

<b>CUSTOMER</b>	
<b>DATE</b>	. .

<b>CUSTOMER'S ACCEPTANCE SPECIFICATIONS</b>	
<b>MODEL</b>	<b>SDM-100N/P</b>

**10X Auto Focus MODULE**



<b>Drafting</b>	<b>Examination</b>	<b>Decision</b>

**SAMSUNG TECHWIN CO., LTD**  
Optics & Digital Imaging Div.



# Table of Contents

## - Revision History

1. Product Model
2. Features
3. Camera Specifications
4. Precautions
5. Pin Specification for Interface of Camera Control
6. Spectral Sensitivity Characteristics
7. Communication Format
8. Command List
9. OSD Menu Structure
10. Function Overview
11. DC Power Supply
12. Reliability and Environment Condition
13. Mechanical Dimension

## 1. Product Model

SDM-100 N/P (N:NTSC, P:PAL)

## 2. Features

### ■ DNR(Digital Noise Reduction)

By using the DSP chip applied to the DNR technology, the amount of low illuminance noise has been significantly reduced, and the signal-to-noise ratio(S/N) as well as horizontal resolution has been improved, resulting in a clear and sharp image display even in the dark.

### ■ 10x Optical Zoom

The SDM-100 built-in x10 optical zoom lens is highly reliable. It features Auto focus, Auto iris and Zoom Tracking function.

### ■ High Resolution

The horizontal resolution of 500TV Lines at Color mode and 570TV Lines at BW mode can be achieved by using a high density CCD having 410,000 pixels SONY CCD, which provides clean, noiseless and reliable pictures.

### ■ Day & Night (ICR)

An infrared(IR) Cut-Filter can be disengaged from the image path for increased sensitivity in low light environments. The ICR will automatically engage depending on the ambient light, allowing the camera to be effective in day&night environment.

### ■ Privacy zone masking(max. 32 zones/8 programmable zone per screen)

The privacy zone function makes it possible to mask specific areas of the scene from view.

### ■ Electrical Flip function

The SDM-100 has function of H/V reverse mode

### ■ Motion Detection(4 programmable zone per screen)

You can transmit an alert signal when it detects motion of an object on the screen. This feature is useful when you have to monitor several screens simultaneously.

### ■ Digital Output

It is available to digital output of the ITU-656 Format.

