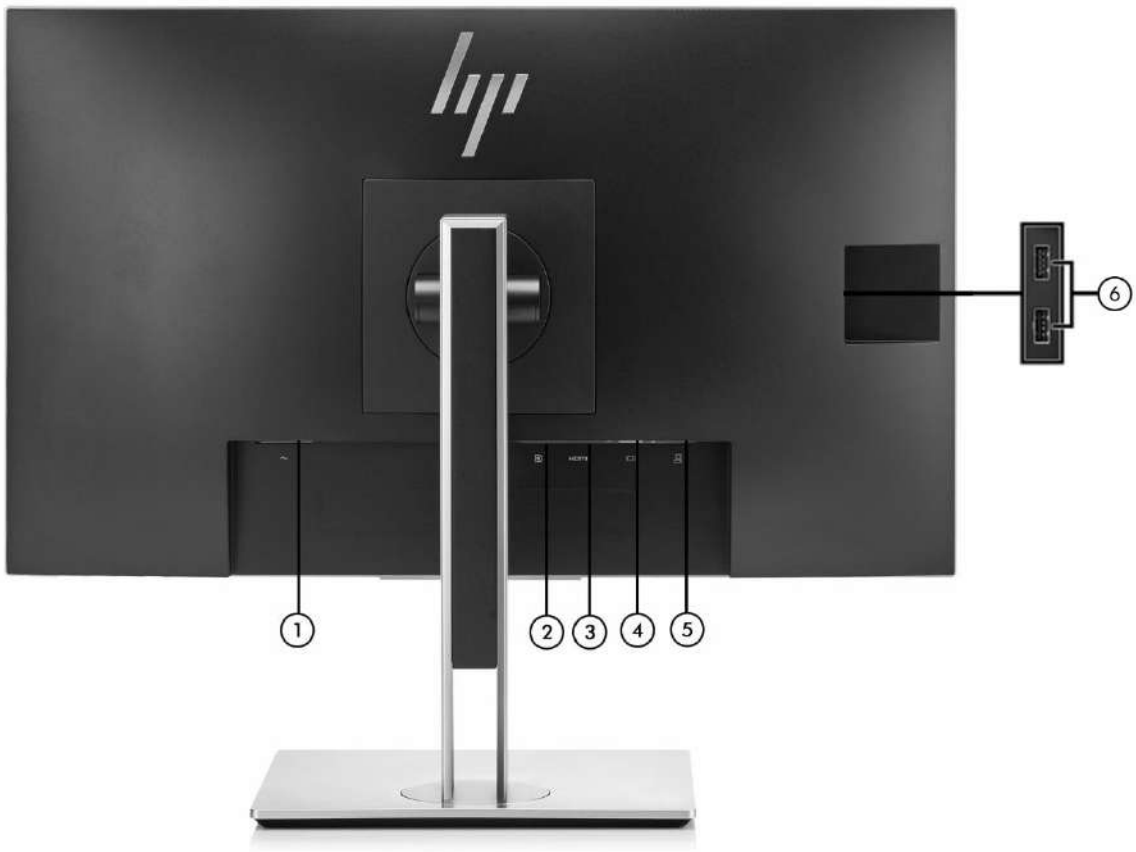
HP EliteDisplay E233 23-inch Monitor



1.	**Power light**	LED: fully powered = white sleep mode = amber sleep timer mode = flashing amber
2.	**Menu**	Press to open the OSD menu, select a menu item from the OSD, or close the OSD menu.
3-5.	**Function buttons**	Use these buttons to navigate through the OSD menu based on the indicators next to the buttons that are activated while the OSD menu is open.
6.	**Power button**	Turns the monitor on or off.

