

# Data Sheet

## FUJITSU Mainboard D3445-S ATX

### Industrial Series

Available from  
03/2016

Powered by the Intel® H110 Express Chipset supporting DDR4 2133 SDRAM Memory and 6<sup>th</sup> generation Intel® Core™ i3 / i5 / i7 and Xeon® E3-1200 V5 Processors (Socket LGA1151) Designed for 24/7 continuous operation and enhanced operating temperature range



#### Chipset:

Intel® H110 Express Chipset

#### Processors:

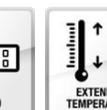
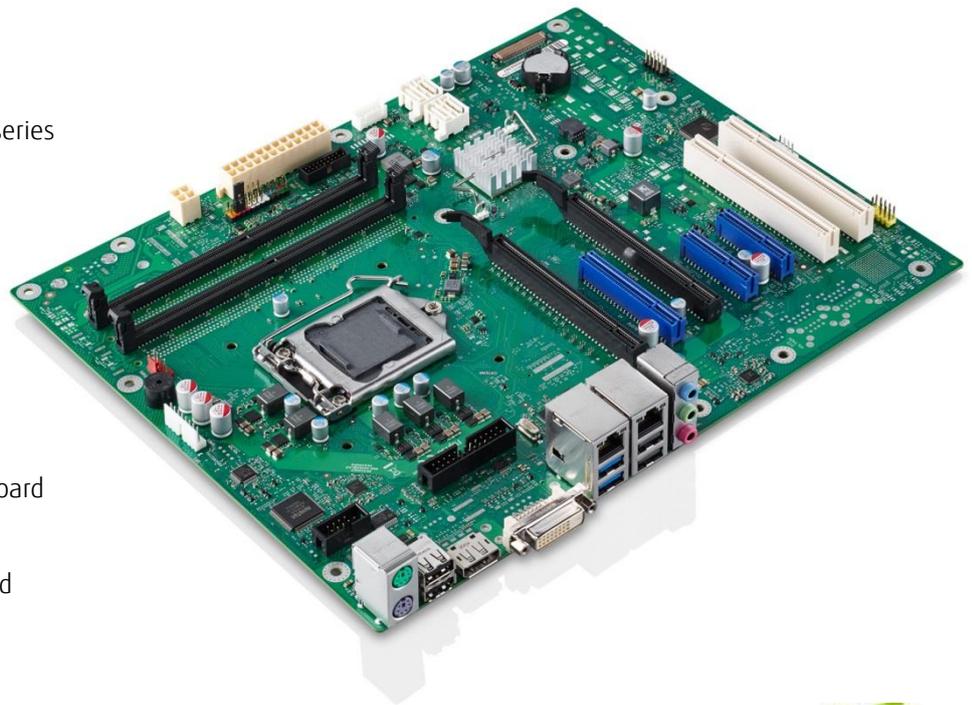
Intel® Core™ i7 / i5 / i3 – (6<sup>th</sup> gen.) processor series  
Intel® Pentium® / Intel® Celeron® processors  
Socket LGA1151 – up to 65W TDP

#### Memory:

DDR4 2133 SDRAM (UDIMM)

#### Product Features:

Intel® HD Graphics; PCI Express Gen3  
Multichannel Audio & Dual Intel GbE LAN onboard  
USB 2.0/3.0 onboard  
Trusted Platform Module V2.0 (Intel) onboard  
BIOS-POST/-Boot & OS – HW Watchdog onboard



# Features and benefits

<b>Board Size</b>	ATX: 9.6" x 12" (243.8 x 304.8 mm)
<b>Chipset</b>	Intel® H110 Express Chipset
<b>Memory</b>	4 DIMM Sockets DDR4, max. 64GB, Dual Channel, 2133MHz (CL15), UDIMM, 1.2V/2.5V, 288-pin, ECC (appropriate processor required) / non-ECC. Effective memory speed depends on installed processor
<b>Processor</b>	Intel® Core™ i7 / i5 / i3 – (6th generation) processor series Intel® Pentium® / Celeron® processor series Socket LGA1151, max. 65W TDP
<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 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. BIOS integrated HW Diagnostic Tool
<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 (BIOS Feature); TPM V2.0 (Intel integrated).

