

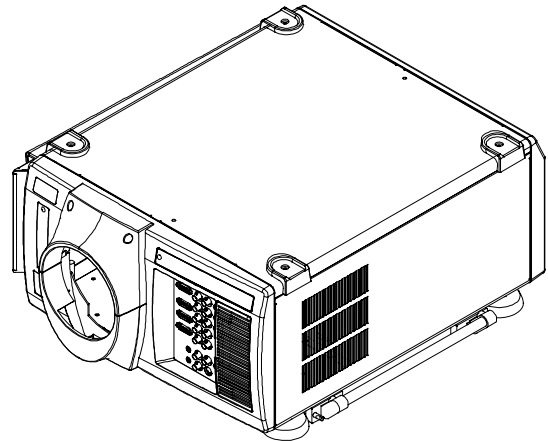
SX4000/SX6000 Installation Data

Desktop and Ceiling Mount

Ver 1.8

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Product Description

Type:	3 chip, 0.9" DLP	Dimensions:	22.05"(W) x 12.13"(H) x 26.85"(D) w/o lens
Native Resolution:	1280 x 1024 (5:4)	Weight:	94.8 lbs
Brightness:	SX4000: 3500 ANSI Lumens SX6000: 5000 ANSI Lumens	Power Lens Shift/Power Zoom/Power Focus	

Lens Specification

TL-08SF	Throw Ratio: 0.84:1 Screen Sizes: 80" - 500" (5:4)	F/#: 3.0 Lateral color error: 14 µm max	Distortion (full offset): 1% max
TL-1Z	Throw Ratio: 1.5 - 2.5:1 Screen Sizes: 80" - 500" (5:4)	F/#: 3.0 Lateral color error: 14 µm max	Distortion (full offset): 2% max
TL-2Z	Throw Ratio: 2.5 - 4.0:1 Screen Sizes: 80" - 500" (5:4)	F/#: 3.0 Lateral color error: 14 µm max	Distortion (full offset): 2% max
TL-4Z	Throw Ratio: 4.0 - 7.0:1 Screen Sizes: 80" - 500" (5:4)	F/#: 3.0 Lateral color error: 14 µm max	Distortion (full offset): 2% max

Notes

- For screen not indicated in the tables, use formulas below.
- If the figures in the tables do not match the results of formulas, use the figures in the tables.
- The ceiling must be strong enough to support the projector and the installation must be in accordance with any local building codes.
- Distances are in inches, for millimeters multiply by 25.4
- Distances may vary $\pm 5\%$.

Formulas

Throw Distance = Screen Width (H) x Lens Magnification

H = Screen Width (5:4) H = Screen Height (V) x 5/4

V = Screen Height (5:4) V = Screen Width (H) x 4/5

Screen Diagonal (5:4) = Screen Height (V) x 6.4/4

Note: Image has 5:4 aspect ratio. Take this into account when specifying a screen.

Lens	Throw Distance Formula
TL-08SF:	H x 0.84
TL-1Z:	(Wide) = H x 1.5 (Tele) = H x 2.5
TL-2Z:	(Wide) = H x 2.5 (Tele) = H x 4.0
TL-4Z:	(Wide) = H x 4.0 (Tele) = H x 7.0