Technical Specifications



1. **Power Connector**
2. **DisplayPort™ 1.2 (input)**
3. **HDMI 1.4**
4. **VGA**
5. **USB 3.0 upstream port**
6. **USB 3.0 downstream port**

Technical Specifications

Models	1FH46A8, 1FH46AA	
Panel	**Type**	23-inch IPS Micro Edge, LED Backlit
	Viewable Image Area (diagonal)	**58,42 cm** (23 in) widescreen; diagonally measured
	Panel Active Area (W x H)	**50,92 x 28,64 cm** (20.05 × 11.28 in.)
	Panel Type	IPS
	Resolution	1920 x 1080 @ 60 Hz
	Aspect Ratio	16:9
	Viewing Angle (typical)	Up to 178° horizontal/178° vertical (10:1 minimum contrast ratio)
	Brightness (typical)*	250 cd/m²
	Contrast Ratio (typical)*	1,000:1
	Dynamic Contrast Ratio (typical)*	5,000,000:1
	Response Time (typical)*	5ms
	Pixel Pitch	0.2652mm
	Backlight Lamp Life (to half brightness)	30,000 hours minimum
	Color Support**	Up to 16.7 million colors with the use of FRC technology
	Color Gamut	NTSC 72%, 94% sRGB
	Surface Hardness	3H
	Flicker Free	Yes
	Low Blue Light Capable	Yes, user selectable in OSD Menu
	Anti-Glare	Yes
	*All performance specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary either higher or lower. ** With the use of FRC technology.	
User Controls	**On Screen Display (OSD) User Controls**	Brightness, Contrast, Color Control, Input Control, Image Control, Power Control, Menu Control, Management, Language, Information, Exit
	Monitor Control Buttons or Switches	Menu/OK, Minus ("-")/Down/Information, Plus ("+") /Up/Viewing Mode Menu, Exit/Back/Next Input Port, Power
	User-Assignable Function Buttons	Yes, 10
	Languages	10 (English, Spanish, German, French, Italian, Netherlands, Portuguese, Japanese, T-Chinese and S-Chinese)
Signal Interface/ Performance	**Horizontal Frequency**	30-80 kHz
	Vertical Frequency	50 - 60 Hz
	Native Resolution	1920 x 1080 @ 60 Hz
	Preset VESA Graphic Modes (non-interlaced)	640 x 480 @ 60Hz 720 x 400 @ 70 Hz 800 x 600 @ 60 Hz 1024 x 768 @ 60 Hz 1280 x 720 @ 60 Hz 1280 x 800 @ 60 Hz 1280 x 1024 @ 60 Hz 1440 x 900 @ 60 Hz 1600 x 900 @ 60 Hz 1680 x 1050 @ 60 Hz 1920 x 1080 @ 60 Hz
	Maximum Pixel Clock Speed	170 MHz
	Default Color Temperature	Neutral (6500)

Technical Specifications

VIDEO/OTHER INPUTS

Connector Types	**DisplayPort™**	(1) DisplayPort™ 1.2
	HDMI	(1) HDMI 1.4
	VGA	(1) VGA
	HDCP support	Yes, HDMI and DisplayPort™
	Audio	N/A
USB Port Specifications	**USB Version**	3.0
	USB Ports	(3) USB 3.0 ports (2 downstream and 1 upstream)
Cables Included	**Video Cables Included**	(1) VGA **1,8 m** (5.9 ft), (1) DisplayPort™ **1,8 m** (5.9 ft)
	USB Cables Included	(1) USB B to A cable **1,8 m** (5.9 ft)

Power	**Power Supply**	Internal
	Input Power	100 – 240 VAC at 50/60 Hz
	Typical Power[1]	19 W
	Maximum Power[2]	36 W
	Energy Saving/Standby Mode	0.5 W
	Power Cable Length	**1,9 m** (6.2 ft)

DIMENSIONS AND WEIGHT

Mechanical	**Dimensions** (W x D x H)	**Unpacked w/stand** (highest setting)	**52,1 x 20.5 x 45,79 cm** (20.51 x 8.07 x 18.02 in)
		Unpacked w/o stand (head only)	**52,1 x 31,17 x 4,47 cm** (20.51 x 12.27 x 1.76 in)
		Packaged	**60,2 x 39 x 26,5 cm** (23.7 x 15.35 x 10.43 in)
	Weight	**Head Only**	**3,29 kg** (7.24 lb)
		Unpacked	**5,64 kg** (12.41 lb)
		Packaged	**8,13 kg** (17.89 lb)

