

## PE506WL & PE506UL Installation Guide

Rev 1.0

Desktop and Ceiling Mount

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### Product Description

<b>Type:</b>	3 panel LCD Projector 0.64" p-Si TFT w/MLA	<b>Dimensions:</b>	PE506WL: 15.9" (W) x 5.4" (H) x 14.1" (D) PE506UL: 15.9" (W) x 5.4" (H) x 14.7" (D)
<b>Resolution:</b>	PE506WL: 1280 x 800 PE506UL: 1920 x 1200	<b>Weight:</b>	PE506WL: 17.3 lbs PE506UL: 17.5 lbs
<b>Fan Noise:</b>	37dB / 27dB @ 1 meter	<b>Brightness:</b>	5200 Lumens
<b>Power Consumption:</b>	PE506WL: 330W (max) PE506UL : 352W (max)	<b>BTU's:</b>	PE506WL: 1126 BTU/hour PE506UL : 1201 BTU/hour

### Lens Specifications

<b>Throw Ratio:</b>	PE506WL: 1.2 – 2.1:1 (for 100" diagonal) PE506UL: 1.22 – 1.98:1 (for 100" diagonal)	<b>Focal Length:</b>	PE506WL: 17.42mm – 28.99mm PE506UL: 17.2mm – 27.7mm
<b>Offset Angle:</b>	PE506WL: 9.4° - 15.4° (for 100" diagonal) PE506UL: 10.7° - 17.1° (for 100" diagonal)	<b>F/#:</b>	PE506WL: 1.7 - 2.21 PE506UL: 1.5 - 2.08
<b>Screen Sizes:</b>	30" - 300" diagonal (16:10)	<b>Manual Focus / Manual Zoom / Manual Shift</b>	

### Screen/Aspect Ratio

4:3, 16:9 and 16:10 screens are fully supported with proper aspect ratio control for both type sources using NEC developed scaling technology. Menu selections have settings for each screen type and aspect ratio control for each source type.

- For screen sizes not indicated on the projection tables, use the formulas below.  
If the figures on the tables do not match the results of formulas, use the figures in the table.
- Distances are in inches, for millimeters multiply by 25.4.
- Distances may vary  $\pm 5\%$ .

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#### Formulas for PE506WL

The Projection Formulas use the image width for calculation. Image width is the same for all aspect ratios, only vertical image size varies. For proper projection placement, determine the image width for the desired screen size. Use the Screen Formulas below to calculate all screen dimensions. Plug in the width for "W" in the Projection Formulas. Refer to the diagrams and charts for popular screen sizes on page 2:

#### Projection Formulas:

$$C \text{ (wide)} = 1.267W - 1.547$$

$$C \text{ (tele)} = 2.103W - 1.539$$

$$\text{Vertical Lens Shift: Max} = 0.55H$$

$$\text{Horizontal Lens Shift: Max} = 0.26W, \text{ Min} = -0.26W$$

#### Definitions:

W = Image Width

H = Image Height (size)

