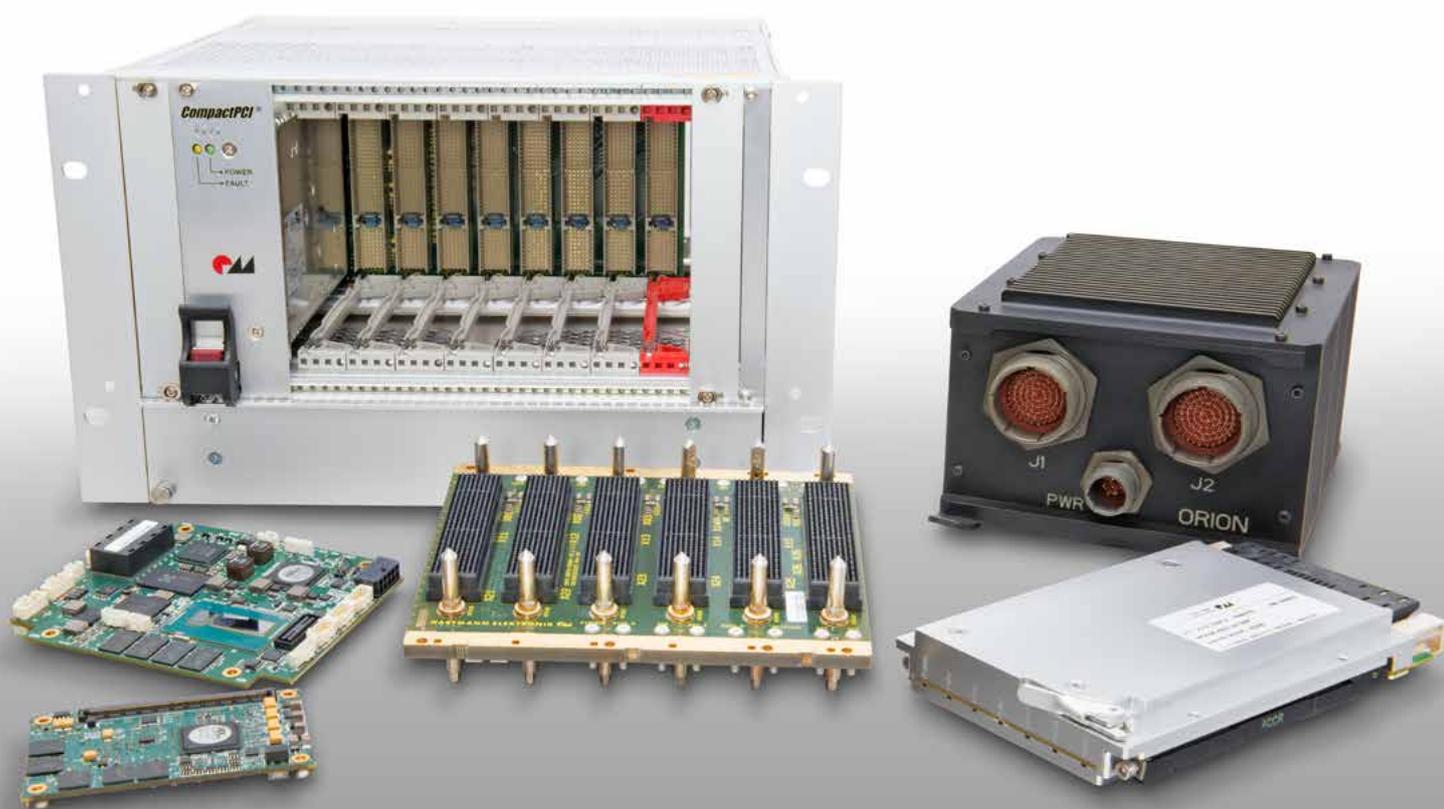




HARTMANN ELECTRONIC

A Phoenix Mecano Company



Product Catalog



End-to-End Solutions
for Aerospace, Industrial, and Research Applications

HARTMANN ELECTRONIC

A Phoenix Mecano Company

- Chassis Platforms
- Backplanes
- Custom Designs
- Box Solutions
- Embedded Boards
- Power Supplies
- 19" Chassis

Hartmann Electronic is an established leader in the design and manufacturing of backplanes and high performance system solutions.

With over 45 years of experience designing, manufacturing and testing high-speed backplanes, Hartmann offers an extensive range of standard backplanes and system solutions.

Supported architectures include VME/VME64x, cPCI, cPCI Serial, PXI, PXIe, VPX, VXS, VXI and others.

Website: www.hartmann-electronic.com
Email Contact: Info@hartmann-electronic.com



ORION

A Phoenix Mecano Company

- Rugged ATR Chassis
- Single Board Computers
- Custom Designs
- Systems Integration
- Embedded Switches
- I/O Modules
- Carrier Cards

Orion Technologies specializes in the design and development of embedded computers and rugged chassis systems for aerospace and defense applications.

With over 20 years of experience in SBC design and manufacturing, Orion's product offerings include both custom and standard form factors such as VPX, VME and cPCI.

Orion is ITAR registered with the U.S. Department of State and operates an AS9100 certified facility located in Orlando, FL.

Website: www.oriontechnologies.com
Email Contact: Sales@oriontechnologies.com



W-IE-NE-R

A Phoenix Mecano Company

- High Performance Chassis
- Custom Chassis
- Low Voltage Power Supplies
- Multi-Channel Power Systems
- Rad-hard Power Supplies
- Conduction Cooled Power Supplies
- Remote Monitoring and Control

W-IE-NE-R Power Electronics is a leading manufacturer of high-performance chassis and multi-channel DC power supply systems for research and automated test applications.

With over 60 years of experience in the scientific research community, W-IE-NE-R has developed a computer-controlled, low noise and radiation / magnetic field tolerant power supply technology incorporating either air, water or conduction cooling.

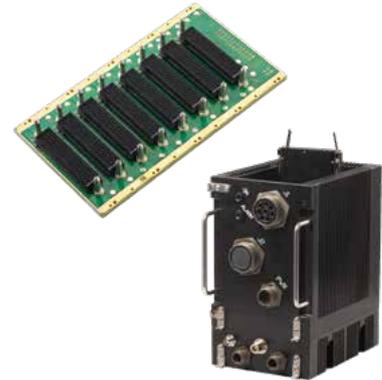
Offering COTS products for VITA or PICMIC standards, including VME/VME64x, VXS, VXI, PXI, MTCA and VPX, our strengths expand to the development of custom spec chassis and power supply solutions.

Website: www.wiener-d.com
Email Contact: Sales@wiener-us.com



PHOENIX MECANO

AEROSPACE AND DEFENSE



INDUSTRIAL



SCIENCE AND RESEARCH





We know how.
Backplanes, systems,
layout and design.

Content

6

CHASSIS

VPX / OPENVPX CHASSIS

- 7..... VPX 4U/ 50HP 5 Slots
- 7..... VPX 4U/ 50HP 7 Slots
- 8..... VPX 4U/ 84HP 8 Slots
- 8..... VPX 4U/ 84HP 8 Slots
- 9..... VPX 4U/ 42HP 5 Slots
- 9..... VPX 10U/ 84HP 10 Slots

VME / VME64 CHASSIS

- 10..... VME64x 1U/ 84HP 2 Slots
- 10..... VME64x 2U/ 84HP 4 Slots
- 11..... VME64x 4U/ 84HP 8 Slots
- 11..... VME64x 7U/ 84HP 17 Slots

CompactPCI® SERIAL CHASSIS

- 12..... cPCI Serial 4U/ 32HP 4 Slots
- 12..... cPCI Serial 4U/ 50HP 9 Slots
- 13..... cPCI Serial 4U/ 42HP 7 Slots
- 13..... cPCI Serial 4U/ 84HP 9 Slots

CompactPCI® CHASSIS

- 14..... cPCI 4U/ 32HP 4 Slots
- 14..... cPCI 4U/ 42HP 7 Slots
- 15..... cPCI 4U/ 50HP 8 Slots
- 15..... cPCI 3U/ 84HP 8 Slots
- 16..... cPCI 1U/ 84HP 2/ 3 Slots
- 16..... cPCI 2U/ 84HP 4 Slots
- 17..... cPCI 4U/ 84HP 8 Slots
- 17..... cPCI 2.16 10U/ 84HP 16 Slots

PXI/PXIE CHASSIS

- 18..... PXIe 4U/ 42HP 8 Slots
- 18..... PXIe 1U/ 84HP 6 Slots

DEVELOPMENT CHASSIS

- 19..... Open Frame Chassis 3U or 6U/ 34HP
- 19..... Open Frame Chassis 3U or 6U/ 50HP

20

BACKPLANES

VPX BACKPLANES

- 21..... 3U VPX / Open VPX
- 21..... 6U VPX / Open VPX
- 22..... 3U OpenVPX VITA 66/ 67
- 22..... 3U / 6U VPX Power & GND

VXI AND VX5 BACKPLANES

- 23..... VXI J1/J2 Series
- 23..... VXS Series

VME BACKPLANES

- 24..... VME/VME64 6U 162 Series
- 24..... VME 64x 6U 166 Series
- 25..... VME 3U 129/130/31 Series
- 25..... VME 64x 3U 165 Series

CompactPCI® SERIAL BACKPLANES

- 26..... 3U CompactPCI® Serial
- 26..... 3U CompactPCI® Serial Monolithic

CompactPCI® BACKPLANES

- 27..... 3U RA Series
- 27..... 3U RD Series
- 28..... 3U RB Series
- 28..... 6U RA Professional Series

PXI BACKPLANES

- 29..... PXI 3U Professional Series
- 29..... PXIe 3U 8 Slot Series

30

POWER TECHNOLOGY

VPX POWER SUPPLIES

- 31..... VPX 3U/ DC VITA62
- 31..... VPX 3U/ DC
- 32..... VPX 3U/ AC
- 32..... VPX 6U/ AC

CompactPCI® POWER SUPPLIES

- 33..... CompactPCI® 3U/ AC & DC
- 33..... CompactPCI® 6U/ AC & DC

CompactPCI® SERIAL & ATX POWER SUPPLIES

- 34..... cPCI Serial Power Supply
- 34..... ATX Power Supply

VPX POWER BACKPLANES

- 35..... VPX 3U
- 35..... VPX 6U

CompactPCI® POWER BACKPLANES

- 36..... CompactPCI® 3U
- 36..... CompactPCI® 6U

CompactPCI® SERIAL POWER BACKPLANES

- 37..... CompactPCI® Serial 3U
- 37..... CompactPCI® Serial Load Board

VPX LOAD BOARDS

- 38..... VPX 3U
- 38..... VPX 6U

CompactPCI® LOAD BOARDS

- 39..... CompactPCI® 3U
- 39..... CompactPCI® 6U

40

ACCESSORIES

CHASSIS ACCESSORIES

- 41..... Chassis Monitor & Control
- 41..... Chassis Fan Tray

TEST ADAPTER / EXTENDER

- 42..... CompactPCI® / VME / VME64x
- 42..... VPX Test Adapter

REMOTE CONTROLLER KITS

- 43..... PCIe to CompactPCI® Bridge
- 43..... PXIe Controller / Extension

ACCESSORIES

- 44..... Front Panels
- 44..... Card Guides

45

OVERVIEW

- 45..... Chassis overview
- 46..... Backplanes overview



HARTMANN ELECTRONIC

A Phoenix Mecano Company

Hartmann Electronic is a member of the Phoenix Mecano Group – a global technology company, present at more than 60 locations worldwide covering all six economically relevant continents.

The Phoenix Mecano Group achieved \$700 million in sales in 2019 and currently employs more than 7,000 people, with manufacturing and sales offices around the globe.

As a member of the Phoenix Mecano Industrial Computing Group, Hartmann offers more custom Small Form Factor Systems like ComExpress, in addition to the extensive line of backplane and complete system solutions.

TECHNOLOGIES & CAPABILITIES

CUSTOM ELECTRICAL & MECHANICAL DEVELOPMENT

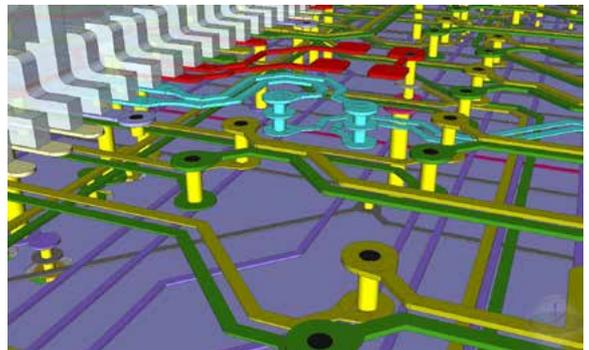
With more than 100 years of combined experience in high-speed design, our expert staff is trusted by thousands of loyal customers worldwide in providing field-proven solutions for their unique routing needs. Our expertise spans across technologies, including VPX, VME/64x, CompactPCI® Serial, PXIe, CompactPCI®, and as well as high-speed differential pair routing for Gigabit Ethernet, PCI Express, SATA and USB ...

By applying mechanical solutions based on our wide product range within the Phoenix Mecano Enclosure Division allows reduced costs and time to market.



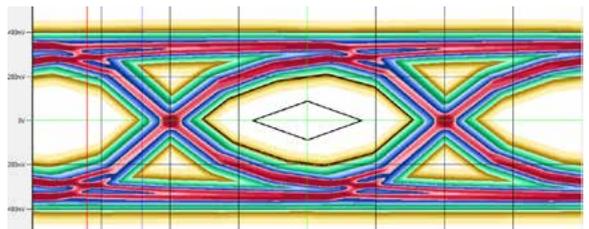
ELECTRICAL DESIGN

- Design partner of the embedded industry with 45 years of experience
- Specialized in high speed designs
- Proven layout technologies as a base for no-risk, highly complex backplane design
- PCB design for highest component coverage
- High-end CAE software
- Polar loss & impedance calculation



SIGNAL INTEGRITY SIMULATIONS

- Circuit timing and signal integrity simulations provide our designers with the expected performance of the backplane through a fully integrated, complete signal integrity simulation tool set with the constraint manager at its core
- The same simulation tools are available within both schematic entry and board layout
- Selected design blocks and areas can be analyzed to evaluate electrical performance, reflection and crosstalk effects as well as interconnected timing information
- Simulation testing for impedance, propagation delay, cross-talk, attenuation and insertion / return loss





Chassis

VPX 4U/ 50HP 5 Slots



System Configuration

Mounting	Rack-mount
Backplane	5 slots, 3U VPX full mesh configuration X4 on P1 (8x differential pairs to each slot) for PCIe Gen3 with rear I/O

System Cooling

Fan Tray	1U removable
No. of Fans	2 (12V, 92mm)
Airflow	Bottom to top

Power Supply

Type	300 W ATX
Input	90-264 VAC, 47-63 Hz
No. of Supplies	1
Output Voltages	12V/24A, 3.3V/17A, 5V/18A, -12V/0.3A
PS Connector	Front side with switch

Mechanical Specifications

Height	4U
Width	50 HP
Depth	283.1 mm

Standards

IEEE	1101.1 and 1101.10/11
IEC	60297-3-101, -102, -103

Testing

Military Shipboard	MIL-STD-810F: 514.5C-15 (vibration)
Military Highway	MIL-STD-810F: 514.5 C-1 (vibration), 515.5-10 (shock)
Railway	EN 50155-EN 1373 class 1 B, rolling stock (shock/vibration)

Unit comes assembled, wired and tested

Order number

LMH0000840

Other backplane configurations available upon request

VPX 4U/ 50HP 7 Slots



System Configuration

Mounting	Rack-mount
Backplane	7 slots, 3U OpenVPX, profile BKP3-CEN07-15.2.3-4, centralized backplane hosting 6 payloads and 1 integrated switch for PCIe Gen3 & 10GbE with rear I/O

System Cooling

Fan Tray	1U removable
No. of Fans	2 (12V, 92mm)
Airflow	Bottom to top

Power Supply

Type	600 W VPX plug-in
Input	90-264 VAC, 47-63 Hz
No. of Supplies	1
Output Voltages	12V/28A, 3.3V/19A, 5V/25A, ±12V_AUX/1A, 3.3V_AUX/6A
PS Connector	Included, with switch, fuse and filter

