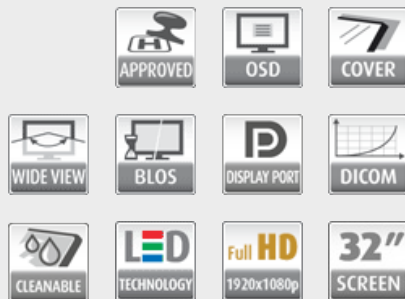


# MDSC-2232

## 32-inch full HD surgical display



Barco's MDSC-2232 is a 32" near-patient surgical display with Full HD resolution. Purpose-built for the operating room, emergency room, and pre-operative areas, it offers an easy-clean design, smart mechanics and the most detailed images in the procedure room today.

### Perfect image reproduction

The display's high brightness, high contrast and full HD resolution provide surgeons with excellent depth perception and precise color and monochrome images. It presents images with unrivaled color and grayscale accuracy and with near-zero latency for perfect hand-eye coordination. Thanks to its high-bright LED backlight with light output stabilization, the surgical display also ensures a long lifetime and image consistency across displays.

### Multi-source, multi-display imaging

With its broad input connectivity, the MDSC-2232 offers flexible multi-modality imaging (PiP & PaP) in new integrated operating rooms. The 32-inch display also offers integrated functionality (optional) for use with Barco's Nexxis for OR solution, ensuring smooth distribution of uncompressed video and data over the IP network without delay.

### Easy to install

The MDSC-2232 comes with a smart cable management system that hides the cables for a clutter-free set-up. Its lightweight design allows easy mounting on surgical booms and spring arms. Available in two models, this surgical display also features a host of connectivity and remote control options.

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### **Safe for medical use**

Barco's MDSC-2232 allows for easy cleaning and disinfection thanks to its smooth surface and splash-proof housing (front protection level IPX5). The multi-coated glass is highly durable, scratch-resistant, and protects the LCD panel from physical damage. The fanless design avoids the spread of contaminants. What's more, the display offers a unique, automated failover feature so a backup signal is always available to ensure safe surgery.

<b>Product specifications</b>	<b>MDSC-2232</b>
<b>Screen technology</b>	TFT AM LCD / S-IPS technology / LED backlight
<b>Active screen size (diagonal)</b>	31.55" (801 mm)
<b>Active screen size (H x V)</b>	698 x 393 mm (27.48" x 15.47")
<b>Aspect ratio</b>	16:9
<b>Resolution</b>	2MP (1920 x 1080)
<b>Pixel pitch</b>	0.364 mm
<b>Color imaging</b>	Yes
<b>Color support</b>	16.7 million (8-bit)
<b>Viewing angle</b>	178°
<b>Maximum luminance</b>	Maximum: 450 cd/m <sup>2</sup> Luminance (typical) Default @ 6500K: 360 cd/m <sup>2</sup> stabilized (typical)
<b>Contrast ratio</b>	1300:1 (typical)
<b>LCD transition time</b>	Average total 25 msec (Rise time Tr + Decay time Tf; Tr = Gray to White, Tf = Gray to Black)
<b>White point</b>	Native: 10000K (typical)  Calibrated: 5600K, 6500K, 7600K, 9300K
<b>Dot clock</b>	165 MHz (maximum)
<b>Gamma</b>	Native, 1.8, 2.0, 2.2, 2.4, DICOM
<b>Backlight sensor</b>	Backlight stabilization
<b>Screen protection</b>	Double side anti-reflective tempered glass
<b>Keyboard</b>	Capacitive 7-key touch keyboard
<b>Video input signals</b>	MDSC-2232 DDI: <ul style="list-style-type: none"> <li>■ DVI-I Single Link (Digital &amp; Analog – HDMI video support with HDCP)</li> <li>■ DVI-D</li> <li>■ Component Video RGBS / YPbPr (4xBNC)</li> <li>■ S-video (4-pin Mini DIN)</li> <li>■ Composite video (1xBNC)</li> <li>■ 3G-SDI (2xBNC)</li> <li>■ DisplayPort (VESA std 1.1a)</li> </ul> MDSC-2232 MNA: <ul style="list-style-type: none"> <li>■ DVI-I Single Link (Digital &amp; Analog – HDMI video support with HDCP)</li> <li>■ Component Video RGBS / YPbPr (4xBNC)</li> <li>■ S-video (4-pin Mini DIN)</li> <li>■ Composite video (1xBNC)</li> <li>■ 3G-SDI (1xBNC)</li> <li>■ DisplayPort (VESA std 1.1a)</li> <li>■ Nexxis fiber optic input</li> </ul>
<b>Video output signals</b>	MDSC-2232 DDI: <ul style="list-style-type: none"> <li>■ DVI-D (output selectable from DVI-1 in, DVI-2 in)</li> <li>■ S-video (4-pin Mini DIN)</li> <li>■ Composite video (1xBNC)</li> <li>■ 3G-SDI (2xBNC)</li> </ul> MDSC-2232 MNA: <ul style="list-style-type: none"> <li>■ DVI-D (output selectable from DVI in, Nexxis)</li> <li>■ S-video (4-pin Mini DIN)</li> <li>■ Composite video (1xBNC)</li> <li>■ 3G-SDI (1xBNC)</li> </ul>

