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# Datasheet

## Congatec

### conga-HPC/sILH

COM-HPC Server Size D module based on Intel® Xeon® D Ice Lake processor series



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# INTEL ICE LAKE-D XEON PROCESSORS

## conga-HPC/sILH



## COM+HPC®

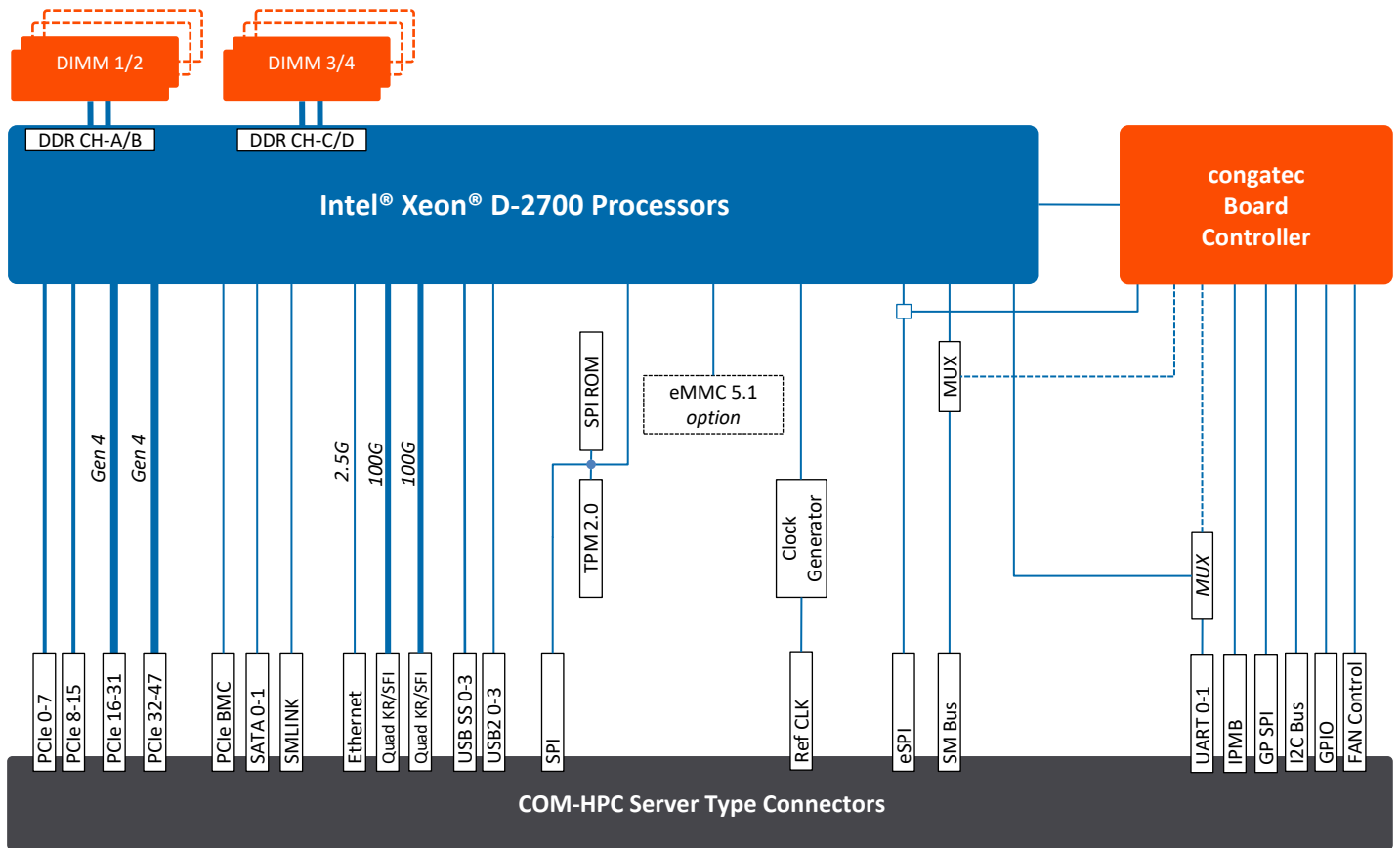
- Industrial Use Condition with extended Temperature options
- 48 PCIe Express lanes
- AI Capabilities with Intel® DL boost
- Real Time Capable Platform
- Supporting up to 1 TB DDR4 2933MT/s Memory\*

