

DIGITAL PROJECTION

Morpheus 7000HDi

High Brightness Digital Video Projector

USER MANUAL



106-744A	DLP 3-CHIP HD2 DC3 DUAL 300W PROJ 0.64:1 fixed
106-745A	DLP 3-CHIP HD2 DC3 DUAL 300W PROJ 0.96:1 fixed
106-746A	DLP 3-CHIP HD2 DC3 DUAL 300W PROJ 1.2-1.44:1
106-747A	DLP 3-CHIP HD2 DC3 DUAL 300W PROJ 1.44-1.8:1
106-748A	DLP 3-CHIP HD2 DC3 DUAL 300W PROJ 1.8-2.4:1
106-749A	DLP 3-CHIP HD2 DC3 DUAL 300W PROJ 2.4-3.6:1
106-750A	DLP 3-CHIP HD2 DC3 DUAL 300W PROJ 3.6-5.6:1

Declaration of Conformity

Directives covered by this Declaration

89/336/EEC Electromagnetic Compatibility Directive, amended by 92/31/EEC & 93/68/EEC.

73/23/EEC Low Voltage Equipment Directive, amended by 93/68/EEC.

Products covered by this Directive

Large Screen Projector type Morpheus 7000HDi

Basis on which Conformity is being declared

The products identified above comply with the protection requirements of the above EU directives, and the manufacturer has applied the following standards:-

EN55022:1998 - Limits and Methods of Measurements of Radio Disturbance Characteristics of Information Technology Equipment.

EN 55024:1998 - Limits and Methods of Immunity Characteristics of Information Technology Equipment.

EN 61000-3-2:2000 - Harmonic Current Emissions.

EN 61000-3-3:1995 - Immunity to Voltage Fluctuations and Flicker.

EN 60950-1:2002 - Information technology equipment. Safety. General requirements

The technical documentation required to demonstrate that the products meet the requirements of the Low Voltage directive has been compiled by the signatory below and is available for inspection by the relevant enforcement authorities. The CE mark was first applied in Oct 2006.

Signed:



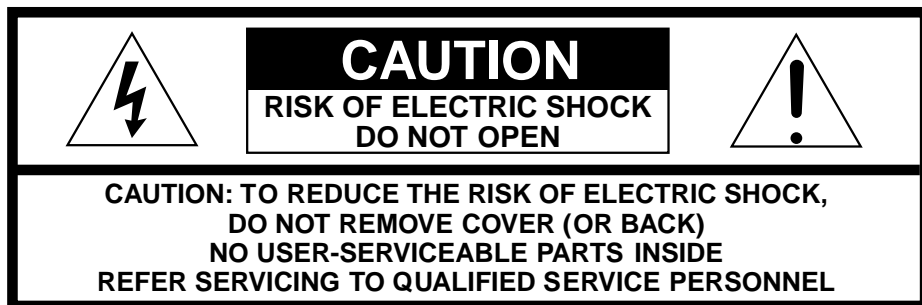
Date: 18th Oct 2006

Authority: D J Quinn, Director

Attention!

The attention of the specifier, purchaser, installer, or user is drawn to special measures and limitations to use which must be observed when these products are taken into service to maintain compliance with the above directives. Details of these special measures are available on request, and are also contained in the product manuals.

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The lightning flash with an arrowhead symbol is to warn user that the parts inside this product may cause risk of electrical shock to persons.



The exclamation point within a triangle is to tell user that important operating or servicing instructions in the literature accompanying the product.

WARNING

**TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK,
DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.**

FCC Warning

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.
- In order to meet the FCC requirements, please use the grounded power cord provided and shielded ferrite core video adapter. All modifications conducted by the user without consent of local authorities shall void the operation of this product.

Canada

This Class B digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Read before operating equipment.

