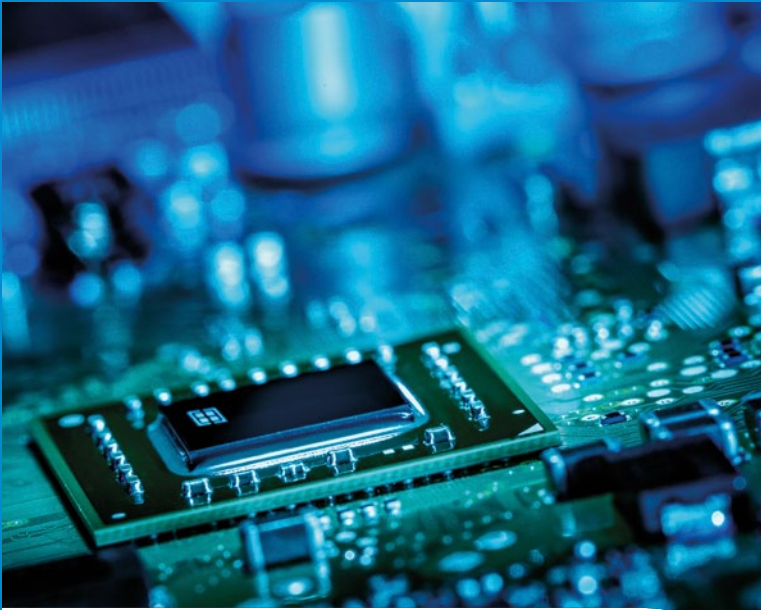




RUTRONIK
ELECTRONICS WORLDWIDE



Fujitsu Mainboards

Quality made in Germany

Product Facts

shaping tomorrow with you

FUJITSU



Combine Technologies – Realize EMBEDDED Designs

Rutronik Embedded –

the most reliable option for future-orientated purchase of embedded components from one hand.

We are well-known as distributor of embedded boards & systems, power supplies, storage components, TFT displays, passive LCD's, professional monitors, as well as wireless connectivity solutions, sensors and all needed electromechanical components to build up an intelligent embedded system for the emerging IoT market.



Boards & Systems



Storage



Displays



Wireless



Boards & Systems

based on ever faster, more powerful, smaller and energy-saving components. Suitable and standardised power supplies, sensors and electromechanical components which guarantee functional reliability even under extreme operating conditions

Storage

solutions in compact sizes with any number of read/write cycles with the highest storage density

Displays

and touch systems, which provide the user with a perfect visualisation and operation of the real world and facilitate intuitive operation and the interaction of extremely complex systems

Wireless

technologies facilitate the global linking of processes and databases in all conventional transmission standards and in a matter of seconds



A strong partner. Worldwide

Fujitsu is the leading European IT infrastructure provider with a presence in all key markets in Europe, the Middle East and Africa, plus India, serving large-, medium- and small-sized companies as well as consumers.

The company offers a full portfolio of IT products, solutions and services. German engineering, and Japanese innovation coupled with comprehensive test and compliance capability in our own labs ensures extraordinary product quality and reliability across all product lines.

Mainboards by Fujitsu

For more than 30 years, mainboards have been developed and produced in our Augsburg factory. Fujitsu puts special emphasis on highest product quality, long-term availability and direct technical support by the manufacturer.

Mainboards by Fujitsu reliably work in thin clients, servers and complete system solutions for industrial customers. With an annual production volume of around 2.5 million units, Fujitsu is the leading European manufacturer of mainboards.

The OEM Systemboard team can provide an all-in-one package. As all divisions of the company come together in one team, they fulfil all customer requirements in a short and direct way. From sales through logistics to technical issues the Fujitsu staff will take care of the problems.

Mainboards Overview

Fujitsu's wide product range helps you to meet today's requirements. The products offer highest reliability, security and ease of use of features. Mainboards from Fujitsu are designed for customer needs.

Different customers have different requirements. In order to have the perfect solutions for all clients, Fujitsu Technology Solutions features three mainboard families:

- The Classic Desktop Series
- The Extended Lifecycle Series
- The Industrial Mainboard Series

Value



Classic Desktop // Standard
Home and Office Applications

D3400-A/B D3401-A/B/H
D3410-B D3402-A



**Extended
Lifecycle**

// Semi-industrial
Features

D3417-B D3348-B
D3402-B D3222-B



Industrial // Special features
for industrial needs

D3434-S	D3243-S	D3313-S1
D3433-S	D3236-S	D3313-S2
D3446-S	D3235-S	D3313-S3
D3445-S	D3231-S	D3313-S4
D3441-S		D3313-S5
		D3313-S6

Long-term availability



Basic Features for all Mainboards*



Silent Fan LT

Silent Fan LT is a low-cost, simplified variation of the Silent Fan function. Depending on various system temperatures and characteristics, it controls fan rotation speed for up to three fans via Onboard-Super-I/O. Silent Fan is a stand-alone hardware-/firmware implementation that works independently from the respective operation system without the need of any driver- or application environment.



System Guard

System Guard is a software tool that provides users with a clear overview of all System-Management-Controller and Silent Fan functions. System Guard supports parameter setting, adjustable deterioration monitoring of supported fans, system event protocols (log files) and Watch Dog activation (for mainboards with Silent Fan only).



Silent Drives

Silent Drives allows hard drives and optical drives to be switched to silent mode via BIOS. Aside from the remarkably lower noise, the „gentle“ motion contributes to an extended lifecycle of the drives.



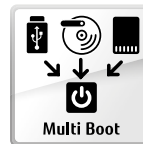
Recovery BIOS

BIOS content destroyed by an incomplete flash operation can be easily and reliably re-constructed multiple times by Recovery BIOS.



Desk Update

Desk Update enables simple, automated driver installation. This feature is available through the OEM-DUDVD supplied by Fujitsu or via download.



Multi Boot

The mainboard BIOS allows booting from any mass storage medium with e.g. PATA-, SATA-, eSATA-, CF-Card-, mSATA- and USB-interfaces.



HDD Password

The password function of up to six different PC hard drives can be activated via system BIOS; a separate password can be assigned to each individual drive.

*features might vary between board generations.
For specific information please refer to the datasheet of the selected mainboards.

Special Features of Extended Lifecycle and Industrial Series



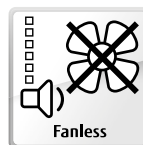
Silent Fan

All PC coolers are controlled and monitored, depending on various system temperatures and characteristics, by Fujitsu's in-house development, the System- Management-Controller. Cooling characteristics can be adjusted to the individual systems' thermal requirements via a special SW tool: SilentFanConfig. Silent Fan is a stand-alone hardware-/firmware implementation that works independently from the respective operation system without the need of any driver- or application environment.



Watch Dog

Fujitsu's System Management Controller offers a Watch Dog function that can automatically execute a system reboot or shutdown in case of operating system failure. Watch Dog is activated and set via System Guard or by embedding a Windows-based Application Programming Interface (API) in customer-specific applications.



Fanless

Industrial Mainboards such as D3313-S are based on mobile technology, using processors with very low thermal design power (TDP), for fanless system cooling.

The Classic Desktop Series



As Europe's largest IT system manufacturer, Fujitsu offers a large variety of professional desktop mainboards in various form factors such as ATX, μ ATX and mini-ITX. These are integrated into millions of Fujitsu systems every year, reliably running thin clients and high-end servers alike.

