

### Overview

#### HP 250 G6 Notebook PC



#### Front

- |                            |                               |
|----------------------------|-------------------------------|
| 1. Webcam LED              | 8. USB 3.1 (Gen 1) port       |
| 2. Webcam                  | 9. HDMI port                  |
| 3. Microphone              | 10. RJ-45/Ethernet port       |
| 4. Touchpad                | 11. VGA port                  |
| 5. Touchpad buttons        | 12. AC plug LED               |
| 6. Audio in/out combo jack | 13. AC Smart Pin adapter plug |
| 7. USB 3.1 (Gen 1) port    | 14. Power button              |

### Overview



#### Right

- |   |                             |
|---|-----------------------------|
| 1. Webcam LED                                 | 7. SD Card slot             |
| 2. Webcam                                     | 8. Hard drive indicator LED |
| 3. Microphone                                 | 9. Power indicator LED      |
| 4. Security lock slot (Locks sold separately) | 10. Touchpad buttons        |
| 5. Optical drive (optional)                   | 11. Touchpad                |
| 6. USB 2.0 port                               | 12. Power button            |

### Overview

#### AT A GLANCE

- Windows 10 versions, FreeDOS 2.0
- Choice of the latest Intel® Core™, Intel® Pentium®, or Intel® Celeron® processors
- Intel® HD Graphics
- New Dark Ash Silver color with a fresh woven texture
- Display choices include: 15.6" diagonal HD
- Choice of hard drives up to 1 TB or M.2 SATA solid state drives up to 512 GB
- Weight starting at: 4.1 lbs (1.86 kg)
- Security features including FW TPM 2.0 and security lock slot (Lock not included)
- Keyboard
  - Full size textured island-style keyboard with numeric pad on the HP 250 G6"
- Touchpad with gestures support
- HP webcam with single digital microphone and HD (supporting WDR- Wide Dynamic Range) or VGA camera
- Two USB 3.1 (Gen 1) ports and One USB 2.0 port
- Wireless LAN (WLAN) up to 2x2 802.11ac to keep you connected

**NOTE: See important legal disclosures for all listed specs in their respective features sections.**

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### Features

## PRODUCT NAME

HP 250 G6 Notebook PC

## OPERATING SYSTEM

<b>Preinstalled OS</b>	Windows 10 Pro 64 <sup>1</sup> Windows 10 Pro 64 (National Academic only) <sup>1</sup> Windows 10 Home 64 <sup>1</sup> Windows 10 Home Single Language 64 <sup>1</sup> FreeDOS 2.0
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**NOTE 1:** Not all features are available in all editions or versions of Windows. Systems may require upgraded and/or separately purchased hardware, drivers, software or BIOS update to take full advantage of Windows functionality. Windows 10 is automatically updated, which is always enabled. ISP fees may apply and additional requirements may apply over time for updates. See <http://www.windows.com/>.

## PROCESSOR

Intel® Core™ i7-7500U with Intel® HD Graphics 620 (2.7 GHz, up to 3.5 GHz with Intel Turbo Boost Technology, 4 MB cache, 2 cores) <sup>2,3</sup>

Intel® Core™ i5-7200U with Intel® HD Graphics 620 (2.5 GHz, up to 3.1 GHz with Intel Turbo Boost Technology, 3 MB cache, 2 cores) <sup>2,3</sup>

Intel® Core™ i3-7020U with Intel® HD Graphics 620 (2.5 GHz, up to 3.1 GHz with Intel® Turbo Boost Technology, 3 MB cache, 2 cores)

Intel® i3-6006U with Intel® HD Graphics 520 (2 GHz, 3 MB cache, 2 cores) <sup>2</sup>

Intel® Pentium® N5000 with Intel® HD Graphics 605 (1.1 GHz, up to 2.7 GHz, 4 MB cache, 4 cores)

Intel® Pentium® N3710 with Intel® HD Graphics 405 (1.6 GHz, up to 2.56 GHz, 2 MB cache, 4 cores) <sup>2</sup>

Intel® Celeron® N4000 with Intel® HD Graphics 600 (1.1 GHz, up to 2.6 GHz, 4 MB cache, 2 cores)

Intel® Celeron® N3060 with Intel® HD Graphics 400 (1.6 GHz, up to 2.48 GHz, 2 MB cache, 2 cores) <sup>2</sup>

### Processor Family

7th Generation Intel® Core™ i7 processor (7500U model)

7th Generation Intel® Core™ i5 processor (7200U model)

6th Generation Intel® Core™ i3 processor (6006U model)

Intel Braswell processor (Pentium N3710, Celeron N3060)

**NOTE 2:** Multicore is designed to improve performance of certain software products. Not all customers or software applications will necessarily benefit from use of this technology. Performance and clock frequency will vary depending on application workload and your hardware and software configurations. Intel's numbering is not a measurement of higher performance.

