

## An ideal HD camera solution for various specialty applications



Lens is not included in GP-KH232 series

## 1/3 type 1MOS Full HD Remote Head Camera with 1080p HDMI

### Key Features

- 1/3 type Full HD single MOS sensor
- 1080/59.94p, 50p resolution at HDMI output
- 900 TV lines (typical) at horizontal resolution
- Multi-format:  
(59.94Hz) 1080/59.94p, 59.94i, 29.97p (sF), 720/59.94p, 480/59.94p, 59.94i (50Hz) 1080/50p, 50i, 25p (sF), 720/50p, 576/50p, 50i
- Various video outputs: HDMI, RGB/YPbPr, S-video (GP-KH232CU)  
HDMI, RGB/YPbPr, SDI (GP-KH232CS)
- Synchronization: Internal or External
- Required illumination: 2000 lx at F5.6
- Minimum illumination: 10 lx at F1.4
- 3 Scene files allow to register each of adjustable parameter settings in accordance with an installation location.
- Other functions: Camera title, ELC, Electronic shutter, Gain adjustment, Electronic sensitivity enhancement, White balance, Electronic zoom (up to x2.5), Freeze, Flip, Mirror, Status display
- External control of RS-232C signal level compliant
- HD camera cable can be selected from 2 m (6.6 ft.) / 4 m (13.1 ft.) / 6 m (19.8 ft.) / 15 m (49.2 ft.)
- Small camera control unit (GP-KH232CU/GP-KH232CS):  
120 (W) x36 (H) x157 (D) mm (4-3/4 (W) x1-13/32 (H) x6-3/16inches)
- Compact and lightweight camera head (GP-KH232H):  
28 (W) x27 (H) x39 (D) mm (1-3/32 (W) x1-1/16 (H) x1-17/32inches), 43g (0.1 lbs)

### Recommended lenses

(As of February, 2012)




Model		Manufacturer
DF6HA-1B	HF25HA-1B	FUJIFILM
HF9HA-1B	HF35HA-1B	
HF12.5HA-1B	HF50HA-1B	
HF16HA-1B		

\* A lens whose projection length of the lens mount section is 7mm (9/32inches) or less shall be used.

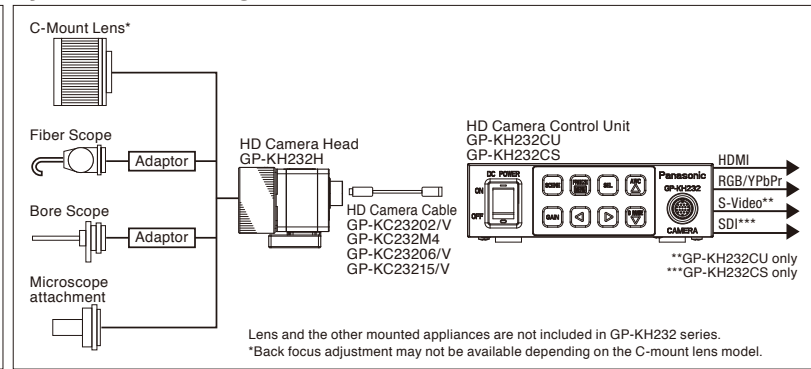
\* The recommended C-mount lens aperture ranges from F2.8 to F16.



## GP-KH232 Components

HD Camera Control Unit <b>GP-KH232CU</b> <b>GP-KH232CS</b> 	HD Camera Cable <b>GP-KC23202/V</b> (2 m (6.6 ft.)) <b>GP-KC232M4</b> (4 m (13.1 ft.)) <b>GP-KC23206/V</b> (6 m (19.8 ft.)) <b>GP-KC23215/V</b> (15 m (49.2 ft.)) 
HD Camera Head <b>GP-KH232H</b> 	

