LCD Projectors

PT-MZ16KL

Specifications

Main unit

Power supply		AC 100V - 240V, 50Hz/60Hz
Power consumption		1,190W (12A) (1,200VA) (TBD)
		NORMAL: 1,150W, ECO: 950W, SHUTTER: 100W (TBD) * Operating Temperature: 25°C (77°F), Altitude: 700 m (2,297ft), IEC62087: 2008 Broadcast contents, Picture mode: Standard, Dynamic Contrast 2
BTU value		Max 4,100BTU (without light 3,845BTU) (TBD)
LCDpanel	Panel size	25.4 mm (1.0 in) diagonal (16:10 aspect ratio)
	Projection system	Transparent LCD panel (× 3, R/G/B)
	Pixels	2,304,000 (1920 × 1200) × 3, total of 6,912,000 pixels
Light source		Laser Diode
Light output*1*2		16,000 lm*1 (When [OPERATING MODE] is set to [NORMAL]
Time until light output declines to 50%*3		20,000 hours (NORMAL, QUIET) / 24,000 hours (ECO)
Resolution		1920 × 1200 pixels
Contrast ratio*1		3,000,000:1(all white/all black) (Dynamic Contrast 3)
Screen size		2.03–12.7 m (80–500 inches) diagonally, 16:10 aspect ratio
Center to corner zone ratio*1		90%
Lens		Optional powered zoom/focus lenses and fixed-focus lens
Optical axis shift		Vertical ±60% Horizontal ±20% Vertical ±40%, Horizontal ±19% (ET-EMW200) Vertical ±50%, Horizontal ±20% (ET-EMW300)
Installation		Ceiling/floor, front/rear
Terminals	SDI IN	BNC × 1 3G-SDI signal: SMPTE ST 424, 425-2 compliant HD-SDI signal: SMPTE ST 292 compliant SD-SDI signal: SMPTE ST 259 compliant
	HDMI IN	HDMI 19-pin × 1, Deep Color, compatible with HDCP 1x /HDCP2.2
		4K/60p*4 signal input
	DVI-D IN	DVI-D 24pin × 1, compatible with HDCP 1x
	RGB1 IN	D-sub 15-pin (female) x 1, (RGB/YP_BP_R/YC_BC_R)
	SERIAL/MULTI PROJECTOR SYNC IN	D-sub 9-pin (female) × 1 for external control (RS-232C compliant)
	SERIAL/MULTI PROJECTOR SYNC OUT	D-sub 9-pin (male) × 1 for link control
	REMOTE 1 IN	D-sub 9-pin (female) × 1 for external control (parallel)
	REMOTE 2 IN	M3 jack × 1 for wired remote control
	REMOTE 2 OUT	M3 jack × 1 for link control (for wired remote control)
	LAN	RJ-45 × 1 for network connection, PJLink (class 2) compatible, 10Base-T/100Base-TX
	DIGITAL LINK / LAN	RJ-45 × 1 for network and DIGITAL LINK (video/network/serial control)
		(HDBaseT(TM) compliant), PJLink (class 2) compatible, 100Base-TX, Art-Net compatible,
		HDCP 2.2 compatible, Deep Color compatible, 4K/60p*4 signal input
	DC OUT	USB type-A × 1 (for power supply DC5V, 2A)

Power cord length		3.0 m (9ft 10 in)
Cabinet materials		Molded plastic
Dimensions (W× H ×D)*5		650×185×440 mm (25-19/32× 7-9/32× 17-21/64 in) (protruding parts not included)
Weight*6		Approx. 22.3 kg (49.2 lbs) (without lens)
Operating noise		38 dB (NORMAL) (TBD)
Laser Classification	Laser Class	USA and Canada: Class 3R (IEC60825-1:2007) Other counties or regions: Class 1 (IEC/EN 60825-1:2014)
	Risk Group	Risk Group 2 (IEC 62471-5:2015)*7
Operating temperature*8		0°C (32°F) to 45°C (113°F)
Operating humidity		10% to 80% (no condensation)

Remote control unit

Power supply	3V DC (AAA/R03/LR03 battery × 2)
Operation range	Approx. 30 m (98 ft 5 in) (when operated directly in front of signal receptor)
Dimensions (W × H × D)	48×145×27 mm (1-7/8 × 5-23/32 × 1-1/16 in)
Weight*6	Approx. 102g (3.60 ozs.) including batteries

Other Applications

Multi Monitoring and Control Software (for Windows)
Logo Transfer Software (for Windows)
Smart Projector Control (for iOS/Android)
Geometry Manager Pro (for Windows)

Supplied accessories

Wireless remote control unit (× 1)
Power cord (3.0m × 1) (× 2 for Europe and Asia model)
Batteries for remote control (R03/AAA type × 2)
Instruction manual (Basic guide)
Lens hole cover × 1