C = Throw distance

#### 16:10 Screen Formulas

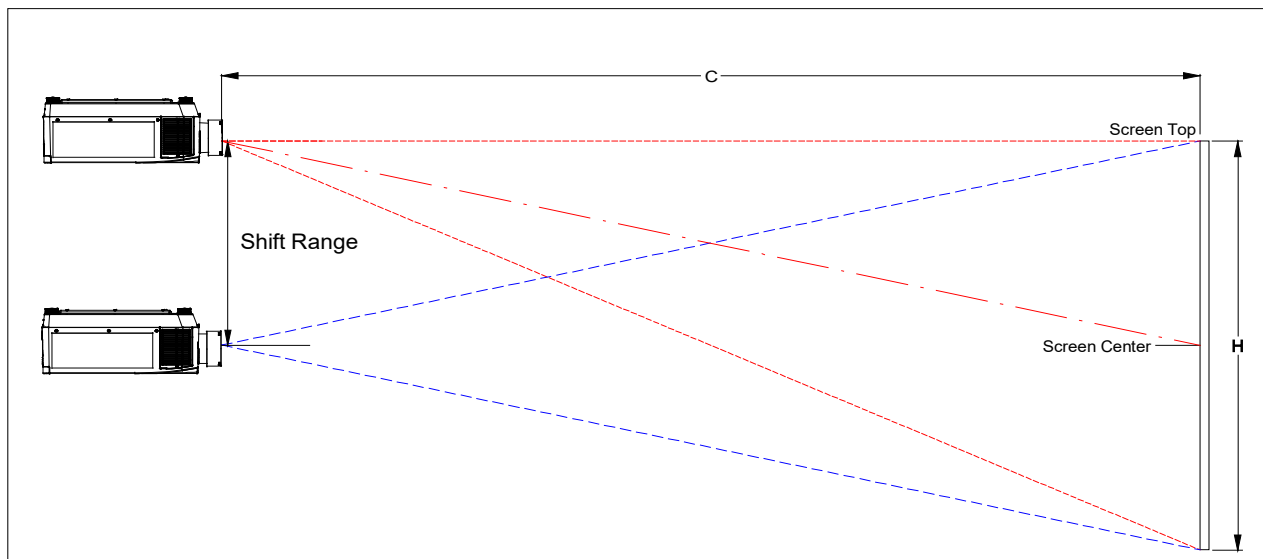
$$W = H \times 16/10$$

$$H = W \times 10/16$$

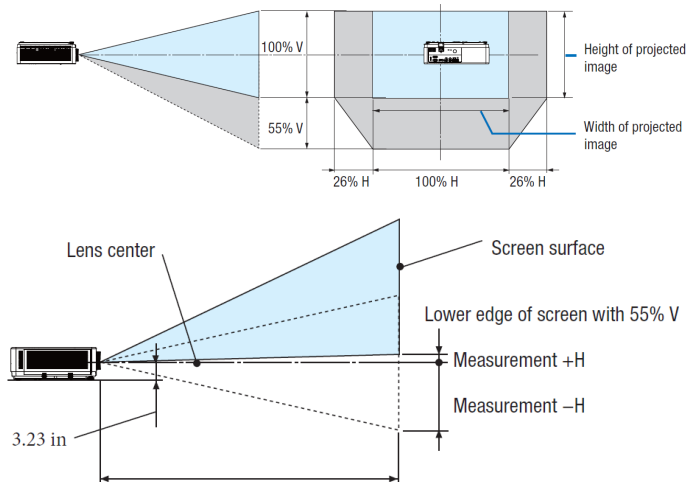
$$\text{Diagonal} = W \times 18.868/16$$

#### Diagrams and Distance Charts for PE506WL

The following shows the proper relative positions of the projector and screen. Refer to the table to determine the position of installation.



Screen Size (16:10)			C wide - tele	Vertical Lens Shift	Horizontal Lens Shift
Diagonal	Width(W)	Height (H)			
inches	inches	inches	inches	inches	inches
30	25	16	31 - 52	0.0 - 8.7	-6.6 - 6.6
60	51	32	63 - 105	0.0 - 17.5	-13.2 - 13.2
80	68	42	84 - 141	0.0 - 23.3	-17.6 - 17.6
90	76	48	95 - 159	0.0 - 26.2	-19.8 - 19.8
100	85	53	106 - 177	0.0 - 29.1	-22.0 - 22.0
110	93	58	117 - 195	0.0 - 32.1	-24.3 - 24.3
120	102	64	127 - 212	0.0 - 35.0	-26.5 - 26.5
130	110	69	138 - 230	0.0 - 37.9	-28.7 - 28.7
150	127	79	160 - 266	0.0 - 43.7	-33.1 - 33.1
200	170	106	213 - 355	0.0 - 58.3	-44.1 - 44.1
300	254	159	321 - 534	0.0 - 87.4	-66.1 - 66.1



Note: For screen sizes not indicated on the projection tables, use the formulas above.

