

PA653UL & PA803UL Installation Guide

Desktop and Ceiling Mount

Rev 1.0

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Product Description

Type:	3 panel LCD projector, 0.76 p-Si TFT w/MLA	Dimensions: 22.8"(W) x 8.2"(H) x 19.3"(D)
		Weight: 40.1 lbs

Resolution: 1920 x 1200 (16:10)

Brightness: PA653UL: 6500 Lumens
PA803UL: 8000 Lumens

Fan Noise: 39 dB / 33dB @ 1 meter

Power Consumption: PA653UL: 627W (max)
PA803UL: 798W (max)

BTU's: PA653UL: 2131 BTU/hour
PA803UL: 2713 BTU/hour

Network Ready, integrated wired and wireless adapter
Manual: Lens Shift, Horizontal & Vertical /Zoom/ Focus

Lens Specifications

NP40ZL:	Throw Ratio: 0.79 – 1.11:1	Focal Length: 13.3 – 18.6mm	NP43ZL:	Throw Ratio: 2.99 – 5.93:1	Focal Length: 49.7 – 99.8mm
	Screen Sizes: 50"-150"	F/#:2.0 - 2.5		Screen Sizes: 50" - 500"	F/#:2.2 -2.6
NP41ZL:	Throw Ratio: 1.30 – 3.02:1	Focal Length: 21.8 – 49.8mm			
	Screen Sizes: 50" - 500"	F/#:1.7 – 2.0			

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.

Notes

- 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: 16:10 Aspect Ratio (WUXGA)

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 projector placement, determine the image width for a desired screen size. Use the Screen Formulas below to calculate all screen dimensions. Plug in the image width for "W" in the Projection Formulas.

Refer to the diagrams and charts for popular screen sizes on page 2 and 3:

Projection Formulas:

NP40ZL: C(Wide) = 0.807W – 1.535 ----- C(Tele) = 1.131W – 1.632

NP41ZL: C(Wide) = 1.323W – 1.763 ----- C(Tele) = 3.034W – 1.539

NP43ZL: C(Wide) = 2.929W + 5.143 ----- C(Tele) = 5.878W + 4.320

Definitions:

W = Image Width

H = Image Height (size)

C = Throw distance

16:10 Screen Formulas

W = H x 16/10

H = W x 10/16

Screen Diagonal = W x 18.868/16

Distance Chart for popular 16:10 Screens (WUXGA)

Screen Size (16:10)			Zoom Lenses		
			NP40ZL	NP41ZL	NP43ZL
Diagonal	Width(W)	Height (H)	0.79 - 1.11:1	1.30 - 3.02:1	2.99 - 5.93:1
inches	inches	inches	inches	inches	inches
60	51	32	39.5 - 55.9	65.6 - 152.8	154.2 - 303.4
67	57	36	44.3 - 62.6	73.4 - 170.8	171.6 - 338.3
72	61	38	47.7 - 67.4	79.0 - 183.7	184.0 - 363.2
84	71	45	55.9 - 78.9	92.5 - 214.6	213.8 - 423.0
90	76	48	60.1 - 84.7	99.2 - 230.0	228.7 - 452.9
100	85	53	66.9 - 94.3	110.4 - 255.7	253.5 - 502.8
120	102	64	80.6 - 113.5	132.9 - 307.2	303.2 - 602.5
150	127	79	101.1 - 142.2	166.5 - 384.4	377.7 - 752.0
180	153	95	121.6 - 171.0	200.2 - 461.6	452.2 - 901.5
210	178	111	142.2 - 199.8	233.8 - 538.8	526.7 - 1051.1
240	204	127	162.7 - 228.5	267.5 - 615.9	601.3 - 1200.6
270	229	143	183.2 - 257.3	301.1 - 693.1	675.8 - 1350.1
300	254	159	203.8 - 286.1	334.8 - 770.3	750.3 - 1499.7
400	339	212	272.2 - 382.0	447.0 - 1027.6	998.7 - 1998.1
500	424	265	340.6 - 477.9	559.2 - 1284.9	1247.0 - 2496.6