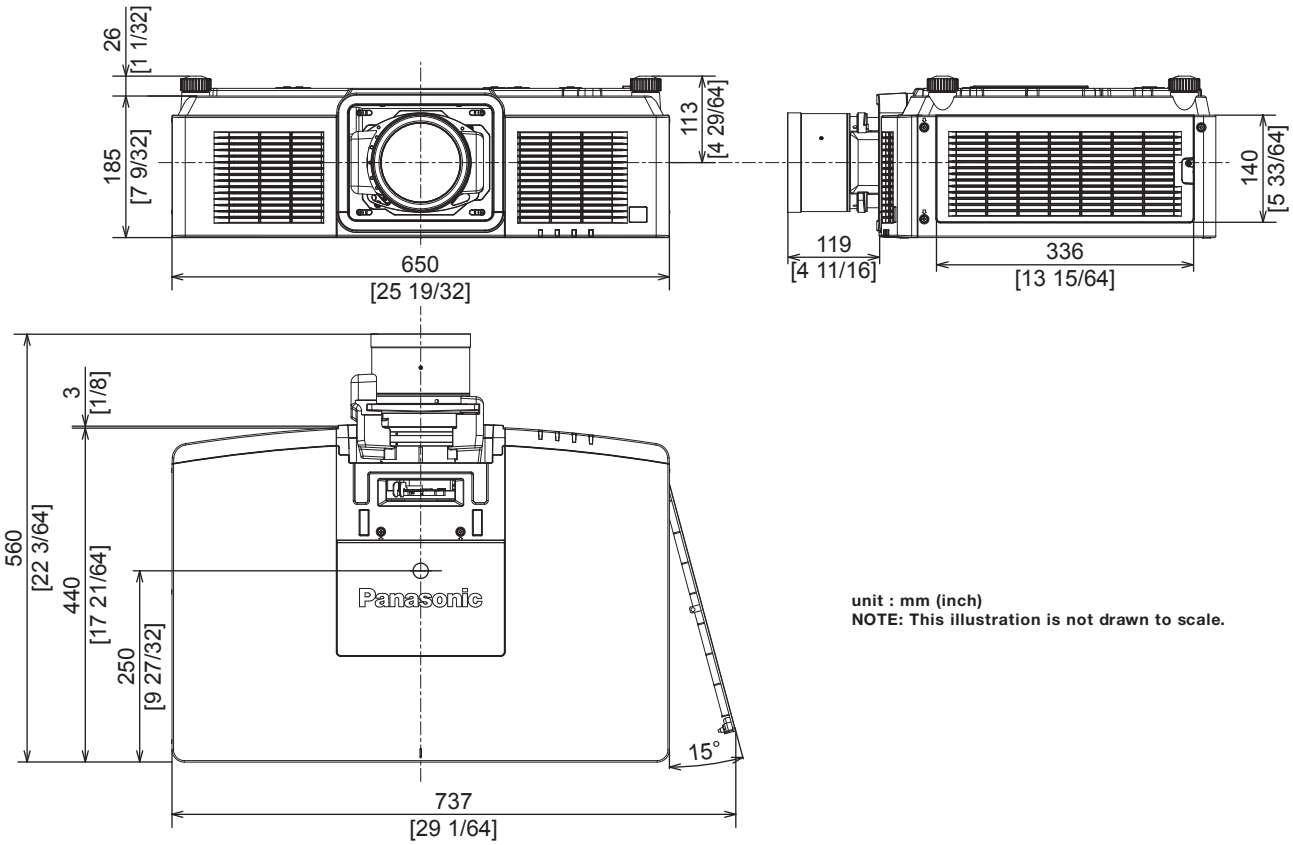
Optional accessories

Ceiling Mount Bracket	ET-PKD120H (for high ceilings)
Ceiling Mount Bracket	ET-PKD120S (for low ceilings)
High-ceiling mount bracket (6-axis adjustment mechanism)	ET-PKD130H (TBD)
Attachment for ceiling mount bracket	ET-PKE301B*9
Digital Interface Box	ET-YFB100G
DIGITAL LINK switcher	ET-YFB200G
Geometry Manager Pro Upgrade kit	ET-UK20
Auto Screen Adjustment Upgrade kit	ET-CUK10/CUK10P
Early Warning Software	ET-SWA100/105 series*10
Zoom lens	ET-EMW200 [Available from Apr. 2020]
Zoom lens	ET-EMW300 [Available from Jan. 2020]
Zoom lens	ET-EMW400 [Available from Dec. 2019]
Zoom lens	ET-EMW500 [Available from Feb. 2020]
Zoom lens	ET-EMS600 [Available from Dec. 2019]
Zoom lens	ET-EMT700 [Available from Jan. 2020]
Zoom lens	ET-EMT800 [Available from Jan. 2020]

Weights and dimensions shown are approximate. Specifications subject to change without notice.

***1 Measurement, measuring conditions, and method of notation all comply with ISO/IEC 21118:2012 international standards.**
***2 Value is for the supplied standard lens. The value varies depending on the lens.**
***3 Around this time, light output will have decreased by approximately 50%, IEC62087: 2008 Broadcast contents, NORMAL mode, Dynamic Contrast (2), under conditions with 35°C (95°F), 700m (2,297ft) above sea level, and 0.15 mg/m3 of particulate matter. Estimated time until light output dcelines to 50% varies depending on environment.**
***4 4K/60p input signal is converted to projector's resolution (1920 x 1200)**
***5 When adjustable feet shortened.**
***6 Average value. May differ depending on models.**
***7 May become Risk Group 3 depending on the lens.**
***8 Limits the luminance when used in location from 0 to 2,700m (0ft to 8,858ft) above sea level at ambient temperatures of 35°C (95°F) or higher, or from 2,700 to 4,200m (8,858ft to 13,780ft)) above sea level at ambient temperature of 25°C (77°F) or higher.**
***9 When the projector is mounted to the existing Ceiling Mount Bracket (in combination with the Model No.: ET-PKD120H (for High Ceilings) or ET-PKD120S (for Low Ceilings), and the Model No.: ET-PKE300B (Projector Mount Bracket)), it is necessary to replace the drop-prevention wire rope with the one corresponding to this projector. Consult your dealer. Drop-prevention set (service model no.: DPPW1004ZA/X1)**
***10 The symbol at the end of the part number will vary depending on the type of license.**

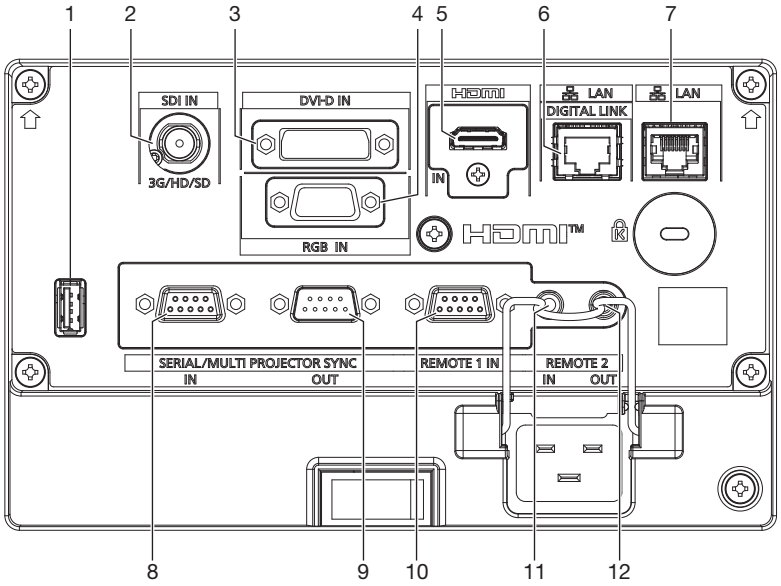
Dimensions



unit : mm (inch)
NOTE: This illustration is not drawn to scale.

* The above dimensions are obtained when the standard zoom lens is attached.
* Actual dimensions may differ depending on the product.

