Overview

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HP Z23n 23-inch Narrow Bezel IPS Display
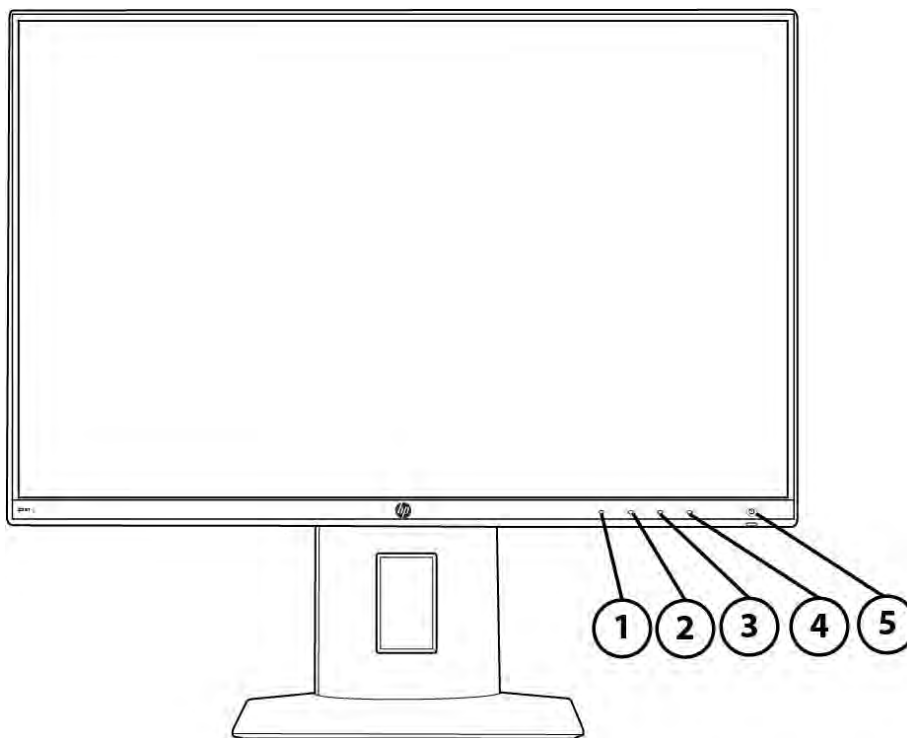
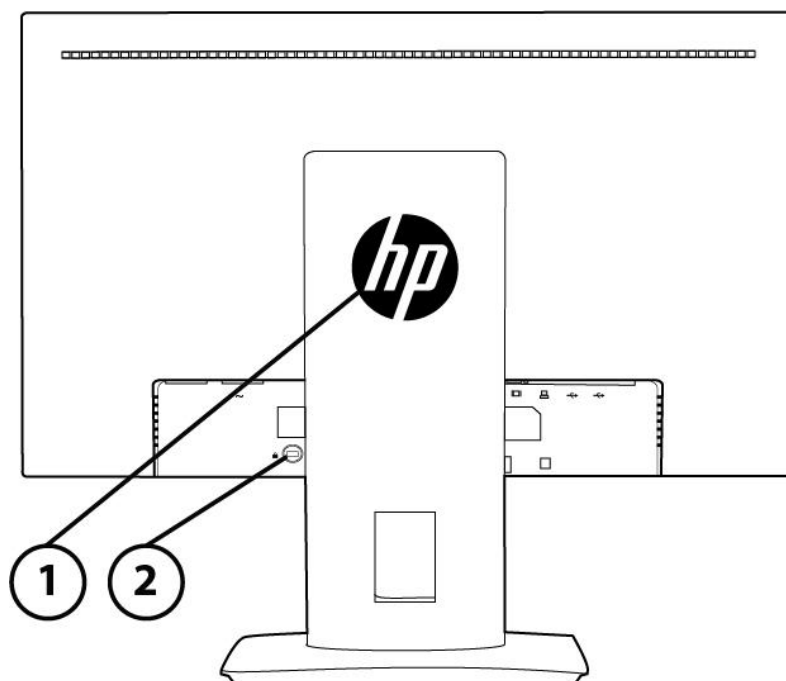|			
1.	Menu button	**4.**	OK/Auto
2.	Minus ("-")	**5.**	Power button/LED
3.	Plus ("+") /Input Control		
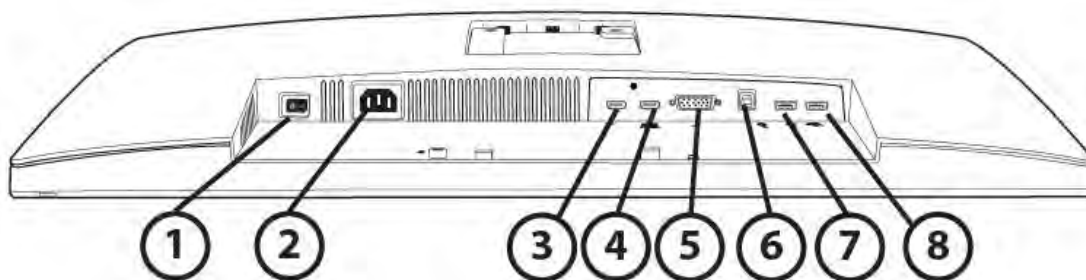
1.	Master power switch	**5.**	VGA
2.	Power connector	**6.**	USB 2.0 upstream port
3.	DisplayPort v 1.2	**7.**	USB 2.0 downstream port
4.	HDMI	**8.**	USB 2.0 downstream port

