

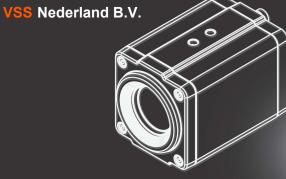
### Distributed by

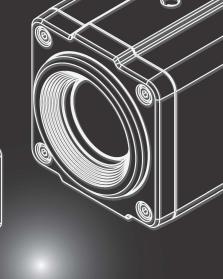
VSS Nederland B.V.

8013 RL Zwolle

T.038-4289420 www.vssnederland.nl P/N: 388037055 PRINTED IN KOREA **INSTRUCTION MANUAL** 

# FULL HD MEGA PIXEL ZOOM CAMERA





- Before attempting to connect or operate this product, please read these instructions carefully and save this manual for future use.
- The design and specifications are subject to be changed without prior notice to improve product's quality.



### CAUTION RISK OF ELECTRIC SHOCK

DO NOT OPEN



**CAUTION** :TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT REMOVE COVER (OR BACK) NO USER SERVICEABLE PARTS INSIDE REFER SERVICING TO QUALIFIED

SERVICE PERSONNEL REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with an arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated dangerous voltage within the producrs enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying

the product. FCC WARING - This equipment may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment oan unauthorized change or modmcation is made.

### REGULATORY INFORMATION: FCC Part 15

This equipment has been tested and found to comply with the limits for a Class A digltal device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

A suitable conduit entries, knock-outs or glands shall be provided in the cable entries of this product in the end use.

Holes in metal, through which insulated wires pass, shall have smooth well rounded surfaces or shall be provided with brushings.

WARNING - Do not install this equipment in a confined space such as a bookcase or similar unit.

WARNING - Wiring methods shall be in accordance with the National Electric Code, ANSI/NFPA 70. WARNING - This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate

WARNING - To reduce a risk of fire or electric shock, do

not expose this product to rain or moisture. CAUTION - This installation should be made by a qualified

measures.

service personrel and should conform to all local codes. CAUTION - To avoid electrocal shock, do not open the cabinet. Refer servicing to qualified personnel only.

CAUTION - The apparatus should not be exposed to water (dripping or splashing) and no objects filled with

liquids, such as vases, should be placed on the apparatus.

Disposal of your old appliance 1. When this crossed-out wheeled bin symbol

- - 2002/96/EC 2. All electrical and electronic products should be disposed of separately from the municipal waste stream via designated collection facilities

is covered by the European Directive

is attached to a product it means the product

- appointed by the government or the local authorities 3. The correct disposal of your old appliance
- will help prevent potential negative consequences for the environment and human 4. For more detailed information about disposal
- of your old appliance, please contact your city office, waste disposal service or the shop where you purchased the product.

To disconnect power from the mains, pull out the main card plug. When installing the product, ensure that the plug is easily accessible.

### IMPORTANT SAFETY INSTRUCTIONS

- 1. Read these instructions All these safety and operating instructions should be read before the product is operated.
- 2. Keep these instructions The safety, operating and user instructions should be retained tor future reference.
- 3. Heed all warnings All warnings on the product and in the operating instructions should be adhered to.
- 4. Follow all instructions All operating and user instructions should be followed.
- 5. Do not use this apparatus near water For example: near a bath tub, wash bowl, kitchen sink, laundry tub, in a wet basement, near a swimming pool, etc.
- 6. Clean only with dry cloth Unplug this product trom the wall outlet before cleaning. Do not use liquid cleaners.

- . Do not block any ventilation openings. Install in accordance with the manufacturer's instructions. Slots and openings in the cabinet are provided tor ventilation, to ensure reliable operation of the product. and to protect It trom overheating. The openings should never be blocked by placing the product on a bed, sofa, rug or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided and the manufacturer's instructions have been adhered to.
- 8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

### IMPORTANT SAFETY INSTRUCTIONS

- 9. Proleet the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 10. Only use attachments/accessories specified by the manufacturer.