**NOTE 3:** In accordance with Microsoft's support policy, HP does not support the Windows 8 or Windows 7 operating system on products configured with Intel and AMD 7th generation and forward processors or provide any Windows 8 or Windows 7 drivers on <http://www.support.hp.com>.

### Features

#### **CHIPSET**

Chipset is integrated with processor

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### Features

## GRAPHICS

### Integrated

Intel® HD Graphics 620 <sup>4</sup>

Intel® HD Graphics 405 <sup>4</sup>

Intel® HD Graphics 400 <sup>4</sup>

### Supports

HD Decode, DX12, and HDMI<sup>7</sup>

**NOTE 4:** HD content required to view HD images.

**NOTE 5:** AMD Dynamic Switchable Graphics technology requires an Intel processor, plus an AMD Radeon™ discrete graphics configuration and is not available on FreeDOS. With AMD Dynamic Switchable Graphics technology, full enablement of all discrete graphics video and display features may not be supported on all systems (e.g. OpenGL applications will run on the integrated GPU or the APU as the case may be).

**NOTE 6:** Available on select processors.

**NOTE 7:** Cables sold separately.

## DISPLAY

### Internal

39.6 cm (15.6") diagonal HD SVA eDP anti-glare slim WLED (1366 x 768) <sup>4,8</sup>

**NOTE 4:** HD content required to view HD images.

**NOTE 8:** Resolutions are dependent upon monitor capability, and resolution and color depth settings.

## STORAGE AND DRIVES

### Primary Storage

Support all 7.2mm/9.5mm, SATA 2.5" Hard Drives

1 TB SATA 5400 rpm SATA (7.2/9.5 mm) <sup>9</sup>

500 GB SATA 5400 rpm SATA (7 mm) <sup>9</sup>

500 GB SATA 7200 rpm SATA (7 mm) <sup>9</sup>

### M.2 SATA-3 Solid State Drives

128 GB M.2 SATA SSD <sup>9</sup>

256 GB M.2 SATA SSD <sup>9</sup>

512 GB M.2 SATA SSD <sup>9</sup>

### Optical Drive

Optional DVD+/-RW Double-Layer Writer <sup>10,11</sup>

**NOTE 9:** For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 30 GB (for Windows 10) is reserved for system recovery software.

### Features

**NOTE 10:** HD-DVD disks cannot be played on this drive. No support for DVDRAM. Actual speeds may vary. Don't copy copyright-protected materials. Double Layer discs can store more data than single layer discs; discs burned with this drive may not be compatible with many existing single-layer DVD drives and players.

**NOTE 11:** Sold separately or as an optional feature.

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## MEMORY

### Standard

DDR4 (Intel® Core™ i7-7500U, i5-7200U, i3-6006U processors only)

DDR4-2133 (Transfer rates up to 2133 MT/s) (DDR4-2400 bridge to DDR4-2133)

Dual channel support

No customer accessible / upgradeable

### Configurations

4096 MB Total System Memory (4096 MB x 1)

6144 MB Total System Memory (2048 MB x 1 + 4096 MB x 1)

8192 MB Total System Memory (4096 MB x 2)

8192 MB Total System Memory (8192 MB x 1)

### Maximum

Up to 8 GB DDR4-2133 SDRAM

### Standard

DDR3L (Intel® Pentium® N3710, Celeron® N3060 processors only)

DDR3L-1600 (Transfer rates up to 1600 MT/s)

Single channel support

No customer accessible / upgradeable

### Configurations

2048 MB Total System Memory (2048 MB x 1)

4096 MB Total System Memory (4096 MB x 1)

8192 MB Total System Memory (8192 MB x 1)

### Maximum

Up to 8 GB DDR3L-1600 SDRAM

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### Technical Specifications

## NETWORKING/COMMUNICATIONS

### Wireless LAN (WLAN)

Realtek 802.11b/g/n (1x1) WiFi and Bluetooth® 4.0 Combo <sup>12</sup>

Intel® Dual Band Wireless-AC 3168 802.11ac (1x1) Wi-Fi and Bluetooth® 4.2 Combo (non-vPro™) <sup>12</sup>

Intel® Dual Band Wireless-AC 7265 802.11ac (2x2) WiFi and Bluetooth® 4.2 Combo (non-vPro™) <sup>12</sup>

### Ethernet

Integrated 10/100/1000 NIC

Communications

Compatible with Miracast-certified devices <sup>13</sup>

**NOTE 12:** Wireless access point and Internet service required and sold separately. Availability of public wireless access points limited. The specifications for the 802.11ac WLAN are draft specifications and are not final. If the final specifications differ from the draft specifications, it may affect the ability of the notebook to communicate with other 802.11ac WLAN devices.

