

## U310W Installation Guide

### Desktop and Ceiling Mount

v1.0

#### Contents

Product Description, Lens Specs, Notes and Formulas	Page 1
Diagrams and Distance Charts	
Ceiling Mounted Installation	Page 2
Desktop Setup	Page 3
Cabinet Dimensions	
Top, Front and Right Side	Page 4
Bottom, Back and Left Side	Page 5
Optional Wall Mount Dimensions	Page 6
Optional Wall Mount Dimensions cont.	Page 7
Input Panel and Control Codes	Page 8



#### Product Description

Type:	1 chip DMD™ Ultra Short Throw projector	Dimensions:	16.8"(W) x 7.9"(H) x 16.0"(D)
Native Resolution:	1280 x 800	Weight:	14.3 lbs
Brightness:	3100 lumens	Screen Range:	77" – 100" Diagonal (16:10)
Power Consumption:	360W (max)	Fan Noise:	36 dB / 32dB @ 1 meter
		BTU's:	1228 BTU/hour

#### Screen/Aspect Ratio

Both 16:10 and 4:3 screens are fully supported with proper aspect ratio control for both type sources using NEC developed scaling technology. By selecting the screen type in the menus, Aspect Ratio control is reconfigured for that screen type.

#### Notes

- For screen sizes not indicated on the projection charts, 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 ±5%.

#### Formulas

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 the screen width in for "W" in the Projection Formulas. Refer to the diagrams and charts for popular screen sizes on page 2 and 3.

##### Definitions:

**W** = Screen width  
**H** = Screen height  
**A** = Distance between projector cabinet and screen

**B** = Vertical distance between projector foot and screen center  
**C** = Throw distance  
**D** = Vertical distance between projector foot and screen bottom  
(screen top for ceiling mounted application)

##### Projection Formulas:

**A** = C-13.48  
**B** = 0.469W  
**C** = 0.3W  
**D** = 0.156W

##### 16:10 Screen Formulas:

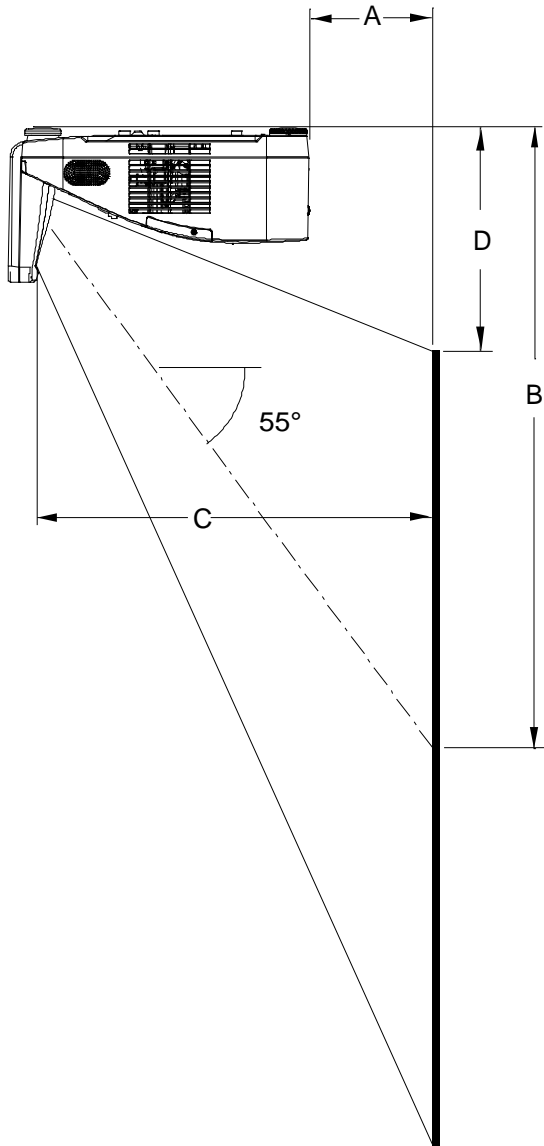
**W** = H x 16/10  
**H** = W x 10/16  
**Screen Diagonal** = W x 18.868/16

