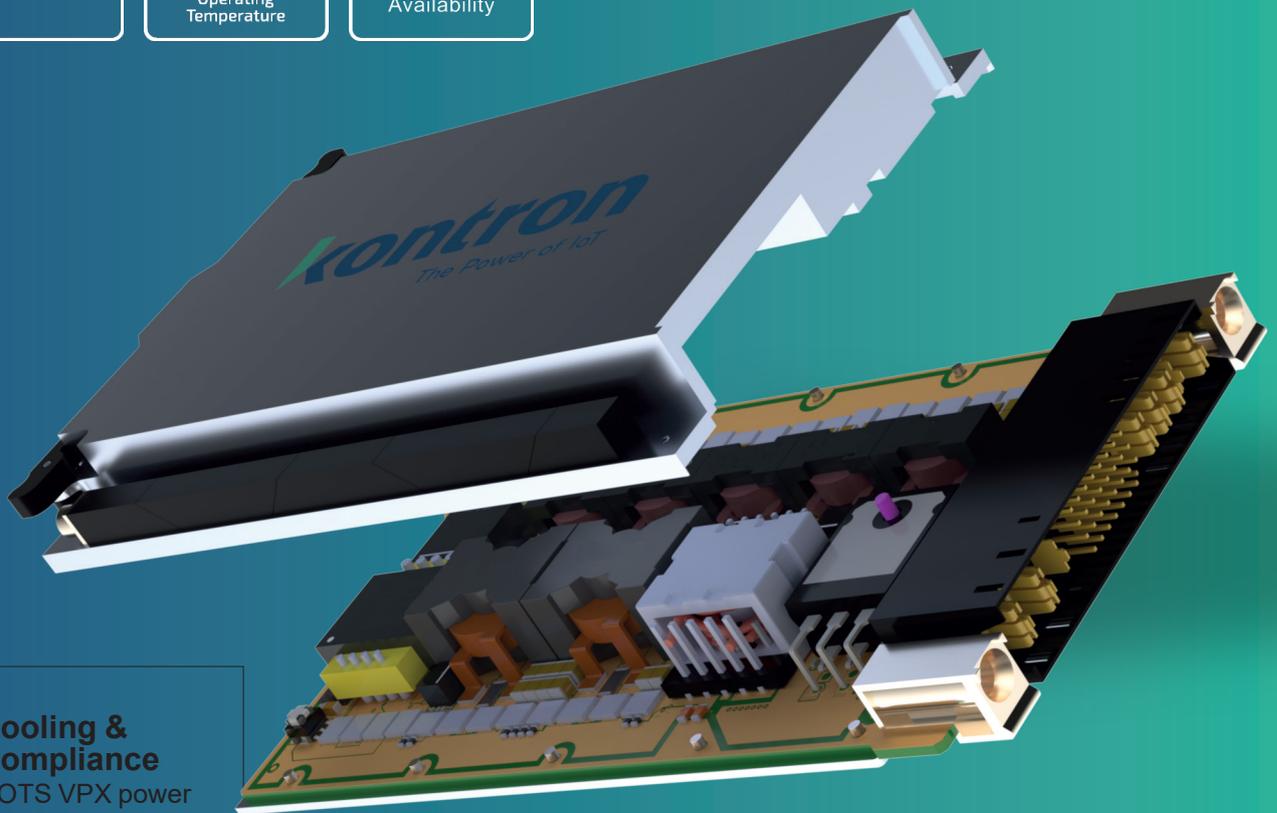


# VPX 360

Made  
in  
Germany

**-40°**  
**85°C**  
Operating  
Temperature

**10**  
Years  
Availability



## Cooling & Compliance

COTS VPX power supply with conduction cooling (VITA 62.0 compliant)

## Compact Form

Compact 3U x 5HP form factor, fits standard VITA 46.0 envelope

## Flexible Input

Supports both 28VDC and 48V DC input platforms

## Power & Efficiency

High output power and efficiency through next-gen switching technology

## Monitoring & Standards

I<sup>2</sup>C (IPMI optional) and USB monitoring; designed to meet MIL-STD 461,704 and 1275