<b>Form Factor</b>	COM-HPC, Size D (160 x 160mm), Server Connector Pinout						
<b>CPU</b>	<b>Processor</b>	<b>Cores/Threads</b>	<b>Base Frequency/max. Turbo</b>	<b>TDP</b>	<b>Cache</b>	<b>Ethernet Bandwidth</b>	<b>Intel Use Condition</b>
	Xeon® D-2796TE	20C/40T	2.0Ghz/3.1Ghz	118W	30MB	100G	Industrial (Extended Temp)
	Xeon® D-2775TE	16C/32T	2.0Ghz/3.1Ghz	100W	25MB	100G	Industrial (Extended Temp)
	Xeon® D-2752TER	12C/24T	1.8Ghz/2.8Ghz	77W	20MB	50G	Industrial (Extended Temp)
	Xeon® D-2733NT	8C/16T	2.1Ghz/3.2Ghz	80W	15MB	50G	Industrial (Commercial Temp)
	Xeon® D-2712T	4C/8T	1.9Ghz/3.0Ghz	65W	15MB	50G	Industrial (Commercial Temp)
<b>Chipset</b>	Integrated in SoC						
<b>DRAM</b>	4/8x DIMM sockets for DDR4 memory modules   Max. capacity = 1TB*						
	<b>Memory Type</b>	<b>DIMM Capacity</b>	<b>Max. DIMM Speed</b>				
	RDIMM	8GB – 64GB	2933 MT/s				
	LRDIMM	64GB – 128GB	2933 MT/s				
	VLP RDIMM	8GB – 64GB	2400 MT/s				
	UDIMM (ECC)	8GB – 32GB	2666 MT/s				
	UDIMM (Non-ECC)	4GB – 32GB	2666 MT/s				
<b>Ethernet</b>	1x 2.5GbE TSN Ethernet 2x 40G / 4x 25G / 8x 10G/2.5G/1G/100M lanes   Maximum total bandwidth 100Gb**						
<b>I/O Interfaces</b>	32x 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						
<b>congatec Board controller</b>	Multi-stage Watchdog   non-volatile User Data Storage   Manufacturing and Board Information Board Statistics   I <sup>2</sup> C bus (fast mode, 400 kHz, multi-master)   Power Loss Control Hardware Health Monitoring   POST Code redirection						
<b>Embedded BIOS Feature</b>	AMI Aptio® UEFI firmware   64 Mbyte serial SPI with congatec Embedded BIOS feature   OEM Logo OEM CMOS Defaults   Flash Update						
<b>Security</b>	Trusted Platform Module (TPM 2.0)						
<b>Power Management</b>	ACPI 5.0 with battery support						
<b>Operating Systems</b>	Microsoft® Windows 10   Microsoft® Windows 10 IoT Enterprise   Microsoft® Windows IoT 10 Core Linux   Android   Yocto   RTS Hypervisor						
<b>Temperature Range</b>	Commercial:	Operating Temperature: 0 to +60°C		Storage Temperature: -20 to +80°C*			
	Industrial:	Operating Temperature: -40 to +80°C*		Storage Temperature: -40 to +80°C*			
<b>Humidity</b>	Operating:	10 to 90% r. H. non cond.					
	Storage	5 to 95% r. H. non cond.					
<b>Size</b>	160 x 160 mm <sup>2</sup> (optional 160 x 200 mm <sup>2</sup> )						