11. Unplug this apparatus during lightning storms or when unused for long periods of time.

12. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have tallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

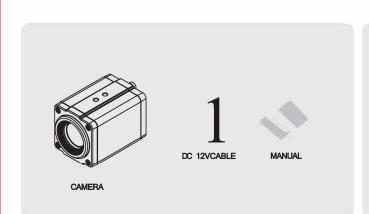


# CONTENTS

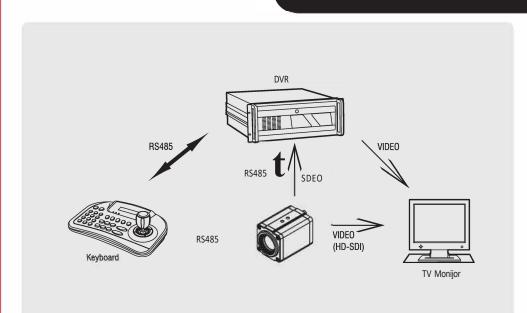
### PACKAGE COMPONENTS ...... 8P DISPLAY ...... 28P SPECIFICATION ...... 30P SYSTEM CONFIGURATION...... gp PART NAMES AND FUNCTIONS ...... 10P DRAWING ...... 33P CONNECTIONS ...... 12P TROUBLESHOOTING ...... 34P EXTERNAL DEVICE CONNECTIONS.... 13P VIDEO OUT .... 14P MENU OPERATION ...... 15P MAIN MENU ...... 16P EXPOSURE ...... 18P WHITE BALANCE ...... 21 p INTELLIGENCE ...... 24P

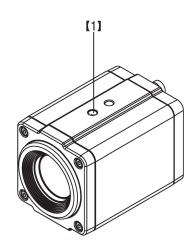
# Features • 1/3" Panasonic CMOS sensor • x10 Optical Zoom • Full HD Resolution • Day & Night(ICR) • Wide Dynamic Range • Digital Noise Reduction(2D+3D) • Privacy Mask Function • On Screen Display • Intelligent Motion Detection • Multi Protocol

## **SYSTEM CONFIGURATION**

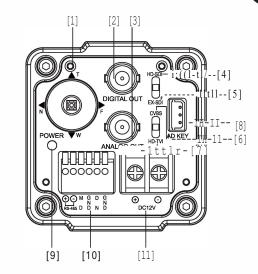








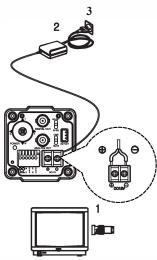
Camera installation bracket The braket can be fixed at the top or bottom of the camera.



- OSD/Zoom/ Focus control DIGITAL Out

- [2) DIGITAL Out
  [3) ANALOG Out
  [4) HD-SDI
  [5) EX-SDI
  [61 CVBS
  [7) HD-TV1
  [8) AD Key
  1: GND
  2: AD-key
  3:GND
  [9) Power LED
  [10) Control Terminal
  1: RS-485 (+)
  2: RS-485 (-)
  3: Motion Detection Out
  4: Ground

- 4: Ground



To monitor's Video Input

or Camera Input

### **Basic connection**

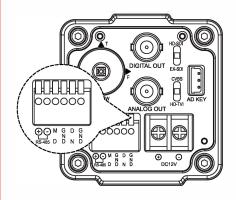
The peripheral devices (DVR, monitor, lens, etc), DC adaptor and cables are not supplied.

1. Connecting the monitor.

Make the video signal connection between the camera and the monitor or time lapse monitor or DVR.

2. Use a commercially available DC12V adaptor.
Connect an DC 12V power source to the DC 12V input terminal on the back of the camera.

Insert the plug of this power cord into a wall outlet.
 The POWER indicator will light. Adjust the picture on the monitor using the Brightness and Contrast controls etc.



### **RS-485 COMMUNICATION**

Connect to an external controller of RS-485 format.

### Motion Detection Out

When the motion detection function is working. DC3.3V is outputed to OUT pin and GND pin.

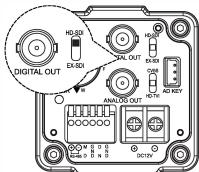
### Day & Night input

Day/Night mode of the camera can be switched by signal *trom* an external device.

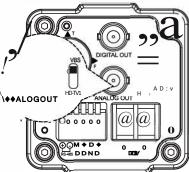
To use this function, <DAY&NIGHT> setting of the camera should be set to the < EXT>.

*Note*: Use a relay unit if the voltage or current of the connected device exceeds the ratings.

### MENU OPERATION

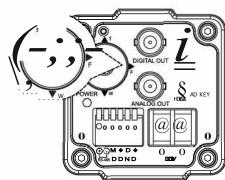


DIGITAL OUT
Select HD-SDI and EX-SDI video out
by switch setting.



