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### Think Long-Term - Think MPL

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# 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 389999) 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.

Support

**Documentation** 

### **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.

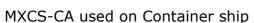
#### Key features are:

- 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 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

1 x RS232 on connector Serial 1 x RS232/422/485 on DB-9

**USB** 4 x USB 3.0 ports on type A (D-1529 USB 2.0 only)

2 x 1Gbit copper ports on RJ45 / 2 x 10Gbit SFP+ copper or fiber ports (D-1529 1Gbit SFP only) LAN

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)**

DDR4-1600 up to 1GB Memory

Graphics ESD protected up to 1920 x 1200 LAN 1 x GbE port, ESD protected **BIOS** redundant AMI BIOS FLASH

# **Power**

19 - 36 VDC input range, ESD and EMC protected power input (redundant capability) Input Voltage

reverse polarity protection, load dump protection reset & power button

optional internal UPS system, optional galvanic separation, other voltage possible ignition input specifically for vehicles

25 - 100 Watt (depending of CPU), Enhanced Intel Speed Step Technology Power consumption

**Environment** 

-45°C up to +85°C (-49°F to +185°F) Storage Temperature

-20°C to +60°C (fanless) Operating Temperature

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:

EN 55022, EN 55024, EN 61000, MIL-STD-461E EMC

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 MXCS-RK	
MXCS-ML IP67 MIL	TBD - to customer specifications		ns	see housing specific page MXCS-ML		
MXCS-OF Open Frame version	201mm	342mm	50mm	3.2 kg (7 lb.)	see housing specific page MXCS-OF	
The aluminum housings are internally chromated, externally powder coated or anodized, no ventilation holes.						

Specifications are subject to change without notice





