

NP500W Installation Guide

Ceiling Mounted and Desktop

Rev 1.1

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Product Description

Type:	3 panel LCD projector, 0.59" p-Si TFT w/MLA	Dimensions:	308 mm (W) x 93,5mm (H) x 262mm (D)
Resolution:	1280 x 800	Weight:	2,98 Kg
Fan Noise:	35 dB / 29dB @ 1 meter	Brightness:	NP500W – 3000 Lumens
Power Consumption:	NP500W = 325W (max)	BTU's:	1007 BTU/hour

Lens Specifications

Throw Ratio:	1.4 – 1.6:1 (for 100" diagonal)	Focal Length:	17.7mm – 21.2mm
Offset Angle:	7.6° - 9.2° (for 100" diagonal)	F/#:	1.7 - 2.0
Screen Sizes:	21" - 300" diagonal (4:3)	Manual Focus/Manual Zoom	

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.
- All calculations are based on a 4:3 aspect ratio.
- Distances may vary $\pm 5\%$.

Formulas

The Projection Formulas use the image width for calculation. 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:

Definitions:

W = Image Width
H = Image Height (size)
B = Vertical distance between lens center and screen center
C = Throw distance
D = Vertical distance between lens center and screen top
(screen bottom for desktop application)

16:10 Screen Formulas:

W = H x 16/10
H = W x 10/16
Screen Diagonal = W x 18.868/16

Projection Formulas:

B = 0.232W
C (wide) = 1.3702W – 1.173
C (tele) = 1.6526W – 1.176
D = 0.097W
 α (wide) = $\tan^{-1}$ (B/C(wide))
 α (tele) = $\tan^{-1}$ (B/C(tele))

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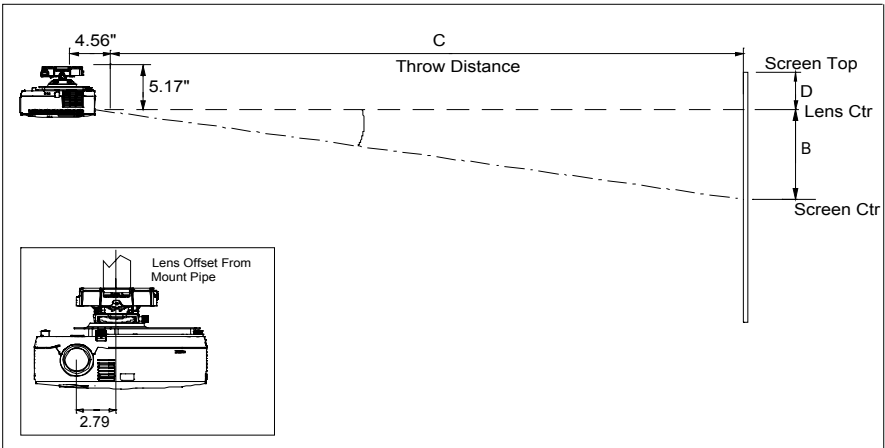
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Diagrams and Distance Charts

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

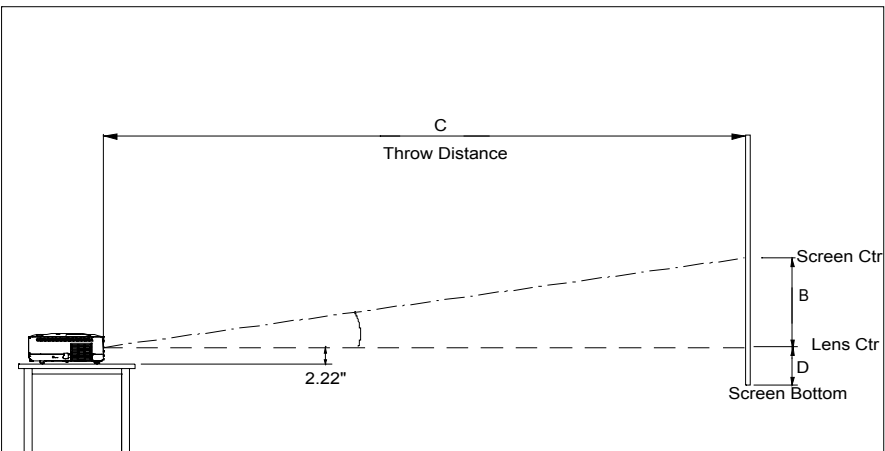
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Figures are in inches.
For millimeters multiply by 25.4



