

# Data Sheet

## FUJITSU Mainboard D3402-B µATX

### Extended Lifecycle Series

Powered by the Intel® Q170 Express Chipset supporting DDR4 2133/2400 SDRAM Memory and 6<sup>th</sup> & 7<sup>th</sup> generation Intel® Core™ i3 / i5 / i7 Processors (Socket LGA1151)

Designed for 24/7 continuous operation @ 50°C



#### Chipset:

Intel® Q170 Express Chipset



#### Processors:

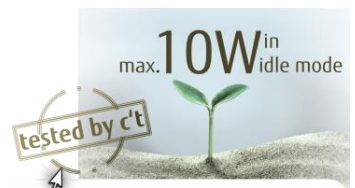
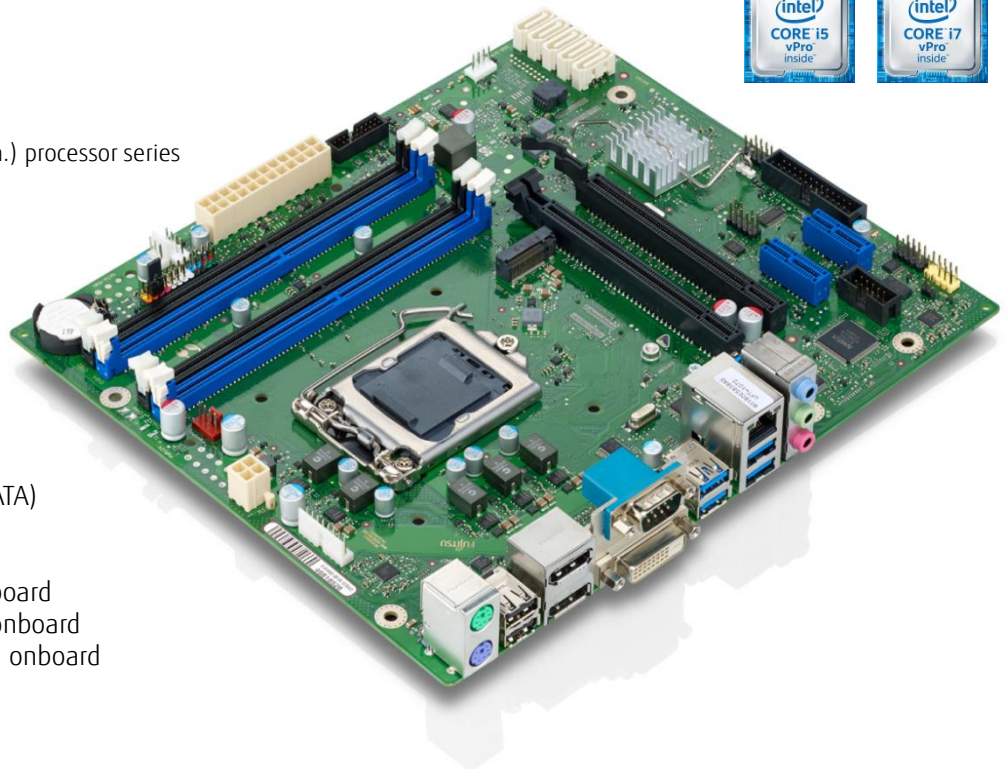
Intel® Core™ i7 / i5 / i3 – (6th gen. & 7th gen.) processor series  
Intel® Pentium® / Celeron® processor series  
Socket LGA1151 – up to 65W TDP

#### Memory:

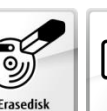
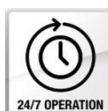
DDR4 2133 SDRAM (UDIMM)  
DDR4 2400 SDRAM (UDIMM)

#### Product Features:

Intel® iAMT 11.0 / vPro 2015  
Onboard Support for M.2 SSD (PCIe or SATA)  
Intel® HD Graphics  
PCI Express Gen3  
Multichannel Audio & Intel GbE LAN onboard  
USB 2.0/3.0 and USB 3.0 Socket (Stick) onboard  
Trusted Platform Module V2.0 (Infineon) onboard  
HW Watchdog onboard



(planned)



