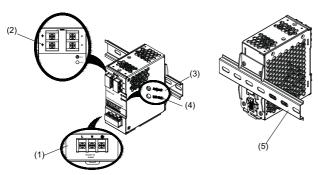
RHINO Installation Instructions for PSB24-120 Power Supply

READ INSTRUCTIONS BEFORE INSTALLING OR OPERATING THIS DEVICE. KEEP FOR FUTURE REFERENCE.





.Figure 1

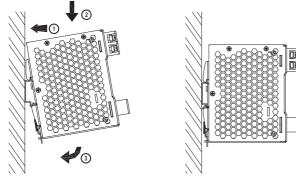


Figure 2

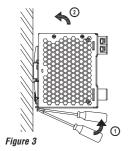


Figure 4

AutomationDirect P/N BM-00120 can be used.

Ambient Temperature (°F)

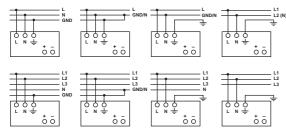


Figure 5

Power Derating Curve for PSU

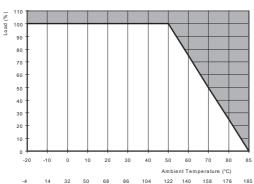


Figure 6

1. Safety instructions

- Switch main power off and wait 5 minutes before making any connection or disconnection on the device. Danger of serious injury or property damage!
- To guarantee sufficient convection cooling, please keep a distance of 50 mm [1.97 in] above and below the device as well as a lateral distance of 20 mm [0.79 in] to other units.
- Please note, that the enclosure of the device can become very hot depending on the ambient temperature and load of the power supply. Risk of burns!
- Only plug in and unplug connectors when power is turned off!
- Do not introduce any objects into the unit!
- Dangerous voltage present for at least 5 minutes after disconnecting all sources of power.
- To protect against access to live parts the power supply unit (PSU) must be installed in a protective enclosure.

2. Device description (Fig. 1)

- (1) Input terminal block connector
- (2) Output terminal block connector
- (3) DC voltage adjustment potentiometer
- (4) DC OK control LED (green)
- (5) 35mm DIN rail mounting (DIN rail sold separately)

3. Mounting (Fig. 2)

The power supply unit can be mounted on 35 mm DIN rails in accordance with EN60715. The device should be installed with input terminal blocks on the bottom.

Each device is delivered ready to install.

Snap on the DIN rail as shown in Fig. 2:

- 1. Tilt the unit slightly upwards and put it onto the DIN rail.
- 2. Push downwards until stopped.
- 3. Press against the bottom front side for locking.
- 4. Shake the unit slightly to ensure that it is secured.

4. Dismounting (Fig. 3)

To uninstall, pull or slide down the latch as shown in Fig. 3. Then, slide the PSU in the opposite direction, release the latch and pull out the PSU from the rail.

5. Connection

The terminal block connectors allow easy and fast wiring. A plastic cover provides the necessary isolation of the electric connection.

You can use flexible (stranded wire) or solid wire with cross section 0.32-2.1 $\,$ mm² (AWG 22-14) and torque of 0.78-0.98Nm (6.94-8.68lb in). To secure reliable and shock proof connections, the stripping length should be 7 $\,$ mm [0.28 in].

In accordance to EN 60950 / UL 60950, flexible wires require ferrules.

Use appropriate copper wire that is designed to sustain operating temperature of at least 75°C $[167^{\circ}F]$ or more to fulfil UL requirements.

For stranded wires it is recommended to use suitable lug (ADC P/N BM-00120) to crimp wires (see Fig. 4).

5.1. Input connection (Fig. 1, Fig. 5)

Use L, N and GND connections of input terminal connector (see Fig. 1 (1)) to establish the 100-240 VAC connection.

The device can also be connected to two of the phase conductors of a 3-phase system with nominal voltages of 100 VAC - 240 VAC. The device has an internal fuse. 16A circuit breakers are recommended as backup.



The internal fuse must not be replaced by the user. In case of internal defect, the unit must be discarded or returned if still under warranty

5.2. Output connection (Fig. 1 (2))

Use the "+" and "-" screw connections to establish the 24 VDC connection. The output provides 24 VDC. The output voltage can be adjusted from 22 to 28 VDC on the potentiometer.

The green LED DC OK displays correct function of the output (Fig. 1 (4)).

The device has a short circuit and overload protection and an overvoltage protection limited to 35 VDC

5.3. Output characteristic curve

The device functions normal under operating line and load conditions. In the event of a short circuit or over load the output voltage and current collapses (IO/L or IS/C is > Isurge (150%)). The secondary voltage is reduced and bounces until short circuit or overload on the secondary side has been removed.

