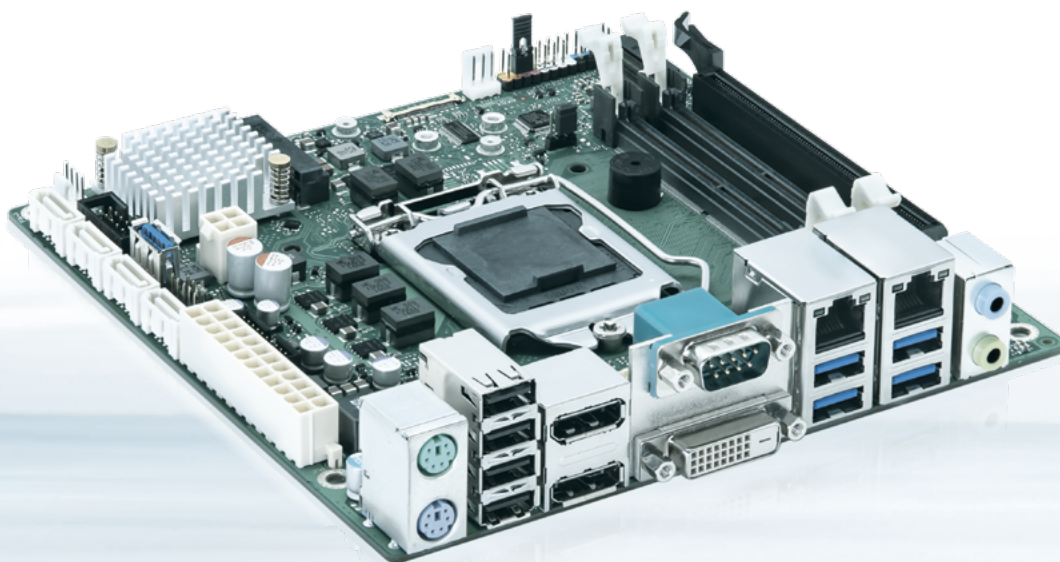


D3433-S mITX

Industrial Series



Intel® Q170 Express Chipset and Intel® 6th/7th Gen Core™ i3/i5/i7 Processors

- ▶ Supporting Intel® AMT 11.0 / vPro
- ▶ Dual Channel LVDS & eDP
- ▶ M.2 SSD & Mini-PCIe Socket onboard
- ▶ ATX PSU or Single 12 V Supply

POSSIBILITIES START HERE

D3433-S mITX

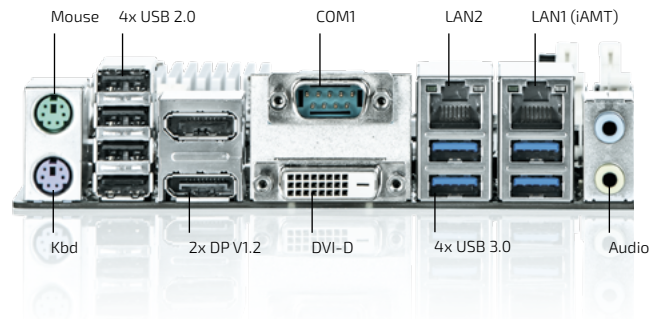
Industrial Series

The Kontron Motherboard D3433-S mITX of the Industrial Series is equipped with the highly performant Intel® Q170 Express Chipset and supports the 6th and 7th generation of Intel® Core™ Process-

ors. It offers highest functionality on a small-sized surface with Intel® iAMT 11.0 and vPro 2015 manageability, 2x LAN and BIOS configurable PCI Express® Lanes.

▶ PRODUCT HIGHLIGHTS

- ▶ Intel® iAMT 11.0/vPro 2015
- ▶ Intel® HD Graphics (integrated in processor e.g. HD510/530)
- ▶ DVI-D, Dual DP V1.2, eDP and Dual Channel LVDS support
- ▶ PCI Express® x16 Gen3 and Mini-PCI Express® onboard
- ▶ 8 Bit GPIO & multichannel Audio onboard
- ▶ mSATA (SATA III) socket support
- ▶ Onboard support for M.2 SSD (PCIe or SATA modules)
- ▶ USB 2.0/3.0 and USB socket (stick/dongle USB3.0) onboard
- ▶ 2 x Intel GbE LAN onboard (incl. teaming support)
- ▶ Infineon TPM V2.0 onboard
- ▶ Dual Power Supply (ATX compliant & Single 12 V)
- ▶ BIOS-POST/-Boot & OS – HW Watchdog onboard



