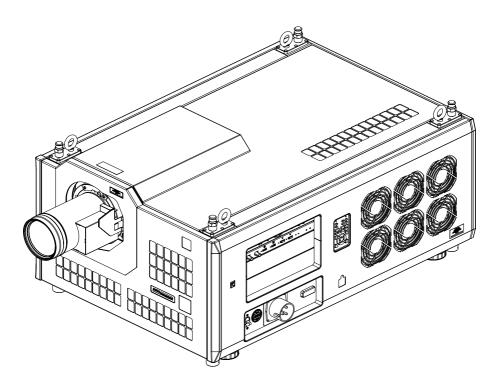


# INSIGHT Laser 8K Series

# **Important Information**



Rev B October 2018 119-534

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# Super High Brightness Digital Video Projector Important Information

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Full information about operating, connecting and setting up the projector can be found in the User Manual.

Updates may be available online - visit the Digital Projection website for all latest documents.

# Symbols used in the User Manual



LASER WARNING: this symbol indicates that there is a potential hazard of eye exposure to laser radiation unless the instructions are closely followed.



LIGHT HAZARD WARNING: this symbol indicates that there is a danger of exposure to intensive light that may result in personal injury unless the instructions are closely followed.



ELECTRICAL WARNING: this symbol indicates that there is a danger of electrical shock unless the instructions are closely followed.



WARNING: this symbol indicates that there is a danger of physical injury to yourself and/or damage to the equipment unless the instructions are closely followed.



NOTE: this symbol indicates that there is some important information that you should read.



Specifications are subject to change without notice.

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## **Electrical and physical specifications**

Main Voltage 200-240 VAC 50/60Hz

Operating Temperature 0°C to 35°C (32 F to 95 F)

Storage Temperature -10°C to 50°C (14 F to 122 F)

Operating Humidity 20% to 80% non-condensing

Dimensions: W 72.2 cm (28.4 in), H 47.9 cm (18.9 in), D 100.3 cm (39.5 in)

Weight 132 kg (291 lb) without lens

Power Consumption 4000 W

Thermal Dissipation 13,650 BTU/hr

## Laser precautions



#### **CLASS 3R LASER PRODUCT**

This Laser Product is designated as Class 3R during all procedures of operation.

LASER LIGHT - AVOID DIRECT EYE EXPOSURE.

Do not point laser or allow laser light to be directed or reflected toward other people or reflective objects.

Direct or scattered light can be hazardous to eyes and skin.

There is a potential hazard of eye exposure to laser radiation if the included instructions are not followed.

Caution – use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

#### Laser Parameters:

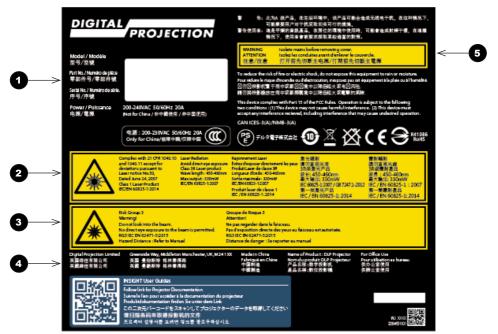
Wavelength: 450nm - 460nm

Total internal power: >100W

Apparent source size: >10mm, at lens stop Divergence: >100 mili Radian

#### **Product labels**

#### **Product ID Label**



This includes the following information:

- Model Details
  - Includes model name, part number, serial number and power rating.

    Also contains the Certification Statement label and Explanatory label, as well as the Risk Group 3 label.
- Certification Statement label and Explanatory
  States that the product is Class 3R and shows laser parameters.
  Also shows a Laser Hazard Warning symbol.
- Risk Group 3
  States that the product is Risk Group 3 according to IEC 62471-5:2015.
  Also shows a Light Hazard Warning symbol.
- Manufacturer's Details Includes manufacturer's name and address details. Also shows a QR code. Scan this to access the product documentation on the Digital Projection website.
- Maintenance Warning

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## **Hazard Warning Symbol and Aperture label**



