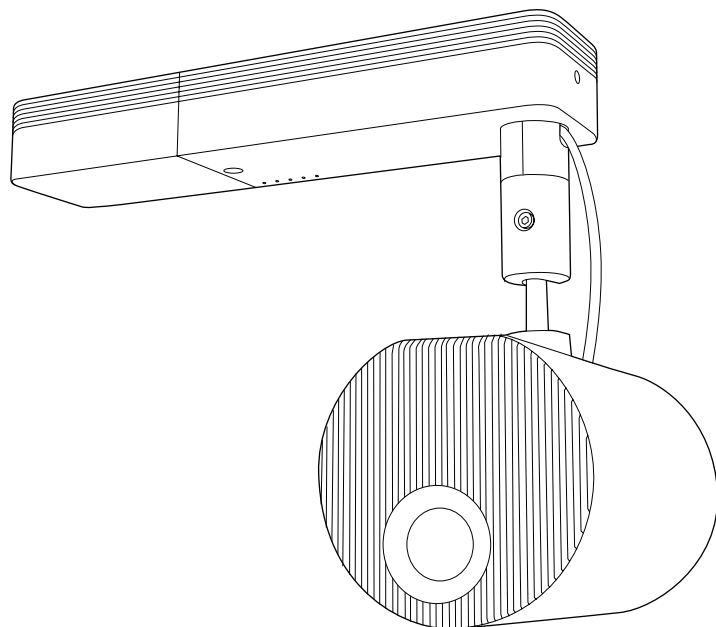


**EV-115**  
**EV-110**

## **Specifications**

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## ■ About This Document

This document contains specification information for your projector and mounts.

For details on how to use the products, see the *User's Guide* or *Installation Guide* supplied with the products.

## ■ Projector Specifications

This product is a lighting projector equipped with a laser light source and is ideal for spatial presentations.

### Specifications

Item		EV-115/EV-110
Projection system		RGB liquid crystal shutter
LCD panel	Size (diagonal)	0.59" wide
	Display method	Poly-silicon TFT active matrix
	Pixel number	1,024,000 dots WXGA (W 1,280 × H 800 dots) × 3
Projection lens	F-number	1.51 - 1.92
	Focal length	18.2 - 28.4 mm
	Zoom	Electric (1 - 2.21) (Optical: 1 - 1.58, Digital: 1 - 1.4)
	Focus	Electric
Light source	Type	Laser diode
	Output power	Up to 44 W
	Wavelength	449 - 461 nm
	Life	Up to about 20,000 hours (Light Source Mode: Normal, Quiet) Up to about 30,000 hours (Light Source Mode: Extended)
Brightness/ Image quality	Brightness <sup>*1</sup>	2,200 lm (Light Source Mode: Normal) 1,100 lm (Light Source Mode: Quiet, Extended)
	Contrast ratio <sup>*1</sup>	2,500,000:1 (Dynamic Contrast: Normal, High Speed)
	Color reproduction	Up to 16.7 million colors
Keystone	Horizontal	-40 - +40°
	Vertical	-45 - +45°
Scanning frequency	Pixel clock	13.5 - 162 MHz
	Horizontal	15 - 75 kHz
	Vertical	24/30/50/60 Hz
Operation environment	Temperature <sup>*2</sup>	Altitude 0 to 2,286 m: +5 to +40°C Altitude of 2,287 to 3,048 m: +5 to +35°C (Humidity of 20 to 80%, No condensation)
	Storage temperature	-10 to +60°C (Humidity of 10 to 90%, No condensation)
	Altitude	Altitude 0 - 3,048m
Power supply		100 - 240 V AC±10 % 50/60 Hz 1.6 - 0.8 A
Power consumption	100 - 120 V	Operation: 150 W Standby (Communication: On): 2.0 W Standby (Communication: Off): 0.4 W
	220 - 240 V	Operation: 149 W Standby (Communication: On): 2.0 W Standby (Communication: Off): 0.4 W
Dissipation BTU (maximum)	100 - 120 V	510 BTU/h
	220 - 240 V	506.6 BTU/h
Air flow (maximum)		24.0 CFM
Noise level <sup>*1</sup>		34 dB (Light Source Mode: Normal) 22 dB (Light Source Mode: Quiet)

Item		EV-115/EV-110	
Wireless communication	Wireless LAN	Standard	Wi-Fi 4 IEEE 802.11b (2.4GHz) IEEE 802.11g (2.4GHz) IEEE 802.11n (2.4GHz) IEEE 802.11a (5GHz) IEEE 802.11n (5GHz)
		Security type	OPEN, WPA2/WPA3-PSK, WPA2/WPA3-EAP (EAP type: PEAP, PEAP-TLS, EAP-TLS, EAP-Fast)
	Bluetooth	Version	4.2
		Class	Class 2
		Profile	A2DP
	Support codec	SBC, Qualcomm aptX audio	
Dimensions	Projection unit		Diameter 175 × Depth 260 mm (not including raised section)
	Power supply unit		361 (W) × 65 (H) × 110 (D) mm (without cable cover) 459 (W) × 65 (H) × 110 (D) mm (with cable cover)
Weight	Projector		Approx. 5.0 kg
	Direct Mount		Approx. 1.9 kg
	Lighting Track Mount (ELPMB66W/ELPMB66B)		Approx. 0.7 kg
	Floor Stand (ELPMB55W/ELPMB55B)		Approx. 1.2 kg

\*1 Measurement, measuring conditions, and method of notation all comply with ISO 21118 international standards.

\*2 Light source brightness automatically dims if the surrounding temperature gets too high.  
(Approximately 35°C at an altitude of 0 to 2,286 m, and approximately 30°C at an altitude of 2,287 to 3,048 m; however, this may vary depending on the surrounding environment.)

# Application

You can use the following applications with your projector.

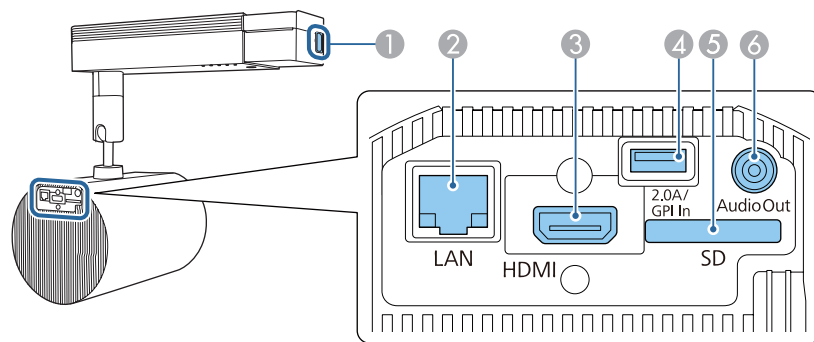
See the following Web site to check the system requirements and download the necessary application and manuals.

[epson.sn/](http://epson.sn/)

Applications	Details
Epson Projector Management	You can check the status of multiple networked projectors and perform various projector operations from your computer.
Epson iProjection (Windows/Mac)	You can project images from network projectors.
Epson iProjection (iOS/Android)	You can project image from your mobile devices wirelessly.
Epson Projector Content Manager *1	You can create playlists that contain images, movies, or both. You can save them on an SD card and play them back from projectors.
Epson Creative Projection	You can easily create original content using a wide variety of templates.

\*1 This projector does not support MP4 format videos. In Epson Projector Content Manager set [Settings] - [Video Format] to [Auto Select] or [AVI Format].