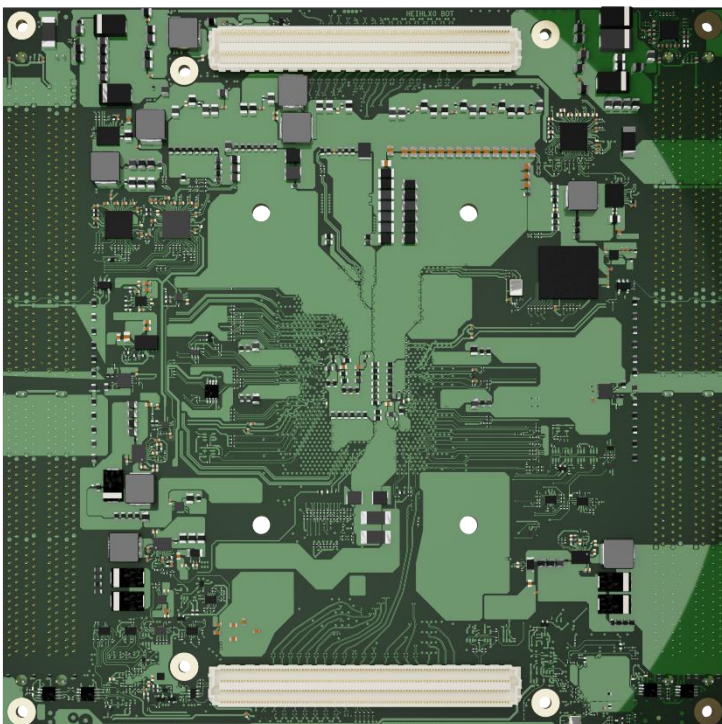
\* Optional, Size E only

\*\* Depending on CPU

# conga-HPC/sILH | Block Diagram



# conga-HPC/sILH | Bottom Side View



# conga-HPC/sILH | Order Information

Article	PN	Description
conga-HPC/sILH-D2796TE	050900	COM-HPC Size D module based on Intel® Xeon® D-2796TE 20-core processor with 2.0 GHz, 30MB cache and quad channel DDR4 2933 MT/s memory interface (formerly Ice Lake-D HCC). Industrial temperature range.
conga-HPC/sILH-D2775TE	050901	COM-HPC Size D module based on Intel® Xeon® D-2775TE 16-core processor with 2.0 GHz, 25MB cache and quad channel DDR4 2933 MT/s memory interface (formerly Ice Lake-D HCC). Industrial temperature range.
conga-HPC/sILH-D2752TER	050902	COM-HPC Size D module based on Intel® Xeon® D-2752TER 12-core processor with 1.8 GHz, 20MB cache and quad channel DDR4 2666 MT/s memory interface (formerly Ice Lake-D HCC). Industrial temperature range.
conga-HPC/sILH-D2733NT	050910	COM-HPC Size D module based on Intel® Xeon® D-2733NT 8-core processor with 2.1 GHz, 15MB cache and quad channel DDR4 2666 MT/s memory interface (formerly Ice Lake-D HCC). Commercial temperature range.
conga-HPC/sILH-D2712T	050911	COM-HPC Size D module based on Intel® Xeon® D-2712T 4-core processor with 1.9 GHz, 15MB cache and quad channel DDR4 2666 MT/s memory interface (formerly Ice Lake-D HCC). Commercial temperature range.
conga-HPC/sILH-CSA-HP-B	050950	Standard active cooling solution for COM-HPC Server modules conga-HPC/sILH with integrated heat pipes, 32.9mm overall cooling height and integrated 12V fan. Through hole mounting with bore hole standoffs Ø2.7mm.
conga-HPC/sILH-CSA-HP-T	050951	Standard active cooling solution for COM-HPC Server modules conga-HPC/sILH with integrated heat pipes, 32.9mm overall cooling height and integrated 12V fan. Threaded mounting with threaded standoffs M2.5.
conga-HPC/sILH-HSP-HP-B	050952	Standard heatspreader for COM-HPC Server modules conga-HPC/sILH with integrated heat pipes and 11mm overall cooling height. Through hole mounting with bore hole standoffs Ø2.7mm.
conga-HPC/sILH-HSP-HP-T	050953	Standard heatspreader for COM-HPC Server modules conga-HPC/sILH with integrated heat pipes and 11mm overall cooling height. Threaded mounting with threaded standoffs M2.5.
conga-HPC/sILH-HPA-B	050954	Heat pipe Adapter for COM-HPC Server modules conga-HPC/sILH. Suitable for standard 8 mm heat pipes to optimize heat distribution. Through hole mounting with bore hole standoffs Ø2.7mm.
conga-HPC/sILH-HPA-T	050955	Heat pipe Adapter for COM-HPC Server modules conga-HPC/sILH. Suitable for standard 8 mm heat pipes to optimize heat distribution. Threaded mounting with threaded standoffs M2.5.
conga-HPC/sILH-Retention Frame	050956	Retention frame for conga-HPC/sILH
conga-HPC/EVAL-Server	065500	conga-HPC/EVAL-Server

# conga-HPC/sILH | 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 (16GB)(ECC)	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 (16GB)(ECC) / 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 (32GB)(ECC)	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 (32GB)(ECC) / i-temp	069007	Industrial DDR4 ECC UDIMM memory module with 3200 MT/s and 32GB RAM
DDR4-RDIMM-3200 (16GB)	069200	DDR4 RDIMM memory module with 3200 MT/s and 16GB RAM
DDR4-RDIMM-3200 (16GB) / i-temp	069210	Industrial DDR4 RDIMM memory module with 3200 MT/s and 16GB RAM
DDR4-RDIMM-3200 (32GB)	069220	DDR4 RDIMM memory module with 3200 MT/s and 32GB RAM
DDR4-RDIMM-3200 (32GB) / i-temp	069230	Industrial DDR4 RDIMM memory module with 3200 MT/s and 32GB RAM

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