Mechanical Specifications

Height	4U
Width	50 HP
Depth	283.1 mm

Standards

IEEE	1101.1 and 1101.10/11
IEC	60297-3-101, -102, -103

Testing

Military Shipboard	MIL-STD-810F: 514.5C-15 (vibration)
Military Highway	MIL-STD-810F: 514.5 C-1 (vibration), 515.5-10 (shock)
Railway	EN 50155-EN 1373 class 1 B, rolling stock (shock/vibration)

Unit comes assembled, wired and tested

Order number

LMH0000890

Other backplane configurations available upon request



VPX 4U/ 84HP 8 Slots



System Configuration

Mounting	19" rack-mount
Backplane	8 slots OpenVPX profile BKP3-CEN08-15.2.15-4, centralized backplane hosting 6 payloads and 2 integrated switches for PCIe Gen3 with rear I/O

System Cooling

Fan Tray	1U removable
No. of Fans	3 (12V, 120mm, 120CFM, 48dB(A))
Airflow	Bottom to top

Power Supply

Type	600 W ATX
Input	90-264 VAC, 47-63 Hz
No. of Supplies	1
Output Voltages	12V/45A, 3.3V/25A, 5V/25A, -12V/0.8A
PS Connector	Front side with switch

Mechanical Specifications

Height	4U
Width	84 HP
Depth	283.1 mm

Standards

IEEE	1101.1 and 1101.10/11
IEC	60297-3-101, -102, -103

Testing

Military Shipboard	MIL-STD-810F: 514.5C-15 (vibration)
Military Highway	MIL-STD-810F: 514.5 C-1 (vibration), 515.5-10 (shock)
Railway	EN 50155-EN 1373 class 1 B, rolling stock (shock/vibration)

Unit comes assembled, wired and tested

Order number

LMH0000930

Other backplane configurations available upon request

VPX 4U/ 84HP 8 Slots



System Configuration

Mounting	19" rack-mount
Backplane	3U 8 slots OpenVPX, Profile BKP3-CEN08-15.2.15-4, centralized backplane hosting 6 payloads and 2 integrated switches for PCIe Gen3 with rear I/O

System Cooling

Fan Tray	1U removable
No. of Fans	3 (12V, 120mm, 120CFM, 48dB(A))
Airflow	Bottom to top

Power Supply

Type	600 W VPX pluggable
Input	90-264 VAC, 47-63 Hz
No. of Supplies	2
Output Voltages	12V/28A, 3.3V/19A, 5V/25A, ±12V_AUX/1A, 3.3V_AUX/6A
PS Connector	Included, with switch, fuse and filter

Mechanical Specifications

Height	4U
Width	84 HP
Depth	283.1 mm

Standards

IEEE	1101.1 and 1101.10/11
IEC	60297-3-101, -102, -103

Testing

Military Shipboard	MIL-STD-810F: 514.5C-15 (vibration)
Military Highway	MIL-STD-810F: 514.5 C-1 (vibration), 515.5-10 (shock)
Railway	EN 50155-EN 1373 class 1 B, rolling stock (shock/vibration)

Unit comes assembled, wired and tested

Order number

LMH0000920

Other backplane configurations available upon request



VPX 4U/ 42HP 5 Slots



System Configuration

Mounting	Desktop
Backplane	5 slots, 3U VPX full mesh configuration X4 on P1 (8x differential pairs to each slot) for PCIe Gen3 with rear I/O

System Cooling

Fan Tray	Internal
No. of Fans	2 (12V)
Airflow	Bottom to top

Power Supply

Type	300 W ATX
Input	90-264 VAC, 47-63 Hz
No. of Supplies	1
Output Voltages	12V/24A, 3.3V/17A, 5V/18A, -12V/0.3A
PS Connector	Front side with switch

Mechanical Specifications

Height	4U
Width	42 HP
Depth	278 mm

Standards

IEEE	1101.1 and 1101.10/11
IEC	60297-3-101, -102, -103

Testing

Military Shipboard	MIL-STD-810F: 514.5C-15 (vibration)
Military Highway	MIL-STD-810F: 514.5 C-1 (vibration), 515.5-10 (shock)
Railway	EN 50155-EN 1373 class 1 B, rolling stock (shock/vibration)

Unit comes assembled, wired and tested

Order number

LMH0000940

Other backplane configurations available upon request

VPX 10U/ 84HP 10 Slots



System Configuration

Mounting	19" rack-mount
Backplane	OpenVPX backplane, 6U, 10 slots, profile BKP6-CEN10-11.2.4-4, centralized backplane hosting 9 payloads and 1 integrated switch for PCIe Gen3 & 10GbE with rear I/O

System Cooling

Fan Tray	Fixed fan tray, 3U
No. of Fans	3 (12V, 120mm)
Airflow	Bottom front to top rear

Power Supply

Type	1000 W VPX
Input	90-264 VAC, 47-63 Hz
No. of Supplies	2, pluggable
Output Voltages	12V/63A, 3.3V/20A, 5V/30A, ±12V/1.5A
PS Connector	Included, with switch, fuse and filter

Mechanical Specifications

Height	10U
Width	84 HP
Depth	283.1 mm

Standards

IEEE	1101.1 and 1101.10/11
IEC	60297-3-101, -102, -103

Testing

Military Shipboard	MIL-STD-810F: 514.5C-15 (vibration)
Military Highway	MIL-STD-810F: 514.5 C-1 (vibration), 515.5-10 (shock)
Railway	EN 50155-EN 1373 class 1 B, rolling stock (shock/vibration)

Unit comes assembled, wired and tested

Order number

LMH0000950

Other backplane configurations available upon request



VME64x 1U/ 84HP 2 Slots



System Configuration

Mounting	19" rack-mount
Backplane	2 slots, 9U monolithic (6U VME64x, 3U power) With J0 connectors Automatic daisy chain/bus grant Active termination With 1x P47 connector

System Cooling

Fan Tray	Removable fan tray, LED's for power / fan fail
No. of Fans	4 (13.1CFM, 42.5 dB(A))
Airflow	Left to right

Power Supply

Type	250 W cPCI, hot swap
Input	90-264 VAC, 47-63 Hz
No. of Supplies	1
Output Voltages	3.3V/25A, 5V/25A, +12V/5A, -12V/1A (Total max 250 W)
PS Connector	Included, with switch, fuse and filter

Mechanical Specifications

Height	1U
Width	84 HP
Depth	283.1 mm

Standards

IEEE	1101.1 and 1101.10/11
IEC	60297-3-101, -102, -103

Testing

Military Shipboard	MIL-STD-810F: 514.5C-15 (vibration)
Military Highway	MIL-STD-810F: 514.5 C-1 (vibration), 515.5-10 (shock)
Railway	EN 50155-EN 1373 class 1 B, rolling stock (shock/vibration)

Unit comes assembled, wired and tested

Order number

LMH0000312	with removable fan tray
LMH0000200	with fixed fans (special order item upon request only)

VME64x 2U/ 84HP 4 Slots



System Configuration

Mounting	19" rack-mount
Backplane	4 slots, 9U monolithic (6U VME64x, 3U power) With J0 connectors Automatic daisy chain/bus grant Active termination With 1x P47 connector

System Cooling

Fan Tray	Removable fan tray, with replaceable dust filter, LED's for power / fan fail
No. of Fans	3 (36.4CFM, 29 dB(A))
Airflow	Left to right

Power Supply

Type	300 W cPCI, hot swap
Input	90-264 VAC, 47-63Hz
No. of Supplies	1
Output Voltages	3.3V/40A, 5V/40A, +12V/10A, -12V/2A (Total max 300 W)
PS Connector	Included, with switch, fuse and filter

Mechanical Specifications

Height	2U
Width	84 HP
Depth	283.1 mm

Standards

IEEE	1101.1 and 1101.10/11
IEC	60297-3-101, -102, -103

Testing

Military Shipboard	MIL-STD-810F: 514.5C-15 (vibration)
Military Highway	MIL-STD-810F: 514.5 C-1 (vibration), 515.5-10 (shock)
Railway	EN 50155-EN 1373 class 1 B, rolling stock (shock/vibration)

Unit comes assembled, wired and tested

Order number

LMH0000240	with removable fan tray
LMH0000170	with fixed fans (special order item upon request only)

VME64x 4U/ 84HP 8 Slots



System Configuration

Mounting	19" rack-mount
Backplane	8 slots, 9U monolithic (6U VME64x, 3U power) with J0 connectors Automatic daisy chain/bus grant Active termination with 2x P47 connectors

System Cooling

Fan Tray	Removable fan tray, with replaceable filter, LED's for power / fan fail
No. of Fans	6 (36.4CFM, 29 dB(A))
Airflow	Left to right

Power Supply

Type	250 W cPCI, hot swap
Input	90-264 VAC, 47-63 Hz
No. of Supplies	2, system can accept up to 4 supplies
Output Voltages	3.3V/25A, 5V/25A, +12V/5A, -12V/1A (Total max 250 W)

PS Connector	Included, with switch, fuse and filter
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Mechanical Specifications

Height	4U
Width	84 HP
Depth	283.1 mm

Standards

IEEE	1101.1 and 1101.10/11
IEC	60297-3-101, -102, -103

Testing

Military Shipboard	MIL-STD-810F: 514.5C-15 (vibration)
Military Highway	MIL-STD-810F: 514.5 C-1 (vibration), 515.5-10 (shock)
Railway	EN 50155-EN 1373 class 1 B, rolling stock (shock/vibration)

Unit comes assembled, wired and tested

Order number

LMH0000260	with removable fan tray
LMH0000180	with fixed fans (special order item upon request only)

VME64x 7U/ 84HP 17 Slots



System Configuration

Mounting	19" rack-mount
Backplane	17 slots, 6U monolithic VME64x with J0 connectors Automatic daisy chain/bus grant Active termination with 4x P47 connectors

System Cooling

Fan Tray	1U fix
No. of Fans	3 (12V, 120mm, 120CFM, 48 dB(A))
Airflow	Bottom to top

Power Supply

Type	400 W cPCI, hot swap
Input	90-264 VAC, 47-63Hz
No. of Supplies	2
Output Voltages	3.3V/55A, 5V/55A, +12V/10A, -12V/3A (3.3V + 5V max. 300 W)

PS Connector	Included, with switch, fuse and filter
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Mechanical Specifications

Height	7U
Width	84 HP
Depth	283.1 mm

Standards

IEEE	1101.1 and 1101.10/11
IEC	60297-3-101, -102, -103

Testing

Military Shipboard	MIL-STD-810F: 514.5C-15 (vibration)
Military Highway	MIL-STD-810F: 514.5 C-1 (vibration), 515.5-10 (shock)
Railway	EN 50155-EN 1373 class 1 B, rolling stock (shock/vibration)

Unit comes assembled, wired and tested

Order number

LMH0000160



cPCI Serial 4U/ 32HP 4 Slots



System Configuration

Mounting	Panel-mount
Backplane	4 slots, 3U without rear I/O GbE full mesh topology PCIe Gen3 System slot right

System Cooling

Fan Tray	Fixed
No. of Fans	1 (12V, 120mm, 120CFM, 48 dB(A))
Airflow	Bottom to top

Power Supply

Type	180 W ATX
Input	100-240 VAC, 47-63 Hz
No. of Supplies	1
Output Voltages	3.3V/12A, 5V/14A, +12V/14A, -12V/0.3A, minimum load: 12V/0.3A
PS Connector	Front side with switch

Mechanical Specifications

Height	4U
Width	32 HP
Depth	254.4 mm

Standards

IEEE	1101.1 and 1101.10/11
IEC	60297-3-101, -102, -103

Testing

Military Shipboard	MIL-STD-810F: 514.5C-15 (vibration)
Military Highway	MIL-STD-810F: 514.5 C-1 (vibration), 515.5-10 (shock)
Railway	EN 50155-EN 1373 class 1 B, rolling stock (shock/vibration)

Unit comes assembled, wired and tested

Order number

LMH0000830

Other backplane configurations available upon request

cPCI Serial 4U/ 50HP 9 Slots



System Configuration

Mounting	Rack-mount
Backplane	9 slots, 3U without rear I/O GbE single star topology PCIe Gen3 System slot left

System Cooling

Fan Tray	1U removable
No. of Fans	2 (12V, 92mm)
Airflow	Bottom to top

Power Supply

Type	300 W ATX or CompactPCI® Serial
Maximum Power	90-264 VAC, 47-63 Hz
No. of Supplies	1
Output Voltages	ATX: 12V/24A, 3.3V/17A, 5V/18A, -12V/0.3A cPCI Serial: 12V/25A, 5VStandby/2.5A
PS Connector	Included, with switch, fuse and filter

Mechanical Specifications

Height	4U
Width	50 HP
Depth	283.1 mm

Standards

IEEE	1101.1 and 1101.10/11
IEC	60297-3-101, -102, -103

Testing

Military Shipboard	MIL-STD-810F: 514.5C-15 (vibration)
Military Highway	MIL-STD-810F: 514.5 C-1 (vibration), 515.5-10 (shock)
Railway	EN 50155-EN 1373 class 1 B, rolling stock (shock/vibration)

Unit comes assembled, wired and tested

Order number

LMH0000850 with 300 W ATX power supply

LMH0000631 with 300 W cPCI Serial power supply

Other backplane configurations available upon request

cPCI Serial 4U/ 42HP 7 Slots



System Configuration

Mounting	Desktop
Backplane	7 slots, 3U without rear I/O GbE single star topology PCIe Gen3 System slot right

System Cooling

Fan Tray	Fixed
No. of Fans	2 (12V)
Airflow	Bottom to top

Power Supply

Type	300 W CompactPCI® Serial
Input	90-264 VAC, 47-63 Hz
No. of Supplies	1
Output Voltages	12V/25A, 5VStandby/2.5A

PS Connector	Included, with switch, fuse and filter
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Mechanical Specifications

Height	4U
Width	42 HP
Depth	278 mm

Standards

IEEE	1101.1 and 1101.10/11
IEC	60297-3-101, -102, -103

Testing

Military Shipboard	MIL-STD-810F: 514.5C-15 (vibration)
Military Highway	MIL-STD-810F: 514.5 C-1 (vibration), 515.5-10 (shock)
Railway	EN 50155-EN 1373 class 1 B, rolling stock (shock/vibration)

Unit comes assembled, wired and tested

Order number

LMH0000820

Other backplane configurations available upon request

cPCI Serial 4U/ 84HP 9 Slots



System Configuration

Mounting	19" rack-mount
Backplane	9 slots, 3U without rear I/O GbE single star topology PCIe Gen3 System slot left

System Cooling

Fan Tray	1U removable
No. of Fans	3 (12V, 120mm, 120CFM, 48 dB(A))
Airflow	Bottom to top

Power Supply

Type	300 W cPCI
Input	90-264 VAC, 47-63 Hz
No. of Supplies	2
Output Voltages	12V/25A, 5VStandby/2.5A

PS Connector	Included, with switch, fuse and filter
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Mechanical Specifications

Height	4U
Width	84 HP
Depth	283.1 mm

Standards

IEEE	1101.1 and 1101.10/11
IEC	60297-3-101, -102, -103

Testing

Military Shipboard	MIL-STD-810F: 514.5C-15 (vibration)
Military Highway	MIL-STD-810F: 514.5 C-1 (vibration), 515.5-10 (shock)
Railway	EN 50155-EN 1373 class 1 B, rolling stock (shock/vibration)

Unit comes assembled, wired and tested

Order number

LMH0000900

Other backplane configurations available upon request



cPCI 4U/ 32HP 4 Slots



System Configuration

Mounting	Panel-mount
Backplane	4 slots, 3U 5V I/O 32 bit / 33 MHz System slot right with ATX connector

System Cooling

Fan Tray	Fixed
No. of Fans	1 (12V, 120mm, 120CFM, 48dB(A))
Airflow	Bottom to top

Power Supply

Type	180 W ATX
Input	100-240 VAC, 47-63 Hz
No. of Supplies	1
Output Voltages	3.3V/12A, 5V/14A, +12V/14A, -12V/0.3A, minimum load: 12V/0.1A
PS Connector	Front side with switch

Mechanical Specifications

Height	4U
Width	32 HP
Depth	254.4 mm

Standards

IEEE	1101.1 and 1101.10/11
IEC	60297-3-101, -102, -103

Testing

Military Shipboard	MIL-STD-810F: 514.5C-15 (vibration)
Military Highway	MIL-STD-810F: 514.5 C-1 (vibration), 515.5-10 (shock)
Railway	EN 50155-EN 1373 class 1 B, rolling stock (shock/vibration)

