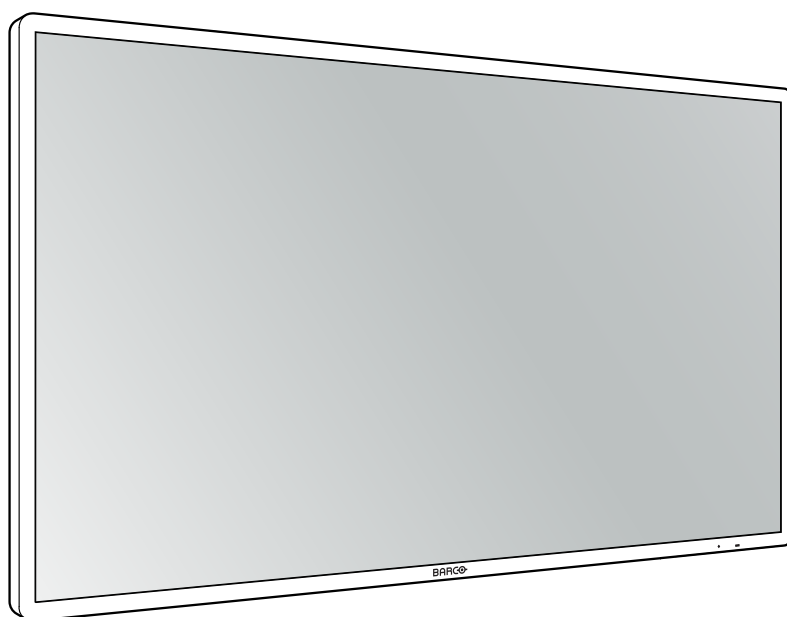


# MDAC-8355 SPIW



User Guide

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**Welcome!**

**1**

## 1.1 About the product

### Overview

The MDAC-8355 SPIW is a 55" LCD monitor primarily designed to be installed as the visualization unit of various medical systems, where high quality, high resolution color and monochrome pictures are to be displayed in real time.

The MDAC-8355 SPIW provides an 8 MP screen resolution, accepting digital inputs with the native panel resolution of 3840 x 2160 either through the DP input or through combined DVI inputs (2 x Dual Link DVI 1920 x 2160 or 4 x Single Link DVI 1920 x 1080).

The MDAC-8355 SPIW provides large viewing angle, backlight stabilization, gamma adjustment, DICOM compliant visualization of monochrome signals and color temperature regulation.

The display can also be remotely controlled through a serial or Ethernet communication link.

## 1.2 What's in the box

### Overview

- 1x MDAC-8355 SPIW display
- 1x English user guide
- 1x EU power cord
- 1x US power cord (medical grade)
- 1x remote control



Keep your original packaging. It is designed for this display and is the ideal protection during transport and storage.



If your product arrived with shipping damage or missing parts, please refer to the instructions in our knowledge base article '3727' at [www.barco.com/support/knowledge-base/3727](http://www.barco.com/support/knowledge-base/3727) for further assistance.

## 1.3 Product overview

### Front

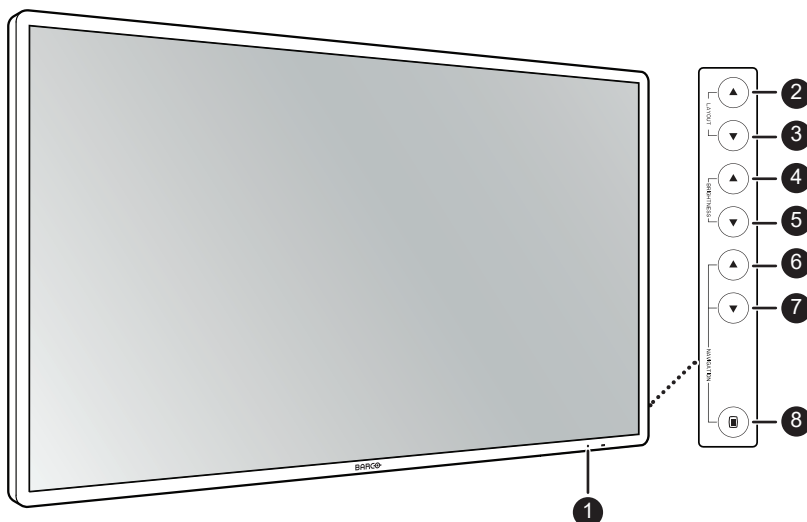


Image 1-1

#### 1. Status LED

- Off: Display not powered (mains cable unplugged or power switch in OFF position)

- Green: Display in normal operation (correct video timing and calibration)
- Blinking green: Display in boot phase after switching on (approximately 5 seconds)
- Orange: Out of calibration
- Blinking orange: Incorrect video timing on at least one of the inputs
- Red: Display is in standby mode
- Blinking red: Diagnostic error. Contact service desk.

2. Layout Up key
3. Layout Down key
4. Brightness Up key
5. Brightness Down key
6. OSD navigation Up key
7. OSD navigation Down key
8. Menu/Enter key

## Back

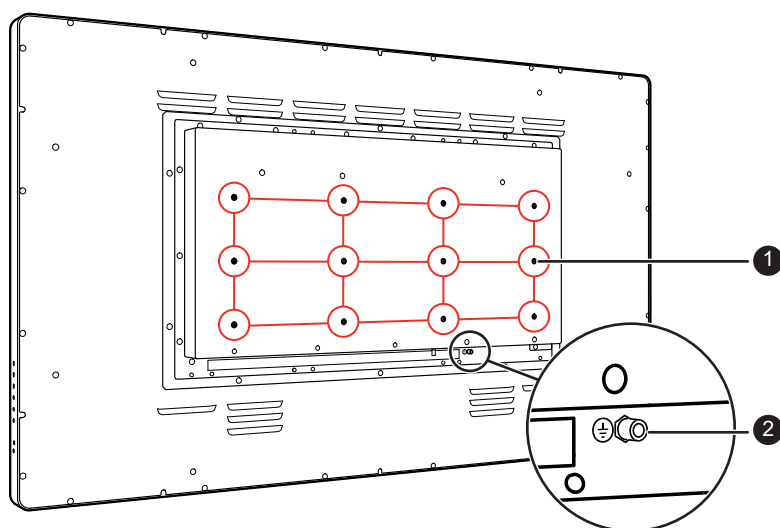


Image 1–2

1. VESA mount screw holes (VESA 200 mm and up)
2. Protective earth pin (for additional grounding)

## Connectors

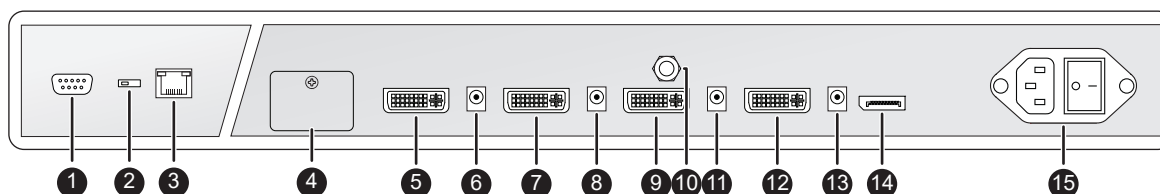


Image 1–3

1. RS-232 (for remote control)
2. Switch (between RS-232 & Ethernet)
3. Ethernet (for remote control)
4. Debug and USB A connector covered by metal plate
5. DVI-D in 4 (Single Link)
6. +5VDC out 4
7. DVI-D in 3 (Single/Dual Link)
8. +5VDC out 3
9. DVI-D in 2 (Single Link)
10. Potential Equalization pin (POAG)
11. +5VDC out 2
12. DVI-D in 1 (Single/Dual Link)