## U310W Installation Guide

### Desktop and Ceiling Mount

### Ceiling Mounted Installation

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



Distance chart for popular 16:10 screen sizes

Image Size (16:10)			A	B	C	D
Diagonal	Width(W)	Height(H)				
inches	inches	inches	inches	inches	inches	inches
77	65	41	6.1	30.5	19.5	10.1
80	68	42	7.0	31.9	20.4	10.6
85	72	45	8.2	33.8	21.6	11.2
87.2	74	46	8.8	34.7	22.2	11.5
90	76	48	9.4	35.6	22.8	11.9
95.0	81.0	50.0	10.9	38.0	24.3	12.6
100.0	85.0	53.0	12.1	39.9	25.5	13.3

**Note:** For screen sizes not indicated in the distance charts, use the formulas on page 1.

## U310W Installation Guide

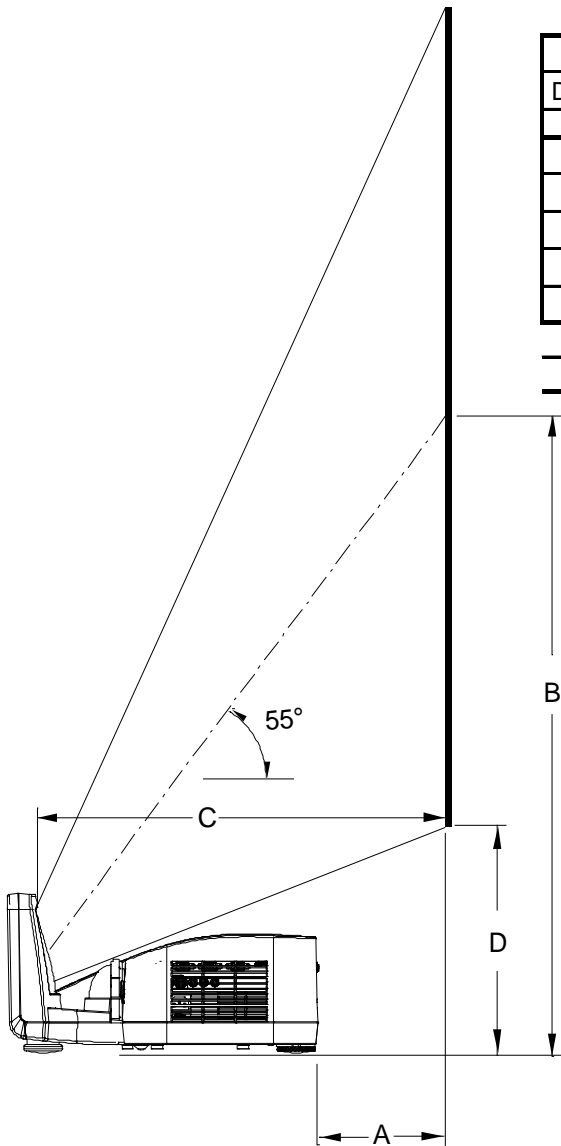
### Desktop and Ceiling Mount

### Desktop Setup

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

Distance chart for popular 16:10 screen sizes

Image Size (16:10)			A	B	C	D
Diagonal	Width(W)	Height(H)				
inches	inches	inches	inches	inches	inches	inches
77	65	41	6.1	30.5	19.5	10.1
80	68	42	7.0	31.9	20.4	10.6
85	72	45	8.2	33.8	21.6	11.2
87.2	74	46	8.8	34.7	22.2	11.5
90	76	48	9.4	35.6	22.8	11.9
95.0	81.0	50.0	10.9	38.0	24.3	12.6
100.0	85.0	53.0	12.1	39.9	25.5	13.3



