

Data Sheet

FUJITSU Mainboard D3634-S Mini-ITX

Industrial Series

Powered by the Intel® H310 Express Chipset supporting DDR4 2666 SDRAM Memory and Intel® 8th generation Core™ i7 / i5 / i3 Processors.
Designed & approved for enhanced operating temperature range from 0°C to 60°C
Designed & approved for 24/7 continuous operation



Chipset:

Intel® H310 Express Chipset

Processors:

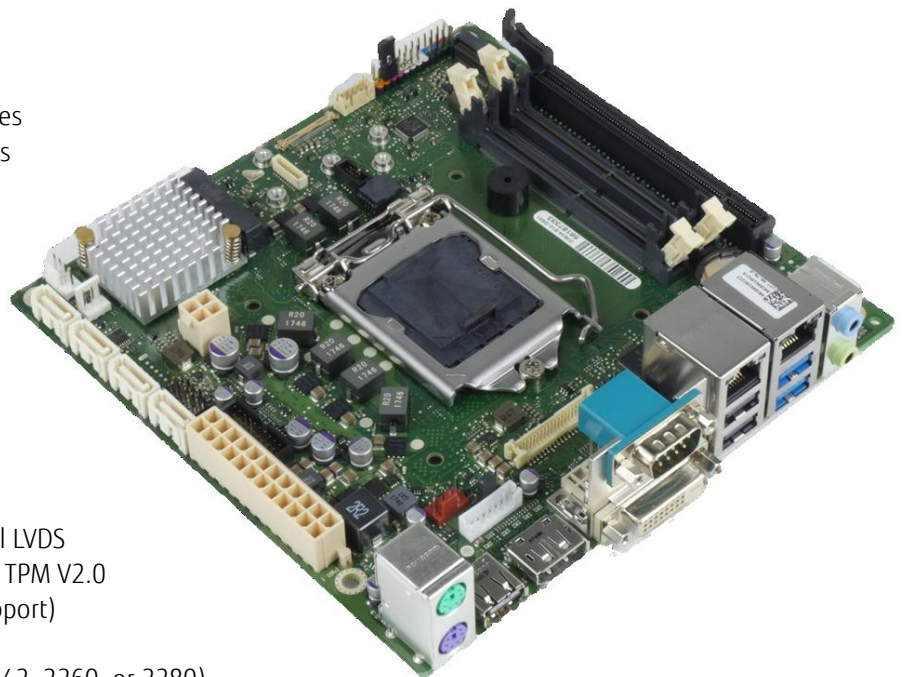
Intel® Core™ i7 / i5 / i3 – (8th gen.) processor series
Intel® Pentium® / Intel® Celeron® processor series
Socket LGA1151 – up to 95W TDP

Memory:

DDR4-2666, Dual Channel
2 SO DIMM sockets, up to 32GB memory

Product Features:

PCI Express x16 (Gen.3)
2x Intel® GbE LAN (incl. Teaming)
Intel® UHD Graphics (DX12)
1x DVI-D, 1x DP V1.2, eDP V1.4 and Dual Channel LVDS
Intel® High Definition 5.1 Audio; Intel integrated TPM V2.0
8 Bit GPIO; 2 x COM port (incl. RS-422/RS-485 support)
5x USB 2.0, 4x USB 3.1 Gen1
4x SATA 6G/s & M.2 (PCIe-based SSD modules 2242, 2260, or 2280)
Mini-PCIe socket (halfsize/fullsize support)
Dual Power Supply (ATX compliant or single 12V DC)
BIOS-POST/-Boot & OS – HW Watchdog onboard



