

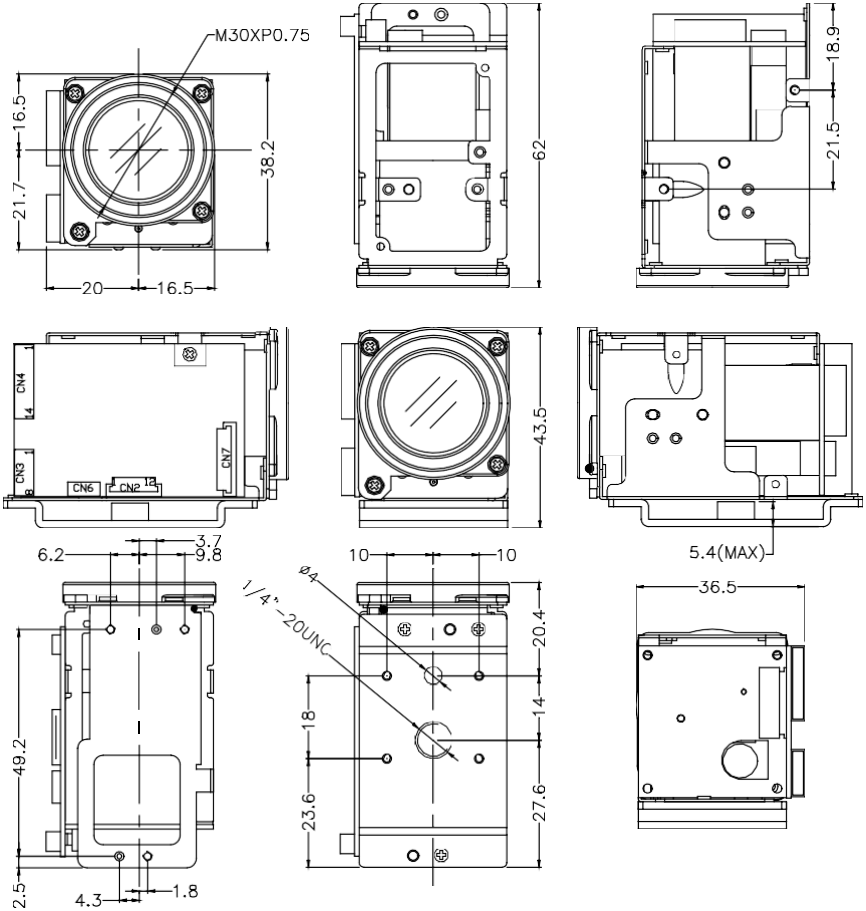
# FH-10Z POWERZOOM CAMERA INSTRUCTION

## SPECIFICATION (RoHS Conform)

MODE NO.		FH-10ZN	FH-10ZP
TV SYSTEM		NTSC	PAL
IMAGE SENSOR		1/4-inch CCD Image Sensor	
CCD TOTAL PIXELS		811(H) X 508(V)	795(H) X 596(V)
SCANNING SYSTEM		525 lines, 60 fields/sec	625 lines, 50 fields/sec
SYNC SYSTEM		Internal	
MINIMUM ILLUMINATION	Typical	2.5 Lux ( F1.8, 5600°K )	50IRE
	Star light Mode	0.07 Lux ( F1.8, 5600°K )	50IRE
RESOLUTION		520 TVL	
S / N RATIO		48dB ( MIN ) / 52dB ( TYP ) (AGC OFF, $r=1$ , APC OFF, Y-OUT)	
WHITE BALANCE		ATW / AWB / FIX	
WHITE BALANCE RANGE		3200 ~ 9600 °K	
B.L.C. FUNCTION		Super BLC, 48 zone BLC	
GAMMA CORRECTION		0.45 / 1	
AGC		AUTO (24dB max)	
ALC		AUTO / FIX	
IMAGE NEGATIVE		Select by OSD menu	
MONTION DETECT		48 zone (select by OSD)	
CROSS LINE		ON/OFF Select by OSD menu (position adj. by software)	
FREEZE FUNCTION		Alarm in trigger or Select by OSD	
ELECTRONIC SHUTTER		AES : 1/60(1/50) ~ 1/120,000 sec. / MANUAL : 8 step	
LENS	10X Optical ZOOMLENS, F1.8(W)~2.9(T), f=4.2mm(W)~42mm(T)		
	Diagonal	W( 56.4° ) / T( 6.1° )	
	Hor.	W( 46.4° ) / T( 4.9° )	
	Ver.	W( 35.6° ) / T( 3.7° )	
ZOOM		100X (10X Optical 10X Digital)	
FOCUS		Auto / Manual	
POSITION		64 Position (Zoom, Focus)	
VIDEO OUTPUT		Composite & Y/C output 1.0Vp-p at 75 ohm	
CONTROL FUNCTION		RS-232C (With Driver) , OSD control	
OSD CONTROL		Zoom, Focus, IRIS, WB, AGC, Position, C-Gain, APC Gain	
OSD LANGUAGE SELECT		ENGLISH / CHINESS_Simp / JAPANESE	