# VPX360 600 WATT

Kontron Hartmann Wiener VPX360 power supplies are conduction-cooled, commercial off-the-shelf (COTS) converters designed according to ANSI/VITA 62.0 and compatible with standard VPX chassis per VITA 46.0. Thanks to our next-generation switching power technology, the series delivers increased output power and current in a compact 3U x 5HP footprint, while maintaining high efficiency. A newly developed input filter, combined with a boost- and isolation stage, enables operation with both 28V DC and 48V DC input systems. Built to meet MILSTD-

461, 704, and 1275 requirements, the VPX360 also features onboard monitoring and control via I<sup>2</sup>C (IPMI) and USB. All mechanical and electrical interfaces follow the VITA 62 standard. Rugged design for operation in harshest environments. MIL-STD 810G compliance tested. Manufactured with conformal coating to withstand sand, dust and salt atmosphere. The electronic components are fully conformal coated to ensure long-term protection against moisture, dust, and environmental stress

VX3060DMA – Output Table

Output	Voltage	Max. Current
VS1	+12 V	40 A
VS2	+3.3 V	20 A
VS3	+5 V	40 A
Vaux1	+12 V	1 A
Vaux2	-12 V	1 A
Vaux3	+3.3 V	6 A

Input Voltage: 28 V DC Total Power:  
600 W Compliance: VITA 62, MIL-STD-461 / -704 /  
-1275 Conformal Coating: Standard acrylic

VPX360EMA – Output Table

Output	Voltage	Max. Current
VS1	+12 V	40 A
VS2	+3.3 V	20 A
VS3	+5 V	40 A
Vaux1	+12 V	1 A
Vaux2	-12 V	1 A
Vaux3	+3.3 V	6 A

Input Voltage: 48 V DC Total Power:  
600 W Compliance: VITA 62, MIL-STD-461 / -704 /  
-1275 Conformal Coating: Standard acrylic

### Design & Components

- › No liquid / wet / aluminum electrolytic capacitors

### Mechanical Dimensions

- › 100.0 mm x 168.5 mm x 19.56 mm (3.94 in x 6.63 in x 0.97 in)

### Power & Efficiency

- › Next generation power conversion technology
- › Output power up to 600W with high efficiency
- › Dual / wide input voltage range: 12 V DC ... 68 V DC (nominal 28V and 48V)
- › Reverse polarity and input overvoltage protection.

### Software Features

- › Programmable Enable/Inhibit behaviour
- › Programmable power on delay per channel
- › Event log
- › Customizable failure handling on request

### Protection Features

- › Voltage sense controlled
- › Overvoltage, Undervoltage, Overcurrent, Over Temperature protection, hardware current limit

