Fujitsu recommends Windows 10 Pro.

Data Sheet
FUJITSU Desktop ESPRIMO P520 E85+

Your Flexible and Economic PC

FUJITSU ESPRIMO P520 PCs deliver high-quality computing for your demanding office applications. Designed for the specific needs of project-based customers they cover attractive price points and focus on providing the continuity needed for daily operations. They can be either individually configured or customized to meet your specific hardware needs.

High performance and best price/performance ratio
Powerful and cost-effective project PC
- 4th generation Intel® Core™ processor family

System management
The perfect answer to offload your IT administrators
- DeskView Admin enhances the management of the devices in your IT infrastructure during productive operation - even remotely and after hours

Made in Germany
Outstanding quality and stable functions based on German production standards
- The development, production and function tests - all under one roof in Germany

Lifecycle
Hardware continuity for long-lasting project requirements
- Managed lifecycle up to 12 months

Meets ENERGY STAR® requirements
Low power consumption and low costs, without any loss in performance
- 85% energy efficient power supply
## Components

### Processor
- Intel® Core™ i7-4790 processor (4 Cores / 8 Threads, 3.60 GHz, up to 4.0 GHz, 8 MB, Intel® HD Graphics 4600)
- Intel® Core™ i5-4690 processor (4 Cores / 4 Threads, 3.50 GHz, up to 3.9 GHz, 6 MB, Intel® HD Graphics 4600)
- Intel® Core™ i5-4590 processor (4 Cores / 4 Threads, 3.30 GHz, up to 3.7 GHz, 6 MB, Intel® HD Graphics 4600)
- Intel® Core™ i5-4460 processor (4 Cores / 4 Threads, 3.20 GHz, up to 3.4 GHz, 6 MB, Intel® HD Graphics 4600)
- Intel® Core™ i3-4170 processor (2 Cores / 4 Threads, 3.70 GHz, 3 MB, Intel® HD Graphics 4400)
- Intel® Pentium® processor G3460 (2 Cores / 2 Threads, 3.50 GHz, 3 MB, Intel® HD Graphics)
- Intel® Pentium® processor G3260 (2 Cores / 2 Threads, 3.30 GHz, 3 MB, Intel® HD Graphics)
- Intel® Celeron® processor G1840 (2 Cores / 2 Threads, 2.80 GHz, 2 MB, Intel® HD Graphics)

*with Intel® Turbo Boost Technology (clock speed and performance will vary depending on workload and other variables)

### Operating systems
- Operating system pre-installed
  - Windows 8.1 Pro
  - Windows 8.1
  - Windows 7 Professional 64-bit
  - Windows 7 Professional 32-bit
- Operating system compatible
  - Windows 10 Pro (license + recovery media only)
  - openSUSE Linux

### Memory modules
- 2 GB (1 module(s) 2 GB) DDR3, unbuffered, non-ECC, 1,600 MHz, PC3-12800, DIMM
- 4 GB (1 module(s) 4 GB) DDR3, unbuffered, non-ECC, 1,600 MHz, PC3-12800, DIMM
- 8 GB (1 module(s) 8 GB) DDR3, unbuffered, non-ECC, 1,600 MHz, PC3-12800, DIMM

### Hard disk drives (internal)
- SSD SATA III Premium, 512 GB, 2.5-inch
- SSD SATA III Premium, 256 GB, 2.5-inch
- SSD SATA III Premium, 128 GB, 2.5-inch
- SSD SATA III, 256 GB, 2.5-inch
- SSD SATA III, 128 GB, 2.5-inch
- SSD SATA III, 256 GB, 2.5-inch, SED
- SSD SATA III, 128 GB, 2.5-inch, SED
- SSD SATA III, 7,200 rpm, 1,000 GB, 3.5-inch
- SSD SATA III, 5,400 rpm, 500 GB, 2.5-inch
- HDD SATA III, 7,200 rpm, 2,000 GB, 3.5-inch
- HDD SATA III, 7,200 rpm, 1,000 GB, 3.5-inch
- HDD SATA III, 7,200 rpm, 500 GB, 3.5-inch
- HDD SATA II, 5,400 rpm, 320 GB, 2.5-inch

### Hard disk notes
- Up to 20 GB of HDD space is reserved for system recovery
- SED (Self-Encrypting Drive)
- SSD (Solid State Disk)
- SSHD (Solid State Hard Disk, Hybrid drive)

### Graphics
- NVIDIA® NVS™ 315, 1 GB
- NVIDIA® GeForce® GTX 745 2 GB FH, 2 GB
- NVIDIA® GeForce® GT630 DisplayPort 2 GB FH, 2 GB
- NVIDIA® GeForce® 605 DisplayPort 1 GB FH, 1 GB
- LFH59/ 2x DVI-I adapter cable
- LFH59/ 2x DP adapter cable
- DVI-I to VGA Adapter
- DP to DVI-D (single link) Adapter Cable
- DP Extension Card
- AMD® Radeon R9 255 FH, 2 GB
Fujitsu recommends Windows 10 Pro.

