

9126-4K/9135-4K Installation Guide

Desktop and Ceiling Mount

Rev 1.0

Contents

Product Description, Lens Specs, Screen/Aspect Ratio	
Notes and Specifications	Pg 1
Distance Charts and Formulas	Pg 1-2
Lens Shift Adjustable Range	Pg 3
Cabinet Dimensions (Front, Top, Left, Right, Back)	Pg 4
Cabinet Dimensions (Bottom)	Pg 5
Fly Cage Dimensions	Pg 6-7
Ventilation Requirements	Pg 8
Regulatory Labels	Pg 9
Input Panel and Button Panel	Pg 10
Control Codes	Pg 11



Product Description

Type:	3 chip DMD Reflection Type 1.38 in. 2x LVDS DMD	Dimensions: 27.4"(W) x 17.9"(H) x 46.5"(D)
Resolution:	4090 x 2160 (17:9)	Weight: 372.6 lbs. / 169kg
Fan Noise:	55 dB / 43dB @ 1 meter	Brightness: 9126-4K: 26,000 Lumens 9135-4K: 35,000 Lumens
Power Consumption:	1392W (max)	BTU's: 3754 BTU/hour

Network Ready, integrated wired and wireless adapter
Powered: Horizontal & Vertical Lens Shift, Zoom, Focus

Lens Specifications

L2K-10F1:	Throw Ratio: 0.9:1 Screen Sizes: 100-500"	Focal Length: 18.6 – 26.7mm F/#: 2.5
L4K-11ZM:	Throw Ratio: 1.10 – 1.70:1 Screen Sizes: 100-500"	Focal Length: 20.7 – 32.7mm F/#: 2.5
L4K-15ZM:	Throw Ratio: 1.50 – 2.10:1 Screen Sizes: 100-500"	Focal Length: 25.2 – 42.0mm F/#: 2.5
L4K-20ZM:	Throw Ratio: 2.00 – 3.40:1 Screen Sizes: 100-500"	Focal Length: 32.2 – 60.3mm F/#: 2.5
L2K-30ZM:	Throw Ratio: 2.70 – 3.90:1 Screen Sizes: 100-500"	Focal Length: 62.1 – 97.8mm F/#: 2.5
L2K-43ZM1:	Throw Ratio: 3.70 – 5.30:1 Screen Sizes: 100-500"	Focal Length: 62.1 – 97.8mm F/#: 2.5
L2K-55ZM1:	Throw Ratio: 4.80 – 7.40:1 Screen Sizes: 100-500"	Focal Length: 62.1 – 97.8mm F/#: 2.5

Screen/Aspect Ratio

4:3, 16:9 and 16:10 screens are fully supported with proper aspect ratio control for both type sources using special developed scaling technology. Menu selections have settings for each screen type and aspect ratio control for each source type.

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..
- Distances are in inches, for millimeters multiply by 25.4.
- Distances may vary $\pm 5\%$.

9126-4K/9135-4K Installation Guide

Desktop and Ceiling Mount

Rev 1.0

Formulas: 17:9 Aspect Ratio (4K = 4096x2160)

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 in the image width for "W" in the Projection Formulas.

Refer to the diagrams and charts for popular screen sizes on page 2 and 3:

Projection Formulas:

- L2K-10F1:** C(Wide) = 0.975W – 3.795
- L4K-11ZM:** C(Wide) = 1.251W – 4.331 ----- C(Tele) = 1.737W – 4.843
- L4K-15ZM:** C(Wide) = 1.537W – 4.307 ----- C(Tele) = 2.115W – 5.906
- L4K-20ZM:** C(Wide) = 1.960W + 9.843 ----- C(Tele) = 3.322W + 10.465
- L2K-30ZM:** C(Wide) = 2.735W + 8.744 ----- C(Tele) = 3.955W + 11.760
- L2K-43ZM1:** C(Wide) = 3.937W - 11.327 ----- C(Tele) = 5.554W – 15.060
- L2K-55ZM1:** C(Wide) = 5.028W - 12.866 ----- C(Tele) = 7.865W – 16.996

Definitions:

- W = Image Width
- H = Image Height (size)
- C = Throw distance

17:9 Screen Formulas

- W = H x 17/9
- H = W x 9/17
- Screen Diagonal = W x 19.231/17

Distance Chart for popular 17:9 Screens (4K = 4096x2160)