Terminals



1	DC OUT	8	SERIAL/MULTI PROJECTOR SYNC IN
2	SDI IN	9	SERIAL/MULTI PROJECTOR SYNC OUT
3	DVI-D IN	10	REMOTE 1 IN
4	RGB IN	11	REMOTE 2 IN
5	HDMI IN	12	REMOTE 2 OUT
6	DIGITAL LINK / LAN		
7	LAN		

Projection distance for 16:10 aspect ratio screen

Unit: meters

Lens type			Zoom Lens													
Projection Lens Model No.			ET-EMS600		ET-EMW200		ET-EMW300		ET-EMW400		ET-EMW500		ET-EMT700		ET-EMT800	
Throw ratio*1			1.35-2.10:1		0.480-0.550:1		0.550-0.690:1		0.690-0.950:1		0.950-1.36:1		2.10-4.14:1		4.14-7.40:1	
Screen size			Distance to screen (L)													
Diagonal (SD) [m] / [in]	Height (SH) [m]	Width (SW) [m]	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
2.032/ 80	1.077	1.723	2.30	3.64	0.808	0.946	0.930	1.19	1.17	1.64	1.61	2.34	3.55	7.15	7.12	12.88
2.286/ 90	1.212	1.939	2.59	4.10	0.914	1.07	1.05	1.34	1.32	1.85	1.82	2.64	4.01	8.05	7.97	14.45
2.54/ 100	1.346	2.154	2.89	4.56	1.03	1.19	1.18	1.49	1.48	2.06	2.03	2.93	4.50	8.90	8.90	16.00
3.048/ 120	1.615	2.585	3.47	5.49	1.23	1.44	1.41	1.80	1.78	2.48	2.44	3.53	5.38	10.77	10.51	19.17
3.81/ 150	2.019	3.231	4.35	6.87	1.55	1.81	1.78	2.26	2.24	3.12	3.07	4.43	6.75	13.49	13.06	23.89
5.08/ 200	2.692	4.308	5.82	9.17	2.08	2.44	2.38	3.02	3.00	4.17	4.11	5.92	9.04	18.03	17.31	31.75
6.35/ 250	3.365	5.385	7.29	11.47	2.62	3.06	2.99	3.79	3.76	5.23	5.15	7.42	11.33	22.56	21.56	39.61
7.62/ 300	4.039	6.462	8.76	13.78	3.15	3.68	3.60	4.56	4.52	6.28	6.19	8.91	13.61	27.09	25.80	47.47
8.89/ 350	4.712	7.539	10.23	16.08	3.68	4.30	4.20	5.32	5.28	7.34	7.23	10.40	15.90	31.63	30.05	55.33
10.16/ 400	5.385	8.616	11.69	18.38	4.21	4.92	4.81	6.09	6.05	8.39	8.27	11.90	18.19	36.16	34.30	63.20
12.70/ 500	6.731	10.770	14.63	22.99	5.28	6.16	6.02	7.62	7.57	10.50	10.34	14.89	22.76	45.22	42.79	78.92

Unit: feet

Lens type			Zoom Lens													
Projection Lens Model No.			ET-EMS600		ET-EMW200		ET-EMW300		ET-EMW400		ET-EMW500		ET-EMT700		ET-EMT800	
Throw ratio*1			1.35-2.10:1		0.480-0.550:1		0.550-0.690:1		0.690-0.950:1		0.950-1.36:1		2.10-4.14:1		4.14-7.40:1	
Screen size			Distance to screen (L)													
Diagonal (SD) [m] / [in]	Height (SH) [m]	Width (SW) [m]	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
2.032/ 80	1.077	1.723	7.54	11.96	2.65	3.10	3.05	3.89	3.83	5.38	5.29	7.68	11.65	23.45	23.35	42.25
2.286/ 90	1.212	1.939	8.51	13.47	3.00	3.51	3.45	4.39	4.33	6.08	5.97	8.66	13.15	26.43	26.13	47.41
2.54/ 100	1.346	2.154	9.48	14.96	3.38	3.90	3.87	4.89	4.86	6.76	6.66	9.61	14.76	29.20	29.20	52.49
3.048/ 120	1.615	2.585	11.40	18.00	4.05	4.73	4.64	5.90	5.83	8.15	8.02	11.60	17.65	35.35	34.49	62.89
3.81/ 150	2.019	3.231	14.29	22.53	5.09	5.95	5.83	7.41	7.33	10.23	10.06	14.54	22.15	44.27	42.85	78.36
5.08/ 200	2.692	4.308	19.10	30.09	6.84	7.99	7.82	9.92	9.83	13.69	13.47	19.44	29.66	59.14	56.79	104.16
6.35/ 250	3.365	5.385	23.92	37.64	8.58	10.03	9.81	12.44	12.34	17.15	16.89	24.34	37.16	74.02	70.72	129.95
7.62/ 300	4.039	6.462	28.74	45.19	10.33	12.06	11.80	14.95	14.84	20.61	20.30	29.24	44.66	88.89	84.65	155.75
8.89/ 350	4.712	7.539	33.55	52.75	12.08	14.10	13.79	17.46	17.34	24.07	23.71	34.14	52.16	103.76	98.59	181.54
10.16/ 400	5.385	8.616	38.37	60.30	13.82	16.14	15.78	19.97	19.84	27.53	27.12	39.04	59.67	118.63	112.52	207.33
12.70/ 500	6.731	10.770	48.00	75.41	17.31	20.21	19.75	25.00	24.84	34.44	33.94	48.83	74.67	148.37	140.39	258.92

- **The value for L (distance to screen) varies slightly within ±5% depending on the zoom lens characteristics.**
- **The zoom lens characteristics may cause slight image distortion.**
- **When vertical keystone correction is used, the image is corrected in the direction that reduces its projected size.**
- **The brightness varies depending on the zoom setting.**

***1 The throw ratio is based on the value during projection with the projected image size of 2.03 m (80").**

Projection distance for 16:9 aspect ratio screen

Unit: meters

Lens type			Zoom Lens													
Projection Lens Model No.			ET-EMS600		ET-EMW200		ET-EMW300		ET-EMW400		ET-EMW500		ET-EMT700		ET-EMT800	
Throw ratio*1			1.35-2.10:1		0.480-0.550:1		0.550-0.690:1		0.690-0.950:1		0.950-1.36:1		2.10-4.15:1		4.12-7.40:1	
Screen size			Distance to screen (L)													
Diagonal (SD) [m] / [in]	Height (SH) [m]	Width (SW) [m]	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
2.032/ 80	0.996	1.771	2.37	3.75	0.831	0.973	0.957	1.22	1.20	1.69	1.66	2.41	3.65	7.35	7.31	13.23
2.286/ 90	1.121	1.992	2.67	4.22	0.941	1.10	1.08	1.38	1.36	1.90	1.87	2.71	4.12	8.28	8.18	14.84
2.54/ 100	1.245	2.214	2.97	4.69	1.06	1.22	1.21	1.53	1.52	2.12	2.09	3.02	4.60	9.20	9.10	16.40
3.048/ 120	1.494	2.657	3.57	5.64	1.27	1.48	1.46	1.85	1.83	2.56	2.51	3.63	5.53	11.08	10.80	19.69
3.81/ 150	1.868	3.321	4.48	7.06	1.60	1.87	1.83	2.32	2.24	3.21	3.15	4.56	6.94	13.87	13.42	24.54
5.08/ 200	2.491	4.428	5.99	9.43	2.14	2.50	2.45	3.11	3.03	4.29	4.22	6.09	9.29	18.53	17.78	32.62
6.35/ 250	3.113	5.535	7.49	11.79	2.69	3.14	3.07	3.90	4.24	5.37	5.29	7.63	11.64	23.19	22.15	40.70
7.62/ 300	3.736	6.641	9.00	14.16	3.24	3.78	3.70	4.68	5.00	6.46	6.36	9.16	13.99	27.85	26.51	48.78
8.89/ 350	4.358	7.748	10.51	16.53	3.78	4.42	4.32	5.47	5.48	7.54	7.43	10.70	16.35	32.51	30.88	56.86
10.16/ 400	4.981	8.855	12.02	18.89	4.33	5.06	4.94	6.26	6.27	8.62	8.50	12.23	18.70	37.17	35.24	64.94
12.70/ 500	6.226	11.069	15.04	23.63	5.42	6.33	6.19	7.83	7.84	10.79	10.63	15.30	23.40	46.49	43.97	81.11