## Drives (optional)
- BD Triple Writer SATA slim (tray)
- DVD-ROM
- DVD Super Multi
- MultiCard Reader 24in1 USB 2.0 3.5"

## Interface add on cards/components (optional)
- Parallel Interface
- Gigabit Ethernet PCIe x1, DS
- eSATA Interface
- Dual serial card PCIe x1

## Base unit

### Base unit
- ESPRIMO P520 E85+

### Mainboard
- **Mainboard type**: D3220
- **Formfactor**: μATX
- **Chipset**: Intel® B85
- **Processor socket**: LGA 1150
- **Processor quantity maximum**: 1
- **Supported capacity RAM (max.)**: 32 GB
- **Memory slots**: 4 DIMM (DDR3)
- **Memory frequency**: 1,600 MHz
- **Memory notes**: Dual channel support. For dual channel performance, a minimum of 2 memory modules have to be ordered. Capacity per channel has to be the same

### LAN
- 10/100/1,000 MBit/s Intel® I217LV

### BIOS version
- AMI Aptio 4.6

### BIOS features
- BIOS Flash EPROM update by software
- Recovery BIOS
- Unified Extensible Firmware Interface (UEFI)

### Audio type
- On board

### Audio codec
- Realtek ALC671

### Audio features
- Internal speaker supports audio playback (optional), High Definition Audio, 5.1 surround sound

### I/O controller on board
- **Serial ATA total**: 4
- **thereof SATA III**: 4
- **thereof eSATA**: 1 (optional)

#### Controller functions
- Serial ATA II (3 Gbit)
- Serial ATA III (6 Gbit)
- NCQ
- AHCI

### Interfaces
- **Audio: line-in**: 1
- **Audio: line-in / microphone**: 1
- **Audio: line-out**: 1
- **Front audio: microphone**: 1
- **Front audio: headphone**: 1
- **USB 2.0 total**: 8
- **USB 3.1 Gen1 (USB 3.0) total**: 4
- **USB front**: 2x 2.0
- **USB rear**: 4x 2.0/ 2x 3.0
## Interfaces

<table>
<thead>
<tr>
<th>Interface</th>
<th>Optional/Specs</th>
</tr>
</thead>
<tbody>
<tr>
<td>USB internal</td>
<td>2x 2.0/ 2x 3.0</td>
</tr>
<tr>
<td>VGA</td>
<td>1</td>
</tr>
<tr>
<td>DisplayPort</td>
<td>1 (optional)</td>
</tr>
<tr>
<td>DVI</td>
<td>1 (DVI-D)</td>
</tr>
<tr>
<td>Serial (RS-232)</td>
<td>1 (9pin, 16 byte FIFO, 16550 compatible)</td>
</tr>
<tr>
<td>Mouse / Keyboard</td>
<td>2</td>
</tr>
<tr>
<td>Ethernet (RJ-45)</td>
<td>1</td>
</tr>
<tr>
<td>Parallel</td>
<td>1 (optional) (25pin with EPP and ECP)</td>
</tr>
<tr>
<td>eSATA</td>
<td>1 (optional)</td>
</tr>
</tbody>
</table>

**Interface Module notes**
- Anytime USB charge functionality

## Input device / components

- Optical USB wheel mouse

### Input devices (optional)
- Optical USB/PS2 tilt wheel mouse
- KBPC PX ECO
- Mouse M440 ECO

## Drive bays

<table>
<thead>
<tr>
<th>Drive Type</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive bays total</td>
<td>5</td>
</tr>
<tr>
<td>3.5-inch internal bays</td>
<td>2</td>
</tr>
<tr>
<td>3.5-inch external bays</td>
<td>1</td>
</tr>
<tr>
<td>5.25-inch external bays</td>
<td>2</td>
</tr>
</tbody>
</table>