Screen Size (17:9)			Zoom Lenses						
			L2K-10F1	L4K-11ZM	L4K-15ZM	L4K-20ZM	L2K-30ZM	L2K-43ZM1	L2K-55ZM1
Diagonal	Width(W)	Height (H)	0.9:1	1.10-1.70:1	1.50-2.10:1	2.00-3.40:1	2.70-3.90:1	3.70-5.30:1	4.80-7.40:1
inches	inches	inches	inches	inches	inches	inches	inches	inches	inches
110	97	51	86.7 - N/A	116.7 - 163.3	144.5 - 198.8	199.5 - 332.0	256.0 - 371.03	369.7 - 522.49	473.8 - 744.22
131	115	61	104.0 - N/A	139.9 - 195.4	172.9 - 237.9	235.8 - 393.4	306.5 - 444.11	442.5 - 625.11	566.7 - 889.55
161	142	75	128.7 - N/A	172.9 - 241.2	213.4 - 293.7	287.5 - 481.1	378.7 - 548.5	546.4 - 771.72	699.4 - 1097.2
192	169	89	154.2 - N/A	207.0 - 288.6	255.3 - 351.4	341.0 - 571.7	453.3 - 656.38	653.8 - 923.21	836.5 - 1311.7
226	199	105	182.1 - N/A	244.4 - 340.6	301.3 - 414.7	399.6 - 671.0	535.1 - 774.7	771.5 - 1089.4	987.0 - 1547
259	228	121	209.3 - N/A	280.8 - 391.0	346.0 - 476.1	456.5 - 767.5	614.5 - 889.53	885.9 - 1250.6	1132.9 - 1775.3
292	257	136	236.4 - N/A	317.1 - 441.4	390.6 - 537.5	513.4 - 864.0	693.9 - 1004.4	1000.2 - 1411.9	1278.9 - 2003.7
324	285	151	262.8 - N/A	352.3 - 490.3	433.9 - 597.0	568.6 - 957.5	770.9 - 1115.7	1111.0 - 1568.3	1420.5 - 2225.1
400	352	186	325.3 - N/A	436.0 - 606.5	536.6 - 738.5	699.7 - 1179.6	953.8 - 1380.2	1374.3 - 1939.7	1756.7 - 2751.1
500	440	233	407.5 - N/A	546.0 - 759.3	671.9 - 924.6	872.1 - 1471.9	1194.5 - 1728.2	1720.7 - 2428.3	2199.1 - 3443.1

DUKANE CORP AV SERVICE DEPT
2900 Dukane Drive
St Charles, IL 60174
800-676-2487 / 630-762-4032
Fax 630-584-5156
avservice@dukane.com
www.dukaneav.com

9126-4K/9135-4K Installation Guide

Desktop and Ceiling Mount

Rev 1.0

Formulas: 16:9 Aspect Ratio (UHD = 3840x2160)

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 in the image width for "W" in the Projection Formulas.

Refer to the diagrams and charts for popular screen sizes on page 2 and 3:

Projection Formulas:

- L2K-10F1:** C(Wide) = 0.999W – 3.988
- L4K-11ZM:** C(Wide) = 1.343W – 4.327 ----- C(Tele) = 1.854W – 3.937
- L4K-15ZM:** C(Wide) = 1.632W – 4.382 ----- C(Tele) = 2.257W – 3.488
- L4K-20ZM:** C(Wide) = 2.089W + 10.012 ----- C(Tele) = 3.550W + 10.488
- L2K-30ZM:** C(Wide) = 2.917W + 9.189 ----- C(Tele) = 4.219W + 12.358
- L2K-43ZM1:** C(Wide) = 4.201W - 11.906 ----- C(Tele) = 5.929W – 15.831
- L2K-55ZM1:** C(Wide) = 5.363W - 13.520 ----- C(Tele) = 8.393W – 17.862

Definitions:

- W = Image Width
- H = Image Height (size)
- C = Throw distance

16:9 Screen Formulas

- W = H x 16/9
- H = W x 9/16
- Screen Diagonal = W x 18.378/16

Distance Chart for popular 16:9 Screens (UHD = 3840x2160)