# Interface

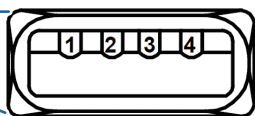
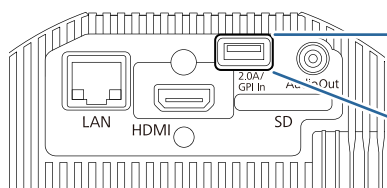


No	Name	Specifications
①	Power inlet	-
②	LAN port	RJ-45
③	HDMI port	<ul style="list-style-type: none"> <li>• HDCP1.4</li> <li>• Audio is only supported by PCM</li> </ul>
④	DC Out (2.0A)/GPI In port *1	USB connector (Type A) <ul style="list-style-type: none"> <li>• Supplies power to a USB device (2.0 A)</li> <li>• Connects external sensors</li> </ul>
⑤	SD card slot	SDHC/microSDHC cards <ul style="list-style-type: none"> <li>• Class10 or higher</li> <li>• Up to 32GB</li> <li>• FAT16/FAT32 format</li> </ul>
⑥	Audio Out port	Stereo mini (diameter 3.5mm)

\*1 USB data transfer is not available.

## DC Out (2.0A)/GPI In port

### Port configuration



Pin Number	Signal Name
1 *	DC Out (5V/2A)
2	GPI-1
3	GPI-2
4	GND

\* Do not apply external voltage, otherwise malfunctions may occur.

### GPI-1/GPI-2

Item	Specification	
Maximum rating	DC voltage	-0.5 V to 13 V
Electrical characteristics	High input*	2.0 V or more
	Low input	0.8 V or less
	Input current (5 V during input)	1.0 to 2.0 mA
Equivalent circuit		
Operation execution timing due to signal change	300 ms after the last operation was executed	

\* When using a sensor with an open-drain output or an open-collector output, the input may not be High if there is a large Pull-UP resistance.

# Supported Monitor Display Resolutions

Signals with a check mark are supported.

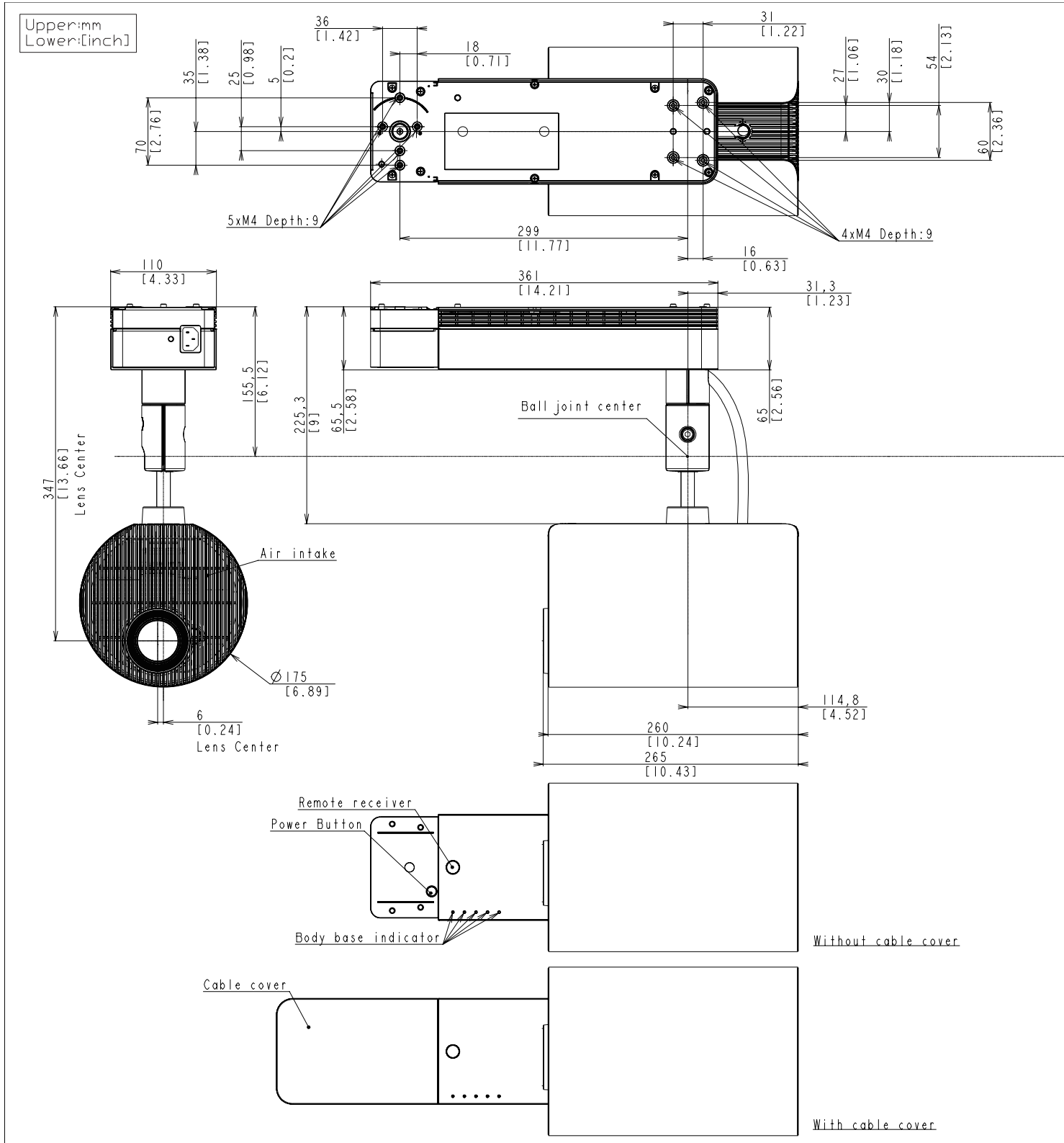
Signal type	Signal format	Resolution (dots)	V Sync (Hz)	HDMI				
				YCbCr (8bit)			RGB (8bit)	
				4:2:0	4:2:2	4:4:4		
PC	VGA	640×480	60				✓	
			72					
			75					
			85					
	SVGA	800×600	60				✓	
			72					
			75					
			85					
	XGA	1024×768	60				✓	
			70					
			75					
			85					
	WXGA	1280×768	60					
		1280×800	60				✓	
			75					
			85					
	WXGA+	1440×900	60				✓	
			75					
			85					
	WXGA++	1600×900	60				✓	
	SXGA	1152×864	70					
			75					
			85					
		1280×960	60					✓
			75					
			85					
		1280×1024	60					✓
			75					
	85							
	SXGA+	1400×1050	60				✓	
75								
WSXGA+	1680×1050	60				✓		
UXGA	1600×1200	60				✓		
1920×1080	1920×1080	50				✓		
		60				✓		
WUXGA (Reduced Blanking)*	1920×1200	60				✓		
SD	SDTV (480i)	720×480	59.94		✓	✓	✓	
	SDTV (576i)	720×576	50		✓	✓	✓	
	SDTV (480p)	720×480	59.94		✓	✓	✓	
	SDTV (576p)	720×576	50		✓	✓	✓	
HD	HDTV (720p)	1280×720	50		✓	✓	✓	
			59.94		✓	✓	✓	
			60		✓	✓	✓	
	HDTV (1080i)	1920×1080	50		✓	✓	✓	
			59.94		✓	✓	✓	
			60		✓	✓	✓	
	HDTV (1080p)	1920×1080	23.98		✓	✓	✓	
			24		✓	✓	✓	
			25					
			29.97		✓	✓	✓	
			30		✓	✓	✓	
			50		✓	✓	✓	
			59.94		✓	✓	✓	
60		✓	✓	✓				

\* Compatible only with VESA CVT-RB (Reduced Blanking) input signal.