## Laser Warning label



### **Protective Housing label**

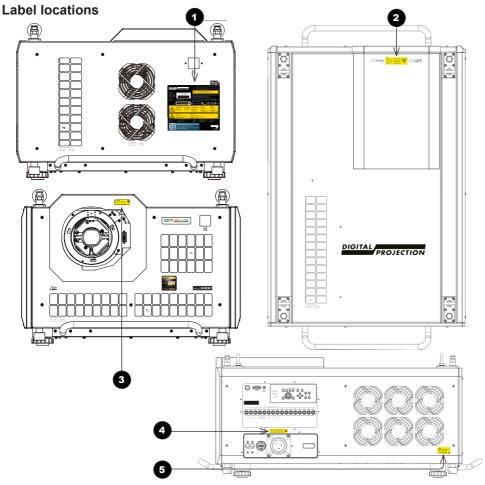
M2-S1-00003-170309-39 CAUTION- CLASS 4 LASER LIGHT WHEN OPEN AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED LIGHT

## **Maintenance Warning label**



## **Power Rating label**

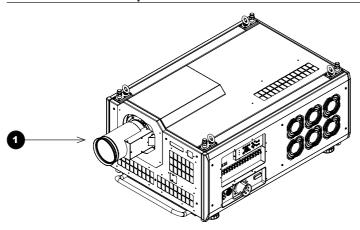
Note:Input voltage limited 200-240V~ 注意:输入电压仅限 200-240V~ 注意:輸入電壓僅限 200-240V~



- Location of Product ID label, including the Certification Statement label and Explanatory label and the Risk Group 3 label on the projector
- 2 Location of Hazard Warning Symbol and Aperture Label on the body of the projector
- 3 Location of Laser Warning label
- 4 Location of Power Rating label
- 5 Location of Maintenance Warning label and Protective Housing label (visible when the side cover is removed)

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# Location of laser aperture



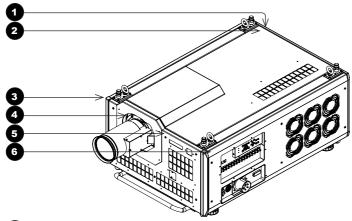
The laser aperture is located as indicated below.



Laser aperture

## Interlock switches

Six interlock switches installed at the main frame, inside the cover, will power-off the light source individually when activated.



1 Will be activated when the back cover is removed.

Will be activated when the top cover is removed.

Will be activated when the right side cover is removed.

Will be activated when the projection lens is removed.

Will be activated when the front cover is removed.

Will be activated when the left side cover is removed.

## **General precautions**



The unit is never to be operated if the unit is defective or the cover or seal is damaged.

No maintenance allowed by end user.

Do not open the cabinet. There are no user serviceable parts inside.

No service is allowed except by authorized personnel.

Use only the power cable provided.

Ensure that the power outlet includes a Ground connection, as this equipment MUST be earthed.

Take care to prevent small objects such as paper or wire from falling into the projector. If this does happen, switch off immediately, and have the objects removed by authorised service personnel.

Do not expose the projector to rain or moisture, and do not place any liquids on top of the projector.

Unplug before cleaning, and use a damp, not wet, cloth.

Do not touch the power plug with wet hands.

Do not touch the power plug during a thunder storm.

Handle the power cable carefully and avoid sharp bends. Do not use a damaged power cable.



Do not touch the ventilation outlets, as they will become hot in use.

Do not cover or obstruct the ventilation outlets or inlets.

Do not cover the lens whilst the projector is switched on. This could cause a fire.

Always allow the projector to cool for 5 minutes before disconnecting the power or moving the projector.

Never use strong detergents or solvents such as alcohol or thinners to clean the projector and lens.

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## Installation precautions



Connect the LAN cable only to a computer LAN connection. Other similar connectors may have a dangerously high voltage source.

The projector must be installed only by suitably qualified personnel, in accordance with local building codes.

The projector should be installed as close to the power outlet as possible.

The power connection should be easily accessible, so that it can be disconnected in an emergency.

Ensure that there is at least 50cm (19.7in) of space between the ventilation outlets and any wall, and 30cm (11.8in) on all other sides.

Do not install the projector close to anything that might be affected by its operational heat, for instance, polystyrene ceiling tiles, curtains etc.

Place the projector in a dry area away from sources of dust, moisture, steam, smoke, sunlight or heat.