COMMUNICATION BAUD RATE		9600 BPS	
OPERATION TEMPERATURE		-10°C TO 50°C	
OPERATIONAL HUMIDITY		within 85% RH	
POWER SUPPLY		DC12V±1V / 3.6W(Max)	
DIMENSIONS		62mm X 36.8mm X 43.8mm	

\* The specifications and appearance of the product may changed without notice.

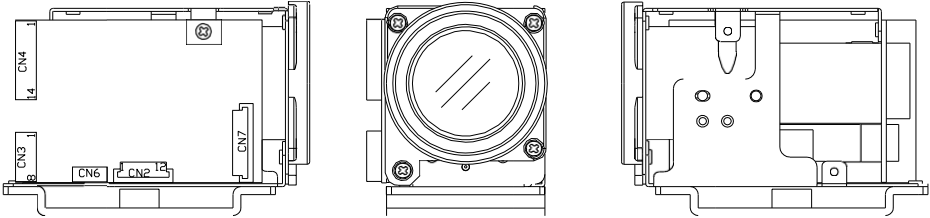
## Dimension (Unit : mm / ±0.5mm)



## Caution for Installation

1. Avoid places where there is direct sunlight. When using the camera outside.
2. Be careful, never let any water in this equipment.
3. Do not directly touch the CCD element. If necessary, use a soft cloth moistened with alcohol to wipe off the dust.
4. When the camera installs in dust or wet environment, please puts into the camera housing.
5. Be extra careful not to shake the camera.
6. Avoid places where temperatures exceed 50°C or more.
7. When any abnormalities occur, make sure to unplug the unit and contact your local dealer.
8. The camera are only operated with regulative adaptor DC 12V, AC to DC non-regulative adaptor may cause camera damaged.

# CONNECTOR



CN4		CN3		CN2		CN6	
P01	RXD	P01	GND	P01	DCK	P01	FOR MANUFACTURE NOT RELEASE
P02	TXD	P02	DOWN (OSD-SW)	P02	D0	P02	
P03	485CS	P03	UP (OSD-SW)	P03	D1	P03	
P04	MASK-OFF	P04	PRI (OSD-SW)	P04	D2	P04	
P05	+12V DC-in	P05	ENTER (OSD-SW)	P05	D3	P05	
P06	GND	P06	IRIS +/-	P06	D4	P06	
P07	Cout	P07	NEAR / INF	P07	D5		
P08	VBS	P08	TELE/WIDE	P08	D6		
P09	Yout			P09	D7		
P10	+3.3V			P10	HD		
P11	ALARM-in			P11	VD		
P12	Motion out			P12	GND		
P13	V Rev.						
P14	H Rev.						