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#### Formulas for PE506UL

The Projection Formulas use the image width for calculation. Image width is the same for all aspect ratios, only vertical image size varies. For proper projection placement, determine the image width for the desired screen size. Use the Screen Formulas below to calculate all screen dimensions. Plug in the width for "W" in the Projection Formulas. Refer to the diagrams and charts for popular screen sizes on page 2:

#### Projection Formulas:

$$C \text{ (wide)} = 1.238W - 1.394$$

$$C \text{ (tele)} = 1.999W - 1.326$$

$$\text{Vertical Lens Shift: Max} = 0.60H$$

$$\text{Horizontal Lens Shift: Max} = 0.29W, \text{ Min} = -0.29W$$

#### Definitions:

W = Image Width

H = Image Height (size)

C = Throw distance

#### 16:10 Screen Formulas

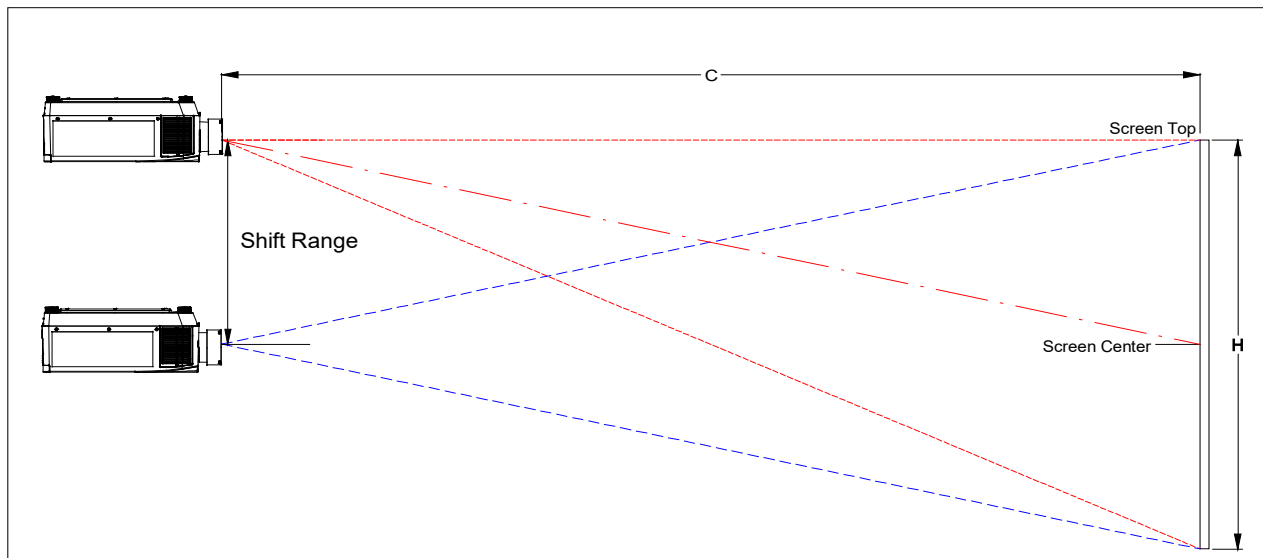
$$W = H \times 16/10$$

$$H = W \times 10/16$$

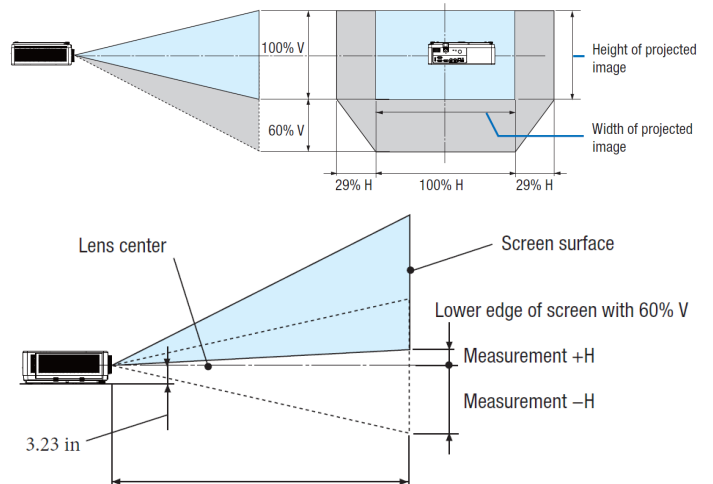
$$\text{Diagonal} = W \times 18.868/16$$

#### Diagrams and Distance Charts for PE506UL

The following shows the proper relative positions of the projector and screen. Refer to the table to determine the position of installation.



