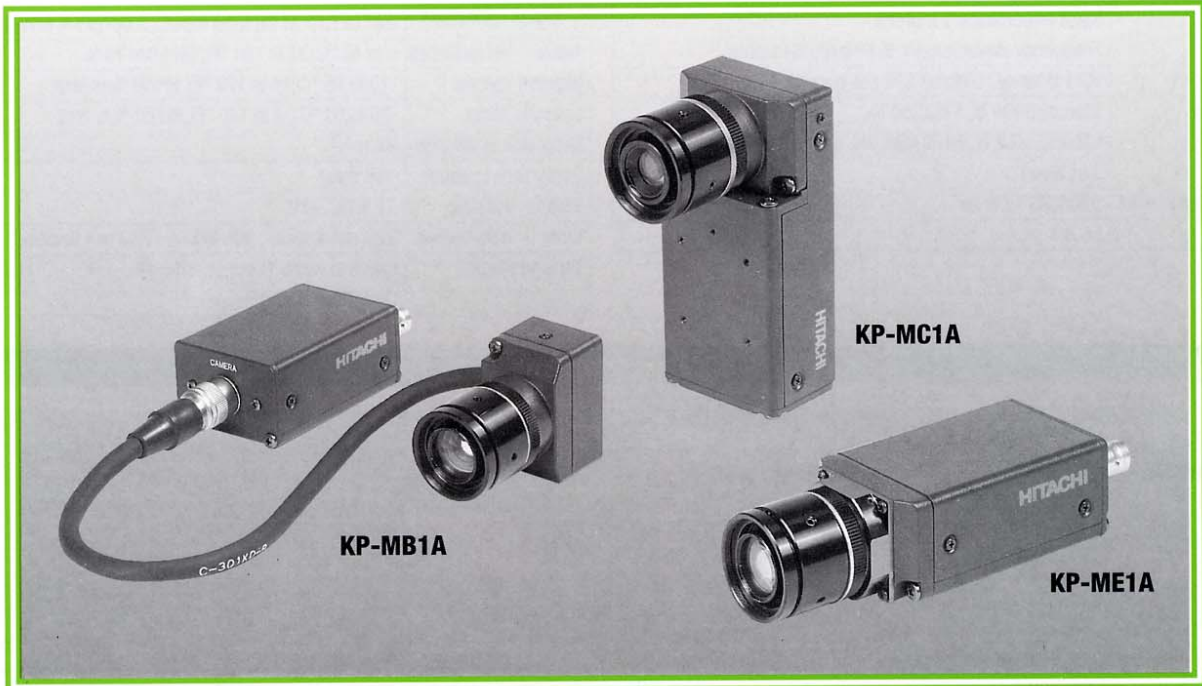


Hitachi Black and White CCD Cameras

KP-M1A Series



- Head w/seperate camera electronics types : **KP-MB1A**
- Side view type : **KP-MC1A**
- Adjustable back focus type : **KP-ME1A**