## Product specifications

## MDSC-2232

<b>Video formats</b>	<p>VGA &amp; DVI : Up to 1920x1200 at 60Hz (reduced blanking)</p> <ul style="list-style-type: none"> <li>Maximum Hor freq: 90kHz</li> <li>Maximum pixel clock: 165MHz</li> <li>Maximum Ver freq: 75Hz</li> </ul> <p>Standard PAL and NTSC for S-Video, Composite and Component</p> <p>Component YPbPr/ RGBS: HDTV - up to 1080i &amp; 1080p</p> <p>SDI Format Supported: 625/25 PAL, 525/29.97 NTSC, 1080i50, 1080i59.94, 1080i60, 720p50, 720p59.94, 720p60, 1080p50, 1080p59.94, 1080p60</p> <p>SDI Compliance: SMPTE 425M (Level A), SMPTE 424M, SMPTE292M, SMPTE 259M-C, SMPTE 296M, ITU-R BT.656, ITU-R BT.601</p>
<b>Remote control</b>	DisplayPort 1.1a: up to 1920 x 1200 60Hz RS-232 (D-sub 9-pin)
<b>Power requirements (nominal)</b>	<p>External power supply: 100-240VAC, 50/60Hz, medical grade</p> <p>Display power input:</p> <ul style="list-style-type: none"> <li>MDSC-2232 DDI: +24 VDC <math>\pm</math>10% / 2.2 A</li> <li>MDSC-2232 MNA: +24 VDC <math>\pm</math>10% / 3 A</li> </ul>
<b>Power consumption (nominal)</b>	<p>MDSC-2232 DDI: 48W typical</p> <p>MDSC-2232 MNA: 65W typical</p>
<b>OSD languages</b>	English, French, German, Spanish, Italian
<b>Dimensions display (W x H x D)</b>	777 x 472 x 92 mm (30.6" x 18.6" x 3.5")
<b>Dimensions packaged (W x H x D)</b>	970 x 625 x 200 mm (38.19" x 24.60" x 7.87")
<b>Net weight display</b>	<p>12.9 kg / 28.4 lbs (MDSC-2232)</p> <p>13.3 kg / 29.3 lbs (MDSC-2232)</p>
<b>Net weight packaged</b>	<p>MDSC-2232 DDI: 19.0 kg (41.9 lbs)</p> <p>MDSC-2232 MNA: 19.4 kg (42.7 lbs)</p>
<b>Mounting standard</b>	VESA (100 x 100 mm, 200 x 100 mm)
<b>Recommended modalities</b>	Endoscopy, Laparoscopy, PACS, PM, US, CT, MR
<b>Certifications</b>	<ul style="list-style-type: none"> <li>IEC 60601-1: 2012 Edition 3.1 (Medical electrical equipment – Part 1: General requirements for basic safety and essential performance)</li> <li>EN 60601-1: 2006 +A1:2013 (Medical electrical equipment". Part 1: General requirements basic safety and essential performance)</li> <li>ANSI/AAMI ES 60601-1: 2005/(R)2012 and A1:2012, C1:2009/(R)2012 and A2:2010/(R)2012 - Med. El. Equip., Part 1: general req. for basic safety and essential performance.</li> <li>CAN/CSA-C22.2 No. 60601-1: 14 Medical Electrical Equipment - Part 1: General Requirements for Basic Safety and Essential Performance (Harmonized with Ed. 3.1)</li> <li>Approvals/Marking: CE c-UL-us, DEMKO, PSE, KCC (CCC certification is pending), Note: PSE is available on PSU</li> <li>Electromagnetic Compatibility: EMC Medical EMC Standards: IEC60601-1-2, EN55011/CISPR 11 Class BB), FCC CFR47 part 15 &amp; 18 Class B</li> <li>RoHS-2, REACH, WEEE compliant</li> <li>IP20 (IP45 monitor front side only)</li> </ul>
<b>Supplied accessories</b>	<p>Video cables (DVI DL 3m)</p> <p>Main cables (European , USA , Chinese)</p> <p>User Guide</p> <p>External power supply</p>
<b>Optional accessories</b>	<p>Display pedestal (P/N K9302060A)</p> <p>Power extension cable 10m</p> <p>Power extension cable 30m</p>
<b>Operating temperature</b>	+10 ÷ +35 °C for performance, 0 ÷ +40 °C for safety
<b>Storage temperature</b>	-20 ÷ +60°C
<b>Operating humidity</b>	10 ÷ 90% (non-condensing)
<b>Storage humidity</b>	5 ÷ 90% (non-condensing)
<b>Operating altitude</b>	3000m max.
<b>Storage altitude</b>	12000m max.

Last updated: 03 Nov 2016  
 Technical specifications are subject to change without prior notice.  
 Please check [www.barco.com](http://www.barco.com) for the latest information.

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