ColorEdge **CG3146**

Product Website

The ColorEdge PROMINENCE CG3146 reference monitor means professionals in the television and film industry can rest assured that the image they see is 100% accurate. It delivers precision and consistency in unparalleled HDR reference quality. This makes it the perfect solution for use in both 4K post-production and the studio, as well as 4K cinematography, and it is ideal for professional colourists. Its precise and colour-accurate reproduction across the entire luminance characteristic curve (EOTF) makes the CG3146 suitable for the entire 4K production workflow in both HDR in SDR. The reference monitor supports HLG (Hybrid Log Gamma) and PQ curves (Perceptual Quantization) for the editing of television content, films and other video content in HDR. Both the HLG and PQ EOTF as well as the brightness are precisely calibrated to reference class 1 level. The ColorEdge PROMINENCE is equipped with a built-in calibration sensor. It provides fully automated recalibration in reference quality and as well as project-specific calibrations.

- 31.1-inch HDR/SDR reference monitor (78.9 cm), 10-bit LCD and DCI 4K resolution
- HDR brightness and dynamics of up to 1000 nits and calibrated to reference class 1 level
- Deep black tones without ABL or local dimming with a contrast up to 1000000
- HLG and PQ EOTF are precisely calibrated to reference class 1 level
- Calibrated for: BT.2020, BT.709, DCI P3, PQ_BT.2100, PQ_DCI P3, HLG_BT.2100
- Gamut with 99% DCI P3 and colour precision with 3D look-up-table (LUT) with 24-bit
- Digital Uniformity Equalizer for perfect luminance distribution and colour purity
- Single-link 12G/6G/3G/HD SD and dual- and quad-link 3G/HD SDI, as well as HDMI and DisplayPort signal input
- Built-in sensor for fully automated recalibration in reference quality as well as project-specific calibrations
- 5-year warranty for highest investment security

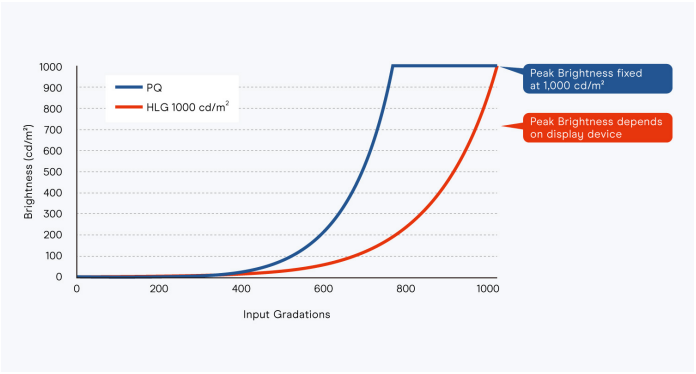
HDR
High Dynamic Range

HDR reference technology

The ColorEdge PROMINENCE CG3146 reference monitor means professionals in the television and film industry can rest assured that the image they see is 100% accurate. All monitors are calibrated at EIZO's own factory in Japan, which means that each and every monitor provides an accurate display of images and is ideally suited for post-production work. This factory calibration includes the commonly used SDR and HDR standards. BT.2020, BT.709, DCI P3, PQ_BT.2100, PQ_DCI P3 and HLG_BT.2100 are among the available reference modes for calibration. The ColorEdge PROMINENCE CG3146 from EIZO displays true HDR in reference quality without automatic brightness limitation or local dimming. This guarantees that each pixel has the correct colour and brightness.

Gamma curves

The ColorEdge PROMINENCE CG3146 supports both of the gamma curves for HDR video: the HLG curve (Hybrid Log Gamma) and the PQ curve (Perceptual Quantization). Both are precisely calibrated to reference class 1 level. The HLG curve is compatible with SRD displays, making it suitable for live TV broadcasts, for example. The PQ curve is closer to the colour and brightness perception of the human eye and is often used for films, streaming and other video content. Both gamma curves were defined as standards by the International Telecommunication Union (ITU) published as the ITU-R Recommendation BT.2100. The PQ curve is also known as the ST-2084 standard for the Society of Motion Picture and Television Engineers (SMPTE).



Video-editing
and video-mastering

High brightness and impressive contrast

At 1000 cd/m^2, the ColorEdge PROMINENCE CG3146 achieves the high brightness necessary to display HDR content. It displays deep black tones with a typical contrast ratio of 1000000:1. All code values of HDR-HLG or HDR-PQ brightness levels are reliably reproduced on the monitor at reference class 1 level.