**NOTE 13:** Miracast is a wireless technology your PC can use to project your screen to TVs, projectors, and streaming media players that also support Miracast. You can use Miracast to share what you're doing on your PC and present a slide show. For more information: <http://windows.microsoft.com/en-us/windows-8/project-wireless-screen-miracast>.

## AUDIO/MULTIMEDIA

### Audio

(2) Integrated stereo speakers

### Camera

HP TrueVision HD Camera <sup>4</sup>

Indicator LED, USB2.0, HD BSI sensor, f2.0, WDR

720p by 30 frames per second

Single digital microphone

### Webcam

HP Webcam <sup>14</sup>

VGA camera, indicator LED, USB 2.0, f2.4

480p by 30 frames per second

Single digital microphone

**NOTE 4:** HD content required to view HD images.

**NOTE 14:** Wireless access point and Internet service is required and is not included. Availability of public wireless access points limited.

## KEYBOARDS/POINTING DEVICES/BUTTONS & FUNCTION KEYS

### Keyboard

Full size textured island-style keyboard with numeric keypad

Jet black

Touchpad

Multitouch gestures enabled

Support Modern Trackpad Gestures

Taps enabled as default



### Technical Specifications

## SOFTWARE AND SECURITY

### Preinstalled Software

Buy Office  
HP JumpStart  
Windows 10 Redstone1 Recovery Manager Installer - CPS  
Windows 10 Redstone1 Push Button Reset Recovery - CPS  
HP Support Assistant  
HP PC Hardware Diagnostics UEFI  
HP ePrint<sup>15</sup>  
HP System Event Utility  
CyberLink Power Media Player  
Bing Search for IE11  
Security lock slot (Locks sold separately)  
McAfee LiveSafe

**NOTE15:** Requires an Internet connection to HP web-enabled printer and HP ePrint account registration (for a list of eligible printers, supported documents and image types and other HP ePrint details, see [www.hp.com/go/eprintcenter](http://www.hp.com/go/eprintcenter)). Requires optional broadband module. Broadband use requires separately purchased service contract. Check with service provider for coverage and availability in your area. Separately purchased data plans or usage fees may apply. Print times and connection speeds may vary.

## POWER

### Power Supply

65 W Smart AC adapter<sup>17</sup>  
65 W EM Smart AC adapter<sup>17</sup>  
45 W Smart AC adapter<sup>17</sup>

### Primary Battery

HP 3-cell battery, 31 Whr Li-ion  
HP 4 cell battery, 41 Whr Li-ion

### Power Cord

1 M (3.28 feet) length power cord with sticker label

### Battery life

7th gen core CPU: Up to 12 hours (4 cell battery)<sup>18</sup>  
6th gen core CPU: Up to 10 hours (4 cell battery)<sup>18</sup>  
Intel® Pentium® and Celeron® CPU: Up to 9 hours and 30 minutes (4 cell battery)<sup>18</sup>  
Fast Charge (90 mins, 90% charged)  
Supports battery fast charge

**NOTE 17:** Availability may vary by country.

**NOTE 18:** Windows 10 MM14 battery life will vary depending on various factors including product model, configuration, loaded applications, features, use, wireless functionality, and power management settings. The maximum capacity of the battery will naturally decrease with time and usage. See [www.bapco.com](http://www.bapco.com) for additional details.

