

NIM finished devices - power supplies

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NIM power supply with 200 Watts power efficiency

Specification

Ports:	Power connectors; non-heating device socket (C19/C20) according to DIN 0625 Port for operating unit according to the DESK-internal standard Bus integrated within the power supply; 12 plug positions with sockets according to AEC-NIM (NI1011)
Mechanics:	Housing made of high-strength aluminum alloys Optionally for screwing to NIM light-weight frame or as plug-in module The sockets for the NIM stations are integrated within the power supply, therefore the power supply is excellently suited for the reparation of existing crates. When using our operating unit FP123, no extra wiring work is being required. Totally modular construction including the controller modules
Weight:	18 kg



The bus wiring is integrated within the power supply.

Electrical data

Power input:	Power input frequency 50/60 Hz Line filter 2 safety fuses 10 AT Switch-on peak limit; soft start with max. 10/20 A~ The switching from 230 V~ to 115 V~ is accomplished via a socket connector after the opening of the cover. Input voltage range 205 to 250 V~ respectively 105 to 130 V~
Protection class:	Class 1 (The device may be operated with ground connector connection only.)
Schutzart:	IP 10
Power efficiency:	200 Watts ohmic permanent load at ambience temperature of 20° Celsius
CE:	If the output voltage of 115 VAC is being waived, the device complies to the CE-specifications.

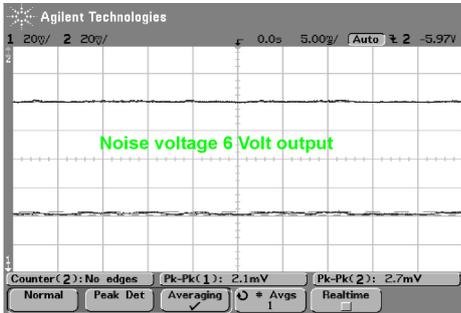


Output power: 071 000 0 A (200 Watts version):

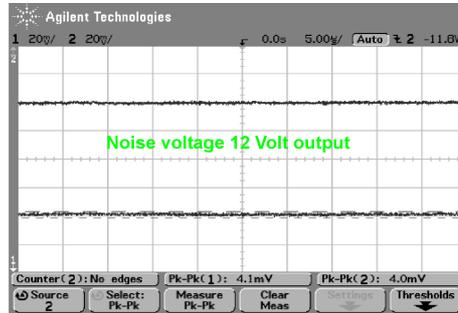
+6 Volt	10 Amp.	60 Watts
-6 Volt	-10 Amp.	60 Watts
+12 Volt	3 Amp.	36 Watts
-12 Volt	-3 Amp.	36 Watts
+24 Volt	1.5 Amp.	36 Watts
-24 Volt	-1.5 Amp.	36 Watts

Maximal output power: 200 W = AC 115 V~ 0,5 A electrically isolated from mains voltage

