Datasheet
Fujitsu
Workstation
CELSIUS W5012

Fujitsu recommends Windows 11 Pro

VR Ready CAD Powerhouse

If you thought you would need to sacrifice performance, expandability, or price in a micro tower design – think again. The Fujitsu CELSIUS W5012 desktop workstation goes far and beyond with its innovative design, featuring the latest 13th generation Intel® Core™ processor, stable Intel vPro® technology, DDR5 memory, and dual slot full- height graphics card support.

Powerful, expandable, and reliable

Maximum performance for demanding applications and creative workflows

- Powered by the latest 13th generation Intel® Core™ processors
- Windows 11 Pro support
- Up to 128 GB DDR5 4,400 MT/s memory (incl. ECC)
- Support for 24/7 operation with reliable high-endurance and business critical drives
- Full support for ISV applications and easy integration into existing IT environments
- Broad choice of graphics cards, ranging from integrated Intel graphics to professional graphics cards from NVIDIA

Excellent connectivity

Best-in-class connectivity features allow you to be flexible and stay productive

- Flexible graphics connector options: HDMI, Type-C, DP 1.4a, Intel® Thunderbolt™ 4
- USB Type-C® option supporting 60 Watt output power to run a display w/o extra power supply
- PCIe 5.0 x16 slot for higher speed with graphics cards

Clean design and upgradability

Ultimate usability, reliability, and ease of use

- Clutter-free interiors and cold-plug technology for HDDs inside
- Tool-less access to components for easy access and upgrade
- Supports massive amount of data storage with 4 storage slots

Wide application scenarios

Perfect machine for AEC, BIM, M&E, Product Design and Manufacturing workflows

- Supports graphics-accelerated applications
- Advanced CPUs in combination with flash storage for best application performance
- Up to 8 monitors with the NVIDIA® Mosaic™ technology

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Specification

	CELSIUS W5012	CELSIUS W5012 ESTARx
Processor	Intel® Core™ i9-13900 processor (24 Cores (8+16)/32 Threads, 2.0 GHz, 36 MB, Intel® UHD Graphics 770)** Intel® Core™ i7-13700 processor (16 Cores (8+8)/24 Threads, 2.1 GHz, 30 MB, Intel® UHD Graphics 770)** Intel® Core™ i5-13500 processor (14 Cores (6+8)/20 Threads, 2.5 GHz, 24 MB, Intel® UHD Graphics 770)* Intel® Core™ i3-13100 processor (4 Cores/8 Threads, 3.4 GHz, 12 MB, Intel® UHD Graphics 730)* Intel® Core™ i9-12900 processor (16 Cores (8+8)/24 Threads, 2.4 GHz, 30 MB, Intel® UHD Graphics 770) ** Intel® Core™ i7-12700K processor (12 Cores (8+4)/20 Threads, 3.6 GHz, 25 MB, Intel® UHD Graphics 770) ** Intel® Core™ i7-12700 processor (12 Cores (8+4)/20 Threads, 2.1 GHz, 25 MB, Intel® UHD Graphics 770) ** Intel® Core™ i5-12500 processor (6 Cores/12 Threads, 3.0 GHz, 18 MB, Intel® UHD Graphics 770) * Intel® Core™ i3-12100 processor (4 Cores/8 Threads, 3.3 GHz, 12 MB, Intel® UHD Graphics 730) *	
	Intel vPro® Platform Logo (optional) with Intel® Core™ i5-12500, Intel® Core™ i7 and Intel® Core™ i9 processors *With Intel® Turbo Boost Technology 2.0 (clock speed and performance will vary depending on workload and other variables) **With Intel® Turbo Boost Max Technology 3.0 (clock speed and performance will vary depending on workload and other variables)	
Operating systems		
Operating system pre-installed	Windows 11 Pro. Windows 10 Pro (Via Windows 11 Pro Downgrade Option). Fujitsu recommends Windows 11 Pro for business.	
Memory modules	32 GB (module(s) 32 GB) DDR5, unbuffered, non-ECC, UDIMM 16 GB (module(s) 16 GB) DDR5, unbuffered, non-ECC, UDIMM 8 GB (module(s) 8 GB) DDR5, unbuffered, non-ECC, UDIMM 32 GB (module(s) 32 GB) DDR5, ECC, UDIMM 16 GB (module(s) 16 GB) DDR5, ECC, UDIMM	
Graphics	High-end 3D: NVIDIA® Quadro RTX™ 4000, 8 GB, PCIe x16, 3 x DisplayPort, 1 x Virtual Link High-end 3D: NVIDIA® Quadro P2000, 5GB, PCIe x16, 4 x miniDP Entry 3D: NVIDIA® T1000, 8 GB, PCIe x16, 4 x miniDP Entry 3D: NVIDIA® T400, 4 GB, PCIe x16, 3 x miniDP Entry 3D: NVIDIA® T400, 2 GB, PCIe x16, 3 x miniDP Others: MiniDP to DP Adapter Cable	High-end 3D: NVIDIA® Quadro RTX™ 4000, 8 GB, PCIe x16, 3 x DisplayPort, 1 x Virtual Link High-end 3D: NVIDIA® Quadro P2000, 5GB, PCIe x16, 4 x miniDP Entry 3D: NVIDIA® T400, 4 GB, PCIe x16, 3 x miniDP Entry 3D: NVIDIA® T400, 2 GB, PCIe x16, 3 x miniDP Others: MiniDP to DP Adapter Cable
HDD 3.5 inch size	HDD SATA III, 7,200 rpm, 1000 GB, 3.5-inch HDD SATA III, 7,200 rpm, 2000 GB, 3.5-inch HDD SATA III, 7,200 rpm, 4000 GB, 3.5-inch HDD SATA III, 7,200 rpm, 8000 GB, 3.5-inch HDD SATA III, 7,200 rpm, 4000 GB, 3.5-inch, B.C HDD SATA III, 7,200 rpm, 8000 GB, 3.5-inch, B.C	
M.2 SSD	SSD PCIe, 2048 GB M.2 NVMe (Gen4), SED SSD PCIe, 1024 GB M.2 NVMe (Gen4), SED SSD PCIe, 512 GB M.2 NVMe (Gen4), SED SSD PCIe, 512 GB M.2 NVMe (Gen4), Value, SED	SSD PCIe, 2048 GB M.2 NVMe (Gen4), SED SSD PCIe, 1024 GB M.2 NVMe (Gen4), SED SSD PCIe, 512 GB M.2 NVMe (Gen4), SED SSD PCIe, 512 GB M.2 NVMe (Gen4), Value, SED RAID1 Bundle 2x512GB M.2 NVMe
Hard disk notes	One Gigabyte equals one billion bytes, when referring to hard disk drive capacity. SSD (Solid State Disk) SED (Self-Encrypting Drive) Durability in accordance with the manufacturer's indications on read and write cycles.	