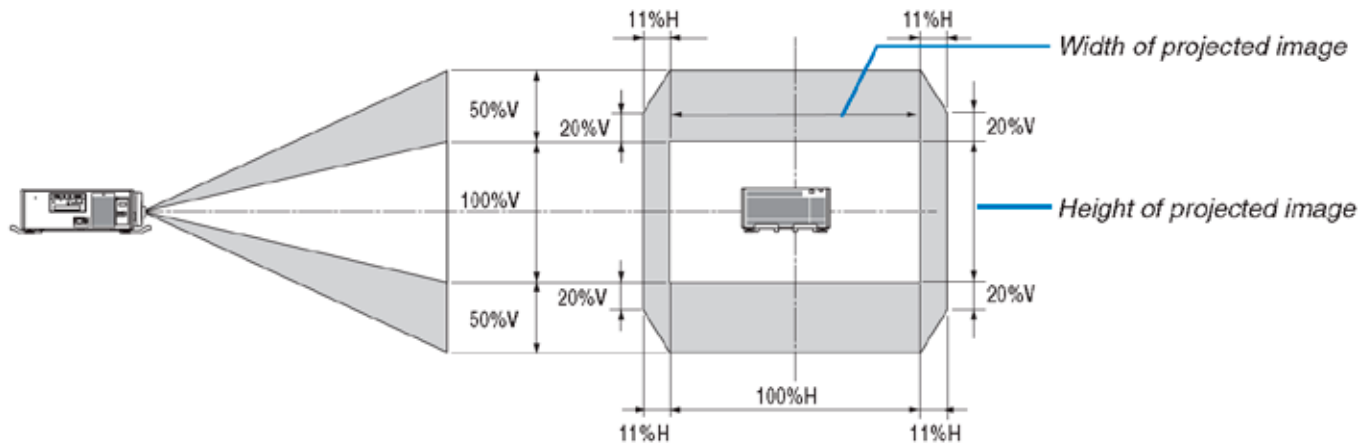
Screen Size (16:9)			Zoom Lenses							
			L2K-10F1	L4K-11ZM	L4K-15ZM	L4K-20ZM	L2K-30ZM	L2K-43ZM1	L2K-55ZM1	
Diagonal	Width(W)	Height (H)	0.9:1	1.10-1.70:1	1.50-2.10:1	2.00-3.40:1	2.70-3.90:1	3.70-5.30:1	4.80-7.40:1	
inches	inches	inches	inches	inches	inches	inches	inches	inches	inches	
110	96	54	91.7 - N/A	124.3 - 173.6	151.9 - 212.7	210.1 - 350.5	270.2 - 391.68	390.4 - 551.97	500.1 - 785.91	
131	114	64	109.9 - N/A	148.8 - 207.5	181.7 - 253.9	248.3 - 415.4	323.5 - 468.82	467.2 - 660.37	598.1 - 939.35	
161	140	79	136.0 - N/A	183.9 - 255.9	224.4 - 312.9	302.8 - 508.1	399.7 - 579.01	576.9 - 815.22	738.2 - 1158.6	
192	167	94	163.0 - N/A	220.2 - 306.0	268.4 - 373.8	359.2 - 603.9	478.4 - 692.87	690.3 - 975.24	882.9 - 1385.1	
226	197	111	192.6 - N/A	259.9 - 360.9	316.7 - 440.6	421.0 - 709.0	564.8 - 817.76	814.7 - 1150.7	1041.7 - 1633.5	
259	225	127	221.3 - N/A	298.5 - 414.1	363.6 - 505.4	481.1 - 811.0	648.6 - 938.97	935.4 - 1321.1	1195.8 - 1874.7	
292	254	143	250.0 - N/A	337.1 - 467.4	410.5 - 570.3	541.1 - 913.0	732.4 - 1060.2	1056.1 - 1491.4	1349.8 - 2115.8	
324	282	159	277.8 - N/A	374.5 - 519.0	456.0 - 633.2	599.3 - 1011.9	813.6 - 1177.7	1173.1 - 1656.6	1499.3 - 2349.6	
400	348	196	343.9 - N/A	463.4 - 641.7	563.9 - 782.5	737.5 - 1246.7	1006.6 - 1456.9	1451.1 - 2048.9	1854.1 - 2904.9	
500	435	245	430.9 - N/A	580.3 - 803.1	706.0 - 979.0	919.4 - 1555.8	1260.6 - 1824.2	1816.8 - 2565.1	2321.0 - 3635.6	

9126-4K/9135-4K Installation Guide

Desktop and Ceiling Mount

Rev 1.0

Lens Shift Adjustable Range



Lens Shift 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.