DCI 4K resolution

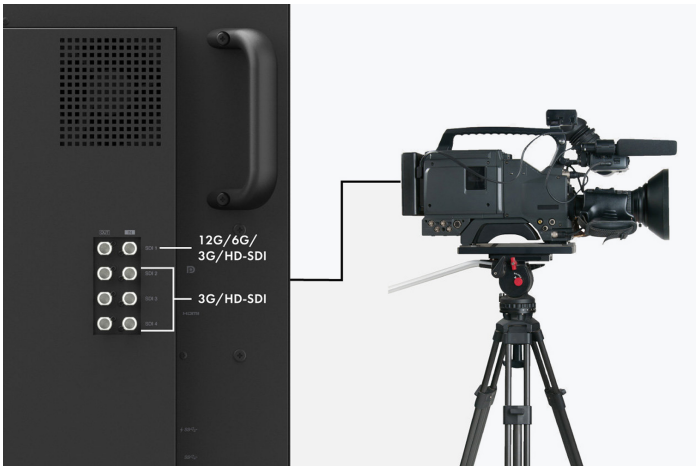
The ColorEdge PROMINENCE CG3146 supports DCI 4K resolution (4096 × 2160), making it ideal for creating, editing and referencing with 2D and 3D CGI, VFX projects, compositing and color grading.

Video compatibility

The monitor supports different video formats, such as HDMI signals with 10-bit 4:2:2 at 50/60 p. It supports DisplayPort signals with up to 10-bit 4:4:4 at 50/60 p. Overview of compatible resolutions.

SDI ports

The ColorEdge PROMINENCE CG3146 is equipped with a single-link 12G/6G/3G/HD SD and dual- or quad-link 3G /HD SDI ports that enable you to use 4K video signals. The SDI ports support the 2SI process (2 Sample Interleave), which ensures that the image consistently remains stable during transmission. VPID data (Video Payload ID) for SDI ports are also supported.



Flexible connection options

The CG3146 offers flexibility in connection options for a wide variety of other video equipment and computers thanks to an HDMI and a DisplayPort input, which are easily accessible on the side of the monitor. There are also four downstream USB ports and one upstream USB port.

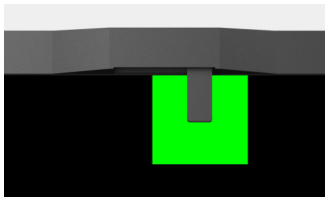
Precision and color accuracy

High-contrast, bright and crisp screen

Integrated measurement sensor for automated workflows

A reference monitor always needs to be precisely configured in terms of white balance, colour and EOTF. The ColorEdge PROMINENCE CG3146 is the world's first HDR reference monitor that is equipped with a built-in measurement sensor that automatically recalibrates the monitor to the reference class level.

Each individual built-in sensor is correlated at the factory with a precision lab measurement sensor and calibrated to 'its' monitor in order to provide the exact measurement result. In addition, the sensor can be correlated to other measurement sensors that are used in existing user workflows. Thanks to the built-in measurement sensor, there is no longer a need for third-party calibration equipment. This simplifies quality control and the user can concentrate on the creative process. The calibration settings are saved directly in the monitor so that it does not have to be recalibrated when it is connected to another computer.



Detailed view

Effortless quality control

The built-in measurement sensor can be configured to automatically recalibrate the monitor at predefined times. For example, you can choose a time at night or the weekend to prevent interruptions while users are at work. This ensures consistently accurate colour representation on the monitor. The monitor warms up automatically, the measurement sensor is folded out and the recalibration is performed, even if the computer or other source is switched off.

If desired, the monitor's own calibration sensor can be calibrated using an external measurement sensor. The following devices are supported:

