

LT280 Installation Guide

Ceiling Mounted and Desktop

Rev 1.0

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Product Description

Type:	3 panel LCD projector, 0.7" p-Si TFT w/MLA	Brightness:	LT280: 2500 ANSI Lumens
Resolution:	LT280: 1024 x 768	Dimensions:	12.2"(W) x 10.2"(H) x 4.4"(D)
		Weight:	6.17 lbs

Lens Specifications

Throw Ratio:	1.5 – 1.8:1 (for 100" diagonal)	Focal Length:	21.69mm – 25.9mm
Offset Angle:	9.5° - 12.1° (for 100" diagonal)	F/#:	1.7 - 2.0
Screen Sizes:	25" - 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 4:3 aspect ratio.
- Distances are in inches, for millimeters multiply by 25.4.
- 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)

4:3 Screen Formulas:

W = H x 4/3
H = W x 3/4
Screen Diagonal = W x 5/4

Projection Formulas:

B = 0.298W
C(wide) = 1.481W - 1.425
C (tele)=1.787 - 1.406
D = 0.0771W
 $\alpha(\text{wide}) = \tan^{-1} (B/C(\text{wide}))$
 $\alpha (\text{tele}) = \tan^{-1} (B/C(\text{tele}))$

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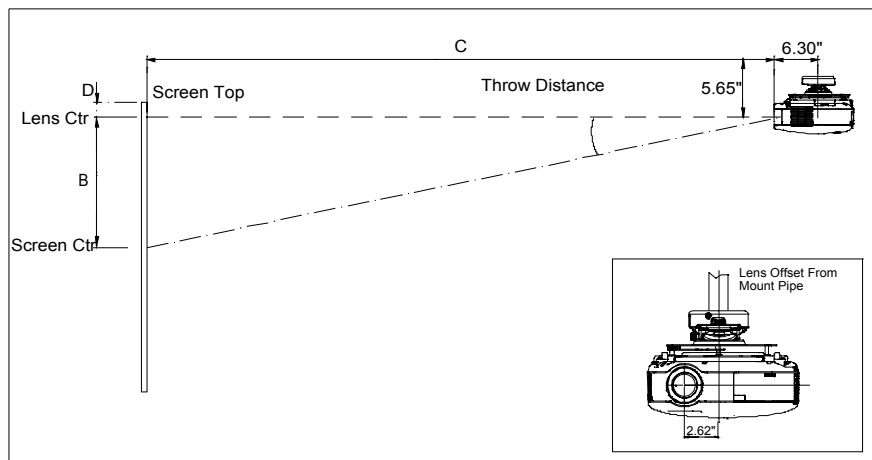
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Diagrams and Distance Charts

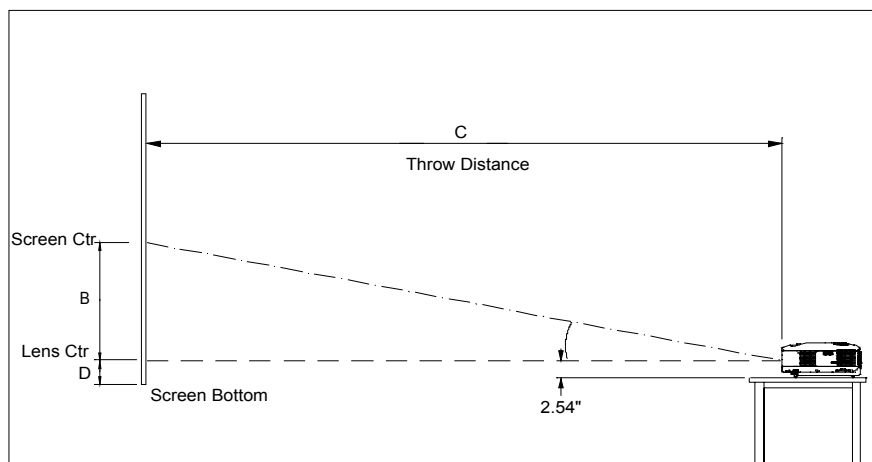
The following shows the proper relative positions of the projector and screen. Refer to the table to determine the position of installation.

Distances are in inches. For millimeters multiply by 25.4.

