typ	3.2xv/w 4.0	7...14mm, 1Hz, 100°C (One element cover)
Match	Max	<10%	7...14mm, 1Hz, 100°C (Both element expose)
Noise	Typ Max	20 μ Vp-p 50V	25°C, 0.4...10Hz
Effect Voltage	Min Max	0.2 1.5	Re=47XO
Window Material		Silicon, coated	
Spectral Range	Transmission Blocking	T>30 average% T<0.1	7...14mm <5mm
Operating Voltage		AC220 ± 10%V, 3A	
Operating Temperature		-10~40°C	
Storage Temperature		-40~80°C	

**Features**

- CCTV camera audio
- Video doorphone audio
- PC camera audio

Specifications

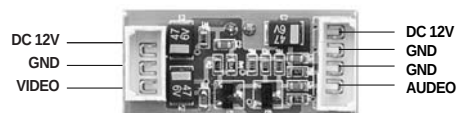
	AU-10
Operating Voltage	DC 12V $\pm 10\%$
Power Consumption	30mA
Out Power	0.36W
Impedance	600 Ω
Weight	3g
Dimensions(mm)	20 $\times$ 14

**Features**

- CCTV camera audio
- Video doorphone audio
- PC camera audio

Specifications

	AU-20
Operating Voltage	DC 7V~12V $\pm 2V$
Power Consumption	30mA
Out Power	0.36W
Impedance	600 Ω
Weight	2g
Dimensions(mm)	35.7 $\times$ 6

• FRONT SIDE**• BACK SIDE****Features**

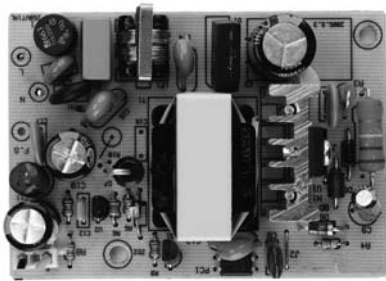
- CCTV camera audio
- Video doorphone audio
- PC camera audio

Specifications

	AU-20
Operating Voltage	DC 12V $\pm 10\%$
Power Consumption	30mA
Out Power	0.36W
Impedance	600 Ω
Weight	2g
Dimensions(mm)	25.9 X 12.3

SMPS(Switching mode power supplyer

HSP-16V1A, HSP-12V1A



Specifications

HSP-16V1A

Input

Operating Voltage 85~264Vac

Power Consumption 100V/0.4Arms, 220V/0.2Arms,

Input Pin Hole 1.8(φ)X3

Output

Output condition Wire color Wire gauge

DC 16V/1A Yellow UL AWM 1007# 20 150mm

GND BLACK UL AWM 1007# 20 150mm

Dimensions(mm) 80(W)X56.3(H)X24(D)

HSP-12V1A

Input

Operating Voltage 85~264Vac

Power Consumption 100V/0.4Arms, 220V/0.2Arms,

Input Pin Hole 1.8(φ)X3

Output

Output condition Wire color Wire gauge

DC 12V/1A Yellow UL AWM 1007# 20 150mm

GND BLACK UL AWM 1007# 20 150mm

Dimensions(mm) 80(W)X56.3(H)X24(D)

2.4GHz Wireless TX & RX

HWT-240, HWR-240



2.4GHz Wireless TX

2.4Tm/SS JPN 2400MHz Wireless Audio Video Transmitter Module with 100mW RF Power

- ISM band: 2400 to 2483MHz
- RF output power: 100mW
- Phase lock loop (4 channels)
- 9V regulator built-in
- Microphone built-in
- NTSC and PAL system format

HWT-240

Frequency 4-channel	CH1 = 2413MHz, CH2 = 2432MHz,
slide switch PLL control	CH3 = 2451Hz, CH4 = 2470MHz
RF output power	100mW
Output impedance	50 ohms
Video input	impedance 75 ohms, 1Vp-p
Operating voltage	12VDC
Operating current	Vcc = 12V, 75mA
Operating temperature	-10 to 50 degrees Celsius
Operating humidity	5 to 85%
Microphone	built-in
Dimensions(mm)	41.5 x 29.3 x 10.7(Antenna: φ 10X108)
Weight	17g
MIC pin assign mint	red = +, black = -
PIN assign mint	yellow = VIDEO, red = VCC, black = GND