ANALOG OUT
Select CVBS and TV1 video out
by switch setting.

This camera utilizes an on-screen user MENU. To set items on the menu, use the following buttons on the side panel.



- T Tele(Up) button: Zoom in, Tele (Moves the cursor upwards. Use this button to select an item or adjust the parameters.)
- Tw Wide(Down) button: Zoom out, Wide (Moves the cursor downwards. Use this button to select an item or adjust the parameters.)

Far(Right) button: Adjust focus in Manual Mode (Moves the cursor to the right. Use this button to select or adjust the parameters of the selected item. The parameter changes each time this button is pressed.)

Near(Left) button: Adjust focus in Manual Mode Moves the cursor to the left. Use this button to select or adjust the parameters of the selected item. The parameter changes each time this button is pressed.)

Set button: Executes selections and displays a submenu for an item with the QJ mark.



Camera menu is subject to be changed without prior notice to upgrade and quality increase and we may use slip sheet for the change.

Please check the camera version and the slip sheet if the camera menu and this manual menu is not matched.

### MAIN MENU



Functions can be setup using "Menu Key Command" of Visca protocol.

The menu consists of the "Main Menu" and "Sub Menu". The main menu is displayed where 7 camera functions

can be selected. To the push of each main menu selection, the sub-menu is displayed

If you want save the menu, select [SAVE] If you want not save the menu, select [EXIT] (After select, Power off-+ on) If you want default the menu, select [DFLT]

### **FOCUS**



- + MODE: Select auto focus mode
- ► AUTO, ONE PUSH, MANUAL + DISTANCE: Select minimum distance in focus between camera and object.
- ► 0.1 / 1.0 / 3.0 / 5.0 / 10.0 m
- ZOOM SPEED : Select Zoom Speed ▶ 0 (Slow) 7 (Fast) + LENS REFRESH : Lens origin calibrated automatically.
- ► ONE PUSH.J / ON (1 day 10 days)
- + E.ZOOM : Select maximum digital zoom magnification. ► OFF / ON (max x2 - x19, x21, x23, x25, x28, x32)

ZOOM PRESET : Select zoom preset

▶ PRESET # : Select Zoom preset number (1 - 5)
▶ MODE : OFF/ ON.J

▶ ON.J : Adjust the Zoom Position

### **EXPOSURE**



- ♦ MODE : Select Exposure Mode
  - ►AUTO / IRIS.P / SHUT.P / MANUAL AGC : Select Auto Gain Control
  - ► OFF/ ON (AUTO, SHUT.P or IRIS.P Mode)

1/5000, 1/7000, 1/10000, 1/30000 sec

- ▶ 0 ~ 10 (MANUAL Mode)
- SHUT SPEED: Can be set in SHUT.P or MANUAL mode \* 60 *I* 50 fps mode ► x8, x4, x2, 1/60(50), 1/120(100), 1/250, 1/700, 1/1000, 1/1600, 1/2500,
- \* 30 / 25 fps mode ▶ x4, x2, 1/30(25), 1/60(50), 1/120(100), 1/250, 1/700, 1/1000, 1/1600, 1/2500, 1/5000, 1/7000, 1/10000, 1/30000 sec
- ♦ IRIS : Iris level can be set in IRIS.Por MANUAL mode **▶**0~20

- \* 60 / 50 fps mode ► OFF/ x2, x4, x8 \* 30 / 25 fps mode ► OFF / x2, x4 ♦ FLICKERLESS: Select Flicker less mode.
- ► OFF / ON (remove screen flicker)
- BRIGHTNESS : Adjust brightness level
- ► 0(dark) ~ 20(bright) steps
- WDR/BLC: Select WDR(Wide Dynamic Range) or BLC(Back Light Compensation)
- ➤ WDR.J
- WDR WGT: Adjust WDR level.

DSS : Select maximum DSS (Digital Slow Shutter)

- $_{\bigstar}$  > LOW, MID-LOW, MIDDLE, MID-HIGH, HIGH TWDR doesn't work in Manual Exposure Mode and Shutter Priority Mode.
- When WDR on CVBS output is disabled.
- ▶ BLC.J ▶ POSITION : Adjust the window position
- SIZE : Adjust the window size
- Can't use WDR and BLC at the same time. (When WDR On, BLC is Off. And when BLC is On, WDR is Off) BLC doesn't work in Manual Exposure Mode.

