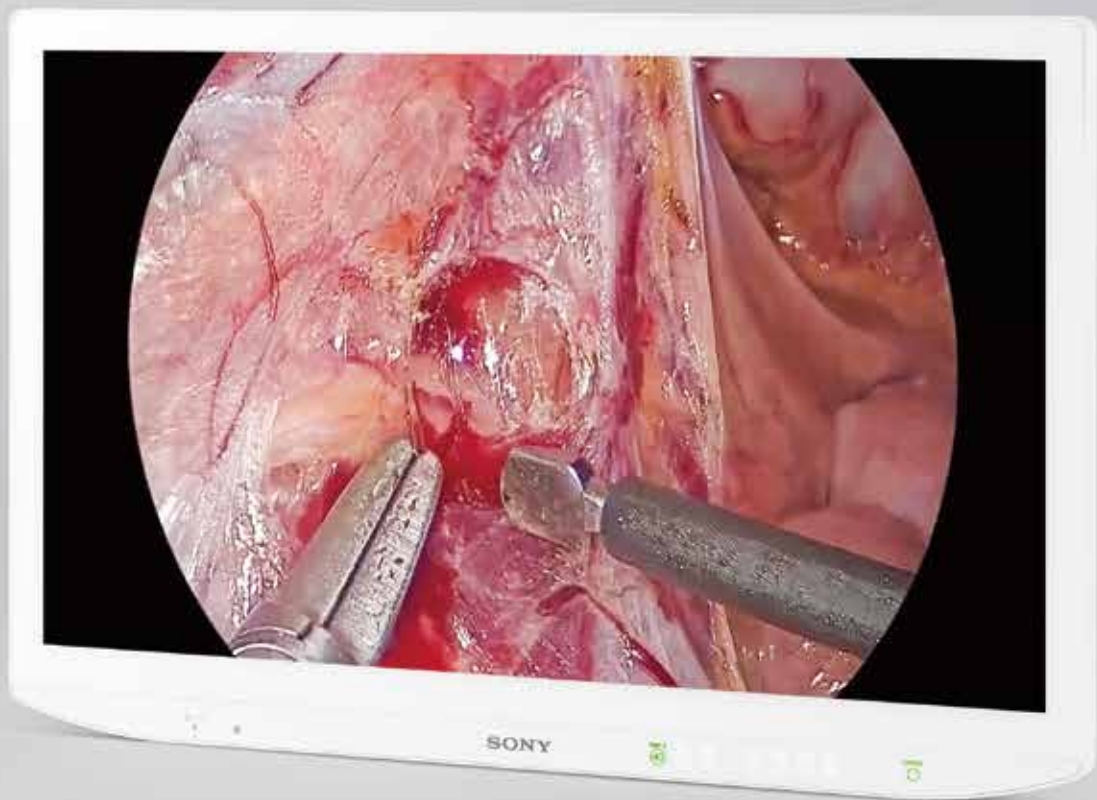# SONY

LMD-32M1MD
LCD Monitor

4K HDR

Backlight Master Drive

New Standard of Brightness

- **Sony's advanced Local Dimming Technology (Backlight Master Drive)** produces stunning brightness, deep blacks and high contrast

- **Advanced Anti-Reflection Technology** reduces reflection and minimises glare

- **Incredible Peak luminance :** 1850 cd/m^2, Contrast ratio : 1,000,000 : 1

- **4K (3840 x 2160 pixels)**, 16 : 9 aspect, 31.5-inch screen*

- LMD-32M1MD is certified with VESA DisplayHDR1000

  * 800.0mm viewable area, measured diagonally

**VESA** CERTIFIED
DisplayHDR™ 1000

High Picture Quality

Experience Exceptional Clarity and Visual Detail

Sony's advanced Local Dimming Technology (Backlight Master Drive) precisely controls the panel backlight's dense array of mini LEDs to ensure stunning brightness and high contrast. LED backlighting sources are independently controlled in light and dark zones of the image. This significantly improves black reproduction by turning off LEDs, simultaneously using saved energy to boost peak brightness in highlight areas. This allows the LMD-32M1MD to achieve a peak brightness exceeding 1,850 cd/m^2, and a contrast ratio of 1,000,000:1.