Screen Size (16:10)			C wide - tele	Vertical Lens Shift	Horizontal Lens Shift
Diagonal	Width(W)	Height (H)			
inches	inches	inches	inches	inches	inches
30	25	16	30 - 50	0.0 - 9.5	-7.4 - 7.4
60	51	32	62 - 100	0.0 - 19.1	-14.8 - 14.8
80	68	42	83 - 134	0.0 - 25.4	-19.7 - 19.7
90	76	48	93 - 151	0.0 - 28.6	-22.1 - 22.1
100	85	53	104 - 168	0.0 - 31.8	-24.6 - 24.6
110	93	58	114 - 185	0.0 - 35.0	-27.1 - 27.1
120	102	64	125 - 202	0.0 - 38.2	-29.5 - 29.5
130	110	69	135 - 219	0.0 - 41.3	-32.0 - 32.0
150	127	79	156 - 253	0.0 - 47.7	-36.9 - 36.9
200	170	106	209 - 338	0.0 - 63.6	-49.2 - 49.2
300	254	159	314 - 507	0.0 - 95.4	-73.8 - 73.8



Note: For screen sizes not indicated on the projection tables, use the formulas above.

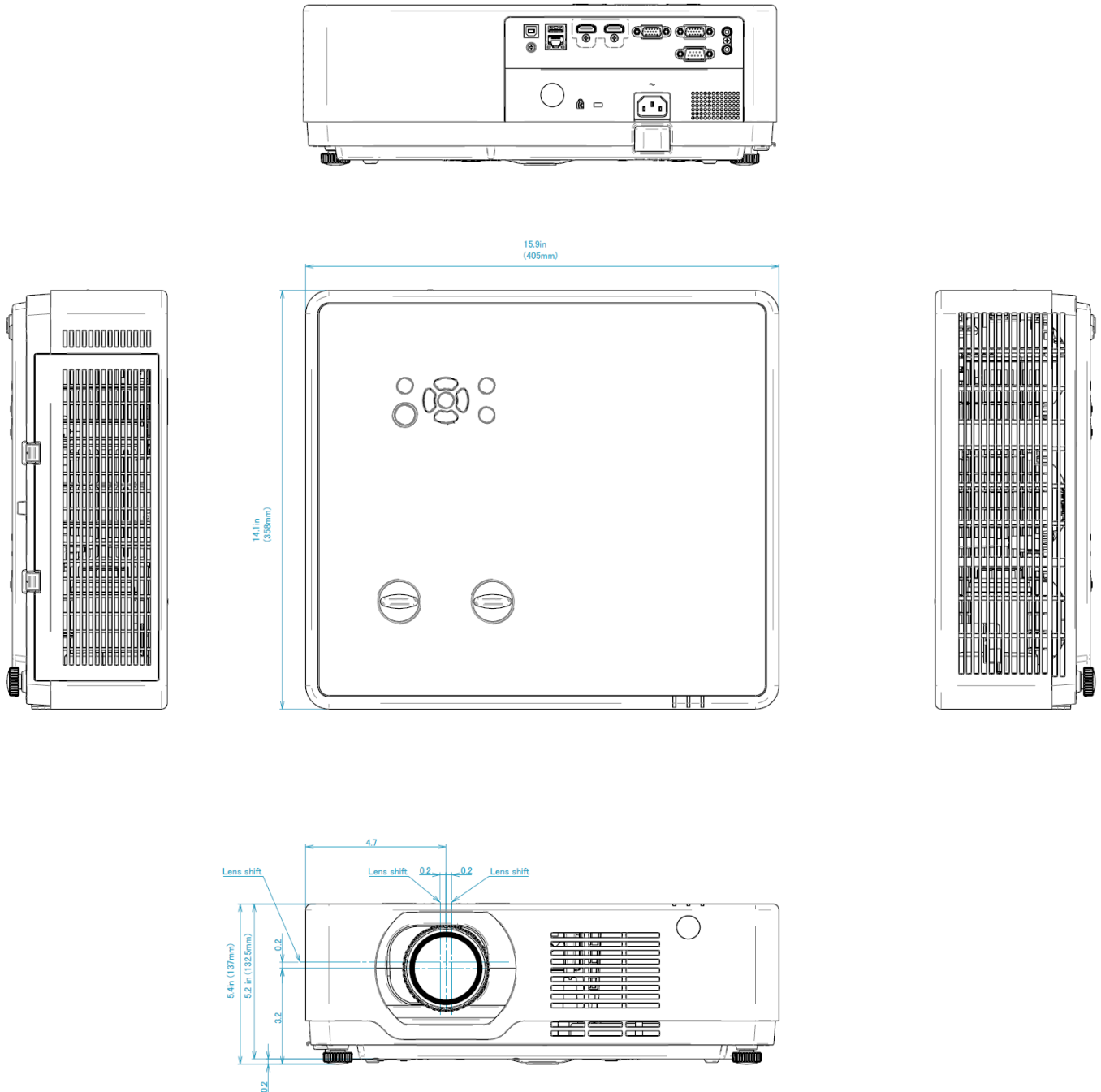
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### Cabinet Dimensions (PE506WL)