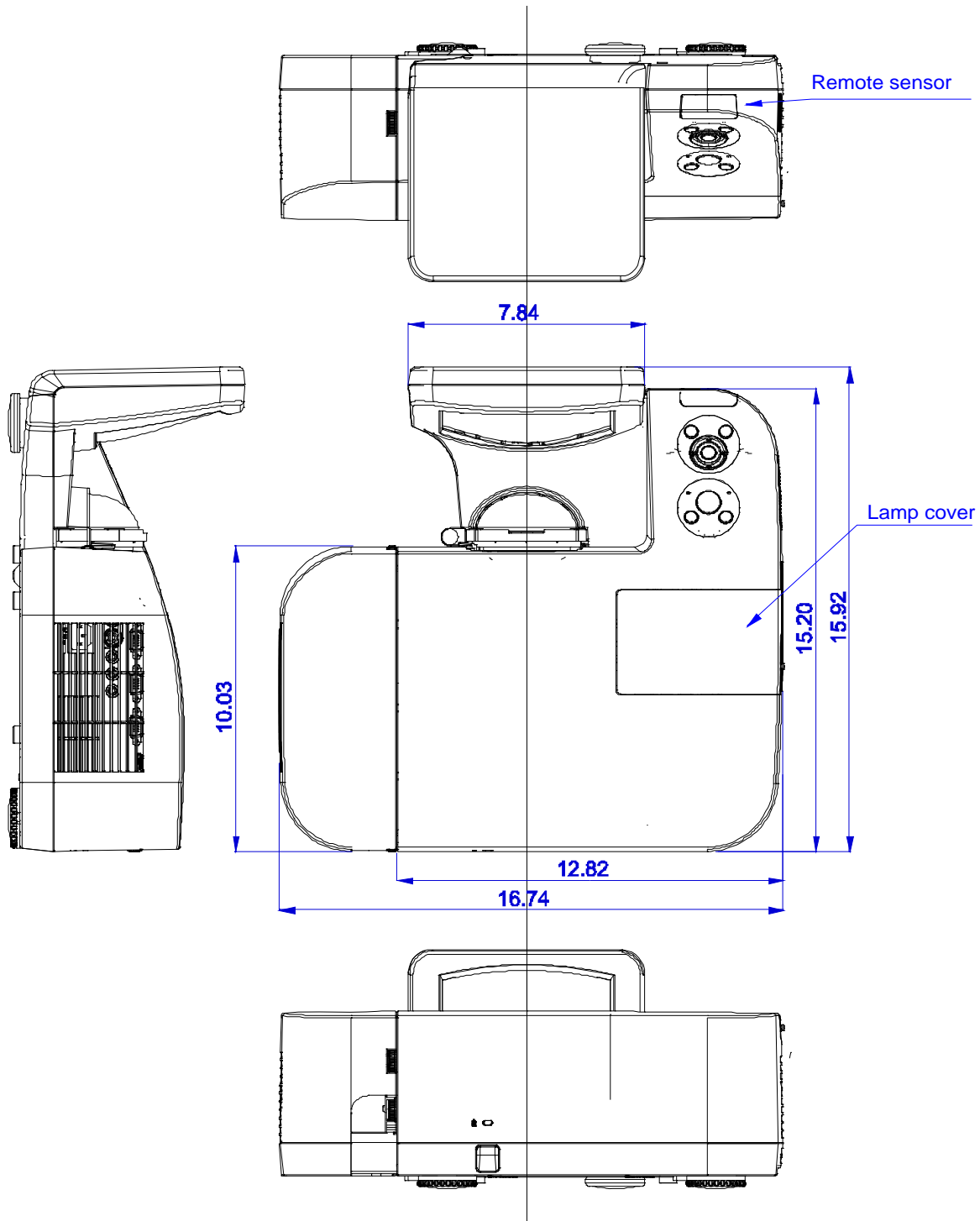
**Note:** For screen sizes not indicated in the distance charts, use the formulas on page 1.

## U310W Installation Guide

### Desktop and Ceiling Mount

### Cabinet Dimensions

The following drawings show the cabinet dimensions for the U310W. Dimensions are in inches. For millimeters multiply by 25.4.