- Read, keep, follow these instructions.
- Unplug the product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Clean only with soft dry cloth.
- To ensure the highest optical performance and resolution, the projection lenses are specially treated with an anti-reflective coating, therefore, avoid touching the lens. To remove dust on the lens, use a soft dry cloth. Do not use a damp cloth, detergent solution, or thinner.
- Do not near the water or place this product in a high humidity place.
- Never spill liquid of any kind on the product. Should any liquid or solid object fall into the cabinet, unplug the set and have it checked by qualified service personnel before resuming operations.
- Do not place flammable or combustible materials near the projector.
- Do not near any heat sources, such as radiators, heat registers, stoves, amplifiers or other heat product.
- Do not place this equipment on an unstable cart, stand, or table. The product may fall, causing serious damage to or personal injury.
- Allow at least 30 cm of space between the exhaust ventilative hole and the nearest wall or obstruction.
- Use only the power cord supplied with your projector. While appearing to be similar, other power cords have not been safety tested at the factory and may not be used to power the projector.
- Do not attempt to modify the power cord or its connectors.
- Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage potentials and risk of electric shock! Refer all servicing to qualified service personnel.

Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following situations:

- When the power cord or plug is damaged or frayed.
- When the product has been exposed to rain, water or liquid has been spilled into the equipment.
- When the product has been dropped or the cabinet has been damaged.
- If the product does not operate normally when the operating instructions are followed. Adjust only those controls that are covered by the operating instructions since improper adjustment of the other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.

Unpacking

Save the original shipping carton and packing material. When you need to ship the product, the original packing carton can provide the maximum protection.

Ambient Lighting - for best quality pictures

In order to obtain the best quality for the projected image, it is essential that the ambient light which is allowed to fall on the screen be kept to an absolute minimum.

When installing the projector and screen, care must be taken to avoid exposure to ambient light directly on the screen. Avoid adverse illumination on the screen from direct sunlight or fluorescent lighting fixtures.

The use of controlled ambient lighting, such as incandescent spot light or a dimmer, is recommended for room illumination. Where possible, care should also be taken to ensure that the floors and walls of the room in which the projector is to be installed are non-reflecting, dark surfaces. Brighter surfaces will tend to reflect and diffuse the ambient light and hence reduce the contrast of the projected image on the screen.

Air Filter replacement

The air filters is to prevent dust from entering the projector and to keep good air circulation.

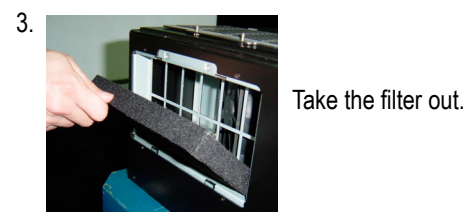
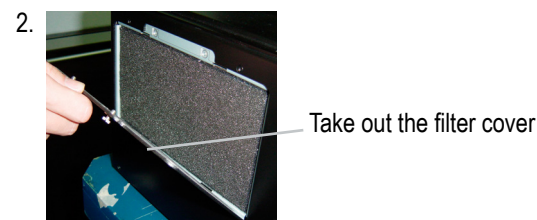
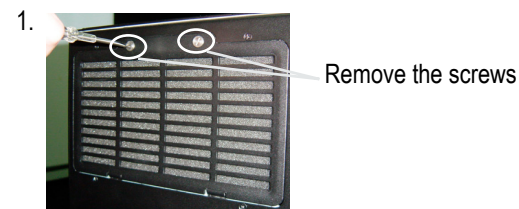
NOTE:

Be sure to contact the dealer each 100 hours about the replacement of the air filter.

If the air filter is heavily covered by dust, it can cause overheat and fire or other damage. The air filter is a consumable part. Please contact your dealer for details about c hange the air filter.

