

CCK30778AF

1/2.8" High Sensitivity 4K CMOS 30x Zoom/AF Camera Module (Tentative)



■ Overview

- 4K camera module equipped with SONY Startvis color image sensor.
- Equipped with 1/2.8" 30x optical zoom lens for 4K.
- Adoption of compact size housing.

■ Feature

- Near-infrared sensitivity is greatly improved compared to conventional sensors, and when combined with near-infrared light, surveillance images at night become clearer.
- Supports auto ICR operation, automatically switching from daytime color images to nighttime near-infrared images
- Due to Binning mode, the maximum sensitivity is more than doubled compared to Normal.
- 30x optical zoom and 15x digital zoom for a total of 450x zoom.
- Equipped with auto iris, auto electronic shutter, auto gain, auto white balance, and auto focus.
- Equipped with various correction functions according to the image scene (DNR, WDR, fog, heat haze, etc.).
- Supports TMDS output and easily converts to HDMI.
- Supports EX-SDI/3G-SDI/HD-SDI output, enabling long-distance wiring up to 400m without image quality degradation.
- Supports 2160p, 1440p, 1080p, 1080i video formats.
- Flexible support for additional functions.

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■ Specifications

Sensor	Image Sensor	1/2.8" SONY CMOS Image Sensor (IMX778-AQR1-C)
	Number of pixels	3856(H) x 2228(V), 8.60M Pixels
	Pixel Size	1.45 μ m(H) x 1.45 μ m(V)
	Scan Format	3840x2160@30/25/15/12.5fps, 2560x1440@30/25fps, 1920x1080@60/50/30/25fps (Option : 3840x2160@29/14fps, 2560x1440@29fps, 1920x1080@59/29fps)
Lens	F No.	Wide: F1.65, Tele: F4.80
	Focal Length	Wide (x1) : 5.2mm, Tele (x30) : 148.24mm
	Zoom	Optical Zoom 1~30times : Stepping Moter Digital Zoom 1~15 times : (Optical + Digital Zoom Max : 450 times)
	Focus	Stepping motor system auto focus Focus range : Wide 1.5m~ ∞ , Tele 1.5m~ ∞
	Optical Arrange of view	Wide (x1) : D/65.60°, H/58.32°, V/34.00° Tele (x30) : D/2.39°, H/2.12°, V/1.20°
	Optical Filter	1: IR Cut Filter (for Day Color) 2: Through Glass
Video	Video Format	TMDS : 2160p30/29/25/15/14/12.5, 1440p30/29/25, 1080p60/59/50/30/29/25, 1080i60/59/50, 1080PsF30/29/25 EX-SDI : 2160p30/29/25/15/14/12.5, 1440p30/29/25, 1080p60/59/50/30/29/25, 1080i60/59/50, 1080PsF30/29/25 3G-SDI : 1080p60/59/50 (Option) HD-SDI : 1080p30/29/25, 1080i60/59/50, 1080PsF30/29/25
	Minimum Illumination	F1.5, Color 0.01 lx, B/W 0.005 lx, IR Cut Filter Off, AGC 42dB, 25IRE
	Signal to Noise Ratio	STD 52dB (Minimum 48dB)
Function	Setting	OSD, UART(2ch)
	Auto Iris	Yes
	Auto Exposure	Yes
	Auto Focus	Yes
	White Balance	Auto / Manual / Preset (One push)
	Manual Shutter	30fps : 1/30, 1/60, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/8000, 1/15000 25fps : 1/25, 1/50, 1/100, 1/200, 1/400, 1/800, 1/1600, 1/3200, 1/6400, 1/12800
	Sense Up	AGC Max 72dB & Slow Shutter Max 256 times.
	Day & Night Mode	Color / B&W / Auto / External
	Digital Noise Reduction	Yes
	Backlight Control	Yes
	Peak / Average Control	Yes
	Gamma Control	0.35 / 0.45 / 0.55 / 0.65 / 0.75 / 0.85 / 0.95 / Defog(L) / Defog(M) / Defog(H)
	Wide Dynamic Range	Yes
	Eclipse (High Light Clip)	Yes
	Fog Reduction	Yes
	Heat Haze Correction	Yes
	Motion Detection	Yes
	H/V Mirror, Flip	Yes
	OSD Language	English, Japanese, Korean, Chinese(Traditional), Chinese(Simplified)
	Title Display	Yes
Communication Protocol	GCC-CP / Pelco-D / Pelco-P / VISCA	
Privacy Mask	Yes (16 Masks)	
Preset Position	Yes (64 Area)	
Synchronous Mode	Internal	
General	Power Source	DC+12V
	Consumption Current	450mA (30fps)
	Operation Temperature	-10°C ~ +50°C
	Storage Temperature	-30°C ~ +70°C
	Humidity	80% Max
	Outside Dimensions	W48.8mm x H55.0mm x D93.1mm
Net Weight	230g	