## Attention: CN4

P01、P02: RS-232C With Driver

P03: Open Collector

P11、P12: Signal level H=3.3V±10%, L=0V±10%

P04、P13、P14: Inside Pull up (OPEN 3V) , Low active

## Attention: CN3

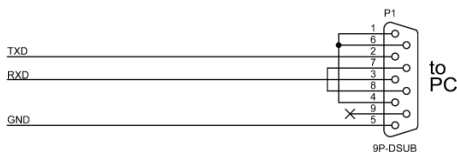
P02~P05: Inside Pull up (OPEN 3V) , Low active

P06~P08: Inside Pull up 10K $\wedge$  & Pull down 10K $\wedge$  (OPEN 15 $\wedge$ )

P06: OPEN OFF , 0V~0.7V(-) / 2.3V~3V (+)

P07: OPEN OFF , 0V~0.7V(INF) / 2.3V~3V (NEAR)

P08: OPEN OFF , 0V~0.7V(WIDE) / 2.3V~3V (TELE)





There are 19 items on the main menu, by up / down key to select item and push [ENTER] key to get into sub-item menu.



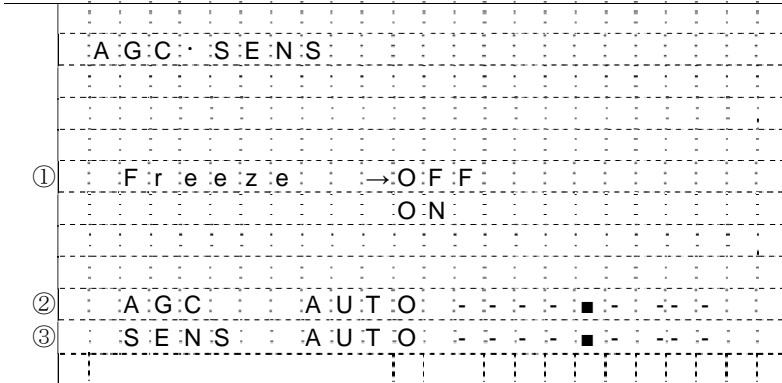
Selector 「ON」 has 2 sub-items: 「AREA」, 「SENS」.

② 「AREA」: 48 BLC zones can be set separately. According to the mask area (BLC zone) signal to decide the iris and shutter speed.

③ 「SENS」: Is used to enhance the BLC effect.

After setting, push [PRI] key to go back to the main menu page.

**[03]. AGC, SENS SELECT MENU**



This is used to select 「FREEZE」 and 「AGC」 & 「SENS」 function.

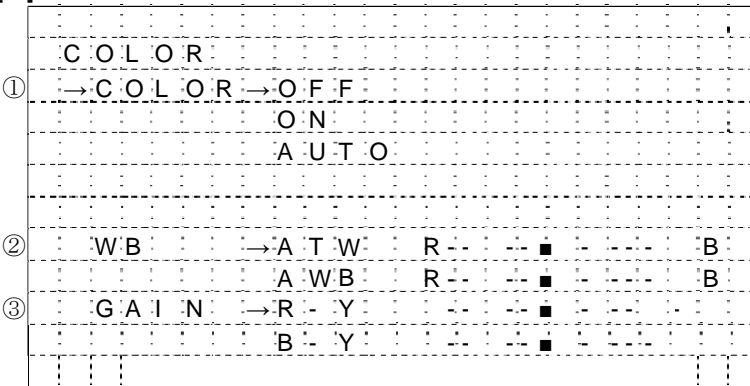
① 「FREEZE」 ON / OFF : ON (Freeze) / OFF(Unfreeze) .

② 「AGC」 : To adjust auto gain control, 0dB, 2.25dB, 4.5dB, 6.75dB, 9dB, 11.25dB, 13.5dB, 15.75dB, 18dB, 9 steps adjustable.

③ 「SENS」 : For low light application: 0 Frame , 6 Frame , 12 Frame , 16 Frame , 18 Frame , 22 Frame , 24 Frame , 30 Frame , 36 Frame , 9 steps adjustable.

After setting, push [PRI] key to go back to the main menu page.