# Features and benefits

<b>Board Size</b>	reduced µATX: 9.6" x 8.4" (243.8 x 213.4 mm)
<b>Chipset</b>	Intel® Q170 Express Chipset
<b>Memory</b>	4 DIMM Sockets DDR4, max. 64GB, Dual Channel, 2133MHz (CL15) / 2400MHz (CL17), UDIMM, 1.2V/2.5V, 288-pin, non-ECC. Effective memory speed depends on installed processor
<b>Processor</b>	Intel® Core™ i7 / i5 / i3 – (6th generation) processor series Intel® Core™ i7 / i5 / i3 – (7th generation) processor series (D3402-B2 only) Intel® Pentium® / Celeron® processor series Socket LGA1151, max. 65W TDP (For details on supported processors please refer to OEM FTP Server)
<b>Power Specification</b>	ATX- 24 Pin or ATX- 20 Pin + 4 Pin (12V) Power Connector required Support for Soft-Off Power Supplies 12V and 3.3V Supply Voltage on PCIe Slots 3.3V Auxiliary Supply Voltage on PCIe Slots (Wake-Up Function) On board CPU Voltage Regulator, 5V / 2A Auxiliary Power required for USB Wake-Up from Save-to-RAM, Save-to-Disk
<b>Power Supply Requirements</b>	for onboard components (worst case incl. processor & memory; w/o USB devices; w/o PCIe cards, w/o M.2 / SATA drives)

Source	Voltage	Min. PS Load	Max.Voltage Tolerance	Mainboard Capacitive Load	Max. Mainboard Current
Main Power Supply	+ 12V	0.05A	± 5 %	5.000µF	8A/12A <sup>1)</sup>
	- 12V	0A	± 10 %	470µF	0.3A
	+ 5V	0.2A	± 5 %	3.000µF	6.0A
	+ 3.3V	0A	± 5 %	3.000µF	0.5A
Aux. Power	+ 5Vaux	0A	+5 % / -3%	3.000µF	2.5A

1) Max. Cont. Current = 8A; max. Surge Current = 10A (< 100sec) / 12A (< 10ms)

<b>BIOS</b>	AMI Aptio 5.x (UEFI) BIOS modified and adapted by Fujitsu Technology Solutions; Recovery BIOS, SM-BIOS (DMI), BIOS and CPU Microcode Update, Quick Boot, Logo Boot, Quiet Boot, Plug & Play, Automatic DRAM and PCIe Configuration, BIOS Support for S.M.A.R.T., Advanced Power Management, ACPI S3/S4, Wake on time from S5. Boot support for M.2 SSD (PCIe-based or SATA-based modules, AHCI / NVME)
<b>Security Features</b>	Recovery BIOS, System and BIOS Password, Boot Sequence Control, Serial-/ Parallel-/ USB- Port Access, Boot Sector Virus Warning, Write Protection for Flash BIOS, EraseDisk (optional BIOS Feature) Trusted Platform Module (Infineon SLB 9665; TPM V2.0; TCG compliant).

<b>Special Features</b>	Silent Fan	Independent temperature related processor fan and system fan supervision and control	
	System Guard	View and adjust Silent Fan features	
	Silent Drives	Noise reduction for optical and hard disk drives	
	Recovery BIOS	Restores a corrupted BIOS	
	Desk Update	Simple driver update with Driver&Utilities DVD	
	Multi Boot	Comfortable boot from any boot device	
	HDD Password	Access protection for disk drives	
	CSA / UL / FCC certified	cCSAus 60950-1/ FCC-B	

<b>Operating Systems</b>	<b>OS</b>	<b>"Runnable"</b>	<b>"Tested/Released by Fujitsu"</b>
	MS Windows XP	--	--
	MS Windows 7-32 <sup>1)</sup>	X	X
	MS Windows 7-64 <sup>1)</sup>	X	X
	MS Windows 8.1-64 <sup>1)</sup>	X	--
	MS Windows 10-64	X	X
	Linux-32	X	--
	Linux-64	X	--

1) Requires Skylake (= 6<sup>th</sup> gen.) processor!

