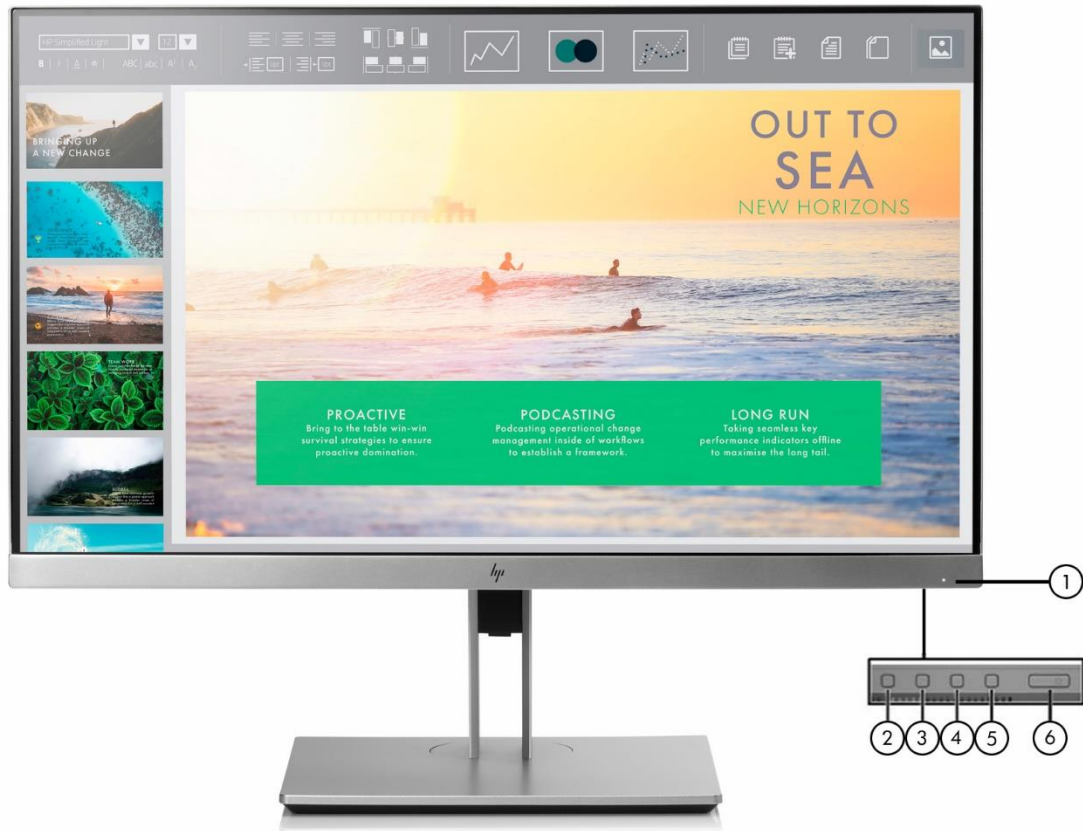


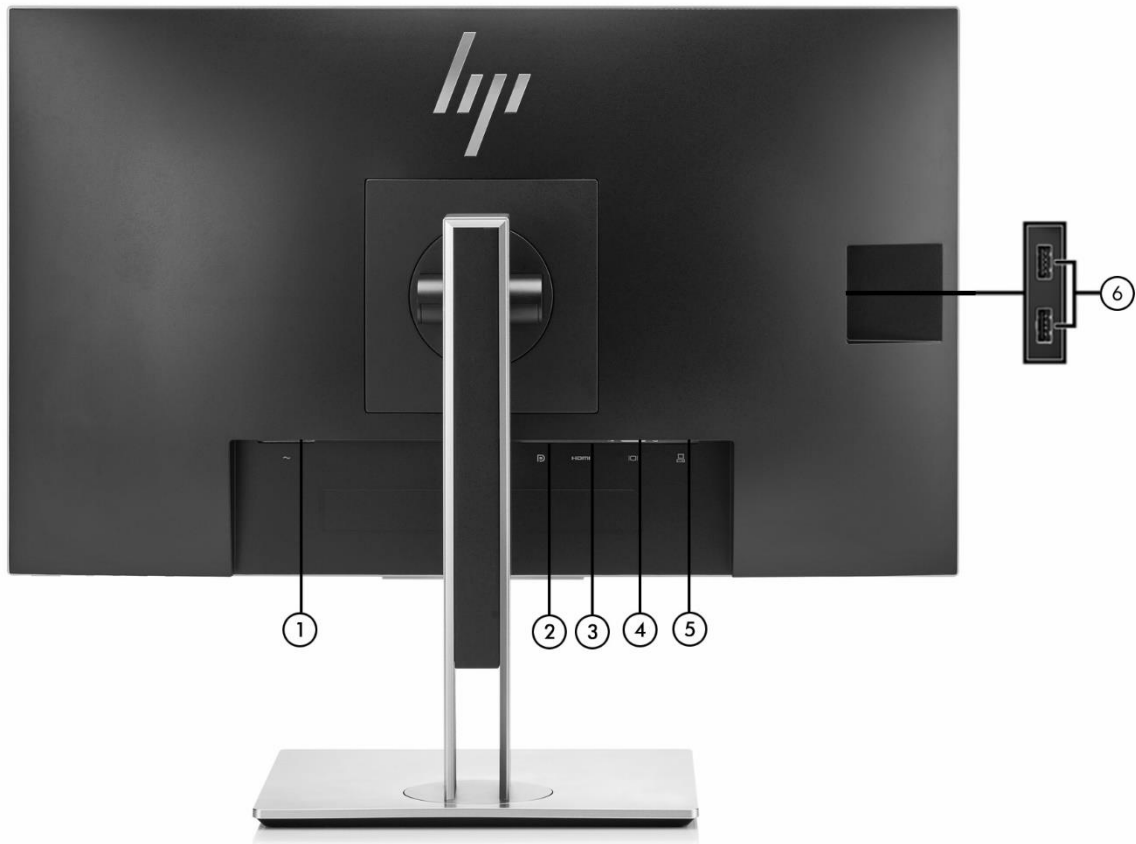
### Technical Specifications

#### 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

<b>Models</b>	1FH46A8, 1FH46AA	
<b>Panel</b>	<b>Type</b>	23-inch IPS Micro Edge, LED Backlit
	<b>Viewable Image Area (diagonal)</b>	<b>58,42 cm</b> (23 in) widescreen; diagonally measured
	<b>Panel Active Area (W x H)</b>	<b>50,92 x 28,64 cm</b> (20.05 × 11.28 in.)
	<b>Panel Type</b>	IPS
	<b>Resolution</b>	1920 x 1080 @ 60 Hz
	<b>Aspect Ratio</b>	16:9
	<b>Viewing Angle (typical)</b>	Up to 178° horizontal/178° vertical (10:1 minimum contrast ratio)
	<b>Brightness (typical)*</b>	250 cd/m <sup>2</sup>
	<b>Contrast Ratio (typical)*</b>	1,000:1
	<b>Dynamic Contrast Ratio (typical)*</b>	5,000,000:1
	<b>Response Time (typical)*</b>	5ms
	<b>Pixel Pitch</b>	0.2652mm
	<b>Backlight Lamp Life (to half brightness)</b>	30,000 hours minimum
	<b>Color Support**</b>	Up to 16.7 million colors with the use of FRC technology
	<b>Color Gamut</b>	NTSC 72%, 94% sRGB
	<b>Surface Hardness</b>	3H
	<b>Flicker Free</b>	Yes
	<b>Low Blue Light Capable</b>	Yes, user selectable in OSD Menu
	<b>Anti-Glare</b>	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.	
<b>User Controls</b>	<b>On Screen Display (OSD) User Controls</b>	Brightness, Contrast, Color Control, Input Control, Image Control, Power Control, Menu Control, Management, Language, Information, Exit
	<b>Monitor Control Buttons or Switches</b>	Menu/OK, Minus ("-")/Down/Information, Plus ("+") /Up/Viewing Mode Menu, Exit/Back/Next Input Port, Power
	<b>User-Assignable Function Buttons</b>	Yes, 10
	<b>Languages</b>	10 (English, Spanish, German, French, Italian, Netherlands, Portuguese, Japanese, T-Chinese and S-Chinese)
<b>Signal Interface/ Performance</b>	<b>Horizontal Frequency</b>	30-80 kHz
	<b>Vertical Frequency</b>	50 - 60 Hz
	<b>Native Resolution</b>	1920 x 1080 @ 60 Hz
	<b>Preset VESA Graphic Modes (non-interlaced)</b>	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
	<b>Maximum Pixel Clock Speed</b>	170 MHz
	<b>Default Color Temperature</b>	Neutral (6500)