5.4. Thermal behavior (Fig. 6)

In the case of ambient temperatures above +50°C [122°F], the output capacity has to be reduced as shown in Figure 6. If the output capacity is not reduced when TAmb > 50°C [122°F] device will switch into thermal protection mode. The device will cycle output on and off to maintain internal power dissipation and will recover when ambient temperature is lowered or load is reduced as far as necessary to keep device in a normal operating mode.

FOR TECHNICAL ASSISTANCE CALL 770-844-4200

Technical Data For PSB24-120

Input (AC)	
Nominal input voltage	100-240VAC
oltage range	85-264VAC (DC input range 120-375 VDC)
requency	47-63Hz (0 Hz @ DC input)
ominal current	1.4A @ 115VAC. 0.8A @ 230VAC
rush current limitation. I2t (+25 °C [77°F]) typ.	< 80A @ 115VAC / <150A @ 230VAC
ains buffering at nominal load (typ.)	> 35ms @ 115VAC, > 70ms @ 230VAC
in-on time	<1 sec.
ternal fuse	T 3.15 AH / 250 V (non-replaceable)
ecommended backup circuit breaker	16A
over circuit breaker characteristic	B
rakage current	< 1 mA
utput (DC)	N I HIM
ominal output voltage / Adjusment range	24VDC ± 2 % / 22-28 VDC (≤120W)
utput power	120W
ominal current	5A
erating above +50 °C [122°F]	2.5 % / °C.
artup with capacitive loads	2.3 % / 0. Max. 10,000 µF
ax. power dissipation idling / nominal load approx.	22.5W
iciency (at 400 VAC and nominal values)	> 84% typical
sidual ripple/ peak switching (20 MHz) (at nominal values)	< 50 mV / < 240 mVpp
rallel operation	With decoupling diode
eneral Data	with decouping aloue
pe of housing	Aluminum (Al5052)
gnals	Green LED DC OK
TBF	> 800,000 hrs.
mensions (L x W x H)	121 mm x 50 mm x 118.2 mm [4.76 in x 1.97 in x 4.65 in]
eight	0.54 kg [1.19 lb]
onnection method	Screw connection
ire size / torque	0.32-2.1 mm² (AWG 22-14) / 0.78-0.98Nm (6.94-8.68lb in)
ripping length	7 mm [0.28 in] or use suitable lug to crimp
nbient Operating temperature	-20°C to +75°C (>50°C [122°F] derating) [-4°F to 167°F]
orage temperature	-25°C to +85°C [-13°F to 185°F]
umidity at +25°C [77°F], no condensation	<95 % RH
nock	30g half sine, 3 times per direction, 6 directions, per IEC60068-2-27
bration (Non-operating)	10 to 150Hz, 5 g, 90 min. each axis per IEC60068-2-6
oration (non-operating)	10 to 150πz, 5 g, 90 mm. each axis μει 1ευσούσο-2-σ
imatic class	3K3 according to EN 60721
ertification and Standards	SINS according to LIV 00721
ectrical equipments of machines	IEC60004 1 (over voltage estagen III)
ectrical equipments of macrimes ectronic equipment for use in electrical power installations	IEC60204-1 (over voltage category III) EN 50178 / IEC62103
fety entry low voltage	PELV (EN 60204), SELV (EN 60950) UL/C-UL recognized to UL60950-1, CSA C22.2 No.60950-1,
ectrical safety (of information technology equipment)	CB scheme to IEC60950-1
dustrial control equipment	UL listed to UL508, CSA to CSA C22.2 No.107.1-01
otection against electric shock	DIN 57100-410
	In conformance with EMC directive 2004/108/EC and low voltage directive 2006/95/EC
MC for ITE	EN55022, EN61000-3-2, EN61000-3-3, EN55024
MC for industrial	EN55011
mitation of mains harmonic currents	EN61000-3-2
DHS	Yes
CE ROHS	UL E197592 C F198298 249074



Safety and Protection	
Transient surge voltage protection	VARISTOR
Current limitation at short-circuits approx.	Isurge = 150 % of Pomax typically
Surge voltage protection against internal surge voltages	Yes
Isolation voltage:: Input/output (type test/routine test) Input/GND (type test/routine test) Output/GND (type test/routine test)	4 KVAC / 3 KVAC 1.5 KVAC / 1.5 KVAC 1.5 KVAC / 500 VAC
Protection degree	IPX0
Safety class	Class I with GND connection