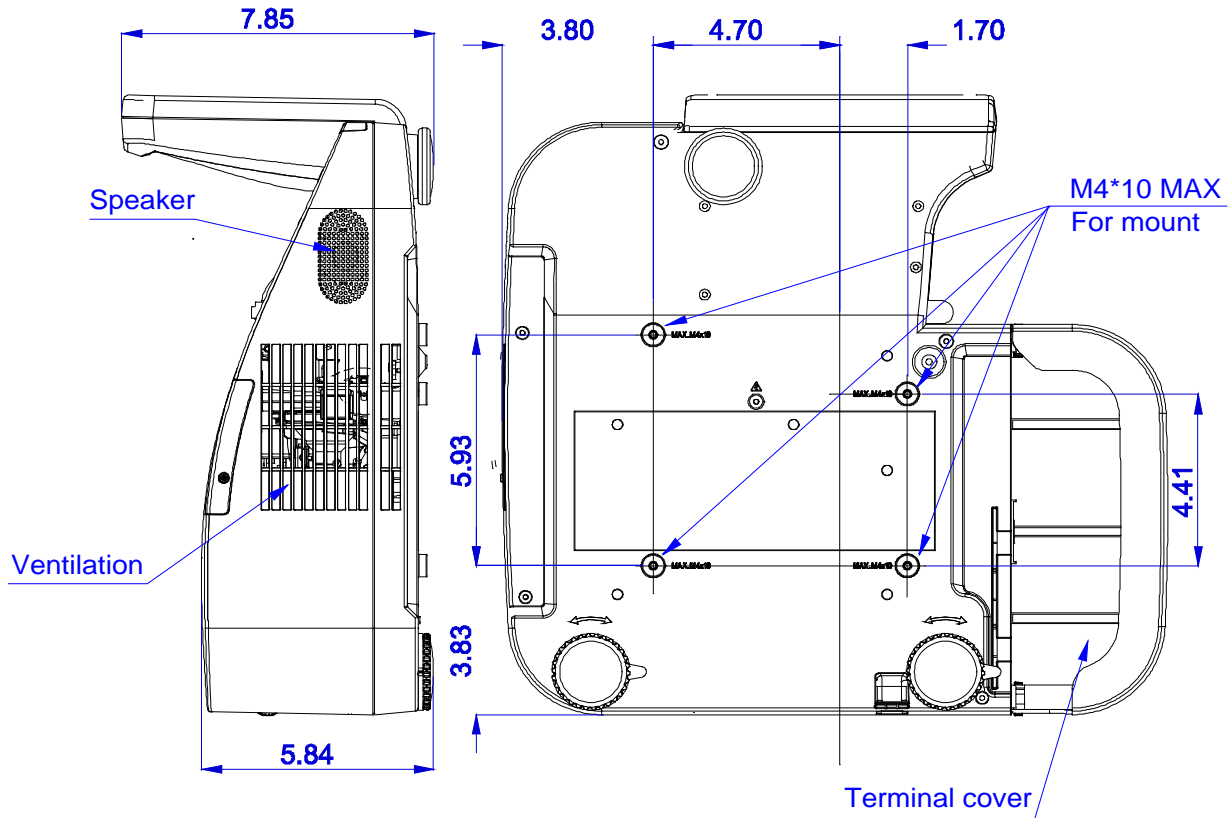
## U310W Installation Guide

### Desktop and Ceiling Mount

v1.0

### Cabinet Dimensions (continued)

The following drawings show the cabinet dimensions for the U310W. Dimensions are in inches. For millimeters multiply by 25.4.