Local Dimming OFF

All LED ON

Local Dimming ON

LED ON for light zones

LED OFF for dark zones
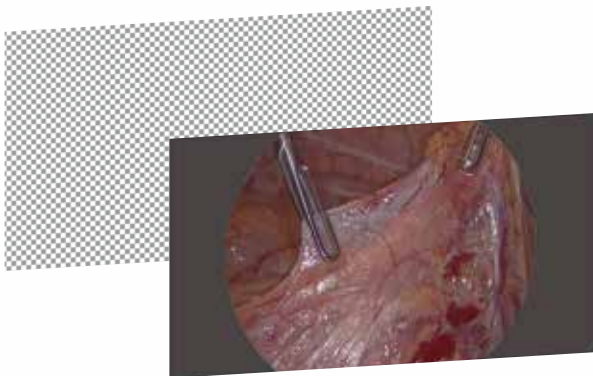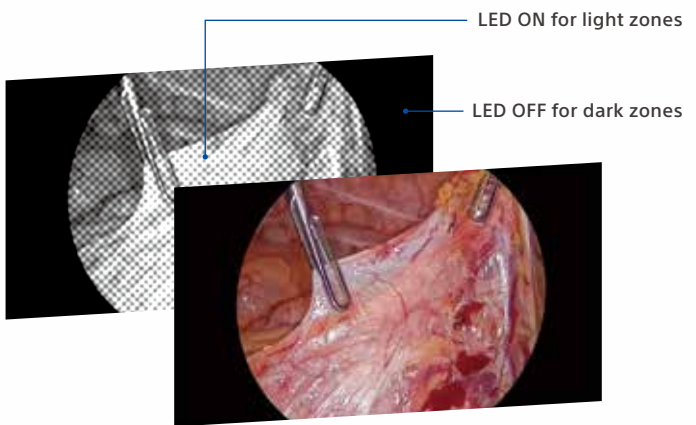
Backlight Master Drive

The images are simulated for illustrative purposes.

High Picture Quality

Wide Colour Gamut for Realistic Visualisation

The LCD and signal processing technology employed in the LMD-32M1MD achieves a wide colour gamut conforming to **ITU-R recommendation BT.2020**. This allows for superior colour reproduction to achieve more realistic visualisation of surgical images.
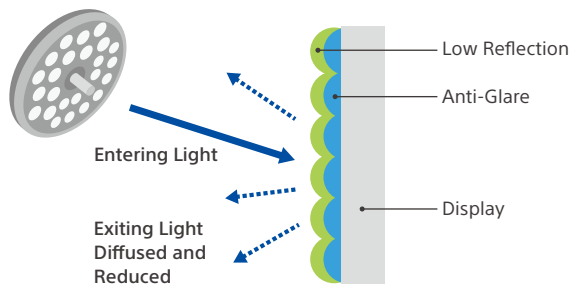

— LMD-32M1MD
— ITU-R BT.2020
— ITU-R BT.709
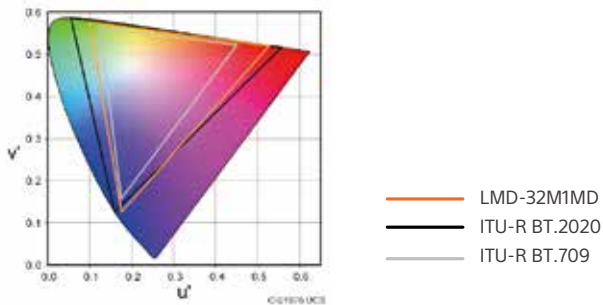
Clarity in Light and Dark Areas

HDR technology offers surgeons a clearer view by visualising a wider range of brightness levels within the same scene, minimising the loss of fine detail in shadowed areas and overexposed highlights. The LMD-32M1MD can reproduce greater details enhanced by HDR when receiving and selecting HLG (Hybrid Log-Gamma) or PQ (Perceptual Quantization) signals.

