

NP40/50/60 Installation Guide

Ceiling Mounted and Desktop

Rev 1.2

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Product Description

Type:	.55 DDR DMD™ projector	Dimensions:	9.7”(W) x 3.9”(H) x 7.1”(D)
Resolution:	1024 x 768	Weight:	3.5 lbs
Brightness:	NP40: 2200 ANSI Lumens NP50: 2600 ANSI Lumens NP60: 3000 ANSI Lumens		

Lens Specifications

Throw Ratio:	1.8 – 2.2 (for 100” diagonal)	Focal Length:	20.4 –24.5mm
Offset Angle:	9.8° - 11.7° (for 100” diagonal)	F/#:	2.2 – 2.34
Screen Sizes:	30” - 300” diagonal (4:3)		Manual Zoom/Power Focus (w/autofocus)

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 are in inches, for millimeters multiply by 25.4.
- Distances may vary ±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:

$W = H \times 4/3$
 $H = W \times 3/4$
Screen Diagonal = $W \times 5/4$

Projection Formulas:

$B = 0.481W$
 $C \text{ (wide)} = 1.830W - 0.600$
 $C \text{ (tele)} = 2.203W - 0.800$
 $\alpha \text{ (wide)} = \tan^{-1} (B/C(\text{wide}))$
 $\alpha \text{ (tele)} = \tan^{-1} (B/C(\text{tele}))$

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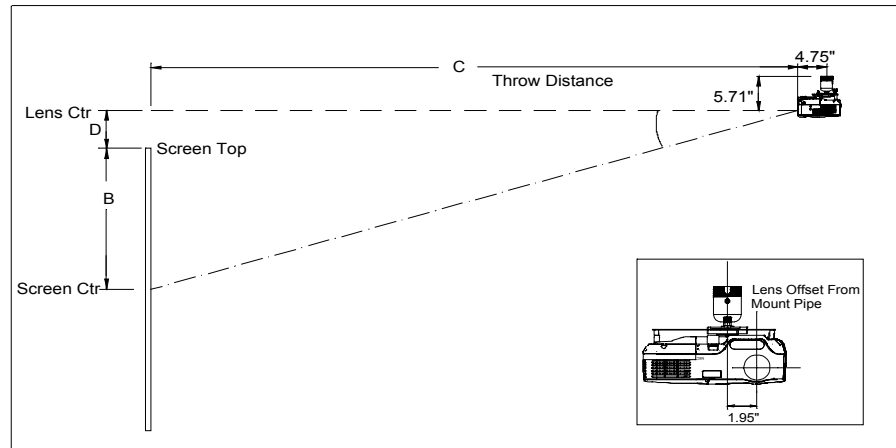
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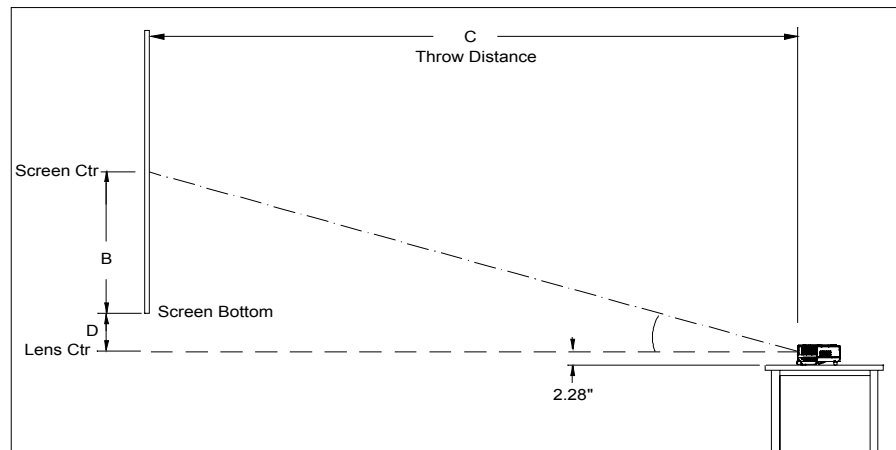
Diagrams and Distance Charts

The following diagrams show the relationship between projector position and the screen. Refer to the chart below for data. Distances are in inches. For millimeters multiply by 25.4.

