DATA SHEET

3-SLOT FlexVNX+ DEVELOPMENT PLATFORM

Aligned to SOSA and VITA 90 Standards

ELMA
Your Solution Partner

DESCRIPTION

Elma's 3-Slot FlexVNX+ Development Chassis is the industry's first compact, SOSA™ and VITA-90 aligned VNX+ platform, purpose-built for rapid board bring-up, validation, and test of plug-in cards (PICs). Tailored for early-stage developers and system integrators, the chassis features a 2+1 backplane with two payload slots (one 400-pin and one 320-pin) plus a dedicated power supply slot.

Engineered to provide a streamlined, cost-effective solution, the chassis exposes complete I/O at the walls, integrates a maintenance port aggregator, and supports flexible AC or 28VDC power. Its angled card cage, airflow-optimized design, and optional chassis management simplify development and debug.

Supporting high-speed interfaces including 10GBASE-KX / 40GBASE-KX4 Ethernet and PCI Express Gen4, the 3-Slot platform enables engineers to accelerate time-to-market for mission-critical small form factor (SFF) systems.

FEATURES

- 3 Slot Configuration:
  - 2x Payload slots:
    - 1x VNX.PL-1-HH.400-7.2.1.1- <General Payload>
    - 1x VNX.PL-1-HH.320-7.2.2.1- <General Payload>
  - 1x Balanced Power Supply slot
- All I/O exposed at the chassis walls for both payload slots
- Maintenance port aggregator accessible from front panel
- Optional VITA 46.11 Chassis Manager support
- Switched control of critical system signals (NVMRO, SYSRESET, Power/Enable)
- Air-cooled design with internal fans – no conduction cooling required
- Supports 19mm or 39mm modules, with or without wedgelocks or metal enclosures
- Angled card cage for easier module access and visibility
- Front panel test points and status LEDs
- Integrated On/Off switch and reset controls
- Input power via 110/200VAC or 28VDC (via optional PSU PIM)
- Fully assembled, wired, and tested for rapid deployment
- Full I/O from one 400-pin slot and one 320-pin slot via a custom VPX form factor IO front board fitted with industry standard connectors
- Each slot provides airflow directed at the module top surface to provide cooling without conduction cooling thermal paths
- Supports modules with or without their metal enclosures
  - Enables board bring-up and debug
- Locking retainers to secure modules in their slots against the blind-mate connector spring forces
  - Works with or without metal enclosures
- Ergometric handles for easy transport
- Power switchable from either a VITA 90.3 PS module or Internal 110/200V PSU
- Supports 19mm or 39mm modules, with and without wedgelocks

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BENEFITS OF VNX+

- Compact Size: Ideal for space-constrained applications in autonomous vehicles (air, ground, sea, or space)
- Modularity and Scalability: Allows for flexible system design and easy upgrades
- Ruggedness: Naturally rugged design suitable for harsh environments without additional hardening
- High-Speed Communications: Supports data rates up to 25Gbps between modules per lane
- Standardization: Adoption by SOSA (Sensor Open Systems Architecture) promotes interoperability and a robust ecosystem of compatible products
- Versatility: Ideal for space constrained platforms and applications such as small UAVs, EW and ISR, wearable communications, etc.
- Built-in I/O Capabilities: Includes Unique External I/O (UEIO) for direct device control without additional mezzanine cards
- Thermal Management: Conduction-cooled design simplifies system cooling requirements

KEY CONCEPTS OF VNX+

- A modular, scalable computing architecture developed by the VME International Trade Association (VITA)
- Designed as a small form factor (SFF) standard, significantly smaller than 3U VPX, offering about 70% reduction in per-slot size
- Features a well-defined Utility Segment, Communications Segment, and new Overlay Segment
- Supports blind-mate optical and coax connections
- Includes power supply module definitions
- Offers well-defined slot profiles for payload modules, switches, PNT/Radial Clock modules, and space payloads

APPLICATIONS

VNX+ / SOSA and CMOSS aligned development systems help to speed time to deployment for critical defense applications including but not limited to:

› Mission control
› Secure communications
› Surveillance
› Data and image processing
› Weapons control
› Target tracking and display
› Navigational Control
› Threat detection
› Process monitoring