- 13. +5VDC out 1
- 14. DisplayPort in



The +5VDC out connectors are available with the specific purpose to power the external DVI extender. No other use of the +5VDC out connectors is allowed. Every +5VDC out connector is connected with the nearest jack, but every pair is independent (500 mA max). If a DVI pair is disabled, there is no power on the connector and jack connected to the DVI connector.

## 1.4 Connector pin assignments

### 1.4.1 DVI-D connectors (Single/Dual Link)

#### Overview

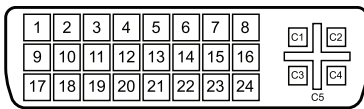


Image 1–4

1. D2\_Rx- (T.M.D.S.)
2. D2\_Rx+ (T.M.D.S.)
3. GND (data 2 shield)
4. D4\_Rx- (T.M.D.S.)
5. D4\_Rx+ (T.M.D.S.)
6. SCL (for DDC)
7. SDA (for DDC)
8. Not connected
9. D1\_Rx- (T.M.D.S.)
10. D1\_Rx+ (T.M.D.S.)
11. GND (data 1 shield)
12. D3\_Rx- (T.M.D.S.)
13. D3\_Rx+ (T.M.D.S.)
14. +5V input (from the video source system)
15. GND
16. +5V power for DVI extenders
17. D0\_Rx- (T.M.D.S.)
18. D0\_Rx+ (T.M.D.S.)
19. GND (data 0 shield)
20. D5\_Rx- (T.M.D.S.)
21. D5\_Rx+ (T.M.D.S.)
22. GND (clock shield)
23. CK\_Rx+ (T.M.D.S.)
24. CK\_Rx- (T.M.D.S.)

### 1.4.2 RS-232 connector

#### Overview

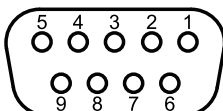


Image 1–5

1. Not connected
2. Rx (driven by host)



3. Tx (driven by display)
4. Not connected
5. Ground
6. Not connected
7. Not connected
8. Not connected
9. Not connected

### 1.4.3 DisplayPort connector

#### Overview (sink side pin-out)

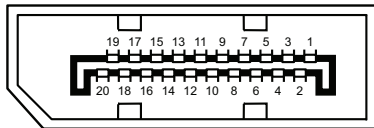


Image 1–6

1. ML\_Lane 3 (n)
2. GND
3. ML\_Lane 3 (p)
4. ML\_Lane 2 (n)
5. GND
6. ML\_Lane 2 (p)
7. ML\_Lane 1 (n)
8. GND
9. ML\_Lane 1 (p)
10. ML\_Lane 0 (n)
11. GND
12. ML\_Lane 0 (p)
13. CONFIG1
14. CONFIG2
15. AUX CH (p)
16. GND
17. AUX CH (n)
18. Hot Plug
19. Return
20. DP\_PWR (+3.3 VDC @ 500 mA max)

## 1.5 IR Remote Control

### 1.5.1 Remote Control

#### Overview

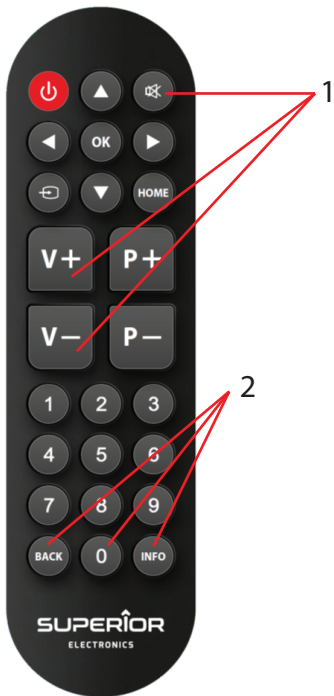


Image 1–7

1. Currently not used (reserved for future use)
2. Not used

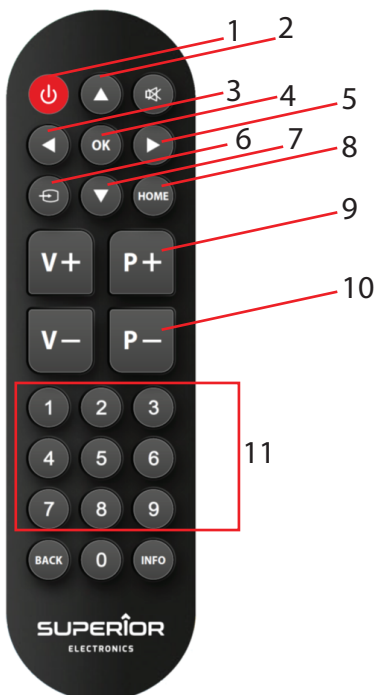



Image 1–8

1. BACKLIGHT ON/OFF
2. UP (OSD NAVIGATION)

3. BRIGHTNESS DOWN (DIRECT ACCESS)
4. SELECT (OSD NAVIGATION – CONFIRM)
5. BRIGHTNESS UP ( DIRECT ACCESS)
6. UNLOCK IR
7. DOWN (OSD NAVIGATION)
8. MENU (OSD NAVIGATION – ENTER/EXIT)
9. UP (SCROLL PROFILES, DIRECT ACCESS)
10. DOWN (SCROLL PROFILES, DIRECT ACCESS)
11. DIRECT ACCESS TO PROFILES BY NUMBER



Welcome!

# Installation

# 2

## 2.1 VESA mount installation

### To install the display on a VESA mounting solution

The display can be attached to a VESA 200 mm or VESA 600 mm arm or stand.

