

NIM & VME Powered Crates Family

NIM8302 • 5U Compact crate, 10 slot, 150 W

NIM8303 • 5U crate, 12 slot, 300/600 W

NIM8301 • 7U crate, 12 slot, smart fan unit, 300/600 W

VME8002 • 5U 9 Slot VME64 Mini Crate

VME8010/VME8011 • 6U 21 Slot VME64 Low Cost Crates

VME8100 • 8U 21 Slot VME64/64X Enhanced Crate series



VME Family



VME8002

MiniCrate: 9 slot, VME64, integrated fan unit and removable power supply, CANBUS interface

VME8010/VME8011

Low Cost: 21 slot, VME64, integrated or removable Power Supply, integrated Fan Unit, no remote control and monitor

VME8100 series

Enhanced: 21 slot, VME64 or VME64X, removable Power Supply, removable smart Fan Unit, CANBUS, TCP/IP, RS232 and USB 2.0 control

Technical Specifications

	VME8002	VME8010/VME8011	VME8100 series
Mechanics	19" x 5U bin for 6U x 160 mm VME cards, 9 slot, Backside 6U/4U 80 mm interface boards	7U bin for 6U x 160 mm VME cards, 21 slots, 1U space for fan tray	8U bin for 6U x 160 mm VME cards, 21 slots, 2U space for fan tray
Backplane	VME64 J1/J2 9 slot, CBLT compliant	VME64 J1/J2, CBLT compliant	VME64 J1/J2, VME64X J1/J2 – J1/J0/J2 Automatic daisy chain, CBLT compliant
Mains input	220 Vac or 110 Vac, 50±60 Hz	Auto range: 85 ÷ 264 Vac, 47±63 Hz,	Auto range: 92 ÷ 264 Vac, 50±60 Hz,
Power	350 W	470 W @ 110 ÷ 264 Vac	1200 W @ 100 Vac 2530 W @ 211 Vac
Interface	CAN bus	N. A.	RS 232, USB (2.0), CAN bus, Ethernet
Maximum currents	30 A @ +5 V 8.5 A @ -12 V, 8.5 A @ +12 V	60 A @ +5 V 6 A @ -12 V 8.9 A @ +12 V	110/220 A @ +5 V 20/40A @ ±12 V 110/220 A @ +3.3 V
Isolation	CE acc. to EN 61010	CE acc. to EN 61010	CE acc. to EN 61010
Load Regulation for 0-100% load change	< 40 mV @ +5 V < 100 mV @ ±12 V	< 25mV @ +5V, ±12V	< 10 mV @ +5 V, +3,3 V < 15 mV @ ±12 V
Noise and ripple	< 20 mVpp @ +5 V, ±12 V	< 50 mVpp @ +5 V < 120 mVpp @ ±12 V	< 10 mVpp @ +5 V, +3,3 V, ±12 V
Over Voltage Protection	Trip off at 115-135% of the nominal values	Trip off at 120-130% of the nominal values	Trip Off when the output voltage > 103% ÷ 120% (programmable) of set voltage
Under Voltage Protection	Trip off at 75-80% of the nominal values		Trip Off when the output voltage < 80% ÷ 97% (programmable) of set voltage
Over Current Protection	Trip off at 105-140% of the nominal values	Trip off at 105-125% of the nominal values	Trip Off when the current > programmable Iset value
Over Temperature Protection	Trip Off when heat sink temperature > 50° C	Yes, Trip off all Output Voltages and PS internal fan	Trip Off when temperature of a single Power Supply block > 90° C
Operation	0÷50°C without derating	0÷50°C without derating,	0÷50°C without derating,
Cooling Airflow	89 m³/h	408 m³/h	540 m³/h (at maximum fan speed)

Smart fan units for NIM & VME Crate



- The fan unit is changeable
- The fan unit houses a OLED technology graphic display
- The fan unit houses 4 remote interfaces: CANBUS, TCP/IP, RS232, USB 2.0

• All the operating functions are available through a smart human interface using an ergonomic pointer

NIM Family



NIM8302

SMALL: short size, only 150W Power Supply using 2 bin slot, no Fan Unit

NIM8303

MEDIUM: std size, 300W or 600W removable Power Supply, no Fan Unit, 1/2 NIM width Control Panel

NIM8301

LARGE: std size, 300W or 600W removable Power Supply, removable smart Fan Unit, CANBUS, TCP/IP, RS232 and USB 2.0 control