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Wireless LAN	Intel® Wi-Fi 6E AX211 (2x2/160) Gig+ and Bluetooth 5.2 vPro (depends on OS support); SRD cat.1 (6E frequency only in dedicated regions)	
Expansion	Dual serial card PCIe x1 2.5 Gigabit Ethernet PCIe x1 DVD SuperMulti SATA slim (tray)	
Wireless LAN Notes	WI-FI 6E: The device does not operate in 6GHz band in all countries, depending on individual local regulations.	

Base unit

	CELSIUS W5012	CELSIUS W5012 ESTARx
Mainboard		
Mainboard type	D4017	
Formfactor	Proprietary	
Chipset	Intel® W680	
Processor socket	LGA1700	
Processor Qty (max.)	1	
Supported RAM (max.)	128 GB	
Memory slots	4 DIMM (DDR5)	
Memory frequency	4,400 MT/s	
Memory notes	Dual channel support For dual channel performance, 2 memory modules have to be ordered. Capacity per channel has to be the same. 4400 MHz may be clocked down to 4000/3600/MHz depending on processor and memory configuration	
LAN	10/100/1,000 MBit/s Intel® I219LM	
Integrated WLAN	Optional; The device does not operate in 6GHz band in all countries, due to national regulations.	
BIOS version	AMI Aptio V UEFI Specification 2.6	
BIOS features	BIOS Flash EPROM update by software Recovery BIOS Unified Extensible Firmware Interface (UEFI)	
Audio type	On board	
Audio codec	Realtek ALC897	
Audio features	Internal speaker supports audio playback, High Definition audio, 5.1 surround sound	
I/O controller on board		
Serial ATA total	6	
Controller functions	Serial ATA III (6 Gbit) NCQ AHCI SATA RAID Support PCIe RAID (0, 1, 5) Support	
Interfaces		
Audio: line-in	1	
Audio: line-out	1	
Front audio: headset	1	

