Stylish 1-litre PC - fanless and reliable

The XS36V5 is the new model of Shuttle's successful XS36 range and comes with an energy-efficient Intel Celeron Dual Core processor, codenamed "Braswell". This version maintains the proven chassis design with fanless cooling and high connectivity. The 1-litre PC brings Intel's powerful HD Graphics (8th Gen) that supports hardware acceleration for full HD video encoding/decoding on up to three displays. With an appropriate SSD or hard drive installed, the XS36V5 is suitable for continuous 24/7 operation and the platform of choice for office and media applications. In addition, two serial ports can be used also for vertical market applications.

Shuttle XPC slim Barebone

XS36V5

Fanless | nonstop 24/7 | intel LAN

Images are for illustration purposes only.
Memory and storage are not included.

Feature Highlights

Chassis	• Slim 1.15 litre chassis • Dimensions: 20 x 16 x 3.6 cm (DxHxW) • Hole for the Kensington Lock • Optional: VESA75/100 mounting kit PV03
Operating System	• Without operating system • Compatible with Windows 7 / 8.1 / 10 (64-bit) and Linux (64-bit)
CPU	• Intel Celeron N3050, 14nm Braswell Dual Core, up to 2.16 GHz
Graphics	• Integrated Intel HD Graphics (8th Gen) • Supports Triple Display and 1080p Video
Memory	• 1x SO-DIMM socket (204-pin) • Max. size: 8 GB DDR3L-1600 (1.35V)
Storage	• Supports one 2.5" SATA hard disk or SSD • With SD card reader (SD/SDHC/SDXC)
Connectors and WLAN	• 3 video ports: HDMI, DisplayPort, D-Sub • 2x USB 3.0, 3x USB 2.0 • 2x Audio (mic, headphones) • Gigabit LAN (Intel i211), WLAN 802.11g/n • 2x Serial Ports (RS232 + RS232/422/485)
Power Supply	• External 40 W fanless power adapter • Energy saving: 8.4~19.6W under Windows
Applications	• Office, POS, Automation, Digital Signage

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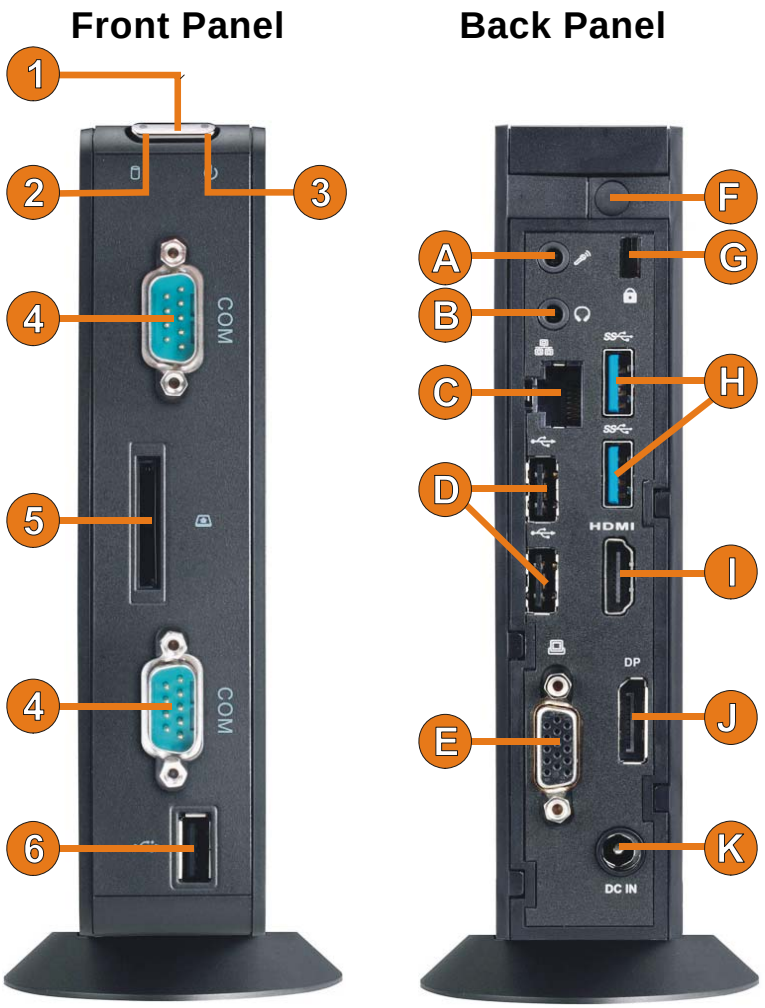
Shuttle XPC slim Barebone XS36V5 – Connectors



