

Preliminary

Ultra compact Black-and-White CCD camera

KP-M20N/KP-M20P

KP-M30N/KP-M30P

410K(EIA)/470K(CCIR)

Ultra compact, High Sensitivity and High Resolution
Rear panel switches selection



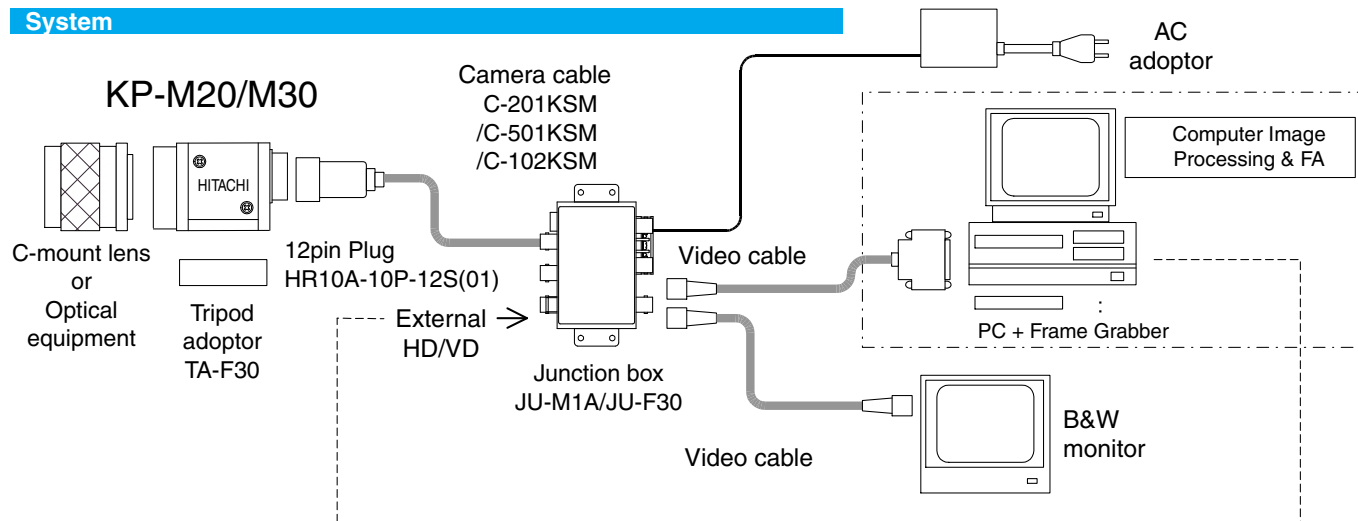
- **2:1 interlaced** : External switch can be set Integration mode, field or frame
- **Electronic shutter** : 8 electronic shutter speeds are selectable to 1/10,000 sec.
- **Synchronization**
Internal synchronization is automatically switched to External synchronization by the supplied sync signals(HD/VD).
- **External HD/VD I/O** : External switch selection
- **Analog video output** : VS 1.0Vp-p output can be checked by Black-and-White monitor.
- **Anti-vibration design and ultra compact body permit easy inserting into various equipments.**