Unit: feet

Lens type			Zoom Lens													
Projection Lens Model No.			ET-EMS600		ET-EMW200		ET-EMW300		ET-EMW400		ET-EMW500		ET-EMT700		ET-EMT800	
Throw ratio*1			1.35-2.10:1		0.480-0.550:1		0.550-0.690:1		0.690-0.950:1		0.950-1.36:1		2.10-4.15:1		4.12-7.40:1	
Screen size			Distance to screen (L)													
Diagonal (SD) [m] / [in]	Height (SH) [m]	Width (SW) [m]	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
2.032/ 80	0.996	1.771	7.76	12.29	2.73	3.19	3.14	4.00	3.94	5.54	5.44	7.89	11.98	24.11	23.97	43.40
2.286/ 90	1.121	1.992	8.75	13.84	3.09	3.61	3.55	4.52	4.48	6.25	6.14	8.90	13.53	27.17	26.83	48.70
2.54/ 100	1.245	2.214	9.74	15.39	3.48	4.00	3.97	5.02	4.99	6.96	6.86	9.91	15.09	30.18	29.86	53.81
3.048/ 120	1.494	2.657	11.72	18.50	4.16	4.87	4.77	6.07	6.01	8.38	8.25	11.92	18.15	36.34	35.42	64.61
3.81/ 150	1.868	3.321	14.69	23.16	5.24	6.12	6.00	7.62	7.36	10.52	10.35	14.94	22.78	45.51	44.02	80.52
5.08/ 200	2.491	4.428	19.64	30.93	7.03	8.22	8.04	10.20	9.94	14.07	13.85	19.98	30.49	60.80	58.34	107.03
6.35/ 250	3.113	5.535	24.59	38.69	8.83	10.31	10.09	12.78	13.91	17.63	17.36	25.02	38.20	76.08	72.66	133.54
7.62/ 300	3.736	6.641	29.54	46.45	10.62	12.40	12.13	15.37	16.41	21.18	20.86	30.05	45.91	91.37	86.98	160.05
8.89/ 350	4.358	7.748	34.49	54.22	12.42	14.50	14.17	17.95	17.99	24.74	24.37	35.09	53.63	106.65	101.30	186.56
10.16/ 400	4.981	8.855	39.44	61.98	14.21	16.59	16.22	20.53	20.56	28.30	27.87	40.12	61.34	121.94	115.62	213.07
12.70/ 500	6.226	11.069	49.34	77.51	17.80	20.78	20.30	25.70	25.71	35.41	34.89	50.20	76.76	152.51	144.26	266.09

- **The value for L (distance to screen) varies slightly within ±5% depending on the zoom lens characteristics.**
- **The zoom lens characteristics may cause slight image distortion.**
- **When vertical keystone correction is used, the image is corrected in the direction that reduces its projected size.**
- **The brightness varies depending on the zoom setting.**

***1 The throw ratio is based on the value during projection with the projected image size of 2.03 m (80").**

Projection distance for 4:3 aspect ratio screen

Unit: meters

Lens type			Zoom Lens													
Projection Lens Model No.			ET-EMS600		ET-EMW200		ET-EMW300		ET-EMW400		ET-EMW500		ET-EMT700		ET-EMT800	
Throw ratio*1			1.62-2.50:1		0.580-0.660:1		0.660-0.830:1		0.830-1.15:1		1.14-1.63:1		2.50-4.97:1		4.93-8.70:1	
Screen size			Distance to screen (L)													
Diagonal (SD) [m] / [in]	Height (SH) [m]	Width (SW) [m]	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
2.032/ 80	1.219	1.626	2.61	4.13	0.920	1.08	1.06	1.35	1.33	1.86	1.83	2.66	4.03	8.11	8.01	14.54
2.286/ 90	1.372	1.829	2.94	4.65	1.04	1.22	1.20	1.52	1.50	2.10	2.07	2.99	4.55	9.13	8.98	16.02
2.54/ 100	1.524	2.032	3.28	5.17	1.17	1.35	1.34	1.69	1.68	2.34	2.31	3.33	5.07	10.10	10.00	17.80
3.048/ 120	1.829	2.438	3.94	6.22	1.40	1.64	1.61	2.04	2.02	2.82	2.77	4.01	6.11	12.21	11.86	21.36
3.81/ 150	2.286	3.048	4.94	7.78	1.76	2.06	2.02	2.56	2.54	3.54	3.48	5.02	7.66	15.29	14.74	26.70
5.08/ 200	3.048	4.064	6.60	10.39	2.37	2.76	2.70	3.43	3.40	4.73	4.66	6.71	10.25	20.42	19.55	35.60
6.35/ 250	3.810	5.080	8.26	12.99	2.97	3.47	3.39	4.30	4.26	5.92	5.83	8.40	12.84	25.55	24.36	44.50
7.62/ 300	4.572	6.096	9.92	15.60	3.57	4.17	4.08	5.16	5.13	7.12	7.01	10.09	15.43	30.69	29.17	53.40
8.89/ 350	5.334	7.112	11.58	18.21	4.17	4.87	4.76	6.03	5.99	8.31	8.19	11.79	18.01	35.82	33.98	62.30
10.16/ 400	6.096	8.128	13.25	20.81	4.77	5.57	5.45	6.90	6.85	9.50	9.36	13.48	20.60	40.95	38.78	71.20
12.70/ 500	7.620	10.160	16.57	26.03	5.98	6.98	6.82	8.63	8.58	11.89	11.72	16.86	25.78	51.21	48.40	89.00

