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# VPX 360 SOSA

Made in Germany

-40° 85°C
Operating Temperature

10 Years
Availability


## Cooling & Compliance

COTS SOSA™ aligned VPX power supply with conduction-cooled design, compliant with ANSI/VITA 62.0 and VITA 46.0

## Power & Efficiency

Up to 600 W total output power using high-efficiency, next-generation switching technology

## Compact Form

3U x 5HP VPX module, fitting the standard VITA 46.0 mechanical envelope

## Flexible Input

Supports 28 VDC and 48 VDC nominal inputs with a wide 12 V – 68 V DC input range

## Monitoring & Standards

Embedded controller with dual I²C (VITA 46.11 / IPMI 2.0) and USB interface for monitoring and control, designed to meet MIL-STD 1275D, 704, 810, 461F



Last updaded 2026/03

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# VPX360 SOSA

The Kontron Hartmann-Wiener VPX360DMS is a commercial off-the-shelf (COTS), conduction-cooled, SOSA™ aligned VPX power supply designed in accordance with ANSI/VITA 62.0 and mechanically compliant with the VITA 46.0 envelope for 3U VPX systems.

The power supply delivers up to 600 W total output power using a 12 V centric architecture, optimized for SOSA™ 3U VPX chassis. High efficiency is achieved through state-of-the-art switching technology, while eliminating the use of wet electrolytic capacitors to enhance reliability and lifetime.

A wide DC input range from 12 V to 68 V DC supports both 28 VDC and 48 VDC nominal input platforms, enabling deployment across a broad range of defense and aerospace power architectures. The VPX360DMS integrates reverse polarity protection, input over-voltage protection, and internal temperature monitoring.

For system management and diagnostics, the module features an embedded microcontroller providing dual I²C interfaces compliant with VITA 46.11 (IPMI 2.0), as well as a USB 2.0 interface for configuration, monitoring, and firmware interaction.

The VPX360DMS is designed for operation in harsh environments and is engineered to meet MIL-STD-461F, MIL-STD-704F, and MIL-STD-1275D requirements. A standard acrylic conformal coating provides protection against moisture, dust, and salt atmosphere, supporting long-term operation in rugged SOSA-aligned systems.

### Design & Components

Conduction-cooled 3U VPX power supply module
SOSA™ aligned, ANSI/VITA 62.0 compliant design
Embedded microprocessor for monitoring and control
No wet electrolytic capacitors used

### Mechanical Dimensions

3U VPX, 5HP (1.0 inch pitch)
Weight: approx. 0.82 kg (1.8 lbs)
Fits VITA 46.0 mechanical envelope
Designed for use with wedge-lock heat sink

### Power & Efficiency

Maximum output power up to 600 W
Nominal input voltage: 28 VDC or 48 VDC
Wide input voltage range: 12 VDC … 68 VDC
Overall efficiency approx. 85 % … 92 %,
approx. 88 % at full 600 W load
Reverse polarity protection included

### Software Features

Remote ON / OFF control
Global status and fault monitoring
Per-output voltage, current and temperature monitoring
Event and status reporting via I²C or USB interface
Windows-based user software for monitoring, diagnostics and calibration

### Protection Features

Input overvoltage protection
(outputs disabled if Vin > 68 VDC for > 600 ms, auto-restart)
Undervoltage lockout
(Turn-ON at 12 V, Turn-OFF at 8 V)
Overtemperature protection with internal temperature monitoring
Input-to-output, input-to-case and output-to-case isolation: 500 V

### Management & Control

Microprocessor-controlled power management
Dual I²C communication interfaces (SM0 / SM1)
VITA 46.11 compliant intelligent power management interface (IPMI 2.0)
Monitoring of input voltage/current, output voltages, currents and temperatures
USB-C 2.0 connector for service, monitoring and configuration

### Compliance

Compliant with ANSI/VITA 62.0
Designed to meet MIL-STD-461F (EMI)
Designed to meet MIL-STD-704F (aircraft power)
Designed to meet MIL-STD-1275D (vehicle power)
Ruggedized design per MIL-STD-810 (shock, vibration, temperature)
Standard acrylic conformal coating (alternative coatings on request)