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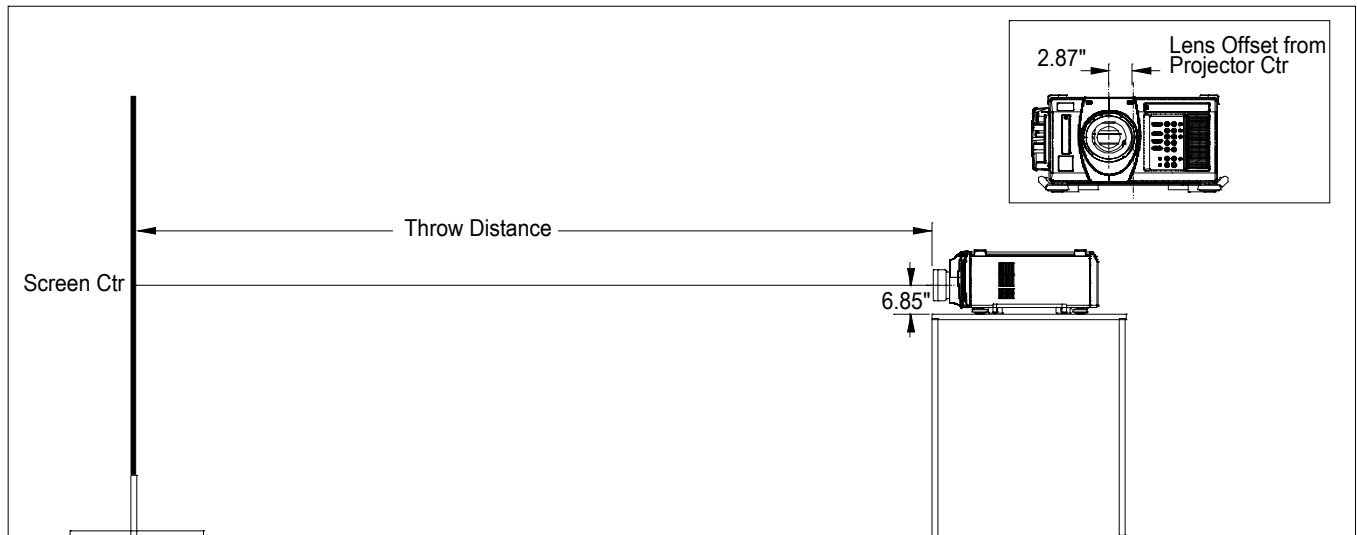
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Projection Distance and Screen Size for No Offset Installation

The following shows the proper relative positions of the projector and screen.
Dimensions are in inches. For millimeters multiply by 25.4.

Desktop (no offset/optimum condition)



Note: Image has 5:4 aspect ratio. Take this into account when specifying a screen.

Projection Distance

Image Size (5:4)		SF Fixed Lens	Zoom Lens		
		TL-08SF	TL-1Z	TL-2Z	TL-4Z
Width (W)	Height (V)	0.84:1	1.5 - 2.5	2.5 - 4.0	4.0 - 7.0
63"	50.4"	52.9	94.5" - 157.5"	157.5" - 252"	252" - 441"
75"	60"	50.4"	112.5" - 187.5"	187.5" - 300"	300" - 525"
90"	72"	75.6"	135" - 225"	225" - 360"	360" - 630"
112.5"	90"	94.5"	168.8" - 281.3"	281.3" - 450"	450" - 787.5"
135"	108"	113.4"	202.5" - 337.5"	337.5" - 540"	540" - 945"
157.5"	126"	132.3"	236.3" - 393.8"	393.5" - 630"	630" - 1102.5"
180"	144"	151.2"	270" - 450"	450" - 720"	720" - 1260"
202.5"	162"	170.1"	303.8" - 506.3"	506.3" - 810"	810" - 1417.5"
225"	180"	189"	337.5" - 562.5"	562.5" - 900"	900" - 1575"
262.5"	210"	220.5"	393.8" - 656.3"	656.3" - 1050"	1050" - 1837.5"
300"	240"	252"	450" - 750"	750" - 1200"	1200" - 2100"
337.5"	270"	283.5"	506.3" - 843.8"	843.8" - 1350"	1350" - 2362.5"
375"	300"	315"	562.5" - 937.5"	937.5" - 1500"	1500" - 2625"