Unit: feet

Lens type			Zoom Lens													
Projection Lens Model No.			ET-EMS600		ET-EMW200		ET-EMW300		ET-EMW400		ET-EMW500		ET-EMT700		ET-EMT800	
Throw ratio*1			1.62-2.50:1		0.580-0.660:1		0.660-0.830:1		0.830-1.15:1		1.14-1.63:1		2.50-4.97:1		4.93-8.70:1	
Screen size			Distance to screen (L)													
Diagonal (SD) [m] / [in]	Height (SH) [m]	Width (SW) [m]	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
2.032/ 80	1.219	1.626	8.56	13.55	3.02	3.53	3.47	4.42	4.36	6.12	6.01	8.71	13.24	26.59	26.29	47.70
2.286/ 90	1.372	1.829	9.65	15.26	3.41	3.99	3.92	4.99	4.93	6.90	6.78	9.82	14.93	29.96	29.45	52.56
2.54/ 100	1.524	2.032	10.76	16.96	3.84	4.43	4.40	5.54	5.51	7.68	7.58	10.93	16.63	33.14	32.81	58.40
3.048/ 120	1.829	2.438	12.92	20.39	4.60	5.38	5.27	6.70	6.63	9.25	9.10	13.15	20.03	40.06	38.91	70.08
3.81/ 150	2.286	3.048	16.20	25.52	5.79	6.76	6.62	8.40	8.32	11.60	11.42	16.48	25.13	50.16	48.37	87.60
5.08/ 200	3.048	4.064	21.65	34.08	7.76	9.07	8.87	11.25	11.16	15.52	15.28	22.02	33.62	67.00	64.15	116.80
6.35/ 250	3.810	5.080	27.10	42.63	9.74	11.37	11.12	14.09	13.99	19.43	19.14	27.57	42.11	83.84	79.92	146.00
7.62/ 300	4.572	6.096	32.55	51.18	11.71	13.68	13.37	16.94	16.82	23.35	23.00	33.12	50.61	100.67	95.70	175.20
8.89/ 350	5.334	7.112	38.01	59.73	13.69	15.98	15.63	19.78	19.65	27.26	26.86	38.67	59.10	117.51	111.47	204.40
10.16/ 400	6.096	8.128	43.46	68.28	15.67	18.29	17.88	22.63	22.48	31.18	30.72	44.21	67.60	134.34	127.24	233.60
12.70/ 500	7.620	10.160	54.36	85.39	19.62	22.90	22.38	28.32	28.14	39.01	38.44	55.31	84.58	168.02	158.79	292.00

- **The value for L (distance to screen) varies slightly within ±5% depending on the zoom lens characteristics.**
- **The zoom lens characteristics may cause slight image distortion.**
- **When vertical keystone correction is used, the image is corrected in the direction that reduces its projected size.**
- **The brightness varies depending on the zoom setting.**

***1 The throw ratio is based on the value during projection with the projected image size of 2.03 m (80").**

Formula to calculate projection distance per Projection Lens

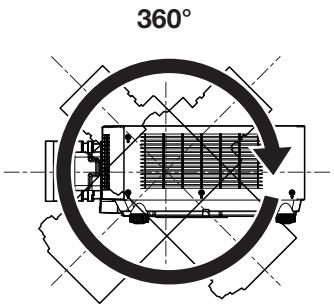
To use a screen size not listed in this manual, check the screen size SD (m) and use the respective formula to calculate projection distance.
The unit of all the formulae is m. (Values obtained by the following calculation formulae contain a slight error.)
When calculating a projection distance using image size designation (value in inches), multiply the value in inches by 0.0254 and substitute it into SD in the formula for calculating the projection distance

Lens type	Projection Lens Model No.	Aspect ratio	Projection distance (L) formula	
Zoom lens	ET-EMS600	16:10	Min.	L = 0.0294 x SD - 0.0491
			Max.	L = 0.0461 x SD - 0.0399
		16:9	Min.	L = 0.0302 x SD - 0.0491
			Max.	L = 0.0473 x SD - 0.0399
		4:3	Min.	L = 0.0332 x SD - 0.0491
			Max.	L = 0.0521 x SD - 0.0399
Zoom lens	ET-EMW200	16:10	Min.	L = 0.0106 x SD - 0.0435
			Max.	L = 0.0124 x SD - 0.0473
		16:9	Min.	L = 0.0109 x SD - 0.0435
			Max.	L = 0.0128 x SD - 0.0473
		4:3	Min.	L = 0.0120 x SD - 0.0435
			Max.	L = 0.0141 x SD - 0.0473
Zoom lens	ET-EMW300	16:10	Min.	L = 0.0121 x SD - 0.0397
			Max.	L = 0.0153 x SD - 0.0397
		16:9	Min.	L = 0.0125 x SD - 0.0397
			Max.	L = 0.0158 x SD - 0.0397
		4:3	Min.	L = 0.0137 x SD - 0.0397
			Max.	L = 0.0173 x SD - 0.0397
Zoom lens	ET-EMW400	16:10	Min.	L = 0.0153 x SD - 0.0518
			Max.	L = 0.0211 x SD - 0.0460
		16:9	Min.	L = 0.0157 x SD - 0.0518
			Max.	L = 0.0217 x SD - 0.0460
		4:3	Min.	L = 0.0173 x SD - 0.0518
			Max.	L = 0.0239 x SD - 0.0460
Zoom lens	ET-EMW500	16:10	Min.	L = 0.0208 x SD - 0.0509
			Max.	L = 0.0299 x SD - 0.0500
		16:9	Min.	L = 0.0214 x SD - 0.0509
			Max.	L = 0.0307 x SD - 0.0500
		4:3	Min.	L = 0.0235 x SD - 0.0509
			Max.	L = 0.0338 x SD - 0.0500
Zoom lens	ET-EMT700	16:10	Min.	L = 0.0457 x SD - 0.1082
			Max.	L = 0.0907 x SD - 0.1046
		16:9	Min.	L = 0.0470 x SD - 0.1082
			Max.	L = 0.0932 x SD - 0.1046
		4:3	Min.	L = 0.0518 x SD - 0.1082
			Max.	L = 0.1026 x SD - 0.1046
Zoom lens	ET-EMT800	16:10	Min.	L = 0.0849 x SD 0.3209
			Max.	L = 0.1572 x SD 0.2998
		16:9	Min.	L = 0.0873 x SD 0.3209
			Max.	L = 0.1616 x SD 0.2998
		4:3	Min.	L = 0.0962 x SD 0.3209
			Max.	L = 0.1780 x SD 0.2998

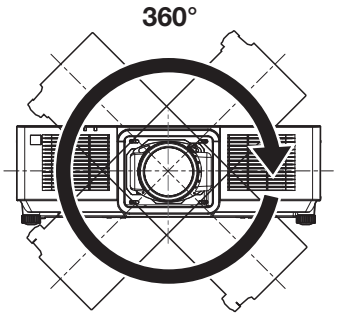
Installable angle

Install the projector at an angle within the range shown below.

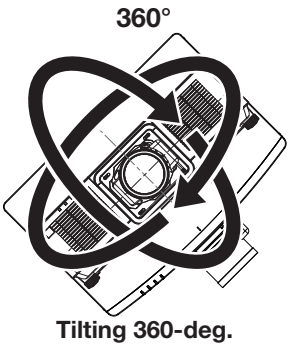
FULL 360-degree projection



Vertical 360-deg.



Horizontal 360-deg.



