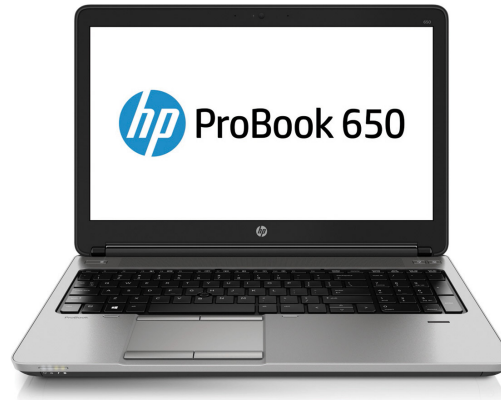**Data sheet**

HP ProBook 650 Notebook PC

An all new thin and light notebook packed with productivity and security features

Take on tasks in the office or on the road with a durable HP ProBook 650. This ProBook is thin, light, and packed with productivity features to make work faster and easier. Plus, reliable security solutions keep your data out of the wrong hands.

HP recommends Windows.

Thinner, tougher taskmaster

- Get the technology you trust from HP, with cutting-edge style that looks and feels the way you want.
- Join forces with the latest generation technology and legacy features your business demands on a new, thinner HP ProBook for in the office or on the go.
- Protect existing IT investments with support for existing legacy features such as an optical drive, optional serial ports, and VGA and RJ-45 connectors.
- Enjoy a desktop experience on your ProBook with various docking options,[10] including HP 120W Advanced Docking Station and HP 90W Docking Station.

Design your ideal ProBook

- Take advantage of the wide range of features and configurable options on the new HP ProBook 600 Series.
- Configure a ProBook made for your business thanks to flexible architecture configurations including the latest Intel® 4th generation processors.[14]
- Experience great visual performance with full-HD display options, AMD 1GDDR5 discrete graphics, and native DisplayPort 1.2.[21]
- Bridge distances on the HP ProBook 600 series, optimized for communication with Microsoft Lync,[10] premium audio/video, and full-HD display.[22]
- Stay in touch from the office or on the road with powerful connectivity options including 4G WWAN,[10,15,23] HP Wireless Hotspot,[11] and Bluetooth® 4.0.

Convenient control

- Protect data, devices, and identities with HP Client Security[24] and use HP Trust Circles[20] to make sure only assigned contacts can access critical files.
- Keep sensitive information in safe hands. HP Trust Circles[20] protects your data by ensuring that only approved contacts can access critical files.

Stay up and running

- HP BIOS Protection[25] offers enhanced protection against virus attacks to the BIOS and other security threats, and is designed to help prevent data loss and reduce downtime.
- Enjoy easy and simple integration into your IT environment with HP Client Management Solutions[26] such as optional LANDesk[27] and Intel vPro[7] technology.
- Maintain a productive system environment with stable and consistent images, managed lifecycle transitions, and Global Series support you can rely on.