SDR

HDR
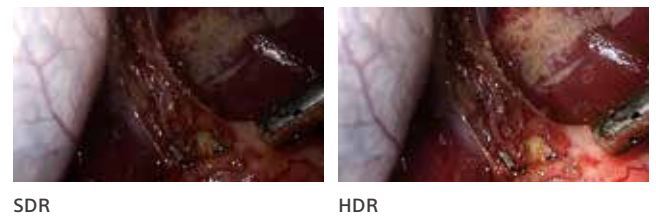
### Minimised Screen Reflection in Brightly-lit Operating Rooms

Sony's unique Anti-Reflection Technology featured in the LMD-32M1MD combines two reflection suppression technologies. Low Reflection reduces the amount of reflected light and minimises reflection from external light sources. This is reduced further by an Anti-Glare surface treatment that diffuses incoming light. By creating a slightly rough surface on the display, this Anti-Glare surface maximises the diffusion of incoming light and minimises reflections. By combining these advanced surface treatment technologies, the LMD-32M1MD achieves a balance of diffusing incoming light, reducing reflections and minimising glare – ensuring extremely high contrast images with lifelike color reproduction.

Entering Light

Exiting Light Diffused and Reduced

Low Reflection
Anti-Glare
Display

Advanced Features with User-Friendliness

Fanless Design Minimises Airflow Disruption

The LMD-32M1MD features a fanless cooling system that significantly minimises unwanted interference with ventilation airflow around the monitor.

Conventional monitor with cooling fan inside

LMD-32M1MD with fanless design less affect to airflow
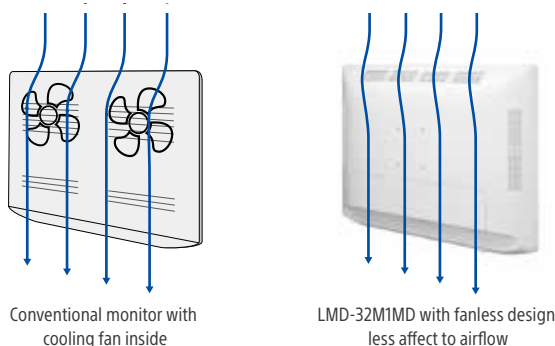
Intuitive Navigation and Custom Buttons

The monitor's LED backlighting selectively illuminates active control buttons on the front panel, offering clear guidance to clinical staff even in dark environments. In addition, frequently used functions can be assigned to three custom buttons on the front panel, allowing quick access and supporting enhanced workflow efficiency.


The images are simulated for illustrative purposes.

Advanced Features with User-Friendliness

Auto Panel Brightness Adjustment

The LMD-32M1MD is equipped with **a built-in light sensor** that automatically adjusts panel brightness to match changing ambient lighting conditions in the Operating Room. This ensures visibility even in cases during procedures like ICG navigation surgery, where darker room lighting is required.

Normal lighting condition
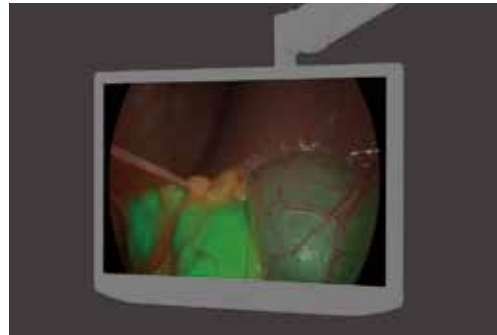
Dark lighting condition
(The panel brightness is adjusted)

Easy to Wipe Down for Cleanliness

The monitor's smooth surface and streamlined back shape simplify cleaning of the entire monitor.

Suitable Design for Medical Facilities

Simple integration in the OR is assisted by the monitor's slim bezel and rounded corners. The front of the LMD-32M1MD carries a dustproof and waterproof rating of IP45, with an IP32 rating for the entire monitor.