Tilting 360-deg.
(V&H combination)

List of compatible signals

The following table specifies the video signals that the projector can project.
This projector supports the signal with ✓ in the compatible signal column.
•The content of the compatible signal column is as follows.
––RGB : RGB input ––DVI-D: DVI-D input ––HDMI: HDMI input ––DIGITAL LINK: DIGITAL LINK input

Signal name (SIGNAL FORMAT)	Resolution (Dots)	Scanning freq. Horizontal (kHz)	Scanning freq. Vertical (Hz)	Dot clock freq. (MHz)	Compatible signal RGB	DVI-D	HDMI	DIGITAL LINK
480/60p	720 x 480	31.5	59.9	27.0	✓	✓	✓	✓
576/50p	720 x 576	31.3	50.0	27.0	✓	✓	✓	✓
720/50p	1280 x 720	37.5	50.0	74.3	✓	✓	✓	✓
720/60p	1280 x 720	45.0	60.0*1	74.3	✓	✓	✓	✓
1080/50i	1920 x 1080 i	28.1	50.0	74.3	✓	✓	✓	✓
1080/60i	1920 x 1080 i	33.8	60.0*1	74.3	✓	✓	✓	✓
1080/24p	1920 x 1080	27.0	24.0*1	74.3	✓	✓	✓	✓
1080/24sF	1920 x 1080 i	27.0	48.0*1	74.3	✓	✓	✓	✓
1080/25p	1920 x 1080	28.1	25.0	74.3	✓	✓	✓	✓
1080/30p	1920 x 1080	33.8	30.0*1	74.3	✓	✓	✓	✓
1080/50p	1920 x 1080	56.3	50.0	148.5	✓	✓	✓	✓
1080/60p	1920 x 1080	67.5	60.0*1	148.5	✓	✓	✓	✓
3840 x 2160/24p	3840 x 2160	54.0	24.0*1	297.0	–	–	✓	✓
3840 x 2160/25p	3840 x 2160	56.3	25.0	297.0	–	–	✓	✓
3840 x 2160/30p	3840 x 2160	67.5	30.0*1	297.0	–	–	✓	✓
3840 x 2160/50p	3840 x 2160	112.5	50.0	297.0	–	–	✓*2	✓*2
	3840 x 2160	112.5	50.0	594.0	–	–	✓	–
3840 x 2160/60p	3840 x 2160	135.0	60.0*1	297.0	–	–	✓*2	✓*2
	3840 x 2160	135.0	60.0*1	594.0	–	–	✓	–
4096 x 2160/24p	4096 x 2160	54.0	24.0*1	297.0	–	–	✓	✓
4096 x 2160/25p	4096 x 2160	56.3	25.0	297.0	–	–	✓	✓
4096 x 2160/30p	4096 x 2160	67.5	30.0*1	297.0	–	–	✓	✓
4096 x 2160/50p	4096 x 2160	112.5	50.0	297.0	–	–	✓*2	✓*2
	4096 x 2160	112.5	50.0	594.0	–	–	✓	–
4096 x 2160/60p	4096 x 2160	135.0	60.0*1	297.0	–	–	✓*2	✓*2
	4096 x 2160	135.0	60.0*1	594.0	–	–	✓	–
640 x 480/60	640 x 480	31.5	59.9	25.2	✓	✓	✓	✓
1024 x 768/50	1024 x 768	39.6	50.0	51.9	✓	✓	✓	✓
1024 x 768/60	1024 x 768	48.4	60.0	65.0	✓	✓	✓	✓
1280 x 800/50	1280 x 800	41.3	50.0	68.0	✓	✓	✓	✓
1280 x 800/60	1280 x 800	49.7	59.8	83.5	✓	✓	✓	✓
1280 x 1024/50	1280 x 1024	52.4	50.0	88.0	✓	✓	✓	✓
1280 x 1024/60	1280 x 1024	64.0	60.0	108.0	✓	✓	✓	✓
1366 x 768/50	1366 x 768	39.6	49.9	69.0	✓	✓	✓	✓
1366 x 768/60	1366 x 768	47.7	59.8	85.5	✓	✓	✓	✓
1400 x 1050/50	1400 x 1050	54.1	50.0	99.9	✓	✓	✓	✓
1400 x 1050/60	1400 x 1050	65.2	60.0	122.6	✓	✓	✓	✓
1440 x 900/50	1440 x 900	46.3	49.9	86.8	✓	✓	✓	✓
1440 x 900/60	1440 x 900	55.9	59.9	106.5	✓	✓	✓	✓
1600 x 900/50	1600 x 900	46.4	49.9	96.5	✓	✓	✓	✓
1600 x 900/60	1600 x 900	55.9	60.0	119.0	✓	✓	✓	✓
1600 x 1200/50	1600 x 1200	61.8	49.9	131.5	✓	✓	✓	✓
1600 x 1200/60	1600 x 1200	75.0	60.0	162.0	✓	✓	✓	✓
1680 x 1050/50	1680 x 1050	54.1	50.0	119.5	✓	✓	✓	✓
1680 x 1050/60	1680 x 1050	65.3	60.0	146.3	✓	✓	✓	✓
1920 x 1200/50	1920 x 1200	61.8	49.9	158.3	✓	✓	✓	✓
1920 x 1200/60RB	1920 x 1200*3	74.0	60.0	154.0	✓	✓	✓	✓

***1 The signal with 1/1.001x vertical scanning frequency is also supported.**
***2 YP_BP_R 4:2:0 format only**
***3 VESA CVT-RB (Reduced Blanking)-compliant**

NOTE:
• A signal with a different resolution is converted to the number of display dots. The number of display dots is as follows. 1920 x 1200
• The "i" at the end of the resolution indicates an interlaced signal.
• When interlaced signals are connected, flickering may occur on the projected image.

List of single link SDI compatible signals

The following table specifies the single link SDI signals that the projector can project.