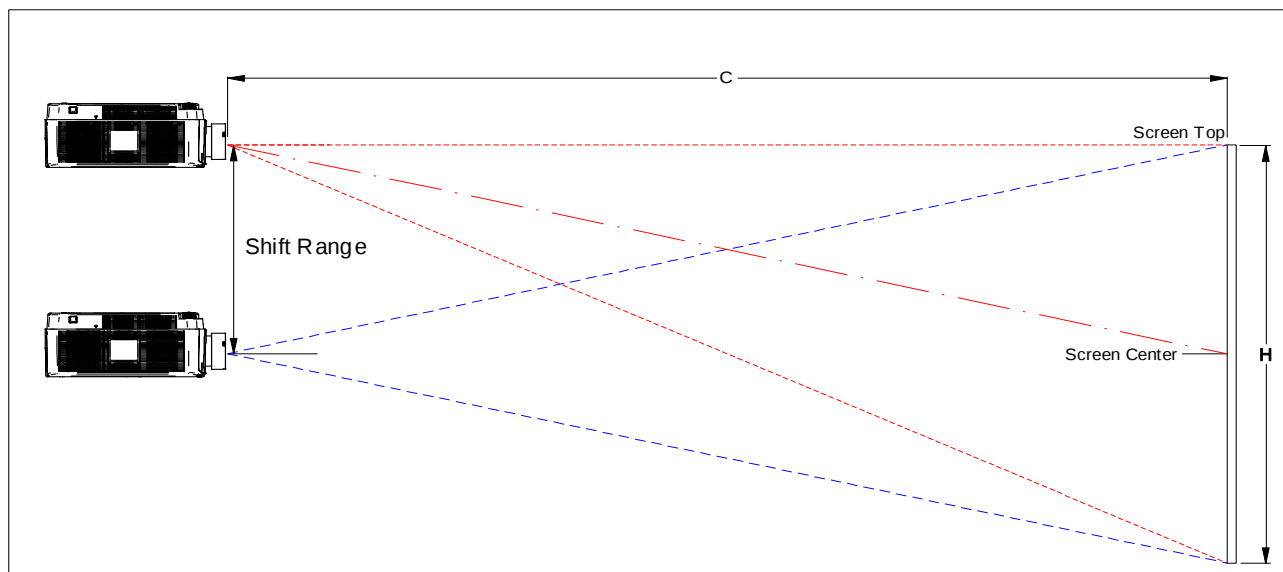
Note: For screen sizes not indicated in projection tables, refer to formulas above respective charts.

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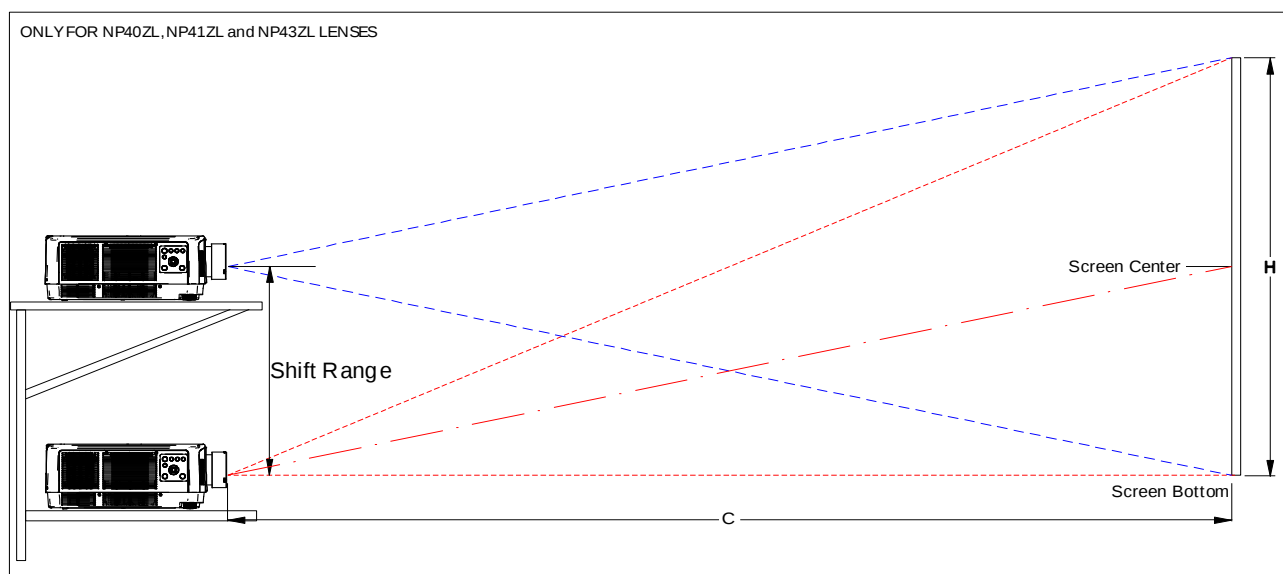
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Ceiling Mount Installation



