Item no.: 375274

DH610 - Robust 1.3-litre slim PC supports Intel Core processors

from **329,91 EUR**

Item no.: 375274
shipping weight: 2.40 kg
Manufacturer: Shuttle

Product Description

Robust 1.3-litre slim PC supports Intel Core processors with socket LGA1700 and three UHD displaysThe Shuttle XPC slim Barebone DH610 with H610 chipset brings the performance of Intel's 12th, 13th and 14th generation*) Core desktop processors (codenamed "Alder Lake-S" and "Raptor Lake-S [Refresh]") with socket LGA1700 into a compact 1.3-litre format. It supports the simultaneous operation of three Ultra HD displays via 1x HDMI and 2x DisplayPort. Dual Intel network (one port with 2.5G speed), eight USB ports and two COM ports are also available. Its flat metal housing with VESA mount, versatile connection options and reliable operation at ambient temperatures of up to 50 °C make the DH610 ideal for professional applications such as digital signage, POS, POI, gaming machines, office, healthcare and industry.*) for Intel Core Gen13 and Gen14, a BIOS update may be required (to be performed with a compatible processor) - For Intel Core processors of the 12th/13th/14th generation (LGA1700)- Up to 64 GB DDR4 SO-DIMM- Two RJ45 network connections (1× 2.5 Gbit, 1× 1 Gbit)- 1× M.2-2280, 1× M.2-2230- 3× USB 3.2 (5 Gbit), 1× USB 3.2 Type C (5 Gbit), 4× USB 2.0, 2× RS-232- 1× HDMI 2.0b, 2× DisplayPort 1.4a- Supports three monitors- 1× NVMe SSD, 1× 2.5" drive- Remote Power On connection- Only 19 × 16.5 × 4.3 cm LBH- Heatpipe cooling system with dual fans- VESA/wall mount includedUp to 64 GB RAMModern professional applications are particularly memory-hungry. With two slots and therefore a total of 64 GB RAM, this Mini PC also fulfils high demands. Space for a 2.5" driveAs a supplement to an NVMe SSD, this model also provides a home for classic data storage devices in 2.5" format*. Hard disks and SSDs in this design offer many terabytes of storage space.(*up to a height of 12.5 mm) Expansion via M.2 moduleTwo M.2 slots enable expansion with data carriers and additional modules, such as for WLAN or mobile communications. Thanks to the PCI Express connection, large amounts of data can be transported quickly via the M.2 slot.Heatpipe cooling systemThe processor emits its waste heat to the copper element of the heatpipe heatsink, which heats up the tubes and triggers heat transport towards the cooling fins. Two housing fans push air through the fins and cool them down in turn.Two network connectionsThis feature is particularly interesting for important network applications - two Ethernet connections (1× 2.5 Gbit, 1× 1 Gbit) enable physically separate networks, offer failover and load balancing.Remote start via wireThis model has a remote power-on connection. Pins on the rear can be used to connect your own buttons with any two-pole cable, which can then be used for remote start.Three 4K-compatible monitor connectionsTwo DisplayPort connections and an HDMI 2.0 connection enable high-resolution multi-monitor workstations and therefore the display of large amounts of information that can be captured at a glance.Serial interfaceThe classic interface. COM ports are still required for professional applications, for example for POS systems and for products from the scientific and industrial sectors.Theft protectionThe Kensington security slot on the side of the housing (also known as the K-Slot or Kensington Lock) is used to prevent theft. Suitable security solutions in various designs are available in stores.- Network: 1× 2.5 Gbit, 1× 1 Gbit - Max. Number of screens: Up to 3 - Card reader: No - USB:3× USB 3.2 (5 Gbit)1× USB 3.2 Type C (5 Gbit)4× USB 2.0 - COM ports: 2× RS-232 - Operating voltage: 12 V + 19 V - VESA mount: SuppliedHousingSlim PC with black metal housingDimensions: 19 x 16.5 x 4.3 cm (LWH) = 1.35 litresWeight: 1.3 kg net and 2.1 kg grossTwo openings for Kensington Lock and numerousM3 threaded openings on both sides of the housing. Power supply unitExternal 120 W power supply unit (fanless)Input: 100-240 V AC, 50/60 HzOutput: 19 V DC, 6.32 A, max. 120 WDC plug: 5.5/2.5 mm (outer/inner diameter)Note: The DC input of the computer supports an external power supply with 19V±5% or 12V±5%.AC cable: 3-pin, approx. 