**Drive bay notes**
- 3,5” bay can be used for 2,5” drives

## Slots

- **PCI-Express 3.0 x16**
  - 1 x (210 mm / 8.27 inch) Full height
- **PCI-Express 2.0 x4 (mech. x16)**
  - 1 x (210 mm / 8.27 inch) Full height
- **PCI-Express x1**
  - 2 x (190 mm / 7.48 inch) Full height

## Graphics on board

- **Graphics brand name**
  - Intel® HD Graphics, HD Graphics 4400, HD Graphics 4600 (depending on processor)
- **Shared video memory**
  - up to 1,782 MB

**TFT resolution (VGA)**

- 1,024 x 768 pixel
- 1,280 x 1,024 pixel
- 1,360 x 768 pixel
- 1,440 x 900 pixel
- 1,600 x 900 pixel
- 1,600 x 1,200 pixel
- 1,680 x 1,050 pixel
- 1,920 x 1,080 pixel

**TFT resolution (DVI)**

- 1,280 x 1,024 pixel
- 1,360 x 768 pixel
- 1,440 x 900 pixel
- 1,600 x 900 pixel
- 1,680 x 1,050 pixel
- 1,920 x 1,080 pixel
- 1,920 x 1,200 pixel

**TFT resolution (DisplayPort)**

- 1,280 x 1,024 pixel
- 1,360 x 768 pixel
- 1,440 x 900 pixel
- 1,600 x 900 pixel
- 1,680 x 1,050 pixel
- 1,920 x 1,080 pixel
- 1,920 x 1,200 pixel
- 2,560 x 1,440 pixel
- 2,560 x 1,600 pixel
- 3,840 x 2,160 pixel (requires Intel® Core™ i3, i5 or i7 processor)
**Graphics on board**

<table>
<thead>
<tr>
<th>Graphics features</th>
<th>Support for up to three independent displays</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DirectX® 11.1</td>
</tr>
<tr>
<td></td>
<td>HDCP support</td>
</tr>
<tr>
<td></td>
<td>Open CL® 1.2</td>
</tr>
<tr>
<td></td>
<td>OpenGL® 4.0</td>
</tr>
<tr>
<td></td>
<td>For multi monitoring mode, graphics card and integrated graphics run in parallel (Microsoft® Windows® 7 or Windows 8)</td>
</tr>
</tbody>
</table>

**Graphics notes**

- up to 1 GB dedicated video memory (main memory owned and locked for graphics use)
- Tested resolutions, depending on display type additional resolutions and frequencies possible
- Shared memory depending on main memory size and operating system
- Resolution (color depth up to 32 Bit/pixel)
- For TFT we recommend using 60Hz

**Electrical values**

<table>
<thead>
<tr>
<th>Power efficiency note</th>
<th>Power supply efficiency (at 230V; 20% / 50% / 100% load) : 83% / 86% / 85%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-Watt mode with hard-off switch</td>
<td></td>
</tr>
<tr>
<td>Rated voltage range</td>
<td>100 V - 240 V</td>
</tr>
<tr>
<td>Rated frequency range</td>
<td>50 Hz - 60 Hz</td>
</tr>
<tr>
<td>Operating voltage range</td>
<td>90 V - 264 V</td>
</tr>
<tr>
<td>Operating line frequency range</td>
<td>47 Hz - 63 Hz</td>
</tr>
<tr>
<td>Max. output of single power supply</td>
<td>280 W</td>
</tr>
<tr>
<td>Power factor correction/active power</td>
<td>active</td>
</tr>
<tr>
<td>Monitor outlet</td>
<td>No</td>
</tr>
</tbody>
</table>

**Power consumption**

- See white paper Energy Consumption
- 0-Watt mode with hard-off switch

**Link to Energy White Paper**


**Heat dissipation**

- See white paper Energy Consumption

**Noise emission**

- Related Processors for noise: Intel® Core™ i7 4770
- Standard noise emission: 2x2 GB, HDD, ODD, Windows
- According to ISO 7779:2010, ECMA-74