Note: For screen sizes not indicated on the table, use formulas on Page 1

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Desktop and Ceiling Mount

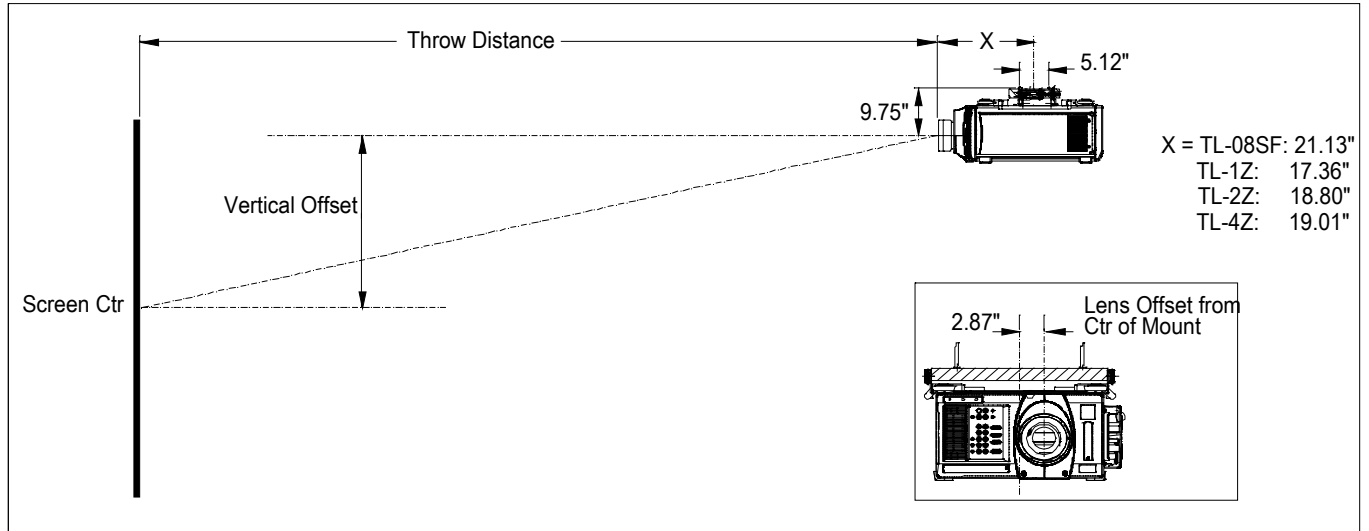
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Projection Distance and Screen Size for Ceiling Mount/With Offset

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

Dimensions are in inches. For millimeters multiply by 25.4.

Ceiling Mount/With Offset



Note: Image has 5:4 aspect ratio. Take this into account when specifying a screen.

Projection Distance

Image Size (5:4)		SF Fixed Lens	Zoom Lens		
		TL-08SF	TL-1Z	TL-2Z	TL-4Z
Width (W)	Height (V)	0.84:1	1.5 - 2.5	2.5 - 4.0	4.0 - 7.0
63"	50.4"	52.9	94.5" - 157.5"	157.5" - 252"	252" - 441"
75"	60"	50.4"	112.5" - 187.5"	187.5" - 300"	300" - 525"
90"	72"	75.6"	135" - 225"	225" - 360"	360" - 630"
112.5"	90"	94.5"	168.8" - 281.3"	281.3" - 450"	450" - 787.5"
135"	108"	113.4"	202.5" - 337.5"	337.5" - 540"	540" - 945"
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Note: For screen sizes not indicated on the table, use formulas on Page 1

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Lens Shift Adjustable Range

Lens Shift Adjustable 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 TL-1Z, TL-2Z and TL-4Z

Maximum Possible Range:

Up: 0.41V

Down: 0.24V (only if image is shifted right first)