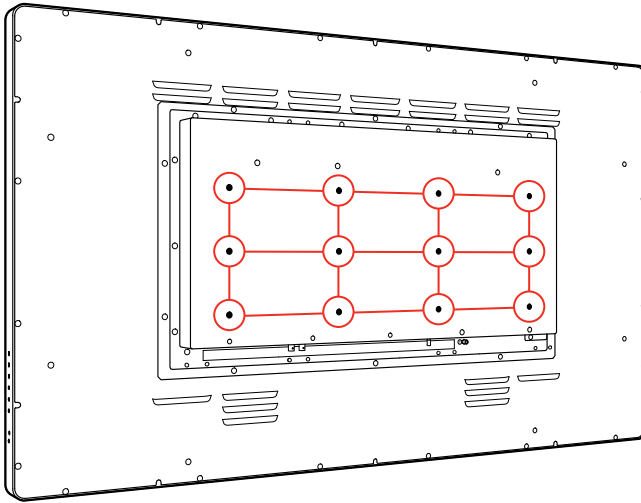


Image 2-1

The VESA mounting holes at the back of the display are provided with M6-type blind fasteners to fix the VESA mounting plate. Depending on the VESA plate thickness (T) and the thickness of possible washers (W), a different screw length (L) should be selected.

Please respect the following rule to select an appropriate screw length:

- $L_{min} = T + W + 8 \text{ mm}$
- $L_{max} = T + W + 11 \text{ mm}$

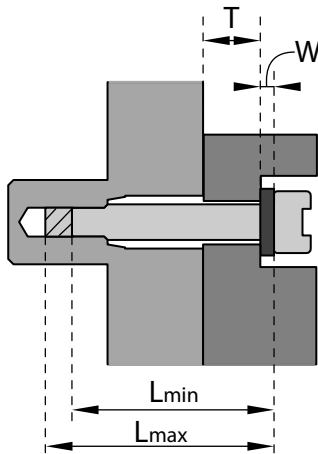


Image 2-2



**CAUTION:** Tighten the screws with a torque of **3 Nm** when fixing the VESA mounting plate.



**CAUTION:** Use an arm that is in compliance with VESA requirements.



**CAUTION:** The monitor VESA interface has been designed for a safety factor 6 (to support 6 times the monitor weight). In the medical system, use an arm with suitable safety factor (IEC60601-1).

## 2.2 Video connection

### About

The MDAC-8355 SPIW can have multiple video inputs connected. Switching between the different inputs can be done easily as described in ["Profile selection", page 18](#).

### To connect the video inputs

Connect the available video sources to the corresponding video input (s) on the display using the appropriate video cable(s).



All DVI inputs (1 to 4) must be connected in Single Link (SL) mode. In Dual Link (DL) mode, DVI inputs 1 and 3 must be connected.

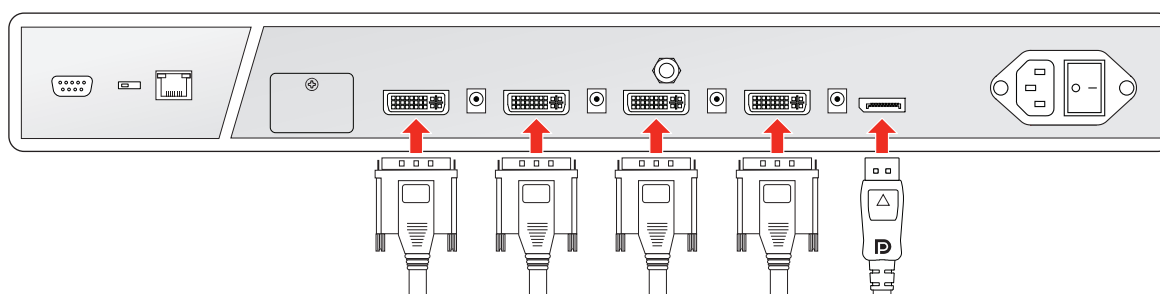


Image 2-3



**CAUTION:** When the display is assembled in the video system, take care of the fixation of all cables, to avoid unwanted detachment.

## 2.3 Power connection

### To connect the power

Connect the power input of your display with a **grounded** power outlet by means of the proper power cord delivered with your display.

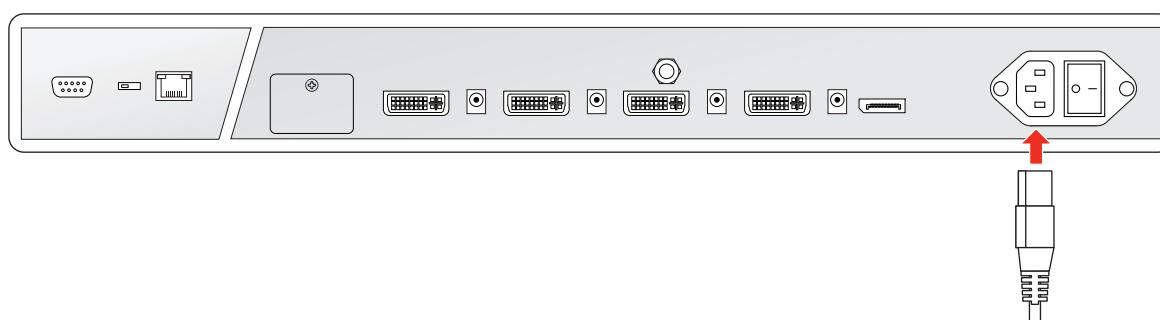


Image 2-4



**CAUTION:** The display must be earthed.

### Potential equalization

When potential equalization between the display and other devices is required then connect the potential equalization pin (POAG) to the potential equalization terminal of the equipment.

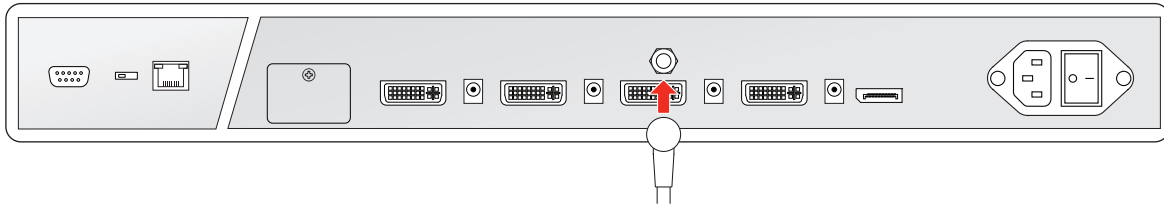


Image 2-5

### Additional protective earth

For additional grounding, earth the display by connecting the protective earth pin to a grounded outlet by means of a wire with at minimum AWG18 size (according to national Regulation requirements regarding maximum admitted cable length). Use the included M4 screw to attach the wire to the protective earth pin.