**Standard noise notes / description**

- Bystander position
- Standard noise operation mode: CPU 50% load: 3.5 B / 22 dB(A) Bystander; 26 dB(A) Operator position
- Standard noise operation mode: HDD load: 3.6 B / 22 dB(A) Bystander; 26 dB(A) Operator position
- Standard noise operation mode: Idle mode: 3.5 B / 22 dB(A) Bystander; 25 dB(A) Operator position
- Standard noise operation mode: ODD load: 4.5 B / 31 dB(A) Bystander; 36 dB(A) Operator position
- Standard noise operation mode: Office applications 2.0: 3.5 B / 22 dB(A) Bystander; 25 dB(A) Operator position
- Blue angel noise emission according certification: According to ISO 7779:2010, ECMA-74 for max. possible configuration
- Blue angel noise operation mode: HDD load: 3.7 B = 37 dB (A)
- Blue angel noise operation mode: Idle mode: 3.6 B = 36 dB (A)
- Blue angel noise operation mode: ODD load: 4.6 B = 46 dB (A)

**Dimensions / Weight / Environmental**

- Dimensions (W x D x H): 175 x 425 x 353 mm
- 6.89 x 16.74 x 13.9 inch
**Dimensions / Weight / Environmental**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating position</td>
<td>Vertical</td>
</tr>
<tr>
<td>Weight</td>
<td>10 kg</td>
</tr>
<tr>
<td>Weight (lbs)</td>
<td>22.05 lbs</td>
</tr>
<tr>
<td>Weight notes</td>
<td>Actual weight may vary depending on configuration</td>
</tr>
<tr>
<td>Operating ambient temperature</td>
<td>10 - 35 °C (50 - 95 °F)</td>
</tr>
<tr>
<td>Operating relative humidity</td>
<td>5 - 85 % (relative humidity)</td>
</tr>
</tbody>
</table>

**Compliance**

<table>
<thead>
<tr>
<th>Region</th>
<th>Standards/Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>ESPRIMO P520</td>
</tr>
<tr>
<td>Model</td>
<td>MI4W</td>
</tr>
<tr>
<td>Germany</td>
<td>TÜV GS</td>
</tr>
<tr>
<td>Blauer Engel / Blue Angel</td>
<td></td>
</tr>
<tr>
<td>Europe</td>
<td>CE</td>
</tr>
<tr>
<td>USA/Canada</td>
<td>FCC Class B</td>
</tr>
<tr>
<td></td>
<td>cCSAus</td>
</tr>
<tr>
<td>Global</td>
<td>RoHS (Restriction of hazardous substances)</td>
</tr>
<tr>
<td></td>
<td>WEEE (Waste electrical and electronic equipment)</td>
</tr>
<tr>
<td></td>
<td>Microsoft Operating Systems (HCT / HCL entry / WHQL)</td>
</tr>
<tr>
<td></td>
<td>EPEAT® Gold (dedicated regions)</td>
</tr>
<tr>
<td></td>
<td>ENERGY STAR® 6.0 (dedicated regions)</td>
</tr>
</tbody>
</table>

**Compliance link**

https://sp.ts.fujitsu.com/sites/certificates

**Additional Software**

**Additional software (preinstalled)**

- Workplace Protect (secure authentication solution)
- Adobe® Reader® (pdf reader)
- McAfee Multi Access Security (anti-virus and internet security software; 60 days trial version)
- Win7: Fujitsu Recovery (hard disk based recovery)
- Win8: Microsoft Push Button Recovery (hard disk based recovery)
- Microsoft Office (buy license to activate the pre-installed Microsoft Office)

**Additional software (optional)**

- Recovery DVD for Windows®
- Drivers & Utilities DVD (DUDVD)
- CyberLink PowerDVD BD (playback software for Blu-ray Disc™)
- CyberLink PowerDVD DVD (playback software for DVD)
- Nero Essentials XL

**Manageability**

**Manageability technology**

- DeskUpdate Driver management
- PXE 2.1 Boot code
- Wake up from S5 (off mode)
- WoL (Wake on LAN)

**Manageability software**

- DeskView Client
- DeskView Instant BIOS Management

**DeskView components**

- Inventory Management
- BIOS Management
- Driver Management
- Security 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

**Security**

**Physical Security**

- Kensington Lock support
- Eye for padlock
Security

System and BIOS Security
- Boot sector virus protection
- Write protect option for the Flash EPROM
- Control of external interfaces
- Optional: Trusted platform module (TPM 1.2)

User Security
- User and supervisor BIOS password
- Hard disk password
- Access protection via external SmartCard reader (optional)
- Access protection via internal SmartCard reader (optional)

Miscellaneous
- Keyboard on (Special Fujitsu keyboard required)
- Thermal management