Special features

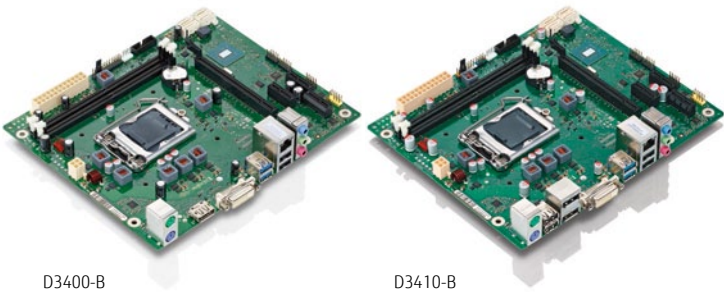
The mainboards of the Classic Desktop Series are equipped with an Intel® 100-Series chipset which offers latest technology to fulfill office needs. The comprehensive lineup provides products for every business segment, from entry level office-PCs up to high performance and well manageable business solutions within enterprise infrastructure.

2014				2015				2016				2017				Intel® Processors		
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Size	Name	Chipset
						pl										μ ATX	D3400-A/B	Intel® H110
							pl									μ ATX	D3410-B	Intel® B150
							pl									μ ATX	D3401-A/B	Intel® Q150
							pl									μ ATX	D3401-H	Intel® B150
							pl									μ ATX	D3402-A	Intel® Q170

Classic Desktop Series

Mainboard D3400-B

Mainboard D3410-B



Highlights D3400-B and D3410-B:

The reliable solutions for office needs

- Supports latest Intel® Processors
 - Intel® Core™ i7/i5/i3 – (6th gen.) processor series
 - Intel® Pentium®/Celeron® processor series
 - Socket LGA1151 - up to 65 W TDP
- DDR4 2133 SDRAM (UDIMM)
- Intel® HD Graphics (D3410-B up to 3 digital displays, D3400-B up to 2 displays)
- PCI Express Gen3
- Multichannel Audio & Realtek GbE LAN
- USB 2.0 and USB 3.0
- Trusted Platform Module V2.0 (Intel® integrated)



** D3410-B only

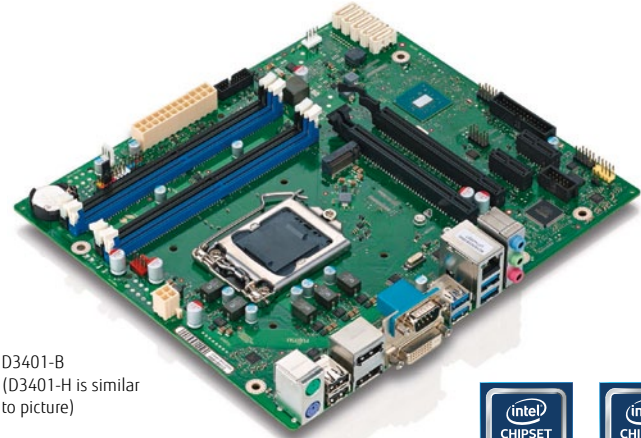
Mainboard	D3400-B	D3410-B
Category	Classic Desktop Series	Classic Desktop Series
Baseboard		
Formfactor	ultra small µATX	ultra small µATX
Dimensions	218 x 183 mm	218 x 183 mm
Halogen-free PCB/FR4 Tin Plating	--/--	--/--
Chipset	Intel® H110	Intel® B150
CPU Support		
Processor Socket	Intel® LGA1151	Intel® LGA1151
High Efficiency Core Voltage Regulator	--	--
Memory		
max. capacity	32 GB	32 GB
number of sockets	2	2
RAM Speed	DDR4 2133	DDR4 2133
onboard Graphics	depends on installed processor, DX12	depends on installed processor, DX12
Ethernet		
onboard LAN Controller	RTL8111G	RTL8111G
ASF2.0/DASH/iAMT/vPro	--/--/--	--/--/--
Audio		
type	5.1 Multichannel	5.1 Multichannel
onboard Audio Controller	ALC 671	ALC 671
onboard Audio Input Connector	--	--
S/PDIF (out) Connector ext./int.	--/--	--/--
Buzzer/Speaker	--/X	--/X
Internal/External Connectors		
PCle x16/x8/x4/x2/x1/PCI	1/--/--/2/--	1/--/--/2/--
Onboard-Support for USB Stick/USB Flash Drive	--/--	--/--
USB 2.0 Connectors, external/internal	2/2 *	4/2 *
USB 3.0 Connectors, external/internal	2/1 *	2/1 *
SATA Ports/eSATA/SATA RAID	4/x/--	4/x/--
COM Connector ext./int.	--/1	--/1
Firewire Connector ext./int.	--/--	--/--
Parallel Port Connector	--	--
M.2 Socket (2260&2280) SATA/PCIe	--/--	--/--
DVI-D/DisplayPort V1.2/LVDS	1/1/--	1/2/--
Miscellaneous		
Fan Speed Customizing	--	--
Chassis Intrusion Support	--	--
Disable specific USB Ports (BIOS Setup)	X	X
Voltage Guard	--	--
TPM V2.0 (Intel®)	X	X
Other Features		24/7 operation

* internal = 2 channels per connector

Classic Desktop Series

Mainboard D3401-B

Mainboard D3401-H



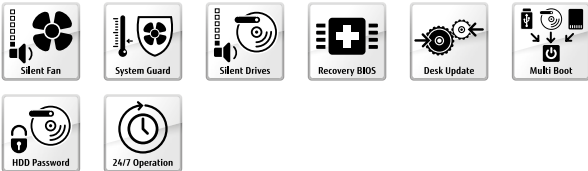
D3401-B
(D3401-H is similar
to picture)



Highlights D3401-B and D3401-H:

Manageability for highest system security and availability

- Supports latest Intel® Processors
 - Intel® Core™ i7/i5/i3 – (6th gen.) processor series
 - Intel® Pentium®/Celeron® processor series
 - Socket LGA1151 - up to 65 W TDP
- DDR4 2133 SDRAM (UDIMM)
- Intel® Standard Manageability **
- Onboard Support for M.2 SSD (PCIe or SATA)
- Multichannel Audio & Intel® GbE LAN
- USB 2.0 and USB 3.0
- Trusted Platform Module V2.0 (Intel® integrated)
- PCI Express Gen3
- Intel® HD Graphics



** D3401-B only

Mainboard	D3401-B	D3401-H
Category	Classic Desktop Series	Classic Desktop Series
Baseboard		
Formfactor	reduced µATX	reduced µATX
Dimensions	9.6" x 8.4" (243.8 x 213.4 mm)	9.6" x 8.4" (243.8 x 213.4 mm)
Halogen-free PCB/FR4 Tin Plating	X/--	X/--
Chipset	Intel® Q150	Intel® B150
CPU Support		
Processor Socket	Intel® LGA1151	Intel® LGA1151
High Efficiency Core Voltage Regulator	X	X
Memory		
max. capacity	64 GB	64 GB
number of sockets	4	4
RAM Speed	DDR4 2133	DDR4 2133
onboard Graphics	depends on installed processor, DX12	depends on installed processor, DX12
Ethernet		
onboard LAN Controller	Intel® i219V	Intel® i219LM
ASF2.0/DASH/ISM/vPro	--/X/X/--	--/--/--/--
Audio		
type	5.1 Multichannel	5.1 Multichannel
onboard Audio Controller	ALC 671	ALC 671
onboard Audio Input Connector	--	--
S/PDIF (out) Connector ext./int.	--/--	--/--
Buzzer/Speaker	--/X	--/--
Internal/External Connectors		
PCIe x16/x8/x4/x2/x1 /PCI	2/--/--/--/2/--	2/--/--/--/--/--
Onboard-Support for USB Stick/USB Flash Drive	--/--	--/--
USB 2.0 Connectors, external/internal	2/2 *	2/--
USB 3.0 Connectors, external/internal	4/1 *	4/--
SATA Ports/eSATA/SATA RAID	5/X/--	5/X/--
COM Connector ext./int.	1/1	1/--
Firewire Connector ext./int.	--/--	--/--
Parallel Port Connector	X	--
M.2 Socket (2260&2280) SATA/PCIe	X/X	X (2280 only) /X
DVI-D/DisplayPort V1.2/LVDS	1/2/--	1/2/--
Miscellaneous		
Fan Speed Customizing	--	--
Chassis Intrusion Support	X	--
Disable specific USB Ports (BIOS Setup)	X	X
Voltage Guard	--	--
TPM V2.0	X	X
Other Features	24/7	M.2 with 4 High Speed Lanes

* internal = 2 channels per connector

The Extended Lifecycle Series



The standard lifecycle of desktop mainboards is 12 months to a maximum of 18 months. Taking into consideration the enormous expense necessary for certification and engineering, that time frame is too narrow for many commercial applications. To solve this problem, Fujitsu offers selected mainboards for an additional 12 to 24 months exceeding the series' regular End of Life (EOL).