The projector is heavy. Use safe handling techniques when lifting the projector.

Do not drop or knock the projector.

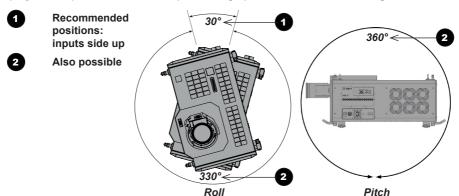
Before installation, make sure that the surface, ceiling or rigging that is to support the projector is capable of supporting the combined weight of the projector and lens.

When stacking projectors, the stack MUST be vertical, to ensure that the stresses are distributed to all four chassis corners.

Do not stack more than 3 projectors.

Do not place heavy objects on top of the projector chassis. Only the chassis stacking points and the optional grab rail are capable of withstanding the weight of another projector.

The projector can be operated in any position. It is recommended to position the projector in portrait mode with inputs facing upward, as shown in the diagram:



FDA regulations requires that a lens Hood is permanently fitted when using the 2.53-4.98:1 lens with the Insight Laser 8K in the United States of America. Fitting can be provided by your reseller or System Integrator.



When using projectors in environments with third party high power laser systems avoid direct laser beams pointing towards the projection lens. This may cause incident light to converge into the optical engine and cause damage to the DLP DMD.

Please pay attention to projector installation with respect to other staging laser light equipment set-up. These systems can cause permanent damage to the DMD imaging devices used in our projectors. This damage is not covered by our warranty.

Make sure the lens cap is removed from the rear of the lens before it is inserted into the projector.

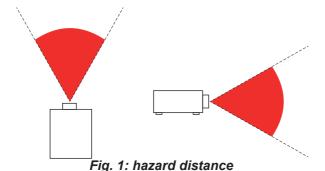
Make sure the lens caps are removed from the lens before operating the projector. Light energy levels this have been known to cause damage to both the lens and projector optics. This damage is not covered by our warranty.

## Light hazard warning



Failure to comply with the following may result in serious injury:

- No direct exposure to the beam is permitted, RG3 IEC 62471-5:2015.
- Operators control access to the beam within the hazard distance or install the projector at sufficient height to prevent exposures of spectators' eyes within the hazard distance.

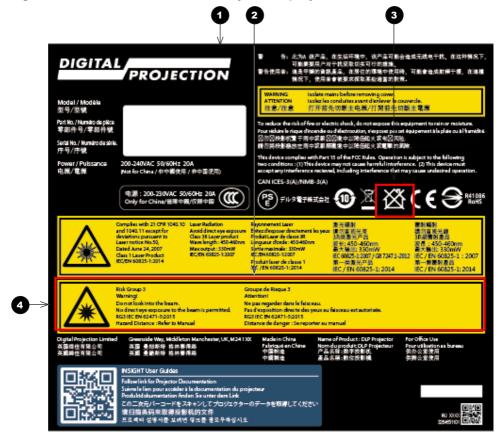


The **hazard distance (Fig. 1)** is the distance measured from the projection lens at which the intensity or energy per unit of surface is lower than the applicable exposure limit on the cornea or skin. If the person is within the hazard distance, the beam is considered unsafe for exposure.

The hazard distance for this projector is 12 m.

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## Light hazard labels used on the body of the projector



Light hazard labelling is part of the product label.

- 1 Product label
- 2 Risk Group 3 label
- 3 Not For Home Use logo
- 4 Hazard Warning symbol

# Operation and configuration precautions



Do not make changes to the networking configuration unless you understand what you are doing, or have taken advice from your Network Manager. If you make a mistake, it is possible that you will lose contact with the projector. Always double-check your settings before pressing the APPLY button. Always keep a written note of the original settings, and any changes you have made.

Software update should NOT be carried out except by, or with the supervision of, Digital Projection Service personnel.

# Compliance with international standards



#### RF Interference

FCC

The Federal Communications Commission does not allow any modifications or changes to the unit EXCEPT those specified by Digital Projection in this manual. Failure to comply with this government regulation could void your right to operate this equipment.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant with Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area may cause harmful interference, in which case the user will be responsible for correcting any interference.

#### Noise

GSGV Acoustic Noise Information Ordinance

The sound pressure level is less than 50 dB (A) according to ISO 3744 or ISO 7779.