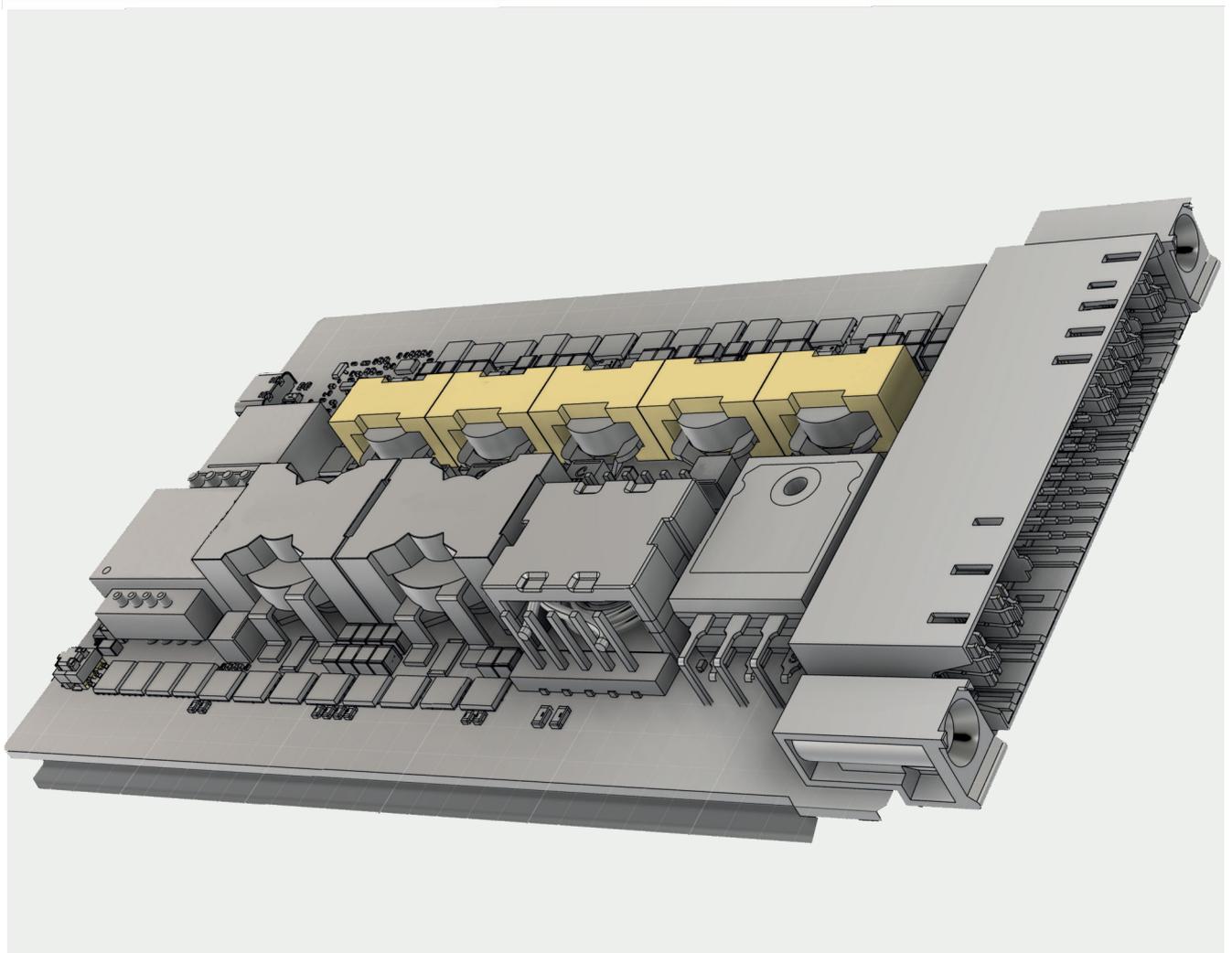
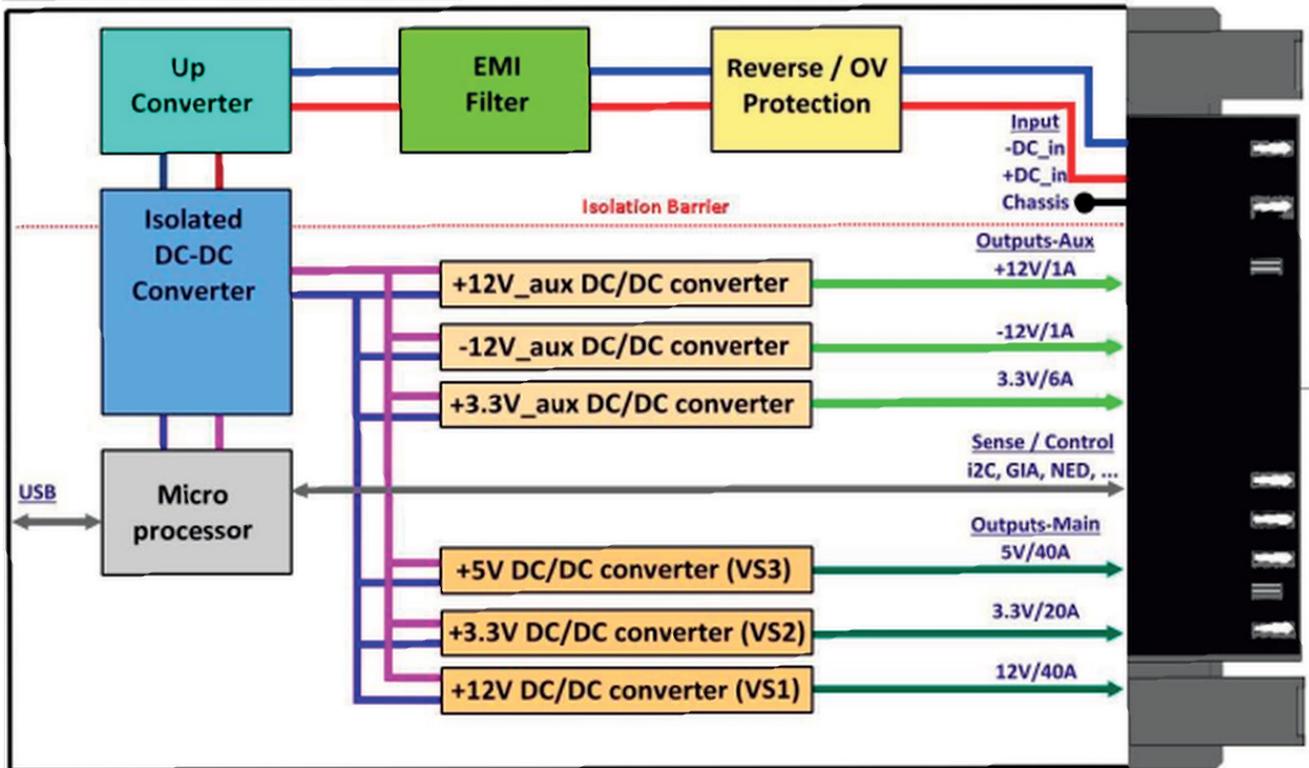
### Management & Control