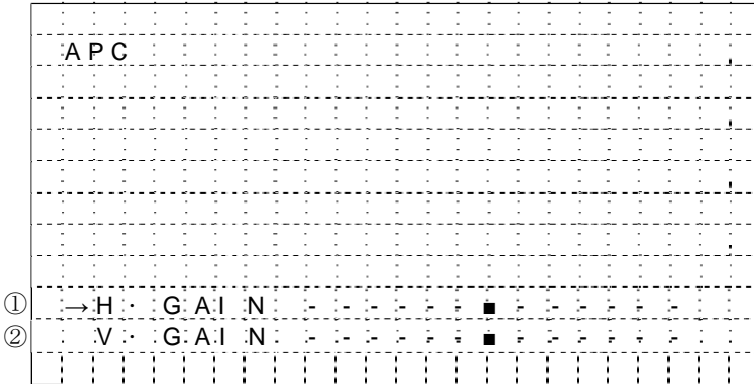
**[04]. COLOR SELECT MENU**



This is used to control the color ON/OFF and white balance and the gain rate of RED & BLUE color.

- ① 「COLOR」 selector: OFF is monochrome image, ON is normal color image, AUTO is at low light AGC up, display image will be auto change to monochrome image.
- ② 「WB」 White balance control: ATW is Auto trace white balance, can be adjust offset level. AWB is One push white balance. Push [ENTER] key 「AWB」 will start flicker, until flicker stop it will lock the current color temperature at the same time.
- ③ 「GAIN」: The gain rate of R-Y & B-Y can be adjusted separately.  
After setting, push [PRI] key to go back to the main menu page.

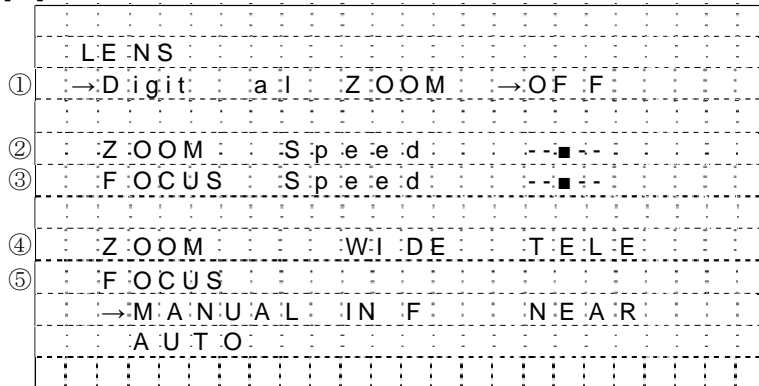
**[05]. APC SELECT MENU**



This is used to enhance the compensation of the picture quality.

- ① 「H • GAIN」 : Horizontal Compensation
  - ② 「V • GAIN」 : Vertical Compensation
- After setting, push [PRI] key to go back to the main menu page.

**[06]. LENS SELECT MENU**



This is used to control the motion of the lens, included "Digital ZOOM" ON/OFF and times set function.



- ① 「Digital ZOOM」 selector : OFF 、 X2 、 X4 、 X6 、 X8 、 X10.
  - ② 「ZOOM Speed」 : Set the speed of the zoom.
  - ③ 「FOCUS Speed」 : Set the speed of focus.
  - ④ 「ZOOM」 : Lens ZOOM adjust WIDE / TELE
  - ⑤ 「FOCUS」 : AUTO / MANUAL setting
- After setting, push [PRI] key to go back to the main menu page.

## [07]. REV. SELECT MENU

	R E V
①	→ P O S I / N E G A
	→ P O S I
	N E G A
②	H · R E V → O F F
	O N
③	V · R E V → O F F
	O N

This is used to select image 「Positive」 and 「Negative」 & 「Horizontal Reverse」 and 「Vertical Reverse」 function.

