

DLP Projector

LV-WX320/LV-X320/LV-WX310ST/LV-X310ST

■ Outline of product

This device is a series of DLP portable projectors each featuring a brightness of 3200 lumens* in a compact body that weighs only 2.5kg*. User can select a projector from four different types depending on the image resolution and usage applications.

*Short Throw model:3100 lumen 2.8kg

■ Product specifications (Specifications and appearance may change without prior notice for reasons such as manufacturing and changes of components.)

Used power	AC100 - 240 V 50Hz/60Hz
Consumed power	Standard: 330W / Quiet: 275W, Standby: 3.0W / Standby (LAN-off): 0.5W
Picture element	<LV-WX320/LV-WX310ST>0.65-type DMD device (aspect ratio 16:10) Number of pixels: 1024000 pixels (1280 dots x 800 dots, WXGA) <LV-X320/LV-X310ST>0.55-type DMD device (aspect ratio 4:3) Number of pixels: 786432 pixels (1024 dots x 768 dots, XGA)
Projection lens	Varifocal lens <LV- WX320 >F value: 2.56 – 2.8, Focus distance: 21.0 – 23.1mm, 100-inch projection distance: 3.34 – 3.66m, Zoom ratio: 1.1 x (manual), Focus: manual <LV-X320/LV-X310ST > F value: 2.56 – 2.8, Focus distance: 21.0 – 23.1mm, 100-inch projection distance: 3.98 – 4.37m, Zoom ratio: 1.1 x (manual), Focus: manual <LV-WX310ST> F value: 2.60, Focus distance: 6.9mm, 100-inch projection distance: 1.06m, Zoom ratio: 1.1 x (manual), Focus: manual <LV-WX310ST> F value: 2.60, Focus distance: 6.9mm, 100-inch projection distance: 1.24m, Zoom ratio: 1.1 x (manual), Focus: manual
Light source lamp	Ultra-high pressure mercury lamp (Output Standard : 210W/Quiet:170W; Quiet figure is a calculated value thus not guaranteed)
Projected image size	<LV-WX320>W: 60-inch – 180-inch (2-6 m)/T: 60-inch – 180-inch (2.2–6.6 m) <LV-X320><LV-S300> W: 60-inch – 180-inch (2.38 – 7.15m)/T: 60-inch – 180-inch (2.62 – 7.87 m) <LV-WX310ST>W: 70-inch – 120-inch (0.74-1.26m) <LV-X310ST>W: 60-inch – 120-inch (0.74-1.48m)
Light output*	<LV-WX320/LV-X320>Standard: 3200lm/Quiet: 2550lm<LV-WX310ST/LV-X310ST>Standard: 3100lm/Quiet: 2450lm (Quiet figure is a calculated value thus not guaranteed)
Peripheral contrast*	<LV-WX320>75%; <LV-X320>80% <LV-WX310ST> 70% <LV-X310ST>80%
Contrast ratio*	10,000:1(Fully white: fully black, presentation mode, Analog PC input)
Input signal resolution	UXGA to VGA
Corresponding scanning frequency	See List of supported signals
Lens shift	<LV-WX320> 50%, fixed; <LV-X320>60%, fixed<LV-WX310ST>55%,fixed、<LV-X310ST>65%,fixed
Keystone correction range	VH ±30°
Projection method	Floor-mounted front Analog PC input: UXGA/SXGA+/WXGA+/FWXGA/WXGA/SXGA/XGA/SVGA/VGA/MAC
Video signal	HDMI input:- When connecting with a PC: UXGA/SXGA+/ WXGA+/FWXGA/WXGA/SXGA/XGA/SVGA/VGA When connecting with an AV equipment: 1080p/1080i/720p/576p/480p Component video input: 1080p/1080i/720p/576p/576i/480p/480i Video input (Composite, S-Video): NTSC/PAL/SECAM/NTSC4.43/PAL-M/PAL-N/PAL-60 DMI: Digital PC / Digital video/MHL input Mini D-sub 15: Analog PC/Component video input Mini DIN4: S-video input Mini jack x2: Audio input x 1, Audio output x 1 Dsub9: RS-232 connection RJ-45: 100BASE-TX / 10BASE-T USB type B: Service port
Connection terminal	

* This indicates the overall average value of the product at the time of shipping, and it is listed in accordance with pattern for data projectors JIS X 6911:2003. The measurement method and measurement conditions are based on the Annex.