Ceiling Mounted



Desktop



Distance Chart for popular 4:3 screens

Screen Size (4:3)			B	C wide - tele	D	α wide - tele degrees
Diag	W	H				
inches	inches	inches	inches	inches	inches	
30	24	18	7	34 - 41	-2	9.8 - 11.9
60	48	36	14	69 - 84	-4	9.6 - 11.7
72	57.6	43.2	17	83 - 102	-5	9.6 - 11.6
84	67.2	50.4	20	98 - 119	-5	9.6 - 11.6
90	72	54	21	105 - 127	-6	9.6 - 11.6
100	80	60	24	117 - 141	-6	9.6 - 11.6
120	96	72	29	141 - 170	-7	9.6 - 11.5
150	120	90	36	176 - 213	-9	9.5 - 11.5
180	144	108	43	211 - 256	-11	9.5 - 11.5
200	160	120	48	235 - 285	-12	9.5 - 11.5
250	200	150	60	294 - 356	-15	9.5 - 11.5
300	240	180	72	354 - 428	-18	9.5 - 11.5

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

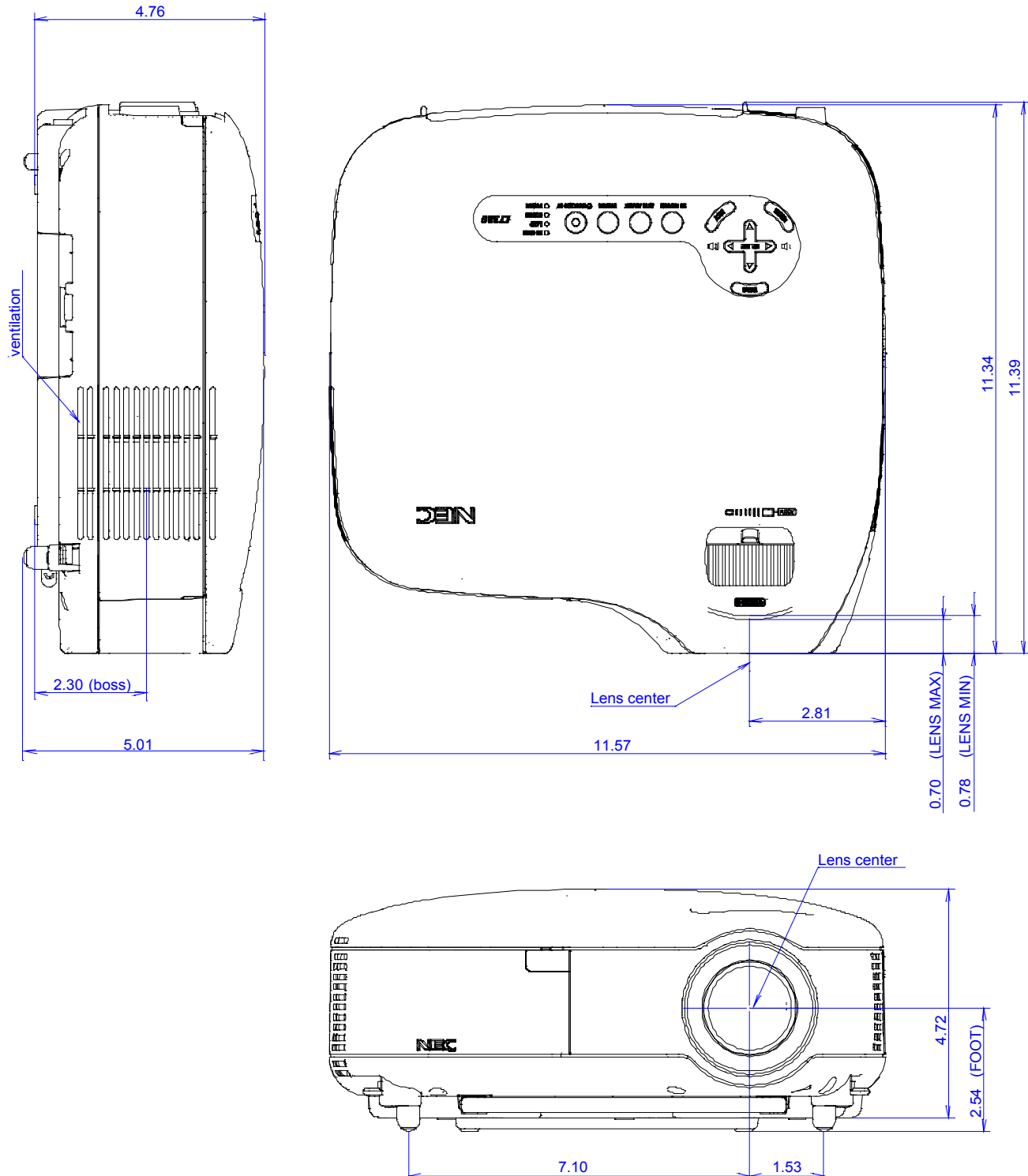
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Cabinet Dimensions