# DAY&NIGHT : Select Day&Night

- ► MODE : AUTO/ EXT-IN / DAY/ NIGHT
- AUTO
- ▶ DELAY : 0 255 sec
- ► THRS : Day......Night switching level in Auto Mode.
- Switching in lower lux with higher threshold level.(0 28) ▶ GAP : LOW. MID-LOW. MIDDLE. MID-HIGH. HIGH
- Margin between Day -+Night switching level and Night -+Day switching level.
- ▶ IR DETECTION : Setting IR Detection mode. (ON / OFF)
- ► IR DET LEVEL : Setting IR Detection level.(LOW, MID-LOW, MIDDLE, MID-HIGH, HIGH)
- ▶ BURST : OFF / ON
- ► EXT-IN
- ▶ DFLAY : 0 255 sec.
- ▶ BURST : OFF / ON
- ▶ POLARITY : External Input polarity (ACTIVE LOW/ACTIVE HIGH)
- ▶ NIGHT
- ► BURST : OFF / ON

### WHITE BALANCE



AWB : Select WHITE BALANCE mode

AUTO/ ONE PUSH / MANUAL / INDOOR/ OUTDOOR

- ► AUTO : Automatically adjusts color according to the available lighting.
- Automatically adjusts color according to the available lighting.
   ONE PUSH: It is a fixed white balance mode that may be automatically readjusted only by pressing.
- ONE PUSH

  MANUAL...J: Color can be corrected when the user increases or decreases "RED GAIN" or "BLUE GAIN".
- ► INDOOR: Set color temperature to be Indoor light (3700°K)
- > OUTDOOR : Set color temperature to be Outdoor light (5100°K)

RED GAIN : Adjust R gain value ▶ 0 - 20 steps

BLUE GAIN : Adjust B gain value 0 - 20 steps

CHROMA: Adjust CHROMA gain value ▶ 0 - 20 steps

### **IMAGE**



- + HLC : Select High Light Compensation. When extremely bright light is projected to the camera masking is used on the portion to prevent partial
  - saturation on the monitor.

  - ▶ MODE : OFF/ ON / NIGHT
- ▶ LEVEL : 0 ~ 20 steps
- COLOR : 0 ~ 13 steps
- + DNR : Select Digital Noise Reduction
- ►AUTO/ OFF/ LOW/ MIDDLE / HIGH
- + MIRROR : Selecta flip mode
  - ►OFF/H/V/H&V
- ▶ H: You can flip the picture horizontally on the screen
- ▶ V : You can flip the picture vertically on the screen ▶ H&V: You can flip the picture horizontally & vertically on the screen

▶ 0 ~ 10 steps +ACE : Select Digital WOR (Wide Dynamic Range)

**IMAGE** 

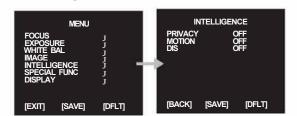
- ► OFF/ LOW/ MIDDLE/ HIGH
- + DEFOG: Carry out defog function ► OFF /ON.J

+ SHARPNESS : Adjust sharpness level

- ▶ MODE :AUTO/ MANUAL
- ⋆ ► LEVEL : LOW/ MIDDLE / HIGH
  - Can't use DEFOG and ACE at the same time (When DEFOG is On, ACE is Off)
- + Freeze : Select real or still mode
  - ► OFF/ON
- + GAMMA: Select GAMMA **▶** 0.45 / 0.55 / 0.65 / 0.75

### INTELLIGENCE

### INTELLIGENCE



- + PRIVACY: Hide an area you want to hide on the screen OFF /ON.J
  - MASK#: Select mask area number (1 24)
  - ▶ MODE : Mask enable or disable (OFF/ ON)
  - POSITION : Adjust the mask position
  - SIZE : Adjust the mask size
  - COLOR: Select mask color (0 13)
  - ► TRANS : Select mask transparency level (0 4)

► SENSITIVITY: Adjust sensitivity of MD (0 - 20 steps) More sensitive to setting to low step with sensitivity ▶ POSITION : Adjust the Area position

[>AREA#: Setting 3 areas(1-3) of motion detection

+ MOTION: When there is movement of the subject in the screen.