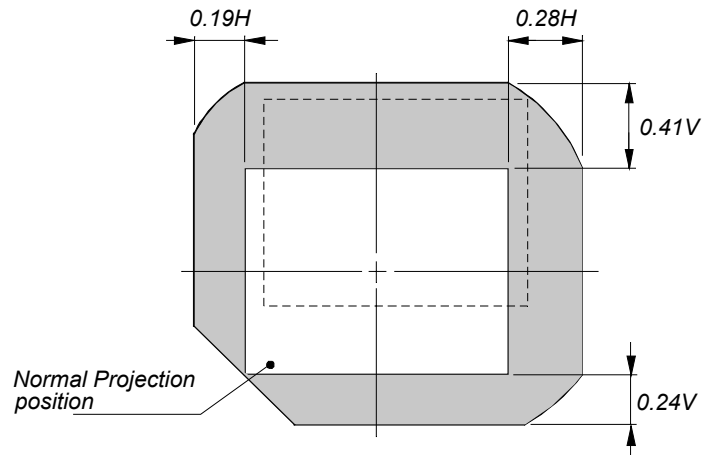
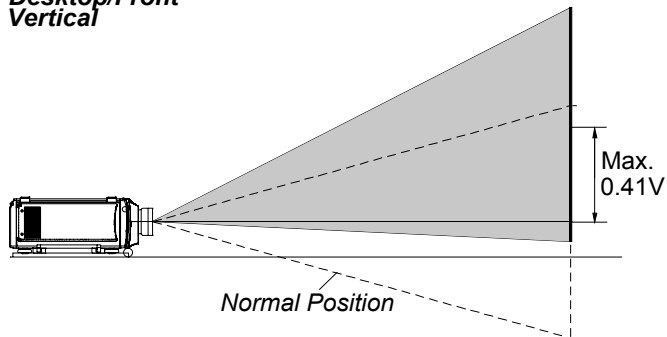
Right: 0.28H

Left: 0.19H (only if image is shifted up first)

H: width of projected image

V: height of projected image (5:4)

Desktop/Front Vertical



Note: There is a mechanical limitation to shift down without first shifting right, and left without first shifting up. (Refer to diagram)

Maximum Possible Range:

Up: 0.24V (only if image is shifted left first)

Down: 0.41V

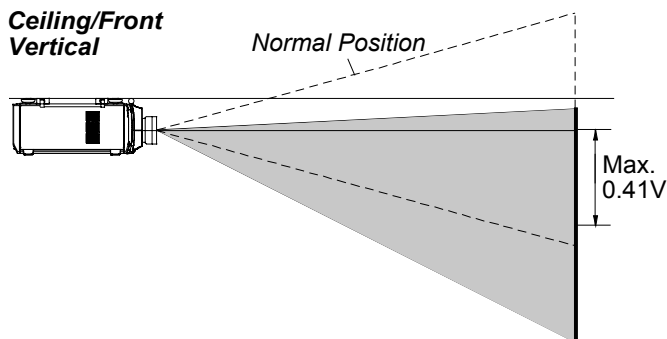
Right: 0.19H (only if image is shifted down first)

Left: 0.28H

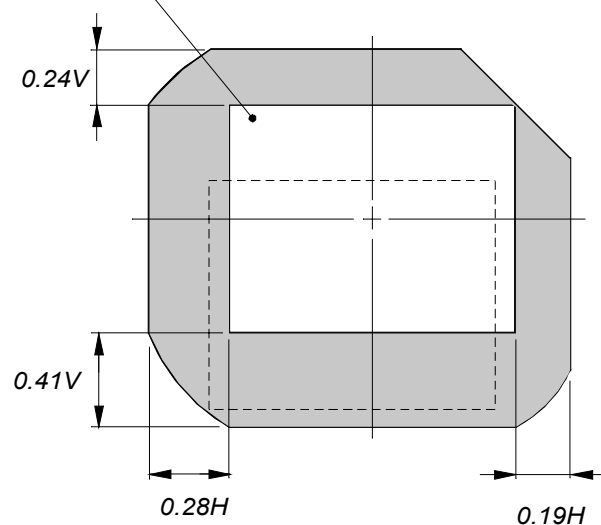
H: width of projected image

V: height of projected image (5:4)

Ceiling/Front Vertical



Normal Projection position



Note: There is a mechanical limitation to shift up without first shifting left, and right without first shifting down. (Refer to diagram)

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Lens Shift Adjustable Range (Cont.)

Lens Shift Adjustable 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.