Note: Projector is set out of the box at maximum lens shift, which is how it is depicted above.
(W: width of projected image, H: height of projected image)

9126-4K/9135-4K Installation Guide

Desktop and Ceiling Mount

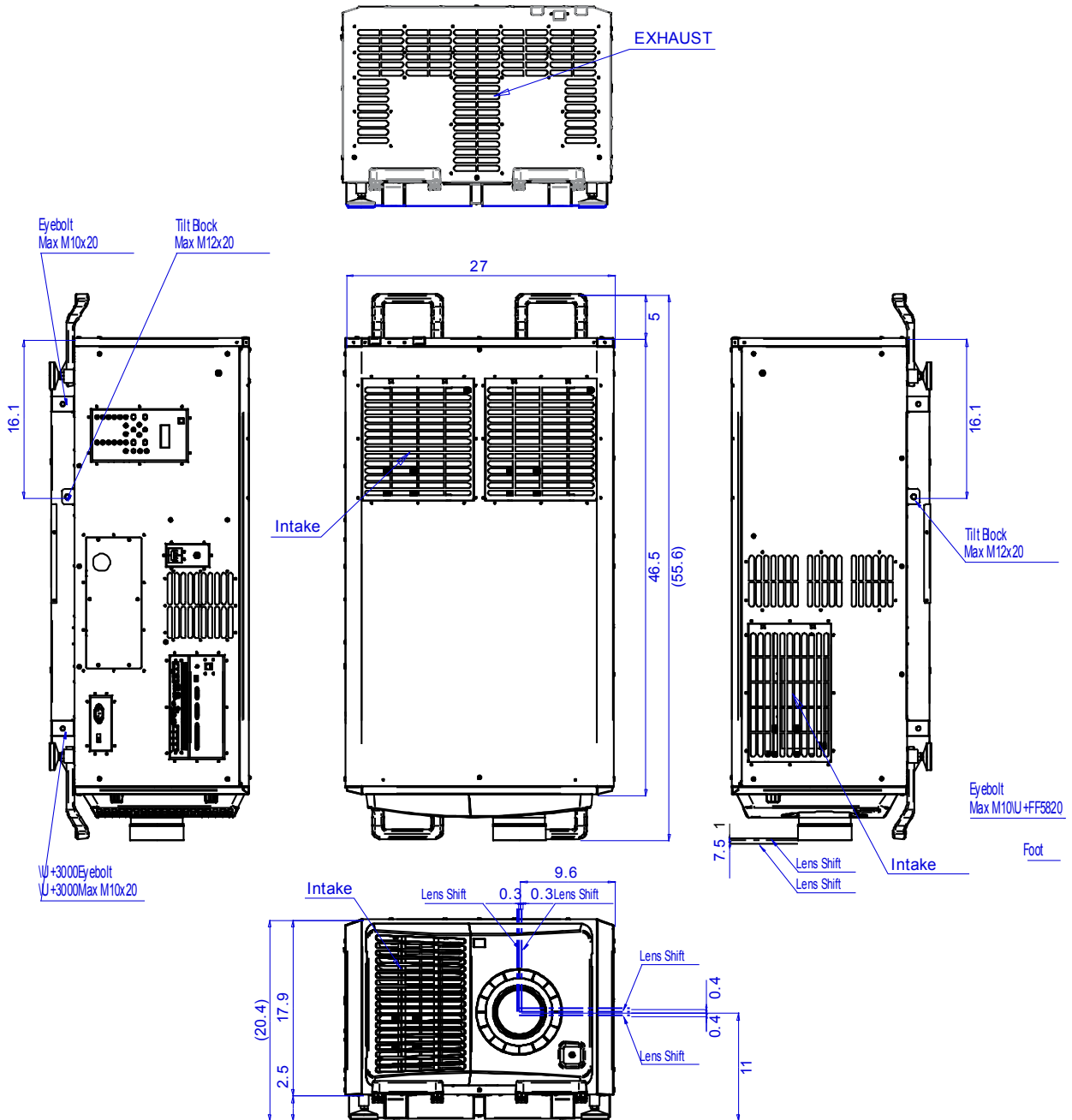
Rev 1.0

Cabinet Dimensions

The following diagrams show the cabinet dimensions for the 9126-4K / 9135-4K.

Dimensions are in inches. For millimeters multiply by 25.4.