MODE: OFF/ ON (Limit and define areas of motion detection)

▶ SIZE : Adjust the Area size

there will be an motion detection

OFF /ON.J

- ► INTERVAL :Select the alarm interval time (0 255sec)
- ▶ DWELL TIME : Select the duration time about changing MD mode (0 255sec) > ZOOM PRESET: Select Motion Zoom Preset Mode and Position (OFF/ON.J)
- + DIS : Select Digital Image Stabilizer mode
- OFF /ON.J
- ▶ RANGE: Setting the image compensation range. (10%, 20%, 30%)
- FILTER: Setting the sensitivity to hold DIS function in worst case.(LOW, MIDDLE, HIGH)

INTELLIGENCE

### SPECIAL FUNCTION

# SPECIAL FUNCTION

### SPECIAL FUNC



- + DEFECT DET : Compensates tor bad pixels that may occur.
  - Occurs when the whole screen is in full black or if there is bad pixelation and it changes the THRS values
- **\***until the screen is fixed.
- When you use this function, you have to block the lens tor blocking lights into the lens.

+ HD FORMAT: Select Digital output(1080p/30(25)fps, 1080p/60(50)fps, 720p/30(25)fps, 720p/60(50)fps)

- + IMAGE RANGE: Select image bit range. (Full: 100%, Compressed: 75%)
- ► FULL. COMP. USER..J

- + SYSTEM: Select NTSC(30/60fps) or PAL(25/50fps).

- + COMM: Set up the camera ID, baudrate, protocol ▶ ID : Select the camera ID
  - ► 1~255
- ▶ BAUD RATE : Select serial communication speed
- ► 2400 / 4800 / 9600 / 19200 / 38400 / 57600 / 115200bps ▶ PROTOCOL : Select operating protocol
- ► VISCA/ PELCO-D / PELCO-P / UPDATE

### DISPLAY



- [SAVE] [DFLT] DISP SEL: Select display item.
  - ► OFF /ON.J
  - ► D:OFF/ON ▶ TITLE : OFF / ON
  - F ZOOM RATIO: OFF/ON
  - SYSTEM MSG: OFF/ ON (MD Alarm)
- SET TITLE: Select camera title menu (Text edit- max 40 characters)
- INIT SEL: Select display initial message.
  - ► OFF /ON.J
- PROTOCOL: OFF/ ON PVERSION: OFF/ ON

► INIT MSG: OFF/ ON

P D : OFF/ ON P BAUDRATE : OFF/ ON

- \*Character Table of Text edit Mode

LANGUAGE : Select language.

ABCDEFGHIJKLMN0PQRST UVWXYZabcdefqhi jklmn

SET INIT MSG: modify initial message. (Text edit-max 40 characters)

► English / Simplified Chinese/ Traditional Chinese/ Japanese

opqrstuvwxyz,. (){}[] 0123456789\*+-/=-!?"'

**SPECIFICATION** 

SPECIFICATIO
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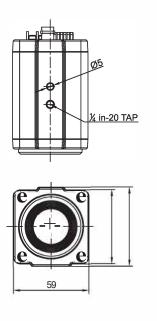
Imaae Sensor	1/3" Panasonic CMOS Sensor				
Total Pixels	1,956(H) x 1,266M, 2.48M Pixels				
Active oixels	1,944/HI x 1,092M, 2.12M Pixels				
Scanning system	Progressive Scan				
Svnc. Svstem	Internal				
Resolution	Dioital: 10SQo/60150\fns, 10SQo/30125\fns, 720p/60150\fas, 720pl\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\				
	Analoa: 7001VL				
Min. illumination	Color : 0.5 lux , fNI : 0.1 lux				
	Color DSS: 0.002 lux, BW DSS: 0.001 lux				
Video Output	HD: HD-TVi/ HD-SDI/ EX-SDI				
	Analog SD : VBS(without WOR)				
SIN Ratio	more than 50dB [AGC off]				
Lens."""	x10 Day & Night Zoom Lens				
Ioom Ratio	Ootical x1 Q, Digital x32 Zoom				
Focallenath	f= 5.1mm- 51mm				
Aoerture Ratio	F1.6 /wide\ - F1.8 Itele\				
Angle of View (D, H, VJ	Wide	68°	540	31 °	
	Tele	6.7°	4.9"	4.Cl°	
Focus	Mode/ Distance /Zoom Speed/Lens Refresh / E.Zoom				
Mode	Auto/ One Push/ Manual				
Distance	0.1 / 1.0/ 3.0/ 5.0/ 10.0 m				
Zoom Speed	O(Slow) - 7/Fastl				
Lens Refresh	One Push/ 1 - 10 Day				
E.Zoom	Off/ MAX x2 - x32				