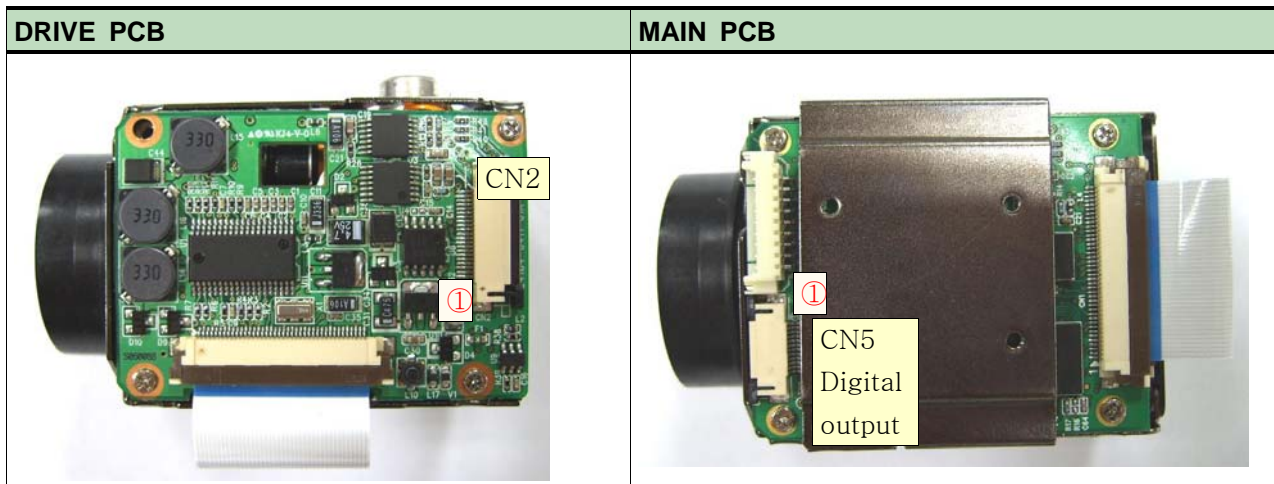
### 3. Camera Specifications

Specifications		SDM-100N	SDM-100P	비고
P O W E R	Input Voltage	DC 8V ~ 15v (Recommended : 9V or 12V )		
	Input Current	350 mA : Steady-state, (at 9V) 500 mA : Max. (Zoom,Focus, Day&night motor operating) (at 9V)		
	Power Consumption	3.15 W : Steady-state (at 9V) 4.5 W : Max. (Zoom,Focus, Day&night motor operating, at 9V)		
C C D	Size	1/4 inch, Interline Transfer CCD		
	Total Pixels	811(H) x 508(V)	795(H) x 596(V)	
	Effective Pixels	768(H) x 494(V)	752(H) x 582(V)	
O P T I C S	Optics	10X, f=3.8 to 38.0mm(F 1.8 to 2.8)		
	Min. Focus Distance	10mm(WIDE) / 1,000mm(TELE)		
	D. ZOOM	OFF/ON (X2, X4, X8)		
	Angle Field of view	H : Appr. 51.2° (Wide) to 5.58° (Tele)/V : Appr. 39.3° (Wide) to 4.27° (Tele)		
S Y N c.	Scanning System	2:1 Interlace		
	Synchronization	Internal/ VD-Lock		Trigger signal input
	Frequency	H:15.734 KHz/V:59.94 Hz	H: 15.625 KHz/V : 50.00 Hz	
E L E C T R I C A L	Resolution	500 TV Lines(Min.) : Color (WIDE) / 570 TV Lines(Min.) : B/W (WIDE)		
	Min. Illumination	0.7 Lux/F1.8 (50 IRE) : Color / 0.1 Lux/F1.8 (50 IRE) : B/W		
	S/N (Y signal)	50 dB (AGC Off,Weight ON)		
	Video Output	CVBS : 1.0Vp-p/75Ω		
	Focus	Auto/Manual/One push		
	Zoom Movement Speed	1.5 sec : Wide to Tele	1.4 sec : Wide to Tele	
	IRIS Control	Auto,Manual		
	Lens Initialize	Built-In		
	Camera Title	OFF/ON (Displayed 15 characters)		
	Camera ID	255 ID Selectable		
	Day & Night	Auto,COLOR,B/W(ICR)		
	Gain Control	Low,Middle,High,OFF Selectable		
	White Balance	ATW/AWC/Manual (1800 °K ~ 10,500 °K)		
	Back Light Compensation	LOW/MIDDLE/HIGH/OFF Selectable		
	Electronic shutter speed	AUTO (X128 ~ 1/60sec~ 1/120,000 sec ) Sens-up and Sens-up Limit is selectable, Flicker less	AUTO (X128 ~ 1/50sec~ 1/120,000 sec ) Sens-up and Sens-up Limit is selectable, Flicker less	
	O.S.D	Built-In		
	Motion Detection	ON/OFF(4 Programmable Zone per Screen)		MD output
	Communication	RS-485 or RS-232C(9600bps,19200bps,38400bps Selectable)		
	SSNR	Low,Middle,High,Off		
	Privacy Function	ON/OFF(32Zones, It consists of 8Group 4Programmable Zone per Screen)		
	FLIP	Vertical , Horizontal ,Vertical-Horizontal,OFF Selectable		
	Preset	8 Position(Store with Internal EEPROM)		
	Digital 출력	Conform to ITU-656 Format		
Operating Temperature/Humidity	0°C to +50°C / 20% to 80% RH			
Storage Temperature/Humidity	-20°C to +60°C / 20% to 95% RH			
Dimension	38.9 (W) × 43.7 (H) × 61.67(D)mm (PCB 30H)			
Weight	96 g			

## 4. Precautions

- 1) Do not install the unit in an area that is dusty, greasy, wet or humid to avoid a decline in performance or operational failure.
- 2) Do not install the unit in an area that is subject to vibration. Also, protect the unit from any sudden impact or any kind of vibration as these may cause a decline in a performance or an operation failure.
- 3) Avoid placing the unit in an area exposed to direct sunlight that would cause the temperature inside the unit to rise resulting in an operation failure.
- 4) Be sure to use the specified screws of installing the camera unit. If not, serious damage to the camera unit may occur.
- 5) Always turn off the power supply before unplugging the interface connector. Failure to do this may cause an operational failure.  
And, do not apply excessive voltage. (Use only the specified voltage)  
Otherwise, you may get an electric shock or a fire may occur.
- 6) Always connect the power supply to the correct positive (+) and negative (-) terminals. Improper connections to the power supply will cause an operational failure.
- 7) Should you wish to use the camera unit for anything other than its intended use, please contact the manufacturer in advance.
- 8) It is recommended that auto-focus not be used on following subjects and scene.
  - subjects with very dark surface (such as the black cloths or black curtain).
  - subjects with very glossy or shiny surface (such as the exterior of automobiles).
  - subjects with very little brightness contrast (such as the wall)
  - subjects with very little or very strong back-lighting.
  - scenes having a strong contrast between the right and left halves of the screen
  - subjects with an object in front of them (such as animals in a cage)

## 5. Pin Specification for Camera Control Interface



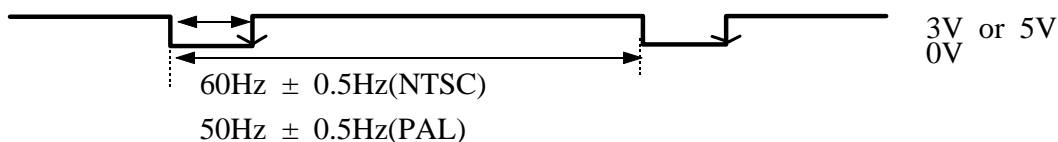
No	DRIVE PCB		Main PCB	
	CN2(22 PIN)		CN5(12 PIN)	
1	TRIGGER	I	CLK	O
2	GND	-	GND	-
3	VBS	O	ITU-DO7	O
4	GND	-	ITU-DO6	O
5	+12VDC_IN	I	ITU-DO5	O
6	+12VDC_IN	I	ITU-DO4	O
7	GND	-	ITU-DO3	O
8	TX	O	ITU-DO2	O
9	RX	I	ITU-DO1	O
10	TH-OUT	O	ITU-DO0	O
11	485_CONTROL	O	HD	O
12	MD	O	VD	O
13	KEY-AF	I		
14	KEY-SET	I		
15	KEY-RIGHT	I		
16	KEY-LEFT	I		
17	KEY-UP	I		
18	KEY-DOWN	I		
19	PWR-DISPLAY	O		
20	VBS-EXTRA	O		
21	GND	-		
22	+5V	O		
Reference	05004HR-2201S(G) (YEONHO Elec..)		05004HR-12B01S(G) (YEONHO Elec..)	

**※Notes**

If you don't locate CN4 on the DRV B'D to an arrow direction , you can see the reversed image.

**Trigger IN : Sync. to falling edge**

Min:500ns



## 6. Spectral Sensitivity Characteristics