Overview

1.	VESA mounting pattern behind stand	**2.**	Security lock slot

Overview

Create an immersive, virtually seamless multi-display view with the HP Z23n Narrow Bezel IPS Display, which is practically borderless on three sides. It's also factory calibrated for color accuracy between projects and displays and includes flexible device connectivity.

Key features:

- Experience extended views with IPS technology and a panel that is nearly borderless on three sides.
- Deliver optimal color quality across your entire user base with a factory-calibrated 96% sRGB color gamut.[1]
- Keep your PC and device connections close by with integrated HDMI, VGA, DisplayPort, and two USB ports.
- Find your sweet spot with customizable tilt, height adjustment, swivel, and pivot settings.
- Attach your HP PC or select HP Thin Client directly behind the display.[2]
- Design the screen for how you work, adjust brightness on multiple displays, define and distribute custom settings with an executable file, and deter theft with HP Display Assistant software.
- Reduce power consumption and help lower your costs with an energy-efficient design.
- Get a three-year limited warranty, optional HP Care Pack[3], and an HP Pixel Defect Policy that will replace the screen if even one bright subpixel fails.[4]

1 All performance specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary either higher or lower.

Overview

2 Requires HP PC Mounting Bracket for Monitors, sold separately. See product QuickSpecs for exact PC and thin client compatibility.

3 Service levels and response times for HP Care Packs may vary depending on your geographic location. Service starts on date of hardware purchase. Restrictions and limitations apply. For details, visit www.hp.com/go/cpc. HP Services are governed by the applicable HP terms and conditions of service provided or indicated to Customer at the time of purchase. Customer may have additional statutory rights according to applicable local laws, and such rights are not in any way affected by the HP terms and conditions of service or the HP Limited Warranty provided with your HP Product.

4 The HP Pixel Policy allows no bright sub-pixel defects for this display. For complete details, see http://support.hp.com/us-en/document/c00288895

QuickSpecs

Technical Specifications

Models: M2J79A4

Panel		
	Type	23-inch diagonal IPS w/LED backlight
	Viewable Image Area (diagonal)	**58,42 cm** (23 in) widescreen; diagonally measured
	Panel Active Area (W × H)	**509,184 x 286,416 mm** (20.04 x 11.27 in)
	Resolution	1920 x 1080 @ 60 Hz
	Aspect Ratio	16:9
	Viewing Angle	Up to 178° horizontal/178° vertical typical
	Brightness	250 cd/m²
	Contrast Ratio (Typical)	1000:1 Static; 5,000,000:1 Dynamic (DCR)
	Response Times	7 ms - gray to gray
	Pixel Pitch	0.24795 x0.24795 mm
	Pixels Per Inch (PPI)	95.78
	Backlight Lamp Life (to half brightness)	30,000 hours minimum
	Color Gamut	Up to 16.7 million colors with the use of FRC technology
	Color Gamut (Typical)	96% sRGB

Note: Performance specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary either higher or lower.

