

# NiC 2000P SERIES

## Single Output Industrial 2000W Rack Mountable DC Power Supply

### Features

- Hot swap, N+1 redundant parallel operation
- Up to 6000W (3 Unit) in 1U 19" rack
- High reliability
- Universal AC input
- Programmable output voltage
- Low ripple & noise
- High stability
- High efficiency up to 92%
- Built-in active PFC circuit
- Parallel operation up to 9 units
- Fast over voltage protection
- Over current /short circuit protection
- Over temperature protection
- Auxiliary Power Supply
- Built in I2C interface, PMBus protocol
- Wide operating temperature: -40°C ~ 70°C
- Under voltage lock-out protection for sensitive loads

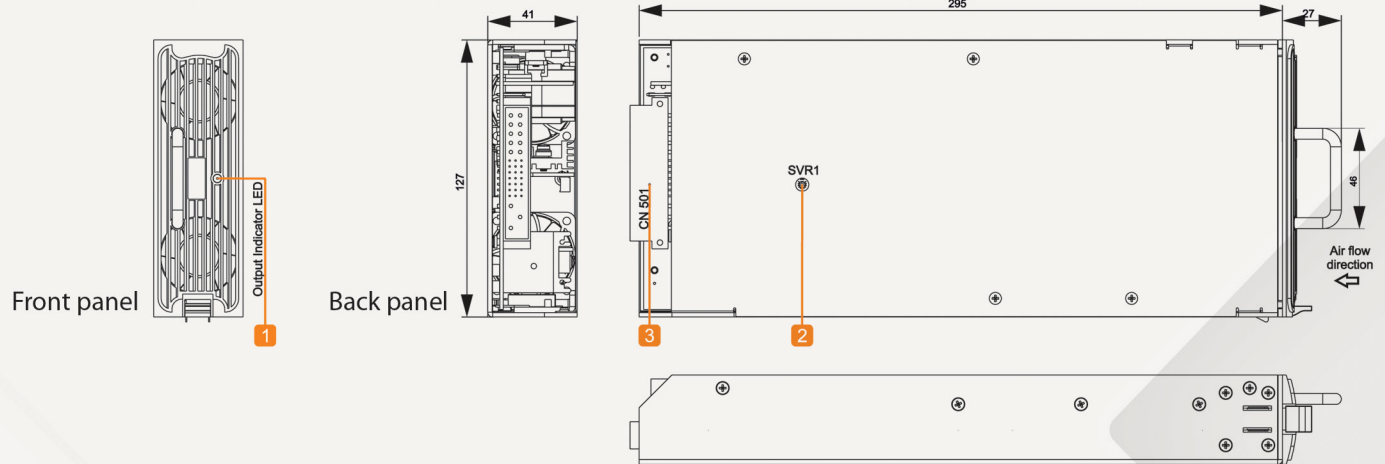


### Specifications

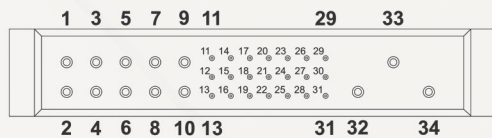
MODEL	NIC2000P-12	NIC2000P-24	NIC2000P-30	NIC2000P-48
Output Voltage(Nominal)	12V	24V	30V	48V
Output Voltage Adjust Range By Trimmer	9.6 ~ 14.4V	19.2 ~ 28.8V	24 ~ 36V	38.4 ~ 57.6V
Max Output Current	100A	80A	64A	42A
Max Output Power	1200W	1920W	1920W	2016W
Line Regulation	0.1% of full scale			
Load Regulation	0.5% of full scale (With remote sense connection)			
Ripple & Noise (Max)	150mV <sub>p-p</sub>	200mV <sub>p-p</sub>	250mV <sub>p-p</sub>	300mV <sub>p-p</sub>
Hold-Up Time	10ms (at 230 VAC & full load)			
Input Voltage/Freq.	90 ~ 265VAC, 47 ~ 63Hz, single phase (Derating under low input voltage)			
Input Current (At 230 VAC)	≤10A			
Power Factor (Active PFC)	≥ 0.99 (at 230VAC & full load)			
Efficiency (At 230VAC & Full Load)	88%	90.4%	91%	92%
Inrush Current (At 230VAC)	≤ 40A (Cold start)			
Total Harmonic Distortion (THD)	< 5% (at 230VAC & full load)			
Over Current Protection	105% of max. output current			
Over Voltage Protection	Fast hardware protection, 130±5% of rated output voltage			
Remote Sense	Compensate voltage drop on the load wiring up to 0.5V			
Parallel Operation	Up to 9 units			
Power Supply Status Signals	DC ok, AC ok, over temperature warning and fan fail signals			
Output Voltage Programmable	1 ~ 5V program voltage input to adjust output 90 ~ 110% of rated			
Operating Temperature	-40°C to +70°C (De-rate linearly to 50% from +50°C to +70°C)			
Storage Temperature	-40°C To +85°C			
Temperature Coefficient (0°C To +50°C)	300PPM/°C			
Humidity(Non Condensing)	Working:10 ~ 90%RH, Storage: 10 ~ 95%RH			
Cooling	Internal variable speed DC fan			
Weight	≤ 1900g			
Size(W×H×D)	127×41×295mm			