1	Power button	**A**	Microphone input	**G**	Hole for the Kensington-Lock
2	Hard disk LED	**B**	Headphones output (Line out)	**H**	2x USB 3.0 connector
3	Power LED	**C**	Gigabit LAN connector (RJ45)	**I**	HDMI connector
4	2x RS232 COM ports	**D**	2x USB 2.0 connectors	**J**	DisplayPort connector
5	SD card reader	**E**	D-Sub/VGA connector	**K**	DC input for the power adapter
6	USB 2.0 connector	**F**	One screw to open the chassis		

Notice:
Please make sure the system is always operated in upright position using either its stand or the optional VESA mount. Ventilation holes must not be blocked to ensure sufficient cooling.

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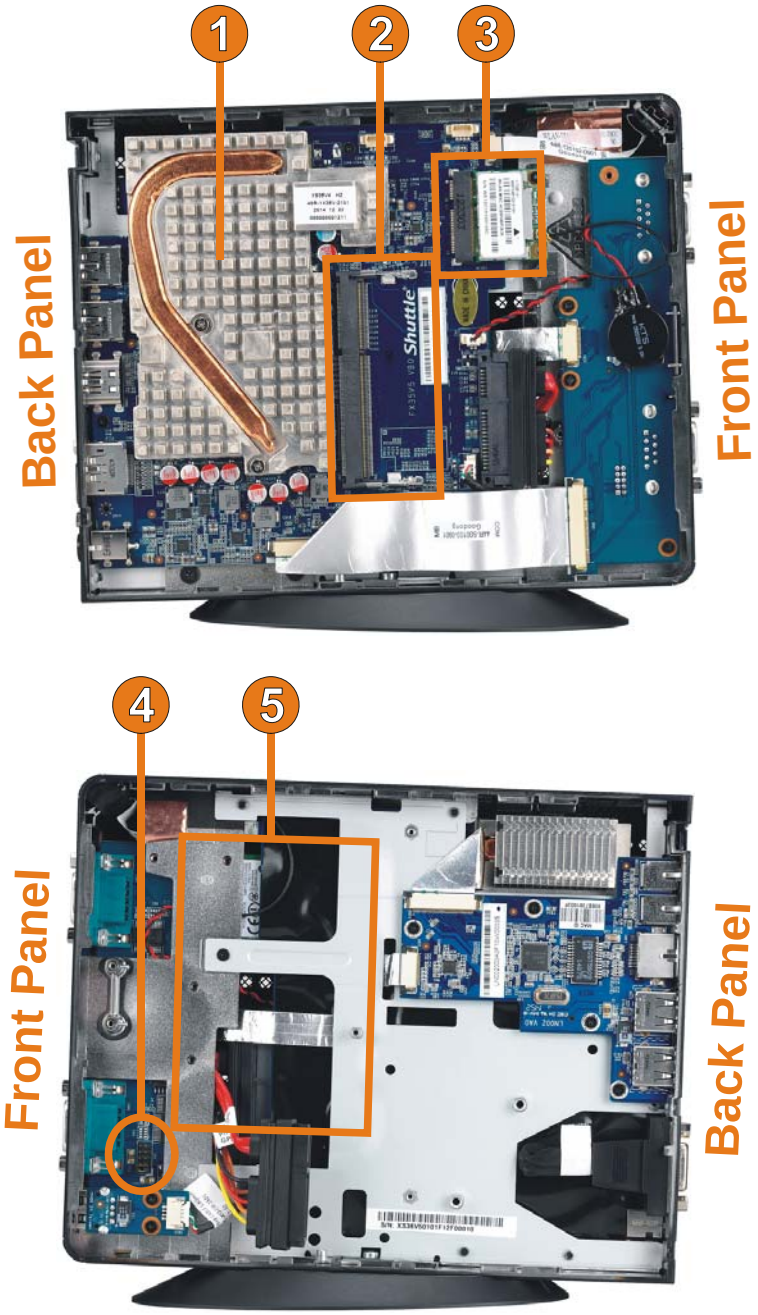
Shuttle XPC slim Barebone XS36V5 – Side View