## WEIGHTS & DIMENSIONS



### Technical Specifications

#### Weight

Starting at 1.86 kg <sup>19</sup>

Starting at 4.1 lb <sup>19</sup>

**NOTE 19:** Weight varies by configuration and components.

#### Dimensions (W x D x H)

38 x 25.38 x 2.38 cm

14.96 x 9.99 x 0.93 in

### PORTS/SLOTS

#### Ports/Connectors

USB 3.1 (Gen 1) ports - Two (Left)

USB 2.0 port - One (Right)

HDMI 1.4b - One <sup>20</sup>

VGA port - One

RJ-45 / Ethernet - One <sup>20</sup>

Headphone / microphone combo jack - One

AC Smart adapter port - One

#### Slots

HP Multi-Format Digital Media Card Reader

Supports SD/SDHC/SDXC

**NOTE 20:** All cables are sold separately.

### SERVICE AND SUPPORT

HP Services offers limited 1-year warranty; 1-year limited warranty on primary battery. On-site service is also available with optional HP Care Services, which extend protection beyond the standard limited warranty. To choose the right level of service for your HP product, use the HP Care Services Lookup Tool at: <http://www.hp.com/go/lookuptool>. Additional HP Care Services, information by product is available at: <http://www.hp.com/go/cpc>.<sup>21</sup>

**NOTE 21:** HP Care Packs are sold separately. 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](http://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.

### DISPLAYS

<b>15.6" FHD WLED AntiGlare Outline Dimensions (1920x1080) slim (3.2mm) SVA, eDP</b>	<b>Outline Dimensions (W x H x D)</b>	360 x 224.3 x 3.2 (max)
	<b>Active Area</b>	344.26 x 193.69 mm
	<b>Weight</b>	360g max

### Technical Specifications

<b>Diagonal Size</b>	15.6"	
<b>Surface Treatment</b>	AG	
<b>Contrast Ratio</b>	500:1 (typ. AG)	
<b>Refresh Rate</b>	60Hz	
<b>Pixel Per Inch (PPI)</b>	141	
<b>Brightness</b>	220 nit typ.	
<b>Pixel Resolution</b>	<b>Format</b>	1920 x 1080 (FHD)
	<b>Configuration</b>	RGB
<b>Interface</b>	eDP 1.2	
<b>LCD Mode</b>	TN	
<b>Viewing Angle</b>	45/45/20/45	

<b>15.6" HD WLED AntiGlare (1366x768) slim (3.2mm) SVA, eDP</b>	<b>Outline Dimensions (W x H x D)</b>	359.5 x 223.8 x 3.2 (max)	
	<b>Active Area</b>	344.23 x 193.54	
	<b>Weight</b>	370g max	
	<b>Diagonal Size</b>	15.6"	
	<b>Surface Treatment</b>	AG	
	<b>Contrast Ratio</b>	500:1 (typ. AG)	
	<b>Refresh Rate</b>	60Hz	
	<b>Pixel Per Inch (PPI)</b>	100	
	<b>Brightness</b>	220 nit typ.	
	<b>Pixel Resolution</b>	<b>Format</b>	1366 x 768 (HD)
		<b>Configuration</b>	RGB
	<b>Interface</b>	eDP 1.2	
	<b>LCD Mode</b>	TN	
	<b>Viewing Angle</b>	45/45/20/40	

### STORAGE AND DRIVES

<b>500 GB 5400 rpm SATA Drive Weight Hard Drive</b>	<95g (0.209lb)	
	<b>Capacity</b>	500 GB
	<b>Height</b>	6.8 +/- 0.2 mm (0.268 +/- .008 in)
	<b>Width</b>	69.85 +/- 0.25 mm (2.750 +/- 0.010 in)
	<b>Interface</b>	SATA 6Gb/s
	<b>Performance</b>	<b>Maximum Sequential Read</b> 600 MB/s max

### Technical Specifications

**Maximum Sequential Write** 600 MB/s max

**Logical Blocks** 976,773,168

**Operating Temperature** 32° to 140° F (0° to 60° C)

**Features** DIPM

**500 GB 7200 rpm SATA Drive Weight** <95g (0.209lb)  
**Hard Drive**

**Capacity** 500 GB

**Height** 6.8 +/- 0.2 mm (0.268 +/- .008 in)

**Width** 69.85 +/- 0.25 mm (2.750 +/- 0.010 in)

**Interface** SATA 6Gb/s

**Performance** **Maximum Sequential Read** 600 MB/s max

**Maximum Sequential Write** 600 MB/s max

**Logical Blocks** 976,773,168

**Operating Temperature** 32° to 140° F (0° to 60° C)

**Features** DIPM

**1 TB 5400 rpm SATA Hard Drive Weight** 90g(0.198lb)  
**Drive**

**Capacity** 1TB

**Height** 7.0 (± 0.2) mm / 0.276 (± 008) in

**Width** 69.85 (± 0.25) mm / 2.750 (± 0.010) in

**Interface** SATA 6Gb/s

### Technical Specifications

<b>Performance</b>	<b>Maximum Sequential Read</b>	600 MB/s max
	<b>Maximum Sequential Write</b>	600 MB/s max
<b>Logical Blocks</b>		1,953,525,168
<b>Operating Temperature</b>		32° to 140° F (0° to 60° C)
<b>Features</b>		DIPM

