

# HITACHI

## Progressive Scan B/W Camera

# KP-F3/F3W

Progressive Scan System

Double Speed Progressive Scan System

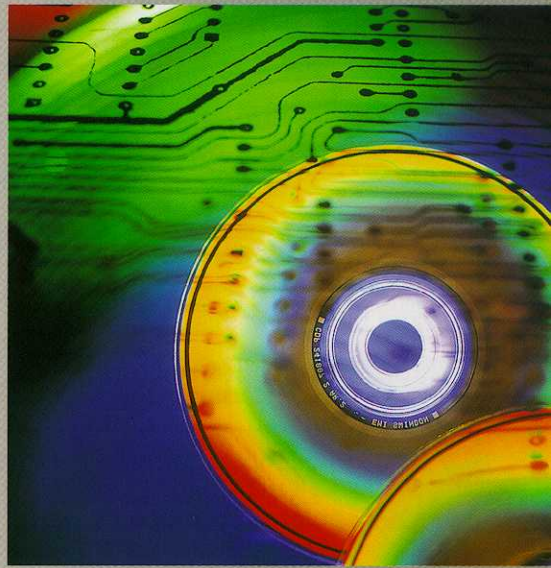
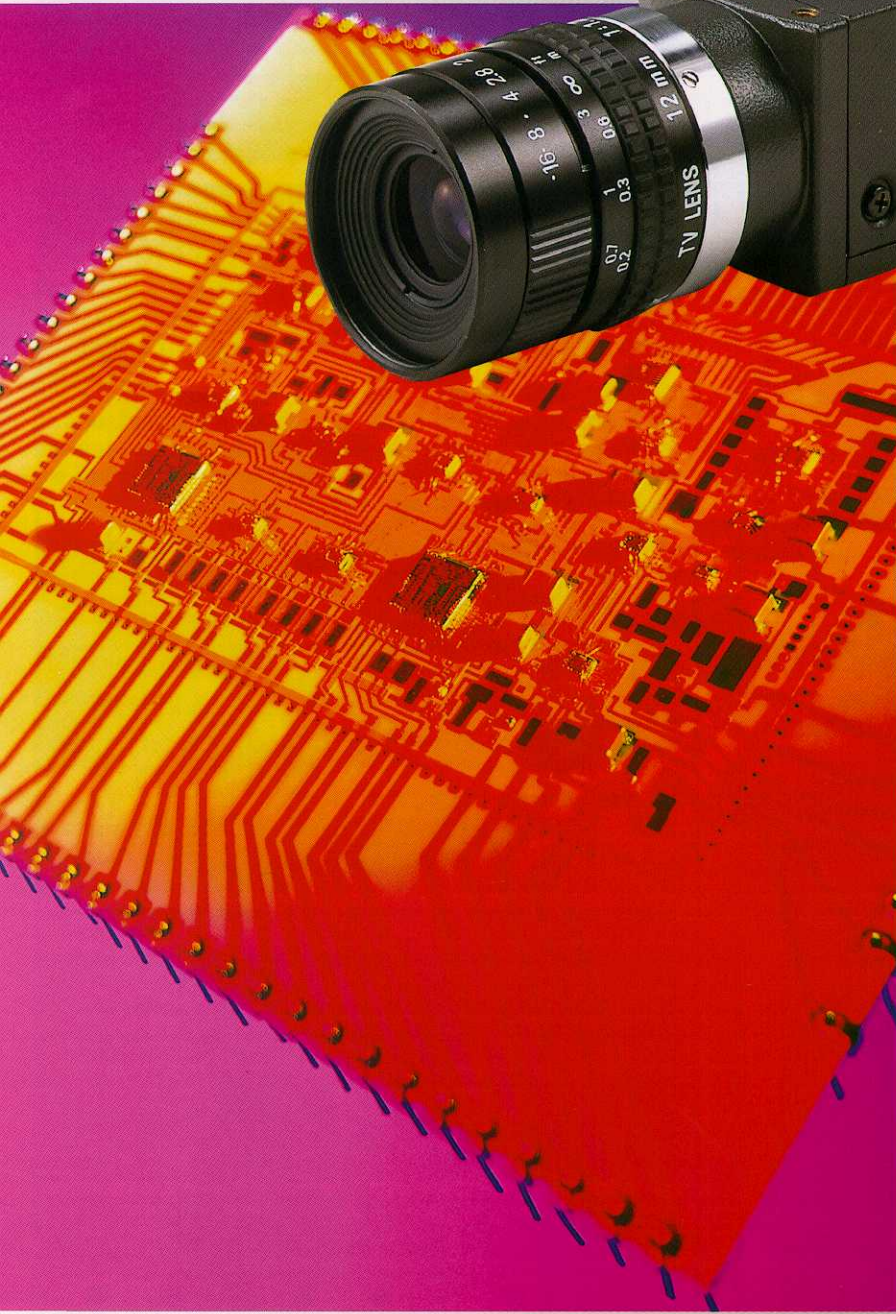


Actual size

These products are manufactured at a factory which has received quality control system certification in accordance with the ISO international standards.