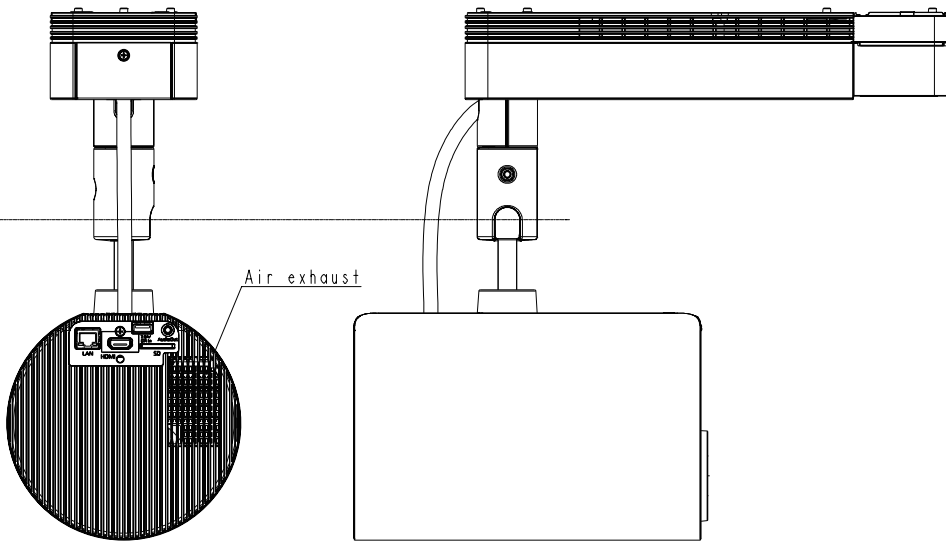
# Installation Specifications

## External Dimensions

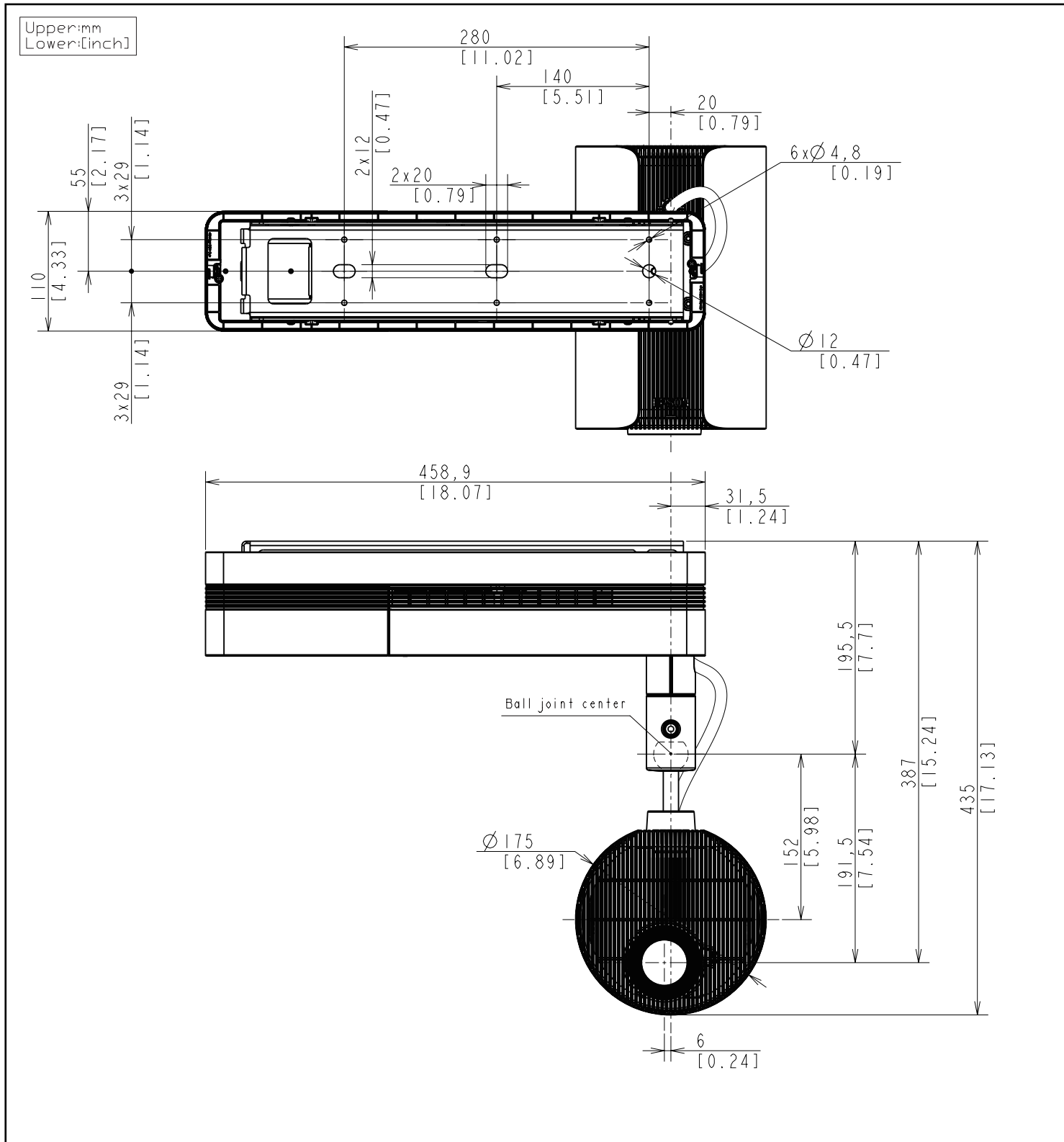
### Projector

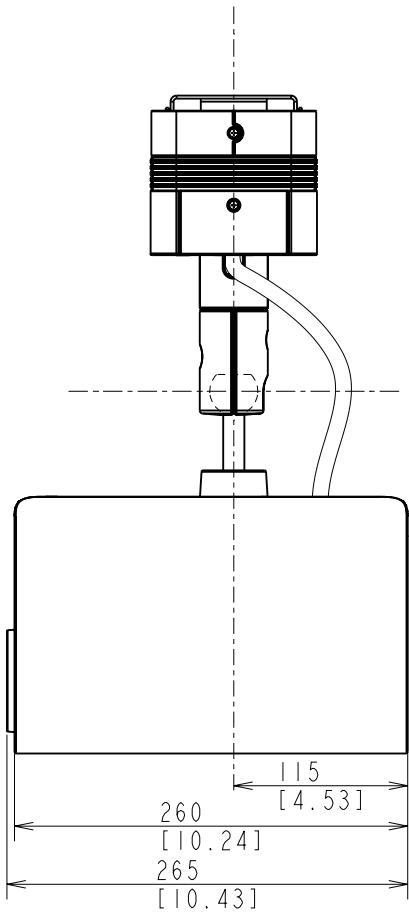






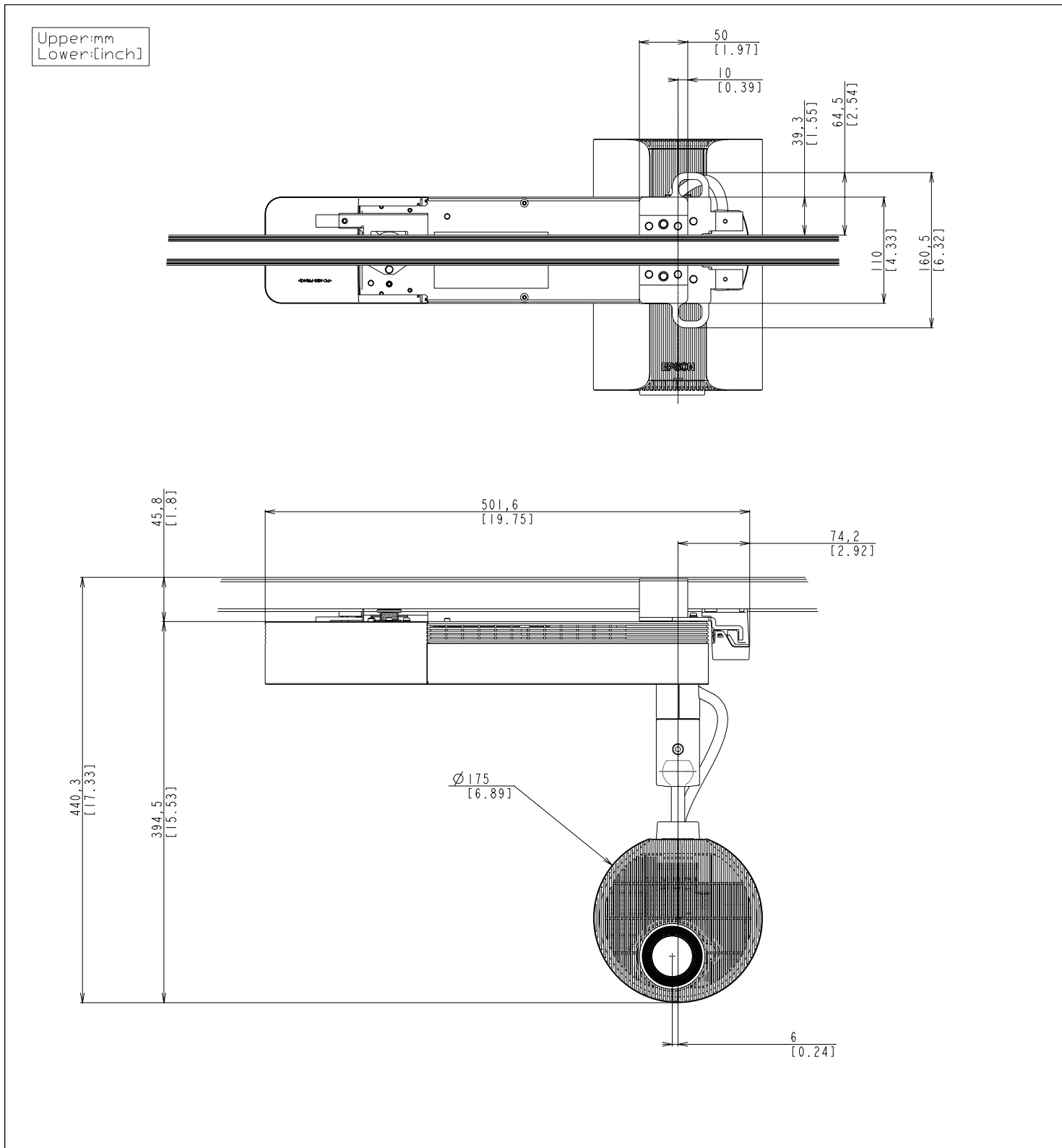
# Direct Mount + EV-115/EV-110 Dimensions