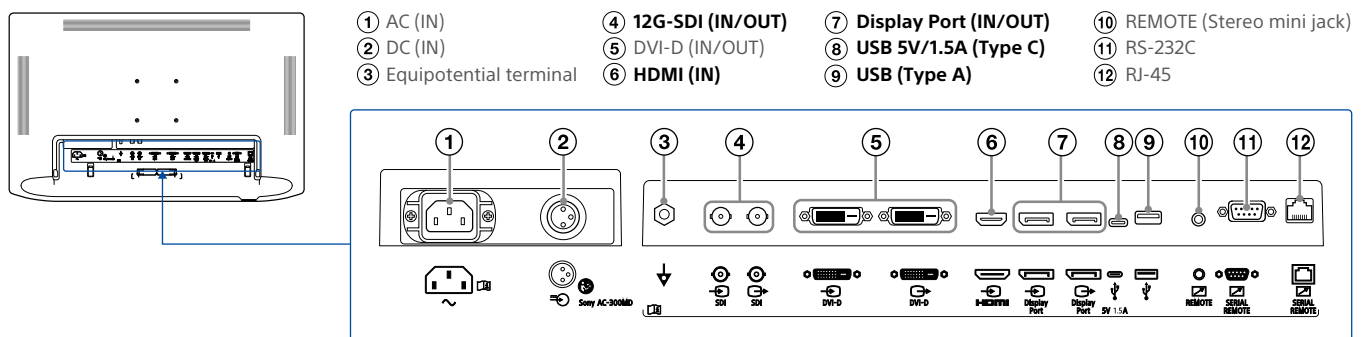IP45 (front)

IP32 (others)

Rounded Corner
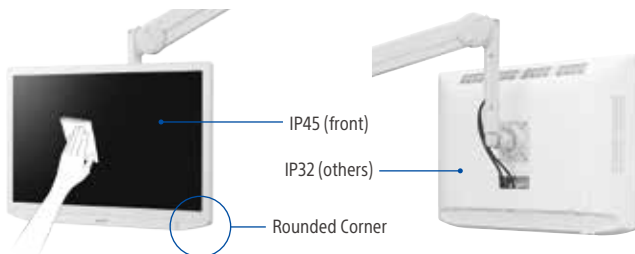
Installation-Friendly Cabling

Two cable access points with integral covers broaden installation options with easy cable management. AC power and HDMI cable holders ensure placement of cables, helping to prevent accidental disconnections.

AC Power Cord Holder   HDMI Cable Holder
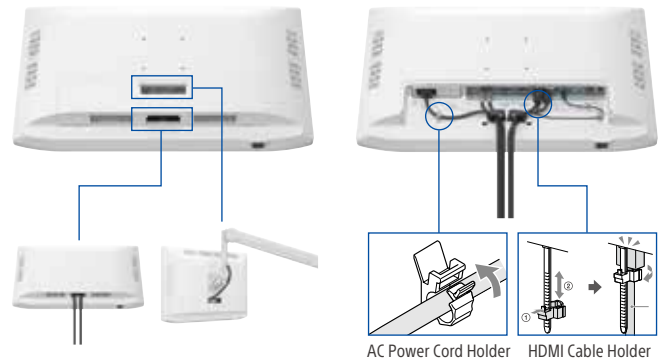
Versatile Connectivity for Diverse Modalities and Equipment

The LMD-32M1MD offers a comprehensive array of input/output connectors, including **12G-SDI, HDMI** and **Display Port. A USB 5V/1.5A (Type C) port** provides power to connected external equipment. There's also **a USB (Type A) port** that can be used to export/import monitor setting information from one monitor to another via the USB device.

1. AC (IN)
2. DC (IN)
3. Equipotential terminal
4. **12G-SDI (IN/OUT)**
5. DVI-D (IN/OUT)
6. **HDMI (IN)**
7. **Display Port (IN/OUT)**
8. **USB 5V/1.5A (Type C)**
9. **USB (Type A)**
10. REMOTE (Stereo mini jack)
11. RS-232C
12. RJ-45

The images are simulated for illustrative purposes.

Advanced Features with User-Friendliness

Multi-Image Display (PIP/POP)

The LMD-32M1MD offers a two-screen PIP/POP display function, allowing display of multi-information on one screen. Each input source can be displayed separately, with individual gamma values assigned.