Packaging information

<table>
<thead>
<tr>
<th>Packing dimension (mm)</th>
<th>516 x 278 x 562 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Packing dimension (inch)</td>
<td>20.31 x 10.94 x 22.13 inch</td>
</tr>
<tr>
<td>Max. quantity / pallet</td>
<td>24</td>
</tr>
<tr>
<td>Material - Weight (g) Carton</td>
<td>1280 g</td>
</tr>
<tr>
<td>Material - Weight (lbs) Carton</td>
<td>2.82 lbs</td>
</tr>
<tr>
<td>Material - Weight (g) EPS / PS</td>
<td>140 g</td>
</tr>
<tr>
<td>Material - Weight (lbs) EPS / PS</td>
<td>0.31 lbs</td>
</tr>
<tr>
<td>Material - Weight (g) PE</td>
<td>60 g</td>
</tr>
<tr>
<td>Material - Weight (lbs) PE</td>
<td>0.13 lbs</td>
</tr>
</tbody>
</table>

Packaging notes
- printed user documentation is bleached in chlorine free process

Warranty

<table>
<thead>
<tr>
<th>Warranty period</th>
<th>1 year (for countries in EMEIA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warranty type</td>
<td>Bring-In / Onsite Service (for countries within region EMEIA, for all other countries depending on local regulations)</td>
</tr>
<tr>
<td>Warranty Terms &amp; Conditions</td>
<td><a href="http://support.ts.fujitsu.com/warranty">http://support.ts.fujitsu.com/warranty</a></td>
</tr>
</tbody>
</table>

Recommended Service
- 9x5, Onsite Response Time: Next Business Day

Spare Parts availability
- 5 years after end of product life

Service Weblink
- http://www.fujitsu.com/fts/services/support

Recommended Accessories

Display B24-8 TE Pro
- The FUJITSU Display B24-8 TE Pro is made for intensive office work. With visual and mechanical ergonomics this marble-grey display enables fatigue-free working for hours in front of the screen. The large 60.5 cm (23.8-inch) screen allows you to keep always track of all open applications. This high-quality display works unfailingly around the clock. Easy connectivity, manageability and usability help you increase your productivity.

Mouse M440 ECO
- Fujitsu Mouse M440 ECO is made from 100% bio material and has a completely PVC free cable. The elegant M440 ECO works on nearly every surface and follows all your hand movements smoothly and precisely. It features two main buttons and as well as a scroll wheel providing comfortable computing to both right and left-handed users.

SOUNDSYSTEM DS E2000 Air
- The new more powerful SOUNDSYSTEM DS E2000 Air gives you impressive, well-balanced sound throughout the frequency band. It is an unbeatable USB speaker set with a surprisingly small form factor. The robust satellite speakers are decorated with a deluxe piano finish and the base is adorned with warm ambient lighting.
**UC&C USB Headset Stereo H650e**

The UC&C USB Headset Stereo H650e is the ultimate in style and functionality. Long, uncomfortable work calls are a thing of the past thanks to the cushioned ear pads and crystal clear sound. Adjustable headband and microphone provides the perfect fit for everyone. Optimized for Microsoft® Lync™ the headset displays a red 'in-call' LED to let your co-workers know when you're available, thus helping to boost office productivity.

Order Code: S26391-F7139-L10

---

**Keyboard KBPC PX ECO**

Fujitsu's KBPC PX ECO keyboard is the perfect contribution to Green IT. The keyboard is made out of 45% renewable raw material and comes with a PVC free USB cable. In addition, the KBPC PX ECO offers first class comfort and ergonomics. It attracts attention with its impressive modern design and useful extras.

Order Code: S26381-K341-L1** (**: country specific variation)**
More information

Fujitsu OPTIMIZATION Services
In addition to FUJITSU Desktop ESPRIMO P520 E85+, 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/

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

Disclaimer
Technical data is subject to modification and delivery subject to availability. Any liability that the data and illustrations are complete, actual or correct is excluded. Designations may be trademarks and/or copyrights of the respective manufacturer, the use of which by third parties for their own purposes may infringe the rights of such owner.

Copyrights
All rights reserved, including intellectual property rights. Changes to technical data reserved. Delivery subject to availability. Any liability that the data and illustrations are complete, actual or correct is excluded. Designations may be trademarks and/or copyrights of the respective manufacturer, the use of which by third parties for their own purposes may infringe the rights of such owner.

© 2017 Fujitsu Technology Solutions GmbH