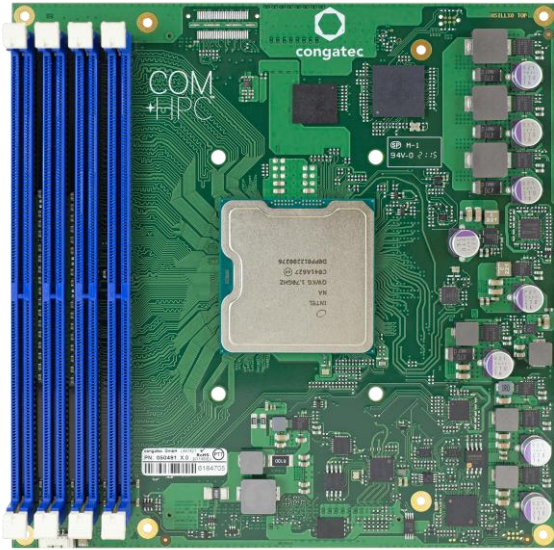


INTEL ICE LAKE-D XEON PROCESSORS

conga-HPC/sILL



COM+HPC®



VIRTUALIZATION READY

- Industrial Use Condition with extended Temperature options
- 32 PCIe Express lanes
- AI Capabilities with Intel® DL boost
- Real Time Capable Platform
- Supporting up to 256 GB DDR4 2933MT/s* Memory

Form Factor

COM-HPC, Size D (160 x 160 mm), Server Connector Pinout

CPU	Processor	Cores/Threads	Base Frequency/ max. Turbo	TDP	Cache	Ethernet Bandwidth	Intel Use Condition
	Xeon® D-1848TER	10C/20T	2.0GHz/3.1GHz	57W	15MB	100G	Industrial (Industrial Temp -40°C to 85°C)
	Xeon® D-1746TER	10C/20T	2.0GHz/3.1GHz	67W	15MB	100G	Industrial (Industrial Temp -40°C to 85°C)
	Xeon® D-1732TE	8C/16T	1.9GHz/3.0GHz	52W	15MB	50G	Industrial (Industrial Temp -40°C to 85°C)
	Xeon® D-1715TER	4C/8T	2.4GHz/3.5GHz	50W	10MB	50G	Industrial (Extended Temp -40°C to 80°C)
	Xeon® D-1735TR	8C/16T	2.2GHz/3.4GHz	59W	15MB	50G	Industrial (Commercial Temp 0°C to 60°C)
	Xeon® D-1712TR	4C/8T	2.0GHz/3.1GHz	40W	10MB	50G	Industrial (Commercial Temp 0°C to 60°C)

Chipset

Integrated in SoC

DRAM

4x DIMM sockets for DDR4 memory modules | Max. capacity = 256GB

Memory Type	DIMM Capacity	Max. DIMM Speed
RDIMM	8GB – 64GB	2933 MT/s
VLP RDIMM	8GB – 32GB	2666 MT/s
UDIMM (ECC)	8GB – 32GB	2666 MT/s
UDIMM (Non-ECC)	4GB – 32GB	2666 MT/s

Ethernet

1x 2.5GbE TSN Ethernet
2x 40G / 4x 25G / 8x 10G/2.5G/1G/100M lanes | Maximum total bandwidth 100Gb*

I/O Interfaces

16x PCIe Gen4 | 16x PCIe Gen3
4x USB 3.0 | 4x USB 2.0
2x SATA III (6Gb/s) | 2x UART | 12x GPIO | 2x SMBus | 2x I2C

congatec Board controller

Multi-stage Watchdog | non-volatile User Data Storage | Manufacturing and Board Information
Board Statistics | I²C bus (fast mode, 400 kHz, multi-master) | Power Loss Control
Hardware Health Monitoring | POST Code redirection

Embedded BIOS Feature

AMI Aptio® UEFI firmware | 64 Mbyte serial SPI with congatec Embedded BIOS feature | OEM Logo
OEM CMOS Defaults | Flash Update

Security

Trusted Platform Module (TPM 2.0)