Ceiling Mounted



Desktop



Distance Chart for popular 4:3 screens

Screen Size			B	C		D	α	
Diagonal	Width	Height		wide	tele		wide	tele
inch	inch	inch	inch	inch	inch	inch	degree	degree
33	26	20	13	-	57	3	-	12.6
60	48	36	23	87	104	5	14.9	12.4
72	58	43	28	104	126	6	14.9	12.4
84	67	50	32	122	147	7	14.8	12.4
90	72	54	35	131	157	8	14.8	12.4
100	80	60	38	145	175	8	14.8	12.3
120	96	72	46	174	210	10	14.8	12.3
150	120	90	58	219	263	13	14.7	12.3
180	144	108	69	263	317	15	14.7	12.3
200	160	120	77	292	352	17	14.7	12.3
260	208	156	100	380	458	22	14.7	12.3
300	240	180	115	439	529	25	14.7	12.3

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

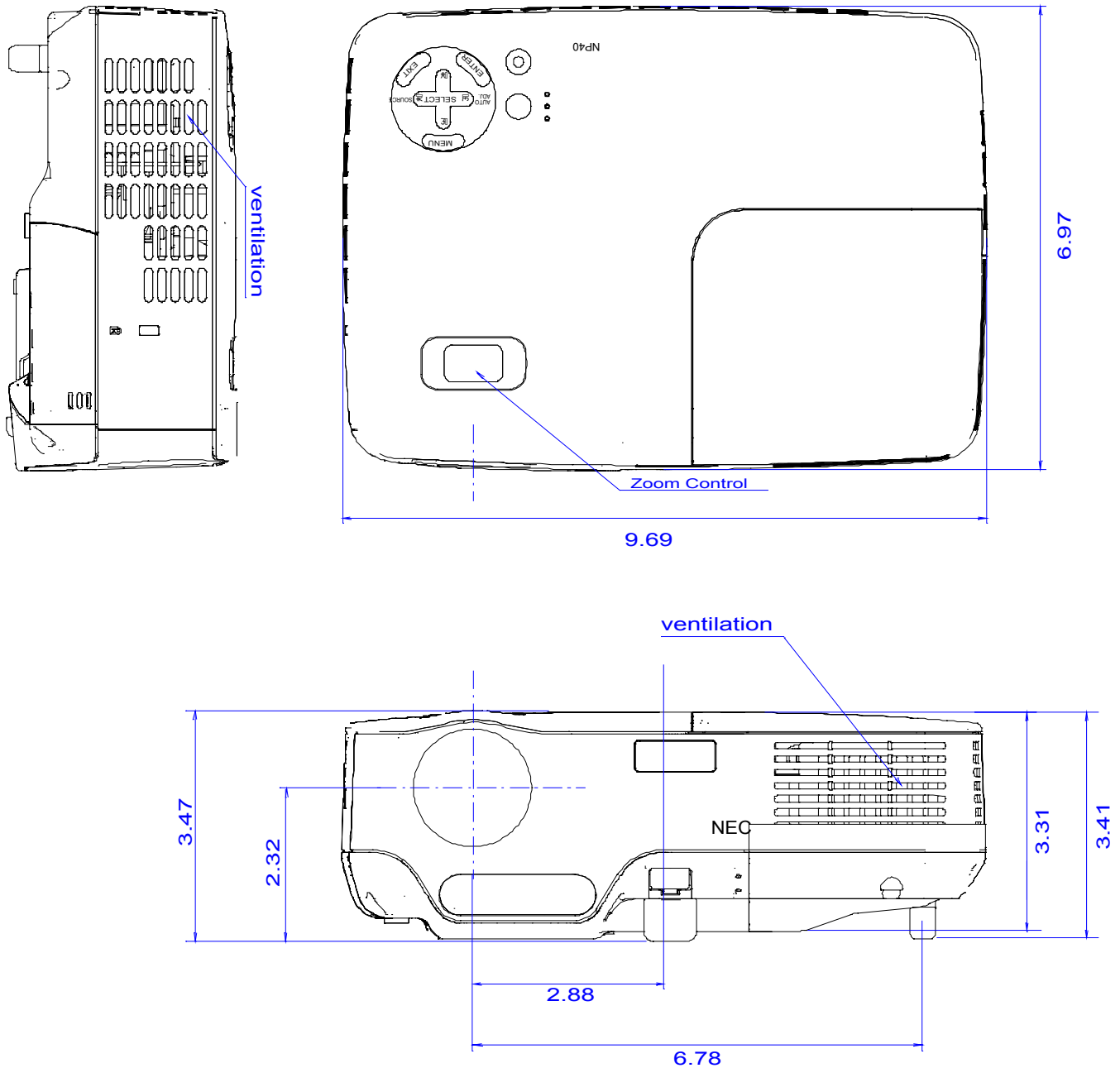
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Cabinet Dimensions