Special features

The mainboard components of the Extended Lifecycle Series are designed for long-term, continuous operations (24/7) in an extended temperature range and high system load. Extended Lifecycle mainboards are specified for a temperature range between 0 and 50°Celsius.

Fujitsu mainboards of the Extended Lifecycle Series are applicable in many branches:

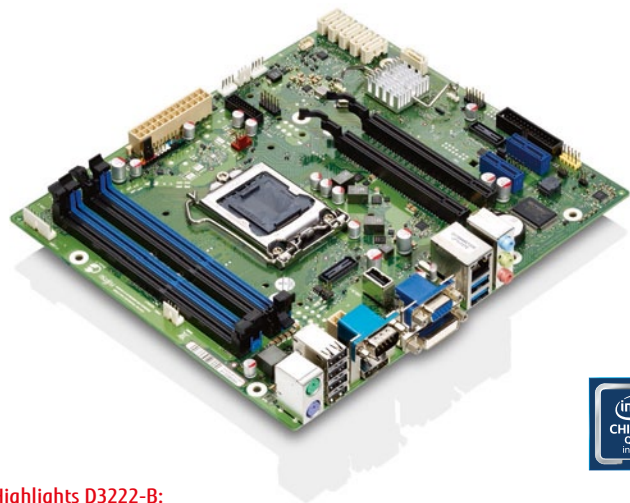
- Public and Corporate Tenders
- Video Surveillance
- Medical Systems
- Webhosting
- CAD Workstations

2014				2015				2016				2017				2018				Intel® Processors		
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Size	Name	Chipset
			pl					eol	xlc	eoxlc										µATX	D3222-B	Intel® Q87
																eol	xlc	eoxlc		ATX	D3348-B	Intel® C612
							pl													µATX	D3417-B	Intel® C236
							pl													µATX	D3402-B	Intel® Q170

■ product launch ■ standard lifecycle ■ end of life standard lifecycle
■ extended lifecycle period ■ end of life extended lifecycle

Extended Lifecycle Series

Mainboard D3222-B



Highlights D3222-B:

Efficient solution for semi-industrial needs

- Support Intel® Core™ i7/i5/i3 Processors (LGA1150) with up to 95W
- Intel® Q87 Express Chipset
- High Efficiency Core Voltage Regulator
- Dual Channel DDR3 1600/1333 SDRAM, memory capacity: up to 32 GB
- Intel® HD graphics, DirectX 11.1 (depends on used processor)
- GigaBit LAN Controller (Intel® i217LM), vPro
- iAMT 9.0 Management Functionality
- 5.1 Multichannel Audio
- PCIe x16 (Gen3), PCIe x16 (4 lanes, Gen2) and PCIe x1 (Gen2)
- Onboard System Management Controller
- SATA-600 RAID 0, 1, 10, 5
- USB 3.0
- TPM V1.2
- Watch Dog

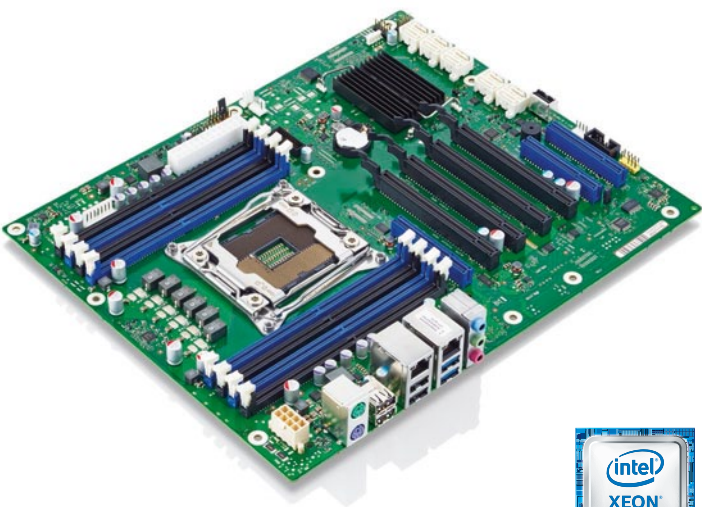
Mainboard	D3222-B
Category	Extended Lifecycle Series
Baseboard	
Formfactor	reduced µATX
Dimensions	9.6" x 8.4" (243.8 x 213.4 mm)
Halogen-free PCB/FR4/	X/--
Chipset	Intel® Q87
CPU Support	
Processor Socket	Intel® LGA1150
max. CPU Thermal Design Power (TDP)	95 W
High Efficiency Core Voltage Regulator	X
Memory	
max. capacity	32 GB
number of sockets	4
RAM Speed	DDR3 1600/1333
onboard Graphics	Intel® HD Graphics
Ethernet	
onboard LAN Controller	Intel® Clarkville i217LM
ASF2.0/DASH/iAMT/vPro	--/--/X/X
Audio	
type	5.1 Multich.
onboard Audio Controller	Realtek ALC671
onboard Audio Input Connector	--
S/PDIF (out) Connector ext./int.	--/--
Buzzer/Speaker	X/X
Internal/External Connectors	
PCIe x16/x8/x4/x1/PCI	2/--/--/2/--
Onboard-Support for USB Stick/USB Flash Drive	X/--
USB Connectors 2.0, external/internal	6/2 *
USB Connectors 3.0, external/internal	2/1 *
SATA 6GBit/SATA 3GBit/eSATA Support	6/--/X
SATA RAID	0; 1; 10; 5
COM2 Connector	--
Firewire Connector ext./int.	--/--
Parallel Port Connector	internal
Miscellaneous	
Fan Speed Customizing	optional
Chassis Intrusion Support	X
Disable specific USB Ports (BIOS Setup)	X
TPM V1.2	Infineon



* internal = 2 channels per connector

Extended Lifecycle Series

Mainboard D3348-B



Highlights D3348-B:

Latest technologies for excellent performance

- Support Intel® Xeon® processor E5 – 26xx V3 series, E5 – 16xx V3 series
E5 – 26xx V4 series. E5 – 16xx V4 series
- Support Intel® Core™ i7 processor 59xx series, 69xx series
- Compatible with Intel® Processors LGA 2011-R3 up to 160W TDP
- Intel® C612 Series Chipset
- High Efficiency Core Voltage Regulator
- Quad Channel DDR4 2133/2400 SDRAM (ECC), memory capacity: up to 512 GB
- Dual Intel® GigaBit LAN-Controller, supporting iAMT 9.1/vPro
- Intel® High Definition Audio
- Dual PCI Express x16 (Gen3), 1 PCIe x16 (4 lanes, Gen2),
1 PCIe x16 (4 lanes, Gen3), 1 PCIe x8 (4 lanes, Gen 3) and
2 PCIe x8 (1 lane, Gen 2)
- SATA-600 RAID 0, 1, 10, 5
- USB 3.0
- 1x COM (internal connector)
- TPM V2.0/V1.2
- Watchdog