Cabinet	Molded plastic
External dimensions	<LV-WX320/LV-X320>Width 282mm Height 114.5mm (with legs at minimum height) Depth267.5mm (including lens) <LV-WX310ST/LV-X310ST>Width 282mm Height 117.9mm (with legs at minimum height) Depth267.5mm (including lens)
Weight	
Environmental conditions	
Supplied remote control	
	<LV-WX320/LV-X320>About 2.5kg<LV-WX310ST/LV-X310ST>About2.8kg Use environment: 0°C - 40°C Power supply used: DC 3V Requires CR2025,Operation distance (for wireless): About 8m (receiver front ±30°)

* This is the average. It may vary for each product.

Accessories ●Power cord ... 1 ●Computer connection cable (Mini Dsub 15-pin) ... 1
●Wireless remote connector (LV-RC08) ... 1 ●CR2025 battery ... 1

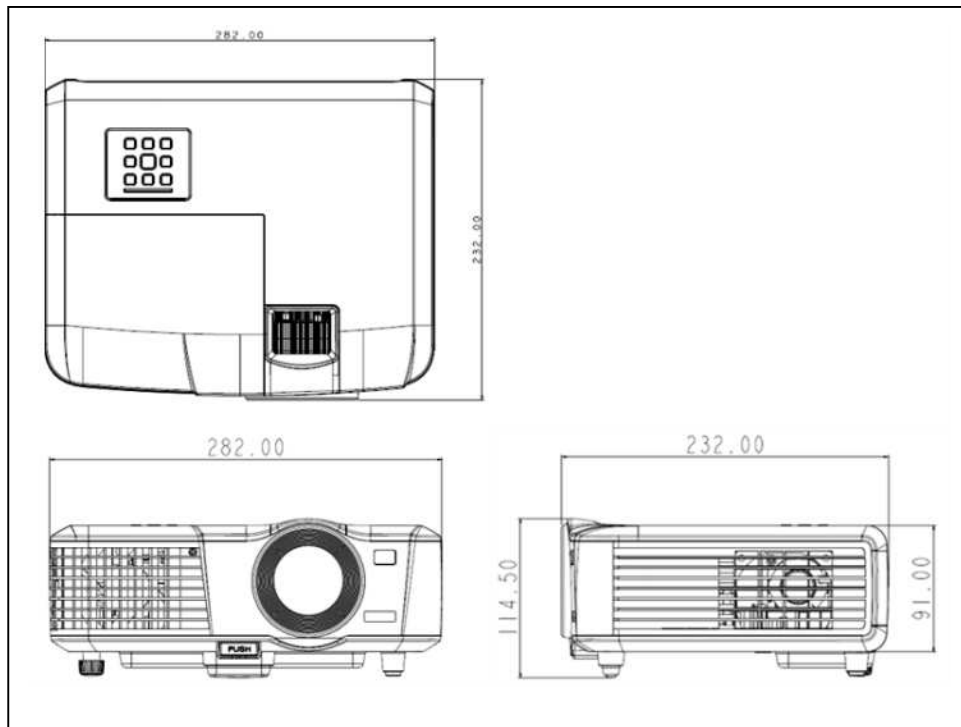
Sold separately ●Wireless remote connector (LV-RC08)

Replacement products ●Replacement-use lamp [Recommended replacement time*; Standard 4000H/Quiet 6000H] (LV-LP40: LV-WX320/LV-WX310ST, LV-LP38: LV-X320/LV-X310ST)

* When the lamp has a 50% survival rate and can maintain a 50% light retention ratio.