Desktop Installation

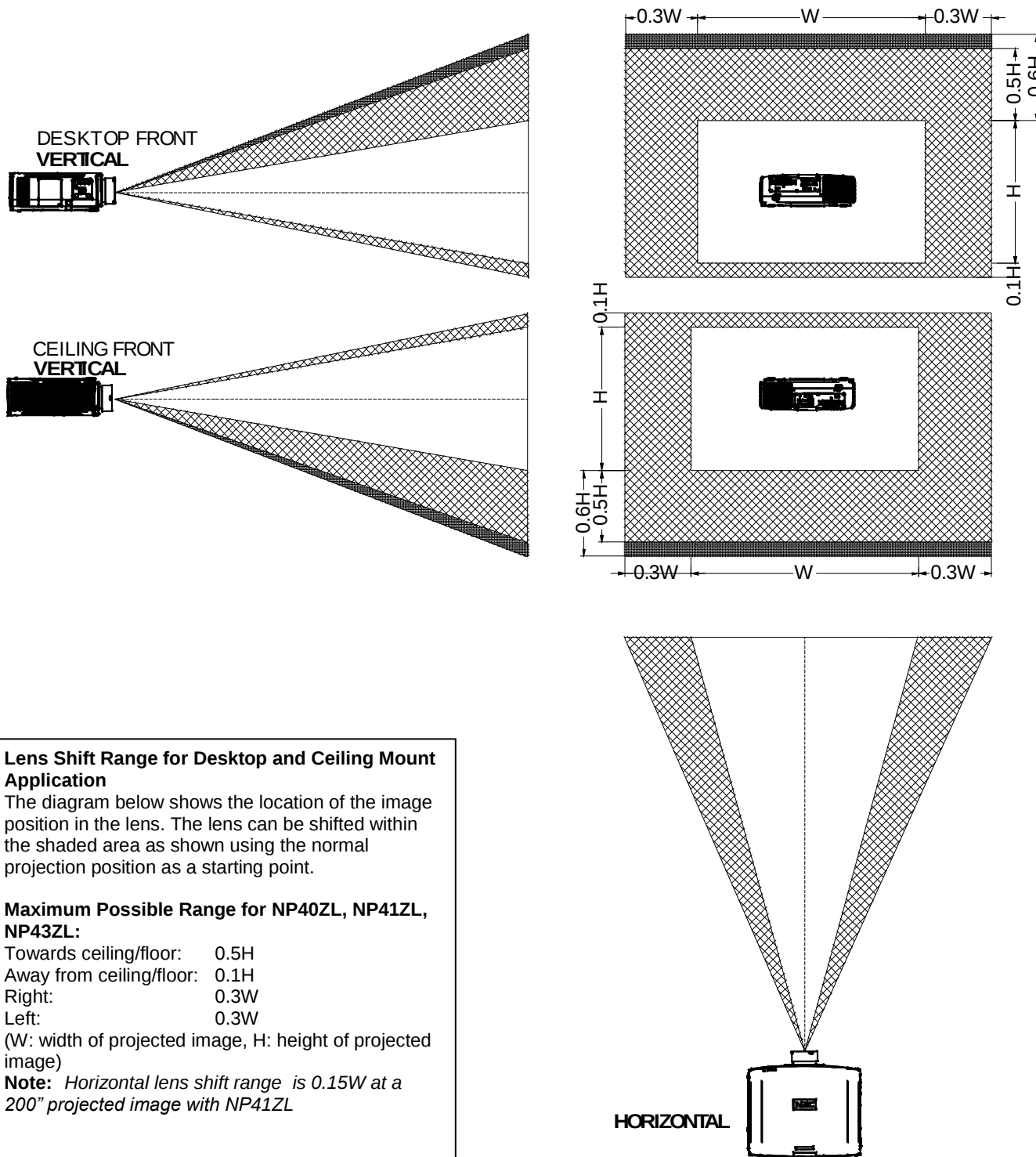


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Lens Shift Adjustable Range



Lens Shift Range for Desktop and Ceiling Mount Application

The diagram below shows the location of the image position in the lens. The lens can be shifted within the shaded area as shown using the normal projection position as a starting point.

Maximum Possible Range for NP40ZL, NP41ZL, NP43ZL:

Towards ceiling/floor: $0.5H$

Away from ceiling/floor: $0.1H$

Right: $0.3W$

Left: $0.3W$

(W: width of projected image, H: height of projected image)

Note: Horizontal lens shift range is $0.15W$ at a 200" projected image with NP41ZL

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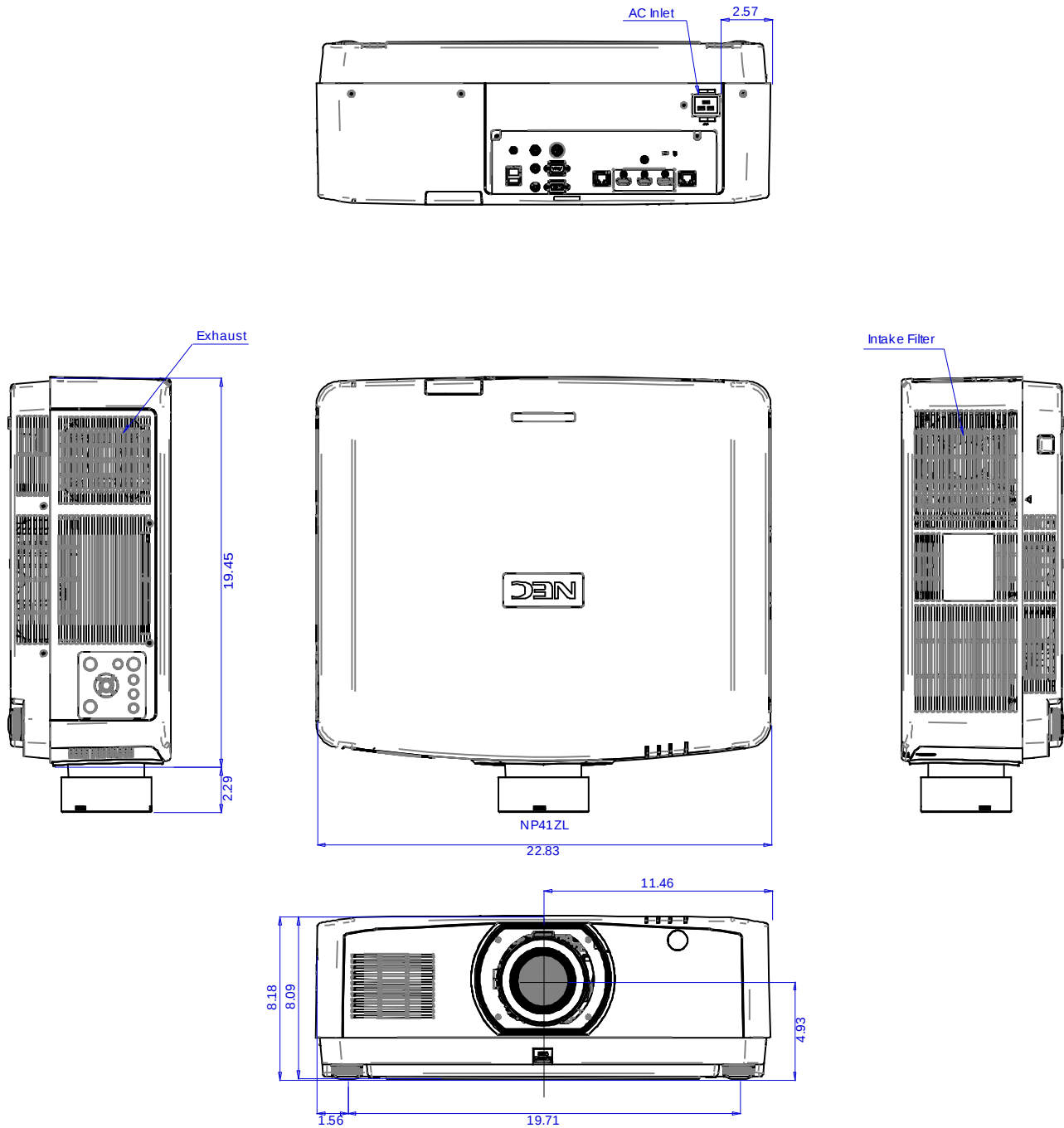
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Cabinet Dimensions