CERTIFICATE No. JMI-0062  
ISO 9001/BS 5750Pt1  
EN 29001/JIS Z9901







Manual gain control

Switch position	Gain mode
M	Manual
F	Fixed
A	Automatic control

Pin Arrangement of VIDEO OUT/DC IN/SYNC Connector (12-pin)

PIN No.	Internal sync	External sync		
		HD/VD	Frame/Field-On-Demand	
			ONE trigger	Fixed shutter
1	GND	GND	GND	GND
2	+12 V	+12 V	+12 V	+12 V
3	VIDEO GND	VIDEO GND	VIDEO GND	VIDEO GND
4	VIDEO output (signal)	VIDEO output (signal)	VIDEO output (signal)	VIDEO output (signal)
5	—	HD GND	—	—
6	—	HD input (signal)	—	—
7	—	VD input (signal)	TRIG input (signal)	TRIG input (signal)
8	GND	GND	GND	GND
9	NC	NC	NC	NC
10	GND	GND	GND	GND
11	+12 V	+12 V	+12 V	+12 V
12	—	VD GND	VD GND	VD GND

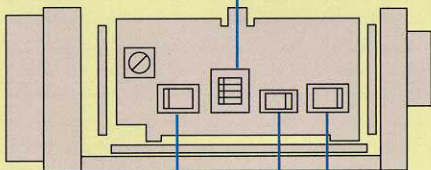
Note: Supply 12 VDC in the range between 11 and 13 V.

### Internal Switch Setting

#### Electronic shutter speed setting

Speed	F3 F3W	Shutter speed			
		OFF	1/100 1/200	1/250 1/500	1/500 1/1000
Switch position					
Speed	F3 F3W	Shutter speed			
		1/1000 1/2000	1/2000 1/4000	1/4000 1/8000	1/8000 1/16000
Switch position					

The faster the shutter speed, the more the effect. However, sensitivity is lowered. In this case, it is needed to adjust the lens iris or to increase the illumination. When the shutter is used, the flicker of the objects can be enhanced. In this case, use flickerless illumination like DC lamp.



Switch position	Trigger mode	Switch position	Input/output
ON	Frame/Field-On-Demand	I	Ext. HD/VD input
OFF	Normal output	O	Int. HD/VD output