Main specifications

	KP-M20N (EIA) / KP-M20P (CCIR)	KP-M30N (EIA) / KP-M30P (CCIR)
Imaging device	1/2-inch Interline CCD	
Sensing area	EIA: 6.45(H) × 4.84mm (1/2 type) CCIR: 6.47(H) × 4.83mm (1/2 type)	EIA: 4.88(H) × 3.66mm (1/3 type) CCIR: 4.89(H) × 3.64mm (1/3 type)
Pixel size	EIA: 8.4(H) × 9.8(V) μm CCIR: 8.6(H) × 8.3(V) μm	EIA: 6.35(H) × 7.4(V) μm CCIR: 6.5(H) × 6.25(V) μm
Total pixels	KP-M20N / M30N EIA: 811(H) × 508(V)	KP-M20P / M30P CCIR: 795(H) × 596(V)
Effective pixels	KP-M20N / M30N EIA: 768(H) × 494(V)	KP-M20P / M30P CCIR: 752(H) × 582(V)
Resolution	EIA : 570 TV lines (H) / 485TV lines (V) CCIR : 560 TV lines (H) / 575TV lines (V)	
Sensitivity	200L x F4 3200K Min Gain	
Min. illumination	0.3Lx, F1.4 AGC, Gamma ON	
S/N	60dB Min Gain	
Gamma	Gamma = 1.0 or correction, External switch can be set. The Factory setting is Gamma = 1.0	
Video output	VS 1.0Vp-p 75ohm Video component: 0.7Vp-p, Sync component: 0.3Vp-p Negative	
Horizontal scan frequency	EIA: 15.734KHz CCIR: 15.625KHz	
Vertical scan frequency	EIA: 59.94Hz CCIR: 50Hz	
Sync system	Internal/external (automatic selection)	
Internal synchronization scanning system	2 : 1 interlaced	
External synchronization I/O	External switch selection. Set to Input at the factory. Input: HD/VD 4~6Vp-p Negative, Output: HD/VD 4~5Vp-p Negative	
Electronic shutter	1/10000, 1/4000, 1/2000, 1/1000, 1/500, 1/250, 1/120(CCIR), 1/100(EIA), 1/60(EIA), 1/50(CCIR) second	
Integration mode	Field or frame, External switch can be set. The Factory setting is Frame.	
Lens mount	C mount	
Flange focal	17.526mm	
Power supply	12 ± 1V DC Approx 1.4W	
Ambient, operating	-10 to + 50 °C (+14 to +122 °F) (Note), less than 90 % RH	
Ambient, storage	-20 to 60 °C (-4 to +140 °F), less than 70 % RH	
Vibration endurance	98m/s ² (10 to 200Hz, 30 minutes each on XYZ axes)	
Shock endurance	686 m/s ² (vertical, horizontal, once each face)	
Dimensions	29(W)×29(H)×38.5(D)mm	
Mass	Approx. 55g	

Note : If operated continuously, be sure to use at less than +40 °C (104 °F) for long term stable performance.

System



Composition

- (1).....Camera (W/IR cut filter)
 (2).....Operation manual

Optional accessories

- (1) Tripod adaptor.....TA-F30
 (2) 12 pin plug.....HR10A-10P-12S(01)
 (3) Junction box.....JU-M1A/JU-F30
 (4) Dummy glass.....ARC1214 (AR coat)
 (5) Camera cable(Molded type)

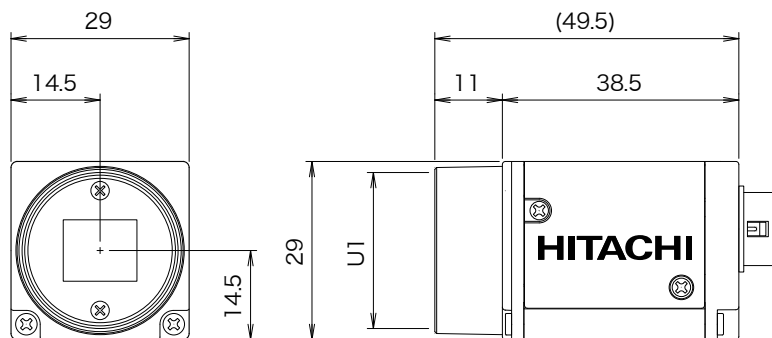
2m C-201KSM
 5m C-501KSM
 10m C-102KSM

Camera cable

12 pin plug

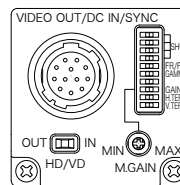


Dimensions



Shutter speed / mode setting DIP switch

- DIP Switch 1 ~ 4 : Select the shutter speed.
 5 : Select the frame or field integration
 6 : Select y correction ON / OFF
 7 : NC
 8 : Select the gain
 9 : HD 75 Q terminal select switch.
 0 : VD 75 Q terminal select switch.



VIDEO OUT/DC IN/SYNC connector

Pin No.	Internal sync mode	External sync mode
1	GND	GND
2	12VDC	12VDC
3	Video GND	Video GND
4	Video out	Video out
5	HD GND	HD GND
6	HD OUT	HD IN
7	VD OUT	VD IN
8	VD GND	VD GND
9	NC	NC
10	NC	NC
11	NC	NC
12	GND	GND

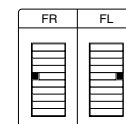
mode setup DIP switch

●Shutter speed/mode setting DIP switch

speed	※1	※2	1/250	1/500	1/1000	1/2000	1/4000	1/10000
Setting position								

※1 1/60(EIA)
 1/50(CCIIR)
 ※1 1/100(EIA)
 1/120(CCIIR)

●FRAME/FIELD integration mode select switch



This switch is set to FRAME at factory.