

VME Minicrate Series 100

User's Manual

General Remarks

The only purpose of this manual is a description of the product. It must not be interpreted as a declaration of conformity for this product including the product and software.

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Packaging

To prevent transport damages, the front angles and rubber feet are normally unmounted and packed separately together with the power cord. Depending of the future usage either 19" angles or rubber feet (or both) has to be fixed to the given points by use of the delivered screws.

Mains Voltage

The VME Minicrates 174 and 195 are equipped with a "World"- mains input, which works properly from 94VAC up to 264VAC and within a frequency range of 47 to 63Hz.

Before connecting to the mains please double-check correspondence.

Safety

After connecting the Minicrate to the mains, the mains input module is permanent powered. Filter and storage capacitors of the power factor correction module are charged with more than **420VDC**. The power switch at frontpanel operates as a DC on/off switch only and not as a mains breaker. **Therefore it becomes dangerous if the box cover is open and the floppy cage has been removed. In this case a lot of components on high voltage potential get touchable!**

Before starting this kind of work remove the Minicrate from mains and wait a couple of minutes with your activities!

Declaration of Conformity

Declaration de Conformité - Dichiarazione di Conformita – Konformitätserklärung

Art. 10.2 of 89/336 and 89/392 / ECC

W-IE-NE-R
Plein & Baus GmbH

declare under our own responsibility that the product
declarons sous notre seule responsabilité que le produit
dichiariamo sotto nostra esclusiva Responsabilita´che il Prodotto
erklärt in eigener Verantwortung, dass das Produkt

VME – Mini crate 174, 195 (A, C, D)
Item: 0300.x1xx, 0373.x1xx

to which this declaration relates, is in conformity with the following standards or normative documents :
auquel cette declaration se refait,est conforme aux normes ou aux autres documents normatifs:
al quale si riferisce la Dichiarazione, e´ in conformita´ alle Seguenti normative:
auf das sich diese Erklärung bezieht, mit den folgenden Normen oder normativen Dokumenten
übereinstimmt:

1. EN 50 081 - 1
2. EN 61 000 3 - 2
3. EN 50 082 - 1
4. EN 60 950

Conditions: Use in conformity of the definition and equipped with fully closed slots by
EMC front panels and cover sheets.

Bedingungen: Bestimmungsgemäßer Gebrauch, bei dem alle Slots mit EMC Frontplatten
bestückt und Abdeckbleche angebaut sind.