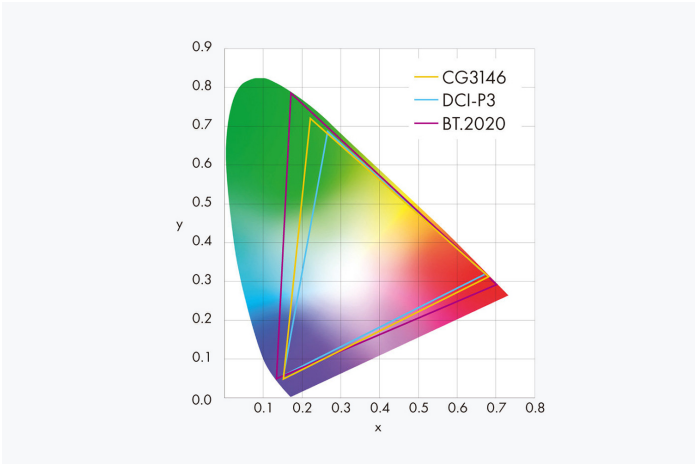
Colorimetry Research: CR-100, CR-250, CR300
Klein: K-10/K-10A
Konica Minolta: CS-1000, CS-1000A, CA-210, CA-310, CA410, CS-2000, CS-2000A, CS-200
Photo Research: PR-655, PR-680
JETI: Specbos 1211, Spectraval 1501

ColorNavigator color management software

EIZO ColorNavigator is the calibration and quality control software for colour management workflow monitors in the ColorEdge series. The proprietary software simplifies the recalibration process and produces reliable results for colour-accurate display.

Wide gamut

The wide gamut reproduces 99% of the DCI P3 standard that is typically used in post-production, which displays colours true to the original source data.

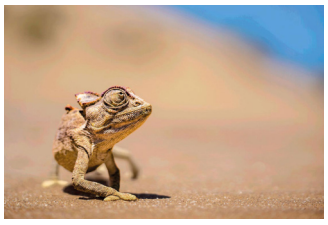


10-bit display

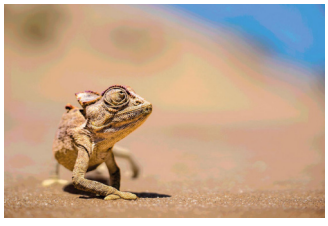
The ColorEdge PROMINENCE CG3146 offers 10-bit display* based on a 24-bit look-up-table (LUT), which can display more than one billion colours. This results in finer gradations and a lower colour distance (delta E) between adjacent hues.

* This requires a graphics board and software that support 10-bit display.

10 bit (LUT: 24 bit)



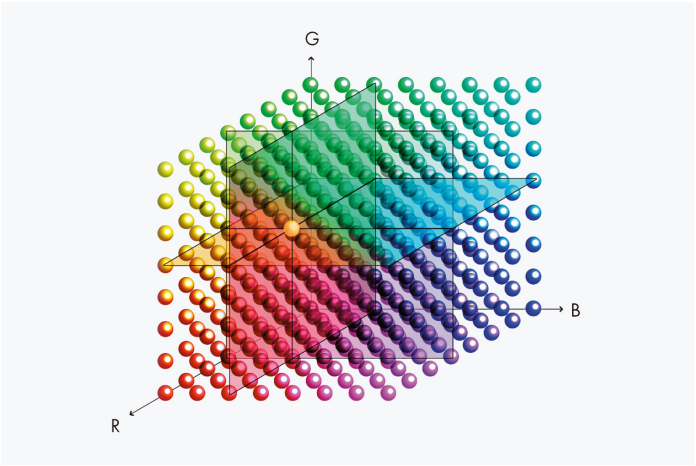
8 bit (LUT: 24 bit)



8 bit (no LUT)

Precise color reproduction thanks to high-resolution 3D LUT

Hues are precisely addressed in a cubic RGB table thanks to the built-in 3D LUT. The 3D LUT also improves the monitor's additive colour mixing (mixing of RGB) – a key factor for ensuring correct display of neutral grey tones.



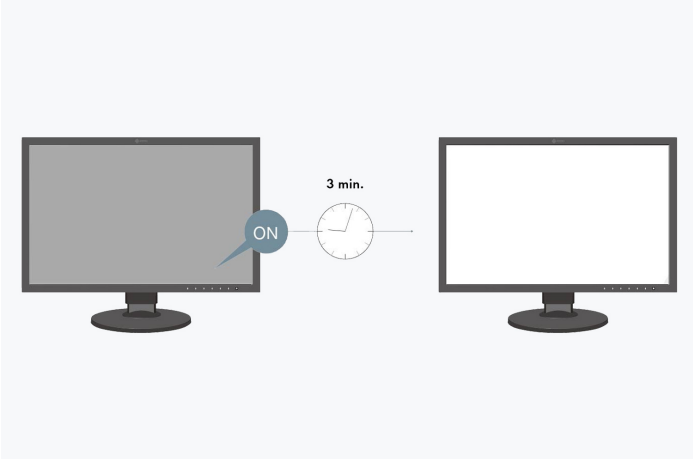
Stable display thanks to industry-leading AI

To ensure gradations, colour, brightness and other characteristics are always accurately displayed even when the ambient temperature changes, the ColorEdge CG3146 is equipped with a temperature sensor. It accurately measures the monitor's internal temperature, while an AI (artificial intelligence)-assisted correction algorithm* distinguishes between different temperature change patterns and calculates a precise adjustment in real time.