Unit comes assembled, wired and tested

Order number

LMH0000113	with 5V V/I/O backplane
LMH0000970	with 3.3V V/I/O backplane

Other backplane configurations available upon request

cPCI 4U/ 42HP 7 Slots



System Configuration

Mounting	Desktop
Backplane	7 slots, 3U 3.3V or 5V I/O 32 bit / 33 MHz with rear I/O System slot right with P47 connector

System Cooling

Fan Tray	Fixed
No. of Fans	2 (12V)
Airflow	Bottom to top

Power Supply

Type	300 W cPCI
Input	90-264 VAC, 47-63 Hz
No. of Supplies	1
Output Voltages	3.3V/40A, 5V/40A, +12V/10A, -12V/2A
PS Connector	Included, with switch, fuse and filter

Mechanical Specifications

Height	4U
Width	42 HP
Depth	278 mm

Standards

IEEE	1101.1 and 1101.10/11
IEC	60297-3-101, -102, -103

Testing

Military Shipboard	MIL-STD-810F: 514.5C-15 (vibration)
Military Highway	MIL-STD-810F: 514.5 C-1 (vibration), 515.5-10 (shock)
Railway	EN 50155-EN 1373 class 1 B, rolling stock (shock/vibration)

Unit comes assembled, wired and tested

Order number

LMH0000860	with 5V V/I/O backplane
LMH0000870	with 3.3V V/I/O backplane

Other backplane configurations available upon request

cPCI 4U/ 50HP 8 Slots



System Configuration

Mounting	Rack-mount
Backplane	8 slots, 3U 32 bit / 33 MHz with rear I/O System slot right with P47 connector

System Cooling

Fan Tray	1U removable
No. of Fans	2 (12V, 92mm)
Airflow	Bottom to top

Power Supply

Type	300 W cPCI
Input	90-264 VAC
No. of Supplies	1
Output Voltages	3.3V/40A, 5V/40A, +12V/10A, -12V/2A
PS Connector	Included, with switch, fuse and filter

Mechanical Specifications

Height	4U
Width	50 HP
Depth	283.1 mm

Standards

IEEE	1101.1 and 1101.10/11
IEC	60297-3-101, -102, -103

Testing

Military Shipboard	MIL-STD-810F: 514.5C-15 (vibration)
Military Highway	MIL-STD-810F: 514.5 C-1 (vibration), 515.5-10 (shock)
Railway	EN 50155-EN 1373 class 1 B, rolling stock (shock/vibration)

Unit comes assembled, wired and tested

Order number

LMH0000880 with 5V V/I/O backplane

Other backplane configurations available upon request

cPCI 3U/ 84HP 8 Slots



System Configuration

Mounting	19" rack-mount
Backplane	8 slots, 3U 32 bit / 33 MHz with rear I/O System slot right with ATX connector

System Cooling

Fan Tray	No
No. of Fans	
Airflow	Bottom to top

Power Supply

Type	300 W ATX
Input	90-264 VAC
No. of Supplies	1
Output Voltages	3.3V/28A, 5V/35A, +12V/22A, -12V/1A Minimum load: 5V/0.5A, 12V/0.5A
PS Connector	Front side with switch

Mechanical Specifications

Height	3U
Width	84 HP
Depth	280 mm

Standards

IEEE	1101.1 and 1101.10/11
IEC	60297-3-101, -102, -103

Testing

Military Shipboard	MIL-STD-810F: 514.5C-15 (vibration)
Military Highway	MIL-STD-810F: 514.5 C-1 (vibration), 515.5-10 (shock)
Railway	EN 50155-EN 1373 class 1 B, rolling stock (shock/vibration)

Unit comes assembled, wired and tested

Order number

LMH0000100 with 5V V/I/O backplane

LMH0000330 with 3.3V V/I/O backplane

Other backplane configurations available upon request



cPCI 1U/ 84HP 2/ 3 Slots



System Configuration

Mounting	19" rack-mount
Backplane	9U monolithic (3U power, CPCI 6U 2 Slots or 3U 3 Slots) with rear I/O 5V I/O 6U: 64 bit / 33 MHz 3U: 32 Bit / 33 MHz System slot left with 1x P47 connector

System Cooling

Fan Tray	Removable fan tray, with LED's for power / fan fail
No. of Fans	4 (13.1CFM, 42.5 dB(A))
Airflow	Left to right

Power Supply

Type	250 W cPCI, hot swap
Input	90-264 VAC, 47-63 Hz
No. of Supplies	1
Output Voltages	3.3V/25A, 5V/25A, +12V/5A, -12V/1A (Total max 250 W)

PS Connector	Included, with switch, fuse and filter
--------------	--

Mechanical Specifications

Height	1U
Width	84 HP
Depth	283.1 mm

Standards

IEEE	1101.1 and 1101.10/11
IEC	60297-3-101, -102, -103

Testing

Military Shipboard	MIL-STD-810F: 514.5C-15 (vibration)
Military Highway	MIL-STD-810F: 514.5 C-1 (vibration), 515.5-10 (shock)
Railway	EN 50155-EN 1373 class 1 B, rolling stock (shock/vibration)

Unit comes assembled, wired and tested

Order number

LMH0000300	2 Slots 6U CPCI with 5V V/I/O backplane
LMH0000491	3 Slots 3U CPCI with 5V V/I/O backplane

cPCI 2U/ 84HP 4 Slots



System Configuration

Mounting	19" rack-mount
Backplane	4 slots, 9U monolithic (6U cPCI, 3U power) with rear I/O 5V I/O 64 bit / 33 MHz System slot left with 2x P47 connectors

System Cooling

Fan Tray	Removable fan tray, with replaceable dust filter, LED's for power/ fan fail
No. of Fans	3 (36.4CFM, 29 dB(A))
Airflow	Left to right

Power Supply

Type	300 W cPCI, hot swap
Input	90-264 VAC, 47-63 Hz
No. of Supplies	1
Output Voltages	3.3V/40A, 5V/40A, +12V/10A, -12V/2A (Total max 300 W)

PS Connector	Included, with switch, fuse and filter
--------------	--

Mechanical Specifications

Height	2U
Width	84 HP
Depth	283.1 mm

Standards

IEEE	1101.1 and 1101.10/11
IEC	60297-3-101, -102, -103

Testing

Military Shipboard	MIL-STD-810F: 514.5C-15 (vibration)
Military Highway	MIL-STD-810F: 514.5 C-1 (vibration), 515.5-10 (shock)
Railway	EN 50155-EN 1373 class 1 B, rolling stock (shock/vibration)

Unit comes assembled, wired and tested

Order number

LMH0000222	with 5V V/I/O backplane
LMH0000130	with fixed fans (special order item upon request only)

cPCI 4U/ 84HP 8 Slots



System Configuration

Mounting	19" rack-mount
Backplane	8 slots, 9U monolithic (6U cPCI, 3U power) with rear I/O 5V I/O 64 bit / 33 MHz System slot left with 4x P47 connectors

System Cooling

Fan Tray	Removable fan tray, with replaceable dust filter, LED's for power / fan fail
No. of Fans	6 (36.4CFM, 29 dB(A))
Airflow	Left to right

Power Supply

Type	300 W cPCI, hot swap
Input	90-264 VAC, 47-63 Hz
No. of Supplies	2
Output Voltages	3.3V/40A, 5V/40A, +12V/10A, -12V/2A (Total max 300 W)
PS Connector	Included, with switch, fuse and filter

Mechanical Specifications

Height	4U
Width	84 HP
Depth	283.1 mm

Standards

IEEE	1101.1 and 1101.10/11
IEC	60297-3-101, -102, -103

Testing

Military Shipboard	MIL-STD-810F: 514.5C-15 (vibration)
Military Highway	MIL-STD-810F: 514.5 C-1 (vibration), 515.5-10 (shock)
Railway	EN 50155-EN 1373 class 1 B, rolling stock (shock/vibration)

Unit comes assembled, wired and tested

Order number

LMH0000251	with 5V V/I/O backplane
LMH0000210	with fixed fans (special order item upon request only)

cPCI 2.16 10U/ 84HP 16 Slots



System Configuration

Mounting	19" rack-mount
Backplane	16 slots (2 fabric/14 node), 6U with rear I/O 5V I/O 64 bit / 33 MHz System slot left/ right with 4x P47 connectors

System Cooling

Fan Tray	Hot swap fan drawer, with replaceable dust filter
No. of Fans	3 (130CFM, 50 dB(A))
Airflow	Bottom front to top rear

Power Supply

Type	250 W cPCI, hot swap
Input	90-264 VAC, 47-63 Hz
No. of Supplies	2
Output Voltages	3.3V/25A, 5V/25A, +12V/5A, -12V/1A (Total max 250 W)
PS Connector	Included, with switch, fuse and filter

Mechanical Specifications

Height	10U
Width	84 HP
Depth	280.6 mm

Standards

IEEE	1101.1 and 1101.10/11
IEC	60297-3-101, -102, -103

Testing

Military Shipboard	MIL-STD-810F: 514.5C-15 (vibration)
Military Highway	MIL-STD-810F: 514.5 C-1 (vibration), 515.5-10 (shock)
Railway	EN 50155-EN 1373 class 1 B, rolling stock (shock/vibration)

Unit comes assembled, wired and tested

Order number

LMH0000081	with 5V V/I/O backplane
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PXIe 4U/ 42HP 8 Slots



System Configuration

Mounting	Desktop
Backplane	8 slots, as per PXI-5 PXI Express Hardware Specification Rev. 1.1 1 system slot, 1 PXI Express slot, 2 PXI/PXI Express full-hybrid peripheral slots, 4 PXI legacy slots Incl. Bridge module and Clock module

System Cooling

Fan Tray	Internal
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No. of Fans	2 (12V)
Airflow	Bottom to top

Power Supply

Type	300 W ATX
Input	90-264 VAC, 47-63 Hz
No. of Supplies	1
Output Voltages	12V/24A, 3.3V/17A, 5V/18A, -12V/0.3A
PS Connector	Front side with switch

Mechanical Specifications

Height	4U
Width	42 HP
Depth	278 mm

Standards

IEEE	1101.1 and 1101.10/11
IEC	60297-3-101, -102, -103

Testing

Military Shipboard	MIL-STD-810F: 514.5C-15 (vibration)
Military Highway	MIL-STD-810F: 514.5 C-1 (vibration), 515.5-10 (shock)
Railway	EN 50155-EN 1373 class 1 B, rolling stock (shock/vibration)

Unit comes assembled, wired and tested

Order number

LMH0000960

Accessory:
Remote Controller Kit: PCIe X4 uplink to PXIe system-slot (page 43)

PXIe 1U/ 84HP 6 Slots



System Configuration

Mounting	19" rack-mount
Backplane	6 slots, as per PXI-5 PXI Express Hardware Specification Rev. 1.1 1 system slot, 1 PXI Express slot, 4 PXI/PXI Express full-hybrid peripheral slots Incl. pluggable Power Entry module, Bridge module, Switch module and Clock module

System Cooling

Fan Tray	Replaceable fan unit
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No. of Fans	4 (30 W / Slot cooling capability)
Airflow	Left to right

Power Supply

Type	120 W / 260 W
Input	100-240 VAC, 47-63 Hz
No. of Supplies	1
Output Voltages	3.3V/12A, 5V/14A, +12V/8A, -12V/0.5A, minimum load 12V/0.1A
PS Connector	Included, with switch, fuse and filter

Mechanical Specifications

Height	1U
Width	84 HP
Depth	344.73 mm

Standards

IEEE	1101.1 and 1101.10/11
IEC	60297-3-101, -102, -103

Testing

Military Shipboard	MIL-STD-810F: 514.5C-15 (vibration)
Military Highway	MIL-STD-810F: 514.5 C-1 (vibration), 515.5-10 (shock)
Railway	EN 50155-EN 1373 class 1 B, rolling stock (shock/vibration)

Unit comes assembled, wired and tested

Order number

LMH0000792 120 W Standard

LMH0000910 260 W High Power

Accessory:
Remote Controller Kit: PCIe X4 uplink to PXIe system-slot (page 43)

Open Frame Chassis 3U or 6U/ 34HP



System Configuration

Mounting	Desktop
Backplane	3U or 6U, up to 8 slots To be selected / added: cPCI, Serial, PXI, VME, VPX

System Cooling

Fan Tray	Internal with adjustable fan speed
No. of Fans	1 front side fan 120 x 120 x 38mm, 224CFM, 64 dB(A), 3A, 2 rear side fans 80 x 80 x 25mm, 39CFM, 34 dB(A), .23A
Airflow	Bottom front to top

Power Supply

Type	300 W ATX
Input	90-264 VAC
No. of Supplies	1
Output Voltages	12V/22A, 3.3V/28A, 5V/35A, -12V/0.8A, minimum load: 5V/0.5A, 12V/0.5A
PS Connector	Rear side with switch

Mechanical Specifications

	3U	6U
Height	317 mm	450 mm
Width	185 mm	185 mm
Depth	302 mm	302 mm

Standards

IEEE	1101.1 and 1101.10/11
IEC	60297-3-101, -102, -103

Testing

Military Shipboard	MIL-STD-810F: 514.5C-15 (vibration)
Military Highway	MIL-STD-810F: 514.5 C-1 (vibration), 515.5-10 (shock)
Railway	EN 50155-EN 1373 class 1 B, rolling stock (shock/vibration)

Unit comes assembled, wired and tested

Order number

LMH0000452	for 3U / 34 HP
LMH0000462	for 6U / 34 HP

Accessory:
Optional with cold plate for conduction cooled boards (page 44)

Open Frame Chassis 3U or 6U/ 50HP



System Configuration

Mounting	Desktop
Backplane	3U or 6U, up to 12 slots To be selected / added: cPCI, Serial, PXI, VME, VPX

System Cooling

Fan Tray	Internal with adjustable fan speed
No. of Fans	2 front side fans 120 x 120 x 38mm, 224CFM, 64 dB(A), 3A, 3 rear side fans 80 x 80 x 25mm, 39CFM, 34 dB(A), .23A
Airflow	Bottom front to top

Power Supply

Type	600 W ATX
Input	90-264 VAC
No. of Supplies	1
Output Voltages	12V/45A, 3.3V/25A, 5V/25A, -12V/0.8A
PS Connector	Rear side with switch

Mechanical Specifications

	3U	6U
Height	317 mm	450 mm
Width	266 mm	266 mm
Depth	302 mm	302 mm

Standards

IEEE	1101.1 and 1101.10/11
IEC	60297-3-101, -102, -103

Testing

Military Shipboard	MIL-STD-810F: 514.5C-15 (vibration)
Military Highway	MIL-STD-810F: 514.5 C-1 (vibration), 515.5-10 (shock)
Railway	EN 50155-EN 1373 class 1 B, rolling stock (shock/vibration)