Noise voltage: < 4 mV pp within frequency range 0...50 MHz

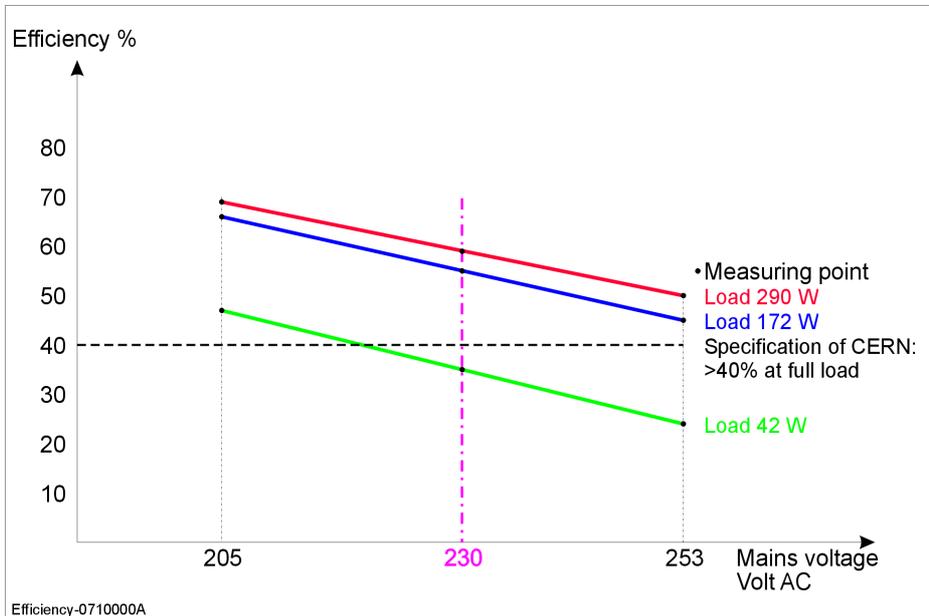


Noise voltage +-6Volt

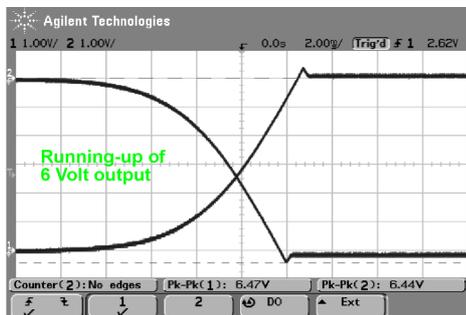


Noise voltage +-12Volt

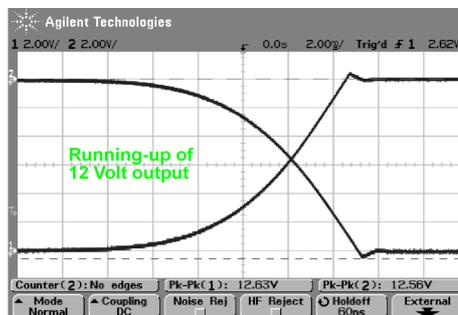
Degree of efficiency: Dependent on mains voltage and load as shown in the diagram



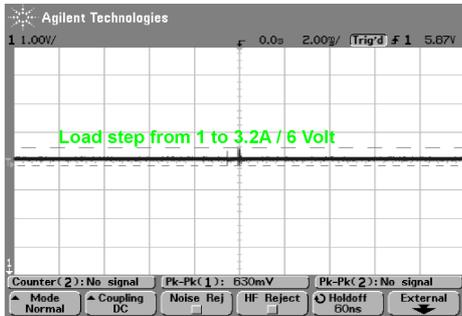
Stabilization: With change in load within the range of 10 to 100% <5 mV at 6 Volt; <5 mV at 12 Volt and 24 Volt
 With change in mains voltage <2 mV at all kinds of voltages
 Recovery time step load 0 to 25% < 1 millisecond



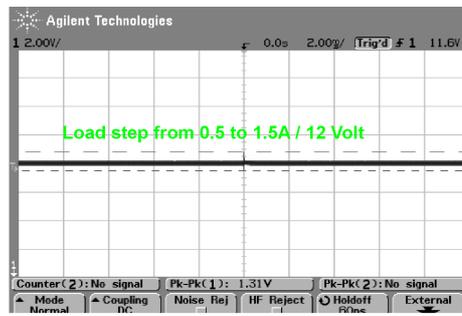
Running-up of +-6Volt



Running-up +-12Volt



Load step from 1 to 3.2 A +6Volt



Load step from 0.5 to 1.5 A +12Volt

Current characteristic:

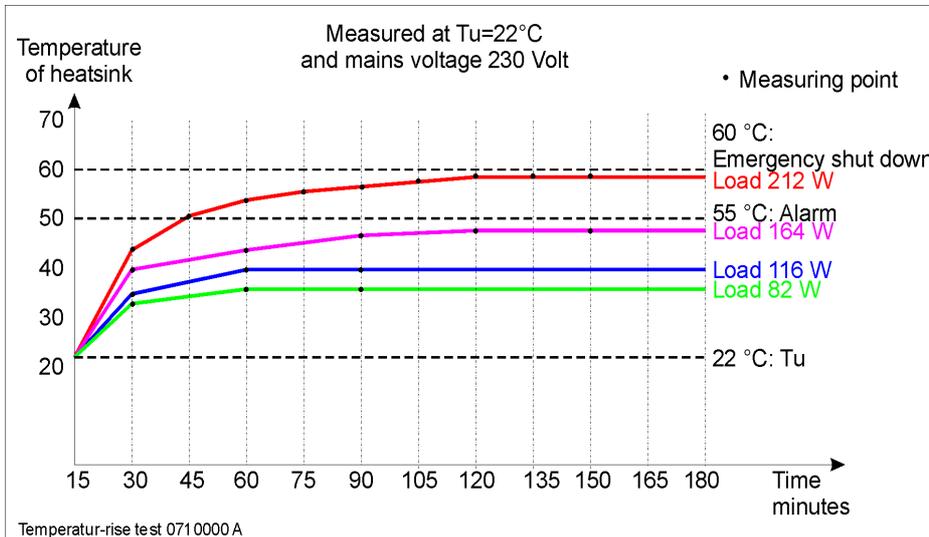
Output current set to nominal current to 1.1 x nominal current
 All DC-outputs are short-circuit protected
 In case of a short-circuit the output currents are being reduced according to the table:

071 000 0 (200 W)

Setting values short-circuit current:

+6 Volt	+3.0 Amp.
-6 Volt	-3.0 Amp.
+12 Volt	+1.0 Amp.
-12 Volt	-1.0 Amp.
+24 Volt	+0.5 Amp.
-24 Volt	-0.5 Amp.