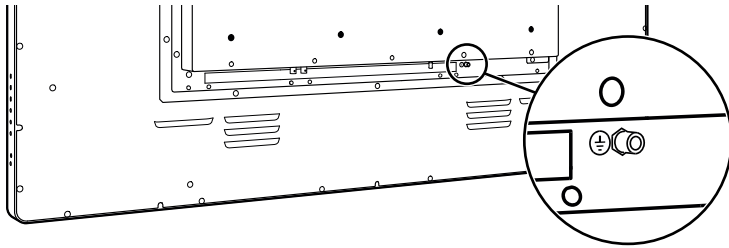


Image 2-6



# Daily operation

3

## 3.1 On/Off/Standby switching

### To switch the display on

Put the mains switch at the back of the display in the ON position ("I"). The display is switched on.

If no valid input is detected, the display will go into standby mode.

### To switch the display to standby mode

The display automatically goes to standby mode when no valid input is detected. Manually switching to standby mode is not possible.

### To switch the display off

Put the mains switch at the back of the display in the OFF position ("O"). The display is switched off.



The current power status of the display is shown by the status LED on the front of the display. For an overview, see "Status LED" in "[Product overview](#)", page 6.

## 3.2 Profile selection

### What is a profile

A profile is a set of definitions to describe how to setup the Display screen.

The MDAC-8355 SPIW screen could be configured to host up to four images, where every image can be "linked" to one of the available inputs.

The set of: number images + their position, has been called: Layout

Every image on the screen, instead, has been called: Window, and every Window is defined by the following characteristics: position, size, link to a certain input, image characteristic (transfer function, gamma, color temperature), scaling/zoom/crop settings.

The monitor is provided with a set of default profiles. Customized profiles can be created and uploaded to the monitor. This operation must be done by a qualified technician following the instructions in the "Profile Loader User Manual".

### To quickly change the profile

While no OSD menu is on the screen, press the Layout Up or Layout Down keys to change the profile as desired. After a couple of seconds the profile is displayed.

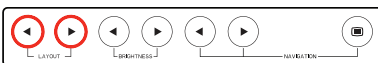


Image 3-1

## 3.3 Brightness adjustment

### To quickly adjust the brightness

While no OSD menu is on the screen, press the Brightness Up and Brightness Down keys to adjust the brightness as desired. The current brightness level is displayed in the center of the screen.

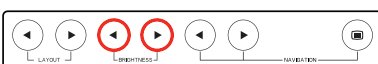


Image 3-2

## 3.4 OSD menu use

### About the OSD menu

The OSD menu allows you to configure your MDAC-8355 SPIW so that it will fit your needs in many possible working environments. You can also find information about the current status and settings in the OSD menu.

### To activate the OSD menu

During normal operation, press the Menu/Enter key to activate the OSD menu.

If the “OSD locked” message appears, press the following key sequence to unlock and activate the OSD menu: OSD navigation DOWN – OSD navigation UP – OSD navigation UP – Brightness UP.

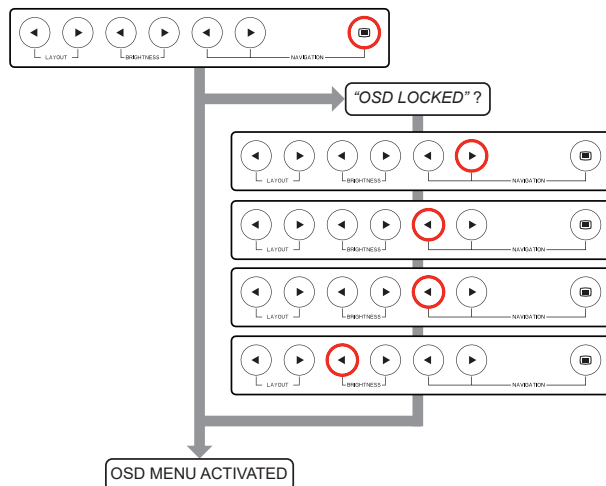


Image 3–3



If no further actions are taken within the following 30 seconds after activating the OSD menu, the OSD menu will automatically be closed again. To adjust the time-out or disable this OSD menu automatic close function see [“OSD time-out”, page 23](#).

### To navigate through the OSD menus

- Use the OSD navigation Up/Down keys to scroll through the (sub)menus, to change values or to make selections.
- Press the Menu/Enter key to go into a submenu or confirm adjustments and selections.
- Select the exit item and confirm to exit from a menu page.



# Advanced operation

# 4

## About

This section describes all settings available in the OSD menu and how to change and configure them.

## 4.1 Product info

### About

The following product information about your display is available:

- *HWREL*: Hardware release
- *FWREL*: Firmware release
- *S/N*: Serial number

### To view the product info

1. Bring up the OSD main menu.
2. Navigate to the *Product info* menu.

## 4.2 Status info

### About

The following status information about your display is available:

- *WORK HOURS*: The total number of hours that the display has been on.
- *BACKLIGHT HOURS*: The total number of hours that the backlight has been on.
- *SETUP*: The currently selected profile: Factory or User (see [“Recall Factory Default or User profile”, page 23](#))

### To view the status info

1. Bring up the OSD main menu.
2. Navigate to the *Status info* menu.

## 4.3 Brightness info

### About

The following brightness information about your display is available:

- *MIN*: The minimum possible brightness value the display can be set to
- *RECOM*: The default and recommended brightness value
- *MAX*: The maximum possible brightness value the display can be set to
- *CURRENT*: The currently set brightness value

### To view the brightness info

1. Bring up the OSD main menu.
2. Navigate to the *Brightness info* menu.

## 4.4 Profile selection

### About

The available profile selections for your display are:

- Profile1
- Profile2
- Profile3
- Profile4
- Profile5
- Profile6

## 4.5 OSD time-out

### About

By default, if no further actions are taken within the following 30 seconds after activating the OSD menu, the OSD menu will automatically be closed again. It is possible to adjust the time-out (10, 20 or 30 seconds) or disable this OSD menu automatic close function.

### To adjust or disable the OSD time-out

1. Bring up the OSD main menu.
2. Navigate to the *OSD > Time Out* menu.
3. Select one of the available options and confirm.

## 4.6 OSD lock

### About

The OSD menu lock allows to password protect access to the OSD menu. If the OSD menu lock is enabled, entering the OSD menu will display a 'Request for password' window. To unlock, see [“OSD menu use”, page 19](#).



The [“Brightness adjustment”, page 18](#) and [“Profile selection”, page 18](#) via the shortcut keys is always available, also when the OSD lock is enabled.

### To enable/disable the OSD lock

1. Bring up the OSD main menu.
2. Navigate to the *OSD > Key Lock* menu.
3. Enable or disable the OSD lock and confirm.

## 4.7 Power on DVI

### About

It is possible to select the pin of the DVI connectors on which the +5V DC supply is applied.

