

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the *Emerson / Motorola / Force Computers SYS68K / PWR09A* at our website: *Click HERE*

A SOLECTRON SUBSIDIARY

SYS68K/PWR-09A
POWER SUPPLY
User's Manual

Edition No. 1
May 1997

P/N 200175
FORCE COMPUTERS Inc./GmbH
All Rights Reserved

This document shall not be duplicated, nor its contents used
for any purpose, unless express permission has been granted.

Copyright by FORCE COMPUTERS

N O T E

The information in this document has been carefully checked and is believed to be entirely reliable. FORCE COMPUTERS makes no warranty of any kind with regard to the material in this document, and assumes no responsibility for any errors that may appear in this document. FORCE COMPUTERS reserves the right to make changes without notice to this, or any of its products, to improve reliability, performance or design.

FORCE COMPUTERS assumes no responsibility for the use of any circuitry other than circuitry which is part of a product of FORCE COMPUTERS GmbH/Inc.

FORCE COMPUTERS does not convey to the purchaser of the product described herein any license under the patent rights of FORCE COMPUTERS GmbH/Inc. nor the rights of others.

FORCE COMPUTERS Inc.
727 University Avenue
Los Gatos, CA 95030
U.S.A.

Phone : (408) 354 34 10
Telex : 172465
FAX : (408) 395 77 18

FORCE COMPUTERS GmbH
Daimlerstrasse 9
D-8012 Ottobrunn/Munich
West Germany

Phone : (089) 6 09 20 33
Telex : 5 24 190 forc-d
FAX : (0 89)6 09 77 93

FORCE COMPUTERS FRANCE Sarl
11, rue Casteja
92100 Boulogne
France

Phone : (1) 620 37 37
Telex : 206 304 forc-f
Fax : (1) 621 35 19

FORCE COMPUTERS UK LTD.
3 Tring Road
Wendover, Bucks HP22 6PE
England

Phone : (0296) 62 54 56
Telex : 838033
Fax : (0296) 62 40 27

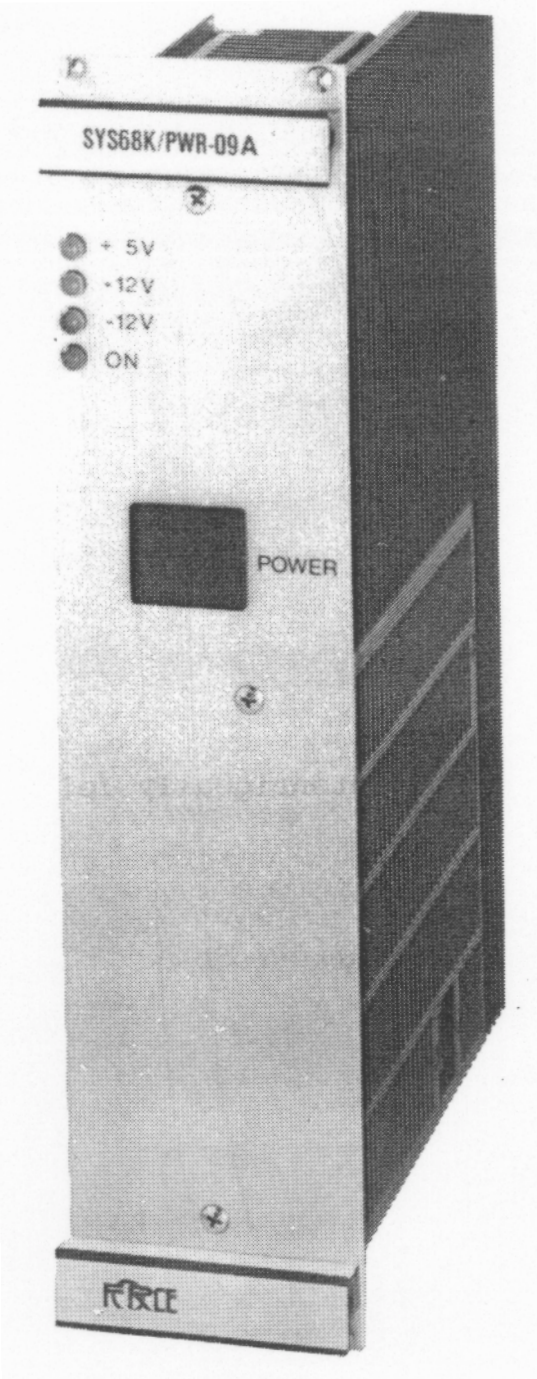
Table of Contents

		Page
1.0	General Information	1-1
1.1	Features of the SYS68K/PWR-09A	1-2
2.0	General Operation of the SYS68K/PWR-09A	2-1
2.1	Possible Power Supply Configurations	2-1
3.0	SYS68K/PWR-09A Description	3-1
3.1	The AC Power Connectors	3-1
3.2	The Output Voltage Connector	3-2
3.3	The 220V/110V AC Setting	3-6
3.4	The Main Power Switch and Control LEDs	3-7
3.5	The Power Fail and SYSRESET Connectors	3-7
4.0	Installation Procedure	4-1
5.0	Specifications	5-1

List of Figures

Fig.1	Photo of the SYS68K/PWR-09A	1-1
Fig.2	Back Plane Diagram of the SYS68K/PWR-09A	3-2
Fig.3	The Pin Assignment of the Output Voltage Connector	3-4
Fig.4	Connection Example of the SYS68K/PWR-09A to the VMEbus motherboard	3-5
Fig.5	Location for 220V/110V AC Fuse Setting	3-7