Fixed Lens TL-08SF

Maximum Possible Range:

Up: 0.09V

Down: 0.09V

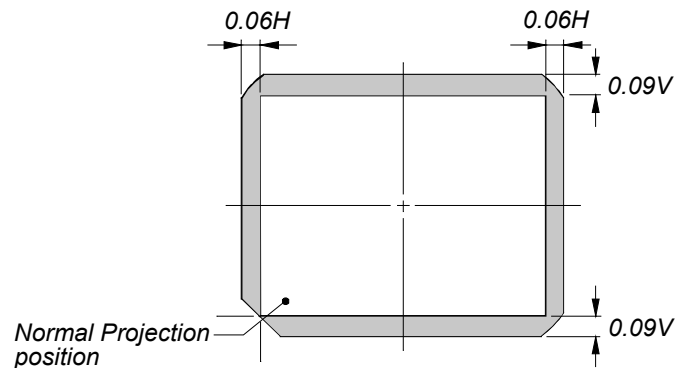
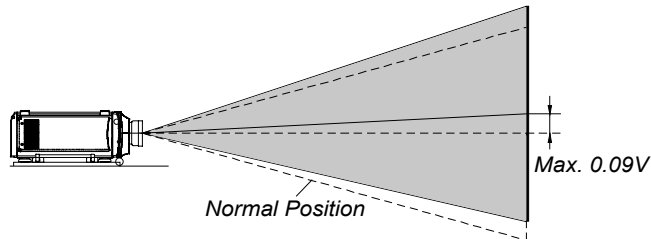
Right: 0.06H

Left: 0.06H

H: width of projected image

V: height of projected image (5:4)

**Desktop/Front
Vertical**



Note: There is a mechanical limitation to shift down without first shifting right, and left without first shifting up. (Refer to diagram)

