

Rugged Open Frame Solution

conductive cooled, with Intel® Xeon™ Processor

General Description

The MXCS Open Frame Version is a high performance, low power and highly integrated Rugged Embedded Server. The MXCS solution can be operated in a moderate or harsh environment without the need of fans. Therefore, the MXCS board can be used for any server application in very tough environment.

MXCS Highlights

The MXCS Open Frame supports easy installation into an existing system. Over PCI/104-Express and mini PCIe are unlimited expansions possible. The Open Frame server is conductive cooled and designed for an environment of -20°C to +60°C. The system is designed to meet standards like MIL-STD810G, EN50155, or IEC 60945.

Key features are:

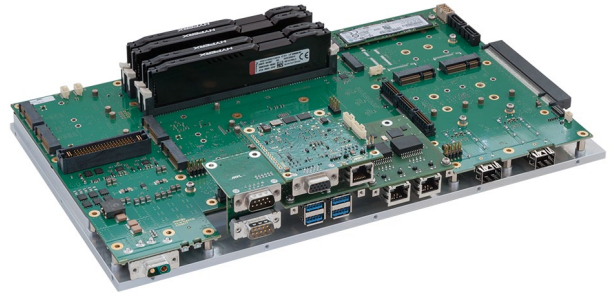
- up to 16 cores / Intel Xeon CPU
- up to 128GB ECC DDR4
- two 10Gbit ports
- mSATA / M.2 ports
- mPCIe / PCIe ports
- up to 8x SAS/SATA with RAID configuration
- conductive cooling concept
- fanless, -20°C to +60°C
- long-term availability guarantee*

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.

* Typically 10 years or more, 20+ years repairable

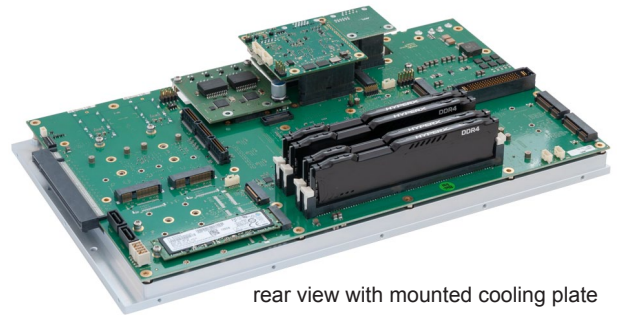


All MPL products are 100% designed and manufactured in Switzerland.

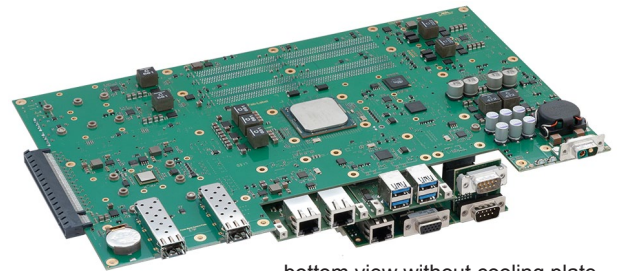


MXCS-1577OF / Intel Xeon 16 cores

- 4x 32GB DDR4 ECC (total 128GB)
- 1x M.2 SSD 1T
- 1x BMC (1x RJ45, 1x VGA)
- RAID
- fanless / -20° to +60°C
- 1x conductive cooling plate
- 2x RS232
- 2x LAN Gbit
- 2x 10Gbit SFP+ port
- 4x USB 3.0
- 19 - 36 VDC input



rear view with mounted cooling plate



bottom view without cooling plate

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



MPL AG is an ISO9001 certified company

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Technical Features

Board Key Data	MXCS-1529OF	MXCS-1548OF	MXCS-1577OF
Processor	Intel Xeon D-1529	Intel Xeon D-1548	Intel Xeon D-1577
Clock speed	1.3 / 2.1GHz	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 USB3.0 ports on type A		
LAN	2 x 1Gbit copper ports on RJ45 / 2 x 10Gbit SFP+ port (copper or fiber)		
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		
RAID	optional RAID controller board with on-board memory and flash, up to 8 x SAS/SATA ports, RAID 0/1/5/10 support		
Baseboard Management Controller (BMC)			
Memory	DDR4-1600 up to 1GB		
Graphics	1 x VGA, 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 on 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-OF Open Frame	201mm	342mm	27mm	3.2 kg (7 lb.)	dimension without RAM
MXCS-CA Compact Aluminum	207mm	351mm	66mm	5 kg (11 lb.)	see housing specific datasheet MXCS-CA
MXCS-RK 19" Rack version	415mm	19"	2U	18.2 kg (40.1 lb.)	see housing specific datasheet MXCS-RK
MXCS-ML IP67 MIL version	TBD	to customer specifications			see housing specific datasheet MXCS-ML

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

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