Desktop

Figures are in inches.
For millimeters multiply by 25.4



Distance Chart for
popular 16:10

Image Size (16:10) on a (16:10) screen			B	C wide- tele		D	α wide- tele	
Diagonal	Width(W)	Hight (H)						
mm	mm	mm	mm	mm		mm	mm	
2159	1829	1143	424	2505	- 3021	-177	233,7	- 193,0
813	1981	1245	460	2713	- 3273	-192	233,7	- 193,0
965	2108	1321	489	2887	- 3483	-204	233,7	- 193,0
2591	2184	1372	507	2992	- 3609	-212	233,7	- 193,0
2819	2388	1499	554	3270	- 3945	-232	233,7	- 193,0
2870	2438	1524	566	3340	- 4029	-237	233,7	- 193,0
3124	2642	1651	613	3618	- 4364	-256	233,7	- 193,0
3175	2692	1676	625	3688	- 4448	-261	233,7	- 193,0
3734	3175	1981	737	4349	- 5246	-308	231,1	- 193,0
3785	3200	2007	742	4384	- 5288	-310	231,1	- 193,0
5410	4597	2870	1067	6298	- 7596	-446	231,1	- 193,0
6477	5486	3429	1273	7516	- 9066	-532	231,1	- 193,0

Note: For screen sizes not indicated on the projection tables, use the formulas on page 1.

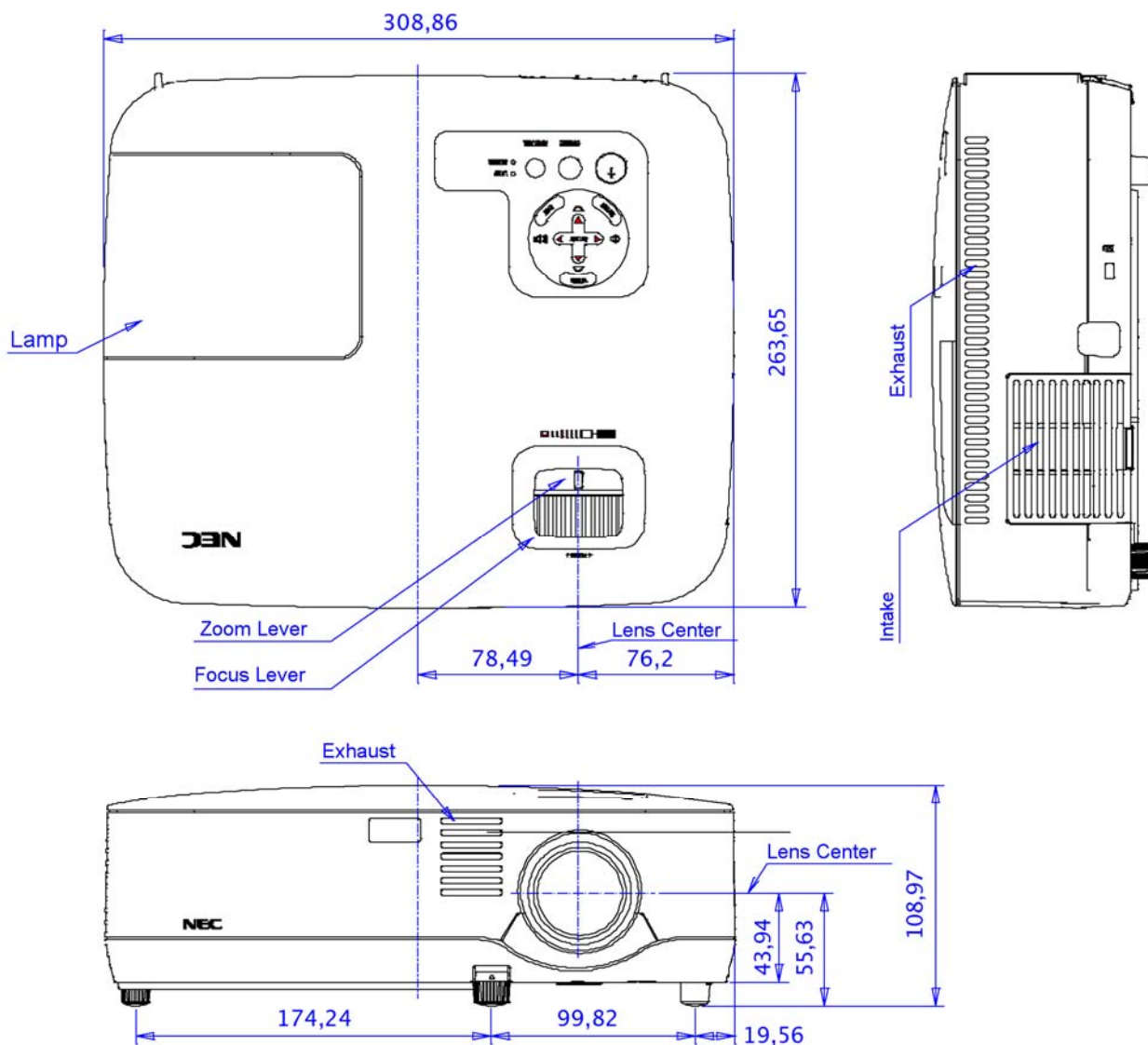
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Cabinet Dimensions

