

Data Sheet

FUJITSU Mainboard D3445-S ATX

Industrial Series

Available from
03/2016

Powered by the Intel® C236 Express Chipset supporting DDR4 2133 SDRAM Memory and 6th 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:

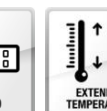
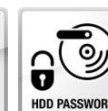
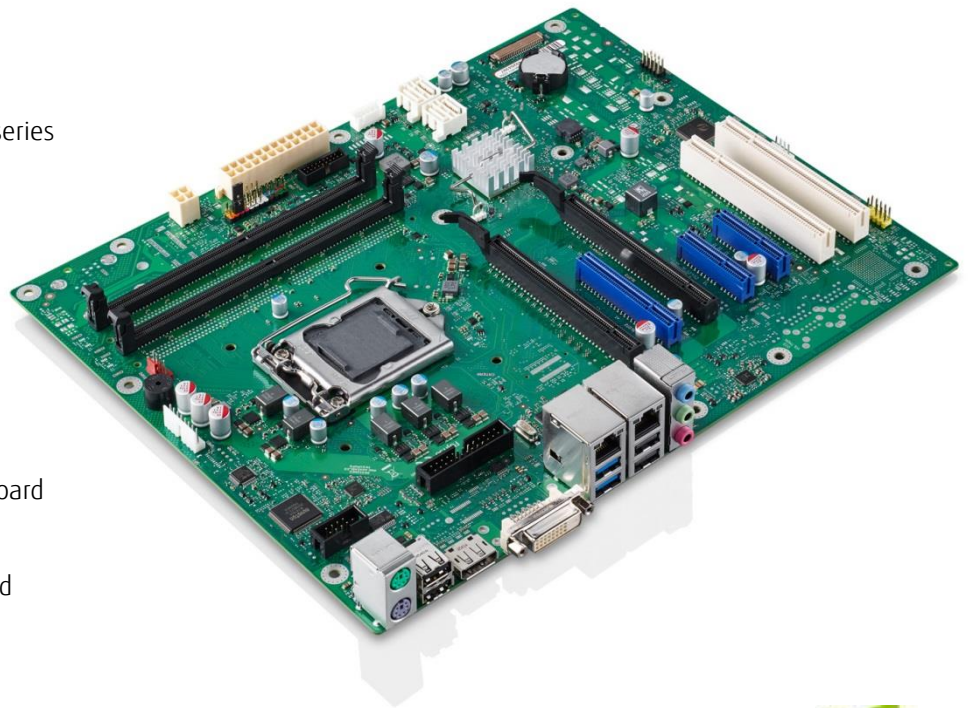
Intel® Core™ i7 / i5 / i3 – (6th gen.) processor series
Intel® Pentium® / Intel® Celeron® processors
Socket LGA1151 – up to 65W TDP

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

| | |
|----------------------------------|--|
| Board Size | ATX: 9.6" x 12" (243.8 x 304.8 mm) |
| Chipset | Intel® H110 Express Chipset |
| Memory | 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 |
| Processor | Intel® Core™ i7 / i5 / i3 – (6th generation) processor series Intel® Pentium® / Celeron® processor series Socket LGA1151, max. 65W TDP |
| Power Specification | 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 |
| Power Supply Requirements | 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 ¹⁾ |
| | - 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)

| | |
|--------------------------|--|
| BIOS | 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 |
| Security Features | 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). |

| | | | |
|---|---|--|-------------------------------------|
| Special Features | 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 | |
| Operating Systems | OS | "Runnable" | "Tested/Released by Fujitsu" |
| | 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 | -- | |
| Designed for Industrial Applications | 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) ¹ | | |
| Graphics | Intel® HD Graphics (depends on installed processor), DX12 | | |
| Audio | Realtek ALC671, 5.1-channel, High Definition Audio Codec | | |
| 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 | | |
| Drives | 4 x SATA-III, NCQ, AHCI | | |

¹ Forced cooling required, see technical documentation for detailed requirements

| | | |
|---|--|--------------------------|
| Features D3445-S | Chipset / Board Size | iH110 / ATX |
| | VGA ² / 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 ³ / CPU / AUX1 / AUX2 / AUX3 | ✓ / ✓ / ✓ / ✓ / - / - |
| | TEMP monitored CPU / onboard sensors / external sensor | ✓ / ✓ / - |
| Special Features 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 |
| | Internal Connectors 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 ³ / CPU / AUX1 / AUX2 / Aux3 | | 1 / 1 / 1 / - / - |
| SMBus (Case Temperature) / Intrusion (Case Open) | | - / - |
| Parallel Port Pin Connector ⁴ | | 1 |
| ATX Power Supply (24 pin + 4 pin) / 12V-only Power Supply | | ✓ / - |
| External Connectors D3445-S | VGA Sub D ² / 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) ⁴ | - |