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



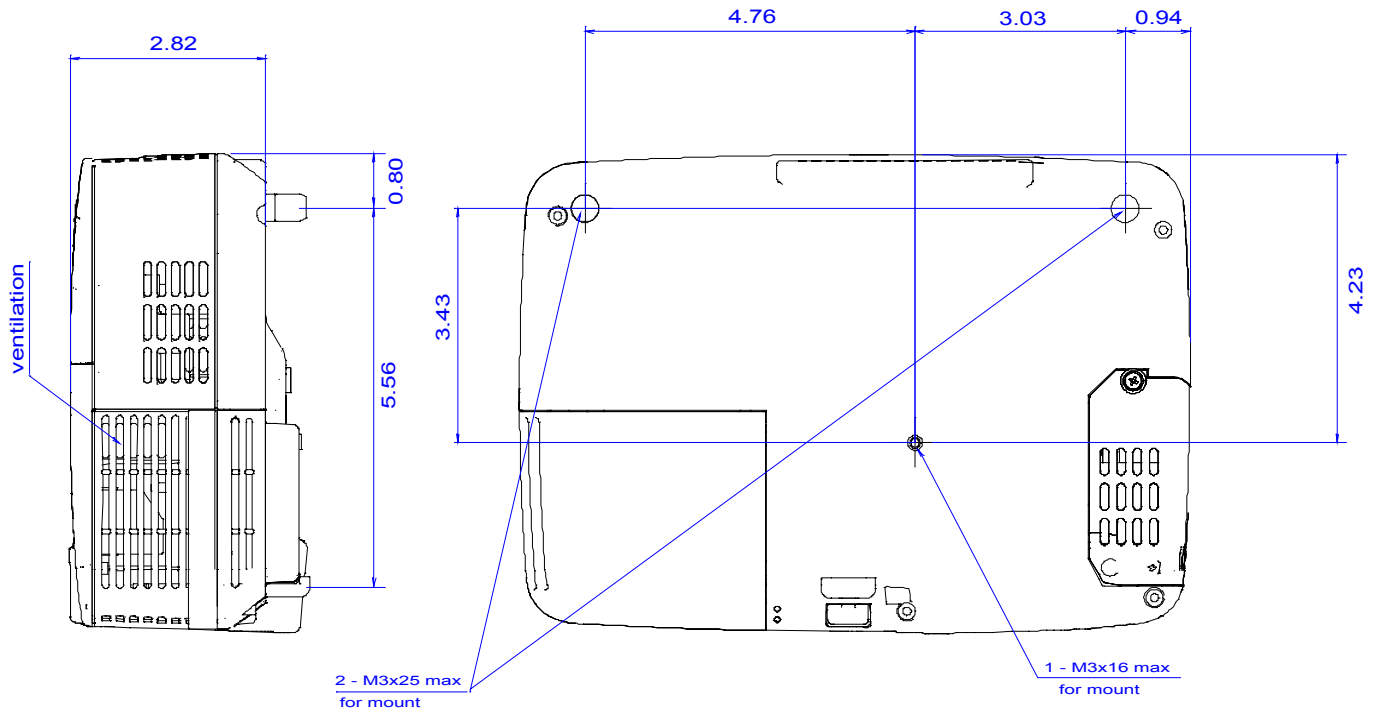
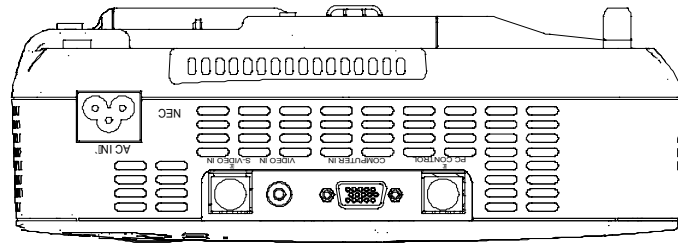
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Cabinet Dimensions (continued)