Technical Specifications

	NIM8302	NIM8303	NIM8301
Mechanics	19" x 5U bin, short size, 12 slot (10 slot free), non ventilated	19" x 5U bin, std size, 12 slot, non ventilated	19" x 7U (5+2) bin, 12 slot, 2U space for fan tray
Mains input	230 VAC or 115 VAC (± 10%), 50-60 Hz.	230 VAC or 115 VAC (± 10%), 50-60 Hz.	230 Vac or 115 Vac (± 10%), 50-60 Hz.
Power	150 W	300/600 W	300/600 W
Interface	N.A.	N.A.	RS 232, USB (2.0), CAN bus, Ethernet
Maximum currents	5 A @ ±6V 3 A @ ±12 V 1.5 A @ ±24 V	17/45 A @ ±6V 0.3 A @ +115VAC (*) 3.4/18 A @ ±12 V 3.4/8 A @ ±24 V	17/45 A @ ±6V 0.3 A @ +115VAC (*) 3.4/18 A @ ±12 V 3.4/8 A @ ±24 V
Isolation	CE acc. to EN 61010	CE acc. to EN 61010	CE acc. to EN 61010
Noise and ripple	< 5 mVpp @ ±6V < 8 mVpp @ ±12 V < 10 mVpp @ ±24 V	< 3 mVpp @ ±6V, ±12 V, ±24 V	< 3 mVpp @ ±6V, ±12 V, ±24 V
Status control	Fail/Status LED	Status LED, Fail LED, Temperature LED, Control LEDs and test pins for all voltages	Alarm signaled by FAIL LED, FAIL signal and buzzer Alarm reason displayed on FAN unit OLED display and managed by remote control
Temperature sensors	Nr. 1	nr. 4 @ 300W nr. 2 @ 600W	nr. 4 @ 300W nr. 2 @ 600W, FAN Unit: nr. 2 Backplane: nr. 6 (optional)
Over Voltage Protection	Trip Off when the output voltage > 110% of nominal voltage	Trip Off when the output voltage > 105% of nominal voltage	Trip Off when the output voltage > 105% of nominal voltage
Under Voltage Protection	Trip Off when the output voltage < 90% of nominal voltage	Trip Off when the output voltage < 95% of nominal voltage	Trip Off when the output voltage < 95% of nominal voltage
Over Current Protection	Trip Off when current: > 6 A @ +24 V, +12V > 2 A @ - 24 V > 3.7 A @ -12 V > 10 A @ ±6V	Trip Off when the current > 115% of maximum nominal value	Trip Off when the current > programmable Iset value
Over Temperature Protection	Trip Off when temperature > 75° C	Trip Off when temperature of heat sink > 70° C or when transformer temperature > 110° C	Trip Off when temperature of heat sink > 70° C or when transformer temperature > 110° C
Operation	0 ÷ 50° C without derating,	0 ÷ 50° C without derating,	0 ÷ 50° C without derating,
Cooling Airflow:	N.A.	N.A.	540 m³/h (at maximum fan speed)

(*) Optional (This version does not fulfil CE safety restrictions)



VME Crate Ordering option

Backplane	Description	Ordering Code	+5V	+12V	-12V	+3.3V
VME64 J1/J2	8U VME64 21 slot crate, J1/J2, smart fan unit	WV8100VME000	110 A	20 A	20 A	
		WV8100VME002	110 A	40 A	40 A	
		WV8100VME001	220 A	20 A	20 A	
		WV8100VME003	220 A	40 A	40 A	
VME64X J1/J2	8U VME64X 21 slot crate, J1/J2, smart fan unit	WV8100VME004	110 A	20 A	20 A	110 A
		WV8100VME006	110 A	20 A	20 A	220 A
		WV8100VME008	110 A	40 A	40 A	110 A
		WV8100VME005	220 A	20 A	20 A	110 A
		WV8100VME010	110 A	40 A	40 A	220 A
		WV8100VME007	220 A	20 A	20 A	220 A
		WV8100VME009	220 A	40 A	40 A	110 A
		WV8100VME011	110 A	20 A	20 A	110 A
VME64X J1/J0/J2	8U VME64X 21 slot crate, J1/J0/J2, smart fan unit	WV8100VME013	110 A	20 A	20 A	220 A
		WV8100VME015	110 A	40 A	40 A	110 A
		WV8100VME012	220 A	20 A	20 A	110 A
		WV8100VME017	110 A	40 A	40 A	220 A
		WV8100VME014	220 A	20 A	20 A	220 A
		WV8100VME016	220 A	40 A	40 A	110 A