The following drawings show the cabinet dimensions. Dimensions are in inches unless noted. For millimeters multiply by 25.4.



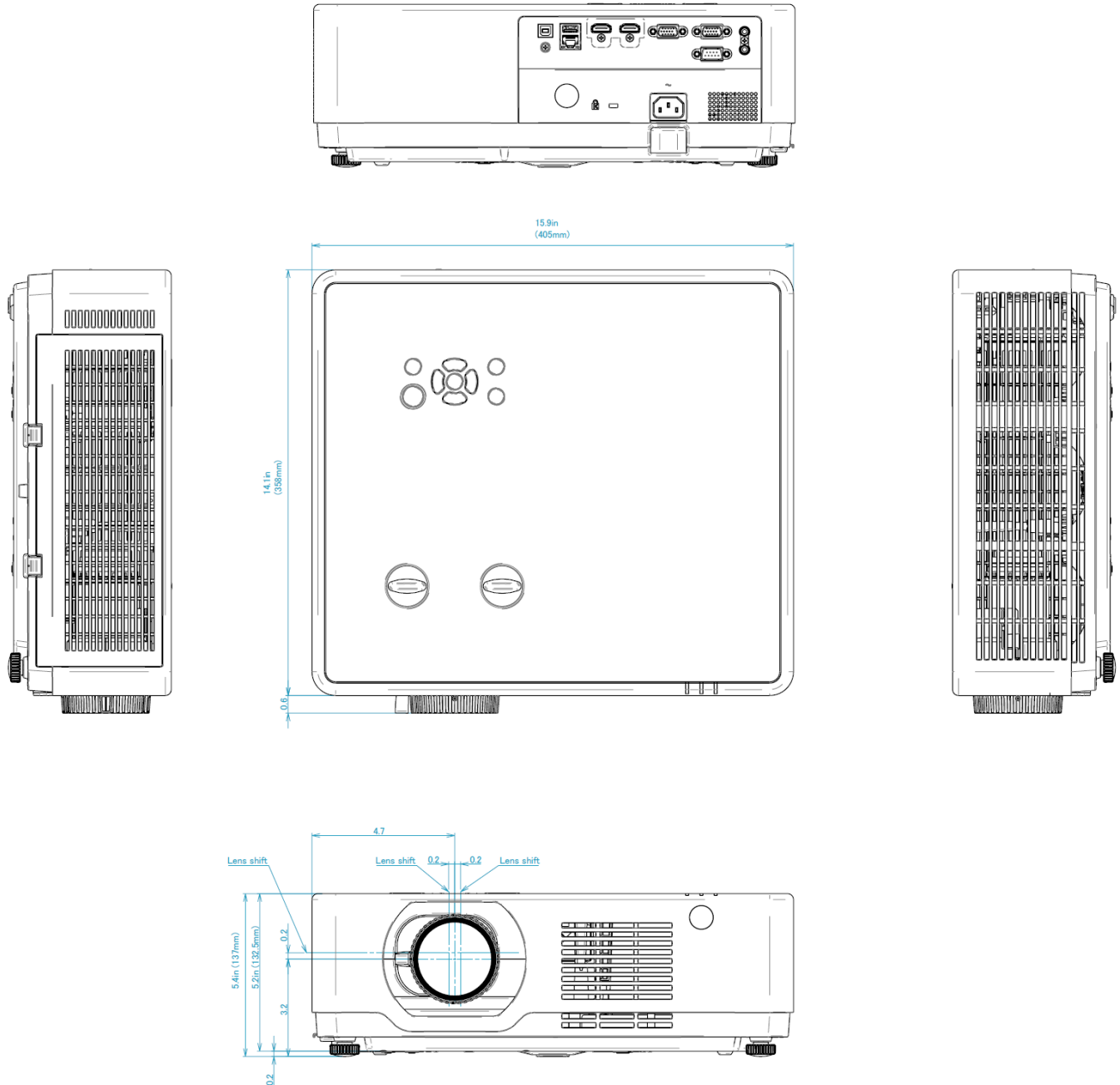
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### Cabinet Dimensions (PE506UL)