# Block Diagram

VX3060DMS – Output Table

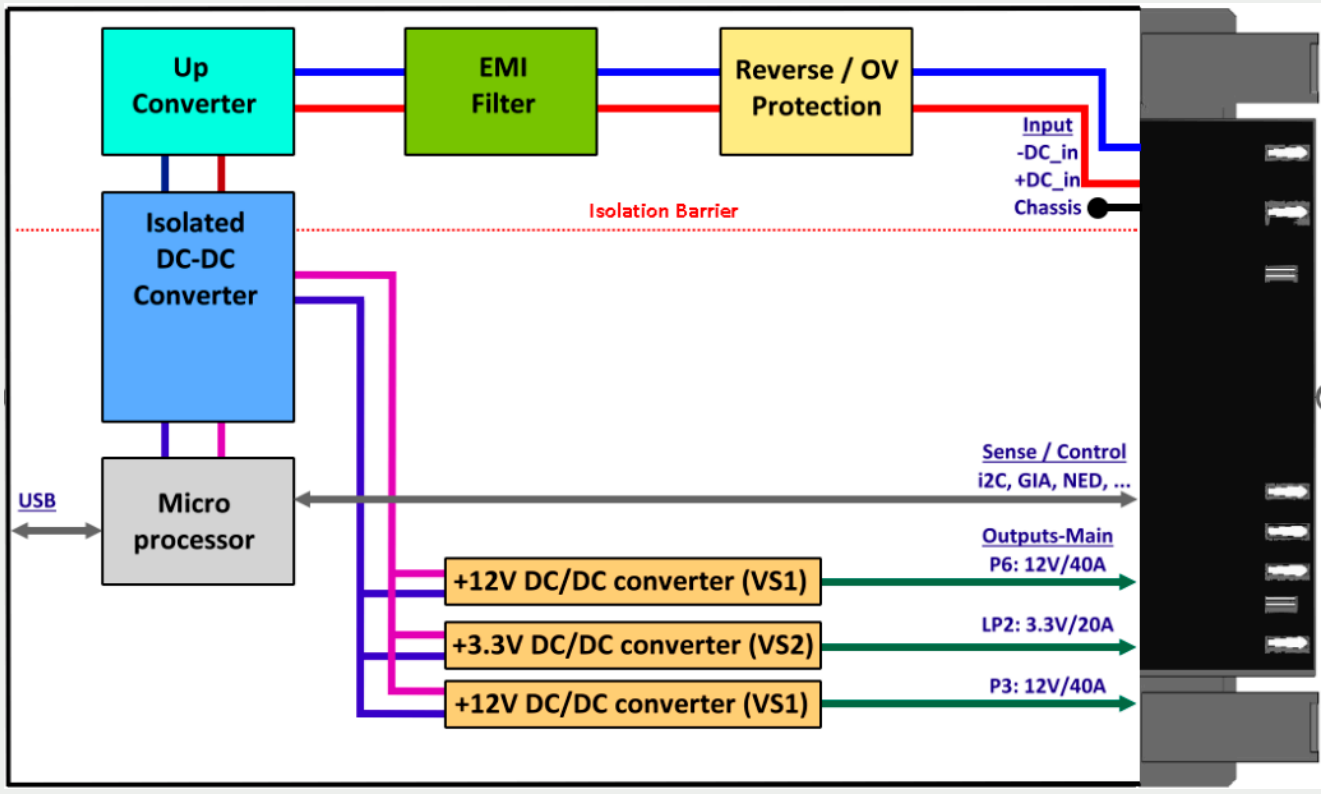
| Output | Voltage | Max. Current |
|---|---|---|
| VS1(P6) | +12 V | 30 A |
| VS1(P3) | +12 V | 30 A |
| VS2 | +3.3 V | 20 A |

Input Voltage: 28 V DC
Total Power: 600 W
Compliance: ANSI/VITA 62.0;
designed for MIL-STD 1275D, 704, 810, 461F
Conformal Coating: Standard acrylic

VPX360EMS – Output Table

| Output | Voltage | Max. Current |
|---|---|---|
| VS1(P6) | +12 V | 30 A |
| VS1(P3) | +12 V | 30 A |
| VS2 | +3.3 V | 20 A |

Input Voltage: 48 V DC
Total Power: 600 W
Compliance: ANSI/VITA 62.0; designed for MIL-STD
1275D, 704, 810, 461F Conformal
Coating: Standard acrylic



# Technical Information

| Article | Description | Ordering Code | Variant |
|---|---|---|---|
| VPX360DMS | 600W 3U VITA 62 VPX power supply Standard Version, 28V key, MIL-STD-461, -704,-1275 compliant, with standard acrylic conformal coating | 0VPX-360DMS | Leaded soldering |
| | | 0VPX-360DMS1 | RoHS |
| VPX360EMS | 600W 3U VITA 62 VPX power supply Standard Version, 48V key, MIL-STD-461, -704,-1275 com- pliant, with standard acrylic conformal coating | 0VPX-360EMS | Leaded soldering |
| | | 0VPX-360EMS1 | RoHS |