1.7 m long, with C5/C6 cloverleaf plug connection to the power supply unit and CEE-7/7 plug with earthing contact (type E+F) for connection to the socket Operating systemThis system is supplied without an operating system.It is compatible with Windows 10/11 and Linux (64 bit). Processor supportProcessor Socket LGA1700Supports Intel Core i9 / i7 / i5 / i3, Pentium Gold and Celeron processorsSupports the following generations of Intel Core processors:- Gen 12 "Alder Lake-S"- Gen 13 "Raptor Lake-S" since BIOS version 202 available since March'23 *)- Gen 14 "Raptor Lake-S Refresh" since BIOS version 211 available since Jan'24*)in "Intel 7" process technology (formerly: Intel 10 nm Enhanced SuperFin)Supports only processors with integrated graphics function [5]Maximum supported processor power dissipation (TDP) = 65 W.Does not support the unlock function of Intel K-series processors.The processor integrates the controllers for PCI Express and memoryand the graphics function on the same semiconductor chip*) Attention:if a BIOS update is necessary, the PC must first be started with a compatible processor.Download website: https://global.shuttle.com/support/download. Processor coolingHeatpipe processor cooling with two 60 mm fans on the top of the case Mainboard / chipsetMainboard in Shuttle format - special design for XPC Barebone DH610Chipset/Southbridge: Intel® H610Passive chipset cooling with heat sinkThe Northbridge is integrated in the processor.With solid electrolytic capacitors (Solid Capacitors) - These capacitors are more heat-resistant and have a longer service life. BIOSAMI BIOS, SPI interface, 16 MB flash EPROM deviceSupports hardware monitoring and watchdog functionSupports firmware TPM (fTPM) v2.0 [9]Supports booting from external flash memory via USBSupports the Unified Extensible Firmware Interface (UEFI)Supports restart after power failure (Power-On-after-Power-Fail) [7]Memory support2x SO-DIMM slot with 260 pinsSupports DDR4-3200/2933/2666/2400/2133 (PC4-25600/23466/21300/19200/17000) SDRAM with 1,2 VSupports dual-channel modeSupports a maximum of 32 GB per slotMaximum total capacity 64 GBSupports unbuffered DIMM modules (no ECC or registered) Integrated graphics functionThe properties of the integrated Intel UHD graphics functiondepend on the processor type used. [5]The PC offers three video outputs that support 1080p/60 and 2160p/60:- 1x HDMI v2.0b- 2x DisplayPort v1.4Supports 4K displays with 3840 x 2160 Ultra HD resolutionDisplayPort and HDMI support multi-channel digital audio via the same cable.Optional analogue D-Sub/VGA video output [4]Supports three independent displays via the integrated graphics function Drive bay1x 6.35 cm / 2.5" drive bay for one hard disk or one SSD drive with SATA connectionDrive height 12.5 mm (max.) SATA connection) SATA connector1x Serial-ATA III, 6 Gb/s (600 MB/s) data transfer rateWith Serial-ATA power connector (onboard) M.2-2280M SSD slotThe M.2 2280M slot offers the following interfaces:- PCI-Express Gen. 3.0 X4 supports NVMe- SATA v3.0 (max. 6 Gbit/s)M.2 cards used must be 22 mm wide - PCI-Express Gen. 3.0 X4 supports NVMe - SATA v3.0 (max. 6 Gbit/s) plug-in cards used must be 22 mm wideand can have a length of 42, 60 or 80 mm (type 2242, 2260, 2280).Supports M.2 SSDs with SATA or PCI Express interface M.2-2230E slot for WLAN cardsInterfaces: PCI-Express Gen. 2.0 X1 and USB 2.0Used M.2-2230-plug-in cards used must be 22 mm wide and 30 mm long (type 2230)Supports WLAN expansion cards (optional Shuttle accessory: WLN-M / WLN-M1) Sound functionAudio Realtek® ALC 897/662/888S High-Definition AudioTwo analogue 3.5 mm audio connections on the front:1) 2-channel line-out (headphones)2) Microphone inputDigital multi-channel audio output via HDMI and DisplayPort Dual network controllerTwo RJ45 network connections, each with two status LEDsNetwork chips used:1) Intel i225 or i226 supports 100 / 1.000 / 2.500 MBit/s data transfer rate2) Intel 219V/LM supports 10 / 100 / 1,000 MBit/s data transfer ratePCIe interfaceSupports WAKE ON LAN (WOL)Supports booting from the network via Preboot eXecution Environment (PXE) Front connectorsMicrophone inputAudio line-out (headphones)1x USB 3.2 Gen 1 Type A (blue)1x USB 3.2 Gen 1 Type C2x USB 2.0 Type A (black)On/Off buttonPower indicator LED (blue)Hard drive LED (yellow) Rear connections1x HDMI 2.0b connection [1]2x DisplayPort 1.4 connection (DP) [2]Optional: 1x D-Sub VGA connection (accessory PVG01 [4])2x USB 3.2 Gen 1 Type A (blue)2x USB 2.0 type A (black)2x RJ45 LAN port (1G + 2.5G)2x RS232 serial port, 9-pin D-Sub (5/12V) D-Sub (5/12V, 1x RS422/RS485) [3]1x DC input for external power supply (supports 19V±5%)1x 4-pin connector (2.54 mm pitch) supported:- external power button- Clear CMOS function- 5V DC voltage for external components2x perforation for optional wireless LAN antennas2x opening for Kensington Lock Further onboard connections1x jumper for power-on-after-power-fail (hardware solution) [7]1x analogue VGA graphics output CN6 (2x10 pins, 1 mm pitch) [4]2x serial interface (COM) used for backpanel connections1x USB 2.0 (4 pins) for optional accessory WWN03 (LTE kit)1x fan connection (4 pins) occupied by the cooling system1x connection for CMOS battery (occupied) Scope of deliveryMultilingual installation instructions (DE, EN, FR, ES, JP, KR, SC, TC)VESA bracket for 75/100mm standard (two metal brackets)Four M3 x 5 mm screws (connects VESA bracket to PC)Four M4 x 10 mm screws (connects VESA bracket to external mounting)Four M3 x 4 mm screws (for mounting a 2.5" drive)Two M3 x 5 mm screws (silver-coloured, for attaching two M.2-cards)Driver DVD (Windows 64 Bit)Serial ATA cable for 2.5" drive with power connectionExternal 120W power supply unit with power connection cableProtective cap for the CPU socket (do not use if heatpipe or cooler are installed)Thermal paste Optional accessories- PVG01:Optional D-Sub VGA video output [4]- WLN-M(802.11ac, Wifi 5) or WLN-M1(802.11ax, Wifi 6): WLAN module in M.2-2230 formatFormat with two external antennas supports WLAN and Bluetooth- WWN03:LTE adapter kit with antennas, but without LTE card [8]- PS02:Feet for vertical operation- CXP01:Adapter cable for an external power button- PRM01:2U rack panel for two Shuttle XPC slim PCs- DIR01:DIN rail mounting kit Environmental parametersPermissible operating temperature range: 0-50 °C [6]Relative humidity, non-condensing: 10-90 % Certificates / Conformity:EMI: FCC, CE, BSMI, RCM, VCCISafety: CB, BSMI, ETLOthers: RoHS, Energy Star, ErP ConformityThis device is classified as Class B information technology equipment (ITE) and is primarily intended for use in residential and office environments. The CE mark confirms conformity with the following EU directives:(1) Directive 2014/30/EU on electromagnetic compatibility (EMC)(2) Directive 2014/35/EU on the safety of electrical equipment (LVD)(3) Directive 2009/125/EC on the ecodesign of energy-related products (ErP)Footnotes:[1]HDMI output supportsDVI with optional adapter[2] Convert DisplayPort to HDMI/DVIThe DisplayPort output can be converted to HDMI or DVI with an inexpensive, passive adapter cable. For example:DELOCK 82590: 1m, DisplayPort (male, 20P) to HDMI-A (male, 19P)DELOCK 82435: 5m, DisplayPort (male, 20P) to DVI-D (male, 24P) 24P)The integrated graphics function recognises the characteristics of the connected display and outputs the appropriate electrical signal - either DisplayPort (without adapter) or HDMI/DVI (with adapter).Conversely, a monitor with DisplayPort cannot be connected to the HDMI output via a simple, passive adapter.[3] Serial interfacesThis PC has two serial RS232 interfaces with 9-pin D-Sub connectors on the rear. The left COM port (COM1) can also be switched to RS422 and RS485 mode in the BIOS setup.Pin 9 of the D-Sub COM port connections is a multifunctional connection. The mainboard jumper JP1 can be used to configure whether pin 9 is switched as a "Ring Indicator" (RI) or provides an external power supply of 5V or 12V. Each COM port can be configured individually. The maximum current is 500 mA per connection.[4] Optional D-Sub/VGA outputThe mainboard has an analogue graphics output CN6 on the mainboard. This can be routed to the outside via an optional adapter (PVG01) as a 15-pin D-Sub connection. This replaces a serial interface (COM port) in the back panel. The integrated graphics supports a maximum of four displays simultaneously.[5] Intel processors without integrated graphics function, recognisable by the letter "F" in the processor designation, e.g. Core i7-12700F,are not compatible.[6] Operating temperatureSSD drives (up to 70 °C) and SO-DIMM memory with an extended temperature range (up to 95 °C) are recommended for high ambient temperatures from 40 °C.[7] Power-On-after-Power-FailThe BIOS setup under "Power Management Configuration" contains the "Power-On-after-Power-Fail" function, which defines how the PC reacts after a power failure: (1) switch on unconditionally, (2) restore status before the power failure or (3) leave switched off. In principle, however, this function can fail in the event of very short power failures, so that the DH670 also has a pure hardware solution. If you remove jumper JP2 (on the mainboard behind the power button), the PC will start as soon as the power supply is restored.[8] Optional accessories WWN03 (LTE kit)The Shuttle XPC accessory WWN03 accessory kit allows you to equip this PC with an LTE/4G function for mobile networks. The 2.5" slot is used for the installation of the LTE card, so that an SSD in M.2 format is required as mass storage. An LTE module in M.2-3042 format and a nano SIM card are still required and are not included in the scope of delivery.[9] TPM functionThis product already has a firmware TPM (fTPM) v2.0. It is also prepared for a hardware TPM chip so that it can be fitted in the factory on special order.

Specifications

Scan this QR code to view the product

All details, up-to-date prices and availability