

KP-F100A / F100ACL / F100UV

RS-232C control, Effective picture elements number 1.3 million,
Progressive scan with full pixel independent readout



High resolution :

High grade CCD with 1300(H)X1030(V) effective square lattice pixels.
UV : from 240 nm approx. ~to 930 nm approx. sensitivity CCD with 1392(H)X1040(V) effective square lattice pixels

Digital output and analog output :

An EIA-644 digital output is provided. Camera-Link (KP-F100ACL)

Frame on demand :

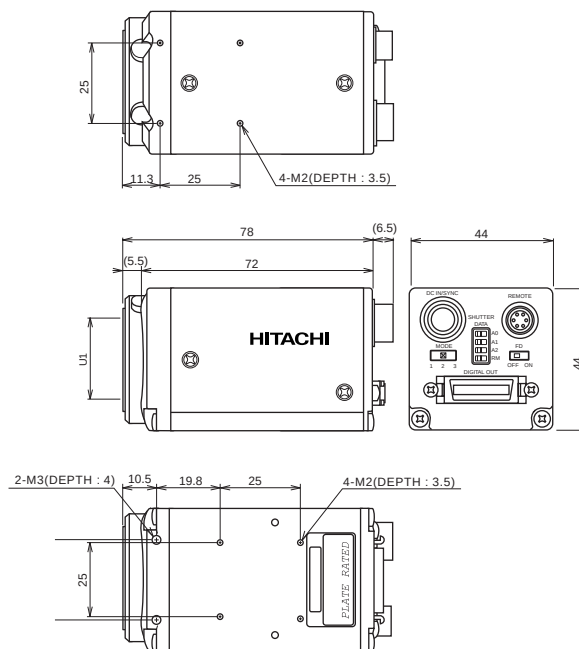
An external trigger signal input can be used to capture an image at a desired timing for instant view or processing. The capture time can be adjusted by the trigger and shutter.

RS-232C Control :

The self-contained CPU permits using RS-232C control for setting each function, Frame on demand, Trigger input pulse invert, etc. The functions can also be set from rear panel switches.

Multi step electronic shutter up to 1/50000 second

Dimensions



Unit : mm

Specifications

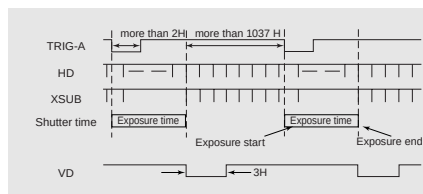
	KP-F100A/F100ACL	KP-F100UV
Pickup element	2/3-inch interline CCD	1/2-inch interline CCD
Effective pixels	1300(H)X1030(V)	1392(H)X1040(V)
Pixel pitch	6.7(H)X6.7(V) μ m (square lattice)	4.65(H)X4.65(V) μ m
Imaging area	8.71(H)X6.90(V) mm	6.47(H)X4.84(V) mm
Scanning system	Progressive	
Aspect ratio	5 : 4	4 : 3
Frame rate	12 frames/second (full pixel readout) 24 fps (2 V pixels simultaneous readout)	7.5 fps 30 fps (quad speed mode)
Horizontal scanning frequency	12.528 kHz	7.98 kHz
Synchronization	Internal/external (automatic switching)	
Lens mount	C-mount	
Flange focal distance	17.526 mm	
Video output	Digital output or analog output for image checking Digital output Camera-Link or EIA-644 single channel 10 bits, 20.2 MHz	
External sync input	HD/VD TTL level negative Input impedance: 1 k Ω Frequency deviation: $\pm$ 1 %	
Electronic shutter speed	Off (frame rate), 1/30, 1/125, 1/250, 1/1000, 1/2000, 1/4000, 1/10000, 1/50000 second.	
Frame on demand	External switch setting off, fixed shutter, two trigger and one trigger	
Sensitivity	400 lx F4 3200 K	
Power supply voltage	12 $\pm$ 1 VDC	
Current consumption	290 mA Approx.	
Ambient, operating	0 to + 40 $^{\circ}$ C (+32 to ; 104 F), less than 90 % RH	
Ambient, storage	-10 to + 50 $^{\circ}$ C (+14 to +122 F), less than 70 % RH	
Vibration endurance	29 m/s ² , 10 to 55 Hz 30 minutes each on XYZ axes	
Shock endurance	294 m/s ² (vertical, horizontal, once each face)	
External dimensions	44(W)X44(H)X78(D) mm	
Mass	180 g (6.3 oz) Approx.	