## Outline Drawing and Explanation

- 1) LED status indicator (Green: DC OK, Red: Power Fail)
- 2) Output voltage adjust trimmer (SVR1)
- 3) Input/output connector (CN501)



## Input/Output Connector (CN501) Pin No. Assignment (Positronic PCIM34W13M400A1)



Mating Housing: Positronic PCIM34W13F400A1

Pin No.	Function	Description
1,2,3,4	+V	Positive output terminal.
5,6,7,8	-V	Negative output terminal.
9	-V(Signal)	Negative output voltage signal. For local sense only; it cannot be connected directly to the load.
10	+V(Signal)	Positive output voltage signal. For local sense only; it cannot be connected directly to the load.
11	PV	Connection for output voltage programming. (Note.1)
12, 13	DA,DB	Differential digital signal for parallel control. (Note.1)
14	+S	Positive sensing for remote sense.
15	-S	Negative sensing for remote sense.
16, 18, 19, 20, 21	A0,A1,A2, A3,A4	PMBus interface address lines. (Note.1)
17	Remote ON-OFF	The unit can turn the output on and off by electrical signal or dry contact between <i>remote ON-OFF</i> and +5V-AUX. (Note.2) Short (4.5 ~ 5.5V): Power ON; Open (0 ~ 0.5V): Power OFF; the maximum input voltage is 5.5V.
22	NC	No connection
23	SDA	Serial data used in the PMBus interface. (Note.2)
24	SCL	Serial clock used in the PMBus interface. (Note.2)
25	AC-OK	Low (0 ~ 0.5V): when the input voltage is $\geq 87V_{rms}$ . High (4.5 ~ 5.5V): when the input voltage is $\leq 75V_{rms}$ . The maximum sourcing current is 10mA and only for output. (Note.2)
26	DC-OK	High (4.5 ~ 5.5V): when the $V_{out} \leq 80\% \pm 5\%$ . Low (0 ~ 0.5V): when $V_{out} \geq 80\% \pm 5\%$ . The maximum sourcing current is 10mA and only for output. (Note.2)
27	T-ALARM	High (4.5 ~ 5.5V): when the internal temperature (TSW1 or TSW2 open) exceeds the limit of temperature alarm. Low (0 ~ 0.5V): when the internal temperature (TSW1 or TSW2 short) under the limit temperature. The maximum sourcing current is 10mA and only for output(Note.2)
28	FAN-FAIL	High (4.5 ~ 5.5V): when the internal fan fail. Low (0 ~ 0.5V): when the internal fan is normal. The maximum sourcing current is 10mA and only for output(Note.2)
29	+5V-AUX	Auxiliary voltage output, 4.5~5.5V, referenced to <i>GND-AUX</i> (pin 31). The maximum load current is 0.3A. This output has the built-in "Oring diodes" and is not controlled by the remote ON/OFF control.
30	+12V-AUX	Auxiliary voltage output, 10.8~13.2V, referenced to <i>GND-AUX</i> (pin 31). The maximum load current is 0.8A. This output has the built-in "Oring diodes" and is not controlled by the remote ON/OFF control.
31	GND-AUX	Auxiliary voltage output GND. The signal return is isolated from the output terminals (+V & -V).
32	FG	AC Ground connection.
33	AC/L	AC Line connection.
34	AC/N	AC Neutral connection.

Note1: Non-isolated signal, referenced to -V (Signal).

Note2: Isolated signal, referenced to *GND-AUX*.



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