Note: Dimensions below shown without lens

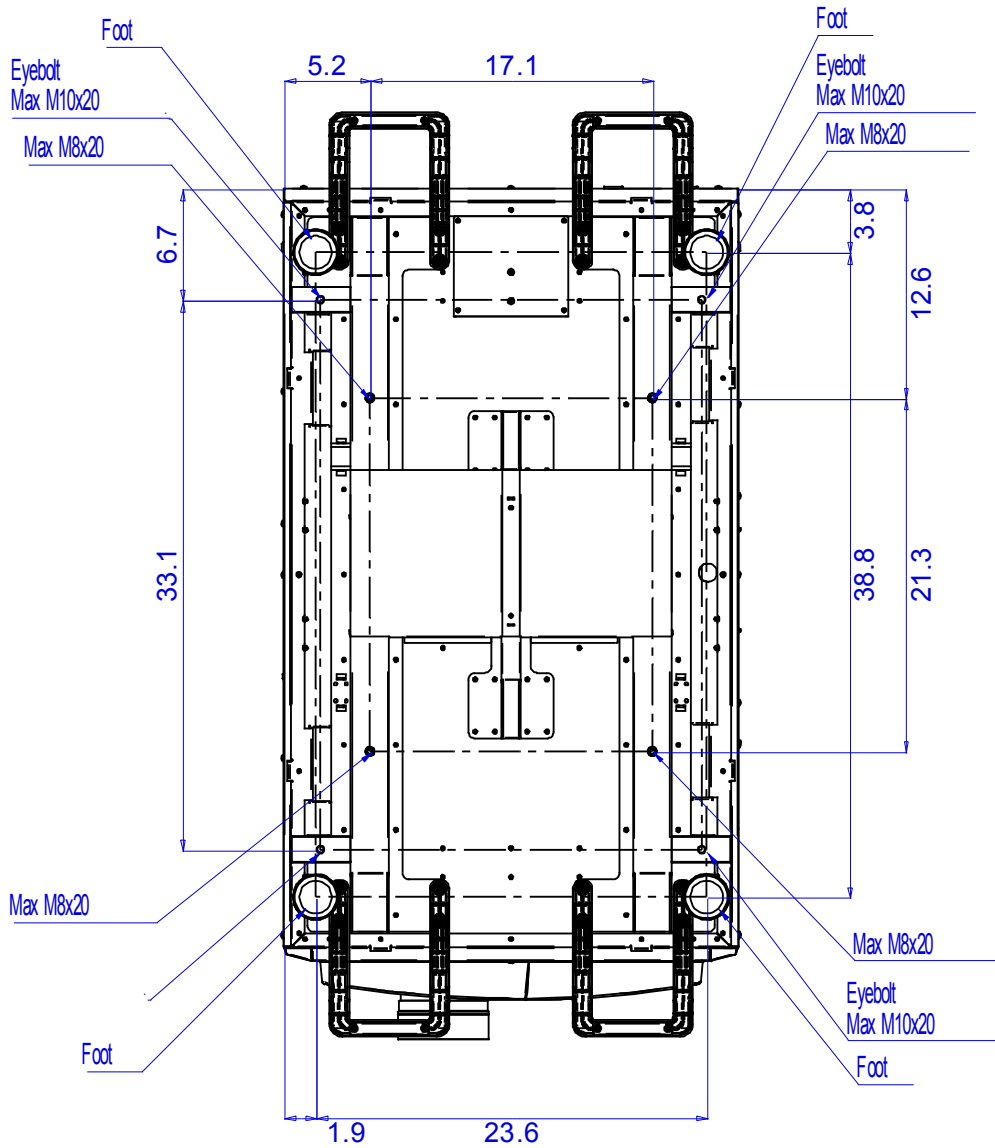


9126-4K/9135-4K Installation Guide

Desktop and Ceiling Mount

Rev 1.0

Cabinet Dimensions

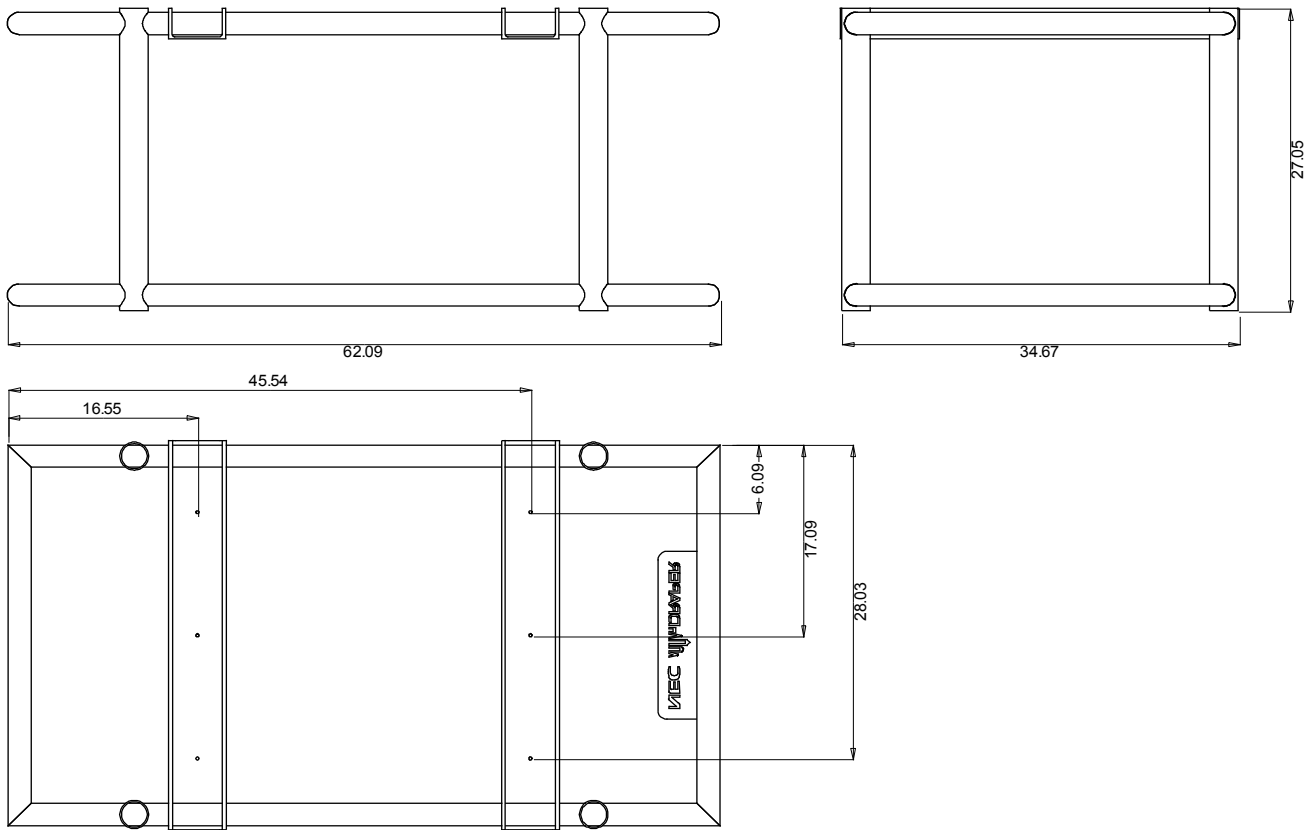


9126-4K/9135-4K Installation Guide

Desktop and Ceiling Mount