Frame-on-demand Function

With the Frame-on-demand function, moving objects can be captured at an optional or fixed exposure time by supplying a trigger pulse at an optional timing.

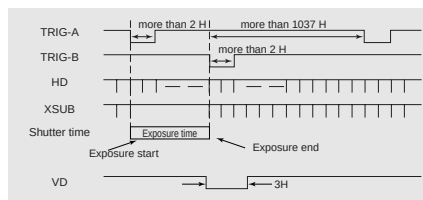
Fixed shutter mode

When one trigger pulse (TRIG A) is supplied, exposure starts at the rising edge of the inputs pulse. Exposure time is fixed, and set by the electrical shutter switches on the camera.



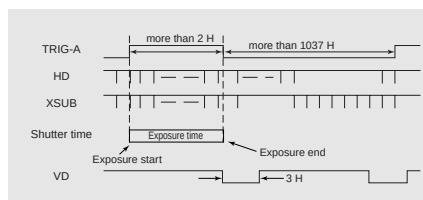
Two trigger mode

When two trigger pulses (TRIG A and TRIG B) are supplied, exposure starts at the rising edge of the TRIG A pulse, and ends at the falling edge of TRIG B pulse. The period between the two pulses is exposure time.



One trigger mode

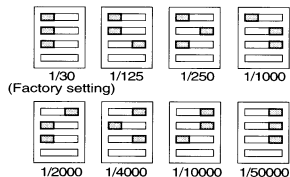
When one trigger pulse (TRIG A) is supplied, exposure starts at the rising edge of the inputs pulse, and ends at the falling edge of the inputs pulse. Then, the V-SYNC pulse is reset and picture are delivered immediately. The pulses width is the exposure time.



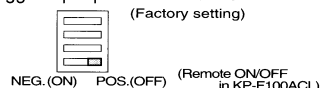
Rear panel switches

The rear panel includes switches for electronic shutter data, readout rate, and field on demand on/off and mode switches.

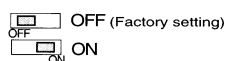
(1) Electronic shutter switches



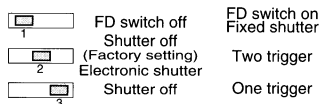
(2) Trigger input pulse invert switch



(3) Frame on demand (FD) ON/OFF switch



(4) Frame on demand mode switch



Pin connections

●Connections to DC IN and SYNC (12 pin)

Pin No.	Int. sync	HD/VD	Ext. sync		
			Frame on demand		
			Fixed shutter	Two trigger	One trigger
1	GND	GND		GND	GND
2	+12 V	+12 V	GND	+12 V	+12 V
3	GND	GND	+12 V	GND	GND
4	VIDEO	VIDEO	GND	VIDEO	VIDEO
5	GND	EXTHD (GND)	VIDEO	GND	GND
6	—	EXTHD (SIGNAL)	GND	—	—
7	—	EXTVD (SIGNAL)	TRIG-A (SIGNAL)	TRIG-A (SIGNAL)	TRIG-A (SIGNAL)
8	GND	GND	GND	TRIG-B (GND)	GND
9	—	—	—	TRIG-B (SIGNAL)	—
10	—	GND	GND	GND	GND
11	GND	+12 V	GND	+12 V	+12 V
12	+12 V GND	EXTVD (GND)	TRIG-A (GND)	TRIG-A (GND)	TRIG-A (GND)

Not connect EXT. input signals in KP-100ACL.