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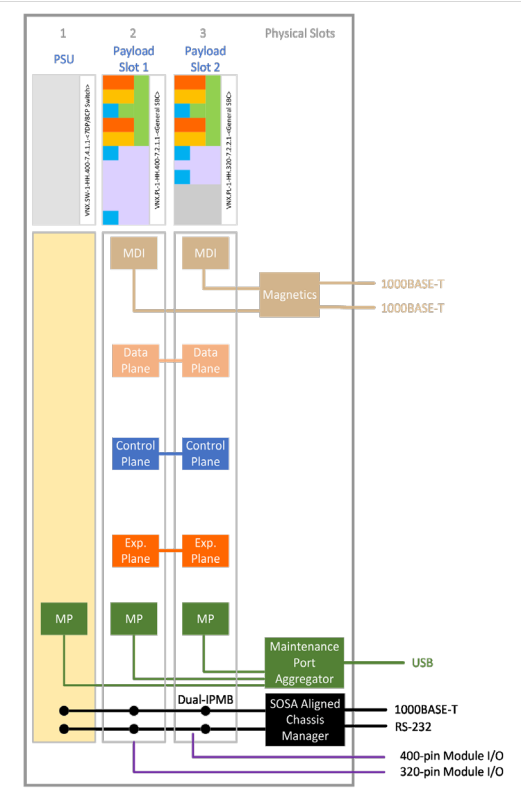
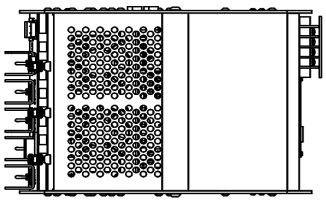
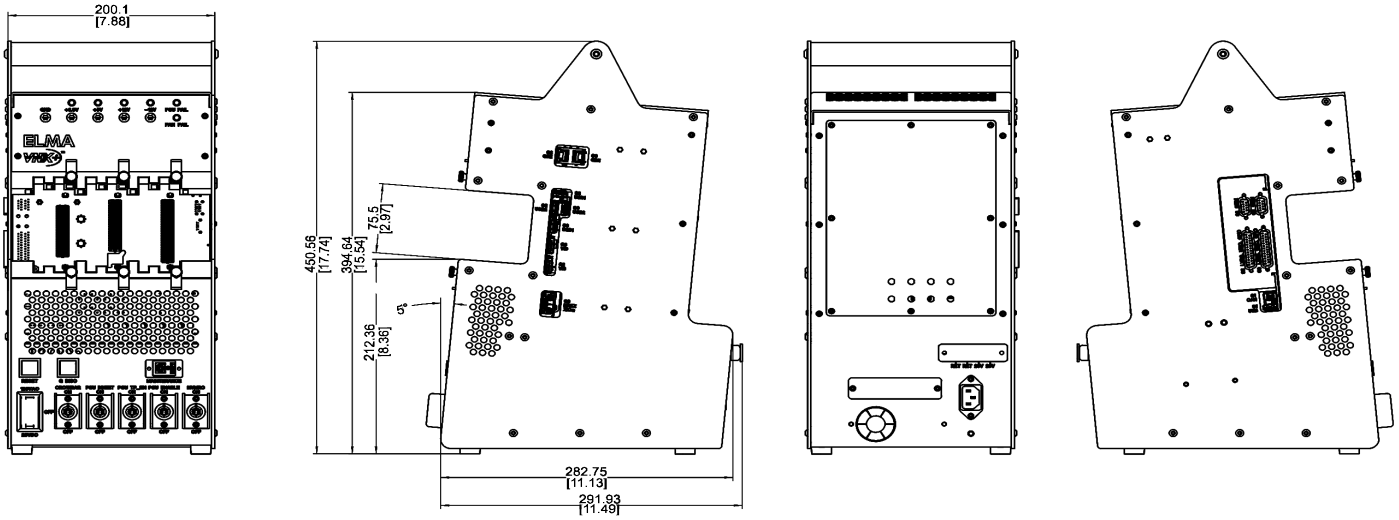
BACKPLANE PROFILE

- 2 Payload Slots +1 PSU slot
  - 19mm PSU Slot
  - 2x Payload slots:
    - 1x VNX.PL-1-HH.400-7.2.1.1- <General Payload>
    - 1x VNX.PL-1-HH.320-7.2.2.1- <General Payload>