Rev 1.0

Optional Fly Cage Dimensions (PH3501FC)



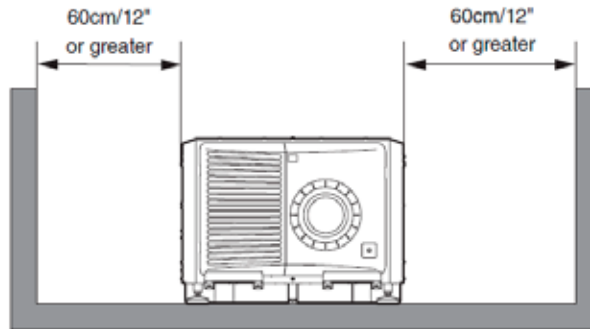
9126-4K/9135-4K Installation Guide

Desktop and Ceiling Mount

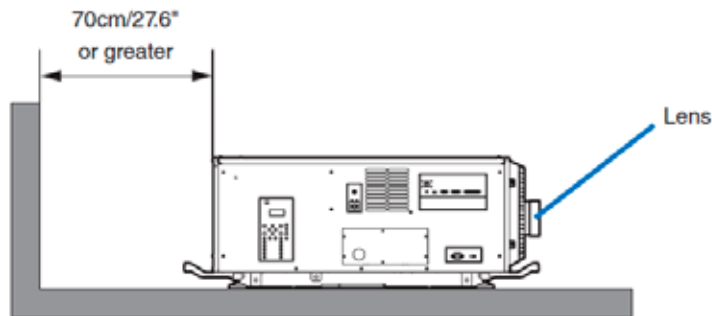
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Ventilation Requirements