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Shuttle XPC slim Barebone XS36V5 - Product Features

POS system with a Shuttle XS36V5

Ideal for professional applications

Designed as a space-saver, this sleek 1.15 litre nettop PC only measures 3.3 cm in width. It maximizes space whether it is placed upright using its stand or affixed to the back of a display with the optional VESA mounting kit. Due to its small size and flexible design, this practical nettop offers exceptional functionality. It is well-suited for professional applications like digital signage, POS system, POI terminals, control PC or office PC (e.g. thin client). Thanks to the serial ports, it quickly connects to appropriate POS displays, cash registers or digital sensors.

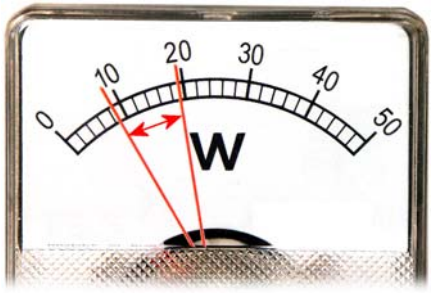
Fanless and quiet

The Shuttle XPC slim Barebone XS36V5 uses a passive thermal module with heatpipes to transmit heat throughout the system quickly and evenly. As an additional benefit, fanless cases rarely gather dust on the inside and stay cleaner than others. So it's not only quiet and low in energy use, but also dust-free and virtually maintenance free.

24/7 nonstop operation

The Shuttle XPC slim Barebone XS36V5 is officially approved for 24/7 permanent operation. Thanks to its low power consumption and completely passive cooling, this PC runs highly reliably making it perfectly suitable for digital signage and POI/POS applications.

<u>Conditions for permanent use:</u>
- Ambient temperature while under load: 5-35°C
- Air humidity while under load: 10-90% (not condensing)
- Free circulation of air amongst the PC must be guaranteed
- Ventilation holes must be clear
- If a hard disk is installed, this must also be approved for permanent operation by its manufacturer.



Highly energy-saving

The Shuttle XPC slim Barebone XS36V5 barely consumes, depending on system load, about 8.4~19.6 Watt. Running the device*) 5 days a week for eight hours a day, the annual consumption would amount to approx. 18~41 kWh which would mean just 4.5~10.2 Euros on the power bill (25 Euro ct/kWh) - way less than a conventional desktop PC draws.
*) Based on a configuration with 4 GB of memory, 64 GB SSD and Windows 8.1 64-bit.

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What does "Barebone" mean?

Shuttle's barebones line such as the Shuttle XPC slim Barebone XS36V5 is targeted at experienced users seeking to build a complete system to meet their individual requirements. The bulk of components is yet built in, simply the following hardware is to be installed upon purchase which is in this case:

- One 6.35 cm/2.5" Serial ATA hard disk or Solid State Disk (SSD)
- One DDR3L SO-DIMM memory module (204-pin), max. 8 GB
- USB keyboard and USB mouse
- Operating system: Windows 7 / 8.1 / 10 (64-bit) or Linux (64-bit)

Easy installation

Just remove one screw to unmount the two chassis covers.

Optional VESA mount (Accessory PV03)

Its optional VESA75/100 mount allows it to be installed on to walls or just affixed on the rear side of a monitor which is particularly interesting for the industry segment, company buildings and public institutions.

Celeron N3050 - energy efficient Dual Core CPU

The Shuttle XPC slim Barebone XS36V5 is equipped with Intel's Celeron N3050 processor which is a power efficient System-on-a-Chip (SoC) from the Braswell family. Thanks to the optimized 14 nanometer process, four x86-64 CPU cores and a clock speed of 1.60 to 2.16 GHz (Burst), energy efficiency and performance per clock have been significantly improved compared to its predecessors.