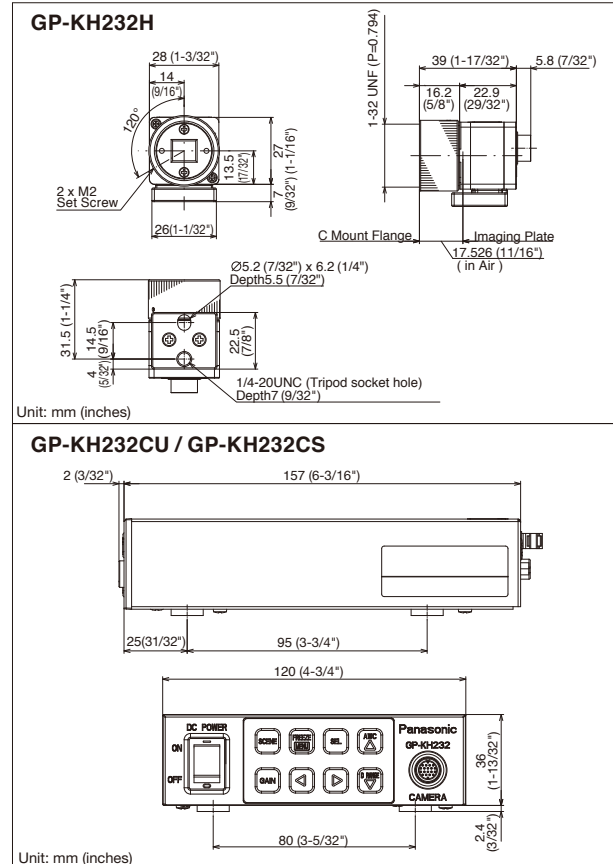
## System Block Diagram



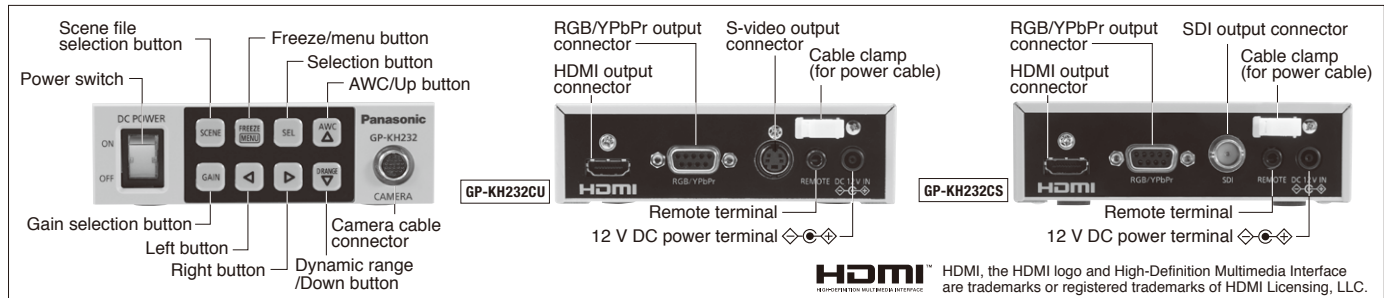
## Specifications

Frame Frequency	59.94 Hz	50 Hz
Power source	12 V DC ±10 %	
Power consumption	Approx. 7.8 W (including camera head) (GP-KH232CU) Approx. 8.8 W (including camera head) (GP-KH232CS)	
Image sensor	1/3 type Full HD MOS	
Synchronization	Internal or external synchronization	
Video output		
S-video output (GP-KH232CU only)	S-video connector x 1 Y: 1.0 V [p-p] / 75 Ω C: 0.286 V [p-p] / 75 Ω	S-video connector x 1 Y: 1.0 V [p-p] / 75 Ω C: 0.3 V [p-p] / 75 Ω
RGB/YpPr output	D-sub 9-pin connector x1 G: 1.0 V [p-p] / 75 Ω R, B: 0.7 V [p-p] / 75 Ω Y: 1.0 V [p-p] / 75 Ω Pb, Pr: 0.7 V [p-p] / 75 Ω	
HDMI output	HDMI connector x 1	
SDI output (GP-KH232CS only)	BNC connector x1	
Video format		
S-video output (GP-KH232CU only)	480/59.94i	576/50i
RGB/YpPr output	1080/59.94i, 1080/29.97p (sF), 720/59.94p, 480/59.94p, 480/59.94i	1080/50i, 1080/25p (sF), 720/50p, 576/50p, 576/50i
HDMI output	1080/59.94p, 1080/59.94i, 1080/29.97p (sF), 720/59.94p, 480/59.94p, 480/59.94i	1080/50p, 1080/50i, 1080/25p (sF), 720/50p, 576/50p, 576/50i
SDI output (GP-KH232CS only)	1080/59.94i, 1080/29.97p (sF), 720/59.94p, 480/59.94i	1080/50i, 1080/25p (sF), 720/50p, 576/50i
Required illumination	2000 lx (3200 K, F5.6)	
Minimum illumination	10 lx (F1.4, GAIN: HIGH, 30 % output, at center)	
S/N	54 dB (at output using 1080i)	
Horizontal resolution	900 TV lines at center (typ. when 1080i output)	
Functions	Camera title, ELC, Electronic shutter, Gain adjustment, Electronic sensitivity enhancement, Output signal, Scene file, White balance, Electronic zoom, Freeze, Flip, Mirror, Status display	
External control	Ø3.5 mini jack (3-pole, RS-232C signal level compliant)	
Ambient operating temperature	0 °C to 40 °C (32 °F to 104 °F)	
Ambient operating humidity	30 % to 90 %	
Dimensions	GP-KH232CU / GP-KH232CS: 120 mm (W) x 36 mm (H) x 157 mm (D) (4-3/4 inches (W) x 1-13/32 inches (H) x 6-3/16 inches (D)) (excluding rubber feet and projections) GP-KH232H: 28 mm (W) x 27 mm (H) x 39 mm (D) (1-1/32 inches (W) x 1-1/16 inches (H) x 1-17/32 inches (D)) (excluding the tripod mount base and projections)	
Mass	GP-KH232CU: Approx. 660 g (1.46 lbs.) GP-KH232CS: Approx. 680 g (1.50 lbs.) GP-KH232H: Approx. 43 g (0.1 lbs.)	
Finish	Ivory color coating	

## Appearance



## Part Names and Functions



### Important

- Safety Precaution : carefully read the operating instructions and installation manual before using this product.
- These products do not have medical standard approvals.
- This product is intended for usage in general electronics applications.
- The usage of this product for special purposes, such as traffic control instruments, transportation instruments, and medical instruments, may be prohibited without authorization under the applicable laws and regulations of each country or region where this product is in practical use. The arrangement for the authorization shall be made under customer's or user's own responsibility.

- All TV pictures are simulated.
- Masses and dimensions are approximate.
- Specifications are subject to change without notice.
- These products may be subject to export control regulations.
- All product pictures are NTSC models.

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