The available options are:

- +5V Off
- +5V Pin 14
- +5V Pin 16

### To change the power on DVI setting

1. Bring up the OSD main menu.
2. Navigate to the *Other* menu.
3. Select one of the available options and confirm.

## 4.8 Recall Factory Default or User profile

### About

It is possible to recall the factory default or user defined profile:

- Factory:
  - Transfer function: DICOM
  - Brightness: 350

## Advanced operation

- Color temperature: 6500K



# Important information

# 5

## 5.1 Safety information

### General recommendations

Read the safety and operating instructions before operating the device.

Retain safety and operating instructions for future reference.

Adhere to all warnings on the device and in the operating instructions manual.

Follow all instructions for operation and use.

### Electrical Shock or Fire Hazard

To prevent electric shock or fire hazard, do not remove cover.

No serviceable parts inside. Refer servicing to qualified personnel.

Do not expose this apparatus to rain or moisture.

### Modifications to the unit

Do not modify this equipment without authorization of the manufacturer.

### Preventive maintenance

Periodic maintenance inspections are essential to keep the monitor in optimum condition and ensure safe operation.

With the monitor disconnected from the mains, perform the following periodic check:

- Check the integrity of the power cord and inspect its routing, so that it is not under the risk of being punched or cut.
- Check the integrity of the protective earth connection.
- Clean the area around the power plug. Dust and liquids may result in fire.
- Clean the ventilation slot of the monitor. Dust can obstruct the air flow and cause temperature increase of the electronics.

General recommendations:

- Keep the monitor clean to prolong its operational lifetime.
- LCD panel performance may deteriorate in the long term. Periodically check that it is correctly operating.
- Periodically check the tightness of the VESA mount screws. If not sufficiently tight, the monitor may detach from the arm, which may result in injury or equipment damage.
- In case the failover functionality is used, periodically check the OSD menu settings to verify the correct assignment of main and secondary input (backup) and perform a test to verify the correct activation of the backup input.

### Type of protection (Electrical)

Equipment with internal power supply: Class I equipment

### Degree of safety (flammable anesthetic mixture):

- Equipment not suitable for use in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide.
- The equipment shall not be operable when the air oxygen content is above 25%.

### Non-patient care equipment

- Equipment primarily for use in a health care facility that is intended for use where contact with a patient is unlikely (no applied part).
- The user should not touch the equipment, nor its signal input ports (SIP)/signal output ports (SOP) and the patient at the same time.
- If the above 2 points cannot be guaranteed, the monitor must be powered by an isolation transformer.
- The equipment shall not be used with life support equipment.

## Child safety

Equipment not suitable for use in locations where children are likely to be present.

## Mission critical applications

We strongly recommend there is a replacement monitor immediately available in mission critical applications.

## Use of Electrical Surgical Knives

Provide as much distance as possible between the electrosurgical generator and other electronic equipment (such as monitors). An activated electrosurgical generator may cause interference with them. The interference can activate the OSD menu of the display and as such disrupt the functionality of the display.

## Power connection – Equipment with internal power supply

- This equipment must be earthed.
- Power requirements: The equipment must be powered by the AC mains voltage.
- The equipment should be installed near an easily accessible outlet.
- The equipment is intended for continuous operation.

## Transient over-voltage

To fully disengage the power to the device, please disconnect the power cord from the AC inlet.

## Connections

- Any external connection with other peripherals must follow the requirements of clause 16 of IEC60601-1 3rd. Ed. or Table BBB.201 of IEC 60601-1-1 for the medical electrical systems.
- To maintain compliance with EMC Regulation, use only well shielded interface cables for the connection to peripheral devices.

## Power cords

- China: 10A 250V ~ (with 60227IEC53 3× 0.75mm<sup>2</sup>, 60227IEC53 3× 1mm<sup>2</sup>)
- Europe: H05VV-F or H05VVH2-F PVC cord with appropriate EU plug.
- US and Canada: "hospital grade" cord-set has to be used, provided with instructions to indicate that grounding reliability can be achieved only when the equipment is connected to an equivalent receptacle marked hospital only or hospital grade. These instructions need to be marked either on the equipment or on a tag on the power cord.

## Grounding reliability

Grounding reliability can only be achieved when the equipment is connected to an equivalent receptacle.

## Water and moisture

The equipment is IP20 compliant. The monitor front side is IP20 (IP45 front side only) compliant.

## Moisture condensation

- Do not use monitor under rapid temperature and humidity change condition or avoid cold air from air-conditioning outlet directly.
- Moisture may condense on the surface or inside of the unit, or create a mist residue inside the protection plate, this is not a malfunction of the product itself, although it may cause damage to the monitor.
- If condensation happens, let the monitor stand unplugged until there is no condensation.

## Ventilation

Do not cover or block any ventilation openings in the cover of the set. When installing the device in a cupboard or another enclosed location, heed the necessary space between the set and the sides of the cupboard.

## Installation

- Place the equipment on a flat, solid and stable surface that can support the weight of at least 3 devices. If you use an unstable cart or stand, the equipment may fall, causing serious injury to a child or adult, and serious damage to the equipment.
- Do not allow to climb or rest on the equipment.
- The monitor has been designed to be used in landscape position with a tilt of 0° to +15° (forward)
- When adjusting the angle of the equipment, move it slowly so as to prevent the equipment from moving or slipping off from its stand or arm.
- When the equipment is attached to an arm, do not use the equipment as a handle or grip in order to move the equipment. Please refer to the instruction manual of the arm for instructions on how to move the arm with the equipment.
- Provide full attention to safety during installation, periodic maintenance and examination of this equipment.
- Sufficient expertise is required for installing this equipment, especially to determine the strength of the wall for withstanding the display's weight. Be sure to entrust the attachment of this equipment to the wall to licensed contractors of Barco and pay adequate attention to safety during the installation and usage.
- All devices and complete setup must be tested and validated before taking into operation.
- At end user application level it is necessary to foresee a backup unit in case the video falls away.
- Barco is not liable for any damage or injury caused by mishandling or improper installation.

## General warnings

- The device has no means to be incorporated in an IT-network in the clinical environment.
- The enclosure has to be checked upon collision damage, refer to qualified service personnel.
- The protective screen (if present) is made of tested high-resistance glass. Nonetheless there is the possibility that it may crack if subject to strong impacts. Evaluate and prevent the risk of possible breakages of the protective screen by correctly handling and positioning the monitor in the operating room.
- The monitor is intended for indoor use
- The monitor is not intended to be sterilized
- The monitor has no applied parts, but the front protective glass has been treated as applied part because considered accidentally touchable by the patient for a time <1 minute.