MONITOR FEATURES

Plug and Play	Yes
Color	Silver on facing bezel, side frame, column stand and foot; black on rear cover and stand center trim
Cable Management	Yes, integrated into column stand. Effortlessly route cables through the column stand for easy management of power, video, and USB cables
Detachable Stand	Yes, ships detached
Tilt Range	–5° to + 23° vertical
Swivel Range	45°L to 45°R
Display height adjustment:	Adjustment Range: 150 mm
Pivot Rotation	Yes, 90° clockwise and counter-clockwise
VESA Mounting	Yes, 100 mm with integrated mount
Security Lock-Ready	Yes

ENVIRONMENTAL

Specifications	**Temperature - Operating**	**5° to 35° C** (41° to 95° F)
	Temperature - Non-operating	**–20° to 60° C** (-4° to 140° F)
	Humidity - Operating	20% to 80% Relative Humidity non-condensing
	Humidity - Non-operating	5% to 95%, 38.7° C max wet-bulb
	Altitude - Operating	**0 to 5,000 m** (0 to 16,404 ft)

Technical Specifications

Altitude – Non-operating	**0 to 12,192 m** (0 to 40,000 ft)
White LED Backlights	Yes
CCFL Panel	No
Arsenic-Free Display Glass	Yes
Low Halogen[3]	Yes (except cables)
Mercury-Free Display Backlights	Yes

OPTIONS (Each sold separately)

HP Single Monitor Arm — BT861AA	The flexible design of the HP Single Monitor Arm provides a seemingly endless range of display adjustments with an amazing 13 inches of lift, 50 degrees of tilt, and 360 degrees of pan and rotation – all at your fingertips -- helping you stay comfortable and productive throughout the day.
HP B300 PC Mounting Bracket — 2DW53AA	Attach your HP Workstation, HP Desktop Mini, HP Chromebox or select HP Thin Client directly behind select 2017 and 2018 HP EliteDisplays and HP Z Displays with the HP B300 PC Mounting Bracket.[7]
HP S100 Speaker Bar — 2LC49AA	Add rich stereo sound to select 2017 and 2018 HP ProDisplays, HP EliteDisplays, and HP Z Displays[7] without crowding your desk with the HP S100 Speaker Bar, which fits neatly underneath the display head and connects through USB.
HP HDMI Standard Cable Kit — T6F94AA	Use the cable to connect your desktop to your standard HDMI devices and displays.
HP Quick Release Bracket — EM870AA[6]	An easy-to-use, VESA-compliant, LCD monitor mounting solution that allows you to quickly and securely attach an LCD monitor to a variety of stands, brackets, arms or mounts. For more information, refer to this product's QuickSpecs document.
HP Integrated Work Center for Desktop Mini and Thin Client — G1V61AA	Designed to provide convenient access to the Desktop Mini and select Thin Clients to help maximize the use of limited desk space without compromising performance or productivity. It will support many HP 17 to 24-inch diagonal LCD monitors, with VESA standard mounting brackets. For more information, refer to this product's QuickSpecs document.

Technical Specifications

ENVIRONMENTAL DATA

Eco-Label Certifications & declarations

This product has received or is in the process of being certified to the following approvals and may be labeled with one or more of these marks:

- IT ECO declaration
- US ENERGY STAR®
- TCO Certified Edge
- Based on US EPEAT® registration according to IEEE 1680.1-2018 EPEAT®. Status varies by country. Visit http://www.epeat.net for more information.

Energy Consumption (in accordance with US ENERGY STAR® test method)

	115VAC, 60Hz	230VAC, 50Hz	100VAC, 50Hz
Normal Operation	12.91 W	13.20 W	12.97 W
Sleep	0.19 W	0.25 W	0.18 W
Off	0.17 W	0.23 W	0.16 W

Heat Dissipation*	**115VAC, 60Hz**	**230VAC, 50Hz**	**100VAC, 50Hz**
Normal Operation	44 BTU/hr	45 BTU/hr	44 BTU/hr
Sleep	1 BTU/hr	1 BTU/hr	1 BTU/hr
Off	1 BTU/hr	1 BTU/hr	1 BTU/hr

*NOTE: Heat dissipation is calculated based on the measured watts, assuming the service level is attained for one hour.