**Further Features**

Feature	Mainboard Versions	
	D3402-B1x	D3402-B2x
UDIMM DDR4-2133 / DDR4-2400	x / - <sup>1)</sup>	x / x
Intel® Core™ i processor series – 6 <sup>th</sup> gen. / 7 <sup>th</sup> gen.	x / -	x / x
Intel® Pentium® / Celeron® processor series – 6 <sup>th</sup> gen. / 7 <sup>th</sup> gen.	x / -	x / x
Skylake Drivers / Kabylake Drivers (MS Windows)	x / x	- / x

1) DDR4-2400 modules can be used, but they will operate at reduced speed

<b>LAN</b>	Intel Jacksonville i219LM with 10/100/1000 MBit/s, iAMT 11 / vPro Support, Wake-on-LAN (WoL) by interesting Packets, Link Status Change and Magic Packet™, PXE Support, BIOS MAC Address Display, Jumbo Frames (up to 9KB)
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<b>Graphics</b>	Intel® HD Graphics (depends on installed processor), DX12
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<b>Audio</b>	Realtek ALC671, 5.1-channel, High Definition Audio Codec
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<b>Drives</b>	5 x Serial ATA III 600 Interface (up to 6GBit/s, NCQ, AHCI, RAID 0/1/5/10) 1 x M.2 Socket (2260/2280) for PCIe (4 lanes) or SATA based M.2 modules, AHCI / NVME Boot support
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<b>Designed for 24 / 7 use</b>	Longlife components for 24 / 7 continuous operation @ 50°C Revision control & Extended Lifecycle (up to 3 years)
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<b>Features</b> <b>D3402-B</b>	Chipset	iQ170
	Board Size	reduced µATX
	VGA <sup>1</sup> / DVI-I / DVI-D / DP V1.2 / 2 <sup>nd</sup> DP V1.2 / LVDS	- / - / ✓ / ✓ / ✓ / ✓ / -
	Stereo Audio / 5.1 Multichannel Audio	- / ✓
	Buzzer / int. Speaker Support	- / ✓
	LAN Gbit / 100 Mbit / 10 Mbit / WoL / LAN Boot	✓ / ✓ / ✓ / ✓ / ✓ / ✓
	iAMT 11.0 vPro / Intel Standard Manageability / DASH V1.1	✓ / ✓ / ✓
	SATA / ATA / RAID / eSATA-support / M.2 (PCIe x4 or SATA)	✓ / - / ✓ / ✓ / ✓ / ✓
	FireWire™ / USB 2.0 / USB 3.0	- / ✓ / ✓
	FAN monitored & controlled PSU <sup>2</sup> / CPU / AUX1 / AUX2	✓ / ✓ / ✓ / ✓ / ✓
	TEMP monitored CPU / onboard sensors / external sensor	✓ / ✓ / -
	<b>Special Features</b> <b>D3402-B</b>	Silent Fan / Silent Fan LT / System Guard / Silent Drives
Recovery BIOS / Desk Update / Multi Boot		✓ / ✓ / ✓
HDD Password / HDD Encryption / EraseDisk <sup>3</sup> / TPM		✓ / - / ✓ / ✓
BIOS POST Watchdog / BIOS Boot Watchdog / OS HW Watchdog		✓ / ✓ / ✓
Logo Boot Option / Intel On Screen Branding		✓ / ✓
High Efficiency Core Voltage Regulator Design		✓
Operating Mode 24-7 / 8-5 (hrs per day - days per week)		✓ / -
Mainboard operating temperature range (chassis inside)		10°C – 50°C
ILM - Backplate / ILM + Heatsink combined <sup>4</sup>		✓ / -
<b>Internal Connectors</b> <b>D3402-B</b>		DIMM Sockets (DDR4-2133/2400)
	PCI Express x16 Slot (Gen3)	1
	PCI Express x16 Slot (4 Lanes, Gen3) / x1 Slot (Gen3)	1 / 2
	PCI Slots (32Bit, 33 MHz, Rev. 2.3)	-
	SATA-600 / SATA-300 / ATA / Floppy / M.2 SSD	5 / - / - / - / 1
	S/PDIF (digital Audio) OUT / IN	- / -
	Frontpanel Audio (9-Pin, HD Audio)	1
	USB 2.0 channels / USB 3.0 channels / USB Stick (3.0)	4 / 2 / 1
	Serial (COM2, RS232)	1
	FAN PSU <sup>2</sup> / CPU / AUX1 / AUX2	1 / 1 / 1 / 1
	SMBus (Case Temperature)	-
	Intrusion (Case Open)	1
	Parallel Port Pin Connector <sup>5</sup>	1
	ATX Power Supply (24 pin + 4 pin) / 12V-only Power Supply	✓ / -
	LPC Connector	✓
<b>External Connectors</b> <b>D3402-B</b>	VGA Sub D <sup>1</sup> / DVI-I / DVI-D / DisplayPort V1.2	- / - / 1 / 2
	Audio Mic. In / Line in / Line out (or driver configuration)	1 / 1 / 1
	LAN (RJ-45)	1
	PS/2 Mouse / Keyboard	1 / 1
	USB 2.0 / USB 3.0	2 / 4
	Serial (COM1, RS232)	1
	Parallel (EPP/ECP) <sup>5</sup>	-