- ① 「POSI/NEGA」: Image positive & negative select.
- ② 「H.REV」: Horizontal Reverse (Mirror) ON/OFF
- ③ 「V.REV」: Vertical Reverse (Up-side down) ON/OFF

After setting, push [PRI] key to go back to the main menu page.

## [08]. POSITION SELECT MEMU

	POSITION
①	→ ALARM NO = 0
②	Freeze OFF
	ON
③	POSITION ON
	→ NO = 64
	ZOOM Speed - - ■ - -
	FOCUS Speed - - ■ - -
	ZOOM WIDE TELE
	FOCUS INF NEAR

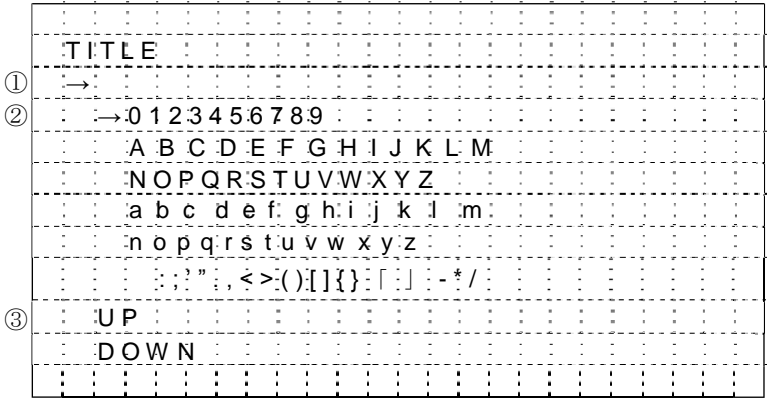
This is used to set 「ALARM-IN」 function, either 「ALARM POSITION」 or 「IMAGE FREEZE」.

- ① 「ALARM NO.」: Set alarm position(1~64), if set to (0) alarm position is not enable.
- ② 「Freeze」: Set ON mode, 「ALARM-IN」 is freeze trigger input.
- ③ 「POSITION」: The alarm position have 64 steps (position) can be programmed.

By this program, the zoom & focus may go to the exactly position where is programmed.  
After setting, push [PRI] key to go back to the main menu page.



**[09]. TITLE SELECT MENU**

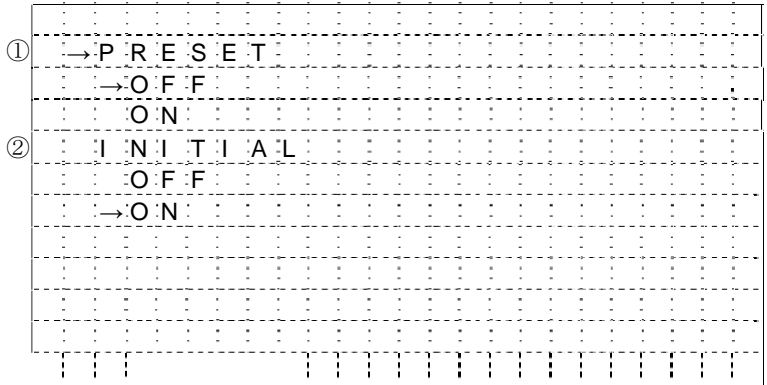


This is used to set up the ID figures & position on the screen. (Title setting)

- ① TITLE start position selector.
- ② TITLE Character selector.
- ③ TITLE display position UP or DOWN selector.

After setting, push [PRI] key to go back to the main menu page.

**[10]. PRESET SELECT MENU**



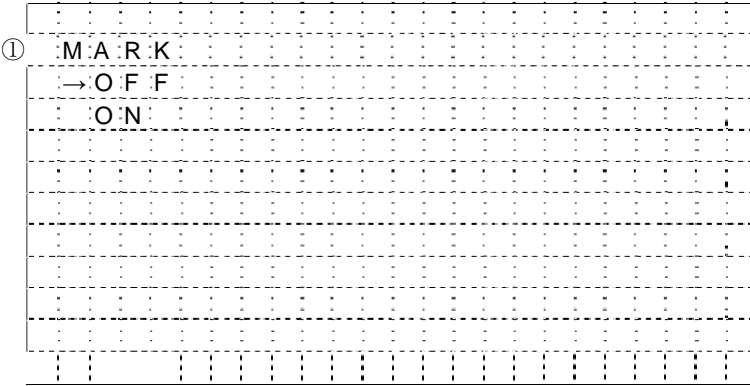
This is used to select the camera go back to "PRESET", "INITIAL", "PHASE" condition