The following drawings show the cabinet dimensions.  
Dimensions are in inches unless noted. For millimeters multiply by 25.4.



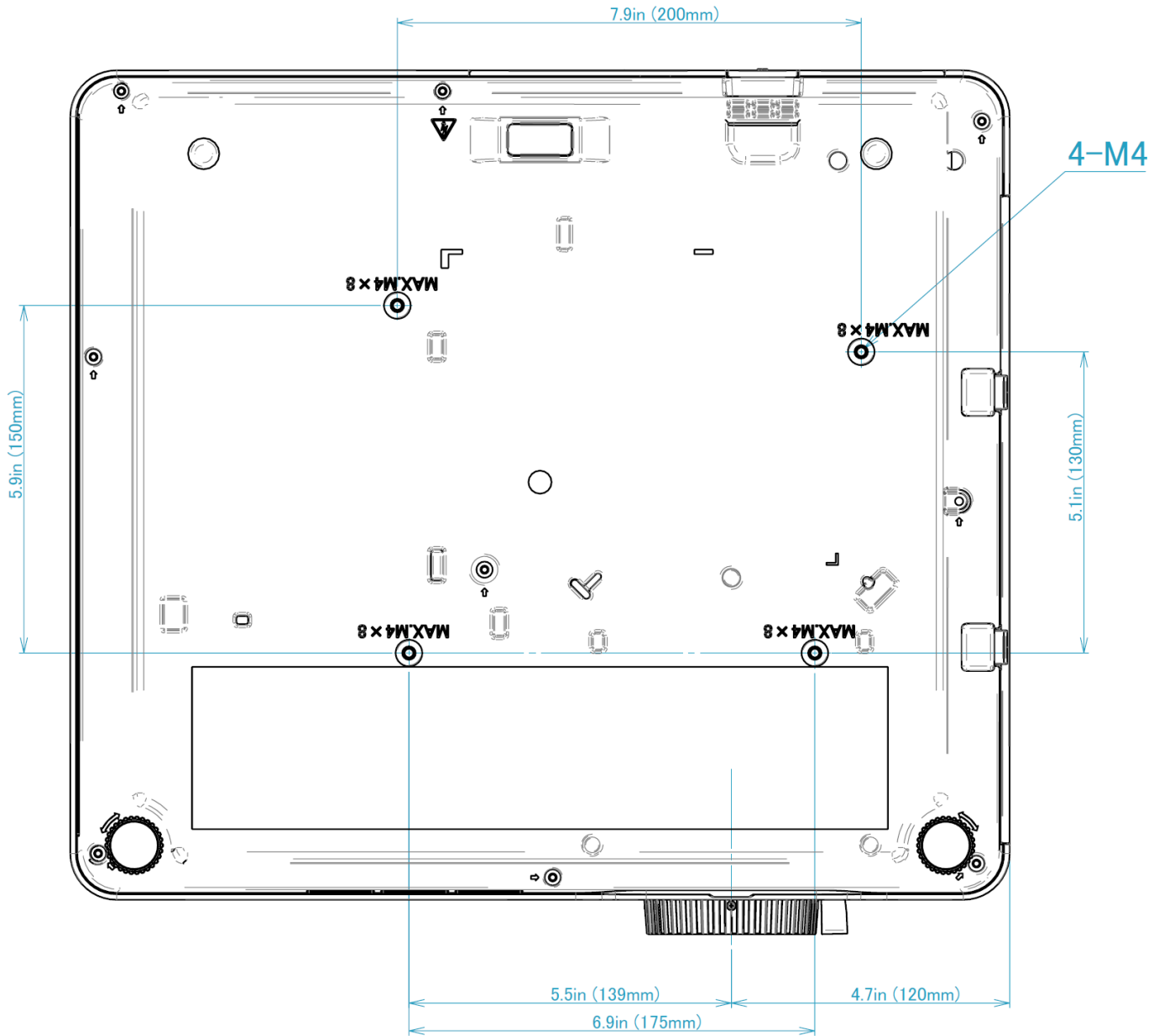
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### Cabinet Dimensions (continued)