Unit comes assembled, wired and tested

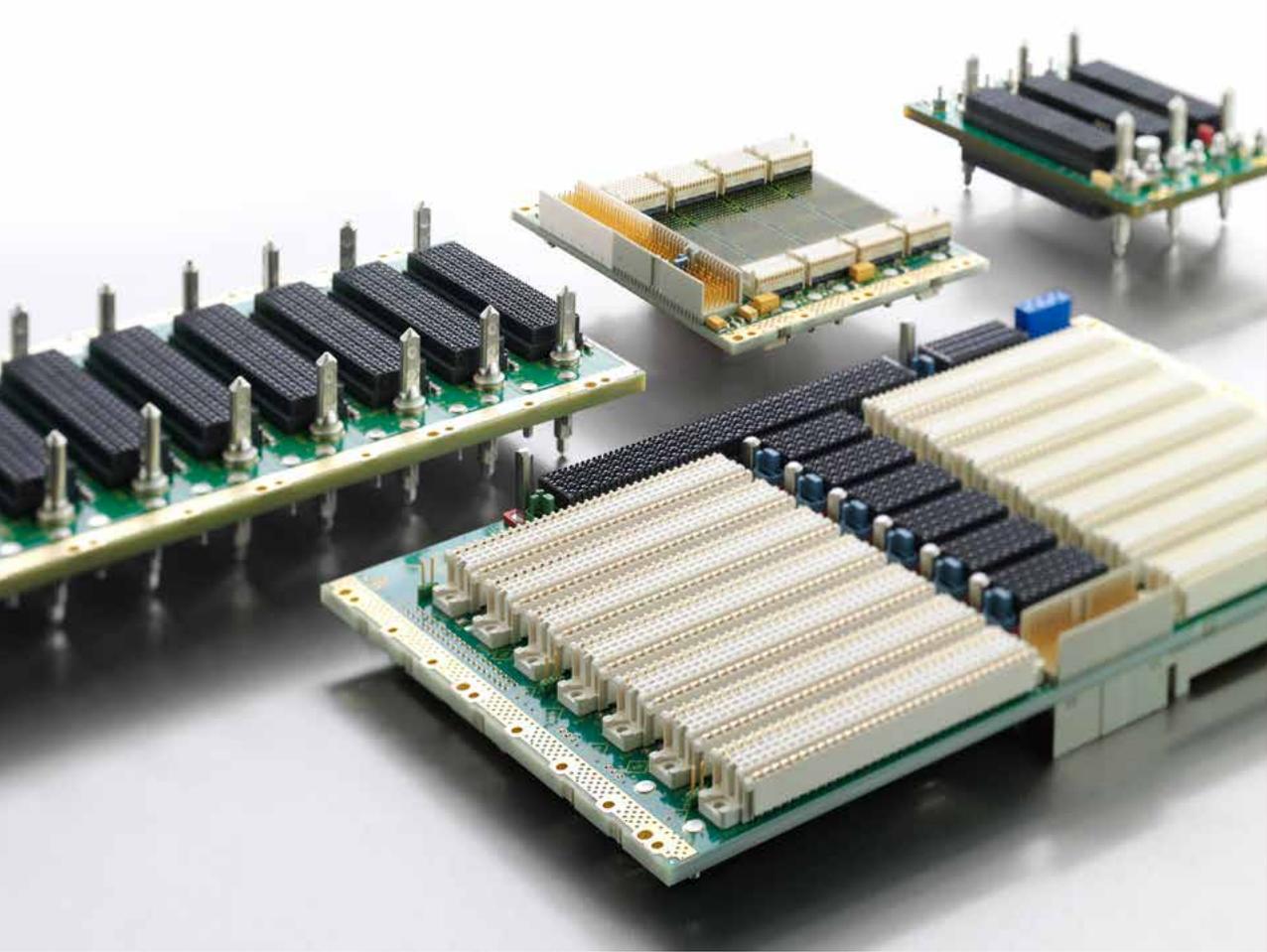
Order number

LMH0000470	for 3U / 50 HP
LMH0000480	for 6U / 50 HP
LMH0000570	3U front / 6U rear 50 HP

On request:
Open Frame in other widths, e.g. 58 HP

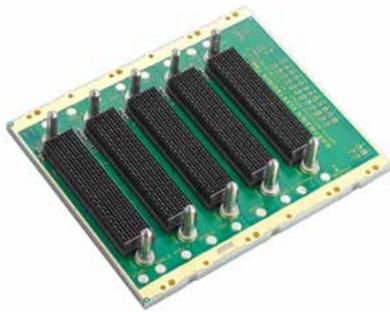
Accessory:
Optional with cold plate for conduction cooled boards (page 44)





Backplanes

3U VPX / Open VPX



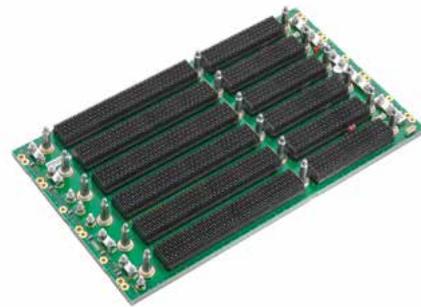
Features	
Form Factor	3U
No. of Slots	2, 3, 4, 5, 6, 7, 8, 9, 12, 14
Slot Pitch	5HP common
Topology	centralized, distributed
High Speed Design	Up PCIe Gen3 / 10 GbE
Base Specification	OpenVPX VITA 65/ VITA 46
Impedance Controlled	yes
PCB Thickness	5.4 mm
Connectors	MultiGig RT2 / Velox

Order number	No. of Slots	Backplane Profile, Description
B193201062	2	OpenVPX BKP3-DIS02-15.2.8-4, Screw Terminal
B193301060	3	OpenVPX BKP3-CEN03-15.2.9-4, Screw Terminal
B190305011	5	VPX Full Mesh X4, Slot Pitch 5HP, Screw Terminal + ATX
B193501560	5	OpenVPX BKP3-CEN05-15.2.20-3, Screw Terminal
B193511461	6	OpenVPX BKP3-DIS06-15.2.14-3, Screw Terminal
B193511060	6	OpenVPX BKP3-DIS06-15.2.7-3, Screw Terminal
B193511561	6	OpenVPX BKP3-CEN06-15.2.2-3, Screw Terminal
B193610160	7	OpenVPX BKP3-CEN07-15.2.3-4, Screw Terminal
B190308011	8	OpenVPX BKP3-CEN08-15.2.15-4, Screw Terminal + ATX
B190308020	8	OpenVPX BKP3-CEN08-15.2.16-4, Screw Terminal + ATX
B193811760	9	OpenVPX BKP3-CEN09-15.2.17-3, Screw Terminal
B193901760	9	OpenVPX BKP3-CEN09-15.2.11-3, Screw Terminal
B193102670	12	OpenVPX BKP3-CEN12-15.2.6-3, Screw Terminal
B193102660	12	VPX BKP3-CEN12-15.2.6-3 + Expansion Plane, Screw Terminal
B193141860	14	OpenVPX BKP3-CEN14-15.2.18-3, Screw Terminal

Other profiles on request or check www.hartmann-electronic.com

Backplane with conformal coating on request

6U VPX / Open VPX

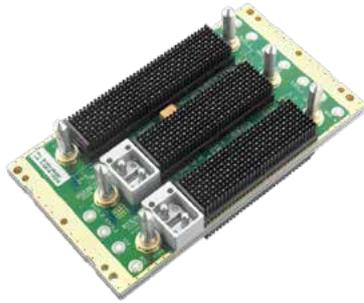


Features	
Form Factor	6U
No. of Slots	5, 6, 10, 12, 16
Slot Pitch	5HP common
Topology	centralized, distributed
High Speed Design	Up PCIe Gen3 / 10 GbE
Base Specification	OpenVPX VITA 65/ VITA 46
Impedance Controlled	yes
PCB Thickness	5.4 mm
Connectors	MultiGig RT2 / Velox

Order number	No. of Slots	Backplane Profile, Description
B196411061	5	OpenVPX BKP6-CEN05-11.2.5-4, Screw Terminal
B196501560	5	OpenVPX BKP6-DIS05-11.2.16-4, Screw Terminal
B196510861	6	OpenVPX BKP6-CEN06-11.2.8-4, Screw Terminal
B196511061	6	OpenVPX BKP6-DIS06-11.2.10-4, Screw Terminal
B196511560	6	OpenVPX BKP6-DIS06-11.2.15-4, Screw Terminal
B196821061	10	OpenVPX BKP6-CEN10-11.2.6-3, Screw Terminal
B196910460	10	OpenVPX BKP6-CEN10-11.2.4-4, Screw Terminal
B196822060	10	OpenVPX BKP6-CEN10-11.2.7-3, Screw Terminal
B196102060	12	OpenVPX BKP6-CEN12-11.2.9-3, Screw Terminal
B196161160	16	OpenVPX BKP6-CEN16-11.2.2-4, Screw Terminal



3U OpenVPX VITA 66/ 67

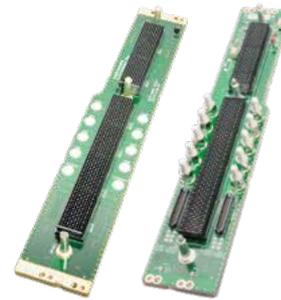


Features	
Form Factor	3U
No. of Slots	3 and 5
Slot Pitch	5HP common
Topology	Centralized, distributed
Cable Extension	VITA 66.4 Fiber-Optic
Cable Extension	VITA 67.1 RF
Cable Extension	VITA 67.3A RF
Impedance Controlled	yes
High Speed Design	Up PCIe Gen3 /10 GbE
PCB Design	Optimized for best HF behavior
Base specification	OpenVPX VITA 65/ VITA 46
Base Material	NELCO N4000... ISOLA FR408HR
PCB Thickness	5.4 mm

Order number	No. of Slots	Backplane Profile, Description
B193126460	1+2	OpenVPX BKP3-CEN03-15.3.5-3, VITA66.4 Fibre
B193126760	1+2	OpenVPX BKP3-CEN03-15.3.5-3, VITA67.1 RF
B193236460	2+3	OpenVPX BKP3-DIS05-15.3.2-3, VITA66.4 Fibre
B193236760	2+3	OpenVPX BKP3-DIS05-15.3.2-3, VITA67.1 RF

Other profiles on request or check www.hartmann-electronic.com

3U / 6U VPX Power & GND



Features	
Form Factor	3U / 6U
No. of Slots	
3U	2, 4
6U	1, 3
Slot Pitch	5HP
Configuration	Standard, Fibre and RF Versions for RTM acc. VITA 46.10
Power	3.3V, 5V and 12V
Signals Supported	SYSRESET, SYS_CON, Memory Read Only, VBAT, NVMRO, I ² C
Base Specification	VITA 46 / 65 OpenVPX VITA 66 (Fibre)/ 67 (RF)
Base Material	FR4 HiTG or equivalent
PCB Thickness	5.4 mm

Order number	No. of Slots	Height	Description
B193200010	2	3U	J1 Differential, J2 Universal Pattern
B193200020	2	3U	VITA 66.4 in J2B
B193200030	2	3U	VITA 67.1 in J2B
B193400010	4	3U	J1 Differential, J2 Universal Pattern
B193400020	4	3U	VITA 66.4 in J2B
B193400030	4	3U	VITA 67.1 in J2B
B196100010	1	6U	J1-J6 Universal Pattern
B196100020	1	6U	VITA 66.1 in J2 and J6
B196100030	1	6U	VITA 67.2 in J2 and J6
B196300010	3	6U	J4 Differential, J1-J3+ J5, J6 Universal Pattern

Other slot counts on request or check www.hartmann-electronic.com



VXI J1/J2 Series



Specifications

Form Factor	6U
No. of Slots	6 + 13
Slot pitch	6HP (30.48 mm)
Power Consumption, Both Ends Terminated	Active: < 0.1A Passive 5V: < 1.0A
Daisy Chaining/Bus Grant	Electronic Automatic, OR gate
Power Supply Connection	Terminal bar / screw terminal M6
Permissible Current Load	30A

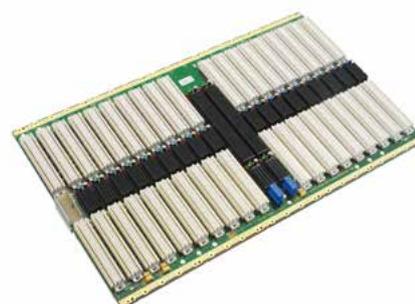
Permissible Current Load Per Slot	+ 5V	12.5A
	+ 12V	3.7A
	- 12V	3.7A
	+ 24V	2.8A
	- 24V	2.8A
	+ 5VStandby	1.5A
	- 5.2V	9.5A
	+ 2V	6.8A

Termination ON/IN Board	Passive and Active
PCB Design	Optimized for best HF behavior
Base Specification	VXI, Rev. 1.4, VME rev.C.1
Base Material	FR-4
Ohmic Resistance	< 1.0 Ohm
Surge Impedance Z of Signal Lines	60 Ohm
Chassis GND	Continuous chassis GND surface where backplane is mounted to rack, including plated PCB sides
Card Thickness	2.8 mm (.11")
Connectors	96 pin, 2 mm press-fit, quality grade 2
Operating Temperature Range	0°C ... +70°C
Relative Humidity	90%, non-condensing

Passive shielding **Active shielding**

Order number	Order number		
B173606P7D	B173606A7D	VXI J1/J2,	6 slots, ACD/shielding Chassis-GND
B173606P8D	B173606A8D	VXI J1/J2,	6 slots, ACD/shielding Chassis-GND
B173613P7D	B173613A7D	VXI J1/J2,	13 slots, ACD/shielding Chassis-GND
B173613P8D	B173613A8D	VXI J1/J2,	13 slots, ACD/shielding Digital-GND

VXS Series



Specifications

Form Factor	6U
No. of Slots	6, 8, 11, 21
Slot Pitch	4HP (20.32 mm)
Power Consumption, Both Ends Terminated	Active: < 0.1A Passive: < 1.4A
Daisy Chaining/Bus Grant	Electronic automatic, OR gate
Power supply connection	Terminal bar / screw terminal M4 + M6

Permissible Current Load	200A terminal bar 25A combined double spade/ screw connection 10A Faston connector
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Permissible Current Load Per Slot	+3.3V	12.5A
	+5V	9.0A
	+12V	1.5A
	-12V	1.5A
	+5VStandby	1.5A
	+48V (38-75V)	3.0A

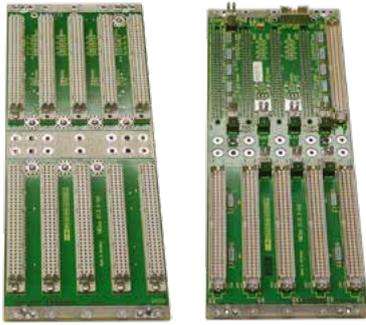
Termination ON/IN Board	Active, Passive 3.3V or Passive 5V
Live insertion signals (LI-IN: LI-OUT)	Via 2-pin feed-through connectors
PCB Design	Optimized for best HF behavior
Base specification	ANSI/VITA 41
Base Material	Type FR-408 or NE4000-13
Ohmic Resistance	< 1.5 Ohm
Surge Impedance Z of Signal Lines	VME64x/J1: 50 Ohm VXS/J0: 100 Ohm
Chassis GND	Continuous chassis GND surface where backplane is mounted to rack. HF coupling of rack and system ground implemented by capacitors (10nF, 200V each slot). Chassis ground combination M6 screw / Faston 6.3 x .8 mm
Card Thickness	5 mm (.20")
Connectors	160 pin, MultiGig RT2, quality grade 2
Operating Temperature Range	Active: 0°C ... +70°C Passive: -40°C ... +85°C
Relative Humidity	90%, non-condensing

Order number

B18103133I	3 VXS + 1 VME64x, Infiniband, passive term., 3.3V
B18106133I	6 VXS + 1 Switch + 1 VME64x, Infiniband, passive term., 3.3V
B18106133R	6 VXS + 1 switch + 1 VME64x, RapidI/O, passive term., 3.3V
B18109133I	9 VXS + 1 switch + 1 VME64x, Infiniband, passive term., 3.3V
B18118133I	18 VXS + 1 switch + 1 VME64x, Infiniband, passive term., 3.3V



VME/VME64 6U 162 Series

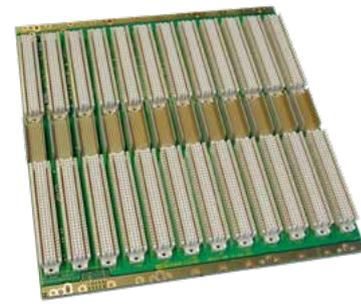


Specifications	
Form Factor	6U J1/J2
No. of Slots	2 - 21
Slot Pitch	4HP (20.32 mm)
Power Consumption, Both Ends Terminated	Active: < 0.2A Passive: < 1.3A
Daisy Chaining/Bus Grant	Electronic automatic, OR gate mechanical automatic, connector manual, jumper or wire wrap
Power Supply Connection	Screw-type M4 / Faston 6.3 x .8 mm
Permissible Current Load/ Terminal Bar	200A
Permissible Current Load of Combined Double Spade/ Screw Connection	25A
Permissible Current Load/ Faston	10A
Permissible Current Load Per Slot	+5V 9.0A +12V 1.5A -12V 1.5A +5VStandby 1.5A
Termination ON/IN Board	Passive and active
PCB Design	Optimized for best HF behavior
Base Specification	ANSI/VITA 1.1-1997
Base Material	Type FR-4
Ohmic Resistance	< 1.5 Ohm
Surge Impedance Z of Signal Lines	55 Ohm
Chassis GND	Continuous chassis GND surface where backplane is mounted to rack. HF coupling of rack and system ground implemented by capacitors (10nF, 200V each slot). Chassis ground combination M6 screw / Faston 6.3 x .8 mm
Card Thickness	3.2 mm (.13")
Connectors	96 pin, 2 mm press-fit, quality grade 2
Operating Temperature Range	Active: 0°C ... +70°C Passive: -40°C ... +85°C
Relative Humidity	90%, non-condensing