Thereby, in case of malfunction (short circuit of all outputs) the total energy dissipation is being narrowed down to max. 80 Watts. That also means that in case of a short circuit an overheating of the power supply is excluded because of the existing cooling capacity.



Temperature behaviour:

Changing of the DC-output voltages within 24 hours < 2mV
 Long term stability < 5 mV
 Temperature drift $2 \cdot 10^{-4}$ / K
 Temperature behavior dependent on the load according to the diagram shown above

Security:

OVP-switching
 An over-voltage protection switching protects the connected consumers from over-voltage.

The OPV-switching is working on three stages:

Short voltage peaks are being received via suppressor diodes.

With the help of a thyristor, the voltages are being short-circuited from +6 Volt to -6 Volt, +12 Volt to -12 Volt and 24 Volt to -24 Volt. The trigger time is < 0.1 milliseconds.

By the same circuit, the emergency shut-down of the power supply (shut-down of the mains voltage) is being actuated.

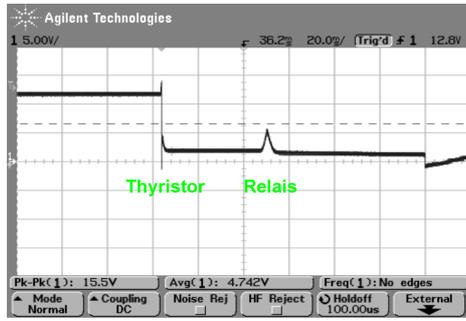
Specification values:

Settled tripping values OVP-switching:

Suppressor diode type:

Breakthrough min --> max.

+6 Volt	+7.5 Volt max.	+6.8 Volt	1.5KE7.5A	7.13 V 7.88 V
-6 Volt	--7.5 Volt max.	-6.8 Volt	1.5KE7.5A	
+12 Volt	+15.0 Volt max.	+13.5 Volt	1.5KE15A	14.3 V 15.8 V
-12 Volt	-15.0 Volt max.	-13.5 Volt	1.5KE15A	
+24 Volt	+30.0 Volt max.	+27.0 Volt	1.5KE30A	28.5 V 31.5 V
-24 Volt	-30.0 Volt max.	-27.0 Volt	1.5KE30A	



Abschaltung im Überspannungsfall

Emergency shut-down:

Behavior in case of overtemperature

Due to a safe operation, the power supply has four switches to handle a possible overtemperature:

Whenever the temperature of the power transformer reaches 110 degrees, the mains voltage is being switched off via the emergency shut-down.

Whenever the temperature of the prerisistance of the switch-on peak limit reaches 65 degrees, the mains voltage is being switched off via the emergency shut-down.

If the temperature of the heat sink reaches 55 degrees, a warning signal sounds.

Anyway, the output signal can be gripped at the operating unit (LEMO-socket) via an open collector switching.

Whenever the temperature of the heat sink reaches 60 degrees, the mains voltage is being switched off via the emergency shut-down.

In case of appearing overvoltages, the power supply is also shut down automatically.

Options:

Up to the approved mechanical output power of 300 Watts, there are also other possible load distributions:

- 6 Volt to 20 Amps
- 24 Volt to 6 Amps

Plug-in power supply for Crate according to the CERN-specification (75-pole transfer connector 003 033 0)

NIM power supply with 200 Watts power efficiency **Article no 071 000 0 A**

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NIM power supply with 300 Watts power efficiency