<b>128 GB SATA-3 Solid State Drive</b>	<b>Value Drive Weight</b>	0.01 lb (6 g) ~ 0.02 lb (10 g)
	<b>Capacity</b>	128 GB
	<b>Height</b>	0.09 in (2.3 mm)
	<b>Width</b>	0.87 in (22 mm)
	<b>Interface</b>	ATA-8, SATA 3.0
	<b>Logical Blocks</b>	250,069,680
	<b>Operating Temperature</b>	32° to 158°F (0° to 70°C) [ambient temp]
	<b>Features</b>	DIPM; TRIM; DEVSLP

<b>256 GB SATA-3 Solid State Drive</b>	<b>Value Drive Weight</b>	0.01 lb (6 g) ~ 0.02 lb (10 g)
	<b>Capacity</b>	256 GB
	<b>Height</b>	0.09 in (2.3 mm)
	<b>Width</b>	0.87 in (22 mm)
	<b>Interface</b>	ATA-8, SATA 3.0
	<b>Logical Blocks</b>	500,118,192
	<b>Operating Temperature</b>	32° to 158°F (0° to 70°C) [ambient temp]
	<b>Features</b>	DIPM; TRIM; DEVSLP

### Technical Specifications

<b>128 GB SATA TLC Solid Drive Weight</b>	0.01 lb (6 g) ~ 0.02 lb (10 g)
<b>State Drive</b>	
<b>Capacity</b>	128 GB
<b>Height</b>	0.09 in (2.3 mm)
<b>Width</b>	0.87 in (22 mm)
<b>Interface</b>	ATA-8, SATA 3.0
<b>Logical Blocks</b>	250,069,680
<b>Operating Temperature</b>	32° to 158°F (0° to 70°C) [ambient temp]
<b>Features</b>	DIPM; TRIM; DEVSLP

<b>256 GB SATA TLC Solid Drive Weight</b>	0.01 lb (6 g) ~ 0.02 lb (10 g)
<b>State Drive</b>	
<b>Capacity</b>	256 GB
<b>Height</b>	0.09 in (2.3 mm)
<b>Width</b>	0.87 in (22 mm)
<b>Interface</b>	ATA-8, SATA 3.0
<b>Logical Blocks</b>	500,118,192
<b>Operating Temperature</b>	32° to 158°F (0° to 70°C) [ambient temp]
<b>Features</b>	DIPM; TRIM; DEVSLP

### Technical Specifications

#### NETWORKING/COMMUNICATIONS

##### WWAN

##### Realtek RTL8723DE 802.11 bgn 1x1 WiFi + BT 4.2 Combo Adapter

<b>Technology/Operating bands</b>	2.4Ghz
<b>Wireless protocol standards</b>	11n
<b>Maximum data rates</b>	150Mbps
<b>Maximum output power</b>	CE/11g at max 17dBm
<b>Maximum power consumption</b>	736mW in Tx mode
<b>Form Factor</b>	M2 1630
<b>Weight</b>	2 g
<b>Dimensions</b> (Length x Width x Thickness)	16 mm X 30 mm x 2.3 mm

##### Intel Dual band wireless-AC 3168 802.11AC 1x1 WiFi + BT 4.2 Combo Adaptor (non-vPro)

<b>Technology/Operating bands</b>	2.4Ghz/5G
<b>Wireless protocol standards</b>	11ac
<b>Maximum data rates</b>	433Mbps
<b>Maximum output power</b>	16.25dBm in 2.4G 17.25dBm in 5G
<b>Maximum power consumption</b>	1250 mW in 11ac 1x1 HB/80 Or 11n 1x1 HB/40
<b>Form Factor</b>	M2 2230
<b>Weight</b>	2 g