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



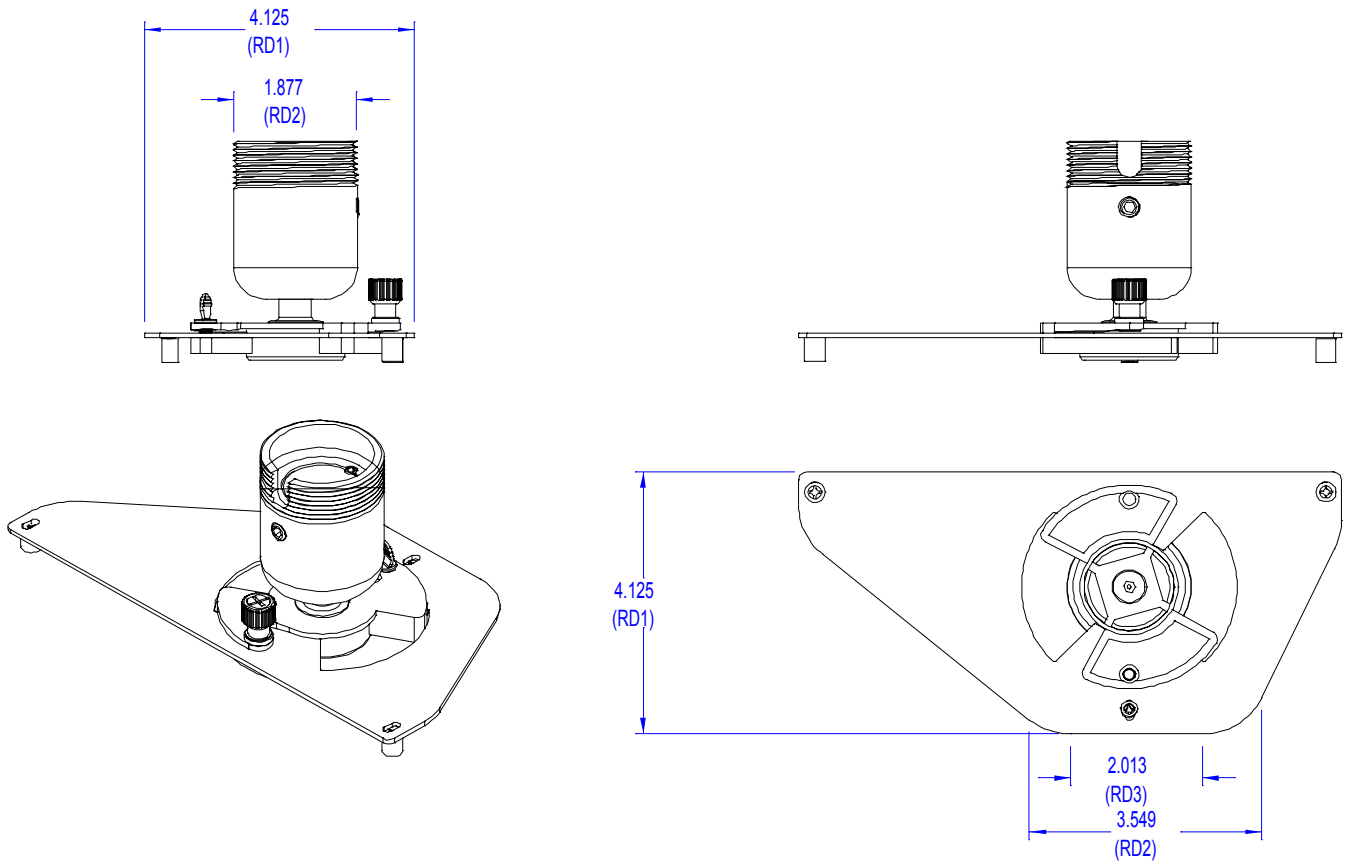
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Optional Ceiling Mount Dimensions (Model #: NP40CM)

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

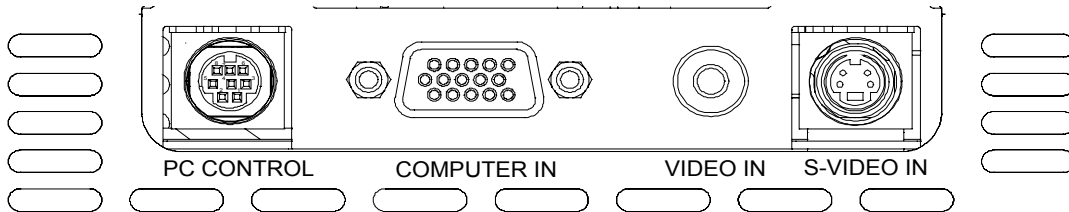


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Input Panel



PC Control Codes

Function	Code Data
POWER ON	02H 00H 00H 00H 00H 02H
POWER OFF	02H 01H 00H 00H 00H 03H
INPUT SELECT 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
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
AUTO FUNCTIONS EXECUTE	03H B6H 00H 00H 01H 01H BBH
PROJECTOR INFORMATION REQUEST	00H BFH 00H 00H 01H 02H C2H
INFORMATION REQUEST	03H 8AH 00H 00H 00H 8DH

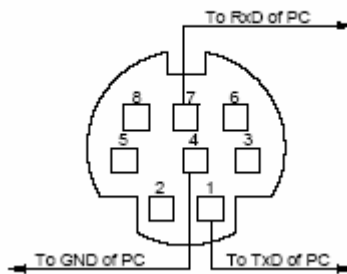
Note: Contact your NEC rep for codes not listed.

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 (Din-8P)



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.