▶ TECHNICAL INFORMATION

SYSTEM	PROCESSOR	Intel® Core™ i7/i5/i3 (6th/7th Gen) processor series Intel® Pentium®/Intel® Celeron® processor series Socket LGA1151 – up to 65 W TDP
	CHIPSET	Intel® Q170 Chipset
	MEMORY	2x SO DIMM Socket (1.2 V), max. 32 GByte, Dual Channel DDR4 – 2133 (CL15) / – 2400 (CL17) SDRAM, unbuffered, non-ECC Effective memory speed depends on installed processor
VIDEO	GRAPHICS	Intel® HD Graphics, DX12, Embedded Display Port (2 lanes supported) DVI-D, 2x DisplayPort V1.2, Dual-Channel 24bit LVDS (max. 3 indep. Displays)
AUDIO	AUDIO CODEC	Realtek ALC671
	AUDIO INTERFACE	5.1-channel, High Definition Audio Codec
NETWORK CONNECTION	ETHERNET	Intel i219LM & i210AT with 10/100/1000 MBit/s, AMT 11.0 / vPro Support Wake-on-LAN (WoL) by interesting Packets, Link Status Change and Magic Packet™, PXE Support, BIOS MAC Address Display, Teaming Support
PERIPHERAL CONNECTION	USB	4x USB 2.0, 2x USB 2.0 (by header), 4x USB 3.0, 2x USB 3.0 (by header), 1x USB 3.0 stick socket
	SERIAL PORT	1x RS232, 1x RS232 (by header)
	OTHER I/Os	8 Bit GPIO (by header)
STORAGE & EXPANSION	SATA	4x Serial ATA III 600 Interface (up to 6Gbit/s), NCQ, AHCI, RAID 0/1/5/10, 1x shared mSATA/Mini-PCIe socket (halfsize / fullsize, SATA III 600 & USB 2.0); 1x M.2 Socket (2242/2260) for PCIe (2 lanes) or SATA based M.2 modules, AHCI / NVME Boot support
	PCIe/PCI SLOTS	PCIe x16: 1x Gen3, Support for lane split (1x 16 or 8+8 or 8+4+4)
POWER	CONNECTOR	ATX Power Supply
	INPUT VOLTAGE	ATX (Multirail) or Single 12 V
FIRMWARE	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. Boot support for M.2 SSD (PCIe-based or SATA-based modules, AHCI / NVME) BIOS integrated HW Diagnostic Tool, Watchdog Support
	WATCHDOG	3-Level HW Watchdog (BIOS/BIOS POST/OS)
	REAL TIME CLOCK	Integrated
	TPM	TPM V2.0 (Infineon; TCG compliant)

▶ TECHNICAL INFORMATION

SYSTEM CONTROL	FP HEADER	1x Header for Reset button, HDD LED & External Speaker, Power button, Power LED
	SECURITY	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), TPM V2.0 (Infineon; TCG compliant)
COOLING	FAN	2x PWM fan (CPU/System)
SOFTWARE	OS SUPPORT	MS Windows 7, MS Windows 10 Linux
MECHANICAL	DIMENSIONS (L x W)	Mini-ITX: 6.7" x 6.7" (170 x 170 mm)
CERTIFICATION	EMC & SAFETY	FCC-B verified cTÜVus acc. IEC 62368-1, CE Class-B, UKCA

▶ POWER SUPPLY REQUIREMENTS

SOURCE*	VOLTAGE	MIN. PS LOAD	MAX. VOLTAGE TOLERANCE	MOTHERBOARD CAPACITIVE LOAD	MOTHERBOARD MAX. CURRENT
Main Power Supply (Multi Rail)	+ 12 V	0.05 A	± 5 %	1.300 µF	8 A / 12 A**
	- 12 V	0 A		-	Not used
	+ 5 V	0.2 A	± 5 %	900 µF	3 A
	+ 3.3 V	0 A	± 5 %	350 µF	0.5 A
	+ 5 Vaux	0 A	+ 5 % / - 3 %	330 µF	0.5 A
Single 12 V DC	+ 12 V	0 A	± 5 %	1.300 µF	8 A / 12 A***