The following diagrams show the cabinet dimensions for the PA653UL/PA803UL.

Dimensions are in inches. For millimeters multiply by 25.4.

Note: Dimensions below shown with the NP41ZL lens

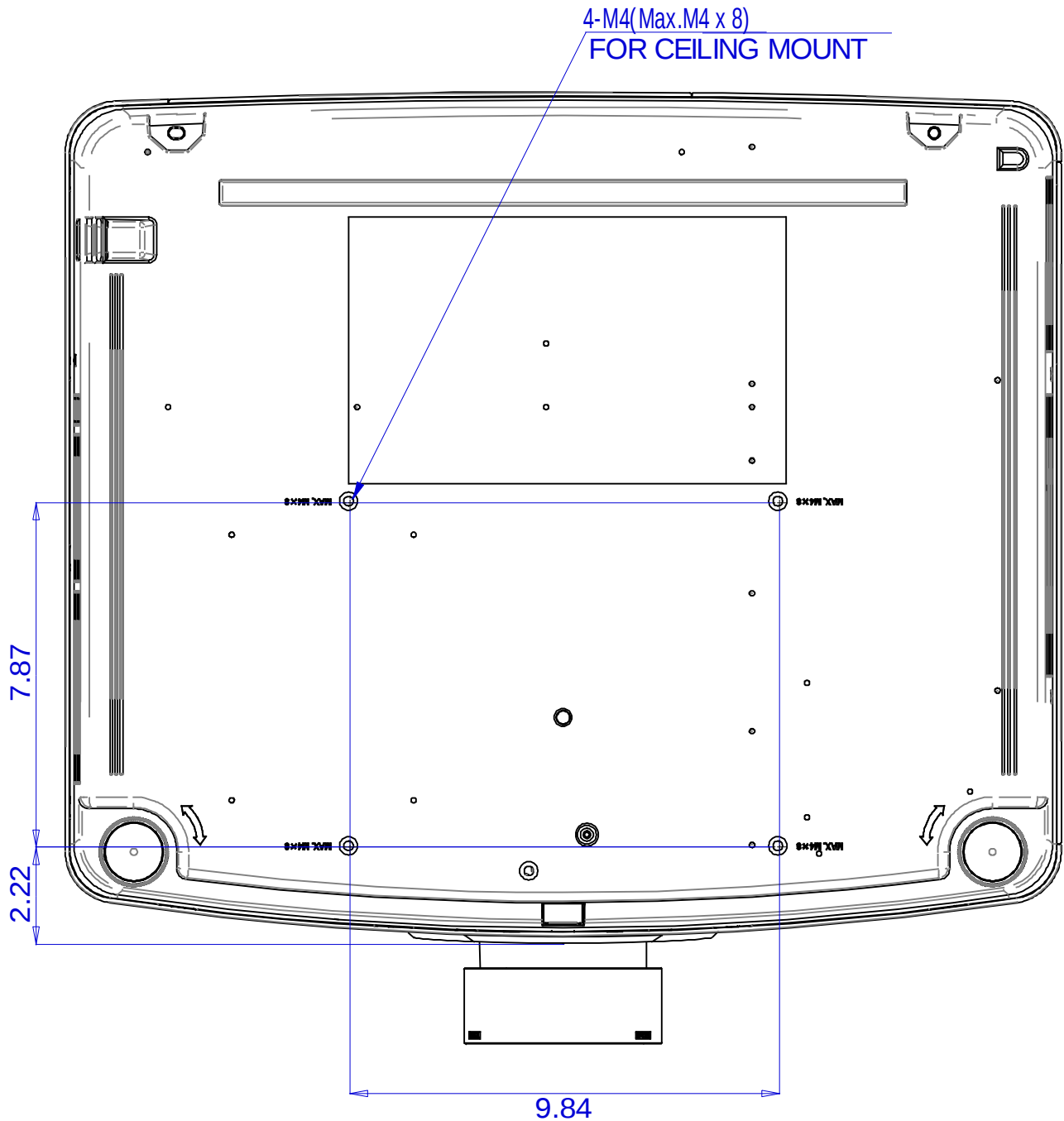


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Cabinet Dimensions

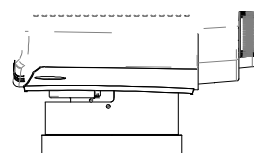