Signal name (SIGNAL FORMAT)	Resolution (Dots)	Scanning freq. Horizontal (kHz)	Scanning freq. Vertical (Hz)	Dot clock freq. (MHz)	Format	Color space	Sampling
720/50p	1280 x 720	37.5	50.0	74.3	HD-SDI	YP_BP_R	4:2:2 10bit
720/60p	1280 x 720	45.0	60.0*1	74.3	HD-SDI	YP_BP_R	4:2:2 10bit
1080/50i	1920 x 1080 i	28.1	50.0	74.3	HD-SDI	YP_BP_R	4:2:2 10bit
	1920 x 1080 i	28.1	50.0	74.3	3G-SDI Level-A	RGB	4:4:4 10bit
	1920 x 1080 i	28.1	50.0	74.3	3G-SDI Level-B	RGB	4:4:4 10bit
	1920 x 1080 i	28.1	50.0	74.3	3G-SDI Level-A	RGB	4:4:4 12bit
	1920 x 1080 i	28.1	50.0	74.3	3G-SDI Level-B	RGB	4:4:4 12bit
1080/60i	1920 x 1080 i	33.8	60.0*1	74.3	HD-SDI	YP_BP_R	4:2:2 10bit
	1920 x 1080 i	33.8	60.0*1	74.3	3G-SDI Level-A	RGB	4:4:4 10bit
	1920 x 1080 i	33.8	60.0*1	74.3	3G-SDI Level-B	RGB	4:4:4 10bit
	1920 x 1080 i	33.8	60.0*1	74.3	3G-SDI Level-A	RGB	4:4:4 12bit
	1920 x 1080 i	33.8	60.0*1	74.3	3G-SDI Level-B	RGB	4:4:4 12bit
1080/24p	1920 x 1080	27.0	24.0*1	74.3	HD-SDI	YP_BP_R	4:2:2 10bit
	1920 x 1080	27.0	24.0*1	74.3	3G-SDI Level-A	RGB	4:4:4 10bit
	1920 x 1080	27.0	24.0*1	74.3	3G-SDI Level-B	RGB	4:4:4 10bit
	1920 x 1080	27.0	24.0*1	74.3	3G-SDI Level-A	RGB	4:4:4 12bit
	1920 x 1080	27.0	24.0*1	74.3	3G-SDI Level-B	RGB	4:4:4 12bit
1080/24sF	1920 x 1080 i	27.0	48.0*1	74.3	HD-SDI	YP_BP_R	4:2:2 10bit
	1920 x 1080 i	27.0	48.0*1	74.3	3G-SDI Level-A	RGB	4:4:4 10bit
	1920 x 1080 i	27.0	48.0*1	74.3	3G-SDI Level-B	RGB	4:4:4 10bit
	1920 x 1080 i	27.0	48.0*1	74.3	3G-SDI Level-A	RGB	4:4:4 12bit
	1920 x 1080 i	27.0	48.0*1	74.3	3G-SDI Level-B	RGB	4:4:4 12bit
1080/25p	1920 x 1080	28.1	25.0	74.3	HD-SDI	YP_BP_R	4:2:2 10bit
	1920 x 1080	28.1	25.0	74.3	3G-SDI Level-A	RGB	4:4:4 10bit
	1920 x 1080	28.1	25.0	74.3	3G-SDI Level-B	RGB	4:4:4 10bit
	1920 x 1080	28.1	25.0	74.3	3G-SDI Level-A	RGB	4:4:4 12bit
	1920 x 1080	28.1	25.0	74.3	3G-SDI Level-B	RGB	4:4:4 12bit
1080/30p	1920 x 1080	33.8	30.0*1	74.3	HD-SDI	YP_BP_R	4:2:2 10bit
	1920 x 1080	33.8	30.0*1	74.3	3G-SDI Level-A	RGB	4:4:4 10bit
	1920 x 1080	33.8	30.0*1	74.3	3G-SDI Level-B	RGB	4:4:4 10bit
	1920 x 1080	33.8	30.0v	74.3	3G-SDI Level-A	RGB	4:4:4 12bit
	1920 x 1080	33.8	30.0*1	74.3	3G-SDI Level-B	RGB	4:4:4 12bit
1080/50p	1920 x 1080	56.3	50.0	148.5	3G-SDI Level-A	YP_BP_R	4:2:2 10bit
	1920 x 1080	56.3	50.0	148.5	3G-SDI Level-B	YP_BP_R	4:2:2 10bit
1080/60p	1920 x 1080	67.5	60.0*1	148.5	3G-SDI Level-A	YP_BP_R	4:2:2 10bit
	1920 x 1080	67.5	60.0*1	148.5	3G-SDI Level-B	YP_BP_R	4:2:2 10bit
2K/24p	2048 x 1080	27.0	24.0*1	74.3	3G-SDI Level-A	RGB	4:4:4 10bit
	2048 x 1080	27.0	24.0*1	74.3	3G-SDI Level-B	RGB	4:4:4 10bit
	2048 x 1080	27.0	24.0*1	74.3	3G-SDI Level-A	RGB	4:4:4 12bit
	2048 x 1080	27.0	24.0*1	74.3	3G-SDI Level-B	RGB	4:4:4 12bit
2K/25p	2048 x 1080	28.1	25.0	74.3	3G-SDI Level-A	RGB	4:4:4 10bit
	2048 x 1080	28.1	25.0	74.3	3G-SDI Level-B	RGB	4:4:4 10bit
	2048 x 1080	28.1	25.0	74.3	3G-SDI Level-A	RGB	4:4:4 12bit
	2048 x 1080	28.1	25.0	74.3	3G-SDI Level-B	RGB	4:4:4 12bit
2K/30p	2048 x 1080	33.8	30.0*1	74.3	3G-SDI Level-A	RGB	4:4:4 10bit
	2048 x 1080	33.8	30.0*1	74.3	3G-SDI Level-B	RGB	4:4:4 10bit
	2048 x 1080	33.8	30.0*1	74.3	3G-SDI Level-A	RGB	4:4:4 12bit
	2048 x 1080	33.8	30.0*1	74.3	3G-SDI Level-B	RGB	4:4:4 12bit
2K/48p	2048 x 1080	54.0	48.0*1	148.5	3G-SDI Level-A	YP_BP_R	4:2:2 10bit
	2048 x 1080	54.0	48.0*1	148.5	3G-SDI Level-B	YP_BP_R	4:2:2 10bit
2K/50p	2048 x 1080	56.3	50.0	148.5	3G-SDI Level-A	YP_BP_R	4:2:2 10bit
	2048 x 1080	56.3	50.0	148.5	3G-SDI Level-B	YP_BP_R	4:2:2 10bit
2K/60p	2048 x 1080	67.5	60.0*1	148.5	3G-SDI Level-A	YP_BP_R	4:2:2 10bit
	2048 x 1080	67.5	60.0*1	148.5	3G-SDI Level-B	YP_BP_R	4:2:2 10bit

***1 The signal with 1/1.001x vertical scanning frequency is also supported.**

List of plug and play compatible signals

The following table specifies the video signals compatible with plug and play.
Signal with ✓ in the plug and play compatible signal column is the signal described in the EDID (extended display identification data) of the projector. For the signal without ✓ in the plug and play compatible signal column, the resolution may not be selected on the computer even if the projector is supporting it.

•The content of the compatible signal column is as follows.