Power Management

ACPI 5.0 with battery support

Operating Systems

Microsoft® Windows 10 | Microsoft® Windows 10 IoT Enterprise | Microsoft® Windows IoT 10 Core
Linux | Android | Yocto | RTS Hypervisor

Temperature Range

Commercial:	Operating Temperature: 0 to +60°C	Storage Temperature: -20 to +85°C*
Industrial:	Operating Temperature: -40 to +85°C*	Storage Temperature: -40 to +85°C*

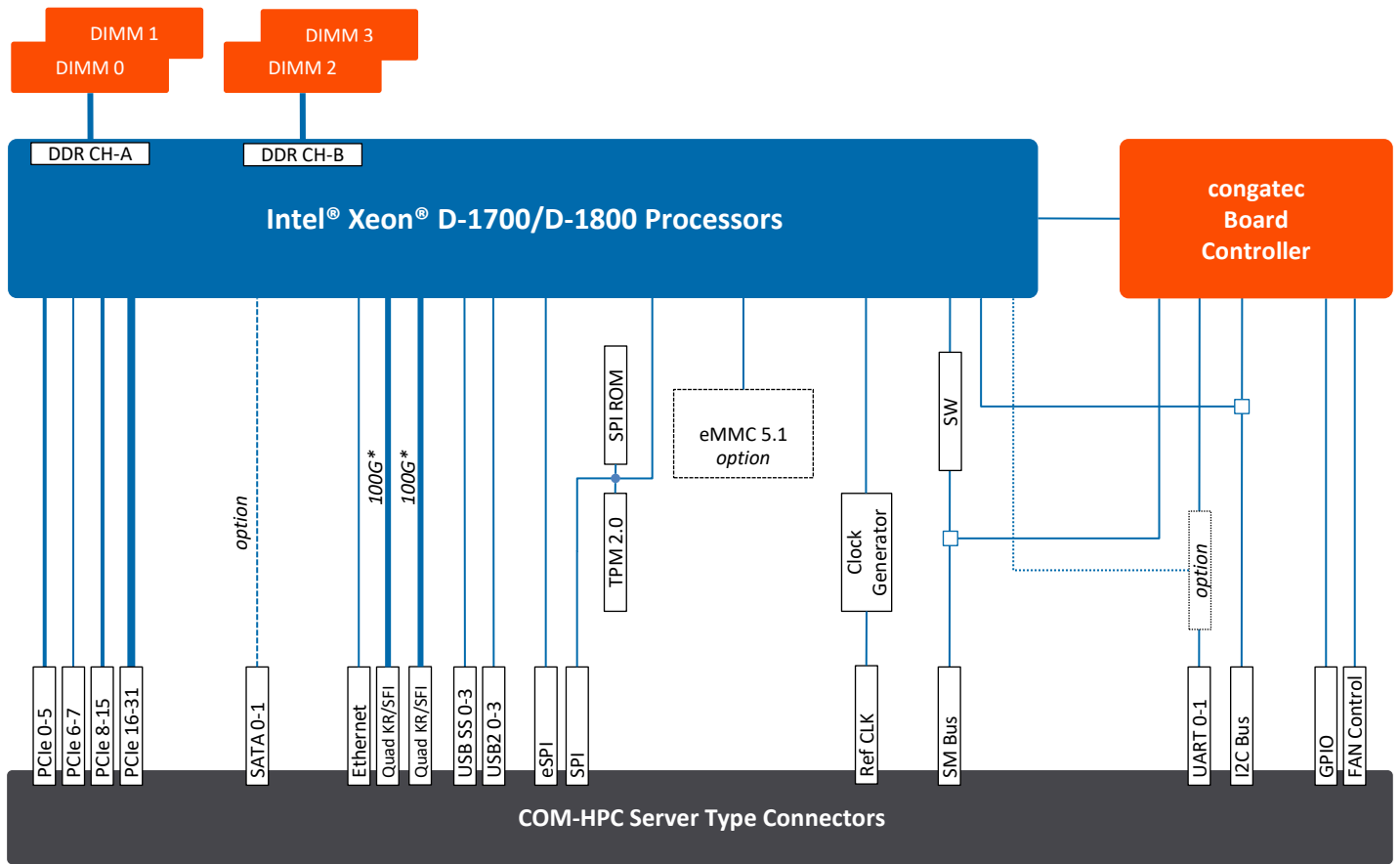
Humidity

Operating:	10 to 90% r. H. non cond.
Storage:	5 to 95% r. H. non cond.