## 5.2 Cybersecurity

### Hospital IT security

To prevent unauthorized access to the device, the organization incorporating the MDAC-8355 SPIW in their IT network shall have the necessary state-of-the-art policies, processes, standards and other security measures in place to incorporate, support and protect the device into the IT network. This shall include the application of risk management (e.g. by following IEC 80001-1:2010 or equivalent standards).

## 5.3 Environmental information

### Disposal Information



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

This symbol on the product indicates that, under the European Directive 2012/19/EU governing waste from electrical and electronic equipment, this product must not be disposed of with other municipal waste. Please dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources.

For more information about recycling of this product, please contact your local city office or your municipal waste disposal service. For details, please visit the Barco website at: <http://www.barco.com/AboutBarco/weee>

## Turkey RoHS compliance



Türkiye Cumhuriyeti: AEEE Yönetmeliğine Uygundur.  
[Republic of Turkey: In conformity with the WEEE Regulation]

## 中国大陆 RoHS

### Chinese Mainland RoHS

根据中国大陆《电器电子产品有害物质限制使用管理办法》（也称为中国大陆RoHS），以下部分列出了Barco产品中可能包含的有毒和/或有害物质的名称和含量。中国大陆RoHS指令包含在中国信息产业部MCV标准：“电子信息产品中有毒物质的限量要求”中。

According to the “Management Methods for the Restriction of the Use of Hazardous Substances in Electrical and Electronic Products ” (Also called RoHS of Chinese Mainland), the table below lists the names and contents of toxic and/or hazardous substances that Barco's product may contain. The RoHS of Chinese Mainland is included in the MCV standard of the Ministry of Information Industry of China, in the section “Limit Requirements of toxic substances in Electronic Information Products”.

零件项目(名称) Component name	有毒有害物质或元素 Hazardous substances and elements					
	铅 Pb	汞 Hg	镉 Cd	六价铬 Cr6+	多溴联苯 PBB	多溴二苯醚 PBDE
印制电路配件 Printed Circuit Assemblies	X	O	O	O	O	O
液晶面板 LCD panel	X	O	O	O	O	O
外接电(线)缆 External Cables	X	O	O	O	O	O
内部线路 Internal wiring	O	O	O	O	O	O
金属外壳 Metal enclosure	O	O	O	O	O	O
塑胶外壳 Plastic enclosure	O	O	O	O	O	O
散热片(器) Heatsinks	O	O	O	O	O	O
风扇 Fan	O	O	O	O	O	O
电源供应器 Power Supply Unit	X	O	O	O	O	O
文件说明书 Paper Manuals	O	O	O	O	O	O
光盘说明书 CD manual	O	O	O	O	O	O

本表格依据SJ/T 11364的规定编制

This table is prepared in accordance with the provisions of SJ/T 11364.

O: 表示该有毒有害物质在该部件所有均质材料中的含量均在 GB/T 26572 标准规定的限量要求以下。

O: Indicates that this toxic or hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement in GB/T 26572.

X: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 GB/T 26572 标准规定的限量要求。

X: Indicates that this toxic or hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement in GB/T 26572.

在中国大陆销售的相应电子信息产品（EIP）都必须遵照中国大陆《电子电气产品有害物质限制使用标识要求》标准贴上环保使用期限（EFUP）标签。Barco产品所采用的EFUP标签（请参阅实例，徽标内部的编号用于指定产品）基于中国大陆的《电子信息产品环保使用期限通则》标准。

All Electronic Information Products (EIP) that are sold within Chinese Mainland must comply with the “Marking for the restriction of the use of hazardous substances in electrical and electronic product” of Chinese Mainland, marked with the Environmental Friendly Use Period (EFUP) logo. The number inside the EFUP logo that Barco uses (please refer to the photo) is based on the “General guidelines of environment-friendly use period of electronic information products” of Chinese Mainland.



### 中国RoHS自我声明符合性标志 / China RoHS – SDoC mark

本产品符合《电器电子产品有害物质限制使用管理办法》和《电器电子产品有害物质限制使用达标管理目录》的要求。

This product meets the requirements of the “Management Rule on the Use Restriction of Hazardous Substances in Electrical and Electronic Products” and the “Management Catalogue for the Use Restriction of Hazardous Substances in Electrical and Electronic Products”.



绿色自我声明符合性标志可参见电子档文件

The green SDoC mark is visible in the digital version of this document.

### RoHS

Directive 2011/65/EC on the restriction of certain hazardous substances in electrical and electronic equipment.

According to what declared by our components suppliers, this product is RoHS compliant.

## 5.4 Biological hazard and returns – Decommissioning

### Decommissioning

When a device becomes obsolete or unusable, or is no longer needed by the health care facility, it enters the final stage of its life cycle: decommissioning.

Decommissioning is the process of disposing a device, or removing a device from its originally intended use in the health care facility to an alternative use.

Every health care facility or institution shall have standard operating procedures in place to decommission a device according to the Occupational Safety and Health Administration (OSHA) regulations or/and the World Health Organization (WHO) Decommissioning Medical Devices Technical guideline.

The seller / manufacturer of the device has no legal obligation on the device sold in the event that the health care facility or institution decides to activate the decommissioning process.

### Overview

The structure and the specifications of this device as well as the materials used for manufacturing makes it easy to wipe and clean and therefore suitable to be used for various applications in hospitals and other medical environments, where procedures for frequent cleaning are specified.

However, normal use shall exclude biological contaminated environments, to prevent spreading of infections.

Therefore use of this device in such environments is at the exclusive risk of Customer. In case this device is used where potential biological contamination cannot be excluded.

Customer shall implement the decontamination process as defined in the latest edition of the ANSI/AAMI ST35 standard on each single failed Product that is returned for servicing, repair, reworking or failure investigation to Seller (or to the Authorized Service Provider). At least one adhesive yellow label shall be attached on the top site of the package of returned Product and accompanied by a declaration statement proving the Product has been successfully decontaminated.

Returned Products that are not provided with such external decontamination label, and/or whenever such declaration is missing, can be rejected by Seller (or by the Authorized Service Provider) and shipped back at Customer expenses.

## 5.5 Cleaning and disinfection

### Instructions

- Be sure to unplug the power cord from the mains when cleaning your LCD monitor.
- Take care not to scratch the front surface with any hard or abrasive material.
- Dust, finger marks, grease etc. can be removed with a soft damp cloth (a small amount of mild detergent can be used on the damp cloth).
- Wipe off water drop immediately.

### Possible cleaning solutions

- Isopropyl alcohol 90%
- Ethanol 70%
- Flux
- Wurth, TFT-Reiniger
- 1.6% Ammonia
- Sodium hypochlorite 10%
- Peroxide hydrogen 10%
- Tanet interior
- Soap (mild soap solution)
- 250ppm Chlorine solution

## 5.6 Regulatory compliance information

### Intended purpose

The device is intended to be used for viewing images by medical practitioners, when installed in a Medical System, as per the indications provided by the system integrator.