- › Microprocessor controlled
- › I<sup>2</sup>C bus communication for monitoring (status input and 6 output voltages and currents, temperatures) optional control features
- › USB-C connector for communication and firmware
- › IPMI support as per VITA 46.11

### Compliance

- › Compliant to VITA 62 specification
- › MIL-STD-461, MIL-STD-704, MIL-STD-1275 compliance (to be tested as per VITA 62, par. 3.2.1)
- › Ruggedized to MIL-STD-810, with standard conformal coating (other on request)

# Block Diagram



Article	Ordering Code	Description	Variant
VPX360DMA	VPX360DMA	600W 3U VITA 62 VPX power supply Standard Version, <b>28V</b> key, MIL-STD-461, -704,-1275 compliant, with standard acrylic conformal coating	
VPX360DMA	VPX360DMA1	600W 3U VITA 62 VPX power supply Standard Version, <b>28V</b> key, MIL-STD-461, -704,-1275 compliant, with standard acrylic conformal coating	RoHS
VPX360EMA	VPX360EMA	600W 3U VITA 62 VPX power supply Standard Version, <b>48V</b> key, MIL-STD-461,-704,-1275 compliant, with standard acrylic conformal coating	
VPX360EMA	VPX360EMA1	600W 3U VITA 62 VPX power supply Standard Version, <b>48V</b> key, MIL-STD-461, -704,-1275 compliant, with standard acrylic conformal coating	RoHS

## Technical Data

<b>Form Factor</b>	3U VPX CC	
<b>Pitch</b>	5 HP / 1.0 inch	
<b>Weight</b>	0.8 kg / 1.8 lbs	
Operating Temperature (at wedge lock)	-40 °C to 85 °C (relative humidity 95 %)	[derate max power from 600 W to 500 W (linear) for 75 °C to 85 °C operation
Storage Temperature	-55 °C to 105 °C	
<b>Isolation</b>	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)	
<b>Power</b>	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	8V	
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)
<b>Maximum Currents 12V / 3V3 / 5V</b>	see tables in "variants" for different power configurations
Fixed Switching Frequencies 12V/3V3/5V	520 kHz / 520 kHz / 520 kHz
Peak Efficiencies 12V / 3V3/ 5V	92% / 82% / 87%
<b>Max. Output Ripple and Noise: 12V / 3V 3 / 5V</b>	< 120 mVpp / < 50 mVpp / < 50 mVpp (worst case)
(0-20 MHz Bandwidth)	< 30 mVpp / < 25 mVpp / < 25 mVpp (typical)
Line Regulation: 12V / 3V3/ 5V.	< 10 mV / 10 mV / 50 mV
<b>Vin=Vin , min to Vin,max, Io and Tc fixed</b>	< 0.1%
Load Regulation: 12V / 3V3 / 5V	60 mV / 50 mV / 10 mV
<b>12V / 3V3 / 5V: Maximum Output Voltage (Sense Lines Open)</b>	12.3 V / 3.45 V / 5.15 V
Load Transient Recovery Time ( 50 % load change condition)	1 ms
<b>AUX Channels</b>	
Maximum Current	1A/ 1A/ 6A
Load Dependent Switching Frequency	300 Hz ... 600 kHz
Efficiency	60% ... 70%
Max. Output Ripple and Noise (0-20 MHz Bandwidth)	< 120 mVpp / < 50 mVpp / < 50 mVpp
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.

# kontron

The Power of IoT

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**Manual VPX360**



**More VPX**