Name and signature of authorized person

Place and Date

Nome et signature du signataire autorisé

Lieu et date

Nome de Firma della Persona autorizzata

Luogo e Data

Name und Unterschrift des Befugten

Ort und Datum

Burscheid 22.12.1998

Dipl. Ing. Jürgen Baus
Director

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1.1 Technical Data

Module cage formats

	Types 1xx	6U×160mm, VME,	Transition 6U × 160mm
	Types 2xx	6U×220mm, VME,	Transition 6U × 100mm
	Types 1xx / 2xx	Suffix VSB	Transition 3U to J2
Crate Size	Type 174 / 274	7 Slot	19" or 435mm × 4U (177mm), 430mm depth
	Type 195 / 295	9 Slot	19" or 435mm × 5U (222mm), 430mm depth
		Tower:	435mm height, Desktop: 435mm width,
Mains input	wide range:	94...264VAC, 47-63Hz, 400Hz on request	
	inrush current:	limited by cold-start-circuit, max. 20A	
	input current:	CE according to EN 61000-3-2, IEC 555 power. fact. 0,99 (230VAC),	
Isolation	Inp.-outp.	CE acc. to EN 60950, ISO 380, VDE 0805, UL 1950, C22.2.950	
Regulation	static:	< 25mV	(0%↔100% load, ±15% mains)
	dynamic :	< 100mV	(±25% load)
	recovery time:	<u>within ±1%</u> 0,2ms	<u>within ±0,1%</u> 1,0ms (±25% load)
Noise and ripple:		<15mV _{pp} , typical <10mV _{pp} (0-20MHz), 3mV _{rms} (0-2MHz)	
RFI-rejection:		CE EN 50081-1, FCC (emission), EN 50082-1 or 2 (immunity)	
Operation:		0...40°C without derating, rel. humidity 30...80%, non condensing atmospheric pressure 70...110kPa, for 600W continuous power >85kPa	
Storage:		-30°C up to 85°C	
Temp.-coefficient:		< 0,2% / 10K	
Stability:		10mV or 0,1% within 24 hours	25mV or 0,5% within 6 months
Current limits:		115% of rated current values!	
Overvoltage protection:		trip off, protection against broken sense lines	
DC Off (trip off):		within 5ms if +5%, -2,5% deviation from adjusted nominal values, afteroverload, overheat, overvoltage, undervoltage (bad status) and fan fail trip off voltages and currents adjustable, processor controlled.	
Internal temperature limits:		Cut off: 110°C heat sink, 70°C ambient, >45°C module exhaust accelerates fan speed to 100%	
Cooling air flow:		340m ³ h (at max. fan speed)	
Efficiency:		ca. 80%	
M T B F at full load:			
	Fan	>25 000 h (40°C), >65 000 h (25°C) ambient temperature	
	Electronics	>85 000 h (40°C)	

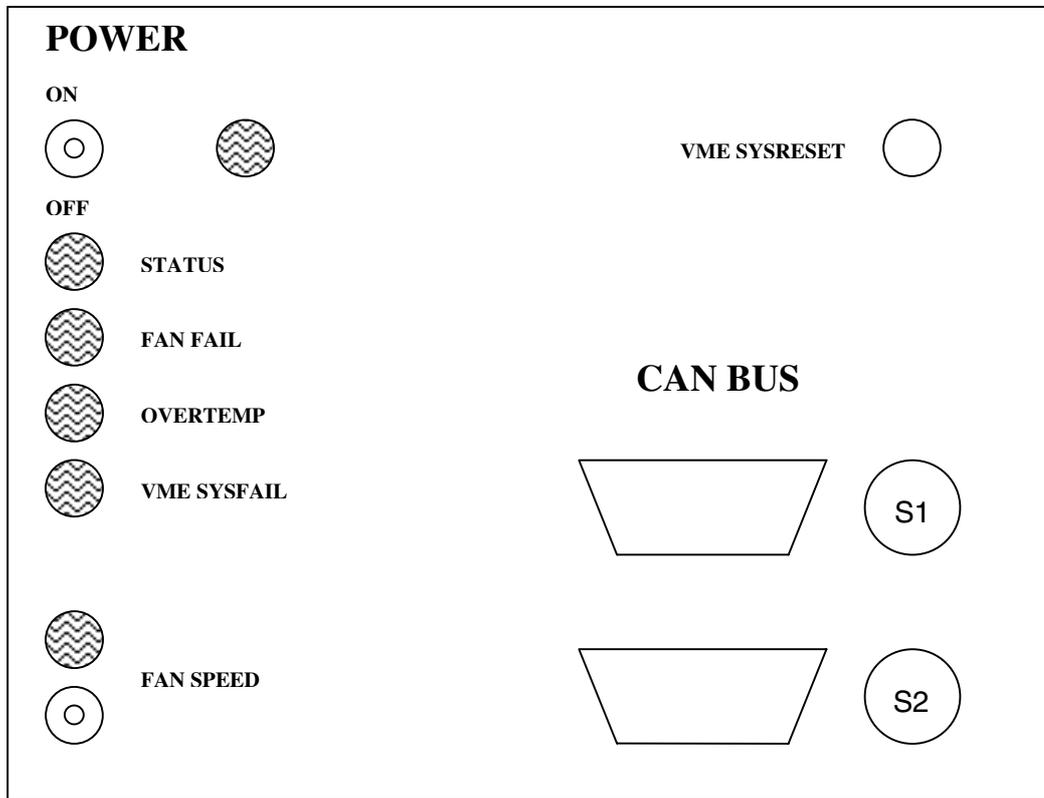
Outputs Type	+5V	+12V	-12V	-5,2V	-2V	+15V	-15V	3,3V	48V	Mains 94V	Mains >186V
174, 195	45A	6,8A	6,8A					*	*	390W	390W
174C, 195C	45A	6,8A	6,8A	45A	22A			*	*	650W	675W
174C15, 195C15	45A	6,8A	6,8A	45A	22A	5,5A	5,5A	*	*	650W	835W