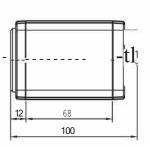
ZoomPreset	5 preset		
Exposure	Mode/ AGC / Shui Speed/ Iris/ DSS / Flickerless / Brightness / WDR/BLC / D&N		
Mode	Auto/ Iris. Priority/ Shui. Priority/ Manual		
Gain Control(AGC)	Off/ On		
Shutter Speed	1/30(25) - 1/30,000 sec		
Iris	O- 20 steps		
Digital Slow Shutter(DSS)	Off/ x2 / x4 V x8 : 60 or 50 fps mode only)		
Flickerless	Off/ On		
Brightness	0-20steps		
WDR/BLC	OFF/ WOR/ BLC		
Day&Night	Auto/ Day/ Night/ Ext-in		
White Baiance	Auto/ One Push/ Manual / Indoor/ Outdoor		
Image	HLC / DNR / Mirror / Sharpness / ACE / Defog / Freeze / Gamma		
HLC	Off/ On/ Night Only		
DNR	Auto/ Off/ Low/ Middle/ High		
Mirror	Off/H/V/H&V		
Sharoness	0 - 1 0 steps		
ACE	Off/ Low/ Middle/ High		
Defoo	Off/ On (Auto/ Manuall		
Freeze	Off/ On		
Gamma	0.45 / 0.55 / 0.65 / 0.75		
Intelligence	Privacy/ Motion/ DIS		
Privacy Mask	Off/ On (24 oointsl		
MotionDetection	Off/ On (3 points)		

**SPECIFICATION** 

# DRAWING

Diailal Image Stabilizer	Off/ On			
Soocial Func	Defect/ Imaae Ranae / System / HD Format/ EX-SDI/ COMM			
Defect DET	Off/ On			
Imaae Ranae	Full/ Camo. / User			
SystP.m	NTSC/PAL			
HD Fonmat	1080Di30125)tps / 1080o/60(50lfos / 720o/30(25lfos / 720o/60(50)tps			
EX-SDI	Off/ On			
HD-IVI	Off/ On			
Comm	10:1-255			
	Baud Rate: 2400 / 4800 / 9600 / 19200 / 38400 / 57600 / 115200			
	Protocol : Pelco-P / Pelco-0 / VISCA / Uodate			
Display	Disp Sel / Set îrtle / Init Sel / Set Init Msg / Language			
Diso Sel (Off/ On)	ID/ îrtle / Zoom Ratio/ System Message			
Setîille	Text Edit			
Init Sel (Off/ On)	ID/ Baud Rate / Protocol / Version / Init. Messaae			
SetInitMsg	Text Edit			
Lanauaae	Enalish / Simolified Chinese/ Traditional Chinese/ Jaoanese			
Power Source	9Vto 15VDC			
Power Consumotion	250mA			
Powerlnout	Connector			
Video Output	Connector			
S1orage Temoerature	-20t - +60t /Humidity: 0%RH - 90%RHI			
Operating Temperature	-10t - +50t (Humidity: 0%RH - 90%RH)			





### TROUBLESHOOTING

If !here are problems in operation, please reler to the items below. If the problem persists, please contact the agent you purchased this product trom.

### Trouble shooting

- · Nothing appears on the screen.
- -Please check the power connection.
- -Please check the video signal line connection.
- · The video image is not clear.
- -Please dean the lens with a clean cloth or brush.
- -Please adjust that the screen is not exposed directly to a bright light.
- -Please move the camera if necessary,
- The screen is dark.
- -Please adjust the contrast feature of the monitor.
- -If you have an intennediate device, set the 75 O/Hi-2 properly, and check the tenninals.
- -Please adjust the brightness level.
- The MOTION DETECTION function is not werking
- -Please check if "MOTION DETECTION" mode is turned on.
- -Please check if the MD Sensitivity is too high.
- -Please check the settina af the MD AREA.
- · The WDR function is not werking
- -Please check if the WOR Level is too low.
- -Please check if the AE Mode is set to MANUAL. The WOR doesn't work in MANUAL. Shutter priority
- Exposure mode.
- · Colors are not quite right.
- -Please check if the camera is facing directly into sunlight or fluorescent light.
- . The Dav&Night function doesn't work.
- -Please check if the AGC of EXPOSURE menu is set to OFF.
- -The Auto Day&Night doesn't work in AGC OFF status.