

Technical Specifications

HP N223 21.5-inch Monitor



1. Menu
2. Minus (" - ")
3. Plus (" + ")
4. OK
5. Power button

6. Security lock slot
7. HDMI
8. VGA
9. Power connector

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Models: 3ML60A / 3WP71A

Panel	Type	21.5-inch, TN
	Viewable Image Area (diagonal)	54,61 cm (21.5-inches) widescreen; diagonally measured
	Panel Active Area (W x H)	47,7 x 26,8 cm (18.76 x 10.55 in)
	Resolution	1920 x 1080 @ 60 Hz
	Aspect Ratio	16:9
	Viewing Angle	Up to 90° horizontal / 65° vertical typical
	Brightness*	250 cd/m ²
	Contrast Ratio*	450:1 Static (minimum); 600:1 Static (Typical); 10,000,000:1 Dynamic (DCR)
	Response Times*	5 ms
	Pixel Pitch	.248 x .248 mm
	Pixels Per Inch (PPI)	102
	Pixel Clock	170 MHz
	Backlight Lamp Life (to half brightness)	30,000 hours minimum
	Panel Bit Depth	8 bit (6-Bit + Hi FRC)
	Color Gamut (Typical)	72% (NTSC)
Default Color Temperature	6500K	
<p>* All performance specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary either higher or lower.</p>		
User Controls	Buttons or Switches	Menu, Minus ("-"), Plus ("+") / Input Control, Power
	User-Assignable Function Buttons	Yes, 3 (6 options)
	On Screen Display (OSD) User Controls	Brightness, Contrast, Color Control, Input Control, Image Control, Power Control, Menu Control, Management, Language, Information, Exit
	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 Graphic Modes (non-interlaced)	640 x 480 @ 60Hz
		720 x 400 @ 70Hz
800 x 600 @ 60Hz		
1024 x 768 @ 60Hz		
	1280 x 720 @ 60Hz	
	1280 x 800 @ 60Hz	

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1280 x 1024@ 60Hz
 1440 x 900 @ 60 Hz
 1600 x 900 @ 60Hz
 1680 x 1050@ 60 Hz
 1920 x 1080 @ 60Hz

Video/Other Inputs	Anti-Glare	Yes	
	Plug and Play	Yes	
	Input Connectors	(1) VGA, (1) HDMI (HDCP support)	
	Video Cables Included	(1) VGA cable 1,5 m (4.9 ft)	
Power	Power Supply	Internal	
	Input Power	100 - 240 VAC 50/60 Hz	
	Maximum Power	20 W	
	Typical Power	18 W	
	Sleep Power	0.5 W	
	Power Cable Length	1,9 m (6.23 ft)	
	Mechanical	Dimensions (W × D × H)	Unpacked with stand
Unpacked without stand (head only)			50.40 X 20.12 X 38.3 cm (19.84 X 7.92 X 15.08 in)
Packaged			56.30 X 11.90 X 44.70 cm (22.16 X 4.69 X 17.60 in)
Weight		Head Only	2.46 kg (5.42 lb)
		Unpacked with stand	2.60 kg (5.73 lb)
		Packaged	3.70 kg (8.16 lb)
Ergonomic Features Not available on head only model		Detachable Stand	Yes, ships detached
		Height Adjustment	N/A
		Tilt Range	-5° to + 15° vertical
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 5000 m (0 to 16,400 ft)	
	Altitude - Non-operating	0 to 12,192 m (0 to 40,000 ft)	
	White LED Backlights	Yes	

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	Arsenic-Free Display Glass	Yes
	Mercury-Free Display Backlighting	Yes
Options	HP Business PC Security Lock Kit Part number PV606AA	Attaches to the rear of the PC with a six-foot steel cable that can be used to secure a PC or peripherals such as mice, keyboards, monitors or USB security devices to protect them against unauthorized removal by physically connecting the system to an anchor point.
What's in the box?	Monitor and Accessories	HP N223 21.5-inch Monitor AC power cord 1,9 m (6.23 ft) VGA cable 1,5 m (4.9 ft)
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 VESA mount
	Security Lock-Ready	Yes
	Country of Origin	China
Certification and Compliance	3 CE,CB,KC/KCC/NOM/PSB/ICE/TUV-S/ISO 9241-307/EAC/UL/CSA/PSB/ISC/CCC/CEL/CECP/SEPA/Energy Star/VCCI/FCC/BSMI/Vietnam MEPS/Australian-New Zealand MEPS/WEEE	
Compatibility	Recommended for use with HP products.	
Service and Warranty	Protected by HP, including a 3 year standard limited warranty (may vary by region). Optional HP Care Pack Services are extended service contracts that extend your protection beyond the standard warranties.	

1. External power supplies, power cords, cables and peripherals are not Low Halogen. Service parts obtained after purchase may not be Low Halogen.

2. HP Care Packs are optional. 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.

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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: <ul style="list-style-type: none"> IT ECO declaration US ENERGY STAR® 		
	Energy Consumption (in accordance with US ENERGY STAR® test method)	115VAC, 60Hz	230VAC, 50Hz	100VAC, 50Hz
	Normal Operation	12.03 W	11.94 W	11.97 W
	Sleep	0.13 W	0.13 W	0.13 W
	Off	0.09 W	0.13 W	0.09 W
	Heat Dissipation*	115VAC, 60Hz	230VAC, 50Hz	100VAC, 50Hz
	Normal Operation	41 BTU/hr	40 BTU/hr	41 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	<ul style="list-style-type: none"> 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). Plastics parts weighing over 25 grams used in the product are marked per ISO 11469 and ISO1043. This product is 98.3% recycle-able when properly disposed of at end of life. 		
	Packaging Materials	External:	PAPER/Corrugated	485 g
		Internal:	PLASTIC/Polystyrene Expanded - EPS	98 g
			PLASTIC/Polyethylene low density - LDPE	28 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).			

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	<p>Material Usage</p>	<p>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):</p> <ul style="list-style-type: none"> • 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)
	<p>Packaging</p>	<p>HP follows these guidelines to decrease the environmental impact of product packaging:</p> <ul style="list-style-type: none"> • 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.
	<p>End-of-life Management and Recycling</p>	<p>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.</p>

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

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Change Log

Change Log	
3/27/18	Updated unpacked with stand" dimensions
3/27/18	Updated certification and compliance" listing
3/27/18	Updated Warranty to 3/3/0
3/30/ 18	Updated Warranty and box section
7/16/18	Updated Certifications and compliance
11/27/18	Added Environmental tab
5/22/19	EPEAT Removal