## European Waste Electrical and Electronic Equipment (WEEE) Directive



Digital Projection Ltd is fully committed to minimising Waste Electrical and Electronic Equipment. Our products are designed with reuse, recycling and recovery of all components in mind. To this end, at end of life, your projector may be returned to Digital Projection Ltd or its agent so that the environmental impact can be minimised.

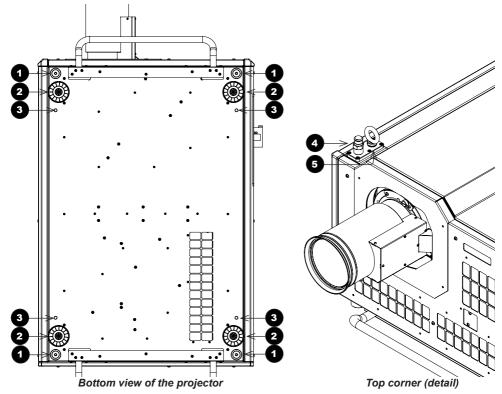
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## **Basic operation instructions**

## Positioning the screen and projector

- 1. Install the screen, ensuring that it is in the best position for viewing by your audience.
- 2. Mount the projector, ensuring that it is at a suitable distance from the screen for the image to fill the screen. Set the adjustable feet so that the projector is level, and perpendicular to the screen.

The drawings below shows the feet for table mounting, and the fixing holes for ceiling mounting. Also shown is one of four rings each located in the top corners. These can be used for lifting a single projector.





Never use the rings for lifting more than one projector.

1 Four stacking points

2 Four adjustable feet

Four M10 holes for ceiling mount

The screws should not penetrate more than 18 mm into the body of the projector.

Stacking point at the top of the projector

**Lifting ring (for handling a single projector)**The rings can be removed to reveal M10 x 18 deep holes for ceiling mounting.

## Connecting the power supply

Rest of the world:

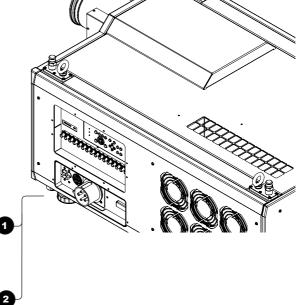


Firmly push the mains connector into the socket.

**USA** only:



Firmly push the mains connector into the socket. Rotate the connector 20° clockwise to lock it in place





Use only the power cable provided.

Ensure that the power outlet includes a ground connection as this equipment MUST be earthed.

Handle the power cable carefully and avoid sharp bends. Do not use a damaged power cable.

# Switching the projector on

- 1. Make sure that a lens is fitted.
- 2. Connect the power cable between the mains supply and the projector. Switch on at the switch next to the power connector. (See **Connecting the power supply** above.)
- 3. Press **ON** on the remote control or the control panel to switch the projector ON. During warm up, the power indicator on the control panel will flash blue. Once warm up is complete, the power indicator will show blue, and the light source will light.

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## Switching the projector off

- 1. Make sure that a lens is fitted.
- Press OFF on the remote control or the keypad, then press again. The power indicator on the keypad will flash blue, the light source will go out and the cooling fans will run for a short time until the projector enters STANDBY mode. While in STANDBY, the power indicator will show solid green.
- 3. If you need to switch the projector off completely, switch off at the mains power switch next to the power connector and then disconnect the power cable from the projector.

## Connecting the inputs

Connect either 16x3GSDI inputs or 4x12GSDI.

## Adjusting the lens

The lens can be adjusted using the lens buttons on the keypad or remote control.

On either device, press FOCUS, ZOOM or SHIFT, then use the arrow keys to adjust the lens.

## Adjusting the image

#### Orientation

This can be set from the OSD menu.

Choose from Top Left, Top Middle, Top Right, Bottom Left, Bottom Middle, Bottom Right and Centre.

#### **Picture**

Settings such as Gamma, Brightness and Contrast can be set from the Image menu.

#### **Important Information**

## Inserting a new lens



Before changing the lens, always make sure the projector is switched off and fully disconnected from its power supply.



When changing the lens, avoid using excessive force as this may damage the equipment.



The lens is shipped separately.