Features

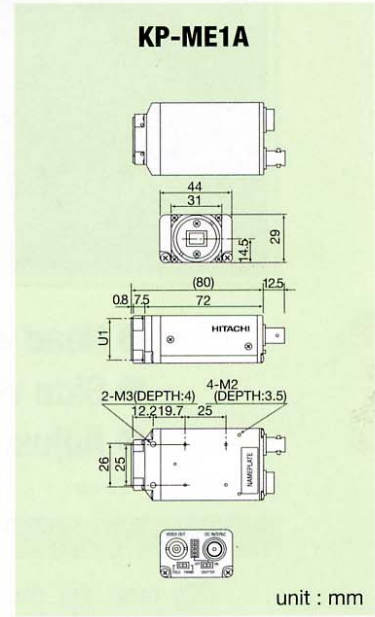
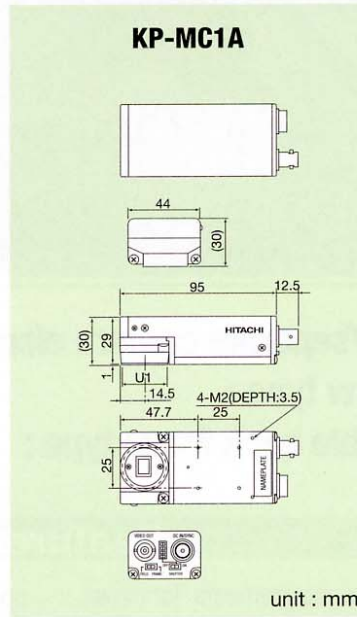
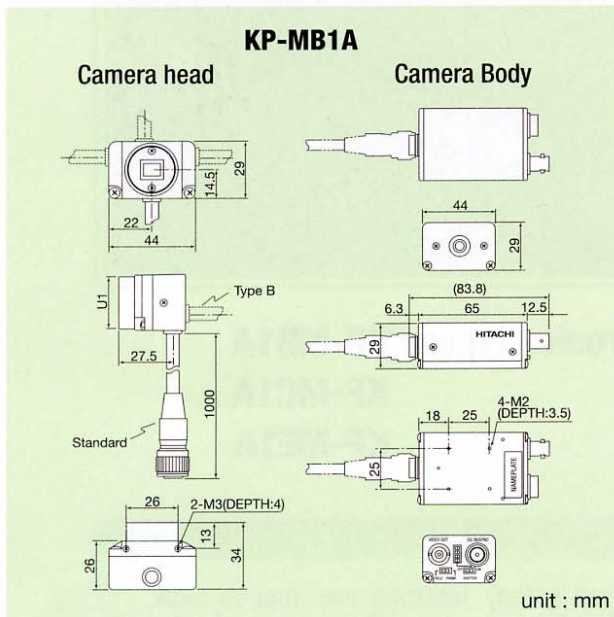
- To meet the diverse requirements for small, light weight black and white cameras, three additional models have been developed of the KP-M1A Type Camera, Development of additional models will be considered depending on the customer's requirements and the quantity involved.
- The KP-MB1A Camera offers an extremely compact (30cm³) and lightweight (50 grams) camera head by separating the lens and CCD assembly from the camera electronics. The maximum length the lens/CCD assembly can be extended from the camera electronics is 1m. The size and weight of the camera head are ideal for mounting on optical instruments.
- With the KP-MC1A model, the lens/CCD assembly is rotated by 90° from the normal position greatly reducing the front to back depth of the camera. This camera is the solution for those applications, such as machine vision, where little depth exists for camera mounting.
- The KP-ME1A Camera provides a lens back focus adjustment necessary if zoom lenses are to be used. The KP-ME1A can be used in any application requiring zoom lenses.
- The KP-M1A Series inherits the high picture quality, high performance and functions of the standard KP-M1A(M1AP) Camera, Refer to the catalog for the standard KP-M1A(M1AP) brochure for more information. This versatility, picture quality, high performance and features make the KP-M1A Series ideal for a wide range of applications.

Major specifications

	KP-M1An	KP-M1Ap
Signal system	EIA system	CCIR system
Pickup device	Interline transfer CCD	Interline transfer CCD
Number of effective pixels:	768(H)×494(V)	752(H)×582(V)
Sensing area	8.91×6.67 mm (2/3-inch size)	
Pixel pitch	11.6(H)×13.5(V) μm	11.6(H)×11.2(V) μm
Lens mount	C mount	
Flange focal distance	17.526 mm	
Scanning frequency	15.734 kHz(H), 59.94 Hz(V)	15.625 kHz(H), 50 Hz(V)
Sync system	Internal sync/external sync (automatic switching)	
Scanning system	2:1 interlaced Non-interlaced (Only in external sync mode)	
External sync input	HD/VD:2 to 6 Vp-p Input impedance:1 k ohms Frequency deviation:±1 % Polarity:Negative	
Video output	VS:1.0 Vp-p/75 ohms (DC cut output)	
Sensitivity	Standard400 lx, F4(3200 K) Minimum0.3 lx, F1.4(AGC:ON, gamma:0.45 without IR cut filter)	
Horizontal/vertical resolution	570/485 TV lines	560/575 TV lines
S/N	56 dB	