Note: To reduce the distortion of an image, it is recommended that the projector is horizontally positioned at a projection angle of 0 degrees.

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The following drawings show the cabinet dimensions for the SX4000/6000. Dimensions are in inches. For millimeters multiply by 25.4.



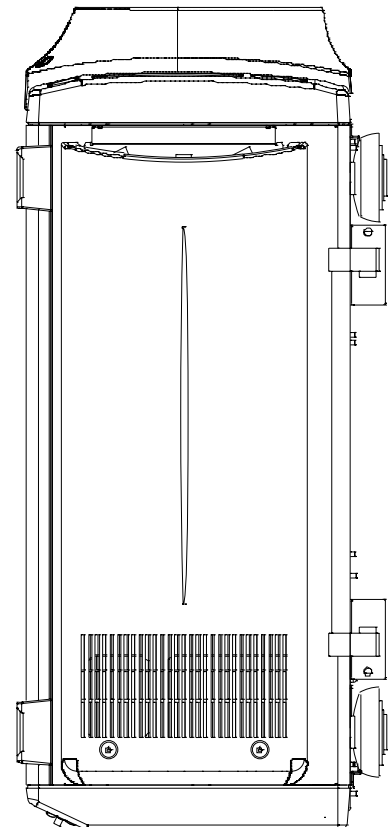
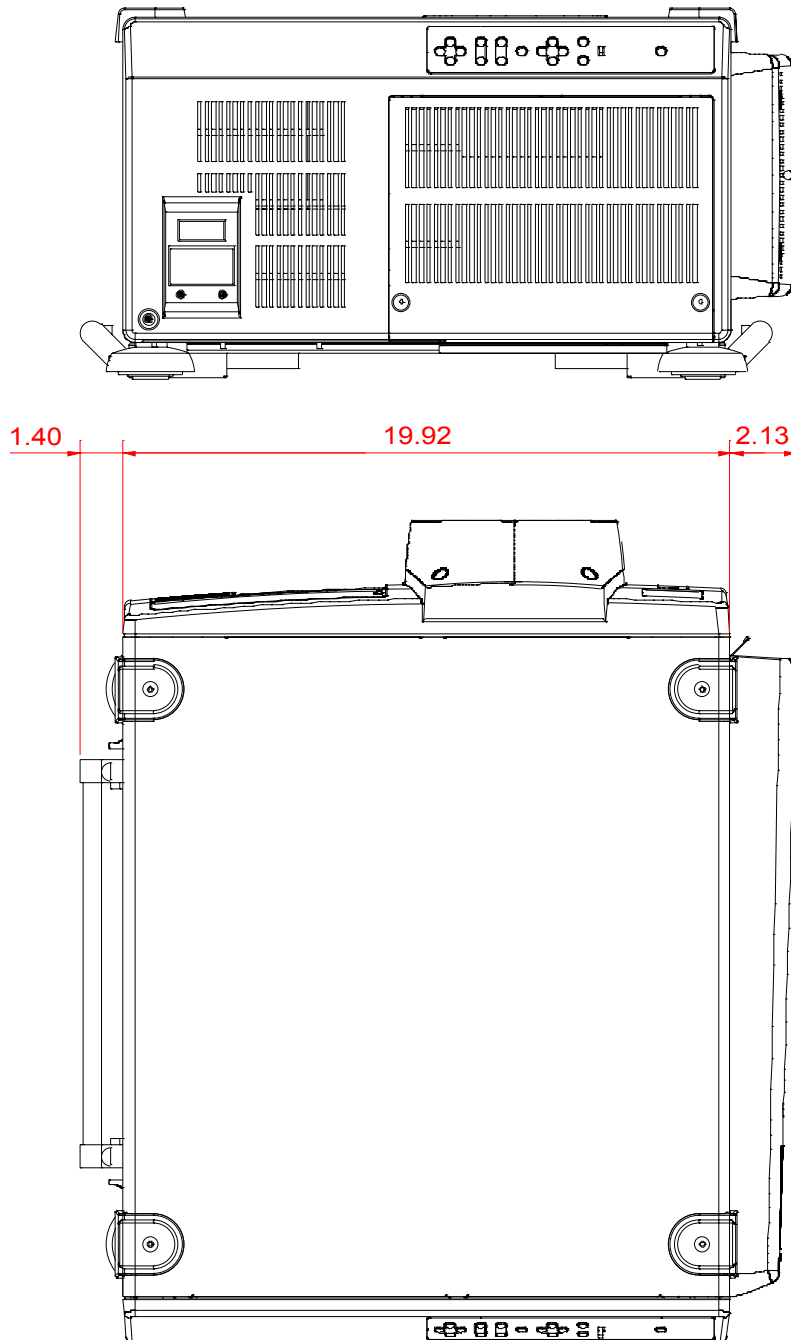
SX4000/SX6000 Installation Data