Passive termination	Active termination	
Order number	Order number	
B1624__P7D	B1624__A7D	Automatic daisy chain/connectors
B1624__P7B	B1624__A7B	Manual daisy chain

__ = Number of slots

VME 64x 6U 166 Series

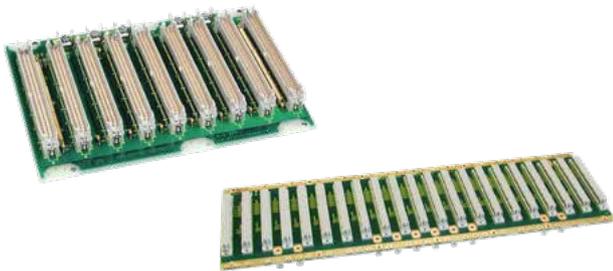


Specifications	
Form Factor	6U
No. of Slots	2 - 21
Slot Pitch	4HP (20.32 mm)
Power Consumption, Both Ends Terminated	Active: < 0.1A Passive: < 1.6A
Daisy Chaining/Bus Grant	Electronic automatic, OR gate manual, jumper or wire wrap
Live Insertion	Series 167
Power Supply Connection	Terminal bar / screw terminal M6
Permissible Current Load/ Terminal Bar	200A
Permissible Current Load of Combined Double Spade/ Screw Connection	25A
Permissible Current Load/ Faston	10A
Permissible Current Load Per Slot	+3.3V 12.5A +5V 9.0A +12V 1.5A -12V 1.5A +5VStandby 1.5A +48V (38-75V) 3.0A
Termination ON/IN Board	Passive and active
PCB Design	Optimized for best HF behavior
Base Specification	ANSI/VITA 1.1-1997
Base Material	Type FR-4
Ohmic Resistance	< 1.5 Ohm
Surge Impedance Z of Signal Lines	60 Ohm
Chassis GND	Continuous chassis GND surface where backplane is mounted to rack. HF coupling of rack and system ground implemented by capacitors (10nF, 200V each slot). Chassis ground combination M6 screw / Faston 6.3 x .8 mm
Card Thickness	4.3 mm (.17")
Connectors	160 pin, P0 95 pin, 2 mm press-fit, quality grade 2
Operating Temperature Range	Active: 0°C ... +70°C Passive: -40°C ... +85°C
Relative Humidity	90%, non-condensing

Passive termination	Active termination	
Order number	Order number	
B1664__P7D	B1664__A7D	Automatic electronic daisy chain J1/J0/J2
B1664__P8D	B1664__A8D	Automatic electronic daisy chain J1/J2
	B1664__A7B	Manual daisy chain J1/J0/J2
	B1664__A8B	Manual daisy chain J1/J2

__ = Number of slots

VME 3U 129/130/31 Series



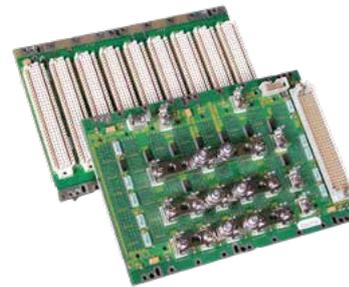
Specifications

Form Factor	3U J1, 3U J2
No. of Slots	2 - 21
Slot Pitch	4HP (20.32 mm)
Power Consumption, Both Ends Terminated	Active: < 0.1A Passive: < 1.0A
Daisy Chaining/Bus Grant	Electronic automatic, OR gate mechanical automatic, connector manual, jumper or wire wrap
Power Supply Connection	Screw-type M4 / Faston 6.3 x .8 mm
Permissible Current Load	200A terminal bar 25A combined double spade/ screw connection 10A Faston connector
Permissible Current Load Per Slot	+5V 4.5A +12V 1.5A -12V 1.5A +5VStandby 1.5A
Termination ON/IN Board	Passive and active
PCB Design	Optimized for best HF behavior
Base Specification	ANSI/VITA 1.1-1997
Base Material	Type FR-4
Ohmic resistance	< 1.5 Ohm
Surge Impedance Z of Signal Lines	60 Ohm
Chassis GND	Continuous chassis GND surface where backplane is mounted to rack. HF coupling of rack and system ground implemented by capacitors (10nF, 200V each slot). Chassis ground com- bination M6 screw / Faston 6.3 x .8 mm
Card Thickness	3.2 mm (.13")
Connectors	96 pin, 2.54 mm press-fit, quality grade 2
Operating Temperature Range	Active: 0°C ... +70°C Passive: -40°C ... +85°C
Relative Humidity	90%, non-condensing

Order number	Order number	
B1304__P7D	B1304__A7D	VME J1, 3U Auto. Electron.daisy chain
B1294__P7D	B1294__A7D	VME J1, 3U Autom. daisy chain/conn.
B1294__P7B	B1294__A7B	VME J1, 3U Manual daisy chain
	B.314__A7A	VME J2, 3U active termination (SMD)
	B.314__P7A	VME J2, 3U passive termination (THT)
	B.314__A7D	VME J2, 3U active termination (SMD)
	B.314__P7D	VME J2, 3U passive termination (SMD)

__ = Number of slots

VME 64x 3U 165 Series



Specifications

Form Factor	3U J1
No. of Slots	3, 9, 10, 21
Slot Pitch	4HP (20.32 mm)
Power Consumption, Both Ends Terminated	Active: < 0.1A Passive: < 1.6A
Daisy Chaining/Bus Grant	Electronic automatic, OR gate manual, jumper or wire wrap
Live Insertion	N/A
Power Supply Connection	Terminal bar / screw terminal M6
Permissible Current Load	200A terminal bar 25A combined double spade/ screw connection 10A Faston connector
Permissible Current Load Per Slot	+3.3V 12.5A +5V 9.0A +12V 1.5A -12V 1.5A +5VStandby 1.5A +48V (38-75V) 3.0A
Termination ON/IN Board	Passive and active
PCB Design	Optimized for best HF behavior
Base Specification	ANSI/VITA 1.1-1997
Base Material	Type FR-4
Ohmic Resistance	< 1.5 Ohm
Surge Impedance Z of Signal Lines	60 Ohm
Chassis GND	Continuous chassis GND surface where backplane is mounted to rack. HF coupling of rack and system ground implemented by capacitors (10nF, 200V each slot). Chassis ground com- bination M6 screw / Faston 6.3 x .8 mm
Card Thickness	4.3 mm (.17")
Connectors	160 pin, 2 mm press-fit, quality grade 2
Operating Temperature Range	Active: 0°C ... +70°C Passive: -40°C ... +85°C
Relative Humidity	90%, non-condensing

Active termination

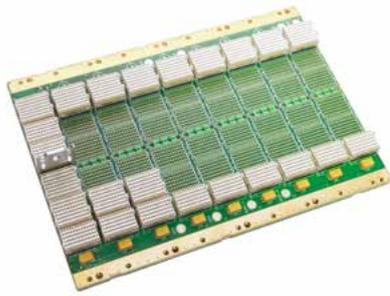
Order number		
B1654__A7D	Automatic electronic daisy chain	J1
B1654__A7B	Manual daisy chain	J1

__ = Number of slots





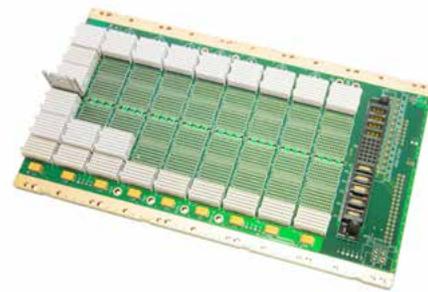
3U CompactPCI® Serial



Specifications	
Form Factor	3U
System Slot	Right or Left available
No. of Slots	2 – 9
Slot Pitch	4HP (20.32 mm)
Power Feeds	Terminal rails/screws
Supply Voltage	+12V, +5VStandby (optional)
Speed	PCIe Gen.3 / 8 Gbps
Transfer Mode	PCIe Star (optional full mesh)
Rear I/O	With and Without available
Ethernet	Single Star / Full Mesh 10GBase-T
SATA / USB 2/3	Up to 8 connections
Utility Connectors	JTAG, IPMB, Sense
Permissible Current Load	12V up to 6.65A/ slot (3U)
PCB Design	Optimized for best HF behavior
Base Specification	PICMG CPCI-S.0 R2.0 (2015)
Base Material	NELCO N4000... UL 94 V-0
Design	Impedance Controlled Design
Chassis GND	Continuous chassis GND surface where backplane is mounted to rack, comes with M3 screw for chassis Ground
Card Thickness	4 mm
Connectors	2 mm press-fit AirMax
Operating Temperature Range	-40°C ... +85°C
Relative Humidity	90%, non-condensing

	Without Rear I/O Order number	With Rear I/O Order number
2 Slot RIGHT	B212R02040	B212R02030
3 Slot RIGHT	B213R03030	B213R03040
4 Slot RIGHT	B211R04021	B211R04030
6 Slot RIGHT	B213R06030	
7 Slot RIGHT	B211R03032	B211R07040
9 Slot RIGHT	B214R09030	B214R09040
2 Slot LEFT	B214L02040	B214L02030
3 Slot LEFT	B213L03030	B213L03030
4 Slot LEFT	B213L04030	B213L04040
5 Slot LEFT	B212L05030	B212L05040
6 Slot LEFT	B213L06040	B213L06030
9 Slot LEFT	B212L09030	B212L09050

3U CompactPCI® Serial Monolithic



Specifications	
Form Factor	3U
System Slot	Right or Left available
No. of Slots	1+6, 6+1, 1+9, 9+1
Slot Pitch	4HP (20.32 mm) power supply slot 8HP
Power Feeds	Terminal rails/screws and with power connector for Serial-PSU
Supply Voltage	+12V, +5VStandby (optional)
Speed	PCIe Gen.3 / 8 Gbps
Transfer Mode	PCIe Star (optional full mesh)
Rear I/O	With and Without available
Ethernet	Single Star / 10GBase-T
SATA / USB 2/3	Up to 8 connections
Utility Connectors	JTAG, IPMB, Sense
Permissible Current Load	12V up to 6.65A/ slot (3U)
PCB Design	Optimized for best HF behavior
Base Specification	PICMG CPCI-S.0 R2.0 (2015)
Base Material	NELCO N4000... UL 94 V-0
Design	Impedance Controlled Design
Chassis GND	Continuous chassis GND surface where backplane is mounted to rack, comes with M3 screw for chassis Ground
Card Thickness	4 mm
Connectors	2 mm press-fit AirMax FCI Art. 51940-473LF for power
Operating Temperature Range	-40°C ... +85°C
Relative Humidity	90%, non-condensing

	Without Rear I/O Order number	With Rear I/O Order number
1+ 6 Slot RIGHT	B214R06130	B214R06140
6 + 1 Slot LEFT	2.H0007010	2.H0007020
9 + 1 Slot LEFT	2.H0010010	2.H0010040
1 + 9 Slot LEFT	2.H0010060	2.H0010070



3U RA Series



Specifications	
Form Factor	3U
System Slot	Right
No. of Slots	2 – 21
Slot Pitch	4HP (20.32 mm)
Power Feeds	Terminal Rails/Screws (8 Slot adds ATX Connector)
Supply Voltage V I/O	3.3V/5V, fixed or selectable via jumper
Clock Frequency	33 or 66 MHz (2 - 5 slots)
Transfer Mode	32 and 64 bit (only for 1 - 8 slot)
Rear I/O	With and Without
PCI to PCI Bridge	Available only 32 bit
Utility Connectors	JTAG, (IPMB / Professional)
Permissible Current Load	5V up to 8A/slot, 3.3V up to 10A/ slot
PCB Design	Optimized for best HF behavior
Base Specification	PICMG 2.0 R3.0
Hot Swap Specification	PICMG 2.1 R1.0
Base Material	Type FR-4 UL 94 V-0
Ohmic Resistance	< 1.5 Ohm
Impedance Z of Bare PCB	65 Ohm
Chassis GND	Continuous chassis GND surface where backplane is mounted to rack, comes with M3 screw for chassis GND
Card Thickness	2.8 mm (.11")
Connectors	2 mm press-fit, quality grade 2
Terminal, 8 Slots	On-board Schottky barrier diodes
Operating Temperature Range	≤ 8 slots: -40°C ... +85°C > 8 slots: 0°C ... +70°C
Relative Humidity	90%, non-condensing

	Slots	Without Rear I/O		With Rear I/O	
		Order number	Order number	Order number	Order number
64 bit/					
64 bit / 66 MHz	2 - 5	33RA_6614			
64 bit / 33 MHz	2 - 8	33RA_6313	33RA_6514		
32 bit					
32 bit / 66 MHz	2 - 5	33RA_3614	33RA_4614		
64 bit / 33 MHz	1 - 21	33RA_3314	33RA_3514	33RA_4314	33RA_4514

__ = Number of slots

3U RD Series



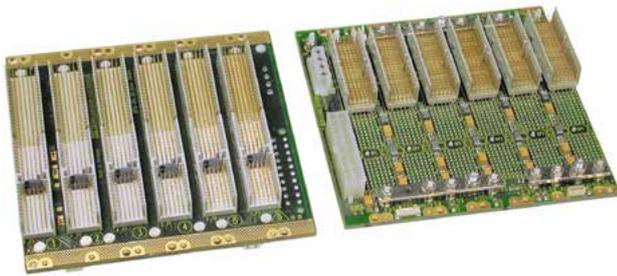
Specifications	
Form Factor	3U
System Slot	Right
No. of Slots	1 – 8
Slot Pitch	4HP (20.32 mm) power supply slot 8HP
Power Feeds	P47 Connector, for 8HP wide power supplies (ATX connector, screw terminals / professional)
Supply Voltage V I/O	3.3V/5V, fixed or selectable via jumper
Clock Frequency	33 or 66 MHz (≤ 5 slots)
Transfer Mode	32 bit
Rear I/O	With and Without
PCI to PCI Bridge	N/A
Utility Connectors	JTAG, (IPMB / Professional)
Geographic Addressing	With Rear I/O w/o geo addressing
Permissible Current Load	5V up to 8A/slot, 3.3V up to 10A/slot
PCB Design	Optimized for best HF behavior
Base Specification	PICMG 2.0 R3.0
Hot swap Specification	PICMG 2.1 R1.0
Base Material	Type FR-4, UL 94 V-0
Ohmic Resistance	< 1.5 Ohm
Impedance Z of Bare PCB	65 Ohm
Chassis GND	Continuous chassis GND surface where backplane is mounted to rack, comes with M3 screw for chassis GND
Card Thickness	2.8 mm (.11")
Connectors	2 mm press-fit, quality grade 2
Terminal, 8 Slots	On-board Schottky barrier diodes
Operating Temperature Range	< 8 slots: -40°C ... +85°C
Relative Humidity	90%, non-condensing

	Slots	Without Rear I/O		With Rear I/O	
		Order number	Order number	Order number	Order number
Standard					
32bit / 66 MHz	1 - 8	33RD_3624	-	33RD_4624	-
32bit / 33 MHz	1 - 8	33RD_3324	33RD_3524	33RD_4324	33RD_4524
Professional Series					
32 bit / 66 MHz	1 - 8	33RD_3614	-	33RD_4614	-
32bit / 33 MHz	1 - 8	33RD_3314	33RD_3514	33RD_4314	33RD_4514

__ = Number of slots



3U RB Series



Specifications	
Form Factor	3U
System Slot	Right
No. of Slots	1 - 8 (1 - 20 Professional)
Slot Pitch	4HP (20.32 mm)
Power Feeds	ATX Connector (placed behind 8HP CPU Slot) Terminal rails/screws
Supply Voltage V I/O	3.3V/5V, fixed or selectable via jumper
Clock Frequency	33 or 66 MHz (2 - 5 slots)
Transfer Mode	32 and 64 bit (only for 2 Slot)
Rear I/O	With and without
PCI to PCI Bridge	Available
Utility Connectors	JTAG, IPMB Professional
Geographic Addressing	With and Without
Permissible Current Load	5V up to 8A/slot, 3.3V up to 10A/slot
PCB Design	Optimized for best HF behavior
Base Specification	PICMG 2.0 R3.0
Hot Swap Specification	PICMG 2.1 R1.0
Base Material	Type FR-4 UL 94 V-0
Ohmic Resistance	< 1.5 Ohm
Impedance Z of Bare PCB	65 Ohm
Chassis GND	Continuous chassis GND surface where backplane is mounted to rack, come with M3 screw for chassis GND
Card Thickness	2.8 mm (.11")
Connectors	2 mm press-fit, quality grade 2
Terminal, 8 slots	On-board Schottky barrier diodes
Operating Temperature Range	≤ 8 slots: -40°C ... +85°C > 8 slots: 0°C ... +70°C
Relative Humidity	90%, non-condensing