Triple monitor support with HDMI, DisplayPort and VGA

The 8th generation of „Intel HD Graphics" supports DirectX 11.2 and features 12 execution units for 3D. It supports multiple displays connected through HDMI (DVI through optional adapter), DisplayPort (DP) and D-Sub/VGA. This improves user capability and productivity by allowing for spreading multiple windows across three monitors and view them simultaneously.

Two USB 3.0 SuperSpeed connectors

The Shuttle XPC slim Barebone XS36V5 has two built-in USB 3.0 ports at the rear panel. USB 3.0 "SuperSpeed" provides a significant performance increase over previous USB generations making it the ideal interface solution for demanding, external peripherals. USB 3.0 supports up to 5Gb/s full duplex which means up to 10 times greater performance over USB 2.0. It also provides higher power and is

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backward compatible with USB 2.0.

SD card reader

The built-in SD card reader at the front makes it easy to transfer files from your camera so you can share videos and photos on your Shuttle XPC slim Barebone XS36V5 with ease.

Two serial RS-232 ports (COM)

The Shuttle XPC slim Barebone XS36V5 features two serial RS232 COM ports at the front panel. Both ports support 5V/12V auxiliary voltage and the upper port is switchable to RS422 or RS485 mode. Today, many consumer PCs do no longer have this legacy ports, since this interface has been superseded by USB. Still, they are commonly used for applications in the industrial automation field, scientific analysis and POS systems.

Kensington Lock

This is a small, metal-reinforced hole as part of an anti-theft system. As known from notebooks, this Slim PC can also be safely locked by tieing it to a solid object.
(Lock-and-cable not included.)

Tiny power adapter

The external fanless 40W power adapter is virtually noiseless and can easily be hidden behind the desk thanks to its tiny dimensions.
Dimensions: 89.5 x 37 x 26.5 mm (LWH) = 88ml

Watchdog — protecting system security

The built-in Watchdog Timer provides excellent security protection for systems that need to operate continuously for a long period of time. Use Shuttle's Watch Dog utility to maintain normal operation and stability of the system at all times. If, due to a hardware failure or program error, this utility fails to restart the watchdog, the timer will elapse and generate a hardware reset and reboot the system.

Supports Energy-Efficient DDR3L memory only

Please note that this PC does only support 1.35V DDR3L memory modules. DDR3L has a lower operation voltage compared to DDR3 and draws less power without compromising on performance or reliability.

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Shuttle XPC slim Barebone XS36V5 Specifications

Fanless and silent	Completely fanless, virtually noiseless Passive cooling through convective heat transfer Perfect to be used in noise-sensitive environments Fanless means less dust and thus virtually no maintenance required
Energy Efficient	Power consumption: ca. 8.4 W (idle mode) and ca. 19.6 W (full load) (Configuration: 4 GB RAM, 64 GB SSD and Windows 8.1)
Operation Position	Please make sure the system is always operated in upright position using either its stand or the optional VESA mount. Ventilation holes must not be blocked to ensure sufficient cooling.
Chassis	Dimensions without stand: 20 x 16 x 3.6 cm (DxHxW) = 1.15 litres Hole for Kensington Lock at the back panel Optional accessory: 75mm and 100mm VESA mounting kit (PV03)
Operation System	This system comes without operating system. It is compatible with Windows 7 / 8.1 / 10 (64-bit) und Linux (64-bit) **[3]** Caution: Windows 8 is not supported
Processor	Intel Celeron N3050, Dual Core CPU clock frequency: 1.6 GHz, max. Turbo frequency: 2.16 GHz Braswell platform, Airmont architecture, 14 nm structure CPU cores / Threads: 2 / 2 Cache: 2 MB Thermal Design Power (TDP): 6 W Scenario Design Power (SDP): 4 W Supports AES-NI and VT-x SOC design with integrated graphics processor, no chipset required
Integrated Graphics	Integrated Graphics The Graphics Processing Unit (GPU) is integrated into the processor Intel HD Graphics (8th Gen), graphics frequency: 320~600 MHz Supports DirectX 11.2, OpenGL, Quick Sync Execution Units (EU): 12 Three video outputs: - HDMI 1.4b: max. 1920 x 1200 resolution @ 60Hz - Display Port 1.1b: max. 2560 x 1600 resolution @ 60Hz **[2]** - D-Sub (VGA): max. 1920 x 1200 resolution @ 60Hz Triple display: supports max. three independent displays simultaneously
UEFI Firmware	8Mbit Flash ROM with AMI's Aptio UEFI BIOS Firmware Based on the Unified Extensible Firmware Interface (UEFI) [1] Supports Power fail resume / AC power on state / always on / always off Supports Wake-on-LAN (WOL) from S3, S3, S5 ACPI states Supports boot up from external flash memory cards