Hardware specifications

Product name	HP ProBook 650 G1 Notebook PC
Operating system	Preinstalled: Windows 8 Pro 64[1] Windows 7 Professional 32 (available through downgrade rights from Windows 8 Pro 64)[2] Windows 7 Professional 64 (available through downgrade rights from Windows 8 Pro 64)[2] Windows 8 64[1] Windows 7 Professional 32[3] Windows 7 Professional 64[3] Windows 7 Home Premium 32[3] Windows 7 Home Premium 64[3] SUSE Linux Enterprise 11 FreeDOS
Processor	Intel Core™ i7 processor; Intel Core™ i5 processor; Intel Core i3 processor[14]
Chipset	Mobile Intel HM87; Mobile Intel QM87
Memory	DDR3 SDRAM, 1600 MHz, two slots supporting dual-channel memory, 4/8 GB SODIMMs, up to 16 GB total[4]
Internal storage	1 TB 5400 rpm 9.5 mm SATA HDD[5] 320/500 GB 5400 rpm HDD[5] 500 GB 5400 rpm FIPS HDD[5] 320/500/750 GB 7200 rpm HDD[5] 500 GB 7200 rpm SED (Self Encrypting Drive)[5] SATA 6 Gb/s 128/180 GB SSD,[6] 256 GB SED SSD[5]
Removable storage	Fixed 9.5 mm SATA optical drive: Blu-ray ROM DVD+/-RW SuperMulti DL; DVD+/-RW SuperMulti DL; DVD-ROM
Display	15.6" diagonal LED-backlit HD[8] anti-glare (1366 x 768) 15.6" diagonal LED-backlit FHD SVA anti-glare (1920 x 1080)
Graphics	Integrated: Intel HD Graphics 4600 Discrete: AMD™ Radeon HD[8] 8750M (128-bit) w/1 GB GDDR5
Audio/Visual	HD Audio with DTS Studio Sound; integrated stereo speakers; integrated microphone (dual-microphone array with optional[10] webcam); stereo headphone/line
Wireless support	WLAN: Atheros 802.11b/g/n (1x1)[9] Atheros 802.11b/g/n (1x1) and Bluetooth 4.0 Combo[9] Broadcom 802.11a/b/g/n (2x2) and Bluetooth 4.0 Combo[9] Intel Centrino Advanced N-6205 802.11a/b/g/n (2x2)[9] Intel Centrino Advanced N-6235 802.11a/b/g/n and Bluetooth 4.0 Combo[9] Intel Wireless N-7260 802.11a/b/g/n AC (2x2) and Bluetooth 4.0 Combo[9] WWAN: HP hs3110 HSPA+ Mobile Broadband[10,15,23] HP lt4111 LTE/EV-DO/HSPA+ Mobile Broadband[10,15,23]
Communications	Intel I218-LM Gigabit Network Connection (10/100/1000 NIC)
Ports and connectors	4 USB 3.0; 1 USB 3.0 charging; 1 DisplayPort; 1 VGA; 1 combo stereo headphone/mic jack; 1 AC power; 1 RJ-45; 1 docking connector; 1 serial
Expansion slots	1 Media Card Reader
Input device and camera	Spill-resistant keyboard with drain; Touchpad with on/off button, two-way scroll, gestures, two pick buttons; optional[10] pointstick with two additional pointstick buttons, numeric keypad 720p HD[8] webcam optional[10]
Software (Windows OS only)	Buy Office, HP 3D DriveGuard,[7] HP Connection Manager (Win 7), HP Wireless HotSpot,[11] HP PageLift (Windows 8 only), HP Recovery Manager, HP Support Assistant, HP ePrint[12]
Security	HP Client Security Suite includes: HP Credential Manager, HP Password Manager,[16] HP File Sanitizer[17] and HP Device Access Manager with Just in Time Authentication, HP Drive Encryption,[18] HP Secure Erase,[19] HP Trust Circles,[20] Microsoft Security Essentials (Win 7) & Microsoft Defender (Win 8), HP SpareKey (requires initial user setup), Absolute Data Protect,[6] TPM Embedded Security Chip 1.2, security lock slot
Dimensions (W x D x H)	14.88 x 10.12 x 0.99 in. (at front) 37.8 x 25.7 x 2.53 cm (at front)
Weight	Starting at 5.10 lb/2.32 kg (weight will vary by configuration)
Power	Primary battery: 9-cell (100 WHr) Li-Ion; 6-cell (55 WHr) Li-Ion; 3-cell (33 WHr) Li-Ion; 6-cell (55 WHr) Long Life; HP Fast Charge (6-cell only) Integrated: HP 65W Smart AC adapter; 90W Smart AC adapter Discrete: 90W Smart AC adapter
Expansion solutions	Docking Station optional:[10] HP 90W Docking Station
Warranty	Limited 1-year and 3-year warranty options available, depending on country, 1-year limited warranty on primary battery. Optional[10] HP Care Pack Services[13] are extended service contracts which go beyond your standard warranties. For more details visit: hp.com/go/cpc.