### Technical Specifications

#### VIDEO/OTHER INPUTS

<b>Connector Types</b>	<b>DisplayPort™</b>	(1) DisplayPort™ 1.2
	<b>HDMI</b>	(1) HDMI 1.4
	<b>VGA</b>	(1) VGA
	<b>HDCP support</b>	Yes, HDMI and DisplayPort™
	<b>Audio</b>	N/A
<b>USB Port Specifications</b>	<b>USB Version</b>	3.0
	<b>USB Ports</b>	(3) USB 3.0 ports (2 downstream and 1 upstream)
<b>Cables Included</b>	<b>Video Cables Included</b>	(1) VGA <b>1,8 m</b> (5.9 ft), (1) DisplayPort™ <b>1,8 m</b> (5.9 ft)
	<b>USB Cables Included</b>	(1) USB B to A cable <b>1,8 m</b> (5.9 ft)
	<b>Power Supply</b>	Internal
<b>Power</b>	<b>Input Power</b>	100 – 240 VAC at 50/60 Hz
	<b>Typical Power<sup>1</sup></b>	19 W
	<b>Maximum Power<sup>2</sup></b>	36 W
	<b>Energy Saving/Standby Mode</b>	0.5 W
	<b>Power Cable Length</b>	<b>1,9 m</b> (6.2 ft)

#### DIMENSIONS AND WEIGHT

<b>Mechanical</b>	<b>Dimensions (W x D x H)</b>	<b>Unpacked w/stand</b> (highest setting)	<b>52,1 x 21,8 x 45,79 cm</b> (20.51 x 8.58 x 18.02 in)
		<b>Unpacked w/o stand</b> (head only)	<b>52,1 x 31,17 x 4,47 cm</b> (20.51 x 12.27 x 1.76 in)
		<b>Packaged</b>	<b>60,2 x 39 x 26,5 cm</b> (23.7 x 15.35 x 10.43 in)
<b>Weight</b>		<b>Head Only</b>	<b>3,29 kg</b> (7.24 lb)
		<b>Unpacked</b>	<b>5,64 kg</b> (12.41 lb)
		<b>Packaged</b>	<b>8,13 kg</b> (17.89 lb)

#### MONITOR FEATURES

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

#### ENVIRONMENTAL

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

### Technical Specifications

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

### OPTIONS (Each sold separately)

<b>HP Single Monitor Arm — BT861AA</b>	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.
<b>HP B300 PC Mounting Bracket — 2DW53AA</b>	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. <sup>7</sup>
<b>HP S100 Speaker Bar — 2LC49AA</b>	Add rich stereo sound to select 2017 and 2018 HP ProDisplays, HP EliteDisplays, and HP Z Displays <sup>7</sup> without crowding your desk with the HP S100 Speaker Bar, which fits neatly underneath the display head and connects through USB.
<b>HP HDMI Standard Cable Kit — T6F94AA</b>	Use the cable to connect your desktop to your standard HDMI devices and displays.
<b>HP Quick Release Bracket — EM870AA<sup>6</sup></b>	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.
<b>HP Integrated Work Center for Desktop Mini and Thin Client — G1V61AA</b>	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
- EPEAT® Gold registered in the United States. See <http://www.epeat.net> for registration status in your country. Search keyword *generator* on HP's 3rd party option store for solar energy accessory at <http://www.hp.com/go/options>.

##### 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 (EPEAT) standard at the gold level, see [www.epeat.net](http://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

<b>External:</b>	PAPER/Corrugated	1496 g
	PAPER/Paper	29 g
<b>Internal:</b>	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 (PBEBs)
- 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.

### Technical Specifications

#### 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?

<b>What's in the box?</b>	<b>Monitor and Accessories</b>	HP EliteDisplay E233 23-inch Monitor, AC power cord, VGA cable, DisplayPort™ 1.2 cable, USB B to A cable.
	<b>Documentation</b>	CD, documentation
<b>Other</b>	<b>Software included</b>	HP Display Assistant
	<b>User Guide Languages</b>	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.
	<b>Warranty Languages</b>	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.
	<b>Country of Origin</b>	China

#### CERTIFICATION AND COMPLIANCE

<b>Certification and Compliance</b>	ENERGY STAR®, EPEAT® Gold <sup>4</sup> , 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
<b>Compatibility</b>	Compatible with platforms using the VESA standard video modes. Recommended for use with HP products.
<b>Service and Warranty</b>	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. <sup>5</sup>



### Technical Specifications

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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. EPEAT® registered where applicable/supported. EPEAT registration varies by country. See [www.epeat.net](http://www.epeat.net) for registration status by country.
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 <http://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.