Take care to preserve the original lens packaging and protective caps for future use.



The projector will not power on without the lens fitted.

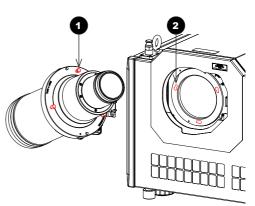


Before turning on the projector, please ensure the protective caps are removed from the front and rear of the lens.

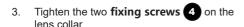


When a new lens is fitted, a calibration procedure must be carried out as described on the previous page.

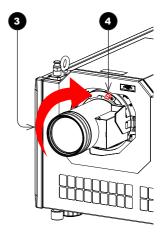
1. Insert the lens into the mount. Engage the three **locating studs** 1 into the corresponding slots 2 on the mount.



2. Rotate the lens clockwise 3 until the studs slide all the way into the slots.



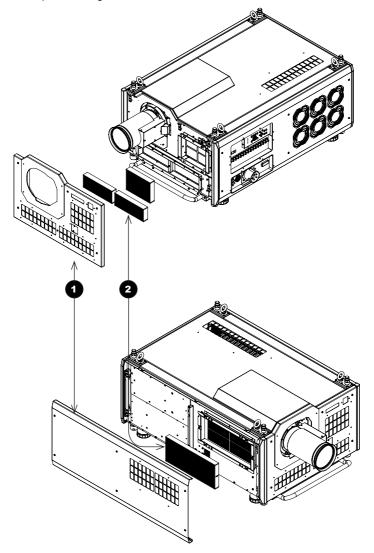
To remove the lens, reverse the above procedure.



# Replacing the filters

2.

- 1. Loosen the six captive screws, then remove the front/side **panel** 1.
  - Replace the **filters 2**.
- 3. Reattach the panel and tighten the screws.



#### Remote control reference

1 Power ON/OFF

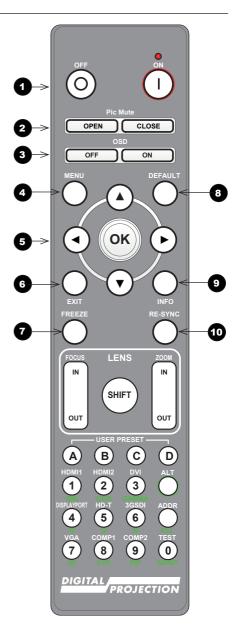
Turns the projector on and off.

To turn the projector off, press the OFF button twice within five seconds.

- Pic Mute OPEN / CLOSE
  Shows and hides the projected image.
- 3 OSD ON / OFF
  Enables and disables screen timeout
  messages and showing the OSD during
  projection.
- 4 MENU
  Access the projector OSD (on-screen display). If the OSD is open, press this button to go back to the previous menu.
- Navigation (arrows and OK)
  Navigate through the menus with the arrows, confirm your choice with OK.
  In lens adjustment modes, the arrows are used to move, zoom or focus the lens. See 11 below.

In lens adjustment modes, or when the OSD is not showing, the **OK** button switches between modes: **Shift Adjustment** and **Zoom / Focus Adjustment**.

- 6 EXIT
  Close the current OSD page and return to the level above.
- FREEZE
  Freeze the current frame.
- 8 DEFAULT
  Restore default settings.
- 9 INFO
  Access information about the projector.
- RE-SYNC
  Re-synchronise with the current input signal.

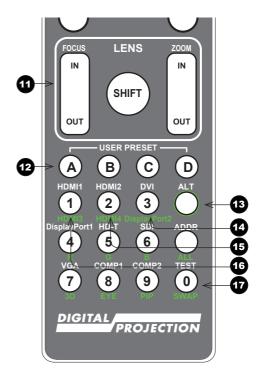


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- LENS adjustment
  FOCUS IN / OUT: adjust focus.
  SHIFT: press and hold this button,
  then use the Navigation arrow
  buttons to move the lens.
  ZOOM IN / OUT: adjust zoom.
- USER PRESET A, B, C, D Load user presets.
- Press and hold this button to access alternative functions for all buttons with a green label.
- DVI / DisplayPort2 / numeric input 3