1. Not all features are available in all editions of Windows 8. Systems may require upgraded and/or separately purchased hardware, drivers and/or software to take full advantage of Windows 8 functionality. See microsoft.com for details.
2. This system is preinstalled with Windows 7 Pro software and also comes with a license and media for Windows 8 Pro software. You may only use one version of the Windows software at a time. Switching between versions will require you to uninstall one version and install the other version. You must back up all data (files, photos, etc.) before uninstalling and installing operating systems to avoid loss of your data.
3. This system may require upgraded and/or separately purchased hardware to take full advantage of Windows 7 functionality. Not all features are available in all editions of Windows 7. See windows.microsoft.com/en-us/windows7/products/home for details.
4. Maximum memory capacities assume Windows 64-bit operating systems or Linux. With Windows 32-bit operating systems, memory above 3 GB may not all be available due to system resource requirements.
5. For hard drives and solid state drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 16 GB (for Windows 7) of system and up to 36 GB (for Windows 8) disk is reserved for system recovery software.
6. Absolute Data Protect agent is shipped turned off, and must be activated by customers. Service may be limited, check with Absolute for availability outside the U.S. The optional subscription service of Absolute Recovery Guarantee is a limited warranty. Certain conditions apply. For full details visit: absolute.com/company/legal/agreements/computrace-agreement. If Data Delete is utilized, the Recovery Guarantee payment is null and void. In order to use the Data Delete service, customers must first sign a Pre-Authorization Agreement and either create a PIN or purchase one or more RSA SecurID tokens from Absolute Software.
7. Some functionality of this technology, such as Intel Active management technology and Intel Virtualization technology, requires additional third-party software in order to run. Availability of future "virtual appliances" applications for Intel vPro technology is dependent on third-party software providers. Microsoft Windows required.
8. HD content required to view HD images.
9. Wireless access point and internet service is required and is not included. Availability of public wireless access points limited.
10. Sold separately or as an optional feature.
11. The wireless hotspot application requires an active internet connection and separately purchased data plan. While HP Wireless Hotspot is active, on-device applications will continue to work and will use the same data plan as the wireless hotspot. Wireless hotspot data usage may incur additional charges. Check with your service provider for plan details. Requires Windows 8.
12. 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 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.
13. 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 hp.com/go/cpc.
14. Multi-Core is designed to improve performance of certain software products. Not all customers or software applications will necessarily benefit from use of this technology. 64-bit computing on Intel architecture requires a computer system with a processor, chipset, BIOS, operating system, device drivers, and applications enabled for Intel 64 architecture. Processors will not operate (including 32-bit operation) without an Intel 64 architecture-enabled BIOS. Performance will vary depending on your hardware and software configurations. Intel's numbering is not a measurement of higher performance.
15. WWAN use requires separately purchased service contract. Check with service provider for coverage and availability in your area. Connection speeds will vary due to location, environment, network conditions, and other factors.
16. Requires Internet Explorer. Some websites and applications may not be supported.
17. For the use cases outlined in the DOD 5220.22-M Supplement. Does not support Solid State Drives (SSDs). Initial setup required. Web history deleted only in Internet Explorer and Firefox browsers and must be user enabled.
18. Requires Windows. Data is protected prior to Drive Encryption login. Turning the PC off or into hibernate logs out of Drive Encryption and prevents data access. 2013 Desktops are planned to support drive encryption in October 2013.
19. For the methods outlined in the National Institute of Standards and Technology Special Publication 800-88.
20. HP Trust Circles Standard, when included, allows up to 5 Trust Circles with up to 5 contacts in each Trust Circle. Optional Trust Circles Professional required for unrestricted number of Trust Circles.
21. Support for external displays as a standard feature through integrated processor-based graphics is dependent upon the particular PC platform/form factor; the actual number of displays supported will vary. An optional discrete graphics solution will be required for the support of additional displays. Additional cables required. DisplayPort with multi-stream through integrated graphics is planned to be available in fall 2013 as an integrated feature and as a web update in late summer 2013.
22. Optional webcam and internet service required for video conferencing, and not included.
23. 4G LTE not available on all products, in all regions, and only available on products featuring Intel processors.
24. HP Client Security requires Windows.
25. HP Tools partition with HP BIOS required for automatic recovery.
26. HP Client Management Solutions requires Windows.
27. LANDesk software is sold separately. Managed devices must be connected to the management server. Requires active LANDesk maintenance service. Wipe functionality performs a "Windows 8 Reset" and requires Windows 8. Lock performs a Windows "Lock Computer."

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