### Factory address

Fimi S.r.l., Via Saul Banfi 1, 21047 Saronno, VA, Italy

### Manufacturing country

The manufacturing country of the product is indicated on the product label (“**Made in ...**”).

### Importers contact information

To find your local importer, contact one of Barco’s regional offices via the contact information provided on our website ([www.barco.com](http://www.barco.com)).

### FCC class B

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This device 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 device 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 device does cause harmful interference to radio or television reception, which can be determined by turning the device 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 device and receiver.
- Connect the device 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.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

**FCC responsible:** Barco Inc., 3059 Premiere Parkway Suite 400, 30097 Duluth GA, United States, Tel: +1 678 475 8000

### Canadian notice

CAN ICES-003 (B) / NMB-003(B)

### UKCA compliance

Authorised representative in the UK: Barco UK Ltd, Building 329, Doncastle Road, Bracknell RG12 8PE, Berkshire, United Kingdom

## 5.7 EMC notice

### General information

No specific requirement on the use of external cables or other accessories except power supply.

With the installation of the device, use only the delivered power supply or a spare part provided by the legal manufacturer. Using another can result in a decrease of the immunity level of the device.

### Electromagnetic emissions

The MDAC-8355 SPIW is intended for use in the electromagnetic environment (IEC 60601-1-2 4<sup>th</sup> edition) specified below. The customer or the user of the MDAC-8355 SPIW should assure that it is used in such an environment.

Emissions test	Compliance	Electromagnetic environment – Guidance
RF emissions CISPR 11	Group 1	The MDAC-8355 SPIW uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The MDAC-8355 SPIW is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Class D	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Complies	

This MDAC-8355 SPIW complies with appropriate medical EMC standards on emissions to, and interference from surrounding equipment. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Interference can be determined by turning the equipment off and on.



If this equipment does cause harmful interference to, or suffer from harmful interference of, surrounding equipment, the user is encouraged to try to correct the interference by one or more of the following measures:


- Reorient or relocate the receiving antenna or equipment.
- 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 technician for help.

## Electromagnetic immunity

The MDAC-8355 SPIW is intended for use in the electromagnetic environment (IEC 60601-1-2 4<sup>th</sup> edition) specified below. The customer or the user of the MDAC-8355 SPIW should assure that it is used in such an environment.

Immunity test	IEC 60601-1-2 4 <sup>th</sup> edition (2014) Test levels	Compliance level	Electromagnetic environment – guidance
Electrostatic discharge (ESD) IEC 61000-4-2	± 8kV contact ± 15kV air	± 8kV contact ± 15kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%
Electrical fast transient/ burst IEC 61000-4-4	± 2kV for power supply lines ± 1kV for input/ output lines	± 2kV for power supply lines ± 1kV for input/ output lines	Mains power quality should be that of a typical commercial or hospital environment
Surge IEC61000-4-5	± 1 kV line(s) to line(s) ± 2 kV line(s) to earth	± 1 kV line(s) to line(s) ± 2 kV line(s) to earth	Mains power quality should be that of a typical commercial or hospital environment
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	< 5% $U_T$ (> 95% dip in $U_T$ ) for 0.5 cycle 40% $U_T$ (60% dip in $U_T$ ) for 5 cycles 70% $U_T$ (30% dip in $U_T$ ) for 25 cycles < 5% $U_T$ (>95% dip in $U_T$ ) for 5 seconds	< 5% $U_T$ (> 95% dip in $U_T$ ) for 0.5 cycle 40% $U_T$ (60% dip in $U_T$ ) for 5 cycles 70% $U_T$ (30% dip in $U_T$ ) for 25 cycles < 5% $U_T$ (>95% dip in $U_T$ ) for 5 seconds	Mains power quality should be that of a typical commercial or hospital environment. If the user of the MDAC-8355 SPIW requires continued operation during power mains interruptions, it is recommended that the MDAC-8355 SPIW be powered from an uninterruptible power supply or a battery.

1. is the a.c. mains voltage prior to application of the test level.

Immunity test	IEC 60601-1-2 4 <sup>th</sup> edition (2014) Test levels	Compliance level	Electromagnetic environment – guidance
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	30 A/m	30 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
Conducted RF IEC 61000-4-6 Radiated RF IEC 61000-4-3	3 V/m (150 kHz to 80 MHz)  9 to 28 V/m in communication service channels up to 6 GHz	3 V/m (150 kHz to 80 MHz)  9 to 28 V/m in communication service channels up to 6 GHz	<p>Portable and mobile RF communications equipment should be used no closer to any part of the MDAC-8355 SPIW, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.</p> <p>Recommended separation distance</p> $d = 1.2\sqrt{P}$ $d = 1.2\sqrt{P} \text{ 80 MHz to 800 MHz}$ $d = 2.3\sqrt{P} \text{ 800 MHz to 2.5 GHz}$ <p>Where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m).</p> <p>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,<sup>2</sup> should be less than the compliance level in each frequency range.<sup>3</sup></p> <p>Interference may occur in the vicinity of equipment marked with symbol:</p> 



At 80 MHz and 800 MHz, the higher frequency range applies.

2. Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the MDAC-8355 SPIW is used exceeds the applicable RF compliance level above, the MDAC-8355 SPIW should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the MDAC-8355 SPIW.
3. Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.



These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

## Recommended separation distance

The MDAC-8355 SPIW is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the MDAC-8355 SPIW can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the MDAC-8355 SPIW as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter <sup>4</sup> W	Separation distance according to frequency of transmitter		
	150kHz to 80MHz $d=1.2\sqrt{P}$	80MHz to 800MHz $d=1.2\sqrt{P}$	800MHz to 2.5GHz $d=2.3\sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23



At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.



These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, object and people.
















