

CMX09A

9-SLOT 3U PXI EXPRESS CHASSIS | UP TO 8 GB/S



FEATURES

- 9-slot PXI Express chassis with 1 system controller slot, 7 PXIe peripheral/hybrid slots and 1 PXIe timing slot
- High bandwidth PCIe Gen 2 backplane with 2 GB/s slot bandwidth and 8 GB/s system bandwidth
- IEEE 1588 distributed instrument synchronization
- Rack mount, custom front panels

Overview

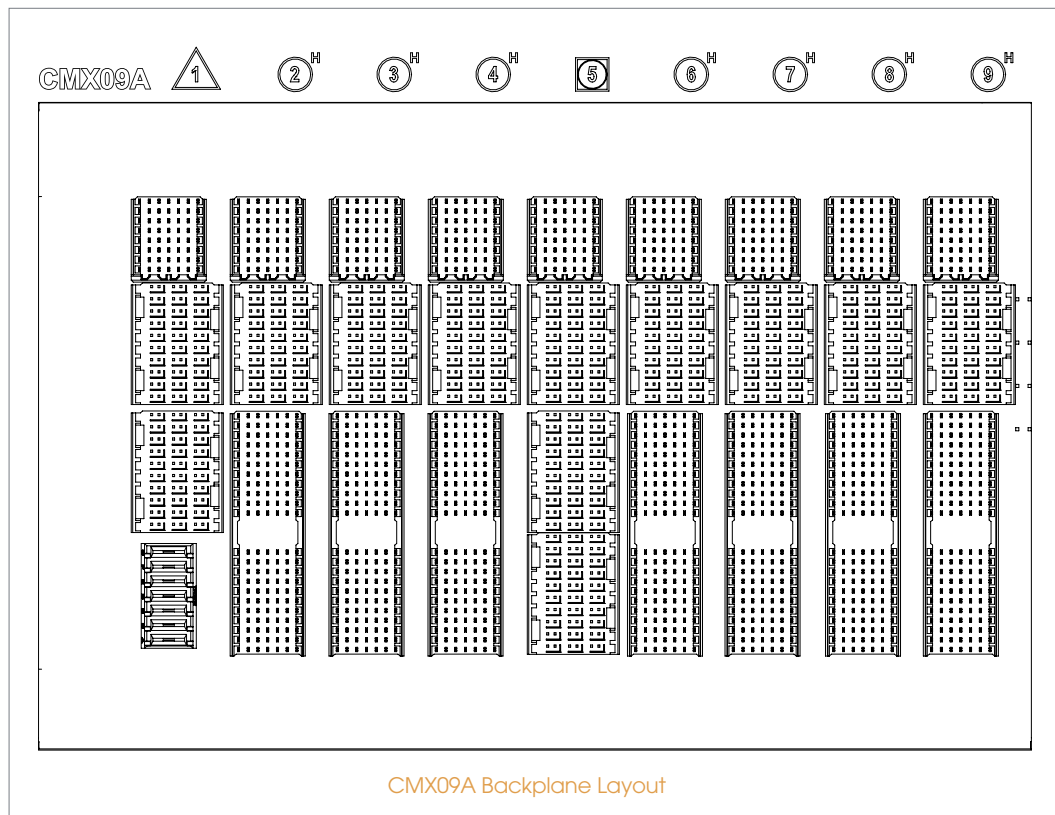
Slot Configurations

The CMX09A is a 9-slot PXI Express mainframe with 1 system controller slot, 7 PXIe Peripheral/Hybrid slots, and 1 PXIe timing slot. The PXI Express hybrid slot delivers connectivity to either a x4 PCI Express link or to the 32-bit, 33 MHz PCI bus on the backplane. This allows PXI Express, hybrid-compatible, or 32-bit cPCI/PXI-1 modules (without J2 connector) to be used in this slot. The PXIe timing slot accepts either a PXI Express module or a PXI Express system timing controller for advanced timing and synchronization.

Unmatched Speed, Flexibility and Performance

Best in class Bandwidth

The CMX09A uses a 4-lane Gen 2 PCIe backplane to achieve unmatched data rates of up to 2 GB/s per slot and 8 GB/s system. This is especially useful when using high-speed instruments like digitizers, oscilloscopes, and signal generators.



IEEE-1588 Distribution

The CMX09A backplane contains a built-in mechanism for distributing an IEEE-1588 time source to the plugin modules. This mechanism is only supported when using the EMX-2500 Gigabit Ethernet LXI controller, and allows timestamping of data from all plugin modules on a common time-base for advanced timing and synchronization. In addition, it also provides the capability to synchronize PXI systems with LXI instruments.

Intelligent Chassis Management

The CMX09A has a built-in system monitoring controller that monitors and manages full chassis status, including internal temperature, fan speed, and DC voltages.

IO/Switch on Rear Panel

- BNC connectors for 10MHz clock input/output
- Fan speed selector switch
- Inhibit mode selector switch
- D-SUB9 for voltage monitoring and remote inhibit

Rugged Design

Table-top Option

A rugged, compact and light-weight design makes the CMX09A ideal for portable applications. The CMX09A is available with optional handles which makes it convenient to lift and move. There are no air-holes on the front of the chassis, which protects the instruments from spills when used in industrial environments.

Rack-mount Option

Traditional rack-mount options with custom front panels are also available.