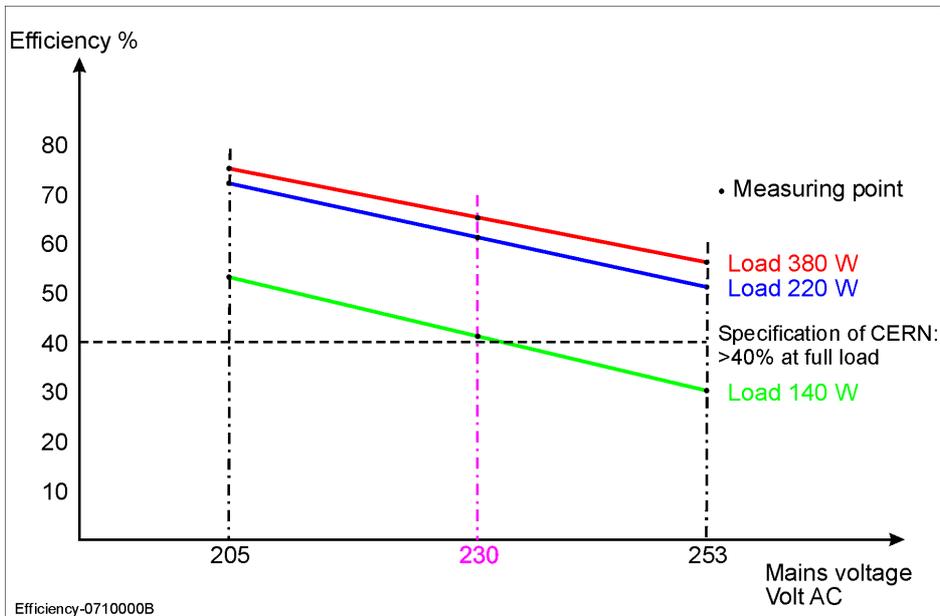
- Specification: The specification of version 071 000 0 A is applicable.
- Electrical data: The electrical data comply to version 071 000 0 A apart from the described exceptions:
- Power efficiency: 300 Watts ohmic permanent load at ambience temperature of 20 ° Celsius



Output power:	071 000 0 B (300 Watts):		
	+6 Volt	16 Amp.	96 Watt
	-6 Volt	-16 Amp.	96 Watt
	+12 Volt	3 Amp.	36 Watt
	-12 Volt	-3 Amp.	36 Watt
	+24 Volt	2.5 Amp.	60 Watt
	-24 Volt	-2.5 Amp.	60 Watt

Maximal output power: 300 W = AC 115V~ 0,5 A electrically isolated from the mains voltage

Degree of efficiency: Dependent on mains voltage and load as shown in the diagram



Current characteristic:

The output current is set to nominal current to 1.1 x nominal current.
All DC-outputs are short-circuit protected.
In case of a short circuit the output currents are being reduced according to the table:

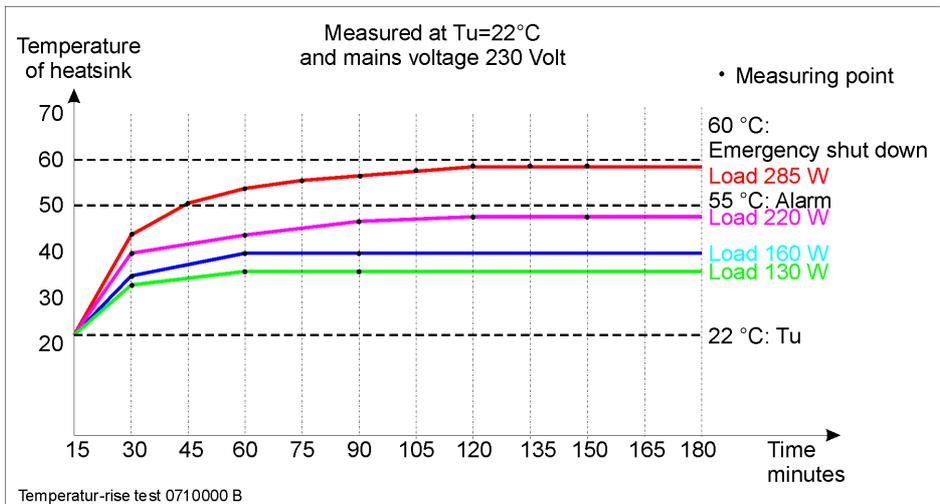
071 000 0 (300 W)

+6 Volt
-6 Volt
+12 Volt
-12 Volt
+24 Volt
-24 Volt

Setting values:

+5 Amp.
-5 Amp.
+1.0 Amp.
-1.0 Amp.
+0.5 Amp.
-0.5 Amp.

Thereby, in case of malfunction (short circuit of all outputs) the total energy dissipation is being narrowed down to max. 100 Watts. That also means that in case of a short circuit an overheating of the power supply is excluded because of the existing cooling capacity.



NIM power supply with 300 Watts power efficiency

Article no 071 000 0 B

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NIM power supply with 300 Watts power efficiency and fans

Specification The specification of version 071 000 0 A is applicable.

Electrical data The electrical data comply to version 071 000 0 B.

Due to two additional axial fans, this device is able to reach 300 Watts even at increased ambience temperatures of up to 30° Celsius.