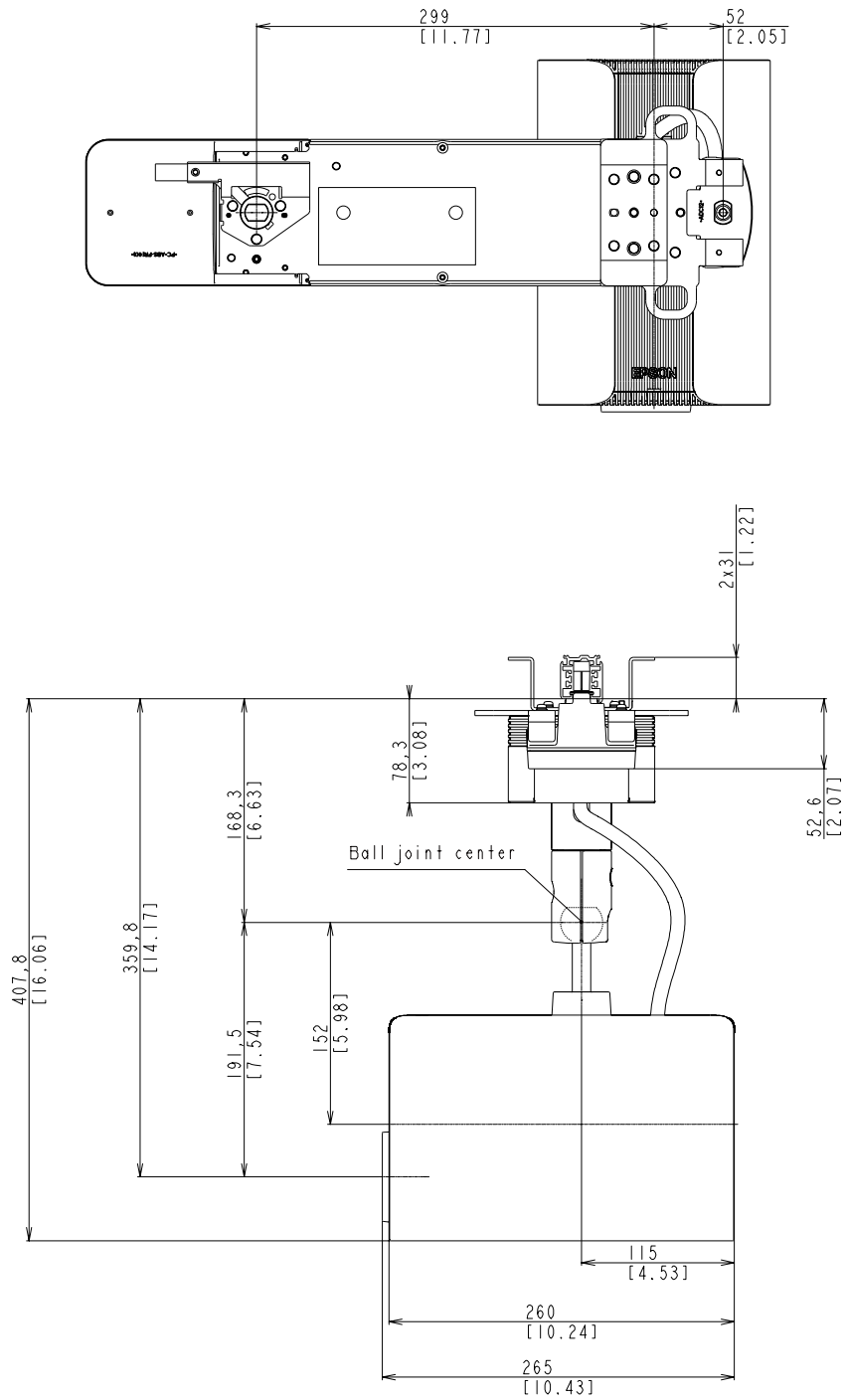




# Lighting Track Mount (ELPMB66B/ELPMB66W) + EV-115/EV-110 Dimensions

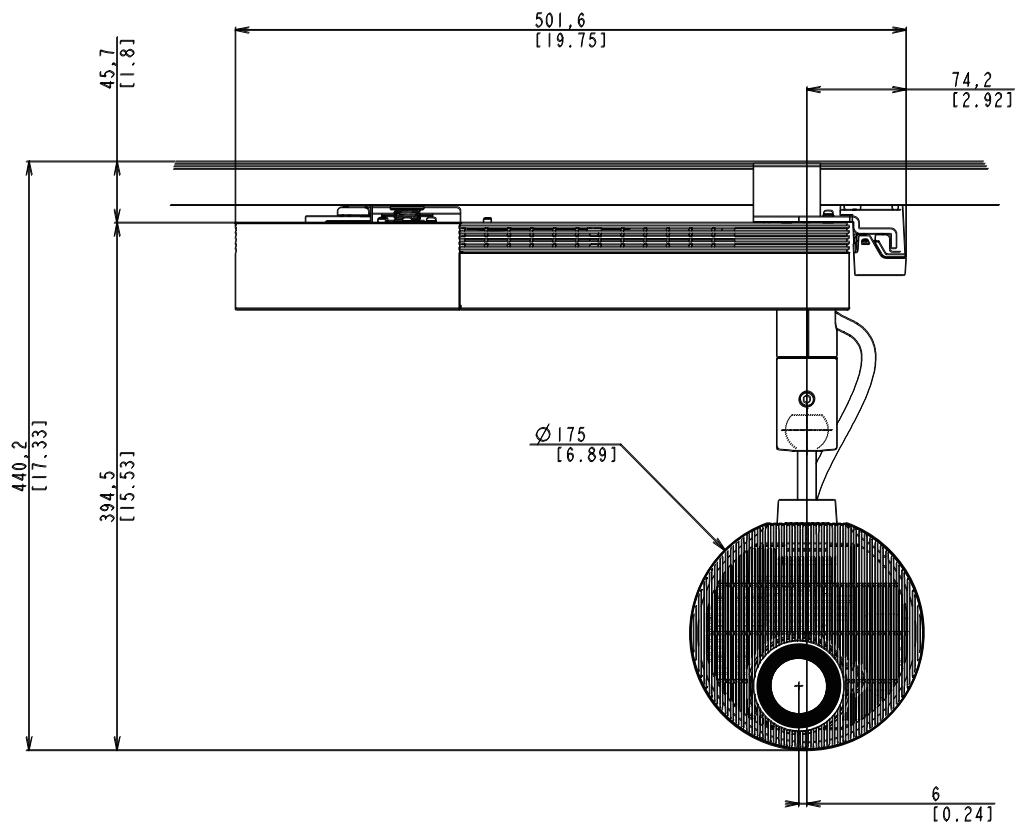
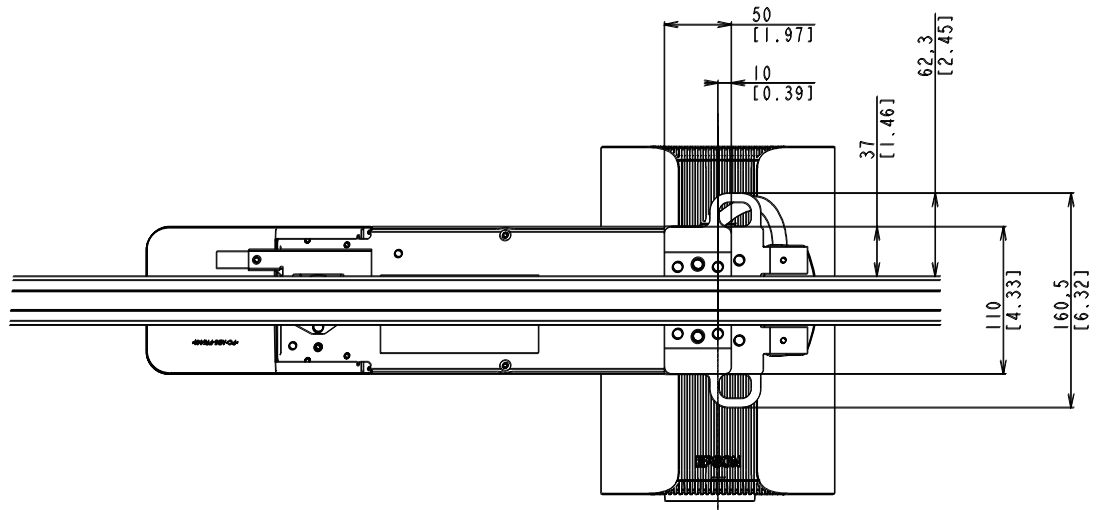
When using outside Asia