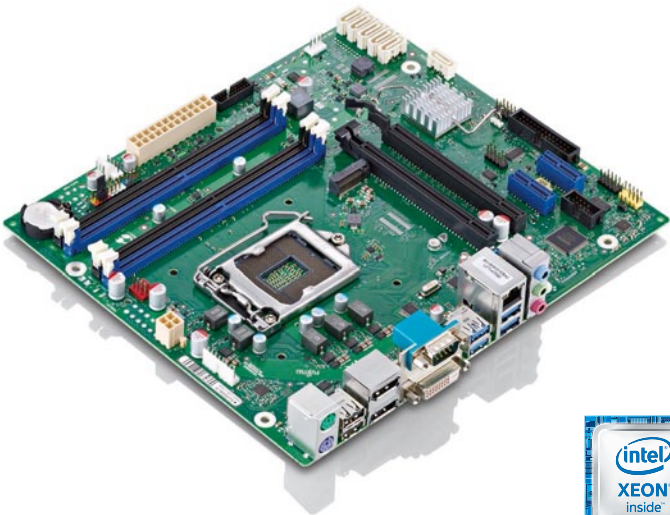


Mainboard	D3348-B
Category	Extended Lifecycle Series
Baseboard	
Formfactor	ATX
Dimensions	12" x 9,6" (304,8 x 243,8 mm)
Halogen-free PCB/FR4 Tin Plating	X/--
Chipset	Intel® C612
CPU Support	
Processor Socket	Intel® LGA2011-R3
max. CPU Thermal Design Power (TDP)	160W
High Efficiency Core Voltage Regulator	X
Memory	
max. capacity	512 GB (ECC support)
number of sockets	8
RAM Speed	DDR4 2133/2400
onboard Graphics	--
Ethernet	
onboard LAN Controller	Intel® i217LM/Intel® i210 AT LAN
ASF2.0/DASH/iAMT/vPro	--/X/9.1/X
Audio	
type	5.1 Multich.
onboard Audio Controller	Realtek ALC671
S/PDIF (out) Connector ext./int.	--/--
Buzzer/Speaker	X/X
Internal/External Connectors	
PCIe x16/x8/x4/x2/x1/PCI	4/3/--/--/--/0
Thereof supporting PCIe x16 Gen2/Gen3	--/2
Onboard-Support for USB Stick/USB Flash Drive	X/--
USB Connectors, external/internal	6/7
Thereof supporting USB 2.0/3.0	9/4
SATA-600/SATA-300/eSATA	10/0/X
SATA RAID	0; 1; 10; 5
COM2 Connector	internal
Firewire Connector ext./int.	--/--
Parallel Port Connector	--
Miscellaneous	
Fan Speed Customizing	X
Chassis Intrusion Support	X
Disable specific USB Ports (BIOS Setup)	X
TPM V1.2	X (Infinion – D3348-B2)
Other Features	PCIe x16 supporting Gen3, M.2 Support via D3352 carrier board

* internal = 2 channels per connector

Extended Lifecycle Series

Mainboard D3417-B



Highlights D3417-B:

Designed to assure business critical applications

- Supports latest Intel® Processors
 - Intel® Xeon® E3-12xx V5 processor series
 - Intel® Core™ i7/i5/i3 – (6th gen.) processor series
 - Intel® Pentium®/Celeron® processor series
 - Socket LGA 1151 - up to 80W TDP
- DDR4 2133 SDRAM (ECC), memory capacity up to 64 GB
- Intel® iAMT 11.0
- Onboard Support for M.2 SSD (PCIe)
- Intel® HD Graphics
- PCI Express Gen3
- USB 2.0/3.0 and USB 3.0 Socket (Stick)
- Multichannel Audio & Intel® GbE LAN
- Trusted Platform Module V2.0 (Infineon)
- HW Watchdog

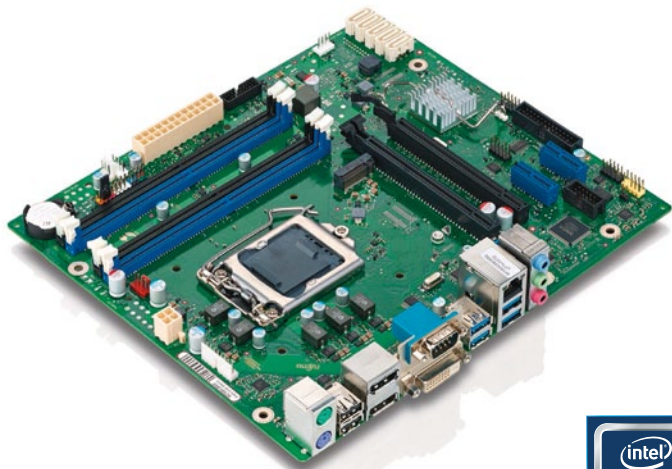


Mainboard	D3417-B
Category	Extended Lifecycle Series
Baseboard	
Formfactor	reduced µATX
Dimensions	9.6" x 8.4" (243.8 x 213.4 mm)
Halogen-free PCB/FR4 Tin Plating	X/--
Chipset	Intel® C236
CPU Support	
Processor Socket	Intel® LGA1151, max. 80W TDP
High Efficiency Core Voltage Regulator	X
Memory	
max. capacity	64 GB (ECC support)
number of sockets	4
RAM Speed	DDR4 2133
onboard Graphics	depends on installed processor, DX12
Ethernet	
onboard LAN Controller	Intel® i219LM
ASF2.0/DASH/iAMT/vPro	--/X/X/--
Audio	
type	5.1 Multichannel
onboard Audio Controller	ALC 671
S/PDIF (out) Connector ext./int.	--/--
Buzzer/Speaker	--/X
Internal/External Connectors	
PCIe x16/x8/x4/x2/x1/PCI	2/1--/1--/12/1--
Onboard-Support for USB Stick/USB Flash Drive	X/--
USB 2.0 Connectors, external/internal	2/2 *
USB 3.0 Connectors, external/internal	4/1 *
SATA Ports/eSATA/SATA RAID	6/X/X
COM Connector ext./int.	1/1
Firewire Connector ext./int.	--/--
Parallel Port Connector	X
M.2 Socket (2260&2280) SATA/PCIe	--/X
DVI-D/DisplayPort V1.2/LVDS	1/2/--
Miscellaneous	
Fan Speed Customizing	X
Chassis Intrusion Support	X
Disable specific USB Ports (BIOS Setup)	X
TPM V2.0	X
Other Features	HW Watchdog/XEON Support incl. ECC 24/7

* internal = 2 channels per connector

Extended Lifecycle Series

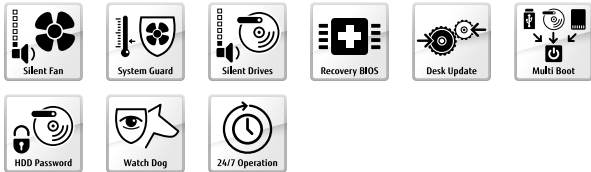
Mainboard D3402-B



Highlights D3402-B:

Designed for 24/7 continuous operation

- Supports latest Intel® Processors
 - Intel® Core™ i7/i5/i3 – (6th gen.) processor series
 - Intel® Pentium®/Celeron® processor series
 - Socket LGA1151 - up to 65 TDP
- DDR4 2133 SDRAM (UDIMM), memory capacity up to 64 GB
- Intel® iAMT 11.0/vPro 2015
- PCI Express Gen3
- Multichannel Audio & Intel® GbE LAN
- USB 2.0/3.0 and USB 3.0 Socket (Stick)
- Trusted Platform Module V2.0 (Infineon)
- HW Watchdog