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



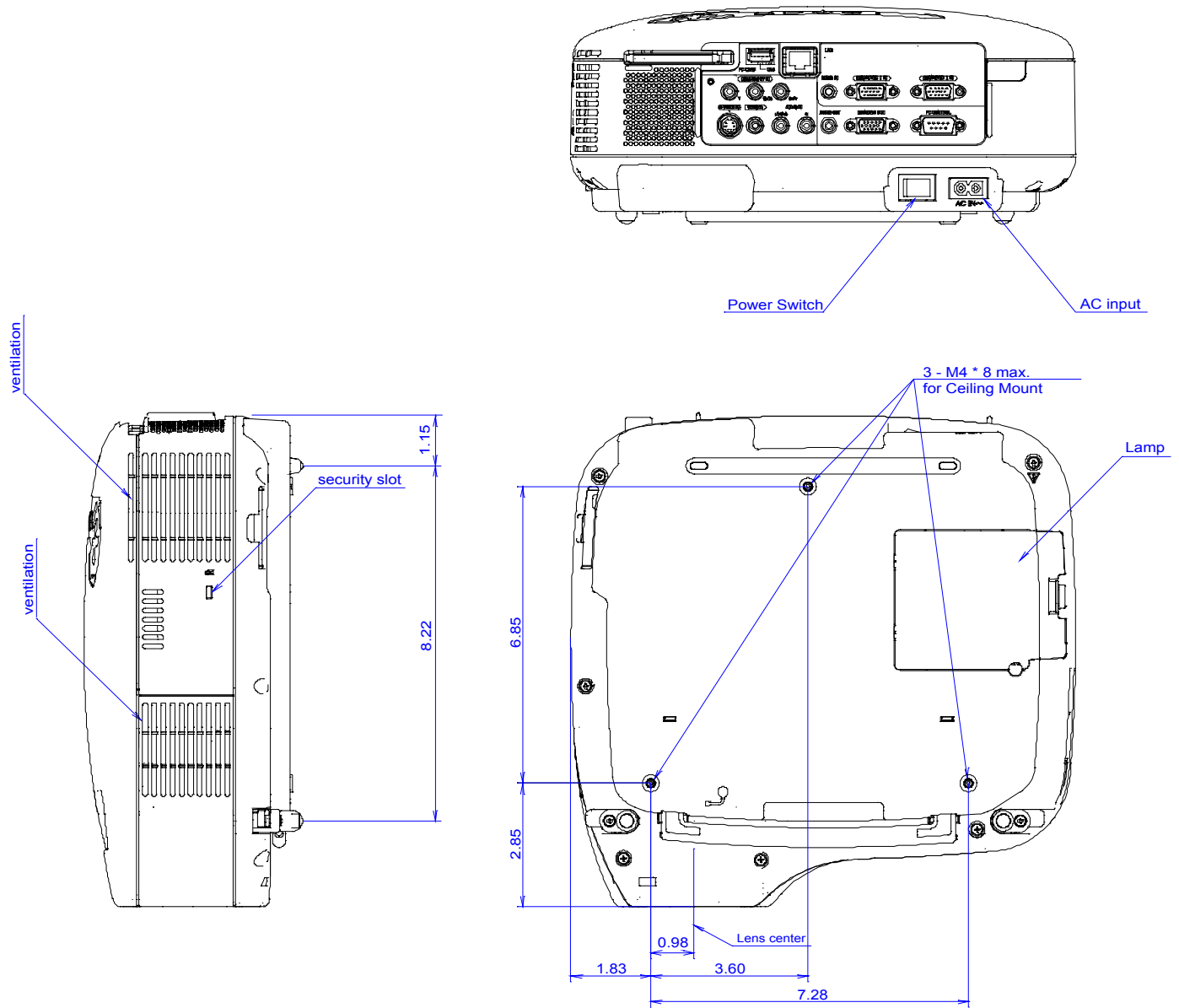
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Cabinet Dimensions (continued)