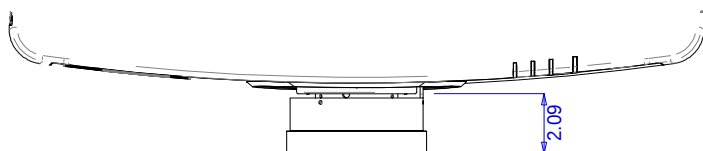


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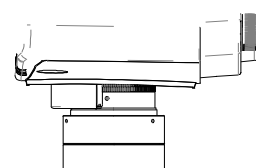
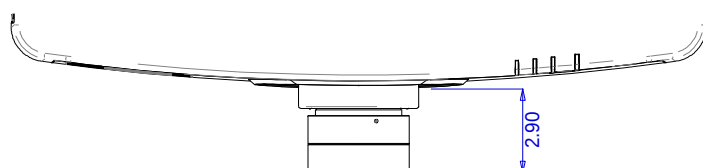
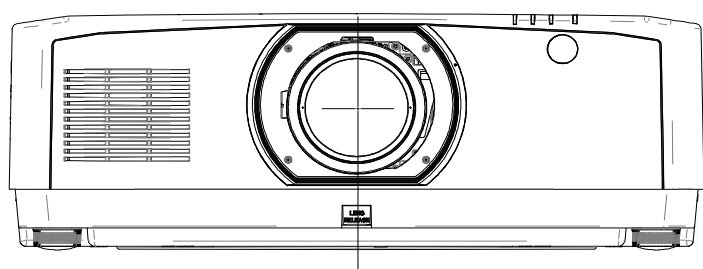
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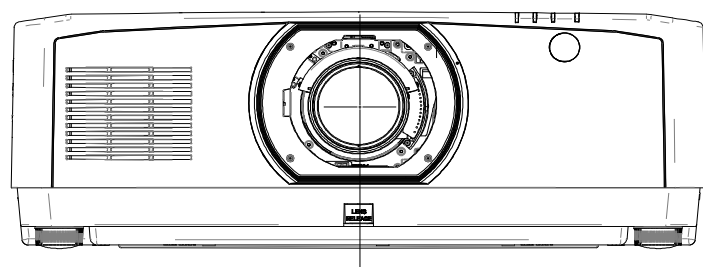
Optional Lens Dimensions (NP40ZL and NP43ZL)