The following drawing shows the mounting hole locations with mount pattern dimensions.



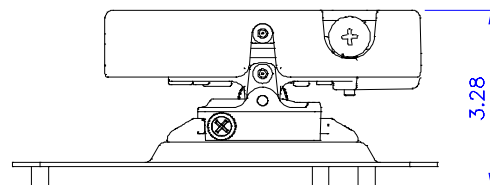
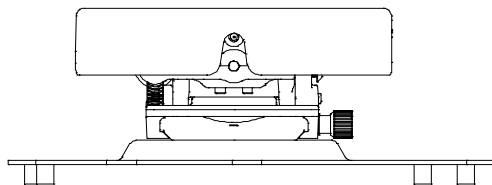
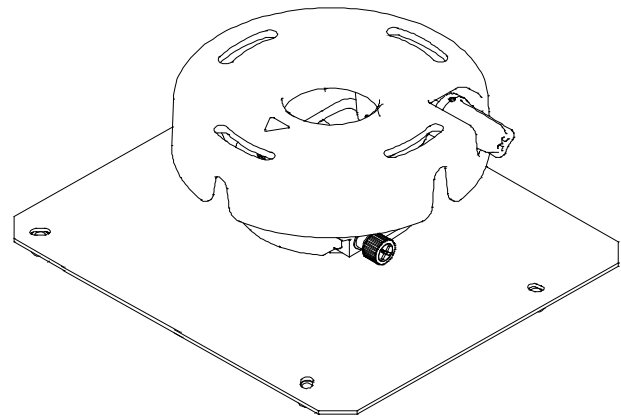
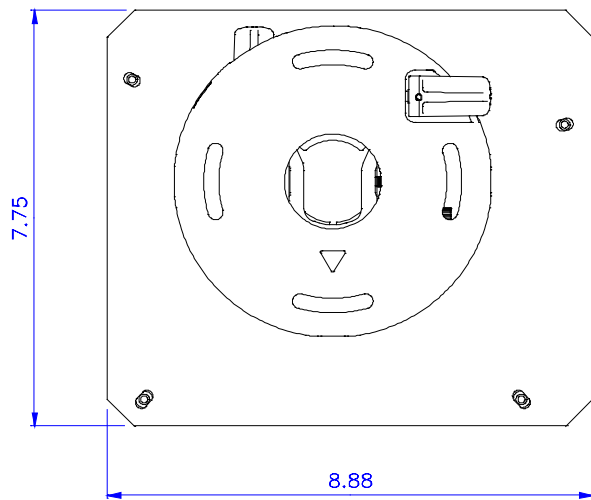
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### Optional Ceiling Mount Dimensions (Model #: MP300CM)

The following drawings show the ceiling mount dimensions.  
Dimensions are in inches. For millimeters multiply by 25.4.