Mainboard	D3402-B
Category	Extended Lifecycle Series
Baseboard	
Formfactor	reduced µATX
Dimensions	9.6" x 8.4" (243.8 x 213.4 mm)
Halogen-free PCB/FR4 Tin Plating	X/--
Chipset	Intel® Q170
CPU Support	
Processor Socket	Intel® LGA1151
High Efficiency Core Voltage Regulator	X
Memory	
max. capacity	64 GB
number of sockets	4
RAM Speed	DDR4 2133
onboard Graphics	depends on installed processor, DX12
Ethernet	
onboard LAN Controller	Intel® i219LM
ASF2.0/DASH/iAMT/vPro	--/X/X/X
Audio	
type	5.1 Multichannel
onboard Audio Controller	ALC 671
onboard Audio Input Connector	--
S/PDIF (out) Connector ext./int.	--/--
Buzzer/Speaker	--/X
Internal/External Connectors	
PCIe x16/x8/x4/x2/x1/PCI	2/--/--/--/2/--
Onboard-Support for USB Stick/USB Flash Drive	X/--
USB 2.0 Connectors, external/internal	2/2 *
USB 3.0 Connectors, external/internal	4/1 *
SATA Ports/eSATA/SATA RAID	5/X/X
COM Connector ext./int.	1/1
Firewire Connector ext./int.	--/--
Parallel Port Connector	X
M.2 Socket (2260&2280) SATA/PCIe	X/X
DVI-D/DisplayPort V1.2/LVDS	1/2/--
Miscellaneous	
Fan Speed Customizing	X
Chassis Intrusion Support	X
Disable specific USB Ports (BIOS Setup)	X
TPM V2.0	X
Other Features	HW Watchdog

* internal = 2 channels per connector

The Industrial Series



In addition to long-term availability (min. 4 years plus extended lifecycle option of up to 1 year), industrial series mainboards offer a multitude of add-on functions and services. They combine the product maturity and production quality of high volume manufacturing base with the special requirements of industrial applications. Additionally, industrial series mainboards come with special hardware and service features and extensive software tools.

Special features

The mainboard components of the industrial series are designed for long-term, continuous operations (24/7) in an extended temperature range and high system load. Industrial mainboards are specified for a temperature range between 0 and 60°Celsius.

Fujitsu mainboards of the industrial series are applicable in many branches:

- Industrial Automation
- Medical Equipment
- Digital Signage
- Gaming / Gambling
- Vending / POS / ATM / Kiosk / Ticketing
- Video Surveillance

2015				2016				2017				2018				2019								2020				Intel® Processors		
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4					Q1	Q2	Q3	Q4	Size	Name	Chipset
											eol				eolxc												μATX	D3231-S	Intel® Q87	
											eol				eolxc												ATX	D3235-S	Intel® H81	
											eol				eolxc												ATX	D3236-S	Intel® Q87	
												eol				eolxc											mini-ITX	D3243-S	Intel® Q87	
					pl														eol								mini-ITX	D3433-S	Intel® Q170	
					pl														eol								mini-ITX	D3434-S	Intel® H110	
					pl														eol								μATX	D3441-S	Intel® Q170	
					pl														eol								ATX	D3445-S	Intel® H110	
					pl														eol								ATX	D3446-S	Intel® C236	

2015				2016				2017				2018				2019								2020				AMD Processors			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4					Q1	Q2	Q3	Q4	Size	Name	Chipset	
												eol				eol													mini-ITX	D3313-S1	AMD embedded G-Series SoC
												eol				eol													mini-ITX	D3313-S2	AMD embedded G-Series SoC
												eol				eol													mini-ITX	D3313-S3	AMD embedded G-Series SoC
			pl														eol												mini-ITX	D3313-S4	AMD embedded G-Series SoC
		pl															eol												mini-ITX	D3313-S5	AMD embedded G-Series SoC
			pl														eol												mini-ITX	D3313-S6	AMD embedded G-Series SoC

■ product launch ■ standard lifecycle ■ end of life standard lifecycle
 ■ extended lifecycle period ■ end of life extended lifecycle

Industrial Series

Mainboard D3231-S

Mainboard D3235-S

Mainboard D3236-S



D3235-S



D3236-S



Highlights D323x-S:

PC-technology for continuous operation

- Support Intel® Core™ i7/i5/i3 Processors (LGA1150) with up to 95W
- Intel® Q87/H81 Express Chipset
- High Efficiency Core Voltage Regulator
- Dual Channel DDR3 1600/1333 SDRAM, memory capacity: up to 32 GB
- Intel® HD graphics, DirectX 11 (depends on used processor)
- GigaBit LAN Controller (Intel®), DASH Support, vPro
- iAMT 9.0 Management Functionality
- 5.1 Multichannel Audio
- PCIe x16 (Gen3), PCIe x16 (4 lanes, Gen2), PCIe x1 (Gen2) and up to 4x PCI
- Onboard System Management Controller
- SATA-600 RAID 0, 1, 10, 5
- USB 3.0
- TPM V1.2
- Watchdog



* Q87 only

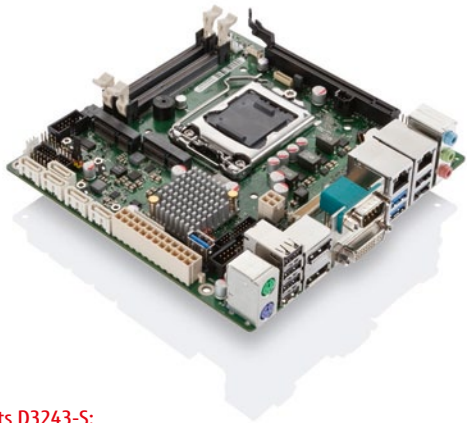


Mainboard	D3231-S & D3236-S	D3235-S
Category	Industrial Series	Industrial Series
Baseboard		
Formfactor: D3231-S D3236-S	µATX ATX	ATX
Dimensions: D3231-S D3236-S	9.6" x 9.6" (243.8 x 243.8 mm) 12" x 9.6" (304.8 x 243.8 mm)	12" x 9.6" (304.8 x 243.8 mm)
Halogen-free PCB/FR4/Tin Plating	--/X/X	--/X/X
Chipset	Intel® Q87	Intel® H81
CPU Support		
Processor Socket	Intel® LGA1150	Intel® LGA1150
max. CPU Thermal Design Power (TDP)	95 W	95 W
High Efficiency Core Voltage Regulator	X	X
Memory		
max. capacity	32 GB	16 GB
number of sockets	4	2
RAM Speed	DDR3 1600/1333	DDR3 1600/1333
onboard Graphics	Intel® HD Graphics	Intel® HD Graphics
Ethernet		
onboard LAN Controller	Intel® 82579LM	Intel® 82579LM
ASF2.0/DASH/iAMT/vPro	--/X/X/X	--/--/--
Audio		
type	5.1 Multich.	5.1 Multich.
onboard Audio Controller	Realtek ALC671	Realtek ALC671
onboard Audio Input Connector	--	--
S/PDIF (out) Connector ext./int.	--/X	--/--
Buzzer/Speaker	X/X	X/X
Internal/External Connectors		
PCIe x16/x8/x4/x2/x1/PCI: D3231-S D3236-S	2/1/--/--/1 2/1/--/--/4	2/1/--/--/4
Onboard-Support for USB Stick/USB Flash Drive	1/--	--/--
USB Connectors 2.0, external/internal	6/2 *	6/1 *
USB Connectors 3.0, external/internal	2/1 *	--/1 *
SATA 6GBit/SATA 3GBit/eSATA Support	2/4/X	2/2/X
SATA RAID	0; 1; 10; 5	--
COM Connector internal/external	1/1	--/1
Firewire Connector external/internal	--/--	--/--
Parallel Port Connector	internal	internal
Miscellaneous		
Fan Speed Customizing	optional	optional
Chassis Intrusion Support	X	--
Disable specific USB Ports (BIOS Setup)	X	X
TPM V1.2	Infineon	--