- ① 「PRESET」: Set to ON camera will be reset and set to default data.
- ② 「INITIAL」 select: Set to ON lens is action, Set to OFF lens is do not action.

After setting, push [PRI] key to go back to the main menu page.

The menu at next page  
at "PRESET" position push [DOWN] key can into this menu.

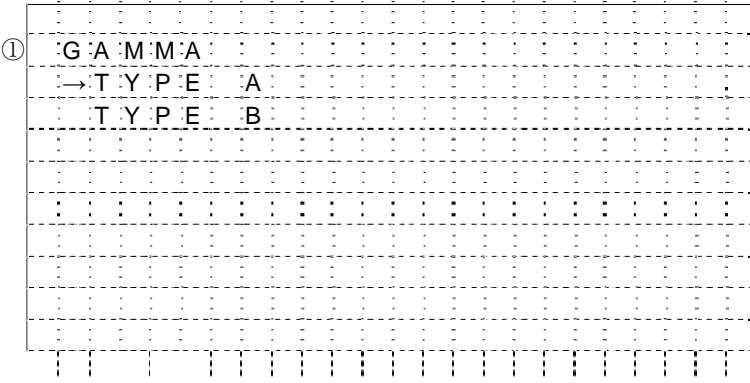
**[11]. MARK MENU**



This is used to select the cross line display ON / FF.

① 「MARK」: Cross line ON/OFF select,set ON cross line display,set OFF cross line is hidden.

**[12]. GAMMA MENU**



This is used to select the camera gamma correction.

① 「GAMMA」 select: TYPE-A gamma is 0.45, TYPE-B gamma is 1.0

**[13]. POWER ON MENU**

	P O W E R O N
①	→ B L U E B A C K
	→ O F F
	O N
②	P O S I T I O N
	→ O F F
③	O N N O = 6 4

This is used to select the camera power on state.

- ① 「BLUE BACK」 :Set to OFF camaer power on initial is normal display, Set to ON camaer power on initial is display blue back.
- ② 「POSITION OFF」 : Camera power on lens position is current position.
- ③ 「POSITION ON」 : Camera power on lens position is go to the designation position(1~64).

**[14]. MOTION MENU**

	M O T I O N
①	→ O F F
	O N
②	→ A R E A
③	T I M E → 1 : 0 S E C
	3 : 0 S E C
	6 : 0 S E C
④	S E N S I T I V E L O W : - - - ■ - - - H I

This is used to select the motion detect function.

- ① Motion detect ON / OFF select.
- ② Motion detect area select.
- ③ Motion detect output time select.
- ④ Motion detect sensitive adjust.

**[15]. MASK MENU**

	M A S K	
①	→ P O S I T I O N N O = 6 4	
②	M A S K N O = 1	
③	→ O F F	
④	O N → H - S T A R T = 2 0	
⑤	H - E N D = 2 0	
⑥	V - S T A R T = 2 0	
⑦	V - E N D = 2 0	
⑧	C O N N E C T → O F F	
	O N	

This is used to select mask area size and position for each setable lens position.

- ① Lens position no. select(1~64)
- ② MASK NO. select(1~4)
- ③ MASK area display ON / OFF select.
- ④ Hor. direction start position.
- ⑤ Hor. direction end position.
- ⑥ Ver. direction start position.
- ⑦ Ver. direction end position.
- ⑧ ZOOM action to link mask area, ON / OFF select..