Standard	Slots	Without Rear I/O		With Rear I/O	
		Order number	Order number	Order number	Order number
32bit / 66 MHz	1 - 5	33RB_3624		33RB_4624	
32bit / 33 MHz	1 - 8	33RB_3324	33RB_3524	33RB_4324	33RB_4524
64 bit/Professional					
64bit / 33 MHz	2	33RB026314		33RB026514	
Professional Series					
32 bit / 66 MHz	1 - 5	33RB_4614			
32 bit / 33 MHz	1 - 20	33RB_4314	33RB_4514		

__ = Number of slots

Also available (contact factory)
64 bit, 32 bit w/o rear I/O, 32 bit w/o rear I/O with Geographic Addressing

6U RA Professional Series



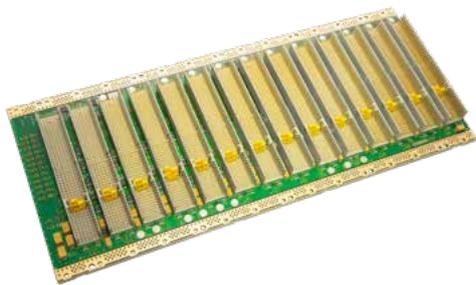
Specifications	
Form Factor	6U
System Slot	Right
No. of Slots	2 - 8
Slot Pitch	4HP (20.32 mm)
Power Feeds	Terminal rails/screws
Supply Voltage V I/O	3.3V/5V, fixed or selectable via jumper
Clock Frequency	33 or 66 MHz (2 - 5 slots)
Transfer Mode	64 bit
Rear I/O	yes
PCI to PCI Bridge	N/A
Utility Connectors	JTAG IPMB
Geographic Addressing	Yes
Permissible Current Load	5V up to 8A/slot, 3.3V up to 10A/slot
PCB Design	Optimized for best HF behavior
Base Specification	PICMG 2.0 R3.0
Hot Swap Specification	PICMG 2.1 R1.0
Base Material	Type FR-4 UL 94 V-0
Ohmic Resistance	< 1.5 Ohm
Impedance Z of Bare PCB	65 Ohm
Chassis GND	Continuous chassis GND surface where backplane is mounted to rack, comes with M3 screw for chassis GND
Card Thickness	2.8 mm (.11")
Connectors	2 mm press-fit, quality grade 2
Terminal, 8 Slots	On-board Schottky barrier diodes
Operating Temperature Range	≤ 8 slots: -40°C ... +85°C
Relative Humidity	90%, non-condensing

	Without Transfer Housing	Slots	Order number	
			3.3 V I/O	5 V I/O
64 bit / 66 MHz	2 - 5		36RA_6614	
64 bit / 33 MHz	2 - 8		36RA_6314	36RA_6514

__ = Number of slots

Also available (contact factory)
64 bit with / without transfer housing

PXI 3U Professional Series



Specifications	
Installation Height	3U
System Slot	Left
No. of Slots	8, 14, 19 > 8 slot with PCI to PCI bridge
Slot Pitch	4HP (20.32 mm)
Power Feeds	ATX connector, screw connections for all voltages
Supply Voltage V I/O	3.3V or 5V
Clock Frequency	33 MHz
Transfer Mode	32 bit
Rear I/O	Without
Additional Connectors	JTAG, IPBM
Permissible Current Load	5V up to 8A/slot, 3.3V up to 10A/slot
Base Material	Type FR-4, UL 94 V-0
PCB Design	Optimized for best HF behavior
Ohmic Resistance	< 1.5 Ohm
Impedance Z of Bare PCB	65 Ohm
Card Thickness	2.8 mm (.11")
Base Specification	PICMG 2.8 (defines pinout for J2 connector)
Hot Swap Specification	PICMG 2.1 R1.0
Connectors	2 mm press-fit, quality grade 2
Operating Temperature Range	≤ 8 slots: -40°C ... +85°C > 8 slots: 0°C ... +70°C
Relative Humidity	90%, non-condensing

Order number	Description
2.D3908011	8 slot 3.3V 32 bit 33 MHz without rear I/O
2.D3914012	14 slot 3.3V 32 bit 33 MHz without rear I/O
2.D3919011	19 slot 3.3V 32 bit 33 MHz without rear I/O

Other slot counts upon request

PXIe 3U 8 Slot Series



Specifications	
Form Factor	3U
System Slot	Left
No. of Slots	8
Slot Pitch	4HP (20.32 mm)
Slot Type	1x System Slot, 1x PXIe Slots, 2x PCIe Hybrid and 4x PCI Legacy Slots
Supply Voltage V I/O	5V default or 3.3V selectable via jumper
Clock Frequency	33 MHz
Transfer Mode	32 bit / PCIe Gen. 2
Rear I/O	N/A
PCIe to PCI Bridge	Based on DIODES PI7C9X112SLFD
PXIe Clock Module	Based on PXI Express Hardware Specification
Geographic Addressing	Yes
Permissible Current Load	12V/20A, 3.3V/30A, 5V/25A -12V/4A, 5V_AUX/4A
PCB Design	Optimized for best HF behavior
Base Specification	PXI-5 PXI Express Hardware Specification Rev. 1.1
Base Material	Type NELCO N4000-12
Ohmic Resistance	< 1.5 Ohm
Chassis GND	Continuous chassis GND surface where backplane is mounted to rack.
Card Thickness	2.6 mm
Connectors	2 mm press-fit, ADF differential
Terminal, 8 Slots	PXI_TRIG[7:0] On-board Schottky barrier diodes Pull-up resistor
Operating Temperature Range	8 slots: -20°C ... +85°C
Relative Humidity	90%, non-condensing

Order number	Description
PXEB38EA10	8-Slot 3U incl. Bridge-, Clock module

Other slot counts upon request





Power Technology

VPX 3U/ DC VITA62



Features

Size	3U/ 4HP
Input Voltage	28 VDC
Output Voltages	+12V [VS1], +3.3V [VS2], +5V [VS3], +12V [V_AUX1], -12V [V_AUX2], +3.3V [V_AUX3]
Standard VPX power supply as per VITA 62 specification	
Ruggedized, conduction cooled design with keys and wedge locks	

Order number	Type	Product Description
D575.0701	715 W DC	High-Power VPX, VITA62 base line Input: 19-35 VDC 6 DC Outputs: 12V/21A, 3.3V/50A, 5V/40A, 12V_AUX/1A, -12V_AUX/1A, 3.3V_AUX/7A (from VS2) Efficiency up to 88% Operating Temperature -40°C ... 85°C
D575.00720	400 W DC	Medium Power VPX, VITA 62 compliant Input: 14-40 VDC, with reverse polarity protection 6 DC Outputs: 12V/15A, 3.3V/20A, 5V/40A, 12V_AUX/1A, -12V_AUX/1A, 3.3V_AUX/4A High Efficiency up to 90%, Microprocessor controlled, I ² C and USB interface MIL-STD-461/704/1275 compliance tested Operating Temperature -40°C ... 85°C (derating above 60°C)
D575.00710	150 W DC	Low-Power VPX, VITA 62 compliant Input: 14-40 VDC, reverse polarity protection 4 DC Outputs: 5V/40A, 12V&12V_AUX/1A, -12V_AUX/1A, 3.3V&3.3V_AUX/4A High Efficiency up to 90%, Microprocessor controlled, I ² C and USB interface MIL-STD-461/704/1275 compliance tested Operating Temperature -40°C ... 85°C
D575.00730	360 W DC	Medium Power VPX, VITA 62 compliant Input: 14-40 VDC, with reverse polarity protection 6 DC Outputs: 12V/20A, 3.3V/20A, 5V/20A, 12V_AUX/1A, -12V_AUX/1A, 3.3V_AUX/6A High Efficiency up to 90%, Microprocessor controlled, I ² C and USB interface Operating Temperature -40°C ... 85°C
Optional	306 W DC	SOSA aligned Version , VITA 62 compliant Input: 14-40 VDC, with reverse polarity protection 2 DC Outputs: 12V/20A, 3.3V/20A High Efficiency up to 90%, Microprocessor controlled, I ² C and USB interface

VPX 3U/ DC



Features

Size	3U/ 5HP
Input Voltage	28 VDC
Output Voltages	+12V [VS1], +3.3V [VS2], +5V [VS3], +12V [V_AUX1], -12V [V_AUX2], +3.3V [V_AUX3]
VPX power supply, partially meeting VITA 62 specification	
Ruggedized, conduction cooled design with keys and wedge locks	

Order number	Type	Product Description
D575.0905	600 W DC	Special VPX Input: 19-35 VDC 5 DC Outputs: 12V/50A, 3.3V/25A, 5V/20A, 12V_AUX/1.5A, -12V_AUX/1.5A, 3.3V_AUX/6A (from VS2) Efficiency up to 89% Operating Temperature -40°C ... 85°C, up to 100°C with derating Parallel operation of 4 PSU's



VPX 3U/ AC



Features	
Size	3U/ 10HP
Input Voltage	85-264 VAC, 47-63 Hz
Output Voltages	+12V [VS1], +3.3V [VS2], +5V [VS3], +3.3V_AUX, +12V_AUX, -12V_AUX
VPX power supply	
Ruggedized, air cooled design with keys	
Front panel with extraction handles	

Order number	Type	Product Description
D575.00646	600 W AC	600 W air cooled VPX, Input: 85-264 VAC, 6A/20A normal/max inrush current 6 DC Outputs: 12V/28A, 3.3V/19A, 5V/25A, 12V_AUX/1A, -12V_AUX/1A, 3.3V_AUX/6A Efficiency up to 88% Air cooled with internal DC fan Operating Temperature -40°C ... 85°C

VPX 6U/ AC



Features	
Form Factor	6U/ 10HP
Input Voltages	90-264 VAC, 47-63 Hz
Output Voltages	+12V [VS1], +12V [VS2], +5V [VS3], +3.3V_AUX, +12V_AUX, -12V_AUX
Standard VPX power supply as per VITA 62 specification	
PMBus interface for status and control	
Active current sharing, n+1 redundancy operation	
Ruggedized, air cooled design with keys	
Front panel with extraction handles	

Order number	Type	Product Description
D575.01000	1000 W AC	1000 W air cooled VPX, VITA62 base line Input: 85-264 VAC, 5.2-7.3A/37A normal/peak inrush current 6 DC Outputs: +12V [VS1]/35A, +12V [VS2]/35A, +5V [VS3]/30A, +3.3V_AUX/20A, +12V_AUX/2A, -12V_AUX/2A Efficiency up to 89% Forced air cooled, at least 20CFM Operating Temperature -40°C ... 85°C (50% derated)
D575.01020	850 W AC	850 W air cooled VPX, Input: 85-264 VAC, 5.2-7.3A/37A normal/peak inrush current 5 DC Outputs: +12V[VS1]/30A, 5V[VS2]/40A, 3.3V[VS3]/12A, +12V_AUX/1A, -12V_AUX/1A Efficiency up to 89% Forced air cooled, at least 800LFM Operating Temperature -40°C ... 85°C (50% derated)

CompactPCI® 3U/ AC & DC



Features	
Size	3U/ 8HP
Cooling	Passive air cooled
Mechanical	CompactPCI® format, Front Panel with Extractor handle, 160 mm deep
Input Voltage	Wide range AC input 90-264 VAC with Power Factor Correction (PFC) or wide range 18-36 VDC input
Output Voltage	4 output voltages: +5V, +3.3V, +/-12V
Connector	P47 type
Base specification	Fully compliant with PICMIG specifications Hot swap and redundancy operation with current share bus
Status LED's	Bicolor for status good (green/amber) and over-temp (red)

Order number	Type	Product Description
D575.00361	300 W AC	3U, AC/DC, 8 HP wide with P47 connector Outputs: 5V/40A, 3.3V/40A, 12V/10A, -12V/2A 78 - 83% efficiency Operating Temperature 0°C ... 70°C (derated to 50%), Storage Temperature -40°C ... 85°C Cooling: at least 400LFM
D575.00251	250 W DC	3U, DC/DC, 8 HP wide with P47 connector, Wide range DC input 18V - 36V, nominal 24V Outputs: 5V/33A, 3.3V/33A, 12V/5.5A, -12V/1A Minimum load: 5V/2A 85% typical efficiency Operating Temperature -40°C ... 70°C (derated to 60%), Storage Temperature -40°C ... 85°C Cooling: at least 600LFM

CompactPCI® 6U/ AC & DC



Features	
Size	6U/ 8HP
Cooling	Passive air cooled
Mechanical	CompactPCI® format, Front Panel with Extractor handle, 160 mm deep
Input Voltage	Wide range AC input 90-264 VAC with Power Factor Correction (PFC) or wide range 18-36 VDC input
Output Voltage	4 output voltages: +5V, +3.3V, +/-12V
Connector	P47 type
Base specification	Fully compliant with PICMIG specifications Hot swap and redundancy operation with current share bus
Status LED's	Bicolor for status good (green/amber) and over-temp (red)

Order number	Type	Product Description
D575.00200	500 W AC	6U, AC/DC, 8 HP wide with P47 connector Outputs: 5V/60A, 3.3V/60A, 12V/14A, -12V/4A Minimum load: 5V/4A 77% typical efficiency Operating Temperature -30°C ... 70°C (derated to 50%), Storage Temperature -40°C ... 85°C Cooling: at least 800LFM
D575.00410	350 W DC	6U, DC/DC, 8 HP wide with P47 connector Wide range DC input 18V - 36V, nominal 24V Outputs: 5V/50A, 3.3V/50A, 12V/10A, -12V/4A 82% typical efficiency Operating Temperature -40°C ... 70°C (derated to 50%), Storage Temperature -40°C ... 85°C Cooling: at least 600LFM



cPCI Serial Power Supply



Features	
Size	3U/ 8HP
Cooling	Passive air cooled
Mechanical	CompactPCI® format, Front Panel with Extractor handle, 160 mm deep
Input Voltage	Wide range AC input 90-264 VAC with Power Factor Correction (PFC)
Output Voltage	2 output voltages: 12V, 5VStandby
Connector	FCI 51939-667LF
	Fully compliant with PICMIG specifications PMBus communication Hot swap and n+1 redundancy operation with current share bus
Status LED's	Bicolor for Status good (green/amber) and Fault (red)

Order number	Type	Product Description
D575.0520	300 W AC	3U, AC/DC, 8 HP wide with P47 connector Outputs: 12V/25A, 5VStandby/2.5A, Efficiency typ. 90% at 230 VAC Operating Temperature -40°C ... 70°C (derated to 60%), Storage Temperature -40°C ... 85°C Cooling: at least 20LFM

ATX Power Supply

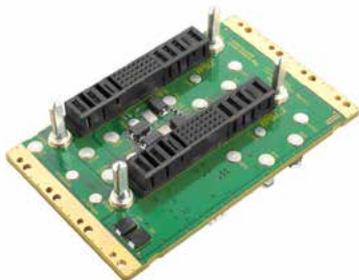


Features	
Wide range input voltage	
AC/DC ATX Power Supply	
Power Factor Correction (PFC)	
4 output voltages: 12V, 5V, 3.3V, -12V	
Includes front panel with EMC spring gasket	

Order number	Type	Product Description
D575.00391 (with front panel/switch)	300 W AC	3U, depth 160 mm Input: 100-240 VAC Outputs: 5V/18A, 3.3V/17A, 12V/24A, -12V/0.3A Front panel 10HP, 3U with switch
D575.00390 (without front panel/switch)		
D575.00141 (3U)	300 W AC (PS2)	3U, depth 140 mm Input: 90-264 VAC Outputs: 5V/35A, 3.3V/28A, 12V/22A, -12V/1A Minimum load: 5V/0.5A, 12V/0.5A With switch Front panel 32HP, 3U Front panel 32HP, 6U
D575.00142 (6U)		