●Signal connections to D. OUT (26 pin)

Pin No.	Signal	Pin No.	Signal	Pin No.	Signal
1	DATA0-H	10	DATA4-L	19	DATA9-H
2	DATA0-L	11	DATA5-H	20	DATA9-L
3	DATA1-H	12	DATA5-L	21	VD-H
4	DATA1-L	13	DATA6-H	22	VD-L
5	DATA2-H	14	DATA6-L	23	HD-H
6	DATA2-L	15	DATA7-H	24	HD-L
7	DATA3-H	16	DATA7-L	25	CLK-H
8	DATA3-L	17	DATA8-H	26	CLK-L
9	DATA4-H	18	DATA8-L		Shield GND

●Remote (RS-232C control) cable pin connections (6pin)

Pin No.	Signal name
1	—
2	RD
3	TD
4	Manual/remote
5	Ground
6	—

Standard Composition

- (1) Camera (with infrared blocking filter)
- (2) Operating instructions

Optional accessories

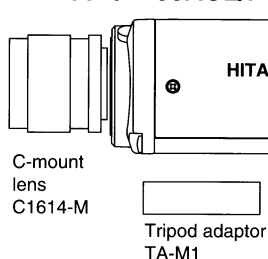
- (1) Tripod adaptor.....TA-M1(23855AX)
- (2) 6 pin Remote plug.....HR10A-7P-6P
- (3) 12 pin plug.....HR10A-10P-12S(01)
(23810AX)
- (4) D.OUT connector (26 pins).....EIA-644 DX30AM-26P
Camera-Link 10126-6000
- (5) Junction box.....JU-M1A (23831AX)
JU-F1 (23832AX)
- (6) Dummy glass (AR coated).....ARC1214(XMD0009)
- (7) Camera cable
(Molded type) 2 m C-201KSM
5 m C-501KSM
10 m C-102KSM
(Assembly type) 2 m C-201KS
5 m C-501KS
10 m C-102KS
- (8) AC adaptor.....117V:AP-130(23805UX)
230V:AP-130E(23805EX)

Camera-Link Digital out connector (KP-F100ACL)

Pin No.	Signal	Pin No.	Signal
1	GND	14	GND
2	TXOUT 0 (—)	15	TXOUT 0 (+)
3	TXOUT 1 (—)	16	TXOUT 1 (+)
4	TXOUT 2 (—)	17	TXOUT 2 (+)
5	TXCLKOUT (—)	18	TXCLKOUT (+)
6	TXOUT 3 (—)	19	TXOUT 3 (+)
7	RX (+)	20	RX (—)
8	TX (—)	21	TX (+)
9	TRIG·A/VD (—)[CC1 (—)]	22	TRIG·A/VD (+)[CC1 (+)]
10	TRIG·B (+)[CC2 (+)]	23	TRIG·B (—)[CC2 (—)]
11	EXT·HD (—)[CC3 (—)]	24	EXT·HD (+)[CC3 (+)]
12	NC [CC4 (+)]	25	NC [CC4 (—)]
13	GND	26	GND

KP-F100A/F100ACL/F100UV System

KP-F100A/F100ACL/F100UV



EIA-644 DX30AM-26P
Camera-Link 10126-6000

Digital cable/
Camera-Link cable

Remote cable
(No-need at Camera-Link)
REMOTE Plug HR10A-7P-4P(01)

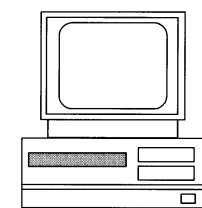
HR10A-10P-12S(01)
12pin plug
Camera cable
C-201KSM
/C-501KSM
/C-102KSM

RS-232C

External
Trigger

Junction box
JU-M1A/JU-F1

Computer Image
Processing & FA



PC + Frame Grabber

AC adaptor
AP-130