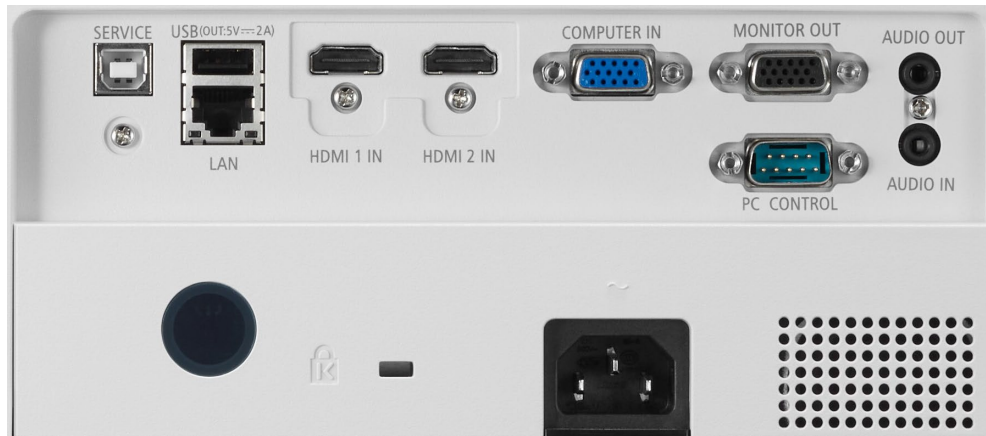


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### Input / Output Panel



### PC Control Codes

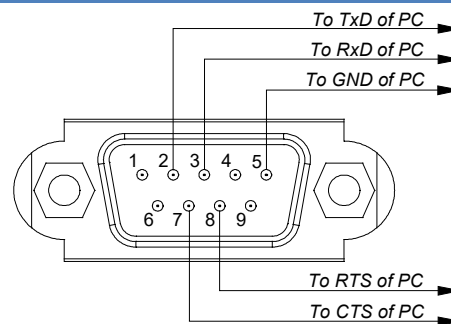
Function	Code Data
POWER ON	02H 00H 00H 00H 00H 02H
POWER OFF	02H 01H 00H 00H 00H 03H
INPUT SELECT COMPUTER	02H 03H 00H 00H 02H 01H 01H 09H
INPUT SELECT HDMI 1	02H 03H 00H 00H 02H 01H 1AH 22H
INPUT SELECT HDMI 2	02H 03H 00H 00H 02H 01H 1BH 23H
INPUT SELECT USB-A	02H 03H 00H 00H 02H 01H 1FH 27H
INPUT SELECT LAN	02H 03H 00H 00H 02H 01H 20H 28H
PICTURE MUTE ON	02H 10H 00H 00H 00H 12H
PICTURE MUTE OFF	02H 11H 00H 00H 00H 13H
SOUND MUTE ON	02H 12H 00H 00H 00H 14H
SOUND MUTE OFF	02H 13H 00H 00H 00H 15H

**Note:** Contact your Sharp NEC rep for codes not listed.

### Cable Connection

#### Communication Protocol:

Baud Rate: 960/4800/19200/38400 bps  
 Data Length: 8 bits  
 Parity: No Parity  
 Stop Bit: One Bit  
 X on/off: None  
 Communications: Full duplex



#### PC Control Terminal (D-Sub 9P)

**NOTE 1:** Pins 1, 4, 6, and 9 are not used inside the projector.

**NOTE 2:** For long cable runs it is recommended to set communication speed within the projector to 9600 bps.

**NOTE 3:** Jumper "Request to Send" and "Clear to Send" together on both ends of the cable to simplify cable connection.