* internal = 2 channels per connector

Industrial Series

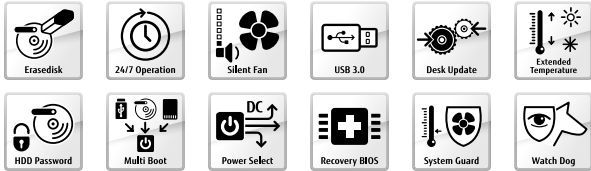
Mainboard D3243-S



Highlights D3243-S:

Smart and powerful solution

- Support Intel® Core™ i7/i5/i3 Processors (LGA1150) with up to 95W
- Intel® Q87 Express Chipset
- High Efficiency Core Voltage Regulator
- Dual Channel DDR3 1600/1333 SDRAM, memory capacity: up to 16 GB
- Intel® HD graphics, DirectX 11.1 (depends on installed processor)
- Dual GigaBit LAN Controller (Intel®), vPro
- iAMT 9.0 Management Functionality
- 5.1 Multichannel Audio
- PCIe x16 (Gen3)
- Onboard System Management Controller
- SATA-600 RAID 0, 1, 5, 10
- USB 3.0
- TPM V1.2
- Watch Dog
- mSATA Socket



Mainboard	D3243-S
Category	Industrial Series
Baseboard	
Formfactor	mini-ITX
Dimensions	6.7" x 6.7" (170 x 170 mm)
Halogen-free PCB/FR4/Tin Plating	--/ X/ --
Chipset	Intel® Q87 Express Chipset
CPU Support	
Processor Socket	Intel® LGA1150
max. CPU Thermal Design Power (TDP)	95W
High Efficiency Core Voltage Regulator	X
Memory	
max. capacity	16GB SO DIMM
number of sockets	2
RAM Speed	DDR3 1333/1600
onboard Graphics	Intel® HD Graphics
Ethernet	
onboard LAN Controller	Intel® i217LM/i210AT
ASF2.0/DASH/iAMT/vPro	--/X/ X/ X
Audio	
type	5.1 Multich.
onboard Audio Controller	Realtek ALC671
S/PDIF (out) Connector ext./int.	--/1
Buzzer/Speaker	X/X
Internal/External Connectors	
PCIe x16/x8/x4/x1/PCI	1/--/--/--
mini-PCIe/mSATA	X (half size)/X
Onboard-Support for USB Stick/USB Flash Drive	X/-- *
USB Connectors 2.0, external/internal	6/2 **
USB Connectors 3.0, external/internal	2/2 **
SATA 6GBit/SATA 3GBit/eSATA Support	5/0/X
SATA RAID	0; 1; 5; 10
COM2 Connector	1
Firewire Connector ext./int.	--/--
Parallel Port Connector	internal
Support for LCD Status Display	--
Miscellaneous	
Fan Speed Customizing	X
Chassis Intrusion Support	X
Disable specific USB Ports (BIOS Setup)	X
TPM V1.2	Infineon
Other Features	Dual Channel LVDS (24Bit) Dual Voltage Supply Option (ATX & 12V)

* USB 3.0 ** internal = 2 channels per connector

Industrial Series

Mainboard D3433-S

Mainboard D3434-S



D3433-S



D3434-S



Highlights D3433-S and D3434-S:

Efficiency and connectivity for smart solutions

- Designed for 24/7 continuous operation
- Supports latest Intel® Processors
 - Intel® Core™ i7/i5/i3 – (6th gen.) processor series
 - Intel® Pentium®/Celeron® processor series
- Intel® HD Graphics
- PCI Express Gen3
- Dual Intel® GbE LAN & Multichannel Audio
- USB 2.0 & 3.0
- Trusted Platform Module V2.0
- BIOS-POST/-Boot & OS – HW Watchdog
- Adjustable PCIe-Lane configuration (x16/x8,x8/x8,x4,x4 **)
- Mini-PCIe, mSATA & M.2 Support
- Dual Power Supply Option (ATX/12V DC-In)



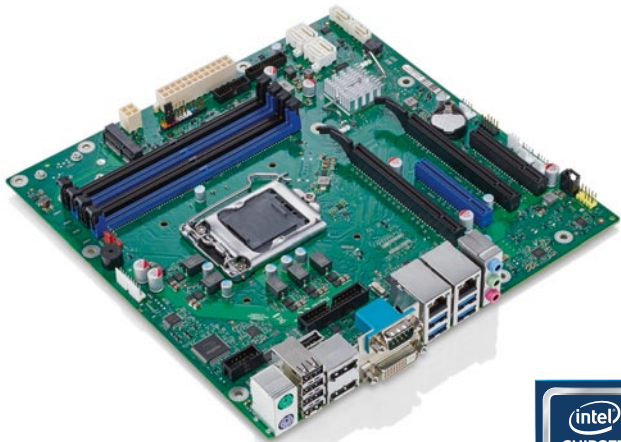
** D3433-S only

Mainboard	D3433-S	D3434-S
Category	Industrial Series	Industrial Series
Baseboard		
Formfactor	Mini-ITX	Mini-ITX
Dimensions	6.7" x 6.7" (170 x 170 mm)	6.7" x 6.7" (170 x 170 mm)
Halogen-free PCB/FR4 Tin Plating	--/--	--/--
Chipset	Intel® Q170	Intel® H110
CPU Support		
Processor Socket	Intel® LGA1151	Intel® LGA1151
High Efficiency Core Voltage Regulator	X	X
Memory		
max. capacity	32 GB SO DIMM	32 GB SO DIMM
number of sockets	2	2
RAM Speed	DDR4 2133	DDR4 2133
onboard Graphics	Intel® HD Graphics; DX12	Intel® HD Graphics; DX12
Ethernet		
onboard LAN Controller	Intel® i219LM/Intel® i210AT	Intel® i219LM/Intel® i210AT
ASF2.0/DASH/iAMT/vPro	--/X/X/X	--/--/--/--
Audio		
type	5.1 Multichannel	5.1 Multichannel
onboard Audio Controller	ALC 671	ALC 671
S/PDIF (out) Connector ext./int.	X/--	X/--
Buzzer/Speaker	X/X	X/X
Internal/External Connectors		
PCIe x16/x8/x4/x2/x1/PCI	1/--/--/--/--	1/--/--/--/--
mini-PCIe/m-SATA	X/X	X/--
Onboard-Support for USB Stick/USB Flash Drive	X/--	--/--
USB 2.0 Connectors, external/internal	4/1 *	3/1 *
USB 3.0 Connectors, external/internal	4/1 *	2/1 *
SATA Ports/eSATA	4/X	2/X
SATA RAID	X	--
COM Connector ext./int.	1/1	1/1
Firewire Connector ext./int.	--/--	--/--
Parallel Port Connector	--	--
M.2 Socket (2242/2260) SATA/PCIe	X/X	X/--
DVI-D/DisplayPort V1.2	1/2	1/1
LVDS/embed. DP	1/1	1/1
Miscellaneous		
Fan Speed Customizing	X	X
Chassis Intrusion Support	X	X
Disable specific USB Ports (BIOS Setup)	X	X
TPM V2.0	X (Infineon)	X (Intel® integrated)
Other Features	HW Watchdog, LVDS, eDP, Dual LAN, PCIe-Lane-Split x16/x8,x8/x4,x4 **	HW Watchdog, LVDS, eDP, Dual LAN

* internal = 2 channels per connector

Industrial Series

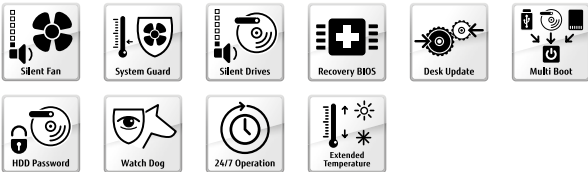
Mainboard D3441-S



Highlights D3441-S:

Fulfill various industrial requirements

- Supports latest Intel® Processors
 - Intel® Core™ i7 / i5 / i3 – (6th gen.) processor series
 - Intel® Pentium® / Celeron® processor series
- Intel® iAMT 11.0 / vPro 2015
- Onboard support for Mini-PCI Express and mSATA
- Intel® HD Graphics; PCI Express Gen3
- Multichannel Audio & Dual Intel® GbE LAN
- USB 2.0/3.0 and USB 2.0 socket (stick)
- Trusted Platform Module V2.0 (Infineon)
- HW Watchdog



Mainboard	D3441-S
Category	Industrial Series
Baseboard	
Formfactor	µATX
Dimensions	9.6" x 9.6" (243.8 x 243.8 mm)
Halogen-free PCB / FR4 Tin Plating	--/X
Chipset	Intel® Q170
CPU Support	
Processor Socket	Intel® LGA1151, max. 65 W TDP
High Efficiency Core Voltage Regulator	X
Memory	
max. capacity	64 GB
number of sockets	4
RAM Speed	DDR4-2133
onboard Graphics	Intel® HD Graphics; DX12
Ethernet	
onboard LAN Controller	Intel® i219LM/Intel® i210AT
ASF2.0 / DASH / iAMT / vPro	--/X/X/X
Audio	
type	5.1 Multichannel
onboard Audio Controller	ALC 671
onboard Audio Input Connector	--
S/PDIF (out) Connector ext./int.	--/X
Buzzer/Speaker	X/X
Internal/External Connectors	
PCIe x16 / x8 / x4 / x2 / x1 / PCI	2 / 2 / -- / -- / -- / --
mini-PCIe / m-SATA	1 / 1 (shared socket)
Onboard-Support for USB Stick / USB Flash Drive	X / --
USB 2.0 Connectors, external/internal	4 / 1 *
USB 3.0 Connectors, external/internal	4 / 1 *
SATA Ports / eSATA	(6) / X
SATA RAID	X **
COM Connector ext./int.	1 int. / 1 ext.
Firewire Connector ext./int.	-- / --
Parallel Port Connector	X
M.2 Socket (2260&2280) SATA / PCIe	-- / --
DVI-D / DisplayPort V1.2 / LVDS	1 / 2 / --
Miscellaneous	
Fan Speed Customizing	X
Chassis Intrusion Support	X
Disable specific USB Ports (BIOS Setup)	X
TPM V2.0	X (Infineon)
Other Features	HW Watchdog / Dual LAN / iAMT

* internal = 2 channels per connector

Industrial Series

Mainboard D3445-S

Mainboard D3446-S



D3445-S

D3446-S



Highlights D3445-S and D3446-S:

Right-sized solution for every application

- Supports latest Intel® Processors
 - Intel® Xeon® E3-12xx V5 processor series **
 - Intel® Core™ i7/i5/i3 – (6th gen.) processor series
 - Intel® Pentium®/Celeron® processor series
- Intel® iAMT 11.0
- Intel® HD Graphics
- PCI Express Gen3
- Multichannel Audio & Dual Intel® GbE LAN
- USB 2.0 & 3.0
- Trusted Platform Module V2.0
- BIOS-POST/-Boot & OS – HW Watchdog



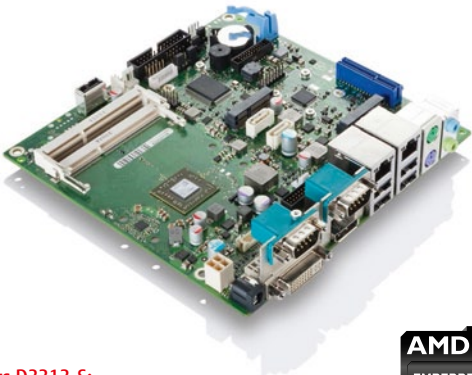
** D3446-S only

Mainboard	D3445-S	D3446-S
Category	Industrial Series	Industrial Series
Baseboard		
Formfactor	ATX	ATX
Dimensions	9.6" x 12" (243.8 x 304.8 mm)	9.6" x 12" (243.8 x 304.8 mm)
Halogen-free PCB/FR4 Tin Plating	--/X	--/X
Chipset	Intel® H110	Intel® C236
CPU Support		
Processor Socket	Intel® LGA1151, max. 65 W TDP	Intel® LGA1151, max. 80 W TDP
High Efficiency Core Voltage Regulator	X	X
Memory		
max. capacity	32 GB	64 GB (ECC support)
number of sockets	2	4
RAM Speed	DDR4-2133	DDR4-2133
onboard Graphics	Intel® HD Graphics; DX12	Intel® HD Graphics; DX12
Ethernet		
onboard LAN Controller	Intel® i219LM/Intel® i210AT	Intel® i219LM/Intel® i210AT
ASF2.0/DASH/iAMT/vPro	--/--/--	--/X/--
Audio		
type	5.1 Multichannel	5.1 Multichannel
onboard Audio Controller	ALC 671	ALC 671
S/PDIF (out) Connector ext./int.	--/--	--/X
Buzzer/Speaker	X/X	X/X
Internal/External Connectors		
PCIe x16/x8/x4/x2/x1/PCI	2/1/2/--/1/2	2/1/2/--/1/2
mini-PCIe/m-SATA	--/--	1/1 (shared socket)
Onboard-Support for USB Stick/USB Flash Drive	--/--	X/--
USB 2.0 Connectors, external/internal	4/1 *	4/1 *
USB 3.0 Connectors, external/internal	2/1 *	4/1 *
SATA Ports/eSATA	4/X	6/X
SATA RAID	X	X
COM Connector ext./int.	--/1	1 int./1 ext.
Firewire Connector ext./int.	--/--	--/--
Parallel Port Connector	X	X
M.2 Socket (2260&2280) SATA/PCIe	--/--	--/--
DVI-D/DisplayPort V1.2/LVDS	1/1/--	1/2/--
Miscellaneous		
Fan Speed Customizing	X	X
Chassis Intrusion Support	--	X
Disable specific USB Ports (BIOS Setup)	X	X
TPM V2.0	X (Intel® integrated)	X (Infineon)
Other Features	HW Watchdog	HW Watchdog

* internal = 2 channels per connector

Industrial Series

Mainboard D3313-S



Highlights D3313-S:

Mainboard Family Concept:

- small formfactor
- low power drain
- extensive onboard-features

■ Supports latest AMD embedded Processors

- D3313-S1: GX-210HA, 1.00 GHz, Dual Core (9W TDP)
- D3313-S2: GX-217GA, 1.65 GHz, Dual Core (15W TDP)
- D3313-S3: GX-420CA, 2.00 GHz, Quad Core (25W TDP)
- D3313-S4: GX-222GC, 2.20-2.40 GHz, Dual Core (10/15W cTDP)
- D3313-S5: GX-412HC, 1.20-1.60 GHz, Quad Core (5/7W cTDP)
- D3313-S6: GX-424CC, 2.40 GHz, Quad Core (15/25W cTDP)

■ AMD Radeon integrated graphics on board DVI-I, DP V1.2 and Dual Channel LVDS support

■ PCIe x4 connector and Mini-PCI Express

■ Dual GbE LAN

■ 8 Bit GPIO

■ Serial ATA III

■ mSATA (SATA III) socket support

■ 3 x serial port and 1 x parallel port

■ Infineon TPM V1.2 (optional module)