NP40ZL



NP43ZL



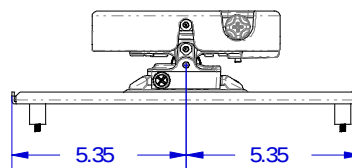
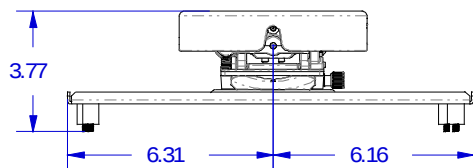
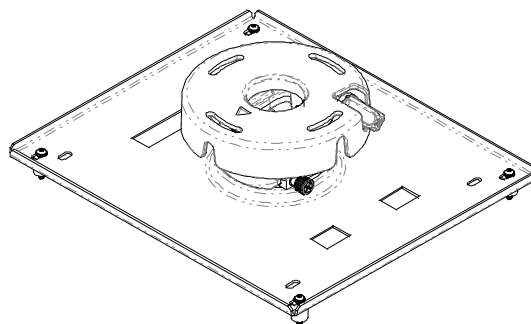
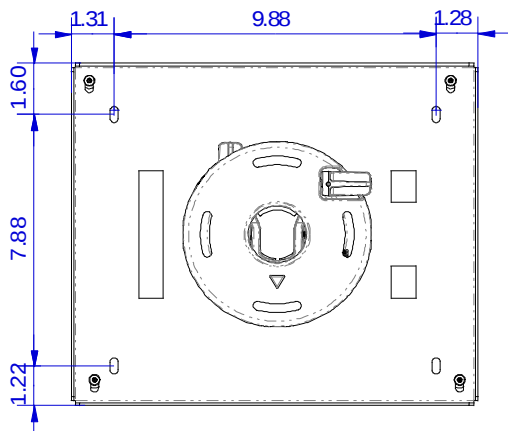
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Optional Ceiling Mount Dimensions (Part #: NP600CM)

The following diagrams show ceiling mount dimensions for the NP600CM. Dimensions are in inches. For millimeters multiply by 25.4.



Input Panel



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PC Control Codes

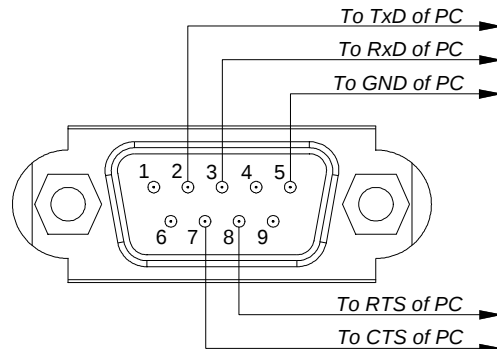
Function	Code Data										
POWER ON	02H	00H	00H	00H	00H	02H					
POWER OFF	02H	01H	00H	00H	00H	03H					
INPUT SELECT HDMI1	02H	03H	00H	00H	02H	01H	A1H	A9H			
INPUT SELECT HDMI2	02H	03H	00H	00H	02H	01H	A2H	AAH			
INPUT SELECT DisplayPort	02H	03H	00H	00H	02H	01H	A6H	AEH			
INPUT SELECT Computer	02H	03H	00H	00H	02H	01H	01H	09H			
INPUT SELECT HDBaseT	02H	03H	00H	00H	02H	01H	BFH	C7H			
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					
ON SCREEN MUTE ON	02H	14H	00H	00H	00H	16H					
ON SCREEN MUTE OFF	02H	15H	00H	00H	00H	17H					
ASPECT RATIO (4:3 Screen)											
4:3	03H	10H	00H	00H	05H	18H	00H	00H	00H	00H	30H
LETTERBOX	03H	10H	00H	00H	05H	18H	00H	00H	01H	00H	31H
WIDESCREEN	03H	10H	00H	00H	05H	18H	00H	00H	02H	00H	32H
ZOOM	03H	10H	00H	00H	05H	18H	00H	00H	03H	00H	33H
ASPECT RATIO (RGB)											
4:3 WINDOW	03H	10H	00H	00H	05H	18H	00H	00H	00H	00H	30H
16:9	03H	10H	00H	00H	05H	18H	00H	00H	02H	00H	32H
5:4	03H	10H	00H	00H	05H	18H	00H	00H	0BH	00H	3BH
16:10	03H	10H	00H	00H	05H	18H	00H	00H	0CH	00H	3CH
15:9	03H	10H	00H	00H	05H	18H	00H	00H	0DH	00H	3DH
AUTO ADJUST	02H	0FH	00H	00H	02H	05H	00H	18H			

Cable Connection

Communication Protocol:

Baud Rate: 38400 bps (for cable lengths longer than 20', it is recommended changing to 9600 bps in setup menu)
 Data Length: 8 bits
 Parity: No Parity
 Stop Bit: One bit
 X on/off: None
 Communications: Full duplex

PC Control Connector (D-Sub 9P)



NOTE 1 : Pins 1, 4, 6, and 9 are 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.