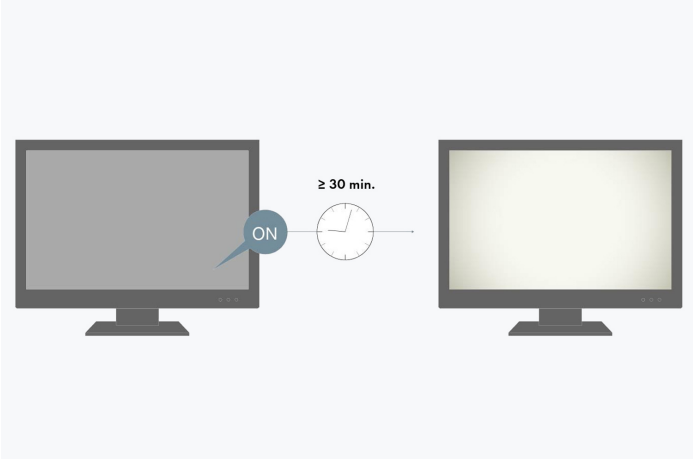
* Patent pending

Stable color reproduction in just three minutes

It takes a traditional monitor a minimum of 30 minutes for the brightness, chromaticity and tone values to stabilise, whereas the ColorEdge CG3146 only needs three minutes. It means that users know they can reliably trust the colours of the monitor within a short time after switching in on.



ColorEdge



Typical monitor

PERFECT RENDERING ACROSS THE ENTIRE SCREEN

Digital Uniformity Equalizer

Each individual monitor panel is precisely measured over the entire surface at the EIZO factory. Any inhomogeneities in brightness and unnecessary colour are detected and removed. This process (Digital Uniformity Equalizer) guarantees that identical colours always look the same over the entire service life of the monitor, no matter where they are displayed. Only in this way is precise image processing and retouching possible.

With DUE

Without DUE

Calibration report

Each ColorEdge CG3146 comes with an individual calibration report that shows the measurement results of the factory calibration of the monitor. The report proves the homogeneity, gamma curve, colour space coverage and white point of the monitor.

More information on the calibration report

Additional features and functionalities

Multiple preset color modes

The OSD menu of the ColorEdge PROMINENCE CG3146 offers quick access to the reference modes, which correspond to different playback standards. The available modes are BT.2020, BT.709, DCI P3, PQ_BT.2100, PQ_DCI P3, HLG_BT.2100, Calibration and Sync Signal.

Automatic color settings

The ColorEdge PROMINENCE CG3146 offers Sync Signal functionality, which adjusts monitor settings such as signal range and colour format to the video signal, offering consistent colour settings during the entire production process.

Luminance warning

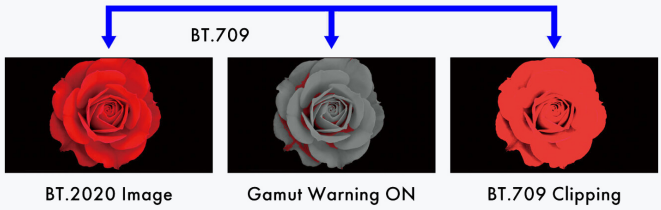
The brightness warning can be used to mark areas that exceed a certain brightness (300, 500, 1000 or 4000 cd /m²) when using the PQ mode. These areas are marked optionally in yellow or magenta.