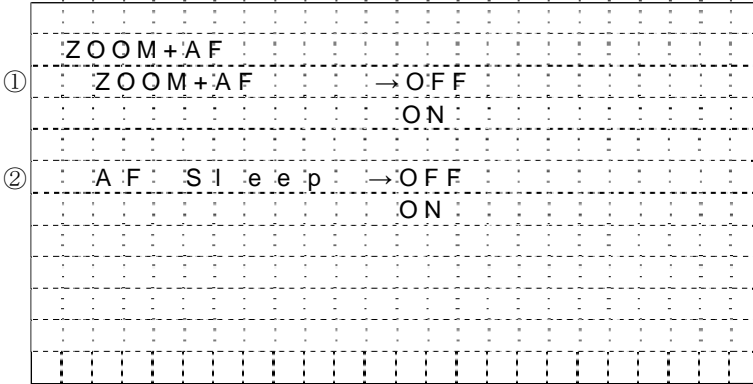
**[16]. OSD MENU**

	O S D	
①	→ P O S I T I O N	→ O F F
		O N
②	M O T I O N	→ O F F
		O N
③	Z O O M M A G	→ O F F
		O N

This is used to select on screen display ON / OFF select.

- ① POSITION NO. display ON / OFF select.
- ② MONTION action display ON / OFF select.
- ③ ZOOM times display ON / OFF select.

**[17]. ZOOM+AF MENU**



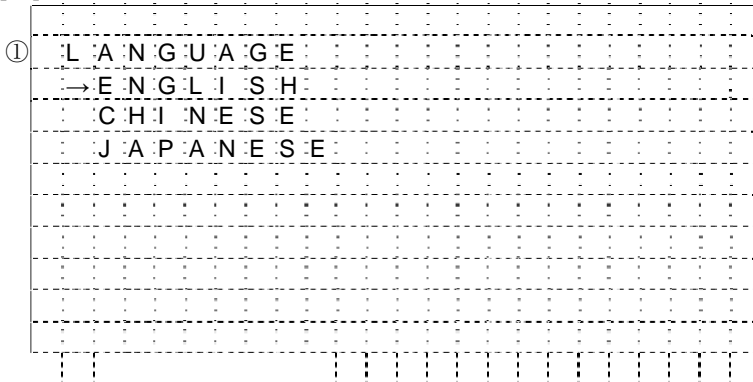
This is used to select an occasion for auto focus action.

① ZOOM stops time execute lens focus once, action OFF / ON select.

② AF Sleep function ON / OFF select.

(As show screen stillness about 5 minutes cameras come into AF Sleep mode namely, as screen has bigger change time come back again act for normal mode namely.)

**[18]. LANGUAGE MENU**

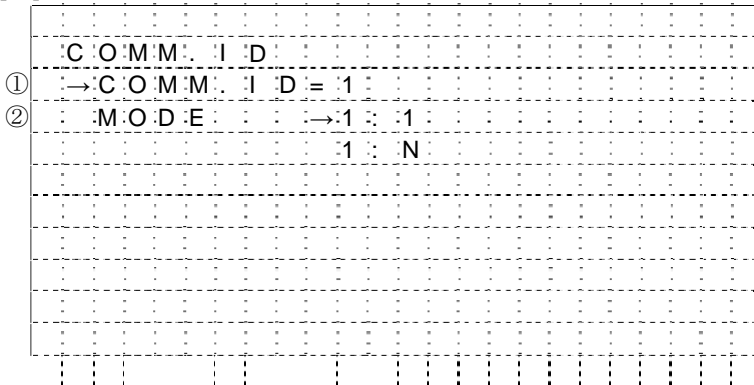


This is used to select OSD manu display language.

① OSD display language select, ENGLISH / CHINESE(Simp.) / JAPANESE



## [19]. COMMUNICATION ID MENU



This is used to select communication ID and mode.

- ① Communication ID number's set. (Enactment supply controller identification camera uses ID number.)
- ② MODE choice
  - 1:1: One controller to control one Camera.
  - 1:N: One controller to control many Camera.