	KP-M1An	KP-M1Ap
Shutter speed	1/10000, 1/4000, 1/2000, 1/1000, 1/500, 1/250, 1/125, 1/120(CCIR), 1/100(EIA), OFF(normal exposure) Above settings are possible by external switch, Set to OFF at factory.	
AGC	Normal gain/AGC:(selectable by internal switch)	
Gamma	Gamma=1.0/0.45(Selectable by internal switch) (Set to 1.0 at factory)	
Integration mode	Field or frame integration : Selectable by external switch (set to frame integration mode at factory)	
Field on demand	ON/OFF selectable by internal switch (set to OFF at factory)	
Restart and reset operation	ON/OFF selectable by internal point (optional function) (set to OFF at factory) Input : 5 Vp-p/1 k ohms	
Ambient temperature and humidity	Full specifications	0 to 40 °C (32 to 104 °F), RH 50 to 70 %
	Operating	-10 to 50 °C (14 to 122 °F), RH 90 % or less
	Storage	-20 to 60 °C (-4 to 140 °F), RH 70 % or less
Resistance to vibration	98 m/s ²	
Resistance to shock	686 m/s ²	
Supply voltage	12 V DC ±1V	
Current consumption	220 mA approx. (KP-MB1A : 280 mA approx.)	
Composition	Camera (with IR cut filter).....1 Operation manual.....1	

Dimension



Hitachi Kokusai Electric Inc.

Head Office : 14-20, Higashi-Nakano 3-choume, Nakano-ku, Tokyo 164-8511, Japan
Phone : (81) 3368-6111, Fax : (81) 3365-9119 <http://www.h-kokusai.com>

International Sales Operation's Division

1, Kanda Izumi-cho Chiyoda-ku Tokyo 101-0024, Japan
Phone : (81) 5821-5311, Fax : (81) 5821-5394

Beijing Office

Beijing Fortune Building 5, Dong San Huan Bei-lu, Chao Yang District, Beijing, 100029 China
Phone : (86) 951-7200, Fax : (86) 496-3718

Hitachi Denshi America, Ltd.

Headquarters and Northeast Office : 150 Crossways Park Drive, Woodbury, New York 11797, U. S. A.
Phone : (516) 921-7200, Fax : (516) 496-3718

West Office

: 371 Van Ness Way, Suite 120 Torrance, CA, 90501, U. S. A.
Phone : (310) 328-6116, Fax : (310) 328-6252

Midwest Sales

: Phone : (877) 326-8105, Fax : (516) 496-3718

South Sales

: Phone : (877) 326-8105, Fax : (516) 496-3718

Parts Center

: Phone : (516) 682-4435, Fax : (516) 921-0993

Latin Sales

: Phone : (516) 682-4420, Fax : (516) 496-3718

Hitachi Denshi Canada, Ltd.

Head Office : 1 Select Avenue, Unit#14 Scarborough, Ontario M1V 5J3, Canada.
Phone : (416) 299-5900, Fax : (416) 299-0450

Eastern Office

: 5795 Chemin St. Francois St. Laurent, Quebec H4S 1B6, Canada
Phone : (514) 336-6667, Fax : (514) 335-1654

Ottawa Office

: 9 Antares Drive, Nepean, Ontario, K2E 7V5, Canada
Phone : (613) 727-3530, Fax : (613) 825-4253

Hitachi Denshi (Europa) GmbH

Head Office : Weskircher Straße 88, Jügesheim D-63110 Rodgau, Germany
Phone : (6106) 6992-0, Fax : (6106) 1690-6

Hitachi Denshi (U. K.) Ltd.

Head Office : 14 Garrick Industrial Centre, Irving Way, Hendon, London, NW96 AQ, United Kingdom
Phone : (208) 202-4311, Fax : (208) 202-2451

Leeds Office

: Brookfield House, Selby Road, Garforth, Leeds LS25 1NB United Kingdom
Phone : (113) 287-4400, Fax : (113) 287-4260

Specification are subject to change without notice.