Features and benefits

Board Size	Mini-ITX: 6.7" x 6.7" (170 x 170 mm)
Chipset	Intel® H310 Express Chipset
Memory	2 x SO-DIMM Socket (1.2V), max. 32GB, Dual Channel, DDR4 -2666 (CL19) / -2400 (CL17) / -2133 (CL15) SDRAM, unbuffered, non-ECC Effective memory speed depends on installed processor
Processor	Intel® Core™ i7 / i5 / i3 – (8 th generation) processor series Intel® Pentium® / Intel Celeron® processor series Socket LGA1151, max. 95W TDP (For details on supported processors please refer to OEM FTP Server)
Power Specification	ATX- 24 Pin / ATX- 20 Pin or 12V only Power Supply required; Support for Soft-Off Power Supplies; 3.3V Auxiliary Supply Voltage on PCIe Slot (Wake-Up Function)
Power Supply Requirements	for onboard components: worst case incl. processor & memory; w/o USB devices; w/o PCIe cards, w/o M.2, w/o SATA drives, w/o M.2 devices, w/o eDP or LVDS

Source ¹⁾	Voltage	Min. PS Load	Max. Voltage Tolerance	Mainboard Capacitive Load	Max. Mainboard Current
ATX Power Supply (Multi Rail)	+ 12V	0.05A	± 5 %	1.300µF	10A/18A ²⁾
	- 12V	0A		--	Not used
	+ 5V	0.2A	± 5 %	900µF	4.5A
	+ 3.3V	0A	± 5 %	350µF	0.5A
	+ 5Vaux	0A	+5 % / -3%	330µF	2.5A
Single 12V DC	+12V	0A	± 5 %	1.300µF	11A/19A ³⁾

1) ATX PSU (multi rail) or single 12V DC Supply

2) Processor 95W TDP: Max. Cont. Current = 10A; max. Surge Current = 16A (< 100sec) / 18A (< 10ms)

Processor 65W TDP: Max. Cont. Current = 7A; max. Surge Current = 14A (< 100sec) / 18A (< 10ms)

Processor 35W TDP: Max. Cont. Current = 4A; max. Surge Current = 10A (< 100sec) / 14A (< 10ms)

3) Max. load for single 12V DC supply: approx. +1A compared to multi rail supply

BIOS	<p>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. HW Watchdog support & BIOS integrated HW Diagnostic Tool. No legacy OS support, no MBR installation (UEFI only due to Intel restrictions)</p>
-------------	---

Security Features	<p>Recovery BIOS, System and BIOS Password, Boot Sequence Control, Serial- / USB- Port Access Protection, Boot Sector Virus Warning, Write Protection for Flash BIOS, EraseDisk (BIOS Feature), Intel integrated TPM V2.0</p>
--------------------------	---

Special Features	Silent Fan	Independent temperature related processor fan and system fan supervision and control	
	System Guard	View and adjust Silent Fan features	
	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 / M.2 SSD modules	
	Always On	Reliable power-on whenever voltage is connected	
	Never Off	Option to prevent the system from being shut down	
	CSA / UL compliance	cTÜVus acc. IEC62368-1	
FCC compliance	FCC-B verified		
Operating Systems	OS	"Runnable"	"Tested/Released by Fujitsu"
	MS Windows 10 RS3	X	X
	MS Windows 10 RS4	X	X
	Linux-64	X	tbid
Important Note:			
Legacy OS / MBR installation (DOS, MS Windows 7, ...) is not supported due to Intel restrictions			
Designed for Industrial Applications	Longlife components	Designed for 24/7 use in industrial applications	
	Revision control	Strict control and pre-announcement	
	Extended lifecycle up to 6 years	Mainboard available for more five four years	
	Industrial grade EMI immunity		
	Enhanced operating temperature range (0°C-60°C) ¹		
Graphics	Intel® UHD Graphics, DX12		
	1 x DisplayPort V1.2 & 1 x DVI-D		
	Embedded Display Port V1.4 (2 lanes supported)		
	Dual-Channel 24bit LVDS		
Audio	Realtek ALC671, 5.1-channel, High Definition Audio Codec		
TPM	Intel integrated TPM V2.0		
LAN	Intel i219LM & i210AT with 10/100/1000 MBit/s, Wake-on-LAN (WoL) by interesting Packets, Link Status Change and Magic Packet™, PXE Support, BIOS MAC Address Display, Teaming Support		
SATA Ports	4 x Serial ATA III 600 Interface (up to 6GBit/s), NCQ, AHCI		
M.2 Socket	1 x M.2 Key-M for PCIe-based SSD NVME modules; 2 x PCIe Gen2 lanes Mechanical support for 2280, 2260 or 2242 modules ²		
Mini-PCIe Socket	1 x Mini-PCIe supporting PCIe Gen2 & USB2.0 Mechanical support for halfsize or fullsize modules ²		
GPIO Port	8 Bit GPIO (Input/Output); WLAN LED support, WLAN enable/disable support 3.3V / 5V / 12V supply voltage output SMBus controller PCA9554A		
Legacy Ports	1 x external COM port (RS-232)		
	1 x internal COM port (RS-232/RS-422/RS-485, pin header, 2mm pitch)		
	1 x PS/2 (mouse), 1 x PS/2 (keyboard)		