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Memory	1x SO-DIMM slot with 204 pins Supports one module DDR3L-1333 (PC3-10600) at 1.35V Maximum capacity: 8 GB DDR3L-1600 is supported at DDR3L-1333 clock rate Caution: This mainboard does only support 1.35V DDR3L memory modules. DDR3L has a lower operation voltage compared to DDR3
2.5" Bay	Supports one Serial ATA hard disk (5400 / 7200 rpm) or one SATA SSD drive in 6.35cm/2.5" format Serial ATA III Interface with up to 600 MB/s transfer speed Supports a drive with a max. height of 9.5 mm Supports Unified Extensible Firmware Interface (UEFI)
Integrated Audio	Realtek ALC269 Audio Codec with Azalia and D3 mode support Two analog audio connectors (3.5mm): 1) Line out (head phone) 2) Microphone input
Card Reader	Integrated card reader supports standard SD, SDHC and SDXC memory flash cards
Wired Network	RJ45 connector supports Gigabit LAN at 10/100/1000 Mbit/sec. Intel i211 Ethernet Controller with MAC, PHY and PCIe interface Supports Wake-on-LAN
Wireless Network	Half-size Mini PCIe WLAN card WLAN chip: Realtek RTL8188EE Supports IEEE 802.11b/g/n, max. 150Mbps up-/downstream (1T1R)
LEDs and Buttons	Power button Power LED (blue)
Front Panel Connectors	2x RS232 serial port (support of an auxiliary voltage of 5V/12V, the upper port is switchable to RS422 / RS485) 1x USB 2.0 SD card reader
Back Panel Connectors	HDMI 1.4b digital video and audio output DisplayPort 1.1a digital video and audio output D-Sub/ VGA analog video output (15-pin) 2x USB 3.0 2x USB 2.0 Gigabit network (LAN, RJ45) Audio Line-out (headphones) Microphone input DC input for the external power adapter

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Power Supply	External 40W AC/DC power adapter (fanless) AC Input: 100~240V AC, 50~60 Hz DC Output: 19V DC / 2.1 A Automatic voltage adjust Dimensions: 89.5 x 37 x 26.5 mm (LWH) DC Connector: 5.5/2.5mm (outer/inner diameter)
Optional Accessories	VESA mount made of metal (PV03)
24/7 Nonstop Operation	This device is approved for 24/7 permanent operation. Requirements: - Free air circulation around the PC must be guaranteed. - Ventilation holes must be kept clear. - Any installed hard disk must also be approved for permanent operation by its manufacturer (max. one hard disk)
Environ-mental spec.	Operating temperature range: 0~35°C Relative humidity range: 10~90% (non-condensing)
Certification and Compliance	EMI: FCC, CE, BSMI, C-Tick Safety: ETL, CB, BSMI Other: RoHS, Energy Star, ErP This device is classed as a technical information equipment (ITE) in class B and is intended for use in living room and office. The CE-mark approves the conformity by the EU directives: (1) 2004/108/EC relating to electromagnetic compatibility (EMC), (2) 2006/95/EC relating to Electrical Equipment designed for use within certain voltage limits (LVD), (3) 2009/125/EC relating to ecodesign requirements for energy-related products (ErP), (4) 1999/5/EC related to Radio and Telecommunications Terminal Equipment (R&TTE)

[1] UEFI-Firmware (versus BIOS)
Just as with many modern PCs, the XS36V5 does away completely with a BIOS, but uses a pure UEFI firmware instead. The terms UEFI firmware and BIOS are widely used synonymously, but hardware initialising is now performed by the UEFI. Users might not even notice, but the operating system must be installed and executed in UEFI mode. UEFI creates a GUID Partition Table (GPT) on the system partition instead of a Master Boot Record (MBR). A PC running pure UEFI firmware alone, must have a 64-bit operating system installed.

