



## Fanless Rugged Server Solution MXCS-CA in compact aluminum housing with Intel® Xeon™ Processor



The MXCS is a high performance, low power and highly integrated rugged embedded Server, built in a special designed compact aluminum housing to meet the SWaP-C specifications. This allows to operate the MXCS in a moderate or harsh environment without the need of fans or air vents. The design integrates standard connectors for easy connection. Alternative connectors (M12, MIL 38999) or different housings ([19" rack](#), [MIL IP67](#) or [Open Frame](#)) are available. Therefore, the MXCS solution can be used for any server application where a compact fanless solution is needed.

### Highlights

The MXCS housings offer space for up to 2 x 2.5" SSD. With internal expansion over PCI/104-Express and Mini PCIe, various functions can be added. Particular precautions in the design have been taken that the entire system EMC is within the CE and FCC limits and capable to meet the MIL-STD810, 461, 704, 1275, as well as standards like IEC60945 or EN50155.

#### Key features are:

- Fanless by design (-20°C to +60°C)
- Intel Xeon CPU, up to 16 cores
- Up to 128GB ECC DDR4
- Two 10Gbit ports
- mSATA / m.2 Key M ports
- Long-term availability guarantee



The MXCS rugged Server Family has been designed to withstand harsh environments and extreme temperature conditions. The ruggedized design, combined with the best industrial-grade components, offer high reliability and long-term performance.

**The MXCS** is available for different industries and is the perfect embedded server solution for industrial environments, railway applications, MIL/COTS applications, or whenever a rugged long-term available computer is needed.



MXCS-CA used on Container ship



MXCS-CA used in Railway Applications



MXCS-CA used on Oil platform

### Technical Features

Board Key Data			
Processor	Intel Xeon D-1529	Intel Xeon D-1548	Intel Xeon D-1577
Clock speed	1.3 / 1.3GHz	2.0 / 2.6GHz	1.3 / 2.1GHz
Cores / threads	4 / 8	8 / 16	16 / 32
Smart cache	6 MB	12 MB	24 MB
Memory	up to 128 GB DDR4 ECC memory in four RDIMM slots		
TPM	over separate module (INTEL or FPGA)		
Watchdog Timer	configurable granularity 10 ms, 1 s or 1 minute, results in a timeout from 2.5 seconds up to 4 hours		
Indicator LEDs	power, reset, various others		
Interfaces			
Serial	1 x RS232 on connector 1 x RS232/422/485 on DB-9		
USB	4 x USB 3.0 ports on type A (D-1529 USB 2.0 only)		
LAN	2 x 1Gbit copper ports on RJ45 / 2 x 10Gbit SFP+ copper or fiber ports (D-1529 1Gbit SFP only) Optional LAN expansion with UNIGET, up to 6x Gbit		
Internal Expansions			
mPCIe	4 x mPCIe PCI Express Gen2		
PCI/104-Express	1 x PCIe x8		
PCIe x16	1 x PEG graphic expansion		
SATA	2 x mSATA / 2 x m.2 Key M ports		
Baseboard Management Controller (BMC)			
Memory	DDR4-1600 up to 1GB		
Graphics	ESD protected up to 1920 x 1200		
LAN	1 x GbE port, ESD protected		
BIOS	redundant AMI BIOS FLASH		
Power			
Input Voltage	19 - 36 VDC input range, ESD and EMC protected power input (redundant capability) reverse polarity protection, load dump protection reset & power button optional internal UPS system, optional galvanic separation, other voltage possible ignition input specifically for vehicles		
Power consumption	25 - 100 Watt (depending of CPU), Enhanced Intel Speed Step Technology		

## Environment

Storage Temperature	-45°C up to +85°C (-49°F to +185°F)
Operating Temperature	-20°C to +60°C (fanless)
Relative Humidity	5% to 95% non condensing, optional coating available

## Standard Compliance

The MXCS is designed to meet or exceed the most common standards. Particular references are:

EMC	EN 55022, EN 55024, EN 61000, MIL-STD-461E
Shock & Vibration	EN 60068
Environmental & Safety	EN 50155, MIL-STD-810G, EN 60601, EN 60950
Approval List	CE, IEC 60945, IACS E10

## Packaging

Chassis version	length	width	heights	weight	
MXCS-CA Compact Aluminum	207mm	351mm	66mm	5 kg (11 lb.)	
MXCS-RK 19" Rack version	415mm	19"	2U	18.2 kg (40.1 lb.)	see housing specific page <a href="#">MXCS-RK</a>
MXCS-ML IP67 MIL	TBD - to customer specifications				see housing specific page <a href="#">MXCS-ML</a>
MXCS-OF Open Frame version	201mm	342mm	50mm	3.2 kg (7 lb.)	see housing specific page <a href="#">MXCS-OF</a>

The aluminum housings are internally chromated, externally powder coated or anodized, no ventilation holes.

Specifications are subject to change without notice