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Pin Assignment

JP401/901 (USL00-30L-A/KEL)		
1	GND in	Ground
2	TXCLKout-	TMDS Clock-
3	TXCLKout+	TMDS Clock+
4	GND in	Ground
5	TXout0-	TMDS TX0-
6	TXout0+	TMDS TX0+
7	GND in	Ground
8	TXout1-	TMDS TX1-
9	TXout1+	TMDS TX1+
10	GND in	Ground
11	TXout2-	TMDS TX2-
12	TXout2+	TMDS TX2+
13	GND in	Ground
14	485EN1	UART1 RS485 Enable output
15		Reserved
16		Reserved
17	Hot Plug Detect	5V:out, Open:stop
18	+5V Power	5V DC output
19		Reserved
20	GND in	Ground
21	I2CSCL	I2C Serial Clock
22	I2CSDA	I2C Serial Data
23	GND in	Ground
24	RX1	UART1 RX input
25	TX1	UART1 TX output
26	RESET	12V DC input
27	T12V in	12V DC input
28	T12V in	12V DC input
29	T12V in	12V DC input
30	T12V in	12V DC input

JP104/604 (53261-0671/MOLEX)		
1	DC12in	12V DC
2	GND	Power Ground
3	DC12in	12V DC
4	GND	Power Ground
5	IRext	ICR Control
6		Reserved

JP105/605 (SM06B-SRSS-TB/JST)		
1	ENTER	OSD Enter
2	RIGHT	OSD Right/Tele
3	LEFT	OSD Left/Wide
4	UP	OSD Up/Near
5	DOWN	OSD Down/Far
6	GND	Ground