■ External dimensions diagram

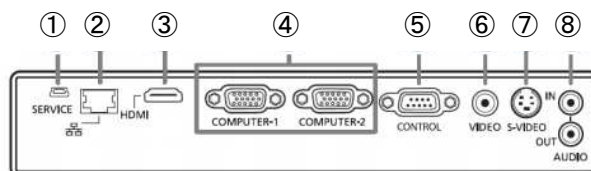
(Unit: mm)



(Note) The above diagrams are not drawn to scale.

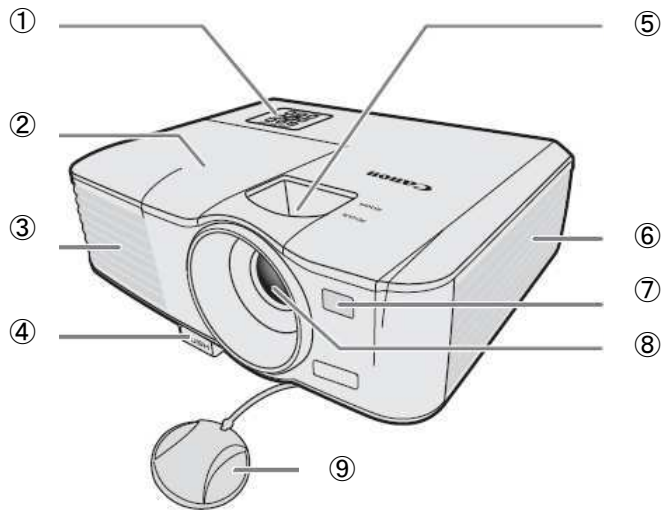
<Terminals>

(Unit: mm)

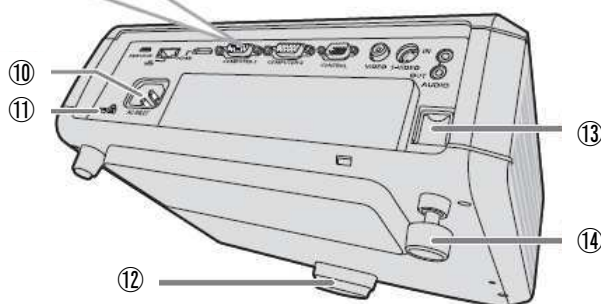


①	SERVICE (For service personnel)
②	LAN (RJ-45): Network connection (100BASE-TX / 10BASE-T)
③	HDMI/MHL input
④	PC input x2: Analog PC input/Component input
⑤	CONTROL: RS232C connection
⑥	VIDEO input
⑦	S-VIDEO input
⑧	AUDIO IN AUDIO OUT

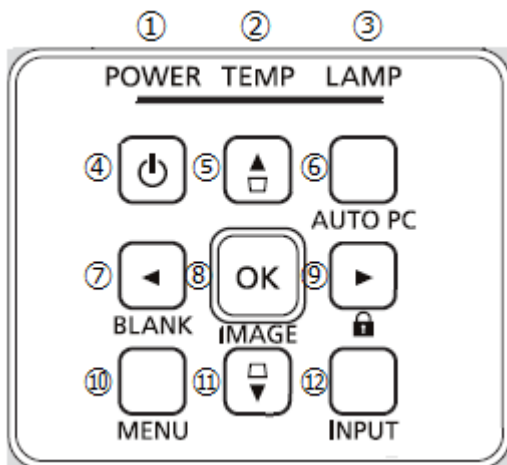
■ Names



Connectors (refer to page 2)