LINE DRAWING





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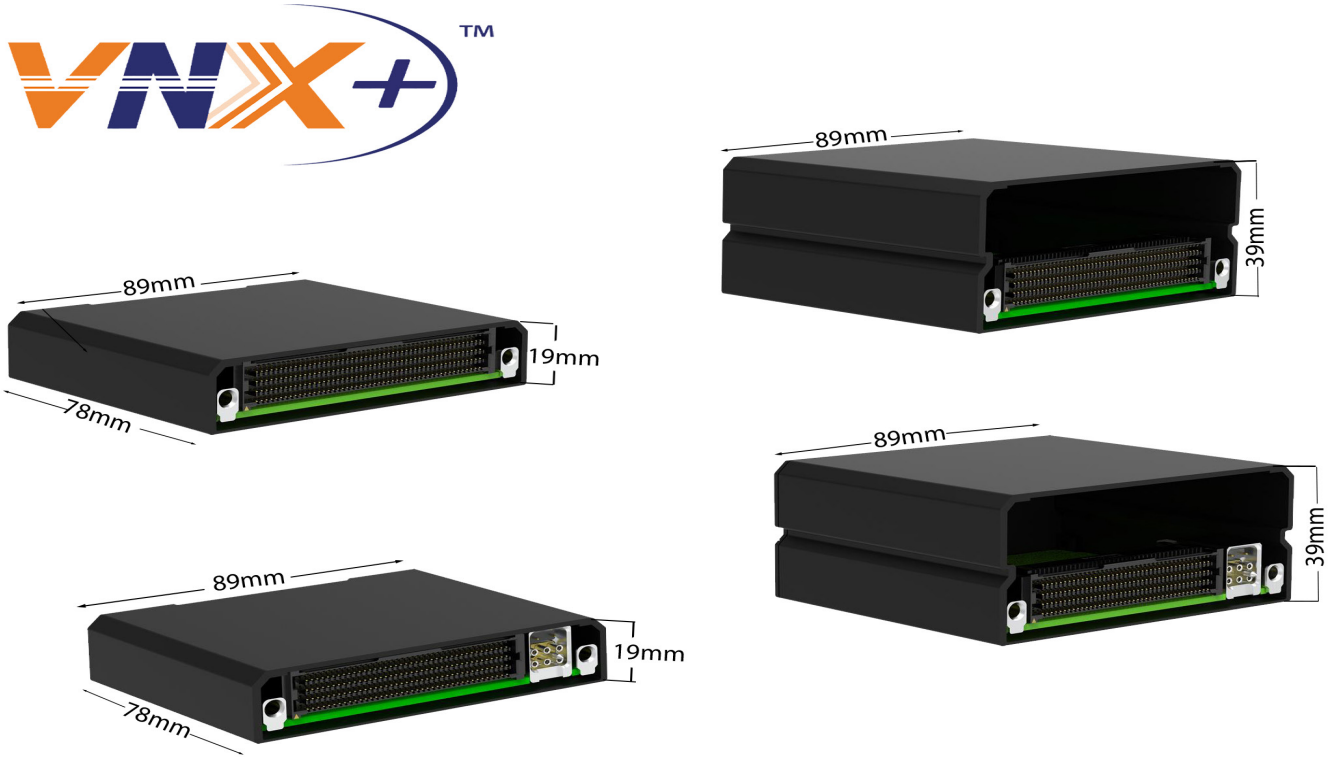
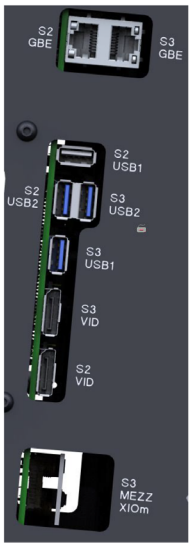
PLUG-IN CARD SIZE - VNX+



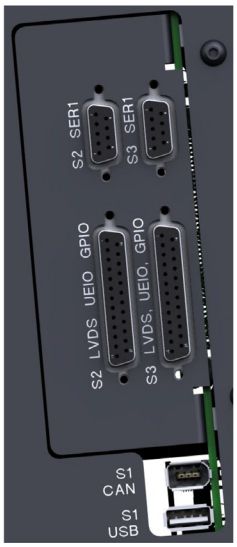
SYSTEM OVERVIEW

User I/O located on the side panels

Right Side:
- 2x GBE
- 4x USB
- 2x VID
- 1x Mezz



Left Side:
- 2x LVDS, UEIO, GPIO
- 2x Serial
- 1x CAN
- 1x USB



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ELECTRICAL SPECIFICATIONS

Input Voltage	115 - 240 VAC
Input Current	10.0A - 15.0A max.
Input Frequency	47 - 63 Hz

OUTPUT SPECIFICATIONS

Voltage	+5V	+12V	+3.3V	-12V
Max Load	36.0A	116.0A	31.0A	0.5A
Min Load	1.0A	2.0A	1.0A	0.0A
Peak Load	---	---	---	---
Regulation	±5%	±5%	±5%	±5%
Ripple & Noise	50mV	120mV	50mV	120mV

*Power module total output power of +5V and 3.3V not exceed 210W

*Power module total output power not exceed 1400W for 180~264V

*Power module total output power not exceed 1200W for 103~132V

*Power good signal: ON delay 100ms to 500ms, OFF delay 1ms, HOLD UP time: 17ms minimum at full

*Load & nomimal input voltage

Note: Electrical Specification for the internal built-in Chassis Power supply. Specifications for plug-in VITA 62 power supplies used on the backplane are dependent on the power supply.

ORDER INFORMATION

3-Slot FlexVNX+ Test and Development Chassis	Model Number (Part Number)
Elma's 3-Slot FlexVNX+ Development Chassis › Measures 7.88" (200mm) wide x 11.5" (290mm) deep x 17.7" (450mm) high › Wide range built-in power supplies › AC operation, AC power cord › Front panel On/Off switch, reset switch, voltage / fan LED and voltage test points › With built-in Chassis Manager and Maintenance Port Aggregator › Completely assembled, wired and tested	39S03VPXZZY2VAND
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Please contact our sales team for more details.

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