1 VGA possible via optional converter board D3453 or DP-VGA-converter (dongle)

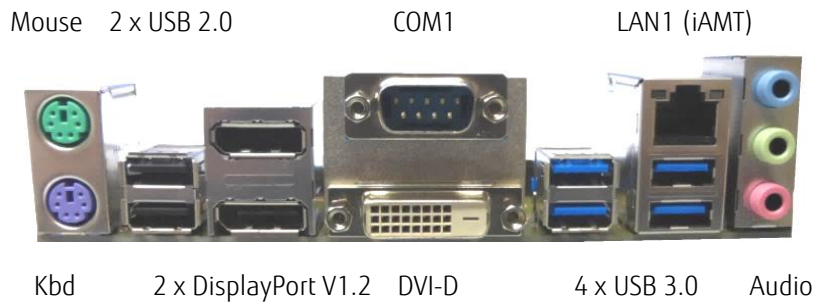
2 Not supported by standard Power Supplies

3 Optional BIOS Feature, License required

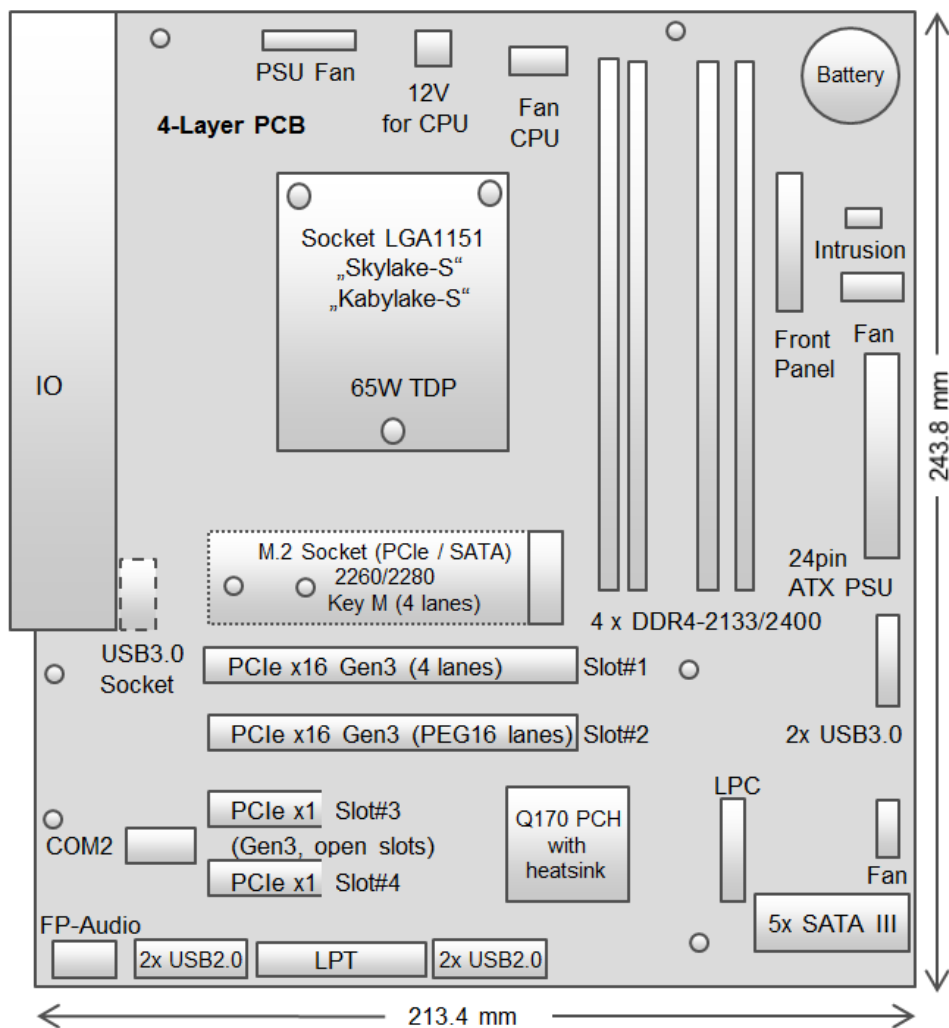
4 Combined backplate: Can't be used for pushpin heatsink