Filter replacement

Be sure to turn off and unplug the projector before you change the filter

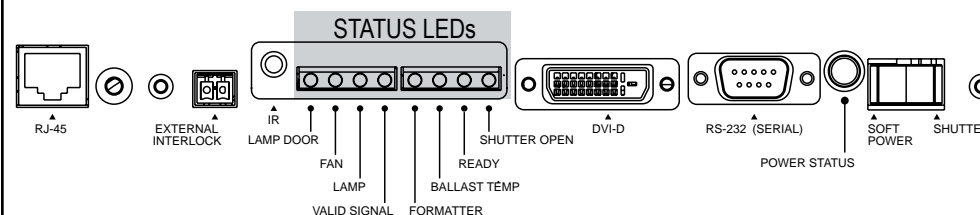


4. Install new filter. Replace the filter cover and screws.

Introduction of this projector

This Projector is a three-chip DLP projector with a native resolution of 1280x720 pixels (16:9 aspect ratio). The projector accepts 720p video through a DVI-D connector on the rear panel.

I/O Panel (Input / Output)



Connectors

• DVI-D

Digital Video Input. Accepts 720p Video Input. Input will be displayed native to the source. To display the full image size the source must be 1280x720 resolution.

• RS-232 (SERIAL)

Serial Communications. Allows control of the projector from a computer or external control device. For further information contact your dealer.

• External INTERLOCK

Film projector lockout connector. For some installations the installer may have enabled this feature which requires this connection to be made at all times. If a connection is made do not remove it, doing so may prevent the projector from turning ON. For further information contact the installer.

• RJ-45

Allows communications with a PC or Server.
10/100M Ethernet Media Access controller.

Switches

• SHUTTER / SOFT POWER

Soft power ON/OFF and Shutter control.

• POWER ON / OFF

Located just above the power connector - System Power ON / OFF.

LED Indicators

LEDs

- **POWER STATUS**

RED: Standby

GREEN: Power On or Power-up sequence

YELLOW: 5 minute

power-down , ELSE power-off sequence.

STATUS LED Operation

STATUS LED	When on continuously	When Flashing (or OFF)
SHUTTER OPEN	Shutter OPEN	Shutter CLOSED CURTAIN mode
READY	90 Second lamp cool-down timer expired READY for power-up or Re-strike	[READY OFF] 90 second lamp Cool-down cycle in progress
BALLAST TEMP	Ballast Temperature OK	Ballast temperature high - Shutdown
FORMATTER	Formatters Initialized and Operating	Formatter failure (usually a communication failure) - Shutdown
VIDEO SIGNAL	Video Signal Detected	No Video
LAMP	Lamp Struck and Operating	Lamp Extinguished
FAN	Fans OK	Fan Failure - Shutdown
LAMP DOOR	Lamp Door Interlock OK Lamp Thermal Switch Closed	Lamp Door Open or Lamp Thermal Switch Open-Shutdown

Network LAN

Features

- **Network connection through RJ45 connector**

Allows connection of the Projector directly to the ethernet network through a RJ45 connector without using RS232 ports on the computer and without loading any individual Projector management software on the network server.

- **Network Projector management**

Allows remote management of the Projector from any workstation through Internet or Intranet.

Power Sequencing

Applying power

When the power is first applied, the projector comes up in STANDBY mode. It may be left in this state indefinitely. Both controllers and the RS-232 circuitry are powered so that the unit can respond to serial commands, the IR Remote Control or the rear panel switch. The ballasts, fans and formatters are not energized.

Note: The IR Remote POWER button is always active but the other buttons may be disabled. If the unit is powered up using the IR Remote, all IR commands will be enabled. If the unit is powered up using the rear panel switch or via the serial port, only the IR POWER button is disable. IR Remote buttons may be enabled or disabled with the **IR+** and **IR-** serial commands.

When the projector is in STANDBY, the Power STATUS LED to the left of the switch will glow RED. and the READY LED will be ON. (If there were any problems encountered, other LEDs may be flashing.)

Switching ON

Pressing the SOFT POWER switch momentarily (1/2 second or more) will power up the unit, turning on the lamp and initializing the formatters. The Power STATUS LED will glow GREEN. The projector will come up in CURTAIN projection mode (picture off) and with the shutter closed. The STATUS LEDs will display the progress of the power-up sequence. When all of the LEDs except for the SHUTTER LED are lit, then the shutter may be opened.