  There is no DVI or DisplayPort2 input on this projector.
- HDMI 2 / HDMI 4 / numeric input 2
  There is no HDMI 2 or HDMI 4
  input on this projector.
- HDMI 1 / HDMI 3 / numeric input 1
  There is no HDMI 1 or HDMI 3
  input on this projector.
- TEST / SWAP / numeric input 0
  Show a test pattern. Press again to show the next test pattern:
  ...Off, White, Black, Red,
  Green, Blue, CheckerBoard,
  Grid, ColorBars, Cyan, Yellow,
  Magenta, Ramp...
  There is no SWAP on this projector.
- This projector does not use the following options on the remote:

HDMI1, HDMI2, HDMI3, HDMI4, DVI, DisplayPort2, DisplayPort1, HD-T, SDI, VGA, 3D, COMP 1, EYE, COMP 2, PIP and SWAP.



#### **Important Information**

- DisplayPort1 /R/ numeric input 4
  There is no DisplayPort1 input on this projector.
- HD-T /G/ numeric input 5
  There is no HDBaseT input on this projector.
- SDI /B/ numeric input 6
  There is no SDI input on this projector.
- VGA /3D/ numeric input 7
  There is no VGA input on this projector.
  There is no 3D function on this projector.
- COMP1 /EYE/ numeric input 8
  There is no COMP1 input on this projector.
  There is no EYE function on this

projector.

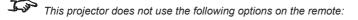
- COMP2 /PIP/ numeric input 9
  There is no COMP2 input on this projector.
  There is no PIP function on this projector.
- ADDR / ALL
  Assign and unassign an IR remote address.

#### To assign an address:

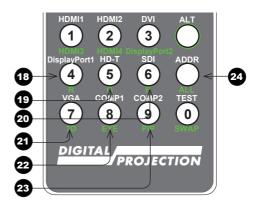
- Press and hold this button until the indicator starts flashing.
- Release this button and while the indicator is still flashing, enter a two-digit address using the numeric input buttons. The indicator will flash three times quickly to confirm the change.

#### To unassign an address and return to the default address 00,

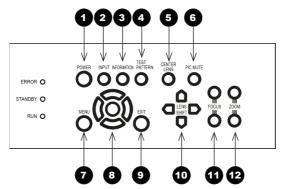
 Press and hold ALT and this button simultaneously until the indicator flashes to confirm the change.



HDMI1, HDMI2, HDMI3, HDMI4, DVI, DisplayPort2, DisplayPort1, HD-T, SDI, VGA, 3D, COMP 1. EYE. COMP 2. PIP and SWAP.



## **Keypad references**

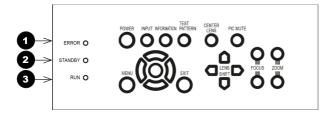


- POWER Switches the projector on and off (STANDBY).
- 2 INPUT
  Switches to the next input source.
- 3 INFORMATION Displays .
- TEST PATTERN
  Cycles through the test patterns ...Off, White, Black, Red, Green, Blue, CheckerBoard, Grid, ColorBars, Cyan, Yellow, Magenta, Ramp...
- 5 CENTER LENS
  Centers the lens
- 6 PIC MUTE
  Switches the laser off/on.
- **MENU**Displays and exits the OSD.
- Arrow buttons & ENTER

  Navigation buttons used to highlight menu entries in the OSD.

  Press ENTER to open or execute the highlighted menu entry.
- 9 EXIT
  Exits the current OSD page and enters the level above.
- LENS SHIFT arrow buttons
  Each of these buttons moves the lens in the specified direction.
- FOCUS plus and minus buttons
  Used to move the focus in and out.
- **ZOOM plus and minus buttons**Used to zoom in and out.

## **Keypad indicators**



ERROR

A red indicator that shows the following patterns: Off = No Frror

OII - NO EIIOI

Single flash followed by a pause = Lamp abnormality

Double flash followed by a pause = Uncovered lamp cover

Triple flash followed by a pause = Fan abnormality

Four flashes followed by a pause = Overheat

A continuous light = System abnormality

2 STANDBY

A green indicator that shows a continuous light when standby mode is activated

3 RUN

A blue indicator that shows the following patterns:

Off = Power is off

Flashing = Projector is cooling down during power off, or warming up during power on A continuous light = Power is on

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