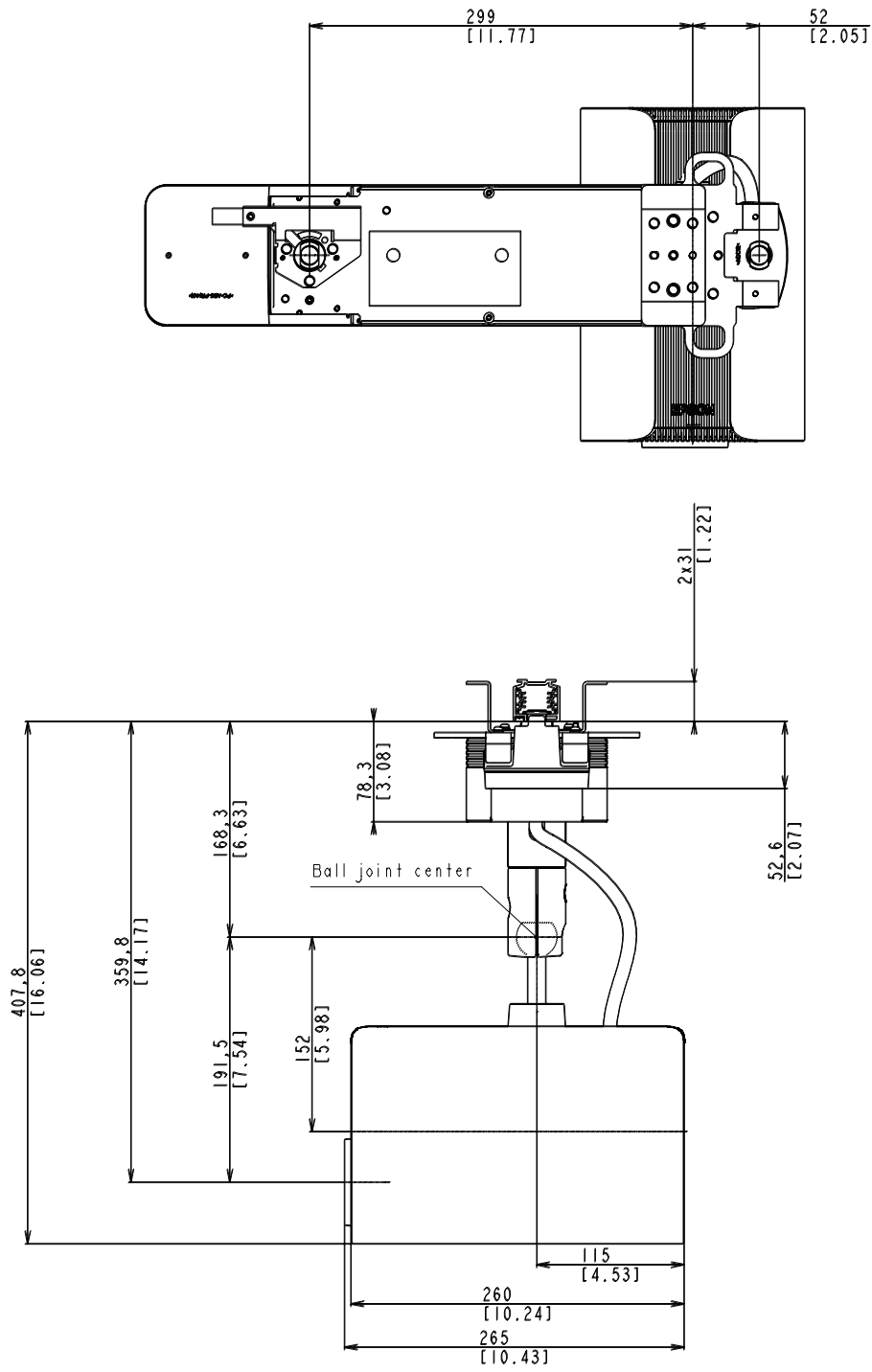




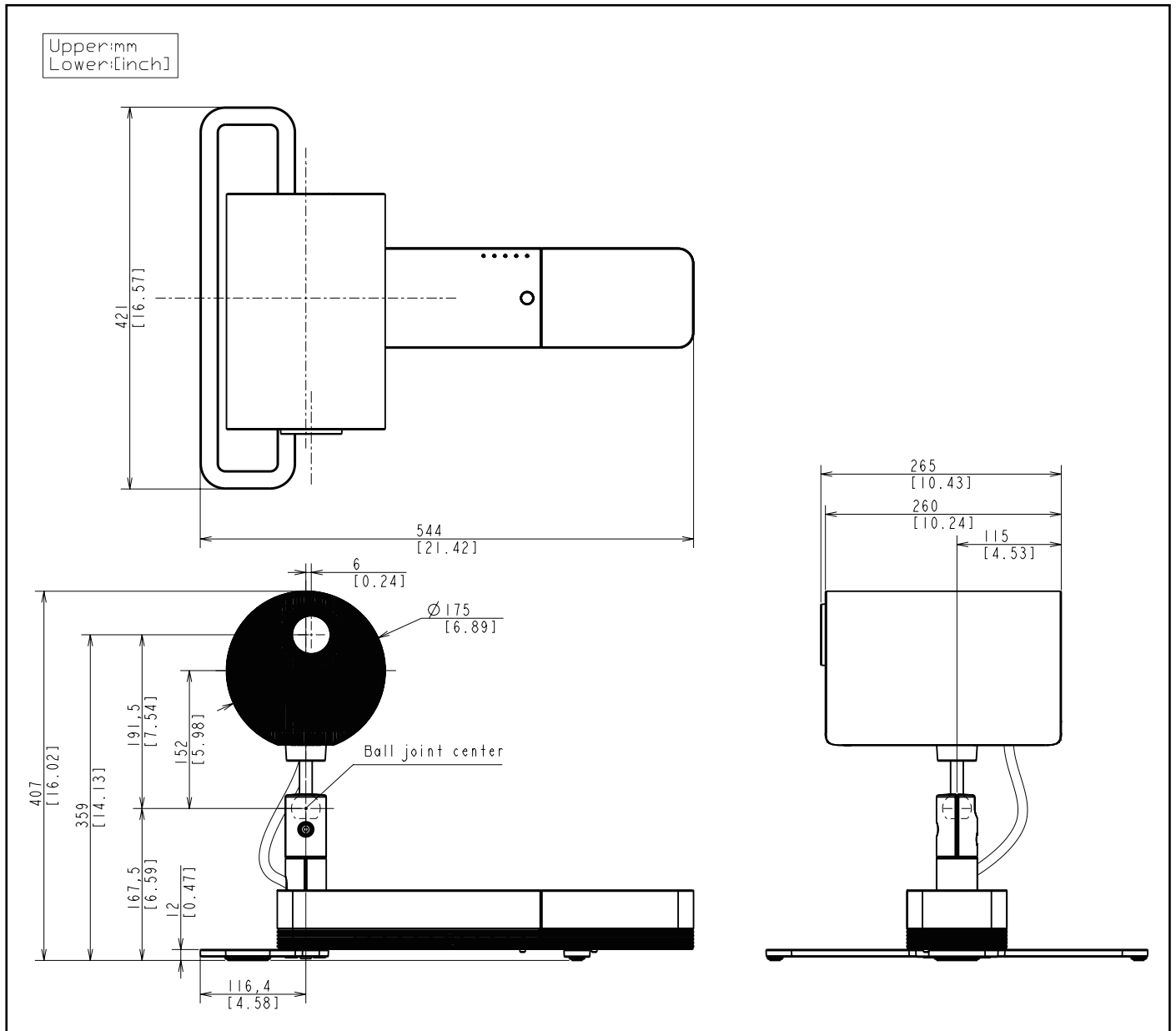
When using inside Asia

Upper:mm  
Lower:[inch]





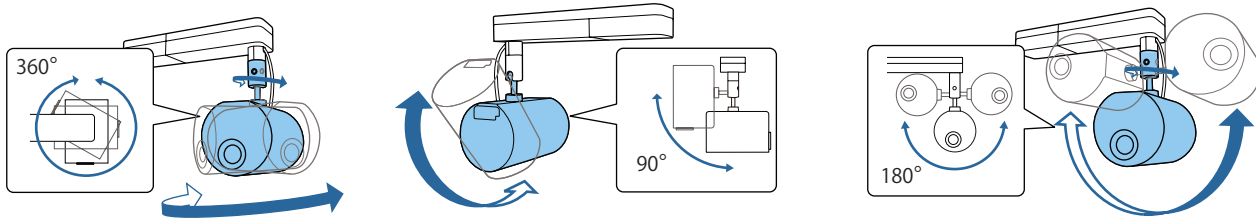
# Floor Stand (ELPMB55W/ELPMB55B) + EV-115/EV-110 Dimensions





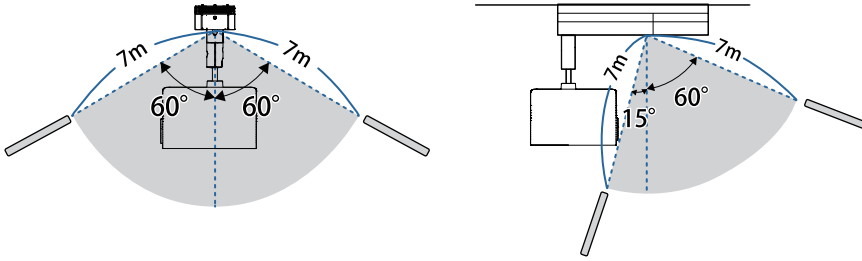
## Ball Joint Adjustment Range

You can adjust the orientation of the projected image using the ball joint. See the *User's Guide* for more details on making adjustments. The following shows the ranges within which you can perform adjustments with the ball joint.



## Remote Control Operation (Wireless)

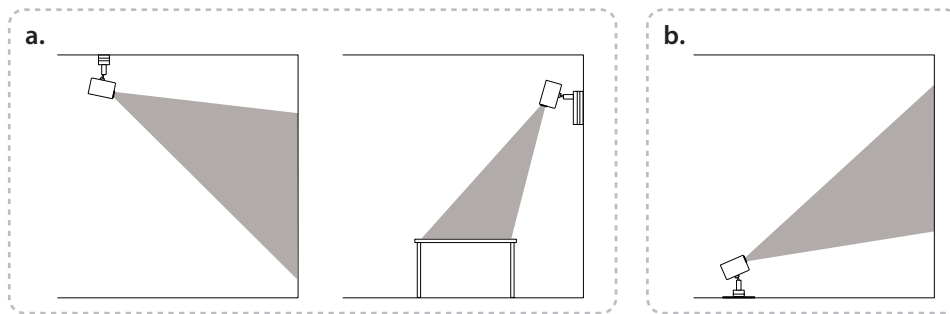
Make sure that you aim the remote control at the projector's receivers within the distance and angles listed here.