Bild 071 000 0 C , zur Zeit ist leider kein Bild verfügbar

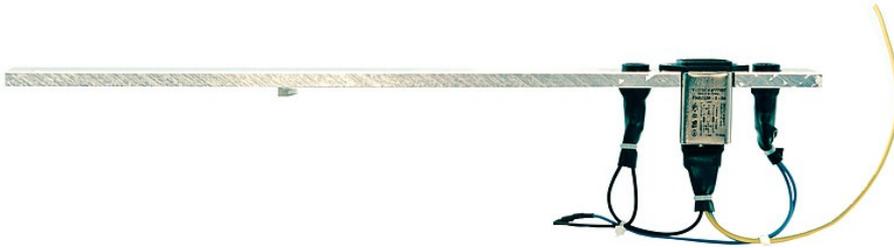
NIM power supply with 300 Watts power efficiency and fans

Article no 071 000 0 C

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Replacement parts

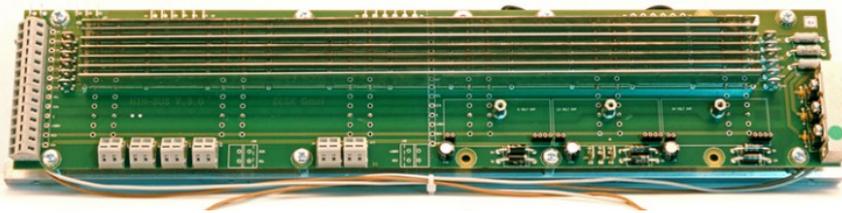
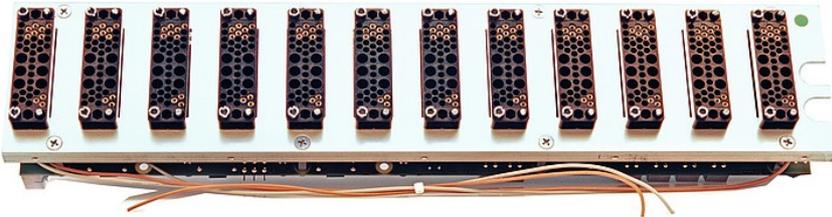
Power entry module:



Power entry module completely equipped, wired

Article no 071 124 0

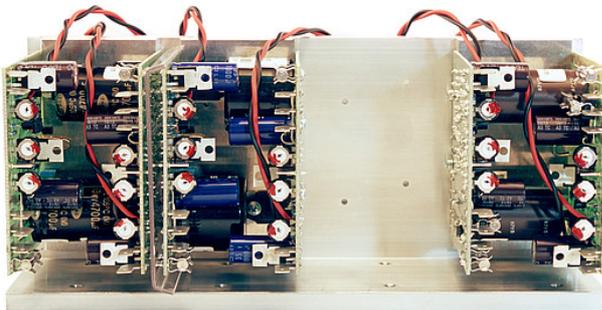
NIM bus, completely wired and ready for installation



Bus completely equipped, wired

Article no 071 120 0

Heat sink modules



Stabiliser unit completely equipped

Article no 071 118 0

All standard controller modules are available separately:

Twin module $\pm 6\text{ V } 10\text{ A}$

Twin module $\pm 12\text{ V } 3\text{ A}$

Twin module $\pm 24\text{ V } 2\text{ A}$

Twin module 6 Volt 2 x 10 Amp.

Article no 071 033 0

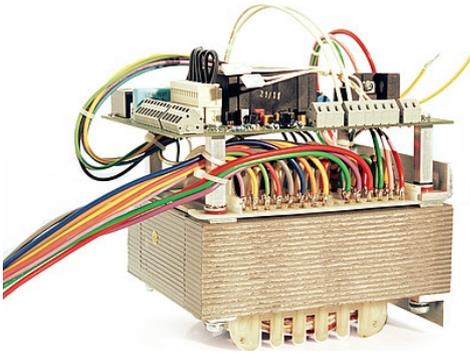
Twin module 12 Volt 2 x 3 Amp.

Article no 071 034 0

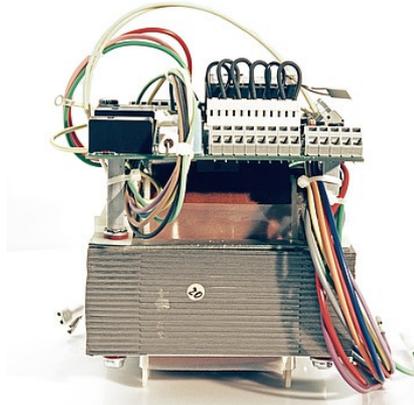
Twin module 24 Volt 2 x 2 Amp.

Article no 071 035 0

Transformer block with security printed circuit board



Transformer block, completely equipped and wired



Article no 071 123 0

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