*) ATX PSU or 12 V only DC Supply

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

▶ TECHNICAL INFORMATION

FEATURES	Chipset Board Size VGA / DVI-I / DVI-D / DP V1.2 / 2nd DP V1.2 / LVDS / eDP 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 / CPU / AUX1* / AUX2 TEMP monitored CPU / onboard sensors / external sensor	iQ370 Mini-ITX - / - / + / + / + / + / + + / + / + + / + / + / + / + + / + / + + / - / + / + / + / + - / + / + - / + / + / - + / + / -
SPECIAL FEATURES	Silent Fan / System Guard / Silent Drives Recovery BIOS / Desk Update / Multi Boot HDD Password / HDD Encryption / EraseDisk / TPM Logo Boot Option High Efficiency Core Voltage Regulator Design BIOS POST- / BIOS Boot- / OS- HW Watchdog Operating Mode 24-7 / 8-5 (hrs per day - days per week) Motherboard operating temperature range (chassis inside)**	+ / + / + + / + / + + / - / + / + + + + / + / + + / - 0 °C – 60 °C
INTERNAL CONNECTORS	SO DIMM Sockets (DDR4 2133/2400) PCI Express® x16 (Gen3) / Support for lane split (8+8 or 8+4+4) Shared mSATA / Mini PCI Express Slot (half/fullsize, incl. USB 2.0) SATA-600 / SATA-300 / mSATA*** / M.2 SSD*** S/PDIF (digital Audio) OUT / IN Frontpanel Audio (9-Pin, HD Audio & Legacy Audio AC97) USB 2.0 channels / USB 3.0 channels / USB Stick (3.0) Serial (COM2, RS232) / Parallel Port Connector LVDS / LVDS Backlight / Embedded DisplayPort FAN PSU / CPU / AUX1* / AUX2 Intrusion (Case Open) / GPIO (8Bit) / SMBus (Case Temp.) ATX Power Supply (24 pin + 4 pin) / single 12 V PSU****	2 1 / + 1 4 / - / 1 / 1 1 / 0 1 1 2 / 2 / 1 1 / - 1 / 1 / 1 0 / 1 / 1 / 0 1 / 1 / - 1 / 1
EXTERNAL CONNECTORS	VGA Sub D / DVI-I / DVI-D / DisplayPort V1.2 Audio Mic. In / Line in / Line out (or driver configuration) LAN (RJ-45) PS/2 Mouse / Keyboard USB 2.0 / USB 3.0 Serial (COM1, RS232)	- / - / 1 / 2 - / 1 / 1 2 1 / 1 4 / 4 1

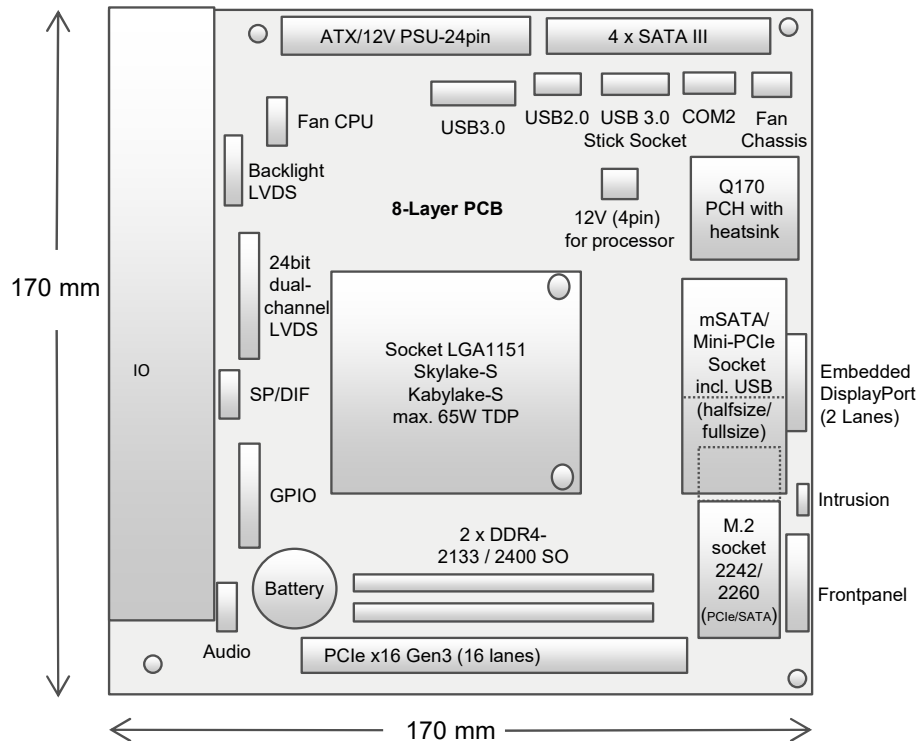
*) Fan AUX1 = 3Pin & PWM support

**) Forced cooling required, see technical documentation for detailed requirements

**) mSATA slot can be configured as Mini-PCIe slot via BIOS Setup. If a M.2 module @60mm is installed, only halfsize mSATA/Mini-PCIe module can be installed!

****) Alternative: Powered by 12 V DC only. See TechNotes document for further details

▶ CONNECTOR / SOCKET DIAGRAM



▶ ORDERING INFORMATION

ARTICLE	PART NO.	DESCRIPTION
D3433-S2 MITX	F5120-V146	Intel® 6th/7th Gen Core™ Processor Series, Intel® Q170 Chipset
D3433-S2 mITX (w/o Audio Support)	F5120-V1464	Intel® 6th/7th Gen Core™ Processor Series, Intel® Q170 Chipset, Audio Support removed (audio electronics & connectors removed; additional plastic clips to cover audio holes in I/O shield)
ACCESSORIES		
MINI PCIE TO M.2 ADAPTER	F5000-M003	D3436-S = Adapter for Mini PCIe to M.2 Wi-Fi modules
SERIAL PORT CABLE	F5000-K010	Fullsize slot bracket
RISERCARD	F5000-R006	1x PCIe x4 (D3318-A)

▶ GLOBAL HEADQUARTERS

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