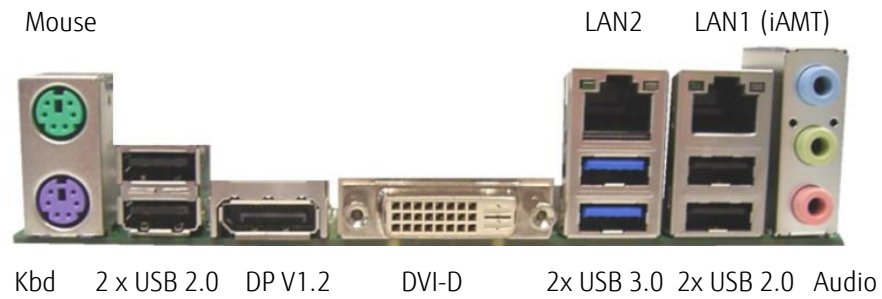
² VGA possible via optional converter board D3453 or DP-VGA-converter (dongle); In total, only two graphics outputs can be used

³ Not supported by standard Power Supplies

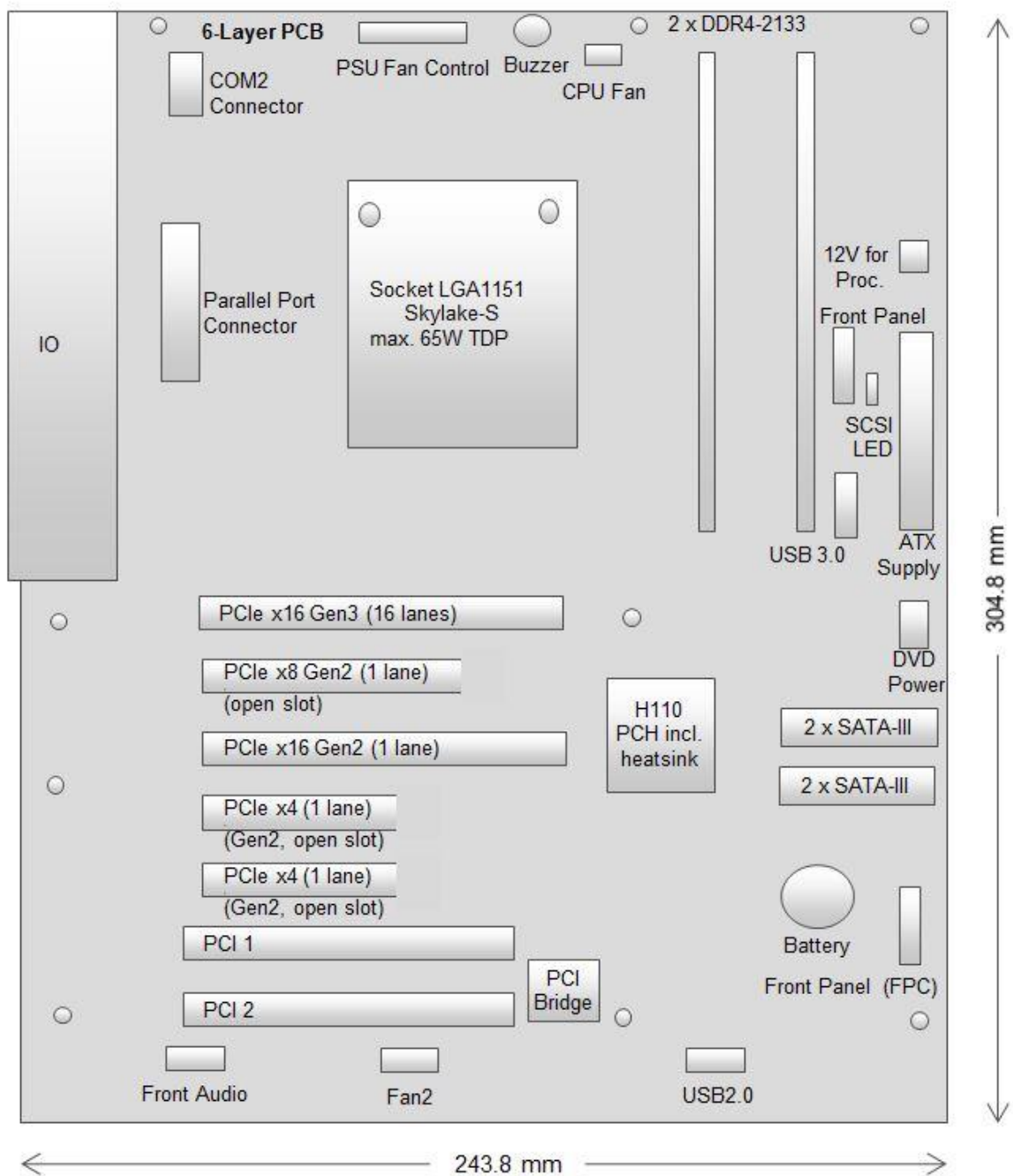
⁴ External parallel port possible via optional connector cable

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

External Connectors



Connector / Socket Diagram



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



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