

Fujitsu recommends Windows 11 Pro.

Data Sheet

Fujitsu Workstation CELSIUS W5012

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 12th and 13th Gen Intel® Core™ processor, stable Intel® vPro™ technology, DDR5 memory, and dual slot full-length graphics card support.

Powerful, expandable, and reliable

Maximum performance for demanding applications and creative workflows

- Powered by the latest 12th and 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
- 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



Components

Processor	Intel® Core™ i9-13900 processor (24 Cores (8+16) / 32 Threads, 2.0 GHz, 36 MB, Intel® UHD Graphics 770) **
	Intel® Core™ i9-12900 processor (16 Cores(8+8) / 24 Threads, 2.4 GHz, 30 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™ i7-13700K processor (16 Cores(8+8) / 24 Threads, 3.4 GHz, 30 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™ i7-12700K processor (12 Cores (8+4) / 20 Threads, 3.6 GHz, 25 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™ i5-12500 processor (6 Cores / 12 Threads, 3.0 GHz, 18 MB, Intel® UHD Graphics 770) *
	<p>Intel® vPro® Platform Logo (optional) with Intel® Core™ i5-12500, Intel® Core™ i5-12600, Intel® Core™ i7 and Intel® Core™ i9 processors</p> <p>*with Intel® Turbo Boost Technology 2.0 (clock speed and performance will vary depending on workload and other variables)</p> <p>**with Intel® Turbo Boost Max Technology 3.0 (clock speed and performance will vary depending on workload and other variables)</p>
Operating systems	
Operating system pre-installed	<p>Windows 11 Pro. Fujitsu recommends Windows 11 Pro for business.</p> <p>Windows 11 Home</p> <p>Windows 10 Pro. Fujitsu recommends Windows 11 Pro for business.</p>
Operating system compatible	Certified for Red Hat® Enterprise Linux
Operating system notes	<p>Windows 11 requires for first device setup:</p> <ul style="list-style-type: none"> - Internet connectivity - Microsoft account for Home editions or organizational account (e.g. ADD) for Pro editions <p>After product end of life, Fujitsu continues to test and support new Windows releases for max. 5 years, depending on extension of hardware services through warranty top ups.</p> <p>For more details please visit our Fujitsu Service Statement under https://support.ts.fujitsu.com/IndexProdSupport.asp?lng=com&OpenTab=</p> <p>The use of Windows Operating System is subject to acceptance of the End User License Agreement of Microsoft as applicable under the relevant Microsoft program.</p> <p>Thunderbolt 4 not part of Red Hat® certification</p>
Memory modules	
	8 GB (module(s) 8 GB) DDR5, unbuffered, non-ECC, 4,800 MT/s, UDIMM
	16 GB (module(s) 16 GB) DDR5, ECC, 4,800 MT/s, UDIMM
	16 GB (module(s) 16 GB) DDR5, unbuffered, non-ECC, 4,800 MT/s, UDIMM
	32 GB (module(s) 32 GB) DDR5, ECC, 4,800 MT/s, UDIMM
	32 GB (module(s) 32 GB) DDR5, unbuffered, non-ECC, 4,800 MT/s, UDIMM
Graphics	
	High-end 3D: NVIDIA® Quadro RTX™ 4000, 8 GB, PCIe x16, 3 x DisplayPort, 1 x Virtual Link
	Midrange 3D: NVIDIA® Quadro® P2200, 5 GB, PCIe x16, 4 x DisplayPort
	Midrange 3D: NVIDIA® Quadro® P2000, 5 GB, PCIe x16, 4 x DisplayPort
	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

Mass Storage M.2 technology	RAID1 Bundle 2x512GB M.2 NVMe
Mass storage 3.5 inch size	HDD SATA III, 7,200 rpm, 8000 GB, 3.5-inch, business critical
	HDD SATA III, 7,200 rpm, 4000 GB, 3.5-inch, business critical
	HDD SATA III, 7,200 rpm, 2000 GB, 3.5-inch
Mass Storage M.2 technology	SSD PCIe, 2048 GB M.2 NVMe module (Gen4), SED
	SSD PCIe, 4096 GB M.2 NVMe Module (Gen4), SED
	SSD PCIe, 1024 GB M.2 NVMe module (Gen4), SED
	SSD PCIe, 512 GB M.2 NVMe module (Gen4), SED
	SSD PCIe, 512 GB M.2 NVMe Module (Gen4), Value, SED
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.
Drives (optional)	DVD Super Multi ultra slim (tray) MultiCard Reader 15in1 USB 3.0 3.5"
Interface add on cards/components (optional)	Intel® Wi-Fi 6E AX211 (2x2/160) Gig+ and Bluetooth 5.2 vPro; SRD cat.1 (dedicated regions only) Dual 2.5 Gigabit Ethernet PCIe x1 Dual serial card PCIe x1 FELX 2.5 Gigabit Ethernet FLEX Thunderbolt 4 FLEX COM-port Serial