The following drawings show the cabinet dimensions.
Dimensions are in mm.



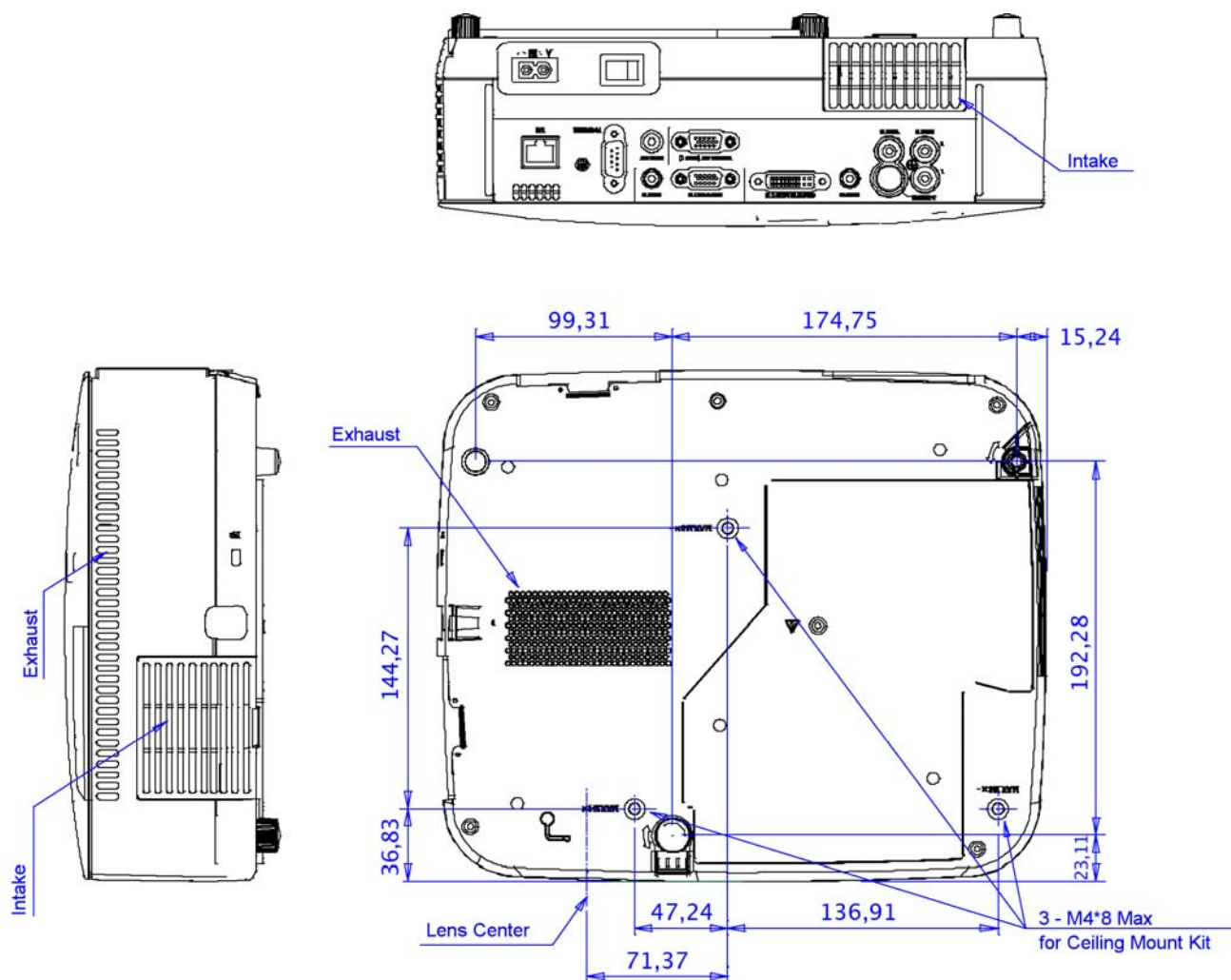
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Cabinet Dimensions (continued)