User Controls		
	Buttons or Switches	Menu, Minus ("-"), Plus ("+") /Input Control, OK/Auto, Power
	User Programmable Modes	Yes, 10
	Languages	10 (English, Spanish, German, French, Italian, Netherlands, Portuguese, Japanese, T-Chinese and S-Chinese)
	On Screen Display (OSD) User Controls	Brightness, Contrast, Color, Image Control, OSD control, Management, Language, Information, Factory Reset, Input Control, Power Control

Signal Interface/ Performance		
	Horizontal Frequency	30 - 80 kHz
	Vertical Frequency	50 - 60 Hz
	Native Resolution	1920 x 1080 @ 60Hz
	Preset Graphic Modes (non-interlaced)	640 x 480 @ 60Hz 800 x 600 @ 60Hz 1024 x 768 @ 60Hz 1280 x 720 @ 60Hz 1600 x 900 @ 60Hz 1680 x 1050 @ 60Hz

Technical Specifications

		1440 x 900 @ 60Hz 1280 x 800 @ 60Hz 1280 x 1024 @ 60Hz 1920 x 1080 @ 60Hz	
	Maximum Pixel Clock Speed	170 MHz	
	Anti-Glare	Yes	
Video/Other Inputs	**Plug and Play**	Yes	
	Input/Output Connectors	(1) VGA	
		(1) HDMI	
		(1) DisplayPort 1.2	
	USB	Yes; (3) USB 2.0	
		(Two downstream and one upstream)	
	HDCP Support	Yes, on HDMI and DisplayPort	
	Video Cables Included	DisplayPort **1,8 m** (5.9 ft) ; USB **1,8 m** (5.9 ft)	
	Audio	N/A	
Multimedia	**Speakers**	N/A	
Power	**Power Supply**	Internal	
	Input Power	100 – 240 VAC 50/60 Hz	
	Maximum Power	35 W	
	Typical Power	23 W	
	Sleep Power	0.5W (standby)	
	Power Cable Length	**1,9 m** (6.2 ft)	
Mechanical	**Dimensions** (W × D × H)	**Unpacked w/stand**	**52,08 x 18,9 x 48,66 cm** 20.5 x 7.44 x 19.16 in
		Unpacked w/o stand (head only)	**52,08 x 5,23 x 31,2 cm** 21.28 x 1.99 x 12.74 in
		Packaged	**62 x 25,1 x 40,2 cm** 24.4 x 9.88 x 15.83 in
	Weight	**Head Only**	**3 kg** (6.61 lb)
		Unpacked	**5 kg** (11.02 lb)
		Packaged	**7,1 kg** (15.65 lb)
Ergonomic Features	**Detachable Stand**	Yes	
	Height Adjustment	150 mm	
	Tilt Range	-5° to +30°	
	Swivel	Yes, -45° to +45°	
	Pivot	Yes	

QuickSpecs

Technical Specifications

Environmental		
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% non-condensing	
Humidity - Non-operating	5% to 95%	
Altitude - Operating	**0 to 5,000 m** (0 to 16,400 ft)	
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[1]	Yes	
Mercury-Free Display Backlighting	Yes, Mercury-free LED backlighting	
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 6 or TCO Certified Edge
- EPEAT® < Gold> registered in the United States. See http://www.epeat.net for registration status in your country

Energy Consumption (in accordance with US ENERGY STAR® test method)	**115VAC, 60Hz**	**230VAC, 50Hz**	**100VAC, 60Hz**
Normal Operation	14.32 W	14.54 W	14.37 W
Sleep	0.32 W	0.35 W	0.32 W
Off	0.2 W	0.26 W	0.2 W
Heat Dissipation*	**115VAC, 60Hz**	**230VAC, 50Hz**	**100VAC, 60Hz**
Normal Operation	49 BTU/hr	50 BTU/hr	49 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.