Base unit

Base unit	CELSIUS W5012	CELSIUS W5012 ESTAR
Mainboard		
Mainboard type	D4017	
Formfactor	proprietary	
Chipset	Intel® W680	
Processor socket	LGA1700	
Processor quantity maximum	1	
Supported capacity RAM (max.)	64GB, (128 GB Project Model Only)	
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 Configuration with 3 (out of max. 4) modules should be avoided because of performance limitations Mix of 8, 16, 32 GB modules should be avoided because of performance limitations	
LAN	10/100/1,000 MBit/s Intel® I219LM	
Integrated WLAN	1 (optional)	
BIOS version	AMI Aptio V UEFI Specification 2.8	

Mainboard

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	1
Audio: line-out	1	1
Front audio: headset	1	1
Flexible Interface Options	One of following flexible Interface options can be added to the system HDMI™ (supports 4k@60Hz as specified in HDMI™ 2.1) DisplayPort™ 1.4a (external HDMI- and DVI adapters not supported) USB 3.2 Gen 2 (10Gbps) Type-C™ (supports DisplayPort™ 1.4 and power delivery (PD) up to 60W. Occupies in addition PCIe x16 slot) USB 3.2 Gen 2 (10 Gbps) Type-C™ (supports DisplayPort™ 1.4 and power delivery (PD) up to 15W) Intel® Thunderbolt™ 4 (40 Gbps, supports DisplayPort 1.4 and 15W power delivery) 2.5 Gigabit Ethernet (Intel 225LM) Serial port (9pin, 16 byte FIFO, 16550 compatible)	One of following flexible Interface options can be added to the system HDMI™ (supports 4k@60Hz as specified in HDMI™ 2.1) DisplayPort™ 1.4a (external HDMI- and DVI adapters not supported) USB 3.2 Gen 2 (10Gbps) Type-C™ (supports DisplayPort™ 1.4 and power delivery (PD) up to 60W. Occupies in addition PCIe x16 slot) USB 3.2 Gen 2 (10 Gbps) Type-C™ (supports DisplayPort™ 1.4 and power delivery (PD) up to 15W) Intel® Thunderbolt™ 4 (40 Gbps, supports DisplayPort 1.4 and 15W power delivery) Serial port (9pin, 16 byte FIFO, 16550 compatible)
USB front	2x USB 2.0 Type-A 2x USB 3.2 Gen 2 (10 Gbps) Type-A 1x USB 3.2 Gen 2x2 (20 Gbps) Type-C (supports up to 15W)	2x USB 2.0 Type-A 2x USB 3.2 Gen 2 (10 Gbps) Type-A 1x USB 3.2 Gen 2x2 (20 Gbps) Type-C (supports up to 15W)
USB rear	2x USB 2.0 Type-A 3x USB 3.2 Gen 2 (10 Gbps) Type-A 1x USB 3.2 Gen 2x2 (20 Gbps) Type-C see flexible interface options	2x USB 2.0 Type-A 3x USB 3.2 Gen 2 (10 Gbps) Type-A 1x USB 3.2 Gen 2x2 (20 Gbps) Type-C see flexible interface options
USB internal	1x USB 2.0 Type A	1x USB 2.0 Type A
DisplayPort	2 (DisplayPort 1.4; DP++)	2 (DisplayPort 1.4; DP++)
Ethernet (RJ-45)	1	1
Interface Module notes	Anytime USB charge functionality	Anytime USB charge functionality
Kensington Lock support	1	

Input device / components

Input devices (optional)	Keyboard Mouse
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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 bays

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

Graphics on board

Graphics brand name	Intel® UHD Graphics 770
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® 12.1 HDCP support OpenCL 3.0 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) see flexible interface options

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
Operating line frequency range	47 Hz - 63 Hz
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)
Monitor outlet	Switched for 300 W power supply

Noise emission

Related Processors for noise	Intel® Core™ i7-12700 processor and 512GB M.2, 8GB, ODD; NVIDIA T400, Windows 11 (tower position)
Standard noise emission	According to ISO 7779:2010, ECMA-74
Standard noise notes / description	A-weighted sound power level L _{wad} (in B) / Workplace related A-weighted sound pressure level L _{pAm} (in dB(A))
Standard noise operation mode: CPU 50% load	for 300W PLATINUM PSU: 3.3 B / 19 dB(A) Bystander; 22 dB(A) Operator position

Noise emission

Standard noise operation mode: HDD load	for 300W PLATINUM PSU: 3.4 B / 20 dB(A) Bystander; 23 dB(A) Operator position
Standard noise operation mode: Idle mode	for 300W PLATINUM PSU: 3.3 B / 19 dB(A) Bystander; 21 dB(A) Operator position
Standard noise operation mode: ODD load	for 300W PLATINUM PSU: 4.5 B / 31 dB(A) Bystander; 36 dB(A) Operator position
Standard noise operation mode: Office applications 2.0	for 300W PLATINUM PSU: 3.3 B / 19 dB(A) Bystander; 21 dB(A) Operator position

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	Min: 6.5kg; 1x mem, 1xSDD, 300W power supply Max: 10kg; power cord (0.2kg) is not part of min/max
Weight (lbs)	approx. 22.05 lbs
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