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USB front	2x USB 2.0 2x USB 3.2 Gen2 (10 Gbps) 1x USB 3.2 Gen2x2 (20 Gbps) Type-C (supports up to 15W)	
USB rear	2x USB 2.0 3x USB 3.2 Gen2 (10 Gbps) 1x USB 3.2 Gen2x2 (20 Gbps) Type-C optional*:1x USB 3.2 Gen2 Type-C (supports DisplayPort 1.4 and power delivery (PD) up to 15W or 60W (occupies PCIe x16 slot)	
USB internal	1x USB 2.0 Type A	
VGA	No	
DisplayPort	2 (DP++) ; (3rd port optional*, DP)	
Serial (RS-232)	1 (optional serial port (9pin, 16 byte FIFO, 16550 compatible)) via Flexiboard	
HDMI	1 (HDMI 2.1; optional*)	
Ethernet (RJ-45)	1x RJ-45	
Interface Module notes	*Only one of the interfaces marked as "optional" can be configured at the same time Anytime USB charge functionality	
Input device		
Input devices (optional)	Keyboard Mouse	
Drive bays		
Drive bays total	6	
2.5-inch internal bays	1	
3.5-inch internal bays	2	
3.5-inch external bays	1	
5.25-inch external bays	2	
Drive bay notes	External 5,25" bays: one bay in HH format for 5,25" ODD or 5.25" Half Height (HH) external bay can be used for a 3.5" HDD, in addition one bay for slim optical disc drive External 3.5" bay can be used for optional 3.5" HDD Internal 3.5" bays: 3.5" drive (screwless) or 2.5" drive (screws; optional screwless) Maximum number of 3.5" HDD: 4 (possible with limitation on other components)	
M.2-2280	2 x on mainboard for SSD NVMe (PCIe 4.0 x4; up to 64Gbit/s)	
Slots		
PCI-Express 3.0 x1	1 x (70 mm with K CPUs or 110 mm / 2.76 inch with K CPUs or 4.33 inch) Full height	
PCI-Express 3.0 x4 (mech. x16)	1 x (270 mm / 10.63 inch) Full height	
PCI-Express 4.0 x4 (mech. x16)	1 x (270 mm / 10.63 inch) Full height	
PCI-Express 5.0 x16	1 x (270 mm / 10.63 inch) Full height	
M.2-2230	On mainboard for WLAN module	

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Graphics on board		
Graphics brand name	Intel® UHD Graphics 770, Intel® UHD Graphics 730 *Depends on CPU	
Shared video memory	Up to half size of total system memory	
TFT resolution (DisplayPort)	Up to 4,096 x 2,304 pixel	
TFT resolution (HDMI)	Up to 4,096 x 2,304 pixel	
Graphics features	Support for up to four independent displays DirectX® 12 HDCP support OpenCL™ 2.1 OpenGL® 4.6 Vulkan™ For multi monitoring mode, graphics card and integrated graphics run in parallel DisplayPort interface supports Ver. 1.4 incl. Multi-Stream Digital audio formats are supported, including Dolby Digital Plus (7.1 channels) DVI-D interface supports audio output if connected to the HDMI interface of a display via suitable adapter cables (not included) System provides one connector to be used for LAN or graphics Optional graphics connectors: HDMI™ 2.1 DisplayPort™ 1.4a DVI-D VGA USB Type-C® (supports DisplayPort™ 1.4 and power delivery (PD) up to 15W) USB Type-C® (supports DisplayPort™ 1.4 and power delivery (PD) up to 60W. Occupies PCIe x16 slot)	
Electrical values		
Power efficiency note	Power supply efficiency in % at 10% / 20% / 50% / 100% load 80Plus PLATINUM 680W: for 230V; 89/92/93/92 for 115V; 88/91/92/90 80Plus PLATINUM 300W: for 230V; 88/92/94/93 for 115V; 87/91/92/91	
Rated voltage range	100 V - 240 V	
Rated frequency range	50 Hz - 60 Hz	
Operating voltage range	90 V - 264 V	
Max. output of single power supply	300W or 680 W (depending on PSU)	
Power factor correction/active power	Active	
Power supply output	Power supply PLATINUM 680W: 2 graphics power rails (6 pin- and 8 pin connectors)	
Noise emission		
Standard noise emission	According to ISO 7779:2010, ECMA-74	
Standard noise notes / description	A-weighted sound power level Lwad (in B) / Workplace related A-weighted sound pressure level LpAm (in dB(A))	

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Dimensions / Weight / Environmental		
Dimensions (W x D x H)	180 x 304 x 375 mm (7.09 x 11.97 x 14.76 inch)	
Operating position	Vertical	
Weight	Approx. 10kg	
Weight (lbs)	Approx. 22.05lbs	
Weight notes	Actual weight may vary depending on configuration	
Operating ambient temperature	10 - 35 °C (50 - 95 °F)	
Operating relative humidity	5 - 85 % (relative humidity)	
Compliance		
Model	MI7W	
Certification	CE RoHS (Restriction of hazardous substances) CCC (In progress) BSMI (In progress)	ENERGY STAR® RoHS (Restriction of hazardous substances) CCC (In progress) BSMI (In progress)
Compliance link	https://sp.ts.fujitsu.com/sites/certificates	
Additional Software		
Additional software (preinstalled)	McAfee® LiveSafe™ (provides award-winning antivirus protection for your PC and much more. 30 days trial pre-installed) Microsoft Office (1 month trial for new Microsoft® Office 365 customers. Buy Microsoft Office.)	
Additional software (optional)	Recovery DVD for Windows® Drivers & Utilities DVD (DUDVD) Nero Essentials XL Microsoft® Office Professional 2021 Microsoft® Office Home and Business 2021 (Need to buy license to activate the pre-installed Microsoft Office. Purchase and activation only in the region in which it was acquired.)	
Additional software (notes)	Use of accompanying and/or additional Software is subject to proactive acceptance of the respective License Agreements /EULAs/ Subscription and support terms of the Software manufacturer as applicable for the relevant Software whether preinstalled or optional. The software may only be available bundled with a software support subscription which – depending on the Software - may be subject to separate remuneration.	
Security		
Physical Security	Kensington Lock support Eye for padlock Integrated cabinet lock (optional) Cable Cover (optional; covers and secures the ports and cables on rear side)	