¹ Forced cooling required, see technical documentation for detailed requirements

² M.2 / Mini-PCIe stuffing options: M.2-2280 only or M.2-2260/2242 + halfsize Mini-PCIe or M.2-2242 + fullsize Mini-PCIe

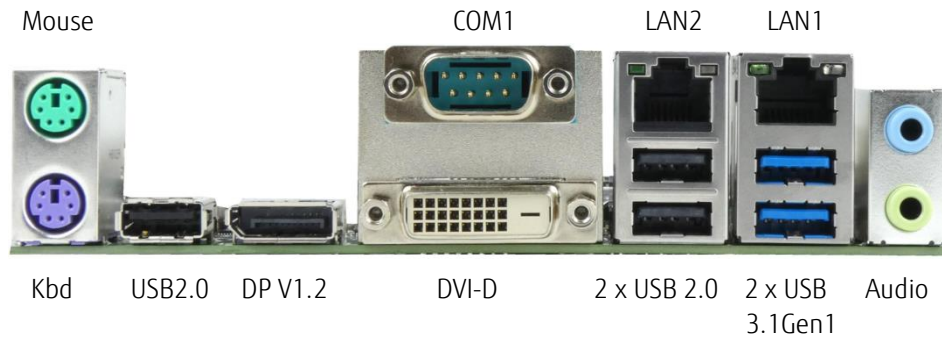
Features D3634-S	Chipset	iH310
	Board Size	Mini-ITX
	VGA / DVI-I / DVI-D / DP V1.2 / 2 nd DP V1.2 / LVDS / eDP	- / - / ✓ / ✓ / - / - / ✓ / ✓
	Buzzer / int. Speaker Support / 5.1 Multichannel Audio	✓ / ✓ / ✓
	Dual LAN Gbit / 100 Mbit / 10 Mbit / WoL / LAN Boot / Teaming	✓ / ✓ / ✓ / ✓ / ✓ / ✓ / ✓
	iAMT 12.0 vPro / Intel Standard Manageability / DASH V1.1	- / - / -
	SATA / SATA-RAID / eSATA-Support / mSATA / M.2 SSD (PCIe)	✓ / - / ✓ / ✓ / - / ✓
	USB 2.0 / USB 3.1 (gen1) / USB 3.1 (gen2)	✓ / ✓ / ✓ / -
	FAN monitored & controlled PSU / CPU / AUX1 / AUX2	- / ✓ / ✓ / ✓ / -
	TEMP monitored CPU / onboard sensors / external sensor	✓ / ✓ / ✓ / -
Special Features D3634-S	Silent Fan / System Guard	✓ / ✓
	Recovery BIOS / Desk Update / Multi Boot	✓ / ✓ / ✓
	HDD Password / EraseDisk / TPM V2.0	✓ / ✓ / ✓
	BIOS POST- / BIOS Boot- / 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) ³	0°C – 60°C
Internal Connectors D3634-S	SO DIMM Sockets (DDR4 2666)	2
	PCI Express x16 (Gen2) / Support for lane split (8+8 or 8+4+4)	1 / -
	mSATA / Mini PCI Express Slot (halfsize / fullsize, incl.USB 2.0)	- / 1
	SATA-600 / M.2 SSD 2280 (supports 2280/2260/2242, Key-M, PCIe/NVME)	4 / 1
	S/PDIF (digital Audio) OUT / IN	1 / 0
	Frontpanel Audio (9-Pin, HD Audio)	1
	USB 2.0 / USB 3.1 (Gen1) / USB 3.1 (Gen2) / USB Stick Socket ⁴	1 / 1 / - / -
	Serial (COM2, RS-232 / RS-422 / RS-485) / Parallel Port Connector	1 / -
	LVDS / LVDS Backlight (PWM controlled) / Embedded DisplayPort	1 / 1 / 1
	FAN PSU / CPU / AUX1 / AUX2	0 / 1 / 1 / 0
	Intrusion (Case Open) / GPIO ⁵ (8Bit) / SMBus (Case Temp.)	1 / 1 / -
	Front Panel (Power Switch, Reset Switch, LEDs, Intel 10 pin compatible)	1
	ATX Power Supply (24 pin + 4 pin) / single 12V PSU ⁵	1 / 1
	External Connectors D3634-S	VGA Sub D / DVI-I / DVI-D / DisplayPort V1.2
Audio Mic. In / Line in / Line out (or driver configuration)		- / 1 / 1
LAN (RJ-45)		2
PS/2 Mouse / Keyboard		1 / 1
USB 2.0 / USB 3.1 Gen1 / USB 3.1 Gen2		3 / 2 / -
Serial (COM1, RS232)		1