Technical Specifications

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 • Plastics parts weighing over 25 grams used in the product are marked per ISO 11469 and ISO1043. • This product contains 46.7 % post-consumer recycled plastic (by wt.) • This product is 98.2 % recycle-able when properly disposed of at end of life.		
Packaging Materials	**External:**	PAPER/ Cardboard & misc	820 g
	Internal:	PLASTIC/EPS (Expanded Polystyrene)	183 g
		PLASTIC/Polyethylene low density	30 g
RoHS Compliance	Hewlett-Packard 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.

Technical Specifications

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.	

Hewlett-Packard 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://www.hp.com/hpinfo/globalcitizenship/environment/operations/envmanagement.html	

Options	**HP LCD Speaker Bar**— Part number NQ576AA	Powered directly by the connected PC, the Speaker Bar seamlessly attaches to the monitor's lower bezel to bring full audio support to select HP flat panel monitors. Features include dual speakers with full sound range and dual external headphone jacks. Sold separately. For more information, refer to the product's QuickSpecs.
	HP Single Monitor Arm—Part number 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, 75 degrees of tilt, and 360 degrees of pan and rotation – all at your fingertips -- helping you stay comfortable and productive throughout the day.
	HP Adjustable Dual Display Stand—Part Number AW664AA	Use two external displays up to 24 inches in size at once to increase productivity. Either or both displays can be rotated to landscape or portrait orientation. Adjust your computer screen to a comfortable eye level - Dual-hinged design allows for greater depth, height and tilt and angle adjustment for maximum comfort.
	HP PC Mounting Bracket for Monitors—Part Number N6N00AA	Customize an altogether better solution with the HP PC Mounting Bracket for Monitors, which lets you attach your HP Desktop Mini, HP Chromebox, or select HP Thin Client directly behind select HP Z Displays and EliteDisplays.

Technical Specifications

	HP Quick Release Bracket— Part number EM870AA[4]	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 wall mounts. For more information, refer to this product's QuickSpecs document.
	HP UHD USB Graphics Adapter—Part Number N2U81AA	Boost your productivity by extending or mirroring your desktop to a UHD display[6] with the HP UHD USB Graphics Adapter.
	HP Business PC Security Lock v2 Kit — Part number N3R93AA[4]	Help prevent chassis tampering and secure your PC and display in workspaces and public areas. Simply route the cable through the PC's lock slot and your display, anchor to a desk, table, or other fixed surface, and lock with your individual key.
What's in the box?	**Monitor and Accessories**	HP Z23n 23-inch Narrow Bezel IPS Display AC power cord **1,9 m** (6.2 ft) USB cable **1,8 m** (5.9 ft) DisplayPort Cable **1,8 m** (5.9 ft)
What's in the box?	**Documentation**	CD (includes user guide, warranty, drivers)
	Software	HP Display Assistant
Other	**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.
	Color	Black
	VESA Mounting	100 mm
	Security Lock-Ready	Yes
	Country of Origin	China
Certification and Compliance	ENERGY STAR®, EPEAT® Gold[2], TCO Certified Edge, TCO, China Energy Label Grade 1, CCE, CB, KC, KCC, NOM, PSB, ICE, TUV-S, GS, ISO 9241-307, Australian-New Zealand MEPS, CCC, CECP, SEPA, EPA, ISC, VCCI, FCC, Taiwan: BSMI, SmartWay Transport Partnership - NA only, Microsoft WHQL Certification (Windows 8.1, Windows 8, Windows 7)	
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.[3]	

Technical Specifications

1. Power cords, cables and peripherals are not Low Halogen. Service parts obtained after purchase may not be Low Halogen.
2. EPEAT® registered where applicable. EPEAT® registration varies by country. See www.epeat.net for registration status in your country.
3. 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.
4. 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.
5. HP Security Cable locks are designed, tested, and proven to be an economical and effective deterrent to help prevent opportunistic theft. While HP Security Cable locks help protect supported computer equipment from theft, they are not designed to provide impervious protection and should not be relied on as the sole security solution for your equipment. HP Security Cable locks are only one of several methods that should be employed as part of a complete security solution to help maximize theft protection.
6. Driver required. Driver included on CD. Available for download from www.hp.com. Display sold separately.

Change Log

Date of change:	Version History:		Description of change:
March 16, 2016	From v1 to v2	Added	Model M2J79AA, and replace it with M2J79A4
May 16, 2016	From v2 to v3	Update	Updated Environmental Data values