Top Controls



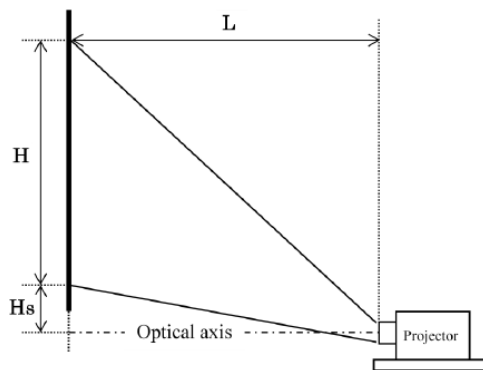
- ① Top controls and indicators
- ② Lamp cover
- ③ Exhaust vents
- ④ Angle adjusting button
- ⑤ Focus ring/Zoom ring
- ⑥ Front infrared remote receiver
- ⑦ Projection lens
- ⑧ Air intake vents
- ⑨ Lens cover
- ⑩ Power cord connector
- ⑪ Kensington security slot
- ⑫ Adjustable feet (front)
- ⑬ Security bar
- ⑭ Adjustable feet (rear)

Top Control buttons/indicators

- ① POWER indicator
- ② TEMP (temperature indicator)
- ③ LAMP indicator
- ④ POWER button
- ⑤ Keystone adjustment (top)
- ⑥ AUTO PC button
- ⑦ To LEFT/BLANK button
- ⑧ OK/IMAGE button
- ⑨ To RIGHT/KEY LOCK button
- ⑩ MENU button
- ⑪ Keystone adjustment (bottom)
- ⑫ INPUT button

■ Throw distance and image size

Image size can be adjusted manually within a zoom range of 1.1x using the zoom ring. The projector is equipped with a varifocal lens, so adjusting the zoom will also change the focus. When focus is adjusted, the image size will change slightly; thus, the user should adjust zoom and focus alternately in order to achieve the desired image size.



“L” in the diagram (left) represents throw distance. The same image size can be projected with the projector positioned anywhere between the shortest distance L(W) and the longest distance L(T). Here (W) indicates wide, and (T) stands for tele.

H is the vertical height of the image, and Hs indicates the distance between the optical axis of the lens and the bottom edge of the image.

For this projector the relationship between H and Hs is fixed:

LV-WX320 10:0 (Hs =H/0)

LV-X320 10:1 (Hs = 0)

LV-WX310ST 10:0.5 (Hs =H/20)

LV-X310ST 10:1.5 (Hs =H/20)

Image size and throw distance are as indicated below.

(Unit: m)

LV-WX320

Image size (16:10)			Projection distance	
Type	Width	Height	Wide lens	Tele lens
60	1.29	0.81	2.0	2.2
70	1.51	0.94	2.3	2.6
80	1.72	1.08	2.7	2.9
90	1.94	1.21	3.0	3.3
100	2.15	1.35	3.3	3.7
120	2.58	1.62	4.0	4.4
150	3.23	2.02	5.0	5.5
180	3.88	2.42	6.0	6.6

LV-X320

Image size (4:3)			Throw distance	
Type	Width	Height	Wide lens	Tele lens
60	1.22	0.91	2.4	2.6
70	1.42	1.07	2.8	3.1
80	1.63	1.22	3.2	3.5
90	1.83	1.37	3.6	3.9
100	2.03	1.52	4.0	4.4
120	2.44	1.83	4.8	5.2
150	3.05	2.29	6.0	6.6
180	3.66	2.74	7.2	7.9

LV-WX310ST

Image size (16:10)			Projection distance
Type	Width	Height	Wide lens
70	1.51	0.94	0.74
80	1.72	1.08	0.84
90	1.94	1.21	0.95
100	2.15	1.35	1.05
120	2.58	1.62	1.26

LV-X310ST

Image size (4:3)			Throw distance
Type	Width	Height	Wide lens
60	1.22	0.91	0.74
70	1.42	1.07	0.86
80	1.63	1.22	0.99
90	1.83	1.37	1.11
100	2.03	1.52	1.23
120	2.44	1.83	1.48

※Figures in the above chart are approximate.