³ Forced cooling required, see technical documentation for detailed requirements

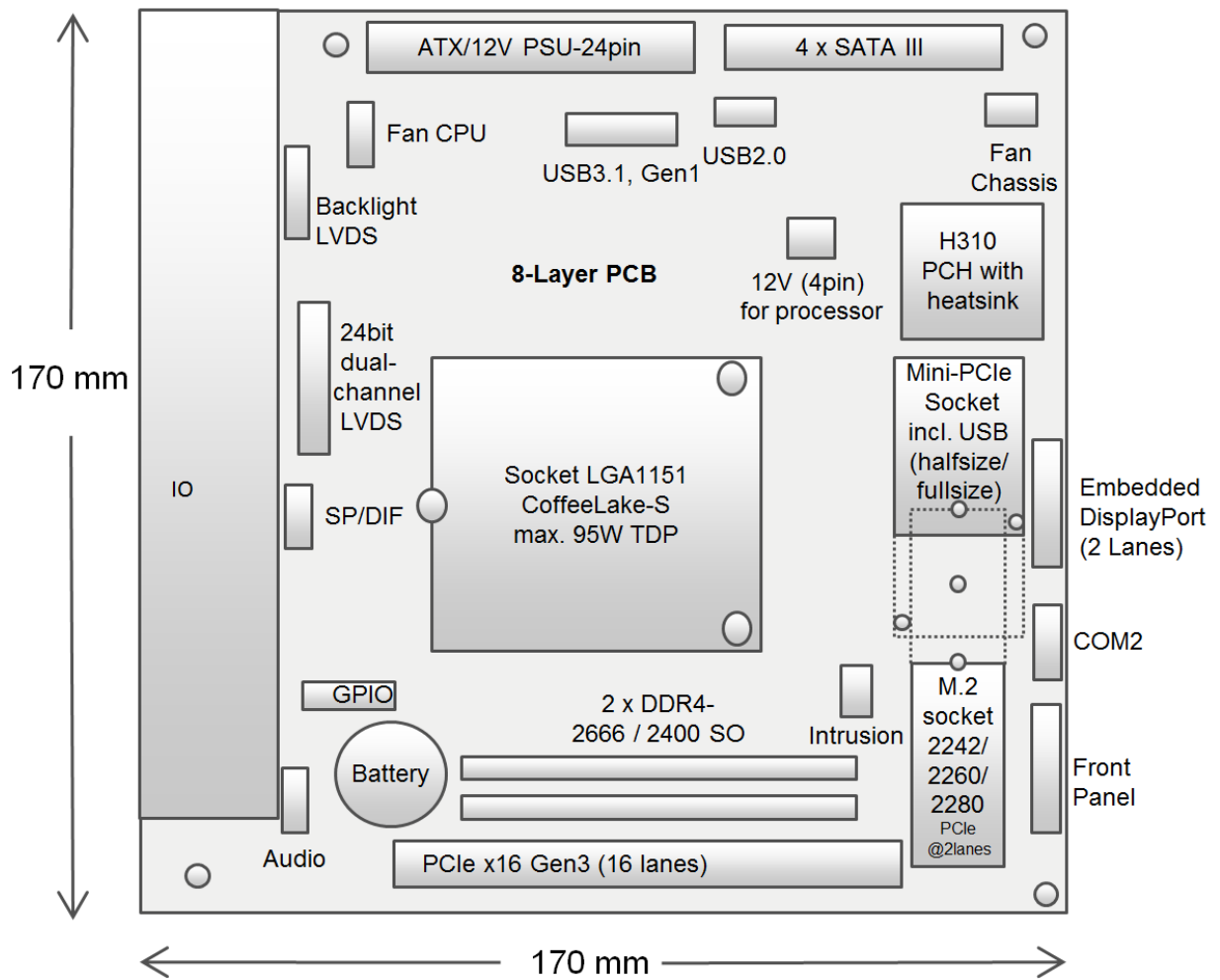
⁴ Each internal USB connector (pin header) provides two USB ports (except for USB stick socket)