Product	CELSIUS W5012	CELSIUS W5012 ESTAR
Model	MI7W	
Germany	GS TÜV NRTL	
Europe	CE	
Global	RoHS (Restriction of hazardous substances) WEEE (Waste electrical and electronic equipment) Microsoft Operating Systems (HCT / HCL entry / WHQL) Microsoft Secured-core PC certification (for selected configurations)	RoHS (Restriction of hazardous substances) WEEE (Waste electrical and electronic equipment) Microsoft Operating Systems (HCT / HCL entry / WHQL) Microsoft Secured-core PC certification (for selected configurations) ENERGY STAR® 8.0 EPEAT® Gold (dedicated regions) TCO Certified, generation 9
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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Security	
System and BIOS Security	<ul style="list-style-type: none"> 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 (Windows 11 only) 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 NIST SP800-147 BIOS Protection supported NIST SP800-155 BIOS Integrity Measurement supported NIST SP800-193 Platform Firmware Resiliency supported
User Security	<ul style="list-style-type: none"> User and supervisor BIOS password Hard disk password Access protection via external SmartCard reader (optional) Access protection via internal SmartCard reader (optional)
Security Notes	<p>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.</p>
Manageability	
Manageability technology	<ul style="list-style-type: none"> Intel® vPro® Essentials (optional) Intel® vPro® Enterprise (optional) Intel AMT 16.0 (depending on processor) DeskUpdate Driver management PXE 2.1 Boot code Wake up from S5 (off mode) Intrusion switch (optional) WoL (Wake on LAN)
Manageability software	<ul style="list-style-type: none"> DeskView Client DeskView Instant BIOS Management
DeskView components	<ul style="list-style-type: none"> BIOS Management incl. Security Inventory Management Driver Management Alarm Management
Supported standards	<ul style="list-style-type: none"> 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	https://www.fujitsu.com/global/products/computing/pc/manageability/
Miscellaneous	
	<ul style="list-style-type: none"> Keyboard on with one key (Fujitsu Keyboards KB521, KB955) Keyboard on with two keys (CTRL+CTRL; special Fujitsu USB keyboards required) Keyboard on with any key (USB) Thermal management Extended lifetime Integrated dust filter in front bezel
Packaging information	
Packaging dimension (mm)	499 x 296 x 439 mm
Packaging dimension (inch)	19.65 x 11.65 x 17.28 inch
Max. quantity / pallet	24
Material - Weight (g) Carton	1114 g
Material - Weight (lbs) Carton	2.46 lbs
Material - Weight (g) PE	246 g
Material - Weight (lbs) PE	0.54 lbs

Packaging information

Packaging notes	printed user documentation is bleached in chlorine free process; Bulk packaging for projects (optional)
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Warranty

Warranty period	3 years
Warranty type	Next Business Day Onsite Service (Metro areas only)
Warranty Terms & Conditions	http://www.fujitsu.com/warranty
Digital bug fixes	Subject to availability and following their generic release for the product, bug fixes and function-preserving patches for product-related software (firmware) can be downloaded from the technical support at: https://support.ts.fujitsu.com/ free of charge by entering the respective product serial number. For application software supplied together with the product, please directly refer to the support websites of the respective software manufacturer.

Product Support - the perfect extension

Recommended Service	9x5, Onsite Response Time: Next Business Day
Spare Parts availability	at least 5 years after shipment, for details see https://support.ts.fujitsu.com/
Service Weblink	http://www.fujitsu.com/emeia/products/product-support-services/

More information

Fujitsu products, solutions & services

In addition to the Fujitsu Workstation CELSIUS W5012, Fujitsu provides a range of platform solutions. They combine reliable Fujitsu products with the best in services, know-how and worldwide partnerships.

Fujitsu Portfolio

Build on industry standards, Fujitsu offers a full portfolio of IT hardware and software products, services, solutions and cloud offering, ranging from clients to datacenter solutions and includes the broad stack of Business Solutions, as well as the full stack of Cloud offering. This allows customers to leverage from alternative sourcing and delivery models to increase their business agility and to improve their IT operation's reliability.

Computing Products

www.fujitsu.com/global/products/computing/

Software

www.fujitsu.com/software/

More information

Learn more about the Fujitsu Workstation CELSIUS W5012, please contact your Fujitsu sales representative or Fujitsu Business partner, or visit our website.
www.fujitsu.com/emeia/CELSIUS

Fujitsu green policy innovation

Fujitsu Green Policy Innovation is our worldwide project for reducing burdens on the environment.

Using our global know-how, we aim to contribute to the creation of a sustainable environment for future generations through IT.

Please find further information at <http://www.fujitsu.com/global/about/environment>



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Disclaimer

Please note that the data sheet reflects the technical specification with the maximum selection of components for the named system and not the detailed scope of delivery. The scope of delivery is defined by the selection of components at the time of ordering.

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The overall product has been designed and manufactured for general office use, regular personal use and ordinary industrial use.

Contact

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