Picture-in-Picture (PIP)

Picture-out-Picture (POP)
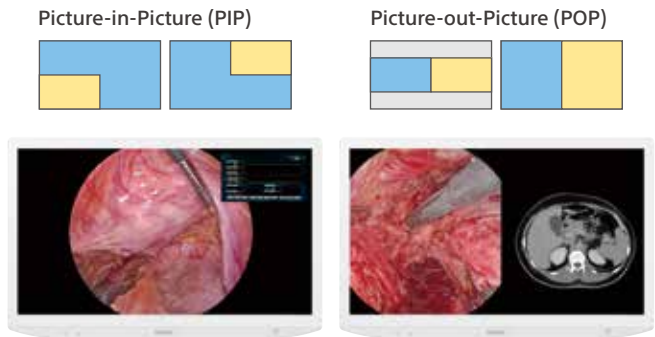
For example, endoscope : gamma value of 2.2, X- ray : DICOM

Optimal Viewing Angles

The displayed image can be rotated 180 degrees or flipped horizontally. This ensures optimal viewing for surgeons and clinical teams in the OR, regardless of the orientation of a connected endoscopic camera.

Off : Normal   **180 degree Rotation**   **Mirror**
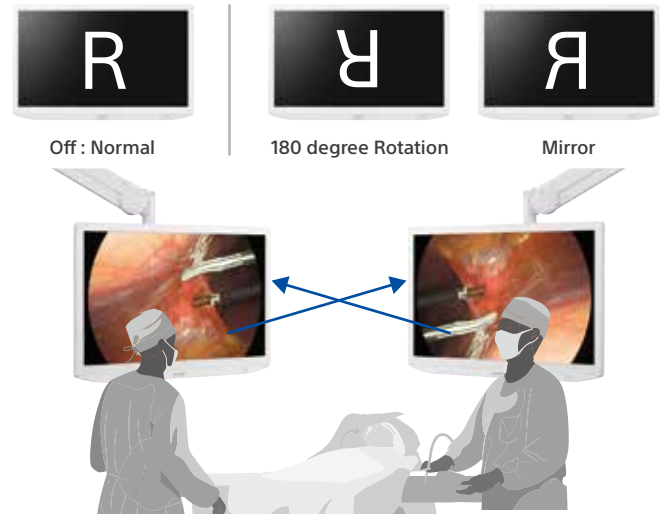
Simplified Configuration of Multiple Monitors

Installing multiple monitors can be a hassle, but now a USB device can simplify the process.

The USB (Type A) port allows for monitor configuration settings to be stored to an attached USB device. This stored setting information can then be easily applied to other monitors via the USB device.

Environmentally Conscious Efforts

Reduce Plastic Packaging to –86%

The packaging of LMD-32M1MD eliminates expanded polystyrene form, replacing it with molded pulp materials. The monitor is also supplied in a covered non-woven bag made mainly from plant cellulose. This reduces the amount of virgin plastic used for packaging by approximately 86% compared with the previous packaging[1].

[1]. Compared with the LMD-X3200MD, introduced in 2020.
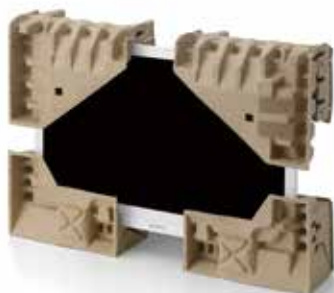
Power Saving

LMD-32M1MD is equipped with the Sleep Mode function that contributes to a more energy-efficient use.

When it is set to ON, the monitor enters into Power Saving mode by turning off the backlight if there is no input signal from the selected connector for more than 1 minute.

**The monitor turns off the backlight if no signal for more than 1 minute**

The images are simulated for illustrative purposes.

Specifications

Picture Performance	
Panel	TFT Active Matrix LCD
Picture Size (Diagonal)	800.0 mm (31 1/2 inches)
Effective Picture Size (H x V)	697.3 x 392.2 mm (27 1/2 x 15 1/2 inches)
Pixel Pitch	0.181 x 0.181 mm (0.00713 x 0.00713 inches)
Resolution (H x V)	3,840 x 2,160 pixels
Aspect	16:9
Pixel Efficiency	99.99%
Backlight	LED
Panel Technology	LCD with IPS
Luminance (Panel Specification)	1850 cd/m^2 (Typical, Peak)
Contrast Ratio	1,000,000:1 (Typical)
Colors	10 bit colors (1,073,741,824)
Panel Frame Rate	50/60 Hz
Viewing Angle (Panel Specification)	89°/89°/89°/89° (Typical) (up/down/left/right, contrast > 10:1)
Gamma	1.8, 2.0, 2.2, 2.4, 2.6, DICOM, HLG, PQ