# Technical Data

| | | |
|---|---|---|
| Form Factor | 3U VPX CC | |
| Pitch | 5 HP / 1.0 inch | |
| Weight | 0.8 kg / 1.8 lbs | |
| Operating Temperature (at wedge lock) | -40 °C to 85 °C (relative humidity 95 %) | |
| Storage Temperature | -55 °C to 105 °C | |
| Isolation | Input to Output Isolation | 500 V |
| | Input to Case Ground Isolation | 500 V |
| | Output to Case Ground Isolation | 500 V |
| Case Ground to Safety Ground Resistance | < 10 mΩ (TBC) | |
| Power | Maximum Output Power | 600 W |
| | Maximum Input Power | ~680W |
| | Maximum Dissipated Power @ max. Power | ~80W |
| Nominal Input Voltage | 28 V DC / 48V DC (different keys) | |
| Minimum Turn ON Voltage | 12 V | |
| Minimum Turn OFF Voltage | 8 V | |
| Maximum Continuous/Peak Input Voltage | 68 V / ± 250 V (<1 ms spike) | |
| Input Overvoltage Protection: | Outputs disable if input voltage exceeds 68 VDC for > 600 ms (10 second auto-restart) | |
| Maximum Internal Working Temperatures | 125 °C | |

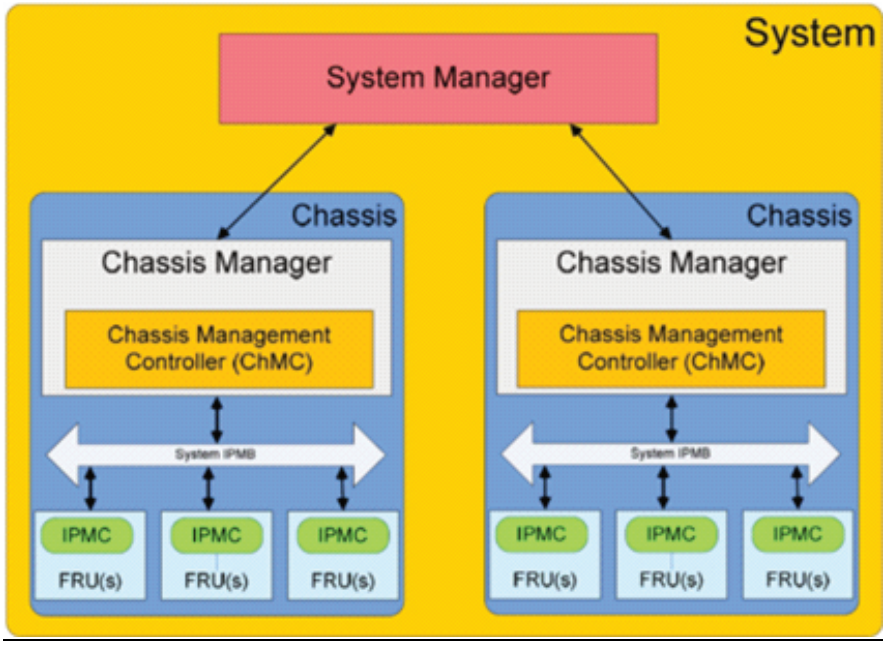
# Technical Information

| | |
|---|---|
| Temperature Protection Sensing Point (internal) | 125 °C |
| Temperature Protection Sensing Point (internal) | 125 °C (Outputs disable when internal PCB temperature exceeds threshold) |
| Maxim um Currents 12V / 3V3 | see tables in "variants" for different power configurations |
| Fixed Switching Frequencies 12V / 3V3 | 520 kHz / 520 kHz |
| Peak Efficiencies 12V / 3V3 | 93% / 82% |
| Max. Output Ripple and N oise: 12V / 3V3 | < 120 mVpp / < 50 mVpp |
| (0-20 MHz Bandwidth) | < 30 mVpp / < 25 mVpp |
| Line Regulation: 12V / 3V3 | < 10 mV / 10 mV |
| Vin=Vin , min to Vin,max, load and Tc fixed | < 0.1% |
| Load Regulation: 12V / 3V3 | 60 mV / 50 mV |
| 12V / 3V3: M aximum Output Voltage (Sense Lines Open) | 12.3 V / 3.45 V |
| Load Transient Recovery Time ( 50 % load change condition) | 1 ms |
| MIL Standard Compliance | as per VITA 62 specification |
| MIL-STD-461F (EMI) Compliance | Designed (to be tested) in compliance with sections CE102, CS101, CS114, CS115, CS116. See user manual for more details. |
| MIL-STD-704F Compliance | Designed (to be tested) in compliance for normal transients (LDC105), abnormal transients (LDC302) and distortion spectrum (LDC103). External hold-up circuit optional. See user manual for more details. |