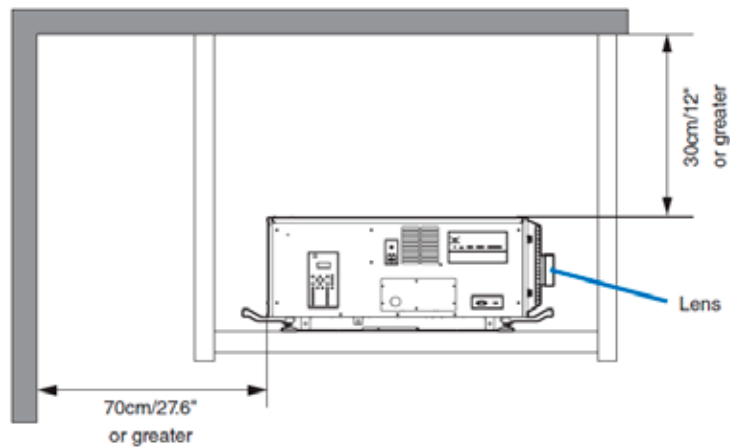
- If there are walls on both sides of the projector :



- If there's a wall behind the projector :



- For ceiling mounting :



9126-4K/9135-4K Installation Guide

Desktop and Ceiling Mount

Rev 1.0

Regulatory Labels

RISK GROUP 3
WARNING
 DO NOT LOOK INTO THE BEAM.
 NO DIRECT EYE EXPOSURE TO THE BEAM IS PERMITTED.
 HAZARD DISTANCE: REFER TO THE MANUAL.

GROUPE DE RISQUE 3
AVERTISSEMENT
 NE PAS REGARDER DIRECTEMENT DANS LE FAISCEAU.
 L'EXPOSITION DIRECTE DES YEUX AU FAISCEAU EST INTERDITE.
 DISTANCE A RISQUE: SE REPORTER AU MANUEL.

RISIKOGRUPPE 3
WARNUNG
 SCHAUEN SIE NICHT IN DEN STRAHL.
 DIREKTER AUGENKONTAKT MIT DEM STRAHL IST NICHT ERLAUBT.
 SICHERHEITSABSTAND: SIEHE HANDBUCH.

ГРУППА РИСКА 3
ПРЕДУПРЕЖДЕНИЕ
 НЕ СМОТРИТЕ НА ЛУЧ.
 ЗАПРЕЩАЕТСЯ ЛЮБОЕ ПРЯМОЕ ВОЗДЕЙСТВИЕ ЛУЧА НА ГЛАЗА.
 ОПАСНОЕ РАСТОРЯНИЕ: СМ. РУКОВОДСТВО ПО ЭКСПЛУАТАЦИИ.

リスクグループ3
 警告
 ビームを見ないこと。
 目へのビームの直接照射を禁止する。
 障害距離: 取扱説明書を参照。

위험 그룹 3
 경고
 빔을 눈으로 보지 마십시오.
 빔을 직접 눈에 노출하는 것은 허용되지 않습니다.
 위험 거가 설명서를 참조하십시오.

风险组别 3
 警告
 请勿直视光束。
 不允许眼睛直接接触光束。
 有害距离: 请参说明书。
 IEC/EN 62471-5:2015

FOR NORTH AMERICA
RISK GROUP 3
WARNING
 HAZARDOUS OPTICAL RADIATION EMITTED FROM THIS PRODUCT.
 DO NOT LOOK AT OPERATING LIGHT SOURCE.
 EYE INJURY MAY RESULT.
 HAZARD DISTANCE: REFER TO THE MANUAL.
 NO DIRECT EXPOSURE TO BEAM SHALL BE PERMITTED.
 NOT FOR HOUSEHOLD USE.

GROUPE DE RISQUE 3
AVERTISSEMENT
 RADIATIONS OPTIQUES DANGEREUSES EMISES PAR CE PRODUIT.
 NE REGARDEZ PAS DIRECTEMENT LA SOURCE LUMINEUSE.
 CELA POURRAIT ENTRAÎNER DES BLESSURES AUX YEUX.
 DISTANCE A RISQUE: SE REPORTER AU MANUEL.
 L'EXPOSITION DIRECTE AU RAYON DOIT ÊTRE AUTORISÉE.
 NE CONVIENT PAS A UN USAGE DOMESTIQUE.