* on request

Option: CANbus interface for Crate remote control. **W-IE-NE-R** CANtrol Protocol
 Additional temperature sensors for airflow control

1.2 MINICRATE Operating Elements

Frontpanel



1.3 Switches

POWER

push up: switch device on
push down: switch device off

FAN SPEED

push up: increase fan speed
push down: decrease fan speed

VME SYSRESET

generate a VME bus system reset

S1, S2

CAN bus control (see below)

1.4 LED's

POWER (green, 5 mm)	Lighting: The power supply is switched on
STATUS (green, 3 mm)	Lighting: All voltages are within limit Blinking: Mains ac failure
OVERTEMP (yellow, 3 mm)	Blinking: Temperature has reached the warning level. The fan is switched to full speed. Lighting: Temperature has reached failure level. The power supply has switched off.
VME SYSFAIL (red, 3 mm)	Lighting: A VME module pulls the VME bus sysfail line to low level
FAN SPEED (red, 3 mm)	Lighting relative to the fan speed. (off: full speed, blinking: slower, continuous lighting: slowest)

2 CAN bus interface (optional)

By use of an **optionally** possible interface inside the VME Minicrate all important crate parameters can be monitored and the fan can be single controlled. The *CANbus* is designed to control up to 126 Crates (if 127 is reserved for common call).

Depending from the distance between the Minicrate and the host the transmission rate can be selected up to 1,6Mbit/s by use of a simple flat cable.

2.1 Technical details of W-IE-NE-R - CANbus

CAN controller type:	P80C592 (CAN 2.0A protocol)
Physical Layer:	differential according to ISO 11898
Transceiver:	PCA82C250, opto-isolated, rise and fall slope control
CAN connector:	Two 9-pin DSUB (male, female) according to CiA DS 102-1
Protocol:	CAN-Bus Interface for W-IE-NE-R Crate Remote Control This protocol is described in a separate document (Part No. *00183.A0)

Pin	Line	Comment
1	-	reserved by CiA
2	CAN_L	CAN_L bus line (dominant low)
3	GND	Ground
4	-	reserved by CiA
5	-	reserved by CiA
6	-	
7	CAN_H	CAN_H bus line (dominant high)
8	-	reserved by CiA (failure signal)
9	-	

Can Bus Node Address: Selectable with the 2 hex-switches S1 (high) and S2 (low). Valid addresses are hex 00 (can bus disabled) to hex 7F (127).

Factory default address: 01

Baudrate: The baudrate is selectable with the two switches S1 and S2:

1. Switch the high one (S1) to hex C (for config).
2. Then select the baud rate index with the low switch (S2)
3. Wait at least 5 seconds
4. Select your preferred can bus node address with the two switches.

Factory default baudrate: 1 Mbit/s

Index	Max. Distance	Bit Rate	Type
0	10 m	1.6 Mbit/s	high- speed (needs termination)
1	40 m	1.0 Mbit/s	
2	130 m	500 kbit/s	
3	270 m	250 kit/s	
4	530 m	125 kbit/s	
5	620 m	100 kbit/s	low-speed
6	1300 m	50 kbit/s	
7	3300 m	20 kbit/s	
8	6700 m	10 kbit/s	
9	10.000 m	5kbit/s	