When the projector is POWERED UP, a momentary depression of the SHUTTER switch (1/2 second or more) will open the SHUTTER and put the formatters in NORMAL PROJECTION MODE (picture on). Subsequent depressions will toggle between NORMAL MODE/SHUTTER OPEN and CURTAIN MODE/SHUTTER CLOSED.

Powering down

Pressing the SOFT POWER switch will cause the SHUTTER to close and the formatters to go to CURTAIN MODE and also initiates a 5 MINUTE POWER DOWN cycle. During this time the lamp, fans and formatters remain active. The Power STATUS LED will glow YELLOW. The STATUS LEDs should all be ON except for SHUTTER. During this 5 minute cycle if no other action is taken, the projector will enter STANDBY mode which take a further 60 seconds. During which time the lamp is turned off and the fans are left running.

During the 60 SECOND POWER OFF sequence the READY LED will be OFF. While the READY LED is OFF the lamp may not be turned on. The READY LED will go back ON after 90 seconds indicating that the lamp may be re-struck. A command to re-strike via any of the three methods - serial, IR or switch – may be issued at any time but the re-strike will not occur until the 90-second lamp cool-down has expired.

Quick Power down

If the projector is in the 5 MINUTE POWER DOWN sequence, pressing the SOFT POWER switch again (1/2 second or more) will initiate the 60 SECOND POWER OFF sequence.

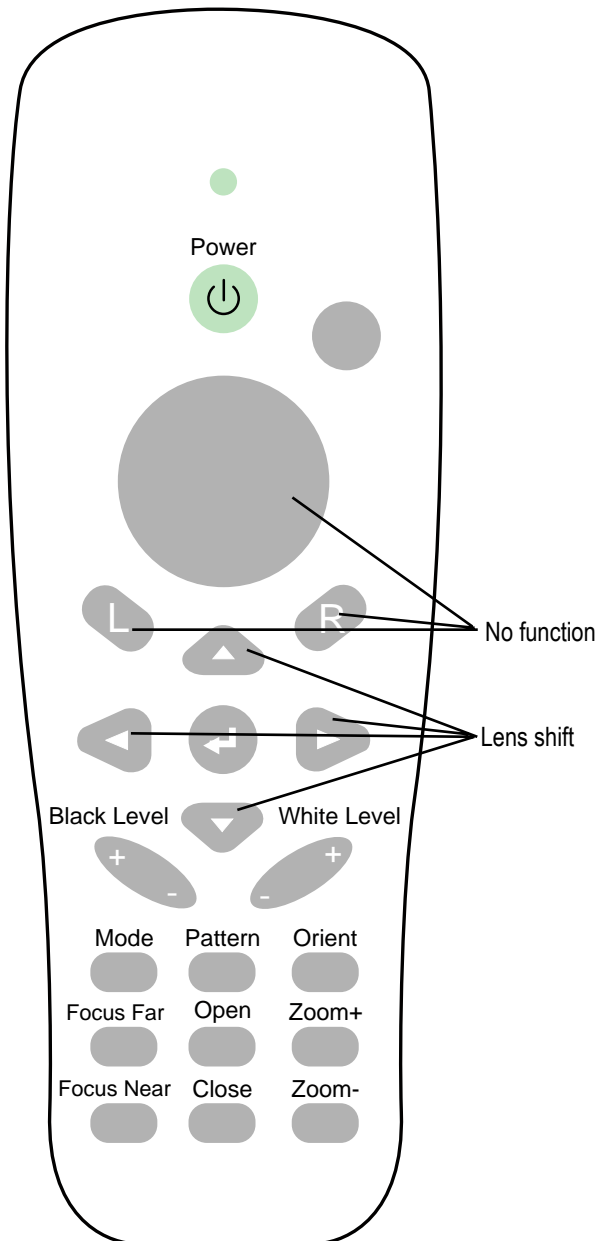
To cancel 5 MINUTE POWER DOWN press the SHUTTER switch. OR If the IR remote is enabled - press the OPEN button on the remote control which will open the SHUTTER and cancel the 5 MINUTE POWER DOWN. The STATUS LED will turn GREEN.