# IPMB Communication Protocol

**The IPMB protocol is in compliance with VITA 46.11 and SOSA® for VPX power supplies. For further information, please refer to VITA 46.11 specification.**

**Overview**




**The Chassis Manager communicates inside the chassis with Intelligent Platform Management Controllers (IPMCs), each of which is responsible for local management of one or more Field Replaceable Units (FRUs).**
**Management communication within a chassis occurs primarily over the Intelligent Platform Management Bus (IPMB), which is implemented in an optionally dual redundant basis as the System IPMB in VITA 46.11. (If the IPMB is redundant you distinguish between IPMB A and IPMB B)**

**Every FRU has an own Hardware address (7 Bit). Every Hardware address should be unique within a chassis.**
**Aside from that, every FRU has its own physical address, which is build from a Site Type and a Site Number (detailed description in VITA 46.11 4.1.3.3)**

# IPMB Communication Protocol

## IPMB Addressing

**The IPMB Address is defined by the Hardware Address. There are three Geographical Address Pins GA0*, GA1* and GA2* available. (VITA46.11 Rule 4.1.3.1.2-1)**

**GA0*, GA1* and GA2* are inverted logic inputs with internal 10kOhm pullup.**

**The Hardware Address of a Module is given by adding 20h to the Geographical Address. (VITA46.11 Rule 4.1.3.1.1-7, Table 4.1.3.1-2)**

**To calculate the IPMB Address simply multiply the Hardware Address with 2 (or shift the bits 1 left) (VITA46.11 Rule 4.1.3.2-2)**

| GA2* | GA1* | GA0* | Hardware Address | IPMB Adresse |
|---|---|---|---|---|
| U | U | U | 20h | 40h |
| U | U | G | 21h | 42h |
| U | G | U | 22h | 44h |
| U | G | G | 23h | 46h |
| G | U | U | 24h | 4Eh |
| G | U | G | 25h | 4Ah |
| G | G | U | 26h | 4Ch |
| G | G | G | 27h | 4Eh |

**U = Unconnected; signal is pulled-up on the module and results in a logical “0”**

**G = Biased to Ground on the Backplane; results in a logical “1”**

**For programming use the following instruction:**

**20h = 0b0010 0000**

**For a 7-bit Address:**

**HARDWARE_MSB_ADDR = 0b01000 // 5 MSB bits from 20h, GA1, GA0**

**-> shift left**

**-> if GA2* 0, add 1**

**-shift left**

**-> if GA1* 0, add 1**

**-> shift left**

**-> if GA0 == 0 add 1**

## Physical Address

**The physical Address is a description of the tangible location of a FRU within a Chassis. It is intended to aid an operator in locating a FRU wihtin a Chassis.**

**It consists of a pair of Values: Site Type and Site Number.**

# IPMB Communication Protocol

**Site Type**

**The Site Type describes the identity of the FRU (for example: The Site Type of a Front Loading VITA 62 Module is 0Dh)**

**A full list of Site Types can be found in VITA 46.11 Rule 4.1.3.3-1, Table 4.1.3.3-1**

**Site Number**

**The Site Number identifies a specific FRU within a chassis in case that multiple modules of the same type are installed. Therefore, the Site Number needs to be a unique Number for every FRU of a specific Site Type in the Chassis.**

**The Site Number is equivalent so the Geographical Address for the FRU, interpreted as a numeric field.**

| GA2* | GA1* | GA0* | Site Number |
|---|---|---|---|
| U | U | U | 1 |
| U | U | G | 2 |
| U | G | U | 3 |
| U | G | G | 4 |
| G | U | U | 5 |
| G | U | G | 6 |
| G | G | U | 7 |
| G | G | G | 8 |

**IPMB Commands**

**Global Commands**

| Command Name | CMD | Additional informations |
|---|---|---|
| Get Device ID | 01h | |
| Cold Reset | 02h | |
| Get Self-Test Result | 04h | |
| Broadcast "Get Device ID"(3) | 01h | |
| | | |

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