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



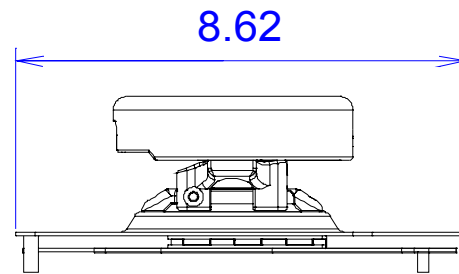
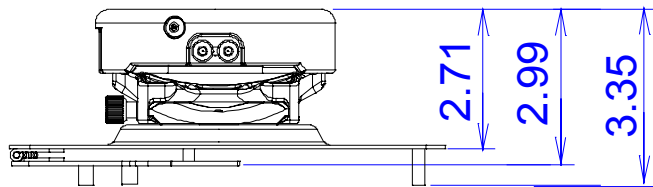
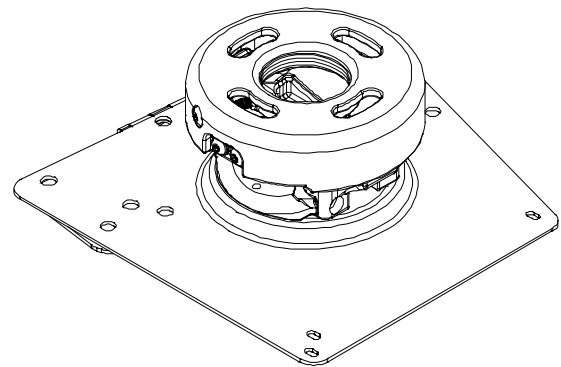
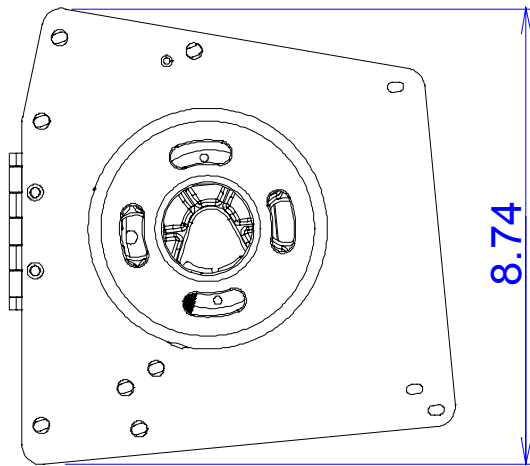
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Optional Ceiling Mount Dimensions (Model #: VL80CM)

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

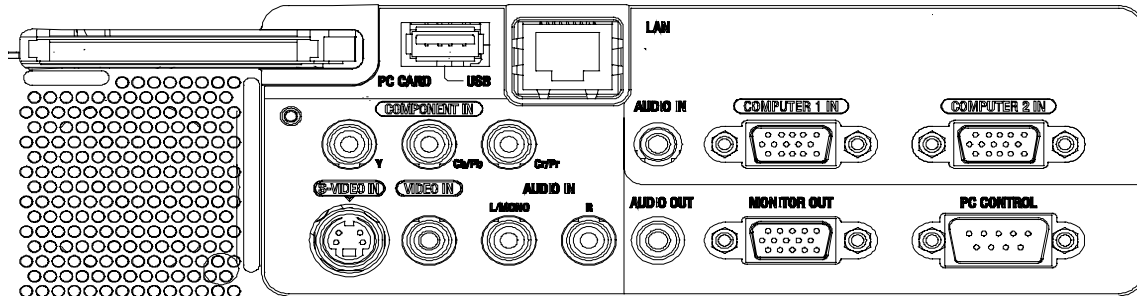


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Input Panel



PC Control Codes

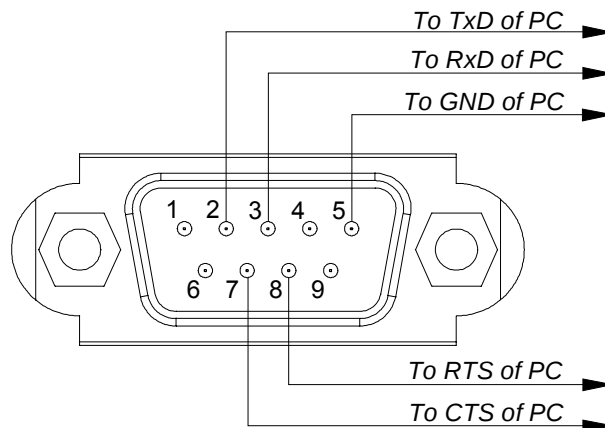
Function	Code Data						
POWER ON	02H	00H	00H	00H	00H	02H	
POWER OFF	02H	01H	00H	00H	00H	03H	
INPUT SELECT CCOMPUTER	02H	03H	00H	00H	02H	01H	01H 09H
INPUT SELECT VIDEO	02H	03H	00H	00H	02H	01H	06H 0EH
INPUT SELECT S-VIDEO	02H	03H	00H	00H	02H	01H	0BH 13H
INPUT SELECT DVI (DIGITAL)	02H	03H	00H	00H	02H	01H	1AH 22H
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 NEC rep for codes not listed.

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



NOTE 1 : Pins 2, 3, 5, and 6 are used inside the projector.

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