## 5.8 Explanation of symbols

















### Symbols on the device

On the device or power supply, you may find the following symbols (nonrestrictive list):


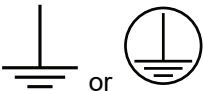

	Indicates the device meets the requirements of the applicable EC directives/regulations.
	Indicates compliance with Part 15 of the FCC rules (Class A or Class B)
	Indicates the device is approved according to the UL Recognition regulations
	Indicates the device is approved according to the UL regulations for Canada and US
	Indicates the device is approved according to the UL Demko regulations

4. For transmitters rated at a maximum output power not listed above, the recommended separation distance  $d$  in meters (m) can be estimated using the equation applicable to the frequency of the transmitter. Where  $P$  is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

	Indicates the device is approved according to the CCC regulations
	Indicates the device is approved according to the VCCI regulations
	Indicates the device is approved according to the KC regulations
	Indicates the device is approved according to the BSMI regulations
	Indicates the device is approved according to the PSE regulations
	Indicates the device is approved according to the RCM regulations
	Indicates the device is approved according to the EAC regulations
	Caution: Federal law (United States of America) restricts this device to sale by or on the order of a licensed healthcare practitioner.
 <p>IS 13252 (Part 1) IEC 60950-1 R-xxxxxxx www.bis.gov.in</p>	Indicates the device is approved according to the BIS regulations
	Indicates the device is approved according to the INMETRO regulations.
	Indicates the device is approved according to the UKCA regulations.
	Indicates the USB connectors on the device
	Indicates the DisplayPort connectors on the device
	Indicates the legal manufacturer
	Indicates the manufacturing date




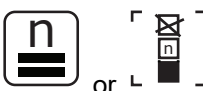




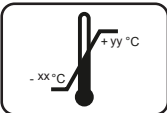

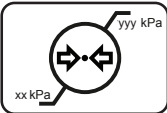
	Indicates the entity importing the device into the locale.
	Indicates the temperature limitations <sup>5</sup> for the device to safely operate within specs.
	Indicates this is a Medical Device
	Indicates the device serial number
	Indicates the device part number or catalogue number
	Indicates the Unique Device Identifier
	Indicates the Authorised Representative for the European Union.
	Indicates the Authorised Representative for Switzerland.
	<b>Warning:</b> dangerous voltage
	<b>Caution</b>
	Consult the Instructions For Use
 eIFU indicator	Consult instruction for use on website address that is provided as eIFU indicator
	Indicates this device must not be thrown in the trash but must be recycled, according to the European WEEE (Waste Electrical and Electronic Equipment) directive
	Indicates Direct Current (DC)
	Indicates Alternating Current (AC)
	Stand-by

5. Values for xx and yy can be found in the technical specifications paragraph.

	Equipotentiality
 or 	Protective earth (ground)

## Symbols on the box

On the box of the device, you may find the following symbols (nonrestrictive list):

	Indicates a device that can be broken or damaged if not handled carefully when being stored.
	Indicates a device that needs to be protected from moisture when being stored.
	Indicates the storage direction of the box. The box must be transported, handled and stored in such a way that the arrows always point upwards.
 or 	Indicates the maximum number of identical boxes which may be stacked on each other, where “n” is the limiting number.
 or 	Indicates the weight of the box and that it should be carried with two persons.
	Indicates that the box should not be cut with a knife, a cutter or any other sharp object.
	Indicates the temperature limits <sup>6</sup> to which the device can be safely exposed when being stored.
	Indicates the range <sup>6</sup> of humidity to which the device can be safely exposed when being stored.
	Indicates the range <sup>6</sup> of atmospheric pressure to which the device can be safely exposed when being stored.

## 5.9 Legal disclaimer

### Disclaimer notice

Although every attempt has been made to achieve technical accuracy in this document, we assume no responsibility for errors that may be found. Our goal is to provide you with the most accurate and usable documentation possible; if you discover errors, please let us know.

6. Values for xx and yy can be found in the technical specifications paragraph.

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## Product Security Incident Response

As a global technology leader, Barco is committed to deliver secure solutions and services to our customers, while protecting Barco's intellectual property.

When product security concerns are received, the product security incident response process will be triggered immediately. To address specific security concerns or to report security issues with Barco products, please inform us via contact details mentioned on <https://www.barco.com/psirt>.

To protect our customers, Barco does not publicly disclose or confirm security vulnerabilities until Barco has conducted an analysis of the product and issued fixes and/or mitigations.

# 5.10 Technical specifications

## Overview

Screen technology	TFT AM LCD / IPS technology / LED backlight
LCD panel active screen size (diagonal)	54.6" / 1388 mm
LCD panel active screen size (H x V)	1210 x 680 mm
LCD panel aspect ratio (H:V)	16:9
LCD panel resolution	8MP (3840 x 2160)
Pixel pitch	0.315
Color support	1073 million (10-bit)
Viewing angle (H, V)	178° Hor / 178° Ver
Luminance	Native: 500 cd/m <sup>2</sup> (typical) NORM setting: 350 cd/ m <sup>2</sup> @6500K stabilized (typical)
Contrast ratio	1100:1 (typical)
LCD response time (Tr + Tf)	8 ms (typical)
Housing color	Black
Power source requirements	100–240 Vac, 50/60Hz, 5.0A–2.0A
Power consumption (Max)	135W (Rating: 100-240Vac 50/60Hz 1.5-0.7A)
Power consumption (Standby)	25W
Power save mode	Yes
Dot clock	260 MHz DVI dual link (preferred)
OSD languages	English
Grounding	Ground pin (M4 thread for grounding lug)
Dimensions display (W x H x D)	1259 x 733 x 87 mm (49.5 x 28.8 x 3.4 in)

Dimension packaged (W x H x D)	1540 x 413 x 940 mm (60.6 x 37.0 x 17.0 in)
Net weight display	33.2 kg (73.1 lbs)
Net weight packaged	40.2 kg (88.6 lbs)
Mounting standard	VESA (200 mm, 600 mm)
Screen protection	2-side anti-reflective laminated glass
Applicable standards	<ul style="list-style-type: none"> <li>• CE: 2014/35/EU (LVD), 2014/30/EU (EMC) and 2011/65/EU (RoHS)</li> <li>• IEC 60601-1-2 (2014)</li> <li>• EN 60601-1-2 (2015)</li> <li>• IEC 60950-1:2005 +A1:2009 +A2:2013 (Second Edition)</li> <li>• EN 60601-1:2006 +A11:2011 +A1:2013 +A12:2014</li> <li>• IEC 60601-1 (ed. 3);am1</li> <li>• ANSI/AAMI ES60601-1: 2005/(R)2012</li> <li>• CAN/CSA-C22.2 NO. 60601-1:2014</li> <li>• FCC CFR 47 Part 15 Subpart B (Class B)</li> <li>• CCC: GB17625.1-2012; GB4943.1-2011; GB/T9254-2008</li> </ul>
Supplied accessories	<ul style="list-style-type: none"> <li>• 1x English user guide</li> <li>• 1x EU power cord</li> <li>• 1x US power cord (medical grade)</li> <li>• 1x remote control</li> </ul>
Warranty	3 years
Operating temperature	5 to 35 °C (for performance); 0 ÷ 40 °C (for safety) — (temperature change <1°C/ min.; non condensing)
Storage temperature	-20 to +50°C — (temperature change <1°C/ min.; non condensing)
Operating humidity	10 to 80% (non-condensing)
Storage humidity	10 to 90% (non-condensing)
Operating altitude	3000m max.
Storage altitude	12000m max.







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[www.barco.com](http://www.barco.com)