Brightness warning

Without brightness warning

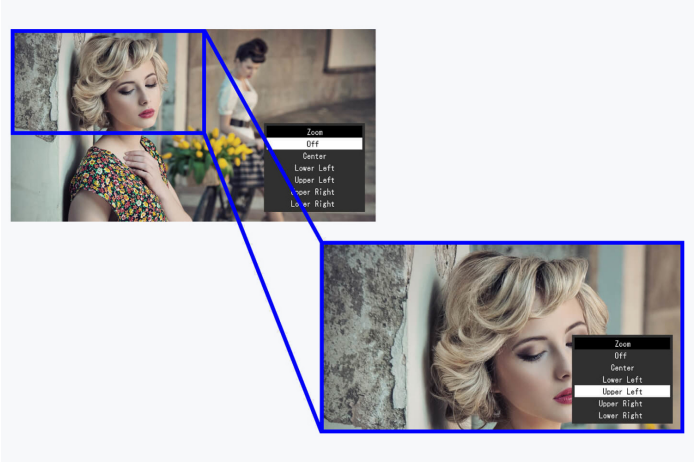
Gamut warning

The Gamut warning operates in two modes: Rec. 2020 image content that can't be displayed in the Rec. 709 gamut is displayed in grayscale. Alternatively, clipping mode is simulated in Rec. 709 to show how Rec. 2020 material would look on HDTV devices.



4K zoom

Users can quickly and easily make selections directly in the monitor menu to zoom in on various areas of the monitor image so as to assess details and sharpness.



Blue-only functionality

The CG3146 offers a blue-only functionality that can be used to check noise in the signal. A monochrome image that uses only the blue components of the input signal will be displayed.

D065 (CRT) support

The ColorEdge PROMINENCE CG3146 is capable of using an offset value for white balance/colour temperature that corresponds to the display on a CRT monitor.

Easy to use
Features for greater comfort

Adjustable front dial

The CG3146 has a dial on its front bezel that can be used to customise the monitor settings to your needs, such as by assigning it to the brightness settings, making navigation quick and easy.

FOR THE SAKE OF THE EYES

Flicker free

The ColorEdge PROMINENCE CG3146 regulates the brightness for flicker-free viewing to retain colour stability, for example, despite LED backlighting. This is beneficial as it alleviates strain on the user's eyes. You can work at your screen for longer periods.

PROTECTION AGAINST REFLECTIONS AND GLARE

Monitor hood

The monitor hood reduces reflection and brightness on the screen and helps protect your eyes. It is easy to attach and reduces the amount of light that hits the screen from above and from the sides.

Built-in handles

You can conveniently carry or move the monitor thanks to two handles on the back of the device.

Customised key assignment

Depending on the model, up to two sensor buttons on the front can be assigned functions from the on-screen menu. The advantage: you have direct access to frequently used features.

Warranty
Highest investment security

Five-year warranty

EIZO grants a five-year warranty. This is possible thanks to the highly developed production process based on a simple principle of success: sophisticated and innovative technology, made from high-end materials.

Guaranteed brightness and color reproduction

EIZO provides a brightness and color guarantee for a maximum of 10 000 hours of monitor usage time on the ColorEdge PROMINENCE CG3146 from the date of purchase. A minimum brightness of 800 cd/m^2 is guaranteed at a color temperature of 6500 K.

Technical Data

GENERAL

Item no.	CG3146
Case color	Black
Areas of application	Photography, Video & Graphics
Product line	ColorEdge
Areas of application	Video Editing, Post Production and Colour Grading
Specific system requirements	None, compatible with most computers and operating systems including macOS and Windows
EAN	4995047056195

SCREEN

Screen size [in inches]	31,1
Screen size [in cm]	78,9
Format	17:9
Viewable image size (width x height) [in mm]	698 x 368,1
Ideal and recommended resolution	4096 x 2160 (4K DCI)
Pixel pitch [in mm]	0,17 x 0,17
Supported resolutions	4096 x 2160 (4K DCI), 3840 x 2160 (4K UHD), 2560 x 1440, 2560 x 1440 (@ 30 Hz), 1920 x 1200, 1920 x 1080 (Full HD), 1680 x 1050, 1600 x 1200, 1280 x 1024, 1024 x 768, 800 x 600, 720 x 400, 640 x 480, 1080p (@ 60 Hz), 1080i (@ 60 Hz), 1080p (@ 50 Hz), 1080i (@ 50 Hz), 720p (@ 60 Hz), 720p (@ 50 Hz), 576p (@ 60 Hz), 576p (@ 50 Hz), 480i (@ 60 Hz)
Panel technology	Dual Layer IPS (Wide Gamut, 10 Bit)
Max. viewing angle horizontal	178
Max. viewing angle vertical	178
Number of colors or greyscale	1024 greyscale (HDMI, from 65000 grey tones), 1024 greyscale (DisplayPort, from 65000 grey tones), 1024 greyscale (SDI, from 65000 grey tones), 1.07 billion colours (HDMI, 24-bit), 1.07 billion colours (DisplayPort, 24-bit), 1.07 billion colours (SDI, 24-bit)
Color palette/look-up table	More than 278 trillion color tones / 24 Bit 3D-LUT
Max. color space (typical)	AdobeRGB (>97%), DCI P3 (99%), Rec709 (100%), sRGB (100%)
HDR Gamma	PQ, HLG
Max. brightness (typical) [in cd/m²]	1000
Max. dark room contrast (typical)	1000000:1
Backlight	LED