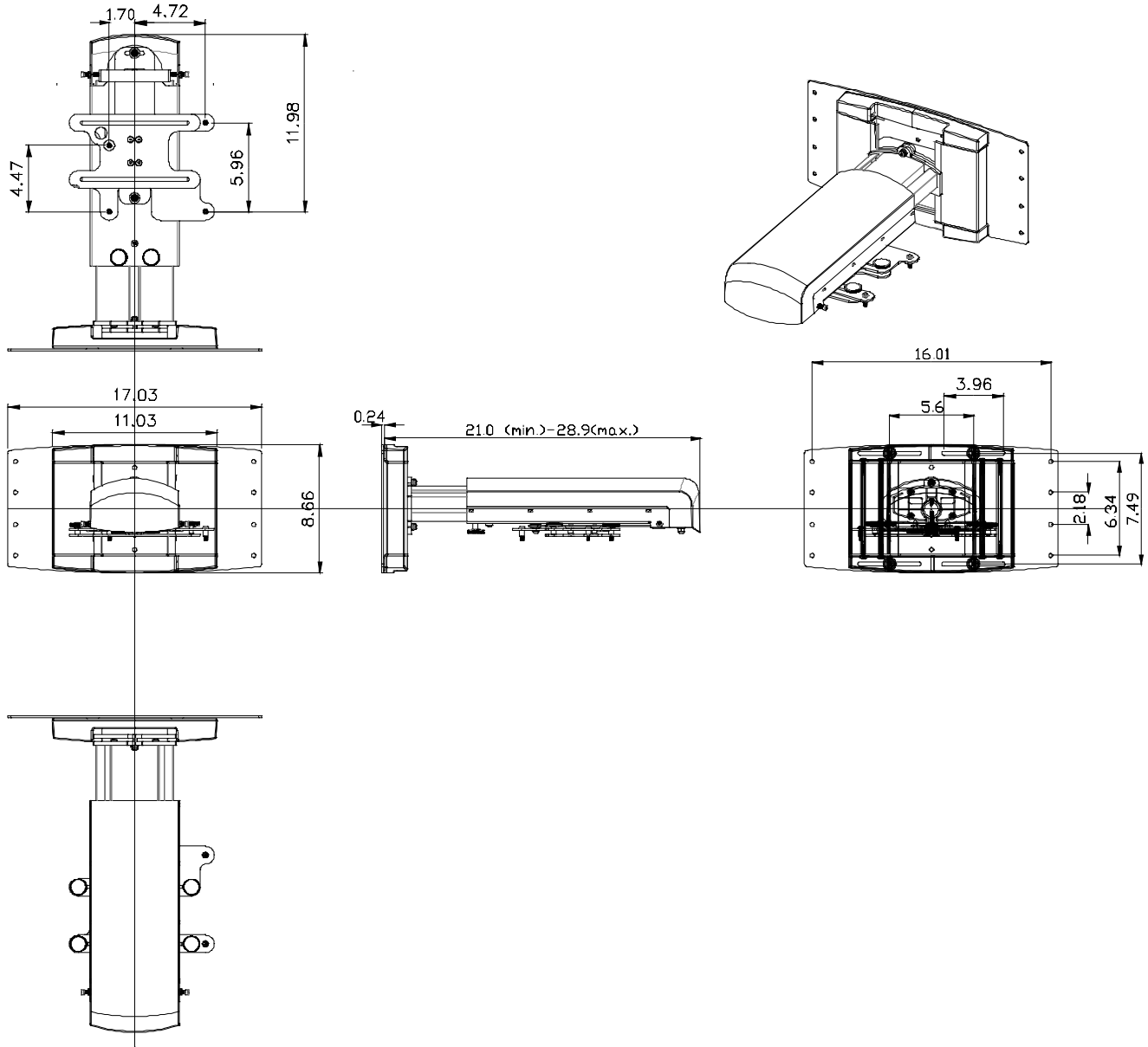
## U310W Installation Guide

### Desktop and Ceiling Mount

v1.0

### Optional Ceiling Mount Dimensions (Model #: NP01WK1)

The following drawings show the ceiling mount dimensions for the U310W. Dimensions are in inches. For millimeters multiply by 25.4.