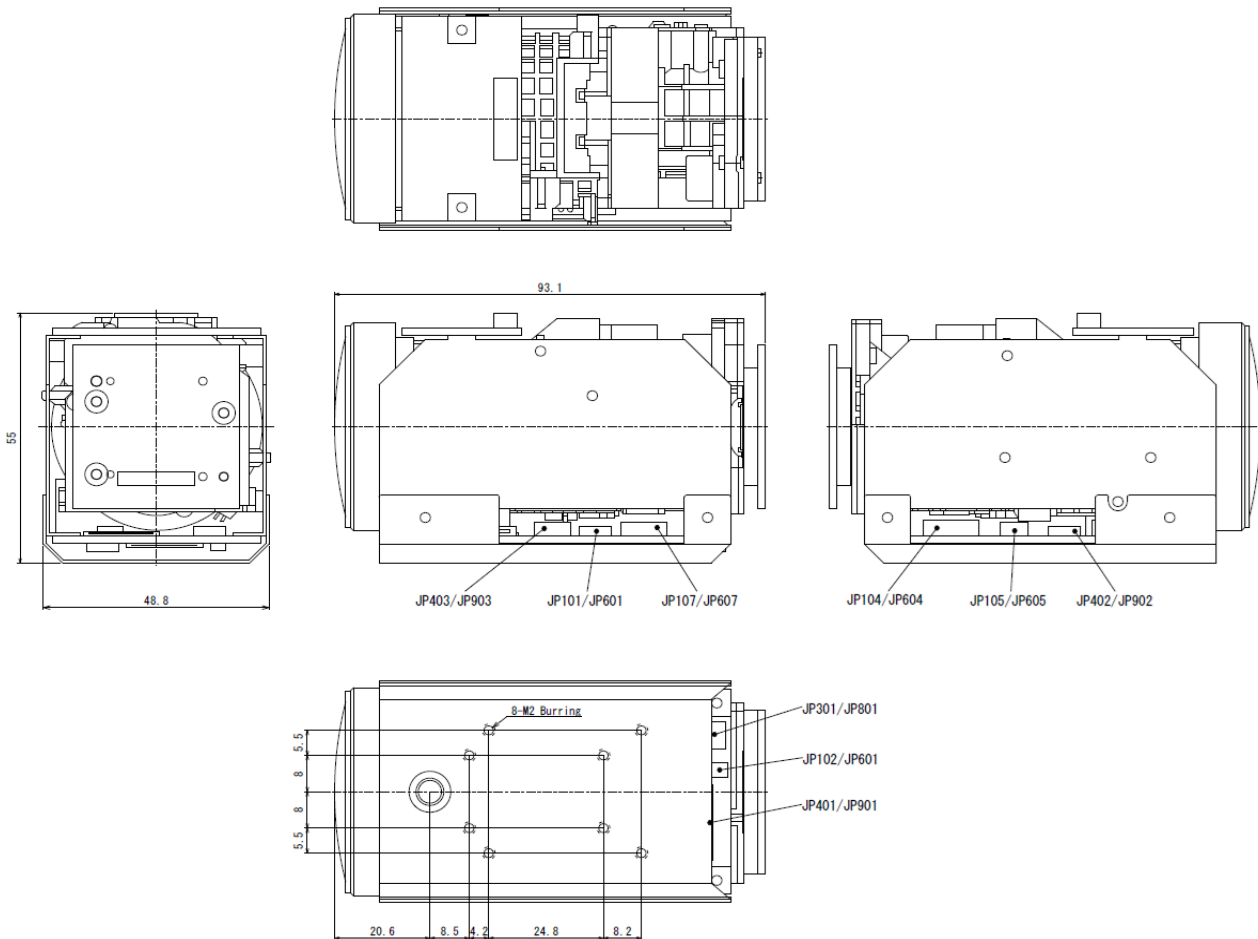
JP107/607 (SM05B-SRSS-TB/JST)		
1	GND	Ground
2	TX2	UART TX (3.3V)
3	RX2	UART RX (3.3V)
4	DC33out	3.3V DC
5	485EN2	RS485 Enable (3.3V)

JP102/602 (AYU1-1P-02676-120/JST)		
1	EX-SDI	EX-SDI TX
2	GND	Video Ground

JP301/801 (SM04B-SRSS-TB/JST)		
1	DC33out	3.3V DC
2	ARin	Audio R
3	ALin	Audio L
4	AGND	Ground

(Option)

Dimensions



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■ OSD Menu

Menu	Parameter	Default	Range
LENS	IRIS	MODE	AUTO
		AUTO H-LIMIT	0
		AUTO M-LIMIT	4
		AUTO L-LIMIT	16
		MANUAL LEVEL	16
		INTERLOCK	ON
	ZOOM	POSITION	----
		DZ-MODE	OFF
		DZ-LIMIT	X1
		DZ-MANUAL	200
		POSITION	----
		SPEED	2
	FOCUS	MODE	AFTER TELE
		ONE TIME AF	ON
		POSITION	----
		SPEED	2
	DAY&NIGHT	INTERVAL	10sec
		MODE	AUTO
		D->N LEVEL	13
		N->D LEVEL	7
		DELAY	SLOW
		POSITION	----
	START UP	INITIALIZE	ON
		MOVE	OFF
		PRESET No.	0
	PRESET	No.	0
		SAVE	ON
		LOAD	ON
	DIS	MODE	OFF
		RANGE	10%
		LEVEL	HIGH
		AUTO CENTER	50%
EXPOSURE	BRIGHTNESS	10	
	SHUTTER	MODE	AUTO
		AUTO H-LIMIT	1/15000
		AUTO M-LIMIT	1/1000
		AUTO L-LIMIT	1/30
		MANUAL LEVEL	1/30
	SENS-UP	OFF	
	AGC	MODE	AUTO
		PRIORITY1	IRIS>AGC
		PRIORITY2	AGC>SENS
		AUTO LIMIT	72dB
		MANUAL LEVEL	0dB
		AUTO GAMMA	OFF
		AUTO SETUP	10
	POSITION	----	
	PEAK-AVE	10	
	BACKLIGHT	MODE	OFF
		H-POSI	16
		V-POSI	12
		H-SIZE	6
		V-SIZE	10
	ECLIPSE	MODE	OFF
LEVEL		10	
COLOR		BLACK	
WDR	MODE	OFF	
	LEVEL	HIGH	
COLOR	WB	AUTO	
	MANUAL TEMP	5000K	
	R-GAIN	10	
	B-GAIN	10	
	COLOR GAIN	10	
	SUPPRESS	0	
	BLACK ADJUST	NIGHT	
	NIGHT COLOR	OFF	