2.4GHz Wireless RX

HWR-240

Antenna	DIPOLE (Swivel Type)			
Frequency 4CH slide switch	CH1 = 2413 MHz	MIN	TYP	MAX
	CH2 = 2432 MHz,			
PLL Contro	CH3 = 2451 MHz			
	CH4 = 2470 MHz			
RF Output Power				100mW
Video Input	RCA*1 Composite video, 75ohm			1Vp-p
Audio Input	RCA*1-L RCA*1-R			2Vp-p
Consumption	DC 12V with power adaptor			
	DC 9V with battery			230mA
Operating Temperature		0 °C		+45 °C
Operating Humidity		5 %		85 %
Dimensions(mm)	55.8X46.9X15.1(Antenna: φ 10X108)			
Weight	60 g			
Receiver Specification:				
Frequency 4CH slide switch	CH1 = 2413MHz,			
PLL Control	CH2 = 2432MHz,			
	CH3 = 2451MHz,			
	CH4 = 2470MHz.			
Video output	Phone jack 3.5(φ)			
Composite video,	75ohm			
Audio output	Phone jack 3.5(φ)			
Antenna	DIPOLE (Swivel Type)			
Operation Temperature	-5°C~ 45°C			

Lens

Board lens



Category	board lens	board lens	board lens	board lens	board lens	board lens	board lens
Item No.	216250K	296200K	364200K	404200K	603200K	803250K	1203200K
Focal Length	2.1MM	2.9MM	3.6MM	4.0MM	6.0MM	8.0MM	12MM
Sensing Area	1/3" & (1/4")	1/3" & (1/4")	1/3" & (1/4")	1/3" & (1/4")	1/3" & (1/4")	1/3" & (1/4")	1/3" & (1/4")
Flange Back	4.8	5.2	4.7	5.6	4.3	5.8	12
Iris	FIXED	FIXED	FIXED	FIXED	FIXED	FIXED	FIXED
Lens Construction	6/6	6/6	4/4	4/4	3/3	3/3	3/3
F Number	F2.5	F2.0	F2..0	F2.0	F2.0	F2.5	F2.0
Angular Field of View	150 ° & (114 °)	120 ° & (90 °)	92.6 ° & (70 °)	81 ° & (61 °)	54 ° & (41 °)	38.6 ° & (29 °)	26 ° & (19.7 °)
Object Distance	40CM-∞	40CM-∞	40CM-∞	40CM-∞	10CM-∞	80CM-∞	80CM-∞
Total Length							
Weight (g)	6.5	6.2	5.5	6.3	3	3.4	3.2

C-Mount lens



Category	C-Mount lens	C-Mount lens	C-Mount lens	C-Mount lens	C-Mount lens	C-Mount lens	C-Mount lens
Item No.	435200CC	605200CC	804200CC	604200JC	404250C	806130C	806130MI
Focal Length	4.3MM	6.0MM	8.0MM	6.0MM	4.0MM	8.0MM	8.0MM
Sensing Area	1/3" & (1/4")	1/3" & (1/4")	1/3" & (1/4")	1/3" & (1/4")	1/3" & (1/4")	3/2" & (1/2")	2/3", 1/2", 1/3"
Flange Back	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Iris	FIXED	FIXED	FIXED		FIXED	FIXED	MANUAL
Lens Construction	5/5	5/5	4/4	4/4	4/4	6/6	6/6
F Number	F2.0	F2.0	F2.0	F2.0	F2.5	F1.3	F1.3
Angular Field of View	78 ° & (59 °)	54 ° & (40.5 °)	38.6 ° & (29 °)	54 ° & (40.5 °)	81 ° & (61 °)	76 ° & (57 °)	76 ° , 57 ° , 38 °
Object Distance	0.1M-∞	0.1M-∞	0.1M-∞	0.1M-∞	0.1M-∞	0.2M-∞	0.2M-∞
Total Length							
Weight (g)	21	19	25	30	29	28	50.5
Application	B/W	B/W & COLOR	B/W & COLOR	B/W & COLOR	B/W & COLOR	B/W & COLOR	B/W & COLOR
Mount Type	" C "	" C "	" C "	" C "	" C "	" C "	" C "

Mono focal lens(D/C Iris)

Vari focal lens(D/C Iris)



Category	Mono Focal Lenses (D/C Iris)	Varifocal Lenses (D/C Iris)	Varifocal Lenses (D/C Iris)
Item No.	DC1204180	VZ35814DCS	VZ40820DB
Focal Length	12MM	3.5-8MM	4-8MM
Sensing Area	1/3" & (1/4")	1/3" & (1/2")	1/3" & (1/4")
Flange Back	Flange Back	12.5	BOARD
Iris	FIXED	D/C	D/C
Lens Construction	4/4	7/9	7/7
F Number	F1.8	F1.4	F2.0 - 2.8
Angular Field of View	28 ° & 21.5 °	43 ° - 90 °	89.2 ° -44.2 ° & 65.5
Object Distance	0.4M-∞	0.5M-∞	0.5M-∞
Total Length			
Weight (g)	15	125	36
Application		B/W & COLOR	B/W & COLOR
Mount Type		" CS "	BOARD M12 X P0.5

Memo