5 External parallel port possible via optional connector cable - Note: Intel limitation → ECP-DMA-Mode no longer supported

External Connectors



Connector / Socket Diagram



Further industrial products offered by Fujitsu

- Connectors
- KVM Switches
- Relays
- Touch Panels
- Thermal Printers
- Wireless Modules



24 Volt Kiosk Printers



Multi-Input Touch Panels

Contact:

Fujitsu Components Europe, B.V.  
 Tel.: +31 (0)23 556 0910  
 Fax: +31 (0)23 556 0950  
 Website: [emea.fujitsu.com/components](http://emea.fujitsu.com/components)  
 Address: Diamantlaan 25  
 2132 WV Hoofddorp  
 Netherlands

# More information

## Fujitsu products, solutions & services

### Products

[www.fujitsu.com/global/products/](http://www.fujitsu.com/global/products/)

In addition to the Fujitsu mainboards, Fujitsu offers a full portfolio of other computing products.

### Computing products

- Storage systems: ETERNUS
- Server: PRIMERGY, PRIMEQUEST, Fujitsu SPARC M10, BS2000/OSD Mainframe
- Client Computing Devices: LIFEBOOK, STYLISTIC, ESPRIMO, FUTRO, CELSIUS
- Peripherals: Fujitsu Displays, Accessories
- Software
- Network

Product Support Services with different service levels agreements are recommended to safeguard each product and ensure smooth IT operation.

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<http://www.fujitsu.com/global/solutions>

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**Infrastructure Solutions** are customer offerings created by bringing Fujitsu's best products, services and technologies together with those from partners to deliver benefit to our customers' businesses.

**Industry Solutions** are tailored to meet the needs of specific verticals.

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Several customizable Fujitsu Service offerings ensure that IT makes a real difference and delivers true business value. We do this by leveraging our extensive experience in managing large, complex, transformational IT programs to help clients in planning, delivering and operating IT services in a challenging and changing business environment.

**Application Services** support the development, integration, testing, deployment and on-going management of both custom developed and packaged applications. The services focus on delivering business and productivity improvements for organizations.

**Business Services** respond to the challenge of planning, delivering and operating IT in a complex and changing IT environment.

**Managed Infrastructure Services** enable customers to deliver the optimal IT environment to meet their needs – achieving high levels of IT service quality and performance for data center and end user environments.

## Fujitsu green policy innovation

[www.fujitsu.com/global/about/environment/](http://www.fujitsu.com/global/about/environment/)

Fujitsu Green Policy Innovation is our worldwide project for reducing burdens on the environment. Using our global know-how, we aim to resolve issues of environmental energy efficiency through IT. Please find further information at:



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## Contact

Fujitsu Technology Solutions GmbH  
OEM Mainboard Sales  
Email: [oem-sales@ts.fujitsu.com](mailto:oem-sales@ts.fujitsu.com)

Website: <http://ts.fujitsu.com>  
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