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Menu	Parameter		Default	Range	
IMAGE	SHARPNESS		5	0-10	
	DNR		HIGH+	OFF, LOW, LOW+, MIDDLE, MIDDLE+, HIGH, HIGH+	
	HEAT HAZE		OFF	OFF, LOW, MIDDLE, HIGH	
	DWDR		OFF	OFF, LOW, MIDDLE, HIGH	
	DEFOG	MODE	OFF	OFF, MANUAL, AUTO	
		LEVEL	MIDDLE	LOW, MIDDLE, HIGH	
	GAMMA		0.45	0.35, 0.45, 0.55, 0.65, 0.75, 0.85, 0.95, DEFOG-L, DEFOG-M, DEFOG-H	
	PRIVACY	NO.	0	0-15	
		DISPLAY	OFF	OFF, ON	
		H-POSI	12	0-60	
		V-POSI	2	0-34	
		H-SIZE	3	0-60	
		V-SIZE	3	0-34	
		Y-LEVEL	10	0-20	
		CB-LEVEL	10	0-20	
		CR-LEVEL	10	0-20	
	TR-LEVEL	0	0-3		
	MIRROR		OFF	OFF, ON	
	FLIP		OFF	OFF, ON	
	FREEZE		OFF	OFF, ON	
COLORBAR		OFF	OFF, ON		
SYSTEM	COMM	CAMERA ID	0	0-63	
		BAUDRATE	115200	2400, 4800, 9600, 19200, 38400, 57600, 115200	
		PROTOCOL	GCC-CP	GCC-CP, PELCO-D, PELCO-P, VISCA	
	VIDEO	PORT	1	1, 2	
		FRAMERATE	30/60Hz	30/60Hz, 25/50Hz, (Option 29.97/59.94Hz)	
		FORMAT	2160p 30	30/60Hz : 1080p30, 1080p60, 1440p30, 2160p15, 2160p30, 1080i60, 1080PsF30 25/50Hz : 1080p25, 1080p50, 1440p25, 2160p12.5, 2160p25, 1080i50, 1080PsF25 29/59Hz : 1080p29, 1080p59, 1440p29, 2160p14, 2160p29, 1080i59, 1080PsF29	
		SDI MODE	EX-2.1 1.5G	OFF, HD-SDI, 3G-SDI, EX-2.0 135M, EX-2.1 135M, EX-3.0 135M,	
		TMDS MODE	RGB	OFF, RGB, YCbCr	
		IMAGE RANGE	FULL	FULL, COMP	
		COLOR SPACE	HD-PbPr	YUV, SD-CbCr, HD-PbPr	
	CONFIRM	ON	↓		
	AUDIO		OFF	OFF, ON	
	LANGUAGE		ENGLISH	ENGLISH, JAPANESE, KOREAN, CHINESE(T), CHINESE(S)	
	TITLE	CAM TITLE	OFF	OFF, ON	
		TIME CODE	OFF	OFF, ON	
		POSITION	TOP-R	TOP-R, TOP-L, BOTTOM-R, BOTTOM-L	
	MOTION	WINDOW	MODE	OFF	OFF, ON
			No.	0	0-3
			USE	ON	OFF, ON
			H-POSI	0	0-30
V-POSI			0	0-17	
H-SIZE			30	0-30	
V-SIZE		16	0-17		
SENSITIVITY	5	0-5			
DISPLAY		OFF	OFF, ON		
TEXT ALARM		OFF	OFF, ON		
VERSION	S/N	----	----		
	FIRMWARE	----	----		
	VERSION	----	----		
RESET		ON	↓		