VPX 3U

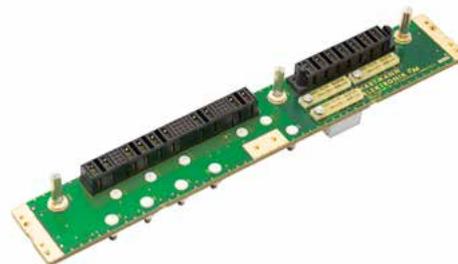


Features	
Form Factor	3U
No. of Slots	1, 2, 3
Slot Pitch	4HP, 10HP
Power Input	a) High Input Voltage (85-265 VAC): max 17A (max. 600 W) b) Low Input Voltage (18-36 VDC): max 40A (max. 680 W)
Permissible Current Load Per Slot	+12V_VS1/40A +3V3_VS2/20A +5V_VS3/40A +12V_AUX/1.5A -12V_AUX/1.5A +3V3_AUX/6A
Power Output feeds	M4 studs for output 12V, 5V and GND, M3 studs for output 3.3V and 3.3V_AUX
Base specification	VITA 62
Connectors	J0 TE Connectivity 1-6450869-4, additional pin header connectors for sense and control signals
Base Material	Type FR-4 UL 94 V-0
Card Thickness	3 mm
Dimensions	128.5 mm x 39 mm (1 slot) 128.5 mm x 50.5 mm (2 slot) 128.5 mm x 102 mm (2 slot) 128.5 mm x 129 mm (2 slot with CML) 128.5 mm x 148 mm (3 slot)
Operating Temperature Range	-40°C ... +85°C
Relative Humidity	90%, non-condensing
Coating	optional

Order number

B1931AM220	3U 1 slot High Input Voltage
B1931D4221	3U 1 slot Low Input Voltage
B1932D4230	3U 2 slot Low Input Voltage for 4HP PS
2.H0002061	3U 2 slot High Input Voltage for 10HP PS
2.H0002051	3U 2 slot High Input Voltage with CML interface
2.H0003030	3U 3 slot High Input Voltage for 10HP PS

VPX 6U



Features	
Form Factor	6U
No. of Slots	1, 2
Slot Pitch	2 slot 10HP
Power Input	a) High Input Voltage (85-265 VAC): max 30A (max. 1700 W) b) Low Input Voltage (18-36 VDC): max 80A (1600 W)
Permissible Current Load Per Slot	+12V_VS1/40A +12V_VS2/40A +5V_VS3/40A +3V3_AUX/35A
Power Output Feeds	M4 studs for output 12V, 5V and GND, M3 or M4 studs for 3.3V_AUX
Base Specification	VITA 62
Connectors	J0 TE Connectivity 6450863-5 J1 TE Connectivity 1-6450869-0 Additional pin header connectors for sense and control signals
Base Material	Type FR-4 UL 94 V-0
Card Thickness	4.3 mm
Dimensions	a) 161.85 mm x 38.92 mm b) 161.85 mm x 90.07 mm (2 slot)
Operating Temperature Range	-40°C ... +85°C
Relative Humidity	90%, non-condensing
Coating	optional

Order number

B1961AM220	6U 1 slot High Input Voltage
B1961D4221	6U 1 slot Low Input Voltage
B1962AM220	6U 2 slot High Input Voltage with CML interface



CompactPCI® 3U



Features	
Form Factor	3U
No. of Slots	1, 2, 3, 4
Base specification	PICMG 2.0, PICMG 2.11
Connectors	Designed for either power supply with ATX DIN 41612 type M, or P47 plug-in connector
Base Material	Type FR-4 UL 94 V-0
Other Features	Supports parallel connection of multiple backplanes
Operating Temperature	-40°C ... +85°C
Relative Humidity	90%, non-condensing

Order number	Variant	Product Overview	Slot
33R0000013	R0	For power supply with DIN41612 type M connector. Current supply through DIN 41612 type M connector Pin B2 facing down	1
33L0000014	L0	For power supply with DIN41612 type M connector. Current supply through DIN 41612 type M connector Pin B2 facing up	1
33L1000014	L1	For power supply with P47 connector. Current supply through 3-pin MATE-N-LOK connector. Supports parallel connection of multiple backplanes	1
33L2000014	L2	For power supply with P47 connector. Current supply through 6-pin MATE-N-LOK connector. Supports parallel connection of multiple backplanes	2
33L0030024	Eco	For power supply with P47 connector. Current supply through P47	3
33L0040024		connector.	4

Other backplane configurations available upon request

CompactPCI® 6U

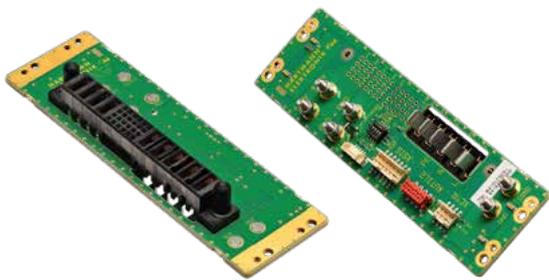


Features	
Form Factor	6U
No. of Slots	1, 2, 3, 4
Base specification	PICMG 2.0, PICMG 2.11
Connectors	Designed for P47 plug-in connector
Base Material	Type FR-4 UL 94 V-0
Other Features	Supports parallel connection of multiple backplanes
Operating Temperature	-40°C ... +85°C
Relative Humidity	90%, non-condensing

Order number	Variant	Product Overview	Slot
36L1000014	L1	For power supply with P47 connector. Current supply through P47 connector. Supports parallel connection of multiple backplanes.	1
36L0020024	Eco	For power supply with P47 connector. Current supply through P47 connector.	2
36L1000034	L1	For power supply with P47 connector. Current supply through P47 connector.	3
36L1000044	L1	For power supply with P47 connector. Current supply through P47 connector. Supports parallel connection of multiple backplanes.	4

Other backplane configurations available upon request

CompactPCI® Serial 3U



Features	
Form Factor	3U
No. of Slots	1, 2
Power Input	Universal input voltage for VDC and VAC (max. 265 VAC)
Permissible Current Load Per Slot	+12V/35A +5VStandby/2A
Power Output feeds	M3 studs for +12V and 5VStandby
Base Specification	
Connectors	J0 FCI 51940-473LF, additional pin header connectors for sense and control signals
Base Material	Type FR-4
Card Thickness	2.4 mm
Dimensions	128.5 mm x 38.19 mm (1 Slot) 128.5 mm x 79.83 mm (2 Slot)
Operating Temperature Range	-40°C ... +85°C
Storage Temperature:	-55°C ... +105°C
Flammability Rating:	UL 94 V-0
Relative Humidity	90%, non-condensing

Order number	Variant	Product Overview	Slot
B210L001A1	210	cPCI Serial Power Backplane 3U Current supply through 6.3 mm Faston terminal	1
B210L002S1	210	cPCI Serial Power Backplane 3U with CML interface, current supply through 6.3 mm Faston terminals	2

Other backplane configurations available upon request

CompactPCI® Serial Load Board



Features	
Form Factor	3U
Slot Pitch	4HP (20.32 mm)
Function	simulate resistive loads on CompactPCI® Serial systems for both electrical and thermal conditions
Cooling	Air cooled (with heat sink)
Current Loads	12V 0A ... 7.5A in 0.5A steps 5VStandby 0.2A ... ON/OFF 3x
Control Voltage	5VStandby, required
Voltage and Temperature Measurement:	<ul style="list-style-type: none"> • 4 PTC resistors; one each at the front at bottom and top as well as rear top and bottom to allow temperature measurements in chassis condition • Voltage and temperature sense lines are connected to 2 x 8 pin header (X1 connector) on front panel • Optional DVM plug-on board
Thermal Protection	Automatic shut-off if any temperature is exceeding 120°C (+/-5K), Re-energizing after cooling down

Order number	
LXH0000990	3U air cooled



VPX 3U



Features																			
Form Factor	3U																		
Slot Pitch	6HP air cooled, 5HP conduction cooled																		
Function	simulate resistive loads on VPX systems for both electrical and thermal conditions																		
Cooling	Air cooled (with heat sink) or conduction cooled																		
Current Loads	<table border="0"> <tr> <td>5V_VS3</td> <td>0A ... 15A</td> <td>in 1A steps</td> </tr> <tr> <td>12V_VS1</td> <td>0A ... 10A</td> <td>in 0.66A steps</td> </tr> <tr> <td>3V3_VS2</td> <td>0A ... 15A</td> <td>in 1A steps</td> </tr> <tr> <td>+12V_AUX</td> <td>0.66A</td> <td>ON/OFF</td> </tr> <tr> <td>-12V_AUX</td> <td>0.66A</td> <td>ON/OFF</td> </tr> <tr> <td>+3V3_AUX</td> <td>1A</td> <td>ON/OFF</td> </tr> </table>	5V_VS3	0A ... 15A	in 1A steps	12V_VS1	0A ... 10A	in 0.66A steps	3V3_VS2	0A ... 15A	in 1A steps	+12V_AUX	0.66A	ON/OFF	-12V_AUX	0.66A	ON/OFF	+3V3_AUX	1A	ON/OFF
5V_VS3	0A ... 15A	in 1A steps																	
12V_VS1	0A ... 10A	in 0.66A steps																	
3V3_VS2	0A ... 15A	in 1A steps																	
+12V_AUX	0.66A	ON/OFF																	
-12V_AUX	0.66A	ON/OFF																	
+3V3_AUX	1A	ON/OFF																	
Control Voltage	5V_VS3, required																		
Voltage and Temperature Measurement:	<ul style="list-style-type: none"> • Voltage levels for 5V, 12V, 3.3V, +12V_AUX, -12V_AUX, and +3.3V_AUX are sensed close to P0/P1 • 4 PTC resistors (TMP300 IC); one each at the front at bottom and top as well as rear top and bottom to allow temperature measurements in chassis condition; Analog output 10mV/°C (typical 750mV ±30mV at 25°C). • Voltage and temperature sense lines are connected to 2 x 8 pin header (X1 connector) on front panel • Optional DVM plug-on board 																		
Thermal Protection	Automatic shut-off if any temperature is exceeding 120°C (+/-5K), Re-energizing after cooling down																		
Status LED	Bicolor for status good (green) and over-temp (red)																		

Order number

LXH0000523	3U/ 6HP air cooled
LXH0000840	3U/ 5HP conduction cooled

VPX 6U



Features																			
Form Factor	6U																		
Slot Pitch	6HP air cooled, 5HP conduction cooled																		
Function	simulate resistive loads on VPX systems for both electrical and thermal conditions																		
Cooling	Air cooled (with heat sink) or conduction cooled																		
Current Loads	<table border="0"> <tr> <td>5V_VS3</td> <td>0A ... 15A</td> <td>in 1A steps</td> </tr> <tr> <td>12V_VS1</td> <td>0A ... 10A</td> <td>in 0.66A steps</td> </tr> <tr> <td>12V_VS2</td> <td>0A ... 10A</td> <td>in 0.66A steps</td> </tr> <tr> <td>+12V_AUX</td> <td>0.66A</td> <td>ON/OFF</td> </tr> <tr> <td>-12V_AUX</td> <td>0.66A</td> <td>ON/OFF</td> </tr> <tr> <td>+3V3_AUX</td> <td>1A</td> <td>ON/OFF</td> </tr> </table>	5V_VS3	0A ... 15A	in 1A steps	12V_VS1	0A ... 10A	in 0.66A steps	12V_VS2	0A ... 10A	in 0.66A steps	+12V_AUX	0.66A	ON/OFF	-12V_AUX	0.66A	ON/OFF	+3V3_AUX	1A	ON/OFF
5V_VS3	0A ... 15A	in 1A steps																	
12V_VS1	0A ... 10A	in 0.66A steps																	
12V_VS2	0A ... 10A	in 0.66A steps																	
+12V_AUX	0.66A	ON/OFF																	
-12V_AUX	0.66A	ON/OFF																	
+3V3_AUX	1A	ON/OFF																	
Control Voltage	5V_VS3, required																		
Voltage and Temperature Measurement:	<ul style="list-style-type: none"> • Voltage levels for 5V, 12V, 3.3V, +12V_AUX, -12V_AUX, and +3.3V_AUX are sensed close to P0/P1 • 4 PTC resistors (TMP300 IC); one each at the front at bottom and top as well as rear top and bottom to allow temperature measurements in chassis condition; Analog output 10mV/°C (typical 750mV ±30mV at 25°C). • Voltage and temperature sense lines are connected to 2 x 8 pin header (X1 connector) on front panel • Optional DVM plug-on board 																		
Thermal Protection	Automatic shut-off if any temperature is exceeding 120°C (+/-5K), Re-energizing after cooling down																		
Status LED's	Bicolor for status good (green) and failure (red) for: Over-temp, Control Power, +12V_VS1, +12V_VS2, 5V_VS3, +12V_AUX, -12V_AUX, +3.3V_AUX																		

Order number

LXH0000951	6U/ 6HP air cooled
LXH0000880	6U/ 5HP conduction cooled

CompactPCI® 3U



Features	
Form Factor	3U
Slot Pitch	4HP (20.32 mm)
Function	simulate resistive loads on cPCI systems for both electrical and thermal conditions
Cooling	Air cooled (with heat sink) or conduction cooled
Current Loads	5V 0A ... 8.25A in 0.55A steps 3V3 0A ... 10.5A in 0.7A steps +12V 1A ON/OFF -12V 1A ON/OFF
Control Voltage	5V, required
Voltage and Temperature Measurement:	<ul style="list-style-type: none"> • 4 PTC resistors; one each at the front at bottom and top to allow temperature measurements in chassis condition • Voltage and temperature sense lines are connected to 2 x 8 pin header (X1 connector) on front panel • Optional DVM plug-on board
Thermal Protection	Automatic shut-off if any temperature is exceeding 120°C (+/-5K), Re-energizing after cooling down

Order number

LXH0000631 3U air cooled

CompactPCI® 6U



Features	
Form Factor	6U
Slot Pitch	4HP (20.32 mm)
Function	simulate resistive loads on cPCI systems for both electrical and thermal conditions
Cooling	Air cooled (with heat sink) or conduction cooled
Current Loads	5V 0A ... 8.25A in 0.55A steps 3V3 0A ... 10.36A in 0.7A steps +12V 1A ON/OFF -12V 1A ON/OFF
Control Voltage	5V, required
Voltage and Temperature Measurement:	<ul style="list-style-type: none"> • 4 PTC resistors; one each at the front at bottom and top to allow temperature measurements in chassis condition • Voltage and temperature sense lines are connected to 2 x 8 pin header (X1 connector) on front panel • Optional DVM plug-on board
Thermal Protection	Automatic shut-off if any temperature is exceeding 120°C (+/-5K), Re-energizing after cooling down

Order number

LXH0000800 6U air cooled





Accessories

Chassis Monitor & Control



Features

Power supply control, programmable trip thresholds (min/max voltage, max current, power, temperature)

Low Profile Shelf manager for CompactPCI®, Serial, VPX, VME chassis in 3U height, system connection provided on a 2 mm high density connector, with internal auxiliary 5V power supply

Fan control: up to 6 fans monitored with programmable fan speed (no PwM signal necessary)

Generation and detection of VME/cPCI RESET and ACFAIL

Temperature measurement: 1-wire-bus for up to 6 digital temperature sensors

PC-Control (connected to galvanic isolated USB or Ethernet) with free available software

Digital Signal Processor (DSP) for real-time processing of all measured data

Digital inputs and outputs, 8 x TTL each

Ethernet connection IEEE 802.3, 10BASE-T, and IEEE 802.3U, 100BASE-TX, embedded web-server integrated, full control via SNMP protocol

AC input, fuse and main switch

Order number	Product Description
1H00004161	CompactPCI® + VME/VME64x compact shelf manager / CML 3U x 8HP

Chassis Fan Tray



Features

1U/ 84HP ventilation unit for 19" rack-mount chassis

Includes 3 + 12 VDC fans, 119 x 119 x 38 mm, 108CFM, 42.5 dB(A), with 300 mm cable, ends tinned

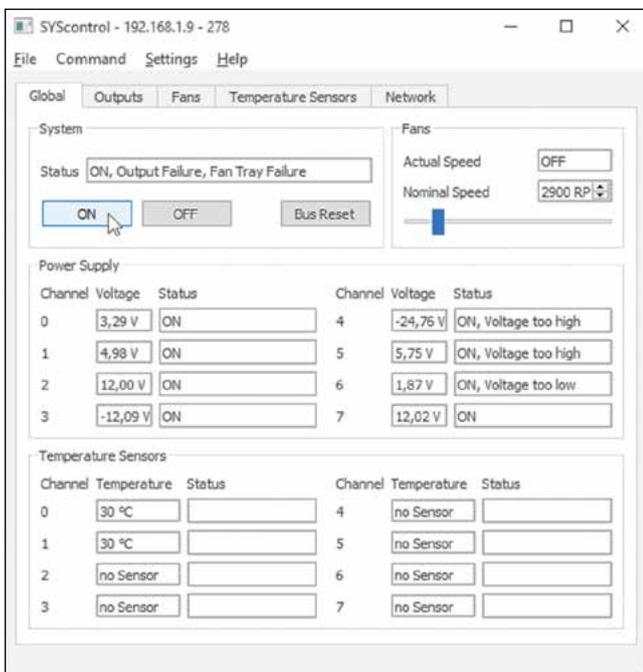
Air flow from bottom to top

For direct mounting under Hartmann Electronic standard card racks (screw connection to side panels)

Fans outfitted with protective grill

Order number	Product Description
C161.60410	Fan tray 84HP/ 1U with 3 fans

SYScontrol visualizes over ethernet all relevant values such as temperature, voltage, fan speed, network adress and system status.