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System and BIOS Security	Embedded security (TPM 2.0) EraseDisk Credential Guard Ready and Device Guard Capable (requires 8 GB or more system RAM and SSD PCIe NVME) Modern Standby and Legacy Standby selectable Write protect option for the Flash EPROM Control of all USB interfaces External USB ports can be disabled separately Control of external interfaces	
User Security	User and supervisor BIOS password Hard disk password Access protection via SmartCard reader (optional) AuthConductor Client Basic (secure authentication solution)	
Security Notes	The properties of the product provide a baseline for product security and therefore end-customer IT security. However, these properties are not sufficient on their own to protect the product from all existing threats, such as intrusion attempts, data exfiltration and other forms of cyberattacks. To customize security settings, please use the configuration options as available for the respective product. During operation, the IT security of this product is within the responsibility of the respective administrator/end-user of the product. Please note, that Fujitsu as a manufacturer does not make any policy prescriptions or advocacy statements regarding IT security best practices and/or general product operation.	

Manageability

Manageability technology	DeskUpdate Driver management PXE 2.1 Boot code Wake up from S5 (off mode) Intrusion switch (optional) WoL (Wake on LAN) Intel AMT 16.0 (depending on processor)	
Manageability software	DeskView Client DeskView Instant BIOS Management	
DeskView components	BIOS Management incl. Security Inventory Management Driver Management Alarm Management	
Supported standards	DMI (Desktop Management Interface) SMBIOS (System Management BIOS) PXE (Preboot Execution Environment) WMI (Windows Management Instrumentation) WBEM (Web Based Enterprise Management) CIM (Common Information Model)	
Manageability link	http://www.fujitsu.com/fts/manageability	

Packaging information

Packaging dimension (mm)	495 x 490 x 300mm	
Max. quantity / pallet	12	
Packaging material weight	1,580g	

	CELSIUS W5012	CELSIUS W5012 ESTARx
Warranty		
Warranty Terms & Conditions	https://www.fujitsu.com/hk/ap/warranty	

More information

Moving forward for a sustainable world – Fujitsu Uvance

The word "Uvance" embodies a concept of "Making all (Universal) things move forward (Advance) in a sustainable direction.

Fujitsu Uvance will leverage Fujitsu's technological capabilities and problem-solving expertise across seven key focus areas, including Sustainable Manufacturing, Consumer Experience, Healthy Living, Trusted Society, Digital Shifts, Business Applications, and Hybrid IT, to offer unprecedented value to customers, while contributing to the achievement of its ultimate purpose —"to make the world more sustainable by building trust in society through innovation."

Through Fujitsu Uvance, we are committed to transforming the world into a place where people can live their lives, enjoying prosperity and peace of mind. Empowering each other to make the world more sustainable.

For more information of Fujitsu Uvance, please visit https://www2.fujitsu.com/global/uvance

Driving customer success with Fujitsu's complete portfolio of service offering

To grow in an uncertain world, it is imperative to stay resilient and agile to respond complex and unforeseen challenges.

Under the global business brand – Uvance, Fujitsu provides a full range of reliable and best-in-class product, service, and solution offerings with digital innovation, from sustainable manufacturing to smart city ecosystem, to create a more sustainable world and resolve social issues. This empowers customers to strengthen resilience through Fujitsu's trusted solutions using cutting-edge technologies, while increasing their business agility and improving the reliability of their IT operations.

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Note: For countries not listed above, please contact Hong Kong office.

Specification disclaimers

[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 11 is automatically updated, which is always enabled. ISP fees may apply and additional requirements may apply over time for updates. [2] GB = 1 billion bytes. TB = 1 trillion bytes, when referring to hard disk drive capacity. Accessible capacity may vary, also depending on used software. Up to 20 GB of HDD space is reserved for system recovery. [3] Shared memory depending on main memory size and operating system.

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