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Cabinet Dimensions (continued)

The following drawings show the cabinet dimensions for the SX4000/6000. Dimensions are in inches. For millimeters multiply by 25.4.



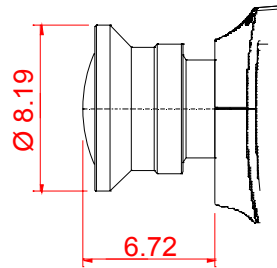
SX4000/SX6000 Installation Data

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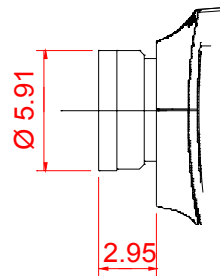
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Lens Dimensions

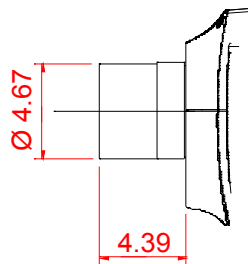
The following drawings show the lenses mounted on the projector.
Dimensions are in inches. For millimeters multiply by 25.4.



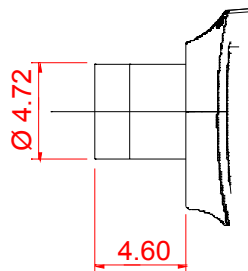
TL-08SF 0.84:1 Fixed Lens



TL-1Z 1.5-2.5:1 Zoom Lens



TL-2Z 2.5-4.0:1 Zoom Lens



TL-4Z 4.0-7.0:1 Zoom Lens

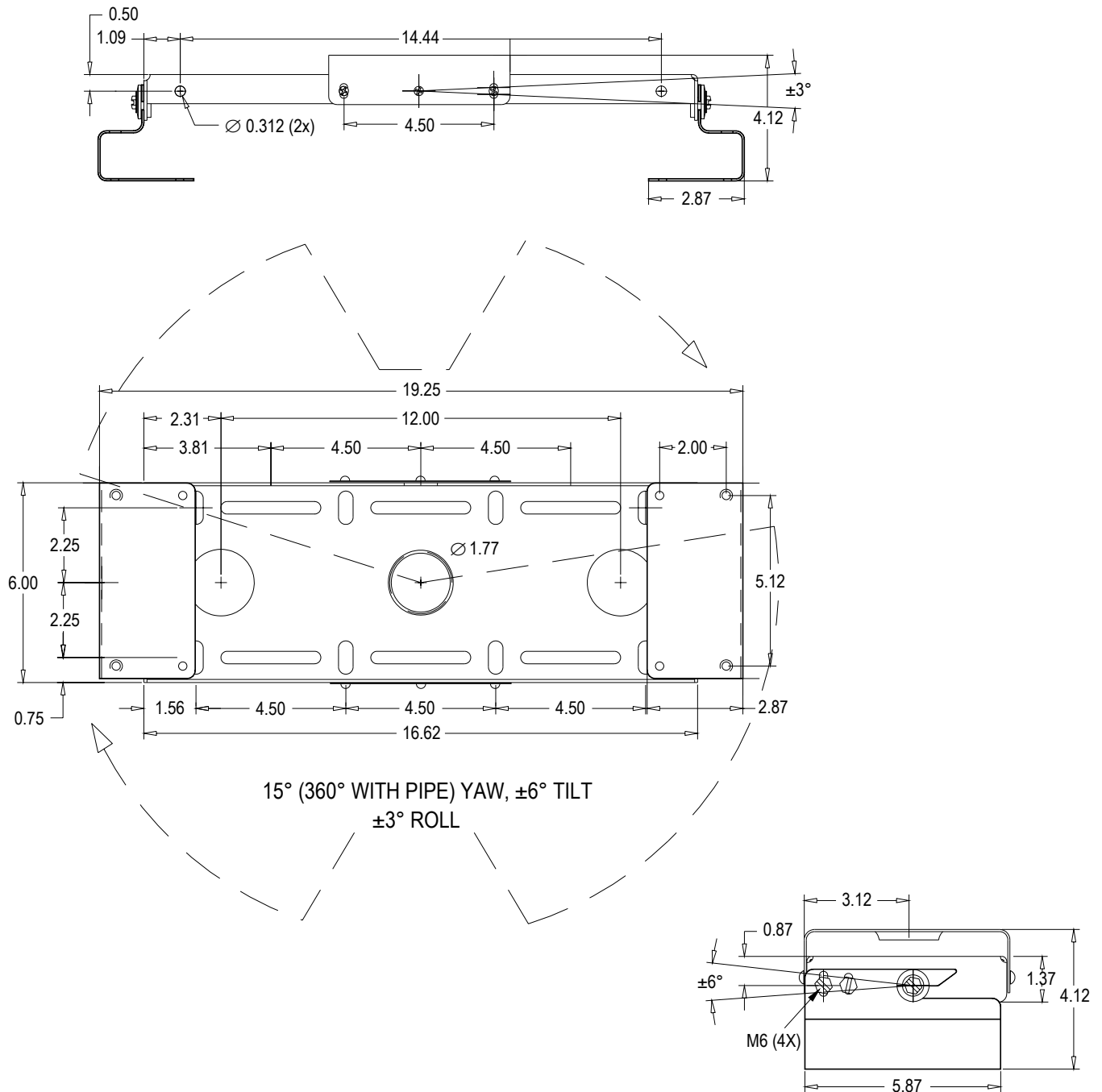
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Optional Ceiling Mount Dimensions

The following drawings show the dimensions of the Optional Ceiling Mount for SX4000/6000 (Order Code XT-CMKIT). Dimensions are in inches. For millimeters multiply by 25.4.