### Technical Specifications

<b>Dimensions</b> (Length x Width x Thickness)	<b>22 mm X 30 mm x 2.4 mm</b>
	<b>Intel Dual Band Wireless-AC 7265 802.11 AC 2x2 WiFi + BT 4.2 Combo Adapter (non-vPro)</b>
<b>Technology/Operating bands</b>	2.4Ghz/5G
<b>Wireless protocol standards</b>	11ac
<b>Maximum data rates</b>	867Mbps
<b>Maximum output power</b>	17.25dBm in 2.4G 16.25dBm in 5G
<b>Maximum power consumption</b>	1580 mW in Wi-Fi: 802.11n link at 200 mbps, FTP transmitting 90% and FTP receiving 10%. Bluetooth: A2DP, 375 Kbps
<b>Form Factor</b>	M2 2230
<b>Weight</b>	2 g
<b>Dimensions</b> (Length x Width x Thickness)	22 mm X 30 mm x 2.4 mm

### POWER

<b>65 W Smart AC adapter</b>	<b>Dimensions (H x W x D)</b>	107.0 x 47.0 x 30.0mm	
	<b>Weight</b>	250g +/-10%	
	<b>Input</b>	<b>Input Efficiency</b>	88.0 % at 115 Vac and 89.0 % at 230Vac
		<b>Input frequency range</b>	47 to 63 Hz
		<b>Input AC current</b>	Max. 1.7 A at 90 Vac
	<b>Output</b>	<b>Output power</b>	65W
		<b>DC output</b>	19.5V
		<b>Hold-up time</b>	5ms at 115 Vac input
		<b>Output current limit</b>	<11.0A
	<b>Connector</b>	C6 (3pin/with grounded, with Smart ID DC connector)	
	<b>Environmental Design</b>	<b>Operating temperature</b>	32° to 95° F (0° to 35° C)
		<b>Non-operating (storage) temperature</b>	-4° to 185° F (-20° to 85° C)
		<b>Altitude</b>	0 to 16,400 ft (0 to 5,000 m)
<b>Humidity</b>		20% to 95%	



### Technical Specifications

	<b>EMI and Safety Certifications</b>	<b>Storage Humidity</b> 10% to 95% *CE Mark - full compliance with LVD and EMC directives * Worldwide safety standards - IEC60950, EN60950, UL60950, Class1, SELV; Agency approvals - C-UL-US, NORDICS, DENAN, EN55022 Class B, FCC Class B, CISPR22 Class B, CCC, NOM-1 NYCE. * MTBF - over 200,000 hours at 25°C ambient condition.	
<b>65 W EM Smart AC adapter</b>	<b>Dimensions (H x W x D)</b>	127.0x51.0x30.0mm	
	<b>Weight</b>	350g +/-10%	
	<b>Input</b>	<b>Input Efficiency</b> 88.0 % at 115 Vac and 89.0 % at 230Vac <b>Input frequency range</b> 47 to 63 Hz	
	<b>Output</b>	<b>Input AC current</b>	Max. 1.7 A at 90 Vac
		<b>Output power</b>	65W
		<b>DC output</b>	19.5V
		<b>Hold-up time</b>	5ms at 115 Vac input
		<b>Output current limit</b>	<11.0A
	<b>Connector</b>	C6 (3pin/with grounded, with Smart ID DC connector)	
	<b>Environmental Design</b>	<b>Operating temperature</b>	32° to 95° F (0° to 35° C)
		<b>Non-operating (storage) temperature</b>	-4° to 185° F (-20° to 85° C)
		<b>Altitude</b>	0 to 16,400 ft (0 to 5,000 m)
		<b>Humidity</b>	20% to 95%
<b>Storage Humidity</b>		10% to 95%	
	<b>EMI and Safety Certifications</b>	*CE Mark - full compliance with LVD and EMC directives * Worldwide safety standards - IEC60950, EN60950, UL60950, Class1, SELV; Agency approvals - C-UL-US, NORDICS, DENAN, EN55022 Class B, FCC Class B, CISPR22 Class B, CCC, NOM-1 NYCE. * MTBF - over 200,000 hours at 25°C ambient condition.	
<b>45 W Smart AC adapter</b>	<b>Dimensions (H x W x D)</b>	95.0 x 40.0 x 26.5 mm	
	<b>Weight</b>	200g +/-10%	
	<b>Input</b>	<b>Input Efficiency</b> 87.74 % at 115 Vac and 88.4 % at 230Vac <b>Input frequency range</b> 47 to 63 Hz	
	<b>Output</b>	<b>Input AC current</b>	Max. 1.4 A at 90 VAC
		<b>Output power</b>	45W
		<b>DC output</b>	19.5V
		<b>Hold-up time</b>	5ms at 115 Vac input
		<b>Output current limit</b>	<8.0A
	<b>Connector</b>	C6 (3pin/with grounded, with Smart ID DC connector)	
	<b>Environmental Design</b>	<b>Operating temperature</b>	32° to 95° F (0° to 35° C)