Size

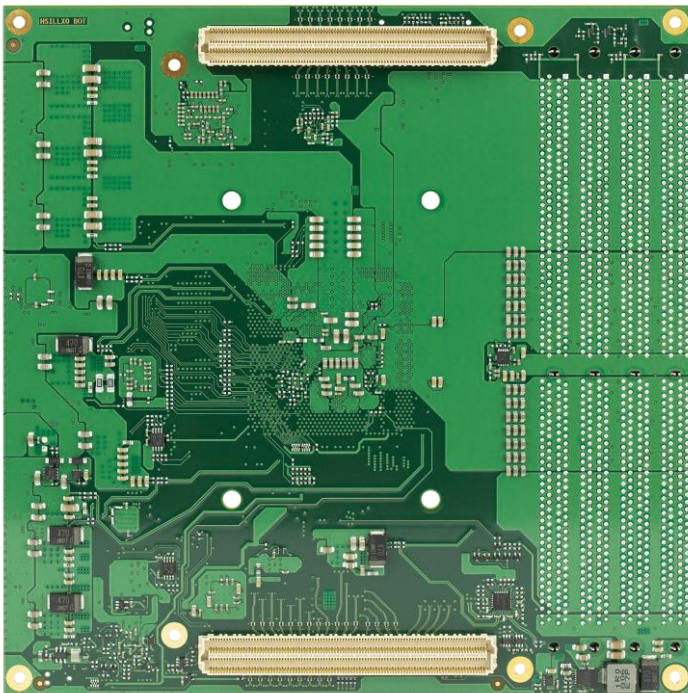
160 x 160 mm²
* Depending on CPU

conga-HPC/sILL | Block Diagram



* Maximum total bandwidth 100Gb*

conga-HPC/sILL | Bottom Side View



conga-HPC/sILL | Order Information

Article	PN	Description
conga-HPC/sILL-D1746TER	050400	COM-HPC Size D module based on Intel® Xeon® D1746TER 10-core processor with 2.0 GHz, 15MB cache and dual channel DDR4 up to 2667 MT/s memory interface (formerly Ice Lake-D LCC). Industrial temperature range from -40°C to 85°C.
conga-HPC/sILL-D1732TE	050401	COM-HPC Size D module based on Intel® Xeon® D1732TE 8-core processor with 1.9 GHz, 15MB cache and dual channel DDR4 up to 2667 MT/s memory interface (formerly Ice Lake-D LCC). Industrial temperature range from -40°C to 85°C.
conga-HPC/sILL-D1715TER	050402	COM-HPC Size D module based on Intel® Xeon® D1715TER 4-core processor with 2.4 GHz, 10MB cache and dual channel DDR4 up to 2667 MT/s memory interface (formerly Ice Lake-D LCC). Extended temperature range from -40°C to 80°C.
conga-HPC/sILL-D1735TR	050410	COM-HPC Size D module based on Intel® Xeon® D1735TR 8-core processor with 2.2 GHz, 15MB cache and dual channel DDR4 up to 2933 MT/s memory interface (formerly Ice Lake-D LCC). Commercial temperature range from 0°C to 60°C.
conga-HPC/sILL-D1712TR	050411	COM-HPC Size D module based on Intel® Xeon® D1712TR 4-core processor with 2.0 GHz, 10MB cache and dual channel DDR4 up to 2400 MT/s memory interface (formerly Ice Lake-D LCC). Commercial temperature range from 0°C to 60°C.
conga-HPC/sILL-D1848TER	050412	COM-HPC Size D module based on Intel® Xeon® D-1848TER 10-core processor with 2.0 GHz, 15MB cache and dual channel DDR4 2666 MT/s memory interface (formerly Ice Lake-D Refresh LCC). Industrial temperature range from -40°C to 85°C.
conga-HPC/sILL-CSA-HP	050450	Standard active cooling solution for COM-HPC Server modules conga-HPC/sILL with integrated heat pipes, 35.2mm overall cooling height and integrated 12V fan.
conga-HPC/sILL-CSP-HP	050451	Standard passive cooling solution for COM-HPC Server modules conga-HPC/sILL with integrated heat pipes, 18.2mm overall cooling height.
conga-HPC/sILL-HSP-HP-B	050452	Standard heatspreader for COM-HPC Server modules conga-HPC/sILL with integrated heat pipes and 11mm overall cooling height. Through hole mounting with bore hole standoffs Ø2.7mm.
conga-HPC/sILL-HSP-HP-T	050453	Standard heatspreader for COM-HPC Server modules conga-HPC/sILL with integrated heat pipes and 11mm overall cooling height. Threaded mounting with threaded standoffs M2.5.
conga-HPC/sILL-HPA	050454	Heat pipe Adapter for COM-HPC Server modules conga-HPC/sILL. Suitable for standard 8 mm heat pipes to optimize heat distribution.
conga-HPC/sILL-Retention Frame	050455	Retention frame for conga-HPC/sILL
conga-HPC/EVAL-Server	065500	conga-HPC/EVAL-Server