Status LED's

Power Status LED	
Power LED	Action
RED	Projector in Standby
GREEN	Projector in power up cycle or projector running
YELLOW	Projector in power down cycle

Status LED's		
Status LED	Steady - ON	Flashing or Off
LAMP DOOR	Lamp door closed	Lamp door open
FANS	Fans OK	Fan failure
LAMP	Lamp struck OK "ON"	Not struck / Lamp off
VIDEO SIGNAL	Valid Video Signal detected	No video or Invalid signal detected
FORMATTER	Formatters Initialised and Operating	Formatter failure - may flash during video signal change
BALLAST TEMP	Ballast temperature OK	Ballast temperature too high >105°C
READY	Projector running/ready for power on	Cool down cycle in progress
SHUTTER	Shutter open	Shutter closed

Remote Control



FUNCTIONS

Power Power on or Power off the projector

White Level

Changes the Gain or Contrast of the picture. Which affects the white parts of the image

Black Level

Changes the brightness of the picture. Which affects the dark part of the image.

Lens shift

▲ ▼ ▶ ◀ Adjust the image position up, down, right and left.

Mode

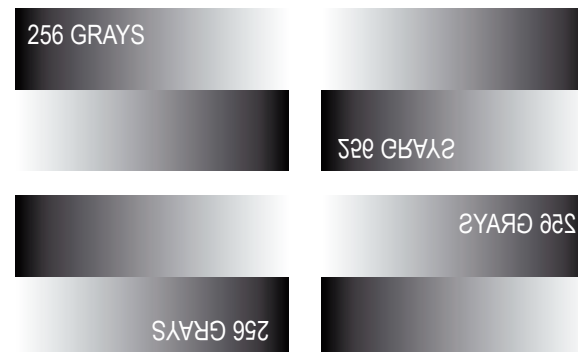
Cycles through the Projection modes. has Normal, Pattern and Curtain styles.

Pattern

Cycles through test patterns when in PATTERN mode. RED, GREEN, BLUE, WHITE, GREYSCALE, CROSS-HATCH

Orient

Cycles through the Projection orientations. Normal, Front, Rear, Ceiling)



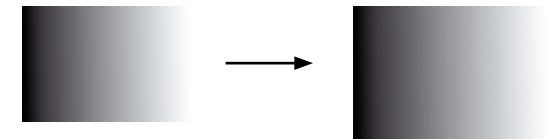
Focus Far , Focus Near

Adjust the image focus

Open, Close

See " Shutter Control " parts for detail information.

Zoom + Bigger the image.



Zoom - Smaller the image.



Specifications

Feature / Attribute	Description
Optics	
Contrast	1800 to 1 nominal
Uniformity	>85%
Resolution	3 chip DLP 720p (1280 x 720) 48Hz, 50Hz, 60Hz
Lamp	2 x 300W lamp total lamp hour tracking light blocking shutter - used in lamp warmup/shutdown transitions
Projection Lens	Optional Lens Throw Ratio = 0.64 : 1 Throw Ratio = 0.96 : 1 Throw Ratio = 1.2 - 1.44 : 1 Throw Ratio = 1.44 - 1.8 : 1 Throw Ratio = 1.8 - 2.4 : 1 Throw Ratio = 2.4 - 3.6 : 1 Throw Ratio = 3.6 - 5.6 : 1
Projection Lens Image Offsets	Vertical total 160% Horizontal +/- 20%
Prism/DMD Optics	filtered air for dusty environment
Electrical	
I/O - Video Input	DVI-D with HDCP 720p native only
I/O - Control and Status	9-Pin, 2-Way RS232 9600 Baud (8,N,1) RJ-45 Ethernet 8 green LED status array - see use model tab
I/O - Power Input	IEC-320-C14receptacle
Rocker Switch	Left position - strikes the lamp, initializes electronics Right position - opens or closes shutter
Indicators	Red/yellow/green LED Main Power
Projector Control	Hard wired remote via RS-232, IR Remote
Zoom/Focus/Offsets	DC motor control via IR Remote
Projection Modes	Front/ Rear/ Ceiling/Desk
Video Modes	720p,48Hz, 50Hz, 60Hz, Native (no scaling)
Power	~ 100 - 240V, 50/60Hz, MAX 8A
Remote control	via IR remote from front or back