CompactPCI® / VME / VME64x



Features

Test adapter allows measurement and testing of both 3 and 6U assemblies (CompactPCI, VME64x)

Test adapter can be mounted in chassis with an overall depth of up to 220 mm. Test adapter is held firmly in place by the front and lateral guides.

CompactPCI® with access to the test boards from 3 sides / 3U or 6U VME and VME64x bus systems with 2 side card access

CompactPCI® adapter allows for up to 3 cPCI cards and 1 PCI card to be inserted into a single cPCI slot.

CompactPCI: The complete windows support provided by this product facilitates fast system integration – additional drivers are not needed. PCI devices are detected by a standard PCI BIOS with BIOS extension.

CompactPCI: Automatic voltage adaption to 3.3 or 5V I/O backplane. Secondary V I/O can be set by jumper

LED indicators are provided for all secondary voltages. All operating voltages can be separated for current measurement

EMC compliant, controlled impedance layout design guarantees optimal operational reliability

VME: all bus signals can be separated by jumper

Order number	Product Description
3610000700	CompactPCI® test adapter, 3U, 4HP, 32-bit additional rear I/O signals traced to the front
LXH0000030	VME64x 3U test adapter J1
1H00166011	VME64x 6U test adapter J1/J0/J2

VPX Test Adapter



Features

3U VPX extender card as per VITA 46

PCIe Gen. 3 Compatible (Extender generates 3.5 dB additive loss. SBC, Backplane and Module must save 3.5 dB loss as a minimum, according to the specified VPX PCIe Gen.3 loss budget.)

Data rate up to 10 Gbit/s

Access to IPMB-Bus A & B through level shifter

AUX-Clock and REF-CLK Input and output selectable through dip-switches

SYSRESET Push-Button

Order number	Product Description
1H00007411	Air cooled, VPX connector on Top side

PCIe to CompactPCI® Bridge



Features

3U/ 4HP CompactPCI® remote controller for use in CompactPCI® rear system slot inside a 19" chassis

PC PCIe interface card for standard desktop PC, allows control of CompactPCI® Chassis from desktop PC

The CompactPCI® remote controller requires rear I/O connectors on the CompactPCI® backplane's system slot

The space saving 4 HP design allows ample space for additional system components

Interface connection via standard PCIe X4 cable

Fully compliant with the PCI Express external cable specification, revision 2.0

Does not require any additional software drivers – controller is enumerated fully with the use of conventional standard PCI-to-PCI bridge drivers

Order number	Product Description
1H00007120	RTM PCIe_X4 to 7 CPCI Bridge V/I/O = 3.3V
1H00005304	PC Card PCIe X4 to PCIe X4 Low Profile
1H00005305	PC Card PCIe X4 to PCIe X4 High Profile
F006.02170	PCIe X4 cable length 1 m
F006.02180	PCIe X4 cable length 3 m

PXIe Controller / Extension



Features

3U/ 4HP PXIe remote controller for use in PXIe system slot.

PC PCIe interface card for standard desktop PC, allows control of PXIe Chassis from desktop PC

Space-saving 4HP design allows ample space for additional system components as well as further PXI Express modules, conveniently placed directly next to the controller

Suitable for PXI Express chassis that implement a PXI Express system slot 4-link configuration

Interface connection via standard PCIe X4 cable

Fully compliant with the PCI Express external cable specification, revision 2.0

Does not require any additional software drivers – controller is enumerated fully with the use of conventional standard PCI-to-PCI bridge drivers

CompactPCI® Express compatible

PCIe Gen.2 data rate support

Low power design, 5 W (+5V/0.8A)

The controller does not implement a SMBus Interface and can't be enumerated with the PXI Express Resource Manager

However, all the PXI Express modules installed inside the chassis will correctly appear in the PXI Express Explorer

Order number	Product Description
1H00007140	PCIe X4 Uplink to PXI Express
1H00005304	PC Card PCIe X4 to PCIe X4 Low Profile
1H00005305	PC Card PCIe X4 to PCIe X4 High Profile
F006.02170	PCIe X4 cable length 1 m
F006.02180	PCIe X4 cable length 3 m



Front Panels



Features

- Made of chromated aluminum
- Thickness = 2.5 mm (.0098")
- EMC Spring Gasket Installed
- M 2.5 neck collar screws (self-retaining) installed

Order number	Product Description
C100.63022	3U/ 2HP
C100.63032	3U/ 3HP
C100.63042	3U/ 4HP
C100.63052	3U/ 5HP
C100.63062	3U/ 6HP
C100.63082	3U/ 8HP
C100.63102	3U/ 10HP
C100.63122	3U/ 12HP
C100.63422	3U/ 42HP
C100.63842	3U/ 84HP

Order number	Product Description
C100.66022	6U/ 2HP
C100.66032	6U/ 3HP
C100.66042	6U/ 4HP
C100.66052	6U/ 5HP
C100.66062	6U/ 6HP
C100.66082	6U/ 8HP
C100.66102	6U/ 10HP
C100.66122	6U/ 12HP
C100.66422	6U/ 42HP
C100.63842	6U/ 84HP

Card Guides



Features

- Card Guide 4HP
- With coding according to IEEE 1101.10
- Material: Polycarbonate UL 94 V-0
- For board thickness: 1.6 - 2.0 mm
- In different colours
 - Red = CPU Slot
 - Green = cPCI Power Supply Slot (½HP offset)
 - Grey = Peripheral Slot

Order number	Product Description
C201.10630	Card Guide Grey, 160 mm
C201.10640	Card Guide Red, 160 mm
C201.10650	Card Guide Green, 160 mm
C201.10620	Card guide grey, 80 mm, 1 kit for rear I/O use as kit/slot
C161.60131	ESD clip for card guides
C201.10680	Conduction cooled card guide for single slot with fins for air cooling (pair with screws)
C201.11101	Conduction cooled cold plate 34HP for Open Frame Chassis, 5HP slot pitch
C201.11110	Conduction cooled cold plate 50HP for Open Frame Chassis, 5HP slot pitch



CHASSIS OVERVIEW



	Board Size	Slots	Profile	Orientation	Cooling	Rear I/O	Power Supply	Hot Swap	Chassis Height	Width	Mounting
VPX / Open VPX											
LMH0000840	3U	5	Full Mesh X4	Vertical	Removable	Yes	ATX / 300 W	No	4U	50HP	Rack
LMH0000890	3U	7	BKP3-CEN07-15.2.3-4	Vertical	Removable	Yes	VPX / 600 W	No	4U	50 HP	Rack
LMH0000930	3U	8	BKP3-CEN08-15.2.15-4	Vertical	Removable	Yes	ATX / 600 W	No	4U	84 HP	Rack
LMH0000920	3U	8	BKP3-CEN08-15.2.15-4	Vertical	Removable	Yes	2x VPX / 600 W	No	4U	84 HP	Rack
LMH0000940	3U	5	Full Mesh X4	Vertical	Internal	Yes	ATX / 300 W	No	4U	42 HP	Desktop
LMH0000950	6U	10	BKP6-CEN10-11.2.4-4	Vertical	Internal	Yes	2x VPX / 1000 W	Yes	10U	84 HP	Rack
VME 64x											
LMH0000312	6U	2	VME64x	Horizontal	Removable	Yes	cPCI / 250 W	Yes	1U	84 HP	Rack
LMH0000200	6U	2	VME64x	Horizontal	Fixed fans	Yes	cPCI / 250 W	Yes	1U	84 HP	Rack
LMH0000240	6U	4	VME64x	Horizontal	Removable	Yes	cPCI / 300 W	Yes	2U	84 HP	Rack
LMH0000170	6U	4	VME64x	Horizontal	Fixed fans	Yes	cPCI / 300 W	Yes	2U	84 HP	Rack
LMH0000260	6U	8	VME64x	Horizontal	Removable	Yes	2x cPCI / 250 W	Yes	4U	84 HP	Rack
LMH0000180	6U	8	VME64x	Horizontal	Fixed fans	Yes	2x cPCI / 250 W	Yes	4U	84 HP	Rack
LMH0000160	6U	17+2	VME64x	Vertical	Fixed fans	Yes	2x cPCI / 400 W	Yes	7U	84 HP	Rack
cPCI Serial											
LMH0000830	3U	4	GbE Full Mesh, PCIe Gen3	Vertical	Fixed fans	No	ATX / 180 W	No	4U	32 HP	Panel
LMH0000850	3U	9	GbE Single Star, PCIe Gen3	Vertical	Removable	No	ATX / 300 W	No	4U	50 HP	Rack
LMH0000631	3U	9	GbE Single Star, PCIe Gen3	Vertical	Removable	No	cPCI Serial / 300 W	Yes	4U	50 HP	Rack
LMH0000820	3U	7	GbE Single Star, PCIe Gen3	Vertical	Internal	No	cPCI Serial / 300 W	Yes	4U	42 HP	Desktop
LMH0000900	3U	9	GbE Single Star, PCIe Gen3	Vertical	Removable	No	2x cPCI Serial / 300 W	Yes	4U	84 HP	Rack
Compact PCI®											
LMH0000113/ 970	3U	4	32 bit / 33 MHz, SS right	Vertical	Internal	No	ATX / 180 W	No	4U	32 HP	Panel
LMH0000860/ 870	3U	7	32 bit / 33 MHz, SS right	Vertical	Fixed fans	Yes	cPCI / 300 W	Yes	4U	42 HP	Desktop
LMH0000880	3U	8	32 bit / 33 MHz, SS right, 5V I/O	Vertical	Removable	Yes	cPCI / 300 W	Yes	4U	50 HP	Rack
LMH0000100/ 330	3U	8	32 bit / 33 MHz, SS right	Vertical	No	Yes	ATX / 300 W	No	3U	84 HP	Rack
LMH0000491	3U	3	32 bit / 33 MHz, SS left, 5V I/O	Horizontal	Removable	Yes	cPCI / 250 W	Yes	1U	84 HP	Rack
LMH0000300	6U	2	64 bit / 33 MHz, SS left, 5V I/O	Horizontal	Removable	Yes	cPCI / 250 W	Yes	1U	84 HP	Rack
LMH0000222	6U	4	64 bit / 33 MHz, SS left, 5V I/O	Horizontal	Removable	Yes	cPCI / 300 W	Yes	2U	84 HP	Rack
LMH0000130	6U	4	64 bit / 33 MHz, SS left, 5V I/O	Horizontal	Fixed fans	Yes	cPCI / 300 W	Yes	2U	84 HP	Rack
LMH0000210	6U	8	64 bit / 33 MHz, SS left, 5V I/O	Horizontal	Fixed fans	Yes	2x cPCI / 300 W	Yes	4U	84 HP	Rack
LMH0000251	6U	8	64 bit / 33 MHz, SS left, 5V I/O	Horizontal	Removable	Yes	2x cPCI / 300 W	Yes	4U	84 HP	Rack
LMH0000081	6U	16	2.16, 64 bit / 33 MHz, 5V I/O	Vertical	Hot swap	Yes	2x cPCI / 250 W	Yes	10U	84 HP	Rack
PXIe											
LMH0000960	3U	8	PXIe / PXI	Vertical	Internal	No	ATX / 300 W	No	4U	42 HP	Desktop
LMH0000792/ 910	3U	6	PXI / PXIe (rev.5)	Horizontal	Removable	No	120W / 260 W	No	1U	84 HP	Rack
Open Frame											
LMH0000452	3U	up to 8	to be selected	Vertical	Fixed fans	Yes	ATX / 300 W	No	316 mm	34 HP	Desktop
LMH0000462	6U	up to 8	to be selected	Vertical	Fixed fans	Yes	ATX / 300 W	No	450 mm	34 HP	Desktop
LMH0000470	3U	up to 12	to be selected	Vertical	Fixed fans	Yes	ATX / 600 W	No	316 mm	50 HP	Desktop
LMH0000480	6U	up to 12	to be selected	Vertical	Fixed fans	Yes	ATX / 600 W	No	450 mm	50 HP	Desktop
LMH0000570	3/ 6U	up to 12	to be selected	Vertical	Fixed fans	Yes	ATX / 600 W	No	450 mm	50 HP	Desktop





	Board Size	Slots	Type	System Slot	Power Feed	Rear I/O	Utility Connector	V I/O	Transfer Mode	Clock
CompactPCI® Serial										
cPCI Serial PICMG-S.0 Rev.2.0 (2015)	3U	2 ... 9	PCIe Star (opt. full mesh)	Right or left	Screws	With or without	JTAG, IPMB			
cPCI Serial Monolithic	3U	1+6, 1+9	PCIe Star (opt. full mesh)	Right or left	FCI 51940-473LF	With or without	JTAG, IPMB			
CompactPCI®										
3U cPCI RA Series	3U	2 ... 21	CompactPCI®	Right	Busbar / screws	With or without	JTAG, IPMB	3.3V / 5V	32 or 64 bit	33 or 66 MHz
3U cPCI RB Series	3U	1 ... 20	CompactPCI®	Right	ATX or screws	With or without	JTAG, IPMB	3.3V / 5V	32 or 64 bit	33 or 66 MHz
3U cPCI RD Series	3U	1 ... 8	CompactPCI®	Right	P47, ATX or screws	With or without	JTAG, IPMB	3.3V / 5V	32 or 64 bit	33 or 66 MHz
6U cPCI RA Series	6U	2 ... 8	CompactPCI®	Right	Busbar / screws	With or without	JTAG, IPMB	3.3V / 5V	64 bit	33 or 66 MHz
PXI										
3U PXI Professional Series	3U	8, 14, 19	PXI	Left	ATX, screws	Without	JTAG, IPMB	3.3V / 5V	32 bit	33 MHz
3U 8 Slot PXIe Series	3U	8	PXI/PXIe	Left	ATX	Without		3.3V / 5V	32 bit, PCIe Gen2	33 MHz

	Board Size	Slots	Type	Power Feed	Termination	Daisy Chaining
VME / VME64 / VME64x						
VME 3U J1 Series 129/ 130	3U	2 ... 21	VME/VME64 J1	Faston, screws	Active or passive	Electronic or manual
VME 3U J2 Series 31	3U	2 ... 21	VME/VME64 J2	Faston, screws	Active or passive	–
VME64x 3U J1 Series 165	3U	3, 9, 10, 21	VME64x J1	Faston, screws	Active or passive	Electronic or manual
VME 6U Series 162	6U	2 ... 21	VME/VME64 J1, J2	Faston, screws	Active or passive	Electronic or manual
VME64x 6U Series 166	6U	2 ... 21	VME64x J1, J0, J2	Faston, screws	Active or passive	Electronic or manual
VXI						
VXI 6U	6U	6, 13	VXI Rev. 1.4	Faston, screws	Active or passive	Electronic
VXS						
VXS 6U	6U	6, 8, 11, 21	VXS (star / dual star)	Faston, screws	Active or passive	Electronic
VPX / Open VPX						
3U OpenVPX	3U	2 ... 14	VPX / Open VPX	Screws		
6U OpenVPX	6U	5 ... 16	VPX / Open VPX	Screws		
3U OpenVPX VITA 66/ 67	3U	3, 5	VPX / Open VPX + Fibre/RF	Screws		
3U VPX Power & GND	3U	2, 4	VPX feed through	Screws		
6U VPX Power & GND	6U	1, 3	VPX feed through	Screws		

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