Additional Information

- This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive - 2002/95/EC.
- This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive – 2002/96/EC.
- This product is in compliance with California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1986).
- This product is in compliance with the IEEE 1680.1 (EPEAT) standard, see www.epeat.net
- Plastics parts weighing over 25 grams used in the product are marked per ISO 11469 and ISO1043.
- This product contains 38.1% post-consumer recycled plastic (by wt.)
- This product is 99.1% recycle-able when properly disposed of at end of life.

Packaging Materials

External:	PAPER/Corrugated	1496 g
	PAPER/Paper	29 g
Internal:	PLASTIC/Polystyrene Expanded – EPS	617 g
	PLASTIC/Polyethylene low density - LDPE	37 g

RoHS Compliance

HP, Inc. is committed to compliance with all applicable environmental laws and regulations, including the European Union Restriction of Hazardous Substances (RoHS) Directive. HP's goal is to exceed compliance obligations by meeting the requirements of the RoHS Directive on a worldwide basis. By July 1, 2006, RoHS substances will be virtually eliminated (virtually = to levels below legal limits) for all HP electronic products subject to the RoHS Directive, except where it is widely recognized that there is no technically feasible alternative (as indicated by an exemption under the EU RoHS Directive).

Technical Specifications

Material Usage

This product does not contain any of the following substances in excess of regulatory limits (refer to the HP General Specification for the Environment at http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/gse.pdf):

- Asbestos
- Certain Azo Colorants
- Certain Brominated Flame Retardants – may not be used as flame retardants in plastics
- Cadmium
- Chlorinated Hydrocarbons
- Chlorinated Paraffins
- Formaldehyde
- Halogenated Diphenyl Methanes
- Lead carbonates and sulfates
- Lead and Lead compounds
- Mercuric Oxide Batteries
- Nickel – finishes must not be used on the external surface designed to be frequently handled or carried by the user.
- Ozone Depleting Substances
- Polybrominated Biphenyls (PBBs)
- Polybrominated Biphenyl Ethers (PBBEs)
- Polybrominated Biphenyl Oxides (PBBOs)
- Polychlorinated Biphenyl (PCB)
- Polychlorinated Terphenyls (PCT)
- Polyvinyl Chloride (PVC) – except for wires and cables, and certain retail packaging has been voluntarily removed from most applications.
- Radioactive Substances
- Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO)

Packaging

HP follows these guidelines to decrease the environmental impact of product packaging:

- Eliminate the use of heavy metals such as lead, chromium, mercury and cadmium in packaging materials.
- Eliminate the use of ozone-depleting substances (ODS) in packaging materials.
- Design packaging materials for ease of disassembly.
- Maximize the use of post-consumer recycled content materials in packaging materials.
- Use readily recyclable packaging materials such as paper and corrugated materials.
- Reduce size and weight of packages to improve transportation fuel efficiency.
- Plastic packaging materials are marked according to ISO 11469 and DIN 6120 standards.

End-of-life Management and Recycling

Hewlett-Packard offers end-of-life HP product return and recycling programs in many geographic areas. To recycle your product, please go to: http://www.hp.com/go/reuse-recycle or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: http://www.hp.com/go/recyclers. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

HP, Inc. Corporate Environmental Information	For more information about HP's commitment to the environment: Global Citizenship Report http://www.hp.com/hpinfo/globalcitizenship/gcreport/index.html Eco-label certifications http://www.hp.com/hpinfo/globalcitizenship/environment/productdesign/ecolabels.html ISO 14001 certificates: http://h20195.www2.hp.com/V2/GetDocument.aspx?docname=c04755842 and http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/cert.pdf

WHAT'S IN THE BOX?