The following drawings show the cabinet dimensions.
Dimensions are in mm.



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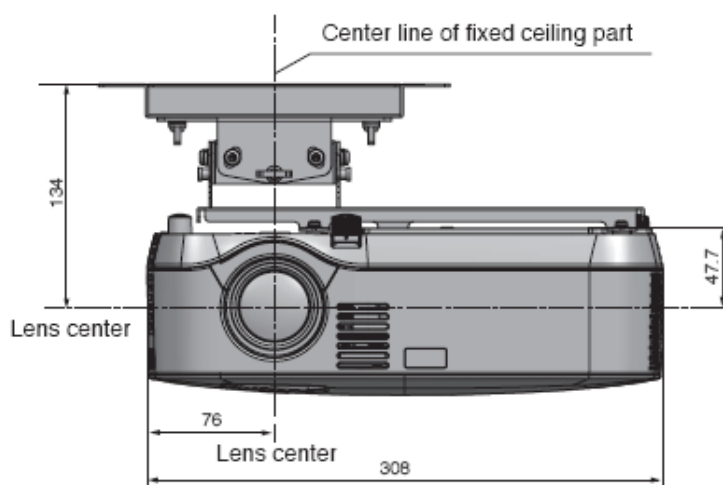
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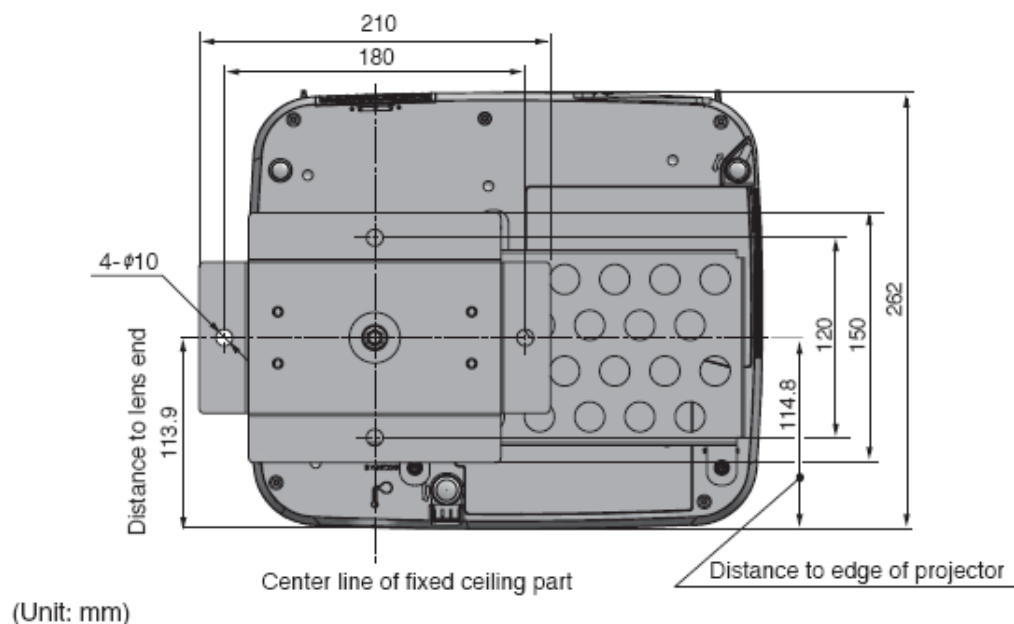
Optional Ceiling Mount Dimensions (Model #: NP08CM)