conga-HPC/sILL | Order Information - DRAM

Article	PN	Description
DDR4-UDIMM-3200 (16GB)	069000	DDR4 UDIMM memory module with 3200 MT/s and 16GB RAM
DDR4-UDIMM-3200 ECC (16GB)	069003	DDR4 ECC UDIMM memory module with 3200 MT/s and 16GB RAM
DDR4-UDIMM-3200 (16GB) / i-temp	069002	Industrial DDR4 UDIMM memory module with 3200 MT/s and 16GB RAM
DDR4-UDIMM-3200 ECC (16GB) / i-temp	069004	Industrial DDR4 ECC UDIMM memory module with 3200 MT/s and 16GB RAM
DDR4-UDIMM-3200 (32GB)	069001	DDR4 UDIMM memory module with 3200 MT/s and 32GB RAM
DDR4-UDIMM-3200 ECC (32GB)	069006	DDR4 ECC UDIMM memory module with 3200 MT/s and 32GB RAM
DDR4-UDIMM-3200 (32GB) / i-temp	069005	Industrial DDR4 UDIMM memory module with 3200 MT/s and 32GB RAM
DDR4-UDIMM-3200 ECC (32GB) / i-temp	069007	Industrial DDR4 ECC UDIMM memory module with 3200 MT/s and 32GB RAM
DDR4-RDIMM-3200 ECC (16GB)	069200	DDR4 ECC RDIMM memory module with 3200 MT/s and 16GB RAM
DDR4-RDIMM-3200 ECC (16GB) / i-temp	069210	Industrial DDR4 ECC RDIMM memory module with 3200 MT/s and 16GB RAM
DDR4-RDIMM-3200 ECC (32GB)	069220	DDR4 ECC RDIMM memory module with 3200 MT/s and 32GB RAM
DDR4-RDIMM-3200 ECC (32GB) / i-temp	069230	Industrial DDR4 ECC RDIMM memory module with 3200 MT/s and 32GB RAM
DDR4-RDIMM-3200 ECC (64GB)	069240	DDR4 ECC RDIMM memory module with up to 3200 MT/s and 64GB RAM
DDR4-RDIMM-3200 ECC (64GB) / i-temp	069250	Industrial DDR4 ECC RDIMM memory module with 3200 MT/s and 64GB RAM
VLP DDR4-RDIMM-3200 ECC (16GB)	069600	DDR4 ECC VLP RDIMM memory module with up to 3200 MT/s and 16GB RAM
VLP DDR4-RDIMM-3200 ECC (16GB) / i-temp	069610	Industrial DDR4 ECC VLP RDIMM memory module with up to 3200 MT/s and 16GB RAM
VLP DDR4-RDIMM-3200 ECC (32GB)	069620	DDR4 ECC VLP RDIMM memory module with up to 3200 MT/s and 32GB RAM