What's in the box?	**Monitor and Accessories**	HP EliteDisplay E233 23-inch Monitor, AC power cord, HDMI cable (1.8 m length), VGA cable, DisplayPort™ 1.2 cable, USB B to A cable.
	Documentation	CD, documentation
Other	**Software included**	HP Display Assistant
	User Guide Languages	English, Arabic, S. Chinese, T. Chinese, Czech, Danish, Dutch, Finnish, French, German, Greek, Hungarian, Italian, Japanese, Kazakh, Korean, Norwegian, Polish, Brazilian Portuguese, Russian, Slovenian, Spanish, Swedish and Turkish.
	Warranty Languages	English, Arabic, S. Chinese, T. Chinese, Czech, Danish, Dutch, Finnish, French, German, Greek, Hungarian, Italian, Japanese, Kazakh, Korean, Norwegian, Polish, Brazilian Portuguese, Russian, Slovenian, Spanish, Swedish and Turkish.
	Country of Origin	China

CERTIFICATION AND COMPLIANCE

Certification and Compliance	ENERGY STAR®, EPEAT® 2019 Registered[4], CEL Grade 2, Microsoft WHQL Certification (Windows 7,8 and 10), TCO Certified Edge, SmartWay Transport Partnership (NA SKU), CE, CB, MSIP, Mexico COC, ICES, ISO 9241-307, TUS-GS, cTUVus, ISC, CCC, VCCI, FCC, BSMI, WEEE, RCM, ErP, S-mark, Australian-New Zealand MEPS, KC, KCC, PSB, EAC, Vietnam MEPS
Compatibility	Compatible with platforms using the VESA standard video modes. Recommended for use with HP products.
Service and Warranty	Protected by HP, including a 3 year standard limited warranty. Optional HP Care Pack Services are extended service contracts that extend your protection beyond the standard warranties.[5]

Technical Specifications

Copyright © 2019 HP Development Company, L.P.

The information contained herein is subject to change without notice. The only warranties for HP products are set forth in the express limited warranty statements accompanying such products. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

DisplayPort™ and the DisplayPort™ logo are trademarks owned by the Video Electronics Standards Association (VESA®) in the United States and other countries.

Microsoft and Windows are registered trademarks or trademarks of Microsoft Corporation in the U.S. and/or other countries.

ENERGY STAR is a registered trademark owned by the U.S. Environmental Protection Agency.

1. Default Power is measured with factory defaults, including factory default brightness and USB ports loaded at 25% of maximum.
2. Maximum Power is measured with monitor at maximum brightness and with USB ports loaded at 100% of maximum.
3. External power supplies, power cords, cables and peripherals are not Low Halogen. Service parts obtained after purchase may not be Low Halogen.
4. Based on US EPEAT® registration according to IEEE 1680.1-2018 EPEAT®. Status varies by country. Visit http://www.epeat.net for more information.
5. Service levels and response times for HP Care Pack Services may vary depending on your geographic location. Service starts from date of hardware purchase. Restrictions and limitations apply. See www.hp.com/go/cpc for details.
6. The HP Quick Release has been designed to support a maximum of up to 24 lbs (10.9 kg) for all devices mounted. Because mounting surfaces vary widely and the final mounting method and configuration may vary, mounting fasteners are not supplied (other than the VESA-compliant screws). HP recommends that you consult with a qualified engineering, architectural or construction professional to determine the appropriate type and quantity of mounting fasteners required for your application and to ensure that your mounting solution is properly installed to support applied loads.
7. Sold separately. See product QuickSpecs for exact device and display compatibility.

Technical Specifications

Change log			
July 27, 2017	V1 To V2		
August 31, 2017	V1 To V2	Update	“Integrated VESA Mount” and “(included)” removed from in the box and Monitor features sections respectively.
October 9, 2017	V2 to V3	Update	Environmetal Data table added
October 18, 2017	V3 to V4	Update	Dimensions changed on Unpacked w/stand section
February 20, 2019	V4 to V5	Update	HDMI cable (1.8 m length) added to what is in the box? section
May 28, 2019	V5 to V6	Update	EPEAT