––RGB : RGB input ––DVI-D: DVI-D input ––HDMI: HDMI input ––DIGITAL LINK: DIGITAL LINK input

Signal name (SIGNAL FORMAT)	Resolution (Dots)	Scanning freq.		Dot clock freq. (MHz)	RGB	Compatible signal								
		Horizontal (kHz)	Vertical (Hz)			DVI-D			HDMI			DIGITAL LINK		
						EDID1	EDID2	EDID3	4K/60p	4K/30p	2K	4K/60p	4K/30p	2K
480/60p	720 x 480	31.5	59.9	27.0	–	✓	–	✓	✓	✓	✓	✓	✓	✓
576/50p	720 x 576	31.3	50.0	27.0	–	✓	–	✓	✓	✓	✓	✓	✓	✓
720/50p	1280 x 720	37.5	50.0	74.3	–	✓	–	✓	✓	✓	✓	✓	✓	✓
720/60p	1280 x 720	45.0	60.0*1	74.3	–	✓	–	✓	✓	✓	✓	✓	✓	✓
1080/50i	1920 x 1080 i	28.1	50.0	74.3	–	✓	–	✓	✓	✓	✓	✓	✓	✓
1080/60i	1920 x 1080 i	33.8	60.0*1	74.3	–	✓	–	✓	✓	✓	✓	✓	✓	✓
1080/24p	1920 x 1080	27.0	24.0*1	74.3	–	✓	–	✓	✓	✓	✓	✓	✓	✓
1080/24sF	1920 x 1080 i	27.0	48.0*1	74.3	–	–	–	–	–	–	–	–	–	–
1080/25p	1920 x 1080	28.1	25.0	74.3	–	✓	–	✓	✓	✓	✓	✓	✓	✓
1080/30p	1920 x 1080	33.8	30.0*1	74.3	–	✓	–	✓	✓	✓	✓	✓	✓	✓
1080/50p	1920 x 1080	56.3	50.0	148.5	–	✓	–	✓	✓	✓	✓	✓	✓	✓
1080/60p	1920 x 1080	67.5	60.0*1	148.5	–	✓	–	✓	✓	✓	✓	✓	✓	✓
3840 x 2160/24p	3840 x 2160	54.0	24.0*1	297.0	–	–	–	–	✓	✓	–	✓	✓	–
3840 x 2160/25p	3840 x 2160	56.3	25.0	297.0	–	–	–	–	✓	✓	–	✓	✓	–
3840 x 2160/30p	3840 x 2160	67.5	30.0*1	297.0	–	–	–	–	✓	✓	–	✓	✓	–
3840 x 2160/50p	3840 x 2160	112.5	50.0	297.0	–	–	–	–	✓*2	–	–	✓*2	–	–
	3840 x 2160	112.5	50.0	594.0	–	–	–	–	✓	–	–	–	–	–
3840 x 2160/60p	3840 x 2160	135.0	60.0*1	297.0	–	–	–	–	✓*2	–	–	✓*2	–	–
	3840 x 2160	135.0	60.0*1	594.0	–	–	–	–	✓	–	–	–	–	–
4096 x 2160/24p	4096 x 2160	54.0	24.0*1	297.0	–	–	–	–	✓	✓	–	✓	✓	–
4096 x 2160/25p	4096 x 2160	56.3	25.0	297.0	–	–	–	–	✓	✓	–	✓	✓	–
4096 x 2160/30p	4096 x 2160	67.5	30.0*1	297.0	–	–	–	–	✓	✓	–	✓	✓	–
4096 x 2160/50p	4096 x 2160	112.5	50.0	297.0	–	–	–	–	✓*2	–	–	✓*2	–	–
	4096 x 2160	112.5	50.0	594.0	–	–	–	–	✓	–	–	–	–	–
4096 x 2160/60p	4096 x 2160	135.0	60.0*1	297.0	–	–	–	–	✓*2	–	–	✓*2	–	–
	4096 x 2160	135.0	60.0*1	594.0	–	–	–	–	✓	–	–	–	–	–
640 x 480/60	640 x 480	31.5	59.9	25.2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1024 x 768/50	1024 x 768	39.6	50.0	51.9	–	–	–	–	–	–	–	–	–	–
1024 x 768/60	1024 x 768	48.4	60.0	65.0	✓	–	✓	✓	✓	✓	✓	✓	✓	✓
1280 x 800/50	1280 x 800	41.3	50.0	68.0	–	–	–	–	–	–	–	–	–	–
1280 x 800/60	1280 x 800	49.7	59.8	83.5	–	–	–	–	–	–	–	–	–	–
1280 x 1024/50	1280 x 1024	52.4	50.0	88.0	–	–	–	–	–	–	–	–	–	–
1280 x 1024/60	1280 x 1024	64.0	60.0	108.0	–	–	–	–	–	–	–	–	–	–
1366 x 768/50	1366 x 768	39.6	49.9	69.0	–	–	–	–	–	–	–	–	–	–
1366 x 768/60	1366 x 768	47.7	59.8	85.5	–	–	–	–	–	–	–	–	–	–
1400 x 1050/50	1400 x 1050	54.1	50.0	99.9	–	–	–	–	–	–	–	–	–	–
1400 x 1050/60	1400 x 1050	65.2	60.0	122.6	✓	–	✓	✓	✓	✓	✓	✓	✓	✓
1440 x 900/50	1440 x 900	46.3	49.9	86.8	–	–	–	–	–	–	–	–	–	–
1440 x 900/60	1440 x 900	55.9	59.9	106.5	–	–	–	–	–	–	–	–	–	–
1600 x 900/50	1600 x 900	46.4	49.9	96.5	–	–	–	–	–	–	–	–	–	–
1600 x 900/60	1600 x 900	55.9	60.0	119.0	✓	–	✓	✓	✓	✓	✓	✓	✓	✓
1600 x 1200/50	1600 x 1200	61.8	49.9	131.5	–	–	–	–	–	–	–	–	–	–
1600 x 1200/60	1600 x 1200	75.0	60.0	162.0	✓	–	✓	✓	✓	✓	✓	✓	✓	✓
1680 x 1050/50	1680 x 1050	54.1	50.0	119.5	–	–	–	–	–	–	–	–	–	–
1680 x 1050/60	1680 x 1050	65.3	60.0	146.3	–	–	–	–	–	–	–	–	–	–
1920 x 1200/50	1920 x 1200	61.8	49.9	158.3	–	–	–	–	–	–	–	–	–	–
1920 x 1200/60RB	1920 x 1200*3	74.0	60.0	154.0	✓	–	✓	✓	✓	✓	✓	✓	✓	✓

***1 The signal with 1/1.001x vertical scanning frequency is also supported.**
***2 YP_BP_R 4:2:0 format only**
***3 VESA CVT-RB (Reduced Blanking)-compliant**

NOTE:
• A signal with a different resolution is converted to the number of display dots. The number of display dots is as follows. 1920 x 1200
• The "i" at the end of the resolution indicates an interlaced signal.
• When interlaced signals are connected, flickering may occur on the projected image.

Notes on projector placement and operation

1. Never place objects on top of the projector while it is operating.
2. Make sure there is the unobstructed space as shown below or more around the projector's exhaust openings. In addition to this space, also ensure that there is a sufficient work space for removing and installing filter and other parts.
3. Make sure that nothing blocks the projector's air intake and exhaust openings. Also, install the projector so that cool or hot air from other air conditioning equipment does not flow directly toward the projector's air intake or exhaust openings.
4. Do not install the projector in an enclosed space. If it is necessary to install it in an enclosed space, add a separate ventilation system. If ventilation is insufficient, hot air will accumulate at the intake opening. This may cause the projector's protective circuit to interrupt projector operation.