## Installing

You can install the projector using the following methods.

Set [Projection] in the projector's [Extended] menu according to the installation location and method.



### a. Installing on a ceiling or wall

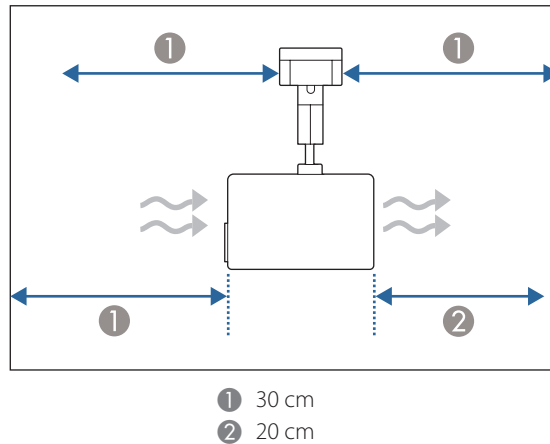
- You can install the projector using any of the following methods. See the *Installation Guide* for details on installing and handling mounts.
  - Use the Direct Mount (supplied) only when installing on a ceiling or wall.
  - If installing on a lighting track, use only the optional Lighting Track Mount (ELPMB66W/ELPMB66B).
- When installing on a ceiling or wall, we recommend a horizontal ceiling or a vertical wall.
- When installing on a ceiling, lighting track, or wall, attach the safety wire supplied to prevent it from falling.

### b. Installing on the floor or a table

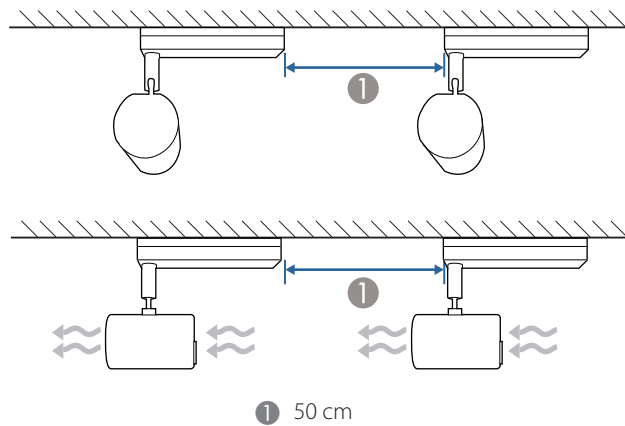
- Use the optional Floor Stand (ELPMB55W/ELPMB55B) to install on the floor or a table.
- Place the projector on a level and stable location.
- Do not install on the floor or a table using the Direct Mount supplied.

## Installation Position

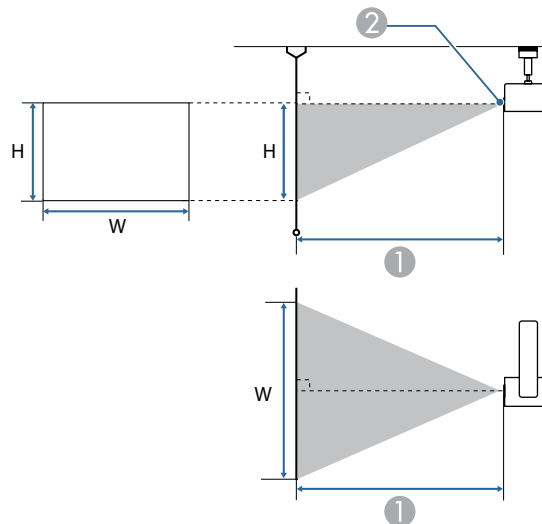
- Do not install the projector in a location that does not allow air to circulate, such as on a shelf or in a box.
- When installing the projector on a ceiling or wall, make sure it is not close to the air exhaust vent of an air conditioner.
- Be sure to leave the following amount of space around the projector so as not to block the air exhaust vents (at the rear) and the air intake vents (on the projection lens side).



- If you are unable to secure the space described in ② above, make sure that the area subjected to the hot air from the exhaust vent (ceilings, walls, and so on) does not become deformed or discolored by the heat.
- If you are installing multiple projectors next to each other, make sure hot air from the exhaust vent (at the rear) does not enter the air intake vent (on the projection lens side) of another projector.



# Screen Size and Projection Distance



- ① Projection distance (Minimum (Wide) to Maximum (Tele))
- ② Center of lens

## Projection Distance Formula

<Screen aspect ratio 16:10>

Projection distance ( ① ) formula	
Minimum (Wide)	Projection distance (cm) = Projection screen size (inch) × 3.0264 - 2.76
Maximum (Tele)	Projection distance (cm) = Projection screen size (inch) × 4.7911 - 2.7788

<Screen aspect ratio 4:3>

Projection distance ( ① ) formula	
Minimum (Wide)	Projection distance (cm) = Projection screen size (inch) × 3.42612 - 2.76
Maximum (Tele)	Projection distance (cm) = Projection screen size (inch) × 5.4239 - 2.7788

<Screen aspect ratio 16:9>

Projection distance ( ① ) formula	
Minimum (Wide)	Projection distance (cm) = Projection screen size (inch) × 3.11054 - 2.76
Maximum (Tele)	Projection distance (cm) = Projection screen size (inch) × 4.92431 - 2.7788

## Projection Distance

The projection distances are approximate values.

You can see a more detailed projection simulation on our Web site.

<https://epson.com/>

<Screen aspect ratio 16:10>

Screen size		Projection distance ( ① )
Inch	W x H (cm)	Minimum (Wide) to Maximum (Tele) (cm)
29	62 x 39	85 - 136
30	65 x 40	88 - 141
40	86 x 54	118 - 189
50	108 x 67	149 - 237
60	129 x 81	179 - 285
80	172 x 108	239 - 381
100	215 x 135	300 - 476
120	258 x 162	360 - 572
130	280 x 175	391 - 620
150	323 x 202	451 - 716

<Screen aspect ratio 4:3>

Screen size		Projection distance ( ① )
Inch	W x H (cm)	Minimum (Wide) to Maximum (Tele) (cm)
26	53 x 40	86 - 138
30	61 x 46	100 - 160
40	81 x 61	134 - 214
50	102 x 76	169 - 268
60	122 x 91	203 - 323
80	163 x 122	271 - 431
100	203 x 152	340 - 540
120	244 x 183	408 - 648
130	264 x 198	443 - 702

<Screen aspect ratio 16:9>

Screen size		Projection distance ( ① )
Inch	W x H (cm)	Minimum (Wide) to Maximum (Tele) (cm)
29	64 x 36	87 - 140
30	66 x 37	91 - 145
40	89 x 50	122 - 194
50	111 x 62	153 - 243
60	133 x 75	184 - 293
80	177 x 100	246 - 391
100	221 x 125	308 - 490
120	266 x 149	371 - 588
145	321 x 181	448 - 711

## ■ Monitoring and Control

You can check the status of networked projectors and perform various projector operations using these methods.