Backplane	Description	Ordering Code	+5V	+12V	-12V	+3.3V
VME64 J1/J2	5U VME64 9 slot Mini crate, J1/J2	WV8002VME000	30 A	8.5 A	8.5 A	
	7U VME64 Low cost 21 slot crate, J1/J2	WV8010VME000 (*)	60	6	8.9	
		WV8011VME000	60	6	8.9	

(*) NOT Pluggable Power Supply

NIM Crate Ordering option

Form factor	Power	Ordering Code	±6V	±12V	±24V	115VAC(*)
5U 12 slot (10 free) short size	150 W	WNIM8302150W	5 A	3 A	1.5 A	
	300 W	WNIM8303300W	17 A	3.4 A	3.4 A	0.3 A
5U 12 slot std size	600 W	WNIM8303600W	45 A	8 A	8 A	0.3 A
		WNIM8303600Y	20 A	15 A	4 A	0.3 A
		WNIM8303600Z	45 A	18 A		0.3 A
7U 12 slot std size smart Fan Unit	300 W	WNIM8301300W	17 A	3.4 A	3.4 A	0.3 A
	600 W	WNIM8301600W	45 A	8 A	8 A	0.3 A
		WNIM8301600Y	20 A	15 A	4 A	0.3 A
		WNIM8301600Z	45 A	18 A		0.3 A

(*) Optional (This version does not fulfil CE safety restrictions)

EMC Compatibility

Conducted emissions	CEI EN 61000-6-3:2007	CEI EN 55011:1999 Class B + /A1:2000 + /A2:2003
Radiated emissions	CEI EN 61000-6-3:2007	CEI EN 55011:1999 Class B + A1:2000 + A2:2003
Current Harmonics emissions	CEI EN 61000-3-2:2005	
Flicker emissions	CEI EN 61000-3-3:1997 +/A1:2002 +/A2:/IS1:2006	
Electrostatic discharge (ESD) immunity test	CEI EN 61000-6-2:2006	CEI EN 61000-4-2:1996 +/A1:1999, +/A2:2001
Radiated radio-frequency field immunity test	CEI EN 61000-6-2:2006	CEI EN 61000-4-3:2007
Electrical Fast Transient/Burst immunity test	CEI EN 61000-6-2:2006	CEI EN 61000-4-4:2006
Surge immunity test	CEI EN 61000-6-2:2006	CEI EN 61000-4-5:2007
Conducted radio-frequency field immunity test	CEI EN 61000-6-2:2006	CEI EN 61000-4-6:1997 +/A1:2001 +/IS1:2005
50 Hz magnetic field immunity test	CEI EN 61000-6-2:2006	CEI EN 61000-4-8:1997 +/A1:2001
Voltage Dips immunity test	CEI EN 61000-6-2:2006	CEI EN 61000-4-11:2006
Safety	CEI EN 61010-1:2001	



CAEN S.p.A.
Via Vetraia, 11
55049 Viareggio - Italy
Tel. +39.0584.388.398
Fax +39.0584.388.959
info@caen.it
www.caen.it

CAEN GmbH
Eckehardweg 10
42653 Solingen - Germany
Tel. +49.212.2544077
Mobile 49(0)15116548484
Fax +49.212.2544079
info@caen-de.com
www.caen-de.com

CAEN Technologies, Inc.
1140 Bay Street - Suite 2 C
Staten Island, NY 10305 - USA
Tel. +1.718.981.0401
Fax +1.718.556.9185
info@caentechnologies.com
www.caentechnologies.com

About us. CAEN SpA is acknowledged as the only company in the world providing a complete range of High/Low Voltage Power Supply systems and Front-End/Data Acquisition modules which meet IEEE Standards for Nuclear and Particle Physics. Extensive Research and Development capabilities have allowed CAEN SpA to play an important, long term role in this field. Our activities have always been at the forefront of technology, thanks to years of intensive collaborations with the most important Research Centres of the world. Our products appeal to a wide range of customers including engineers, scientists and technical professionals who all trust them to help achieve their goals faster and more effectively.