Input	
HDMI Input	HDMI (x1) (HDCP 2.3 correspondence)
DVI-D Input	DVI-D (x1) (TMDS single link, HDCP 1.4 correspondence)
SDI Input	BNC (x1) 12G/6G/3G/HD/SD-SDI
Display Port	Display Port (x1) (SST HDCP 1.3 correspondence)
Serial Remote (LAN)	D-sub 9-pin (RS-232C) (x1), RJ-45 (ETHERNET) (x1)
Remote	Stereo mini jack (x1)
AC Input	AC input connector (x1) 100 V - 240 V, 50/60 Hz
DC Input	DC input connector (x1) DC 26 V

Output	
DVI-D Output	DVI-D (x1) (TMDS single link)
SDI Output	BNC (x1) (Active-through)
Display Port Output	Display Port (x1) (SST HDCP 1.3 correspondence)
DC 5 V Output	USB Type C (x1) 5 V 1.5 A (max.)

Input/Output	
USB	USB Type A (x1) Hi-Speed USB (USB 2.0 compliant) For USB memory

General	
Power Requirements	DC IN: 26 V, 5.8 A (Supplied from AC adaptor)
	AC IN: 100 V - 240 V, 50/60 Hz, 1.7 A - 0.7 A
Power Consumption	Approx. 165 W (max.)
Operating Temperature	0°C to 40°C (32°F to 104°F)
Operating Humidity	30% to 85% (no condensation)
Storage/Transport Temperature	-20°C to +60°C (-4°F to +140°F)
Storage/Transport Humidity	20% to 90%
Operating/Storage/Transport Pressure	700 hPa to 1060 hPa
Dimensions (W x H x D)	754.8 x 482.8 x 79.9 mm (29 3/4 x 19 1/8 x 3 1/4 inches)
Mass	Approx. 11.2 kg (Approx. 24 lb 11 oz)
Mounting (W x H)	100 x 100 mm
IP Code	IP45 (front) / IP32 (others)
Supplied Accessories	AC power cord (x1) Plug holder for the AC power cord (x2) Before Using This Unit (x1) CD-ROM (including the Instructions for Use) (x1) Instructions for Use (Chinese) (x2) Service Contact List (x1) Information for Customers in Europe (x1) M4 x12mm Screw (x4)* * Already attached to the rear panel
Optional Accessories	AC adaptor AC-300MD Monitor stand SU-600MD IP Converter Bracket: NUA-BK30

These products are distributed to US and EU as medical devices.
They satisfy product safety standards (e.g. IEC 60601-1).
For more details, please contact your nearest Sony sales office or an authorized dealer.

Dimensions

Unit: mm (inches)

MS00006V1OHB24DEC
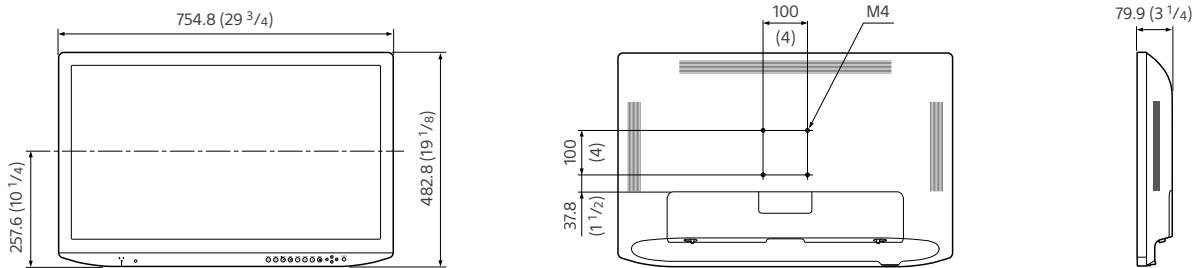
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The values for mass and dimension are approximate.
Some images in this document are simulated.
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