External Clock

The CMX09A includes a pair of IN/OUT BNC connectors in the rear to bring in an external 10 MHz reference clock. When a 10 MHz clock signal is detected on the IN connector, the internal clock is phase locked to the external clock. This reference clock may also be driven by a system timing module in slot 5. System timing controllers provide a high-stability clock source and the ability to drive the PXI star and PXIe differential star triggers. In addition timing controllers typically have the ability to import and export the PXI trigger lines on the backplane. The OUT BNC connector provides a buffered, non-TTL version of the 10 MHz reference clock.



General Specifications

| Specifications | |
|--|---|
| SLOTS | |
| Total Slots | 9 slots |
| PXI Express System Controller | 1 slot (slot 1) |
| PXI Express Peripheral / Hybrid | 7 slots (slots 2,3,4,6,7,8,9) |
| PXI Express Timing | 1 slot (slot 5) |
| Module Size | 3U |
| BANDWIDTH | |
| Slot | 2 GB/s |
| Mainframe | 8 GB/s |
| Standards Compliance | PXI-5 PXI Express Hardware Specifications PXI-1 hardware specifications Rev 2.2 |
| SYSTEM SYNCHRONIZATION CLOCKS | |
| 10 MHz System Reference Clock: | |
| PXI_CLK10 | |
| Max Slot-To-Slot Skew | 300ps |
| Accuracy | +/- 50 ppm Max |
| 100 MHz System Reference Clock: | |
| PXIe_CLK100 | |
| Max Slot-To-Slot Skew | 100 ps |
| Accuracy | +/- 25 ppm Max |
| EXTERNAL | |
| 10 Mhz Reference Out (From BNC Out) | |
| Accuracy | +/- 50 ppm Max |
| Output Amplitude | 1 Vpp, ±20% square wave into 50Ω 2 Vpp unloaded |
| Output Impedance | 50Ω ± 5Ω |
| EXTERNAL CLOCK SOURCE | |
| Frequency | 10 MHz ± 100 ppm |
| Input Amplitude | 100 mVpp to 5 Vpp square-wave or sine-wave (Rear panel BNC) 5V or 3.3V TTL Signal (System timing slot) |
| Rear Panel Bnc Input Impedance | 50Ω ± 5Ω |
| Maximum Jitter Introduced By Backplane | 1 ps RMS Phase Jitter (10 Hz - 1MHz range) |
| MECHANICAL | |
| Dimensions | 322 mm (W) x 190 mm (H) x 465 mm (D) (12.55" x 7.4" x 18.3") |
| Weight | Weight: 9 kg (19.8 lbs) |

¹ There will be power derating at > 55 °C. Refer to the detailed specifications.

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General Specifications (continued)

| Specifications | | | | |
|---|---|---------|-----------------|--------------------------|
| POWER SUPPLY | | | | |
| AC Input <small>*Guaranteed by power supply design</small> | Input Voltage Range: 100 to 240 VAC | | | |
| | Operating Voltage Range*: 85 to 264 VAC | | | |
| | Input Voltage Frequency: 50 to 60 Hz | | | |
| | Operating Voltage Frequency*: 47 to 63 Hz | | | |
| Input Current Rating | 115 VAC, 13 A 230 VAC, 10 A | | | |
| DC Output | VDC | Maximum | Load Regulation | Maximum Ripple and Noise |
| | +5 V | 23.0 A | ±3% | 50 mV |
| | +12 V | 27.0 A | ±3% | 50 mV |
| | +3.3 V | 33.0 A | ±3% | 50 mV |
| | -12 V | 1.75 A | ±3% | 50 mV |
| Maximum Total Usable Power is 400 W | | | | |
| COOLING | | | | |
| Fans | Two 185.9 CFM fans | | | |
| Chassis Cooling Intake | Bottom of front bezel, bottom panel of chassis | | | |
| Chassis Cooling Exhaust | Rear of chassis | | | |
| Slot Airflow Direction | Bottom of module to top of module | | | |
| ENVIRONMENTAL SPECIFICATIONS | | | | |
| Operating Environment | Ambient Temperature: 0°C to 55°C (32°F to 131°F) | | | |
| | Relative Humidity: 10% to 90%, Non-condensing | | | |
| Storage Environment | Ambient Temperature: -20°C to 70°C (-4°F to 158°F) | | | |
| | Relative Humidity: 10% to 90%, Non-condensing | | | |
| Shock and Vibration | Functional Shock: 30 G, Half-sine, 11 ms Pulse Duration | | | |
| | Random Vibration: <ul style="list-style-type: none"> • Operating: 5 to 500 Hz, 0.3 Grms, 3 Axes • Non-operating: 5 to 500 Hz, 2.46 Grms, 3 Axes | | | |
| SAFETY AND EMC | | | | |
| Emissions Compliance | EN 61326-1 FCC Class A | | | |
| CE Compliance | Safety: EN 61010-1 Immunity: EN 61326-1 | | | |

Specifications subject to change without notice.

| Ordering Information | |
|----------------------|--|
| Model | Configuration |
| 70-0698-000R | Chassis, CMX09A, 9-slot 3U PXI-e, 8 GB/s, All Hybrid |
| 70-0698-100R | F/A CMX09A Rackmount Kit |
| 70-0698-200R | Filler Panel Kit, White, 3U1SLT*9PCS+3U3SLT*1PC |
| 70-0463-901R | Kit, Blink Pnl, CMX09, Qty 5 |