<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	cCSAus 60950-1	
<b>Operating Systems</b>	<b>OS</b>	<b>"Runnable"</b>	<b>"Tested/Released by Fujitsu"</b>
	MS Windows XP	--	--
	MS Windows 7-32	X	X
	MS Windows 7-64	X	X
	MS Windows 8.1-64	X	X
	MS Windows 10-64	X	X
	MS Server 2008 R2	X	basic capability approved
	MS Server 2012 R2	X	basic capability approved
	MS Server 2016	planned	planned
	Linux-32	X	--
Linux-64	X	--	
<b>Designed for Industrial Applications</b>	Longlife components	Designed for 24/7 use in industrial applications	
	Tin-plated PCB	Improved durability of PCB surface	
	Revision control	Strict control and pre-announcement	
	Extended lifecycle	Mainboard available for more than four years	
	Industrial grade EMI immunity		
	Enhanced operating temperature range (0°C-60°C) <sup>1</sup>		
<b>Graphics</b>	Intel® HD Graphics (depends on installed processor), DX12		
<b>Audio</b>	Realtek ALC671, 5.1-channel, High Definition Audio Codec		
<b>LAN</b>	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		
<b>Drives</b>	4 x SATA-III, NCQ, AHCI		

<sup>1</sup> Forced cooling required, see technical documentation for detailed requirements

<b>Features</b> D3445-S	Chipset / Board Size	iH110 / ATX
	VGA <sup>2</sup> / DVI-I / DVI-D / DP V1.2 / 2nd DP V1.2 / LVDS	- / - / ✓ / ✓ / - / -
	Buzzer / int. Speaker Support / 5.1 Multichannel Audio	✓ / ✓ / ✓
	Dual LAN Gbit / 100 Mbit / 10 Mbit / WoL / LAN Boot	✓ / ✓ / ✓ / ✓ / ✓ / ✓
	iAMT 11.0 vPro / Intel Standard Manageability / DASH V1.1	- / - / -
	SATA / ATA / RAID / eSATA-Support / mSATA / M.2 SSD	✓ / - / - / ✓ / - / -
	FireWire™ / USB 2.0 / USB 3.0	- / ✓ / ✓
	FAN monitored & controlled PSU <sup>3</sup> / CPU / AUX1 / AUX2 / AUX3	✓ / ✓ / ✓ / ✓ / - / -
	TEMP monitored CPU / onboard sensors / external sensor	✓ / ✓ / -
<b>Special Features</b> D3445-S	Silent Fan / Silent Fan LT / System Guard / Silent Drives	✓ / - / ✓ / ✓
	Recovery BIOS / Desk Update / Multi Boot	✓ / ✓ / ✓
	HDD Password / HDD Encryption / EraseDisk / 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)	0°C – 60°C
	<b>Internal Connectors</b> D3445-S	DIMM Sockets (DDR4-2133)
PCI Express x16 (16 Lanes, Gen3) / x16 (1 Lane, Gen2)		1 / 1
PCI Express x8 (1 Lane Gen2)		1
PCI Express x4 (1 Lane Gen2)		2
PCI Slots (32Bit, 33 MHz, Rev. 2.3) / Mini-PCI Express		2 / -
SATA Express / SATA-600 / SATA-300 / mSATA / M.2 SSD		- / 4 / - / - / -
S/PDIF (digital Audio) OUT / IN		- / -
Frontpanel Audio (9-Pin, HD Audio & Legacy Audio AC97)		1
USB 2.0 channels / USB 3.0 channels / USB Stick (2.0)		2 / 2 / -
Serial (COM2, RS232)		1
FAN PSU <sup>3</sup> / CPU / AUX1 / AUX2 / Aux3		1 / 1 / 1 / - / -
SMBus (Case Temperature) / Intrusion (Case Open)		- / -
Parallel Port Pin Connector <sup>4</sup>		1
ATX Power Supply (24 pin + 4 pin) / 12V-only Power Supply		✓ / -
<b>External Connectors</b> D3445-S	VGA Sub D <sup>2</sup> / DVI-I / DVI-D / DisplayPort V1.2	- / - / 1 / 1
	Audio Mic. In / Line in / Line out (or driver configuration)	1 / 1 / 1
	LAN (RJ-45)	2
	PS/2 Mouse / Keyboard	1 / 1
	USB 2.0 / USB 3.0	4 / 2
	Serial (COM1, RS232)	-
	Parallel (EPP/ECP) <sup>4</sup>	-

<sup>2</sup> VGA possible via optional converter board D3453 or DP-VGA-converter (dongle); In total, only two graphics outputs can be used

<sup>3</sup> Not supported by standard Power Supplies

<sup>4</sup> External parallel port possible via optional connector cable

Note: Intel limitation → ECP-DMA-Mode no longer supported



**Accessories**

Fujitsu VGA Converter Board D3453	D3453-A	S26361-F5000-R8	
Parallel Port Cable ATX / SFF		S26361-F5000-K003 S26361-F5000-K004	
Parallel Port Cable "ATX		S26361-F5000-K003	
Parallel Port Cable "ATX Slotbracket		S26361-F5000-K005	
PCIe x1 DASH LAN Controller	D2907-A11	S26361-F5000-L001	
Risercard 1x PCIe X4	D3318-A	S26361-F5000-R006	
M.2 Carrier Board	D3352-A2	S26361-F5000-M002	

**Further industrial products offered by Fujitsu**

- Connectors
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- Touch Panels
- Thermal Printers
- Wireless Modules



**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

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- Storage systems: ETERNUS
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- Peripherals: Fujitsu Displays, Accessories
- Software
- Network

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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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