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RS232 Control / Command Codes

Standalone operation	HEX CODE
POWER ON:	02 00 00 00 00 02
POWER OFF:	02 01 00 00 00 03
Input 1 RGB 1:	02 03 00 00 02 01 01 09
Input 2 RGB 2:	02 03 00 00 02 01 02 0A
Input 3 RGB 3:	02 03 00 00 02 01 03 0B
Input 4 COMPONENT:	02 03 00 00 02 01 12 1A
Input 5 VIDEO 1:	02 03 00 00 02 01 06 0E
Input 6 VIDEO 2:	02 03 00 00 02 01 07 0F
Input 7 S-VIDEO 1:	02 03 00 00 02 01 0B 13
Input 8 S-VIDEO 2:	02 03 00 00 02 01 0C 14
Input 9 RGB DIGITAL:	02 03 00 00 02 01 1A 22
Input 0 SDI:	02 03 00 00 02 01 1B 23
PICTURE MUTE ON:	02 10 00 00 00 12
PICTURE MUTE OFF:	02 11 00 00 00 13
DISPLAY MUTE ON:	02 14 00 00 00 16
DISPLAY MUTE OFF:	02 15 00 00 00 17
LENS SHUTTER ON:	02 16 00 00 00 18
LENS SHUTTER OFF:	02 17 00 00 00 19
LAMP AUTO:	03 88 00 00 02 0B 00 98
HIGH-BRIGHT:	03 88 00 00 02 0B 01 99
VARIABLE:	03 88 00 00 02 0B 02 9A
PICTURE	
BRIGHT	03 10 00 00 05 00 FF 00 Lower Upper CKS Adustment Value from FFE1(min) to 001F(max).
CONTRAST	03 10 00 00 05 01 FF 00 Lower Upper CKS Adustment Value from FFE1(min) to 001F(max).
COLOR	03 10 00 00 05 02 FF 00 Value 00 CKS Adustment Value from 00(min) to 5F(max).
HUE	03 10 00 00 05 03 FF 00 Value 00 CKS Adustment Value from 00(min) to 3C(max).
SHARPNESS	03 10 00 00 05 04 FF 00 Value 00 CKS Adustment Value from 00(min) to 0F(max).
V-APERTURE	03 10 00 00 05 1D FF 00 Value 00 CKS Adustment Value from 00(min) to 0F(max).

Lower : Lower byte of Value, Upper : Upper byte of Value

CKS : Check Sum

Lower eight bits digits of sum total of the first byte to the byte just before the last.

The unit address is not checked when the unit ID has become a general notification.

Please set "0" to the unit ID and set "00" to the unit address when you use the projector under the standalone mode.

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RS232 Control / Connection

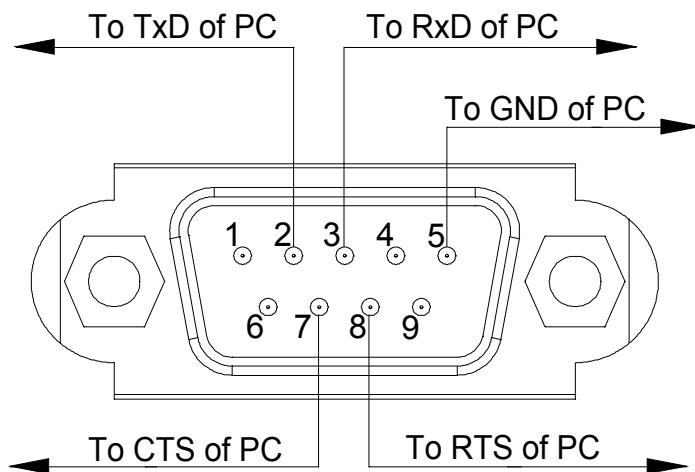
Cable Connection

Communication Protocol

Baud rate:	4800/9600/19200/38400 bps (selectable)
Data length:	8 bits
Parity:	No parity
Stop bit :	1 bit
X on/off:	None
Communication procedure:	Full duplex

Note: For cable lengths longer than 20', it is recommended changing baud rate to 9600 bps.

PC Control Connector (D-Sub 9P)



Note: Jumper "Request to Send" and "Clear to Send" together on both ends of the cable to simplify cable connection.