### Technical Specifications

		<b>Non-operating (storage) temperature</b> -4° to 185° F (-20° to 85° C) <b>Altitude</b> 0 to 16,400 ft (0 to 5,000 m) <b>Humidity</b> 20% to 95% <b>Storage Humidity</b> 10% to 95%
	<b>EMI and Safety Certifications</b>	*CE Mark - full compliance with LVD and EMC directives * Worldwide safety standards - IEC60950, EN60950, UL60950, Class1, SELV; Agency approvals - C-UL-US, NORDICS, DENAN, EN55022 Class B, FCC Class B, CISPR22 Class B, CCC, NOM-1 NYCE. * MTBF - over 200,000 hours at 25°C ambient condition.
<b>HP 3-cell Li-Ion (31 WHr)</b>	<b>Dimensions</b>	274.15mm x 35.25mm x 21.1mm
	<b>Weight</b>	185g
	<b>Cells/Type</b>	3cell Lithium-Ion cylindrical cell / 18650
	<b>Voltage</b>	LGC: 10.95V; SDI/Sanyo: 11.1V
	<b>Amp-hour capacity</b>	LGC: 2850mAh;SDI/Sanyo:2800mAh
	<b>Watt-hour capacity</b>	LGC: 31.2Wh; SDI/Sanyo:31.08Wh
	<b>Operating (Charging)</b>	0~45°C
	<b>Operating (Discharging)</b>	-10~60°C
	<b>Fuel Gauge LED</b>	No
	<b>Warranty</b>	300 cycles>80%(at 23 °C)
	<b>Optional Travel Battery Available</b>	No
<b>HP 4-cell Li-Ion (41 WHr)</b>	<b>Dimensions</b>	274.15mm x 35.25mm x 21.1mm
	<b>Weight</b>	230g
	<b>Cells/Type</b>	4cell Lithium-Ion cylindrical cell / 18650
	<b>Voltage</b>	LGC: 14.6V; SDI/Sanyo:14.8V
	<b>Amp-hour capacity</b>	LGC: 2850mAh; SDI/Sanyo: 2800mAh
	<b>Watt-hour capacity</b>	LGC: 41.6Wh;SDI/Sanyo41.44Wh
	<b>Operating (Charging)</b>	0~45°C
	<b>Operating (Discharging)</b>	-10~60°C
	<b>Fuel Gauge LED</b>	No
	<b>Warranty</b>	300 cycles>80%(at 23 °C)
	<b>Optional Travel Battery Available</b>	No
<b>Environmental Data</b>	<b>Eco-Label Certifications &amp; declarations</b>	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"> <li>• IT ECO declaration</li> <li>• US ENERGY STAR®</li> <li>• US Federal Energy Management Program (FEMP)</li> <li>• EPEAT® GOLD registered in the United States. See <a href="http://www.epeat.net">http://www.epeat.net</a> for registration status in your country.</li> </ul>

### Technical Specifications

**System Configuration** The configuration used for the Energy Consumption and Declared Noise Emissions data for the Notebook model is based on a “Typically Configured Notebook”.

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

	<b>115VAC, 60Hz</b>	<b>230VAC, 50Hz</b>	<b>100VAC, 50Hz</b>
Normal Operation (Short idle)	8.34 W	8.58 W	8.84 W
Normal Operation (Long idle)	6.68 W	6.18 W	6.35 W
Sleep	0.65 W	0.68 W	0.65 W
Off	0.23 W	0.23 W	0.23 W

**Note:**

Energy efficiency data listed is for an ENERGY STAR® compliant product if offered within the model family. HP computers marked with the ENERGY STAR® Logo are compliant with the applicable U.S. Environmental Protection Agency (EPA) ENERGY STAR® specifications for computers. If a model family does not offer ENERGY STAR® compliant configurations, then energy efficiency data listed is for a typically configured PC featuring a hard disk drive, a high efficiency power supply, and a Microsoft Windows® operating system.