IEC/TR 62471-2:2009
 IEC/EN 62471:2006

CLASS 1 LASER PRODUCT
LASERPRODUKT DER KLASSE 1
PRODUIT LASER DE CLASSE 1
ЛАЗЕРНОЕ ИЗДЕЛИЕ 1 КЛАССА ОПАСНОСТИ
 1类激光产品
 등급 1 레이저 제품
 IEC 60825-1:2014

激光辐射
 避免眼睛受到直接照射
 4类激光产品
 波长: 红色 632~642 nm
 蓝色 450~470 nm
 最大输出: 红色 750 mW
 蓝色 450 mW
 GB 7247.1-2012

クラス1レーザ製品
 JIS C 6802:2014

3263343400

LASER APERTURE
OUVERTURE LASER

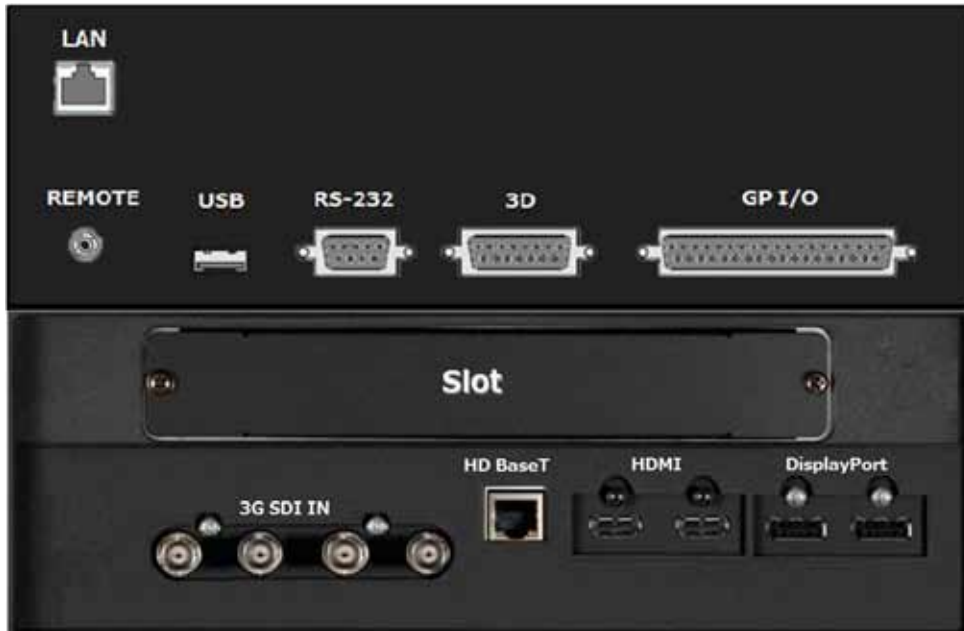
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9126-4K/9135-4K Installation Guide

Desktop and Ceiling Mount

Rev 1.0

Input Panel



Button Panel



9126-4K/9135-4K Installation Guide

Desktop and Ceiling Mount

Rev 1.0

PC Control Codes

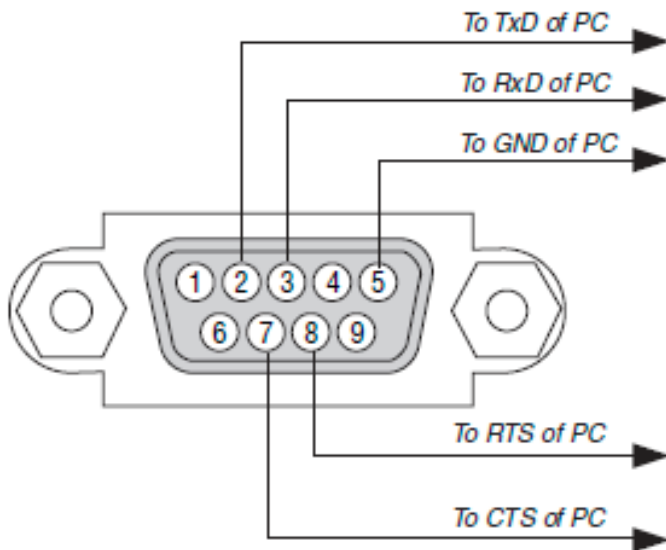
Function	Code Data
POWER ON	02H 00H 00H 00H 00H 02H
POWER OFF	02H 01H 00H 00H 00H 03H
INPUT SELECT HDBaseT	02H 03H 00H 00H 02H 01H 20H 28H
INPUT SELECT HDMI	02H 03H 00H 00H 02H 01H A1H A9H
INPUT SELECT DisplayPort	02H 03H 00H 00H 02H 01H A6H AEH
INPUT SELECT SLOT	02H 03H 00H 00H 02H 01H ABH B3H
PICTURE MUTE ON	02H 10H 00H 00H 00H 12H
PICTURE MUTE OFF	02H 11H 00H 00H 00H 13H

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

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.