Method	Details
ESC/VP21 command	You can control the projector from an external device using ESC/VP21.
Epson Web Control	By using the Web browser of a computer connected to the projector on a network, you can operate the projector or edit your playlists. You can also operate the projector or edit your playlists from a mobile device using the Epson iProjection (iOS/Android) app.
PJLink command	The projector complies with the PJLink Class2 standard established by the JBMIA. From a computer connected to the projector on a network, you can control the projector with PJLink commands. For more details on PJLink, see the following Web site. <a href="http://pjlink.jbmia.or.jp/">http://pjlink.jbmia.or.jp/</a>
Art-Net command	Art-Net is an Ethernet communication protocol based on the TCP/IP protocol. You can control the projector by using a DMX controller or an application system.
Epson Projector Management	Allows you to control multiple Epson projectors on a network. You can download Epson Projector Management from the following Web site. <a href="http://epson.sn/">epson.sn/</a>
Crestron Connected	If you are using the Crestron Connected network monitoring and control system, you can set up your projector for use on the system. For additional information on Crestron Connected, visit the Crestron Web site. <a href="https://www.crestron.com/products/line/crestron-connected">https://www.crestron.com/products/line/crestron-connected</a>
Web API	You can control the projector through Web API communication using API authentication (Digest authentication). For more details, see <i>Web API Specifications for Projectors</i> on the following website. <a href="http://epson.sn/">epson.sn/</a>

## ESC/VP21 Commands

When the power ON command is transmitted to the projector, the power turns on and it enters warm-up mode. When the projector's power has turned on, a colon ":" (3Ah) is returned.

When a command is input, the projector executes the command and returns a ":", and then accepts the next command.

If the command being processed terminates abnormally, an error message is output and a ":" is returned.

The following commands are available.

Function		Command
Power	On	PWR ON
	Off	PWR OFF
Signal selection	HDMI	SOURCE 30
	LAN	SOURCE 53
	SD player	SOURCE 57
	Spotlight	SOURCE 58
A/V mute	On	MUTE ON
	Off	MUTE OFF

Add a Carriage Return (CR) code (0Dh) to the end of each command and transmit.

Contact Epson for more details.

## PJLink Commands

The port number used for the PJLink search function is 4352 (UDP).

You need to make network settings before you can use PJLink. See the *User's Guide* for more details on network settings.

It complies with all commands except for the following commands defined by PJLink Class2, and agreement was confirmed by the PJLink standard adaptability verification.

### Non-compatible commands

Function		Command
Mute settings	Image muting set	AVMT 11
	Audio muting set	AVMT 21

### Input ports and corresponding input source number

Input port name	Input source number
HDMI	32
SD player	43
Spotlight	44
LAN	52

- Manufacturer name displayed for "Manufacture name information query"  
EPSON
- Model name displayed for "Product name information query"  
EPSON EV115/EV110

## Art-Net Channel Definitions

The following table lists the channel definitions used to control the projector in Art-Net. First, set Channel 13 to "Can control".

Channel	Function	Operation		Parameters		Default value	Description
				Min.	Max.		
1	Adjusting light (dimming)	0% - 100%		0	255	0	Adjusts the image brightness.
2	Shutter control	Shutter	Open	0	63	128	Enables/disables A/V Mute.
		Non-operational		64	191		
		Shutter	Close	192	255		
3	Switch source	Non-operational		0	7	0	Switches to the specified source.
		HDMI		8	15		
		LAN		16	23		
		SD player		24	31		
		Spotlight		32	39		
		Non-operational		40	255		
7	Zoom	(+ ) lens adjustment	Large	0	31	128	Zooms using the specified amount of movement.
			Medium	32	63		
			Small	64	95		
		Non-operational		96	159		
		(-) lens adjustment	Small	160	191		
			Medium	192	223		
			Large	224	255		
8	Electronic focus	(+ ) lens adjustment	Large	0	31	128	Performs electronic focus using the specified amount of movement.
			Medium	32	63		
			Small	64	95		
		Non-operational		96	159		
		(-) lens adjustment	Small	160	191		
			Medium	192	223		
			Large	224	255		

Channel	Function	Operation	Parameters		Default value	Description
			Min.	Max.		
10	Content playback	Non-operational	0	3	0	Plays the specified playlist.
		Playlist1	4	7		
		Playlist2	8	11		
		Playlist3	12	15		
		Playlist4	16	19		
		Playlist5	20	23		
		Playlist6	24	27		
		Playlist7	28	31		
		Playlist8	32	35		
		Playlist9	36	39		
		Playlist10	40	43		
		Playlist11	44	47		
		Playlist12	48	51		
		Playlist13	52	55		
		Playlist14	56	59		
		Playlist15	60	63		
		Playlist16	64	67		
		Playlist17	68	71		
		Playlist18	72	75		
		Playlist19	76	79		
		Playlist20	80	83		
		Playlist21	84	87		
		Playlist22	88	91		
		Playlist23	92	95		
		Playlist24	96	99		
		Playlist25	100	103		
		Playlist26	104	107		
		Playlist27	108	111		
		Playlist28	112	115		
		Playlist29	116	119		
		Playlist30	120	123		
		Playlist31	124	127		
		Playlist32	128	131		
Playlist33	132	135				
Playlist34	136	139				
Playlist35	140	143				
Playlist36	144	147				
Playlist37	148	151				
Playlist38	152	155				
Playlist39	156	159				
Playlist40	160	163				
Playlist41	164	167				
Playlist42	168	171				
Playlist43	172	175				
Playlist44	176	179				
Playlist45	180	183				
Playlist46	184	187				
Playlist47	188	191				
Playlist48	192	195				
Playlist49	196	199				
Playlist50	200	203				
Non-operational	204	255				
11	Power control	Power off	0	63	128	Turns the projector power on or off.
		Non-operational	64	191		
		Power on	192	255		
13	Lock	Cannot control	0	127	0	Enables/disables Art-Net operations.
		Can control	128	255		

If you are controlling the projector using Art-Net and operating it from the remote control, settings made by the DMX controller or application software may differ from the projector's actual status. If you want to apply all the channel controls to the projector, set Channel 13 to "Cannot control", then set it back to "Can control".



## ■ Image Quality Maintenance

### Clearing Afterimages (Refresh Mode)

If you project still images for an extended period of time, an afterimage may remain in the projected image. Use the Refresh Mode feature to clear it.

To use the effect functions, make sure you perform Refresh Mode regularly.

To perform Refresh Mode, select [Refresh Mode] from the projector's [Reset] menu.

After performing Refresh Mode, the power turns off after a set time has passed.

If the afterimage remains after performing Refresh Mode, contact Epson for help.

### Adjusting Color Balance (Light Source Calibration)

Performing light source calibration corrects the color balance of the light source.

We recommend running this function periodically.

You can perform and make settings for light source calibration from [Light Source Calibration] in the projector's [Reset] menu.

Select one of the following options.

- [Run Now]  
Starts light source calibration immediately. You may not be able to start the calibration in the following situations.
  - Within 30 minutes of turning on the projector.
  - When the environmental temperature is high and the brightness of the light source is automatically reduced.
- [Run Periodically]  
When [On] is set, every time the usage time reaches 100 hours, calibration starts automatically for the light source. If necessary, set to [Off] to prevent light source calibration from starting unexpectedly while projecting images.
- [Schedule Settings]  
Moves to the Schedule Settings screen.  
You can schedule periodic light source calibration events.  
We recommend setting a scheduled calibration when [Run Periodically] is set to [Off].

## ■ Cautions

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