⁵ Alternatives: Powered by ATX (multi rail) PSU or single 12V DC. See TechNotes document for further details

External Connectors

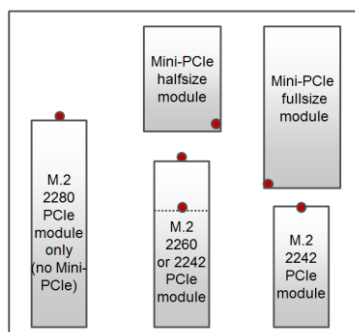


Connector / Socket Diagram



M.2 / Mini-PCle stuffing options:

- M.2-2280 only or
- M.2-2260/2242 + halfsize Mini-PCle or
- M.2-2242 + fullsize Mini-PCle



Accessories

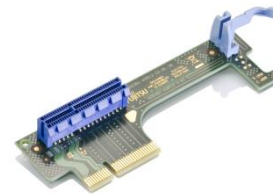
Mini PCIe to M.2 Adapter (D3436-S) S26361-F5000-M3



Serial Port Cable (fullsize slot bracket) S26361-F5000-K10



Risercard 1x PCIe x4 (D3318-A) S26361-F5000-R6



SMARTCASE S720 Chassis Kit S26361-F5000-J3



Diplayport to DVI Converter Cable (400mm) S26361-F5000-A3



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
Address: Diamantlaan 25
2132 WV Hoofddorp
Netherlands

More information

Fujitsu products, solutions & services

Products

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.

Solutions

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

The Fujitsu solutions combine reliable Fujitsu products with the best in services, know-how and worldwide partnerships. Fujitsu's Solutions include parts of one or more activity groups (e.g., planning, implementation, support, management, and training services) and are designed to solve a specific business need.

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.

Business and Technology Solutions provide a variety of technologies developed to tackle specific business issues such as security and sustainability, across many verticals.

Services

www.fujitsu.com/global/services/

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/
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:



More information

Learn more about Fujitsu, please contact your Fujitsu sales representative, Fujitsu business partner, or visit our website.
www.fujitsu.com/fts/mainboards/

Copyright

© 2015 Fujitsu Technology Solutions GmbH
Fujitsu and the Fujitsu logo are trademarks or registered trademarks of Fujitsu Limited in Japan and other countries.

Intel Chipset C236, Xeon C3 and Intel Core i7 / i5 / i3 are trademarks or registered trademarks of Intel Corporation in America and other countries. Other company, product and service names may be trademarks or registered trademarks of their respective owners. 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.

Disclaimer

Technical data 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.

Contact

Fujitsu Technology Solutions GmbH
OEM Mainboard Sales
Email: oem-sales@ts.fujitsu.com

Website: <http://ts.fujitsu.com>
2018-10-08

Copyright © Fujitsu Technology Solutions

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.

For further information see http://ts.fujitsu.com/terms_of_use.html