Switch position	Picture output mode
I	Interlace mode
N	Non-interlace mode

Gamma ON/OFF  
ON ↔ OFF  
OFF → Gamma : 1  
ON → Gamma : 0.45

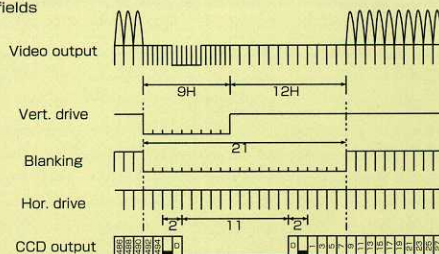
White clip control

Setup level control

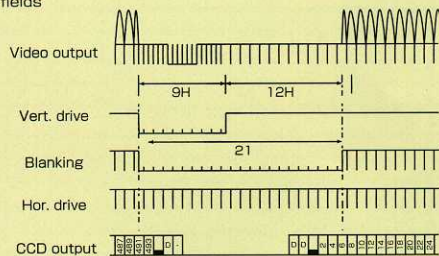
Gain control

### Timing Chart

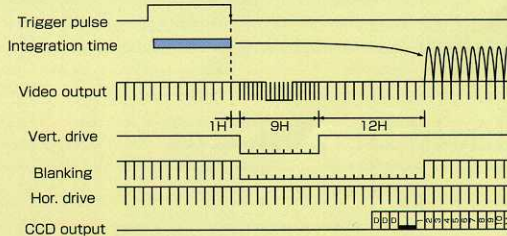
#### Odd fields



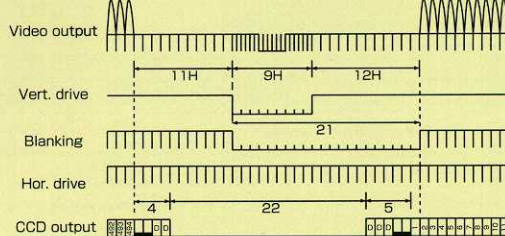
#### Even fields



#### Frame/Field-On-Demand



#### Progressive scan



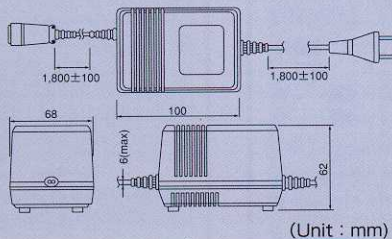
# Specifications

Model	KP-F3 / KP-F3W
Imaging device	Progressive scan inter-line CCD
No. of pixels	699 (H) x 503 (V)
Pixel size	7.4 μm (H) x 7.4 μm (V)
No. of effective pixels	647 (H) x 485 (V)
Sensing area	4.79 mm (H) x 3.59 mm (V)
Signal format	EIA/Progressive scan system
Lens mount	C-mount
Flange focal distance	17.526 mm
Hor. scanning frequency	15.734 kHz (KP-F3)/31.468 kHz (KP-F3W)
Vert. scanning frequency	59.94 Hz/29.97 Hz
Sync system	Internal/external (Automatic switching)
Int. sync scanning system	KP-F3 : 1 : 2:1 interlace (1/60 s) N : Non-interlace (1/30 s.) KP-F3W : 1 : 2:1 interlace (1/120 s.) N : Non-interlace (1/60 s.)
External sync input	HD/VD: 2 to 6 Vp-p, negative, Input impedance: 1 kΩ, Frequency deviation: ±1%
Video output	1.0 Vp-p/75 Ω, unbalanced, Video: 0.7 Vp-p, sync: 0.3 Vp-p, negative
Resolution	500 TVL (H), 485 TVL (V)
Sensitivity	400 lx, f/5.6, 3200 K
Minimum illuminator	0.2 lx, f/1.4, AGC=ON, Gamma=ON w/o IR cut filter
Signal-to-noise ratio	56 dB
Electronic shutter speed	KP-F3 : 1/100 s. to 1/8000 s. KP-F3W : 1/200 s. to 1/16000 s.
Gamma correction	OFF (normal exposure) Settable to any of the above modes by internal switches. Set to OFF at factory. Settable to 1 or correction by internal switches. Set to OFF at factory.
Frame/Field-On-Demand function	Settable to ON/OFF by internal switches. Settable to ONE trigger mode or fixed shutter mode. Set to OFF at factory.
Supply voltage	12 VDC ±1 V
Power consumption	1.4 W approx.
Ambient conditions	Operating: 10 to 50 °C, 90 %RH or less Storage: -20 to 60 °C, 70 %RH or less
Anti-vibration	98 m/s <sup>2</sup> (10 to 60 Hz/ amplitude: 0.98 mm const., 60 to 200 Hz/acceleration const., amplitude: variable, 10 to 200 Hz/XYZ, one sweep each, duration: 30 min. each)
Anti-shock	686 m/s <sup>2</sup> (Once each, top/bottom/left side/right side)
Dimensions	29 (W) x 29 (H) x 62 (D) mm
Mass	100 g approx.

Note: When the camera is used continuously, ambient temperature should be at 40°C or less to ensure stable performance.

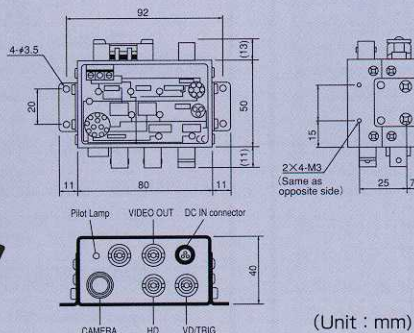
## ■ AC Adaptor, AP-130/UD-240A

The AP-130 or UD-240A is used to supply 12VDC power to the camera via the JU-F1 Junction Box. (3-pin power output connector)

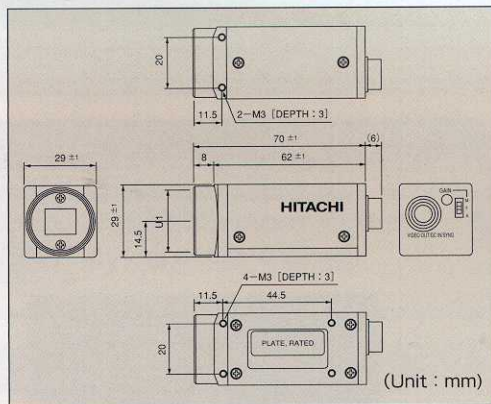


## ■ Junction Box, JU-F1 or JU-M1A

Connect to a camera, using a camera cable.



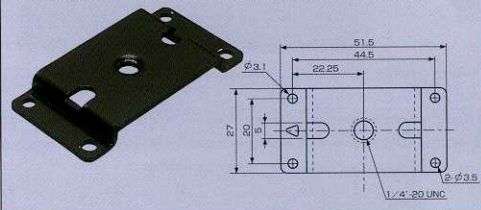
# Dimensions



# Optional Accessories

## ■ Tripod Adaptor, TA-F3

Use the tripod adaptor when fixing a camera with the screws for a tripod. Fix the tripod adaptor to the camera with the supplied screws (M3x6, 4pcs).

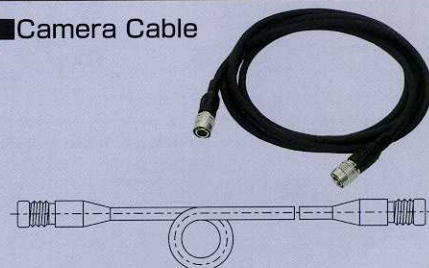


## ■ 12-pin Plug

HA10A-10P-12S(O1)



## ■ Camera Cable



	Mould Type	Assembly Type	Shield Type
2 m	C-201KSM	C-201KS	C-201KSS
5 m	C-501KSM	C-501KS	C-501KSS
10 m	C-102KSM	C-102KS	C-102KSS

※ Assembly type and shield type are manufactured upon receipt of order.

Specification are subject to change without notice.