The following drawings show the ceiling mount dimensions.

Fixed Ceiling Part and Lens Center Dimensions Diagram



Fixed Ceiling Part Bolt Hole Position Dimensions

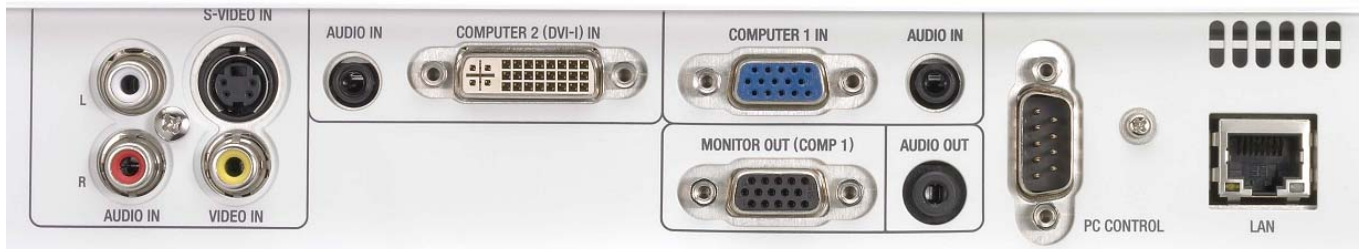


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Input /Output Panel



PC Control Codes

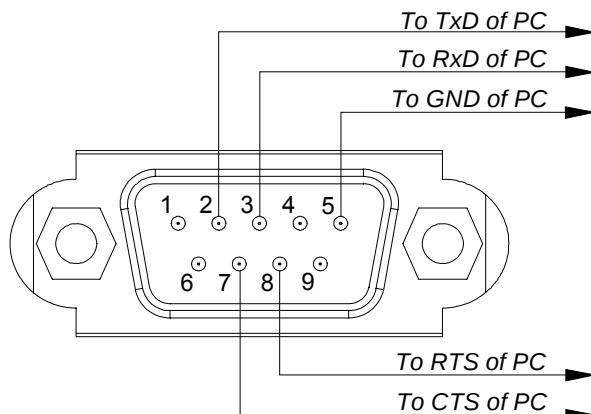
Function	Code Data							
POWER ON	02H	00H	00H	00H	00H	02H		
POWER OFF	02H	01H	00H	00H	00H	03H		
INPUT SELECT COMPUTER	02H	03H	00H	00H	02H	01H	01H	09H
INPUT SELECT VIDEO	02H	03H	00H	00H	02H	01H	06H	0EH
INPUT SELECT S-VIDEO	02H	03H	00H	00H	02H	01H	0BH	13H
INPUT SELECT DVI (DIGITAL)	02H	03H	00H	00H	02H	01H	1AH	22H
INPUT SELECT DVI (ANALOG)	02H	03H	00H	00H	02H	01H	02H	0AH
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		
PROJECTOR INFORMATION REQUEST	00H	BFH	00H	00H	01H	02H	C2H	
ERROR STATUS REQUEST	00H	88H	00H	00H	00H	88H		
INFORMATION REQUEST	03H	8AH	00H	00H	00H	8DH		

Note: Contact your NEC rep for codes not listed.

Cable Connection

Communication Protocol:

Baud Rate: 38400 bps
 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.