■ Dual-Range DC Power Supply 12V/19-24V



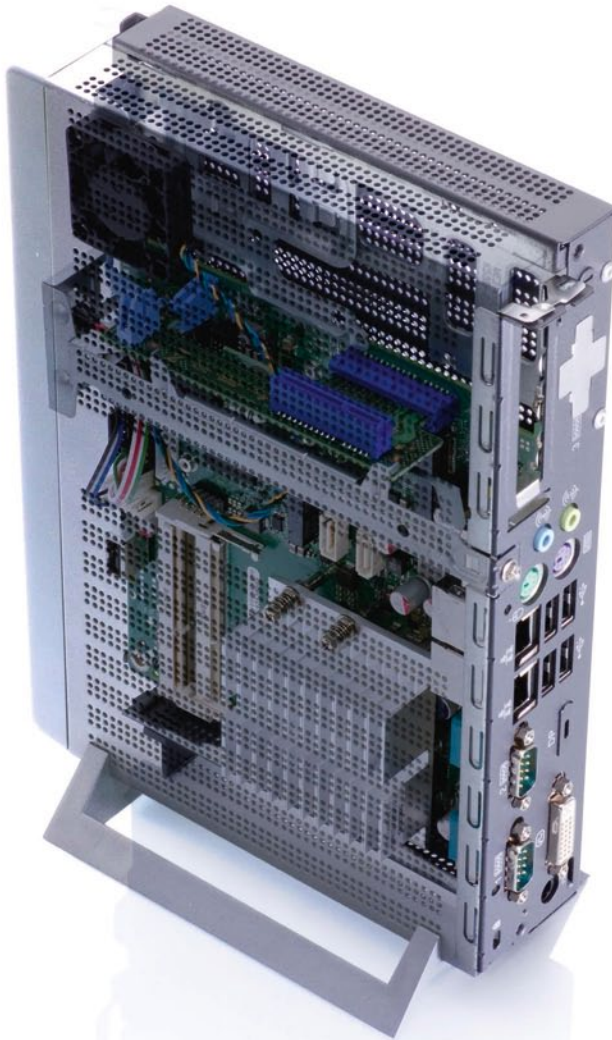
* Depends on the extension

Mainboard	D3313-S1, -S2, -S3	D3313-S4, -S5, -S6
Category	Industrial Series	Industrial Series
Baseboard		
Formfactor	Mini-ITX	Mini-ITX
Dimensions	6.7" x 6.7" (170 x 170 mm)	6.7" x 6.7" (170 x 170 mm)
Halogen-free PCB/FR4/Tin Plating	--/X/--	--/X/--
Chipset	AMD embedded G-Series SoC „ekabini“	AMD embedded G-Series SoC „Steppe Eagle“
CPU Support		
Processor AMD FT3 (BGA) :	S1: Dual-Core GX-210HA SOC (1.00GHz/9W) S2: Dual-Core GX-217GA SOC (1.65GHz/15W) S3: Quad-Core GX-420CA SOC (2.00GHz/25W)	S4: Dual-Core GX-222GC SoC (2.20GHz/10~15W) S5: Quad-Core GX-412HC SoC (1.20GHz/5~7W) S6: Quad Core GX-424CC SoC (2.40GHz/15/25W)
High Efficiency Core Voltage Regulator	X	X
Memory		
max. capacity	16 GB SO DIMM	16 GB SO DIMM
number of sockets	2	2
RAM Speed	DDR3 1333/1600	DDR3 1333/1600/1866
onboard Graphics:	S1: AMD Radeon™ HD 8210E S2: AMD Radeon™ HD 8280E S3: AMD Radeon™ HD 8400E	S4: AMD Radeon™ R5E S5: AMD Radeon™ R3E S6: AMD Radeon™ R5E
Ethernet		
onboard LAN Controller	2x RTL8111G	2x RTL8111G
ASF2.0/DASH/IAMT/vPro	--/--/--/--	--/--/--/--
Audio		
type	Stereo	Stereo
onboard Audio Controller	ALC 671	ALC 671
onboard Audio Input Connector	--	--
S/PDIF (out) Connector ext./int.	--/1	--/1
Buzzer/Speaker	X/--	X/--
Internal/External Connectors		
PCIe x16/x8/x4/x1/PCI	--/--/1/--/--	--/--/1/--/--
mini-PCIe/mSATA	X/X	X/X
Onboard-Support for USB Stick/USB Flash Drive	X/--	X/--
USB Connectors 2.0, external/internal	4/1 *	4/1 *
USB Connectors 3.0, external/internal	--/1 *	--/1 *
SATA 6GBit/SATA 3GBit eSATA Support/mSATA	2/-- X/1	2/-- X/1
SATA RAID	--	--
COM Connector internal/external	1/2 (3 Ports)	1/2 (3 Ports)
Firewire Connector external/internal	--/--	--/--
Parallel Port Connector	internal	internal
DVI/DisplayPort/LVDS	X/X/X	X/X/X
Miscellaneous		
TPM V1.2	Infineon (optional module)	Infineon (optional module)
Other Features	Dual Channel LVDS (24Bit), Mini-PCIe incl. USB DASH-Support	Dual Channel LVDS (24Bit), Mini-PCIe incl. USB

* internal = 2 channels per connector

Accessory

IPC mini-ITX chassis for D3313-S



Highlights IPC mini-ITX Chassis for D3313-S:

- Small size – large expandability
- Perfect fit for mini-ITX mainboard D3313-S
- Small size (250 x 52 x 191 mm)
- Large expandability for
 - 2.5" hard disc drive (HDD)
 - Low profile PCI / PCIe card
- Extended temperature range *
- Fanless with D3313-S1/-S2/-S4 and -S5 *
- Intrusion-Logic (Detection of chassis opening)
- Theft-protection via Kensington-Lock
- Comprehensive certification and test reports on system level (e.g. CE, climatics)
- Stands for vertical/horizontal positioning
- Wall mount brackets
- Comprehensive accessories (optional):
 - PCI / PCIe riser card
 - VESA mounting kit
- IPC Mini-ITX Chassis with VESA Mounting Kit directly attached to Monitor

* Depending on environmental conditions

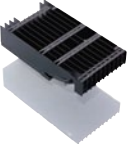
Accessories

Important parts for more functionality

Cable

Drive Power Cable provides power for SATA HDD and SATA slimline DVD	compatibility D3313-S	
sATA Cable	D3313-S	
2nd Serial Port Cable	refer to data sheet	
Parallel Port Cable ATX & SFF I/O bracket	for all ATX/μATX models D3313-S, D3243-S	

Cooling Solutions

Active Coolers (alu cooler, 4 pin PWM fan)	D3313-S2 D3313-S3 D3313-S4 D3313-S6 (@25W TDP)	
Passive Heatsinks (alu heatsink)	D3313-S1/S5	
Heatpipe	D3313-S1 D3313-S2 D3313-S4 D3313-S5 D3313-S6 (@15W TDP)	

Ethernet

PCIe x1 GbE Card D2907 (DASH 1.1 Support)	all with PCIe x1 slot	
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Graphics

DVI-I to VGA Adapter for usage of VGA monitor to DVI-I output	compatibility all models with DVI-I	
Display Port to DVI Adapter for usage of DVI monitor on Display Port output	all models with DP	
D3213-A DP Addon Card	D322x-B	
D3453-A VGA Addon Card	D3401-B D3402-B D3417-B D3441-S D3445-S D3446-S	
D3463-A VGA Addon Card	D3400-B D3410-B	

Riser Cards

1x PCIe Riser Card D3318-A 1 PCI Slot	D3313-S suitable for Fujitsu mini-ITX chassis	
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Other

D3127-A TPM-Upgrade-Modul	D3313-Sx D322x-B	
D3352-A2x M.2 Upgrade Module	D3348-B	
D3352-A1x	D3441-S D3445-S D3446-S	

European branches:

 Germany – Headquarters

Rutronik Elektronische Bauelemente GmbH

 Austria

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