<b>Heat Dissipation*</b>	<b>115VAC, 60Hz</b>	<b>230VAC, 50Hz</b>	<b>100VAC, 50Hz</b>
Normal Operation (Short idle)	29 BTU/hr	29 BTU/hr	30 BTU/hr
Normal Operation (Long idle)	23 BTU/hr	21 BTU/hr	22 BTU/hr
Sleep	2 BTU/hr	2 BTU/hr	2 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

<b>Declared Noise Emissions (in accordance with ISO 7779 and ISO 9296)</b>	<b>Sound Power (<math>L_{WA}</math>, bels)</b>	<b>Sound Pressure (<math>L_{pAm}</math>, decibels)</b>
Typically Configured – Idle	3.3	25
Fixed Disk – Random writes	3.4	27

**Longevity and Upgrading** This product can be upgraded, possibly extending its useful life by several years. Upgradeable features and/or components contained in the product may include:

- 3 USB ports
- 1 PC card slot (type I/II)
- 1 ExpressCard/54 slot
- 1 IEEE 1394 Port
- 2 SODIMM memory slots
- Optional expansion base docking station
- 1 multi-bay II storage port
- Interchangeable HDD??

Spare parts are available throughout the warranty period and or for up to “5” years after the end of production.

**Batteries** This battery(s) in this product comply with EU Directive 2006/66/EC

Batteries used in the product do not contain:  
Mercury greater the 1ppm by weight  
Cadmium greater than 20ppm by weight

Battery size: CR2032 (coin cell)  
Battery type: Lithium  
Battery size: 6-cell high capacity Lithium-Ion battery (optional 8 cell available)  
Battery type:

- Additional Information**
- This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive - 2011/65/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 ISO11469 and ISO1043.
  - This product contains 0.0% post-consumer recycled plastic (by wt.)
  - This product is 95.9% recycle-able when properly disposed of at end of life.
  -

### Technical Specifications

<b>Packaging Materials</b>	<b>External:</b>	PAPER/Corrugated	350 g
	<b>Internal:</b>	PLASTIC/Polyethylene low density - LDPE	10 g
		PLASTIC/Polyethylene Expanded - EPE	50 g
		PLASTIC/Polypropylene - PP	4 g

The plastic packaging material contains at least 81.0% recycled content. The corrugated paper packaging materials contains at least 80% recycled content.

**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 Usage

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.

### Technical Specifications

- 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://www8.hp.com/us/en/hp-information/environment/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>

### Technical Specifications

Category	Description	Part Number
<b>Cases</b>	HP Essential Backpack (up to 15.6")	H1D24AA
	HP Essential Messenger Case (up to 17.3")	H1D25AA
<b>Docking</b>	HP 3005PR USB3 Port Replicator	Y4H06AA
	HP USB Travel Dock	TOK30AA
	HP 3001pr USB 3.0 Port Replicator	F3S42AA
<b>Input Devices</b>	HP Slim USB Keyboard and Mouse	H4B81AA
	HP Slim Wireless Keyboard and Mouse	H6F25AA
	HP 3-Button USB Laser Mouse	G1K28AA
	HP USB Travel Mouse	N9K77AA
	HP Comfort Grip Wireless Mouse	N9K78AA
	HP Ultra Mobile Wireless Mouse	N2Z63AAA
	HP HDMI to DVI Adapter	V7W66AA
<b>Power</b>	HP 45W Smart AC Adapter 4.5mm	H6Y88AA#xxx
	HP 65W Smart AC Adapter	H6Y89AA#xxx
	HP 65W Slim AC Adapter	H6Y82AA#xxx
	HP Power Bank	N9F71AA#xxx
<b>Storage</b>	HP External USB Optical Drive	F2B56AA
<b>Memory</b>	HP 4GB DDR3L-1600 1.35V SODIMM	H6Y75AA#XXX
	HP 8GB DDR3L-1600 1.35V SODIMM	H6Y77AA#XXX
<b>Security</b>	HP Essential Combination Lock	TOY16AA
	HP Combination Lock	TOY15AA
	HP Keyed Cable lock	TOY14AA
	HP Keyed Cable Lock 10mm	T1A62AA
	HP 15.6 NB Privacy Filter (For Jaguars and Lions only)	J7H71AA
	HP 14.0" Notebook Privacy Filter (For Colts and Rams only)	J6E65AA
<b>UCC</b>	HP Conferencing Keyboard	K8P74AA#xxx
	HP UC Speaker Phone	K7V16AA
	HP UC Wired Headset	K7V17AA
	HP Stereo USB Headset	T1A67AA
<b>Displays</b>	HP Stereo 3.5mm Headset	T1A66AA
	HP S140u 14-inch Portable Display	G8R65AA
	HP ProDisplay P223 21-5 inch Monitor	X7R61AA
	HP ProDisplay P232 23-inch Monitor	K7X31AA
	HP ProDisplay P240va 23.8-inch Monitor	N3H14AA





### Summary of Changes

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