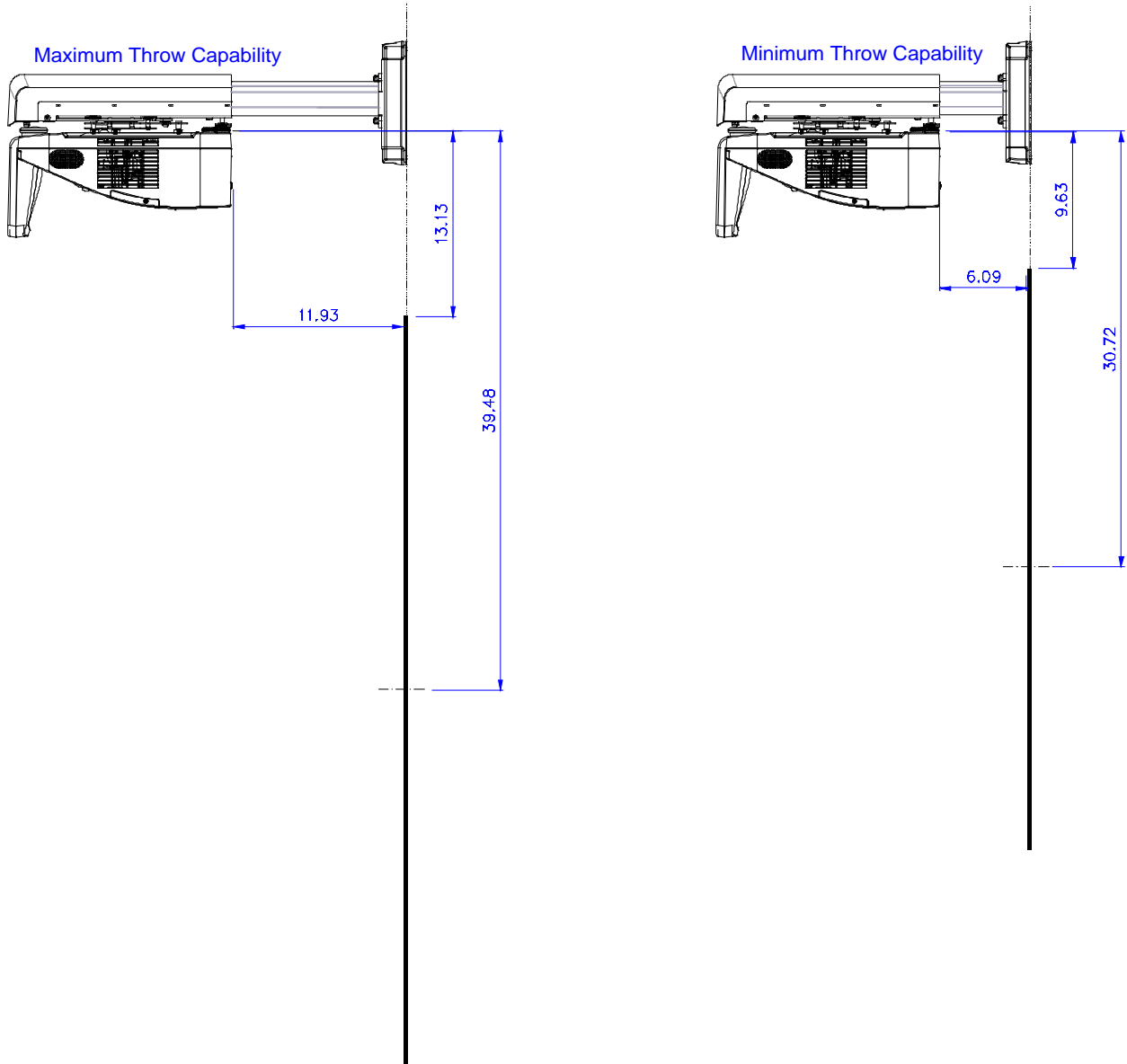


## U310W Installation Guide

### Desktop and Ceiling Mount

### Optional Wall Mount Dimensions (Model #: NP01WK1)

Note: The NP01WK1 wall mount can accommodate screen sizes of 77" – 100" diagonally based on the minimum and maximum throw distances shown below.

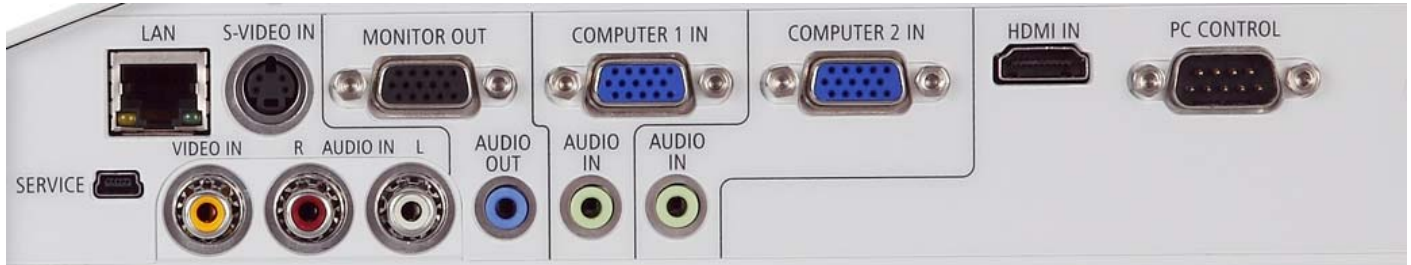


Note: The drawings above refer to the throw capability (projector distance "A" from screen) and their respective dimensions "B" and "D". The screen positions are not drawn to scale.

## U310W Installation Guide

### Desktop and Ceiling Mount

### Input Panel



### Control Codes

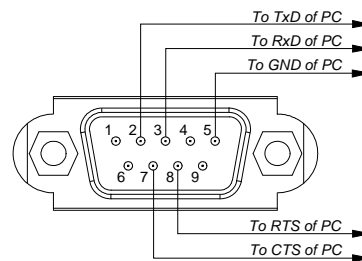
Function	Code Data
POWER ON	02H 00H 00H 00H 00H 02H
POWER OFF	02H 01H 00H 00H 00H 03H
INPUT SELECT COMPUTER 1	02H 03H 00H 00H 02H 01H 01H 09H
INPUT SELECT COMPUTER 2	02H 03H 00H 00H 02H 01H 02H 0AH
INPUT SELECT HDMI	02H 03H 00H 00H 02H 01H 1AH 22H
INPUT SELECT VIDEO	02H 03H 00H 00H 02H 01H 06H 0EH
INPUT 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
ON SCREEN MUTE ON	02H 14H 00H 00H 00H 16H
ON SCREEN MUTE OFF	02H 15H 00H 00H 00H 17H

**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



**NOTE 1:** It is recommended to set the projector to "Idle Mode" in the Setup menu for best Power ON response.

**NOTE 2:** Pins 2, 3, 5, 6 and 8 are used inside the projector.

**NOTE 3:** For long cable runs it is recommended to set communication speed in the Setup menu to 9600 bps.