CONNECTIONS

Signal inputs	BNC (12G/6G/3G/HD-SDI), 3x BNC (3G/HD-SDI), HDMI (Deep Color, HDCP 1.4/2.2), DisplayPort (HDCP 1.3)
Signal outputs	3 x BNC (3G/HD-SDI, through-out (active)), BNC (12G/6G/3G/HD-SDI, through-out (active))
USB specification	USB 5Gbps (USB 3)
USB upstream ports	1 x type B
USB downstream ports	3 x type A
Graphic signal	DisplayPort, HDMI (RGB, YUV)

FEATURES & OPERATION

Hardware calibration of brightness and luminance characteristics	✓
Integrated sensor for self-calibration	✓
Preset color/greyscale modes	BT.2020, BT.2100 PQ, BT.709, BT.709 PQ, BT.2100 HLG, DCI, DCI PQ, additional memory spaces through calibration, Sync Signal
Temperature color drift correction	✓
Digital Uniformity Equalizer (homogeneity correction)	✓
3D LUT film emulation (10 bit log)	✓
Adjustable front dial	✓
Safe Area Marker	✓
I/P conversion	✓
Noise suppression (HDMI)	✓
RGB and CMYK colour space emulation	✓
HDCP Decoder	✓
Gamut warning	✓
Luminance warning	✓
Blue Only	✓
D65 (CRT) Offset	✓
Time Code (VITC, LTC)	✓
Gamut Clipping	✓
Automatic signal input recognition	✓
On-screen menu languages	de, en, fr, es, it, se
Adjustment options	Signal information, Color Mode, Brightness, Color temperature/White point, Gamma, HLG system gamma, Color saturation, 6 Colors, Scaling, Color matrix YUV/ RGB, Input Range, black level, XYZ Format, Zoom, BT.709 color space warning, Markers (safe area marker, safe area size, format marker, format adjustment, bezel color), Indicator, Skip signal input, Skip color mode, Custom key, Monitor reset, Signal input
Button Guide	✓
Integrated power unit	✓

ELECTRICAL DATA

Frequency	DisplayPort: 25 - 137 kHz, 23 - 61 Hz; HDMI: 15 - 136 kHz, 23 - 61 Hz
Power consumption (typical) [in watts]	282
Maximum Power Consumption [in watts]	463
Max. Power consumption in stand-by mode [in watts]	1.2
Power consumption with power switch off [in watts]	0
Power supply	AC 100-240V, 50/60Hz

DIMENSIONS & WEIGHT

Dimensions (incl. stand) (width x height x depth) [in mm]	757 x 488 x 208
Weight (incl. stand) [in kg]	26.5
Dimension drawing (PDF)	Dimension drawing (PDF)
Tiltability forwards/backwards [in °]	0 / 0

CERTIFICATION & STANDARDS

Certification	CE, CB, TÜV/GS, TÜV/Ergonomics (including ISO 9241-307), RCM, cTÜVus, FCC-A, CAN ICES-3 (B), TÜV/S, PSE, VCCI-A, RoHS, WEEE, EAC

SOFTWARE & ACCESSORIES

Accompanying software and other accessories are available for download	ColorNavigator
Other box contents	Calibration report, Signal cable HDMI - HDMI, Signal cable DisplayPort - DisplayPort, Manual via download, Power cord, Quick guide
Accessories	PM200-K, CP200, PP100-K
Light protection cover	✓

WARRANTY

Warranty periode	5 years
Included warranty	A brightness of at least 800 cd/sqm at a colour temperature of 5000 K to 6500 K is guaranteed for a period of 5 years or 10,000 operating hours, whichever comes first., Zero pixel defects guarantee; no fully illuminated sub-pixels (sub-pixels ISO 9241-307) for six months from date of purchase.

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