[2] 4K resolution
Playback of videos in 4K resolution (3840x2160) at 30Hz is technically possible through both HDMI and DisplayPort. However Shuttle does not recommend it, as the refresh rate appears to be too low for cursor moves and the processor performance is considered to be not sufficient for fluent playback of 4K content.

[3] Selection of the Operation Systrem
Prior to the installation of the operation system, please enter BIOS (press "Delete" key while booting), switch to "Boot" menu and then change the setting "OS Select" according to the operation system used.

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Shuttle XPC slim Barebone XS35/XS36 Series – A History

XS35 Series

Supports Slimline-DVD drive

XS36 Series

Supports two serial ports

Model	Graphics	Graphics output	USB 3.0	COM	WOL [3]	ODD [4]	Processor	Memory	LAN
XS35	Intel GMA3150	D-Sub	-	-	-	Yes	**Atom D510** 1.66 GHz 45nm Pineview	**Max. 2 GB** DDR2-800 1x SO-DIMM	100
XS35GT	NVIDIA ION2	D-Sub, HDMI	-	-	-	Yes			
XS35V2	Intel GMA3150	D-Sub	-	-	-	Yes	**Atom D525** 1.80 GHz 45nm Pineview	**Max. 4 GB** DDR3-800 1x SO-DIMM	Giga
XS35GT V2	NVIDIA ION2	D-Sub, HDMI	-	-	-	Yes			
XS35GTA V2	ATI Mobility Rad. HD 5430	D-Sub, HDMI	-	-	-	Yes			
XS35GS V2	ATI Radeon HD 7410M	D-Sub, HDMI	-	-	-	Yes			
XS35V3(L)	Intel GMA3650 [2]	D-Sub, HDMI	-	-	Yes	Yes	**Atom D2700** 2.13 GHz 32nm Cedarview	**Max. 4 GB** DDR3-1066 2x SO-DIMM	Giga
XS35GTA V3 XS35GS V3 [1]	ATI Radeon HD 7410M	D-Sub, HDMI	-	-	Yes	Yes			
XS36V	Intel GMA3650 [2]	D-Sub, HDMI, DVI	-	**2x**	Yes	-			
XS35GS V3L	ATI Radeon HD 7410M/7450[6]	D-Sub, HDMI	-	-	Yes	Yes	**Atom D2550** 1.86 GHz [5] 32nm Cedarview		
XS36VL	Intel GMA3650 [2]	D-Sub, HDMI, DVI	-	**2x**	Yes	-			
XS35V4	Intel HD Graphics (7^{th} Gen) [8]	D-Sub, HDMI, DisplayPort	**1x**	-	Yes	Yes	**Celeron J1900** 2.00~2.42 GHz) 22nm Bay Trail	**Max. 8 GB** DDR3L-1333 1x SO-DIMM	Giga
XS36V4			**1x**	**2x** [7]	Yes	-			
XS35V5	Intel HD Graphics (8^{th} Gen) [8]	D-Sub, HDMI, DisplayPort	**2x**	-	Yes	Yes	**Celeron N3050** 1.6~2.16 GHz 14nm Braswell	**Max. 8 GB** DDR3L-1600 1x SO-DIMM	Giga
XS36V5			**2x**	**2x** [7]	Yes	-			

[1] **XS35GTA V3** is called **XS35GS V3** outside EU.
[2] Intel offers sophisticated graphics drivers for the integrated Intel GMA3650 graphics for Windows 7 32-bit only.
[3] Supports Wake-on-LAN (WOL), Power fail resume (always on/off) and Resume by RTC Alarm
[4] "ODD" means a 5.25" bay for an optical drive in slimline format
[5] In 2012, Intel phased out the Atom D2700 processor and introduced the D2550 as its successor.
[6] XS35GS V3L: In the beginning of 2014, the GPU was updated from HD 7410M to HD 7450.
[7] XS36V4/V5 provides two serial RS232 ports which both support 0V/5V/12V. The upper port is switchable to RS422 / RS485.
[8] Supports Windows 7 / 8.1 / 10 and Linux – 64-bit only

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