Status

Status Monitoring	LED Array Green/Off	Control Board Power Fans Valid Signal Input Lamp ON Shutter Open DMD Formatter ON Ballast Temperature OK System Ready
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Feature / Attribute Description

Environmental

Operating Temperature	10 deg. C to 35 deg. C ambient
Humidity	20 - 80% non-condensing
Storage	-20°C to 60°C, 90% RH
Lamp Life	1500hrs @100% Light Ouput
Operating Height	0 ~ 2000M

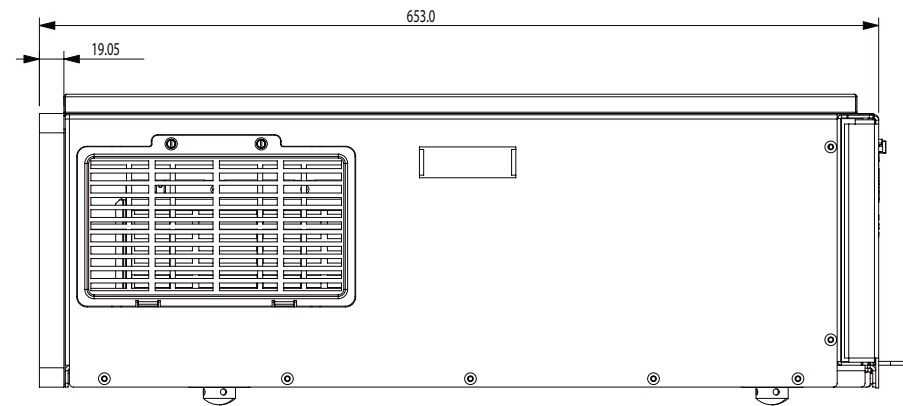
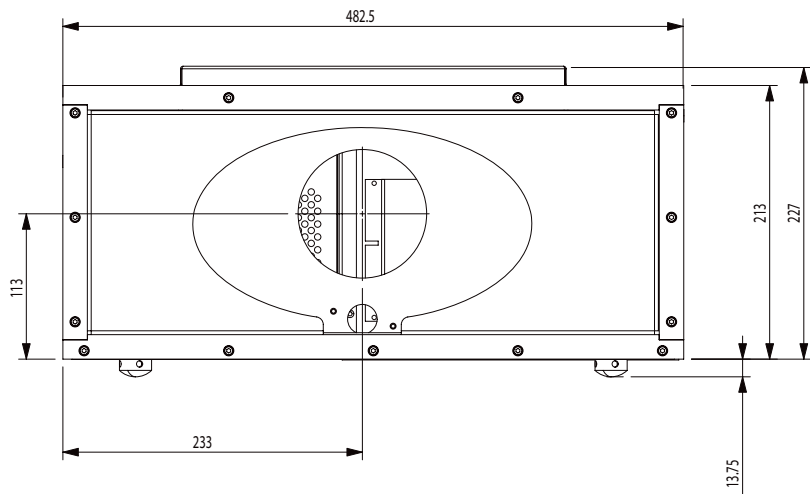
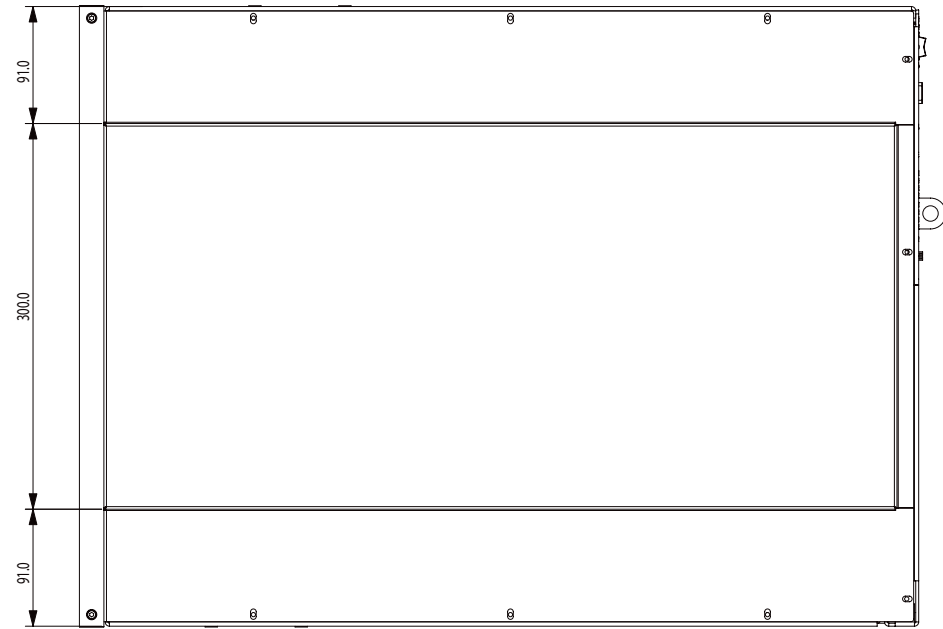
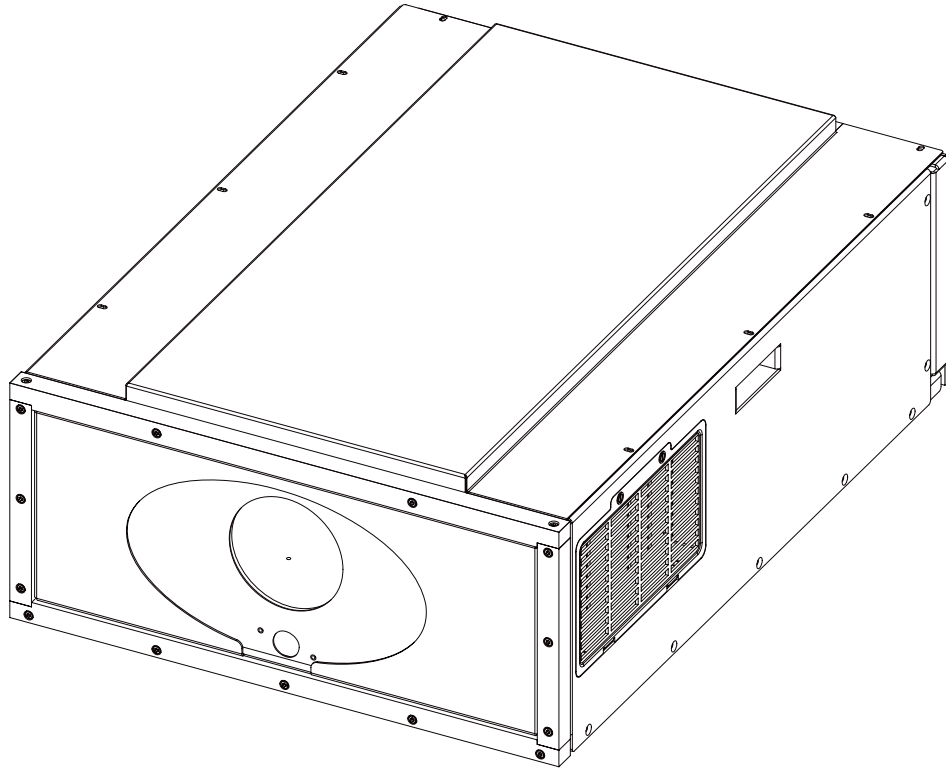
Service

Lamp	90 days from date of shipment
Parts (non-lamp)	1 year

Standard Accessories

Power Cord	India / Euro / USA 220VAC
IR Remote	
User guide	

Dimensions



Dimensions in mm