Fig.6	Power Fail and SYSRESET Signal	3-8

Fig.1: Photo of the SYS68K/PWR-09A



1.0 General Information

The SYS68K/PWR-09A is a high performance power supply, especially designed for VMEbus based systems. Easy installation is provided through two guide rails in a 19inch VMEbus rack. The SYS68K/PWR- 09A with 6HE and 12TE dimensions is especially designed for all 19inch racks.

It contains a main power switch, four control LEDs, and two DIN 41612 H15 connectors. The first connector, P1, is implemented for +5V, +12V, -12V, GND, +5V Sense and GND Sense.

The second H15 connector, P2, contains the main power input voltage and two TTL output signals for VMEbus compatibility, SYSRESET and Power fail.

1.1 Features of the SYS68K/PWR-09A

- Output Voltage : +5V / 36A
  +12V / 6A
  -12V / 2A

- 220V/110V AC Input Voltage Fuse Selectable

  f = 50 - 60 Hz

- VMEbus compatible

- Compact dimensions 6HE/12TE 19inch rack compatible

- SYSRESET TTL signal, VMEbus compatible, on the H15 DIN 41612 Connector P2

- Power Fail TTL Signal, VMEbus compatible on the P2 H15 Connector

- DIN 41612Output Voltage ConnectorP1 foreasy installation on the Back Plane

- Main Power Switch on the Front Panel

- Control LEDs for ON, +5V, +12V and -12V on the Front Panel

- GND and +5V Sense Lines on the DIN 41612 P1 Connector

- Full Overload Protection of all outputs and Short Protection

2.0 General Operation of the SYS68K/PWR-09A

The SYS68K/PWR-09A contains three independent voltage regulators for the three different output voltages +5V, +12V and -12V. All three different output voltages have a common ground.

The SYS68K/PWR-09A also contains a temperature sensor, which controls the temperature, switching off the output voltages if a short on the outside is detected.

The SYS68K/PWR-09A also contains a sense line for the +5V voltage (+5V sense), and for GND (GND sense), both of which are very important for the functioning of the power supply, and which must always be connected.

The SYS68K/PWR-09A is a primary switched power supply. It functions with 220V AC or with 110V AC. This option can be inserted by changing the fuse.

The four LEDs on the front panel show the user which output voltages are available, and when the power supply is on.

2.1 Possible Power Supply Configurations

The SYS68K/PWR-09A can be used in two different configurations:

1. With a 220V AC input voltage - in this case only the fuse for 220V AC (value 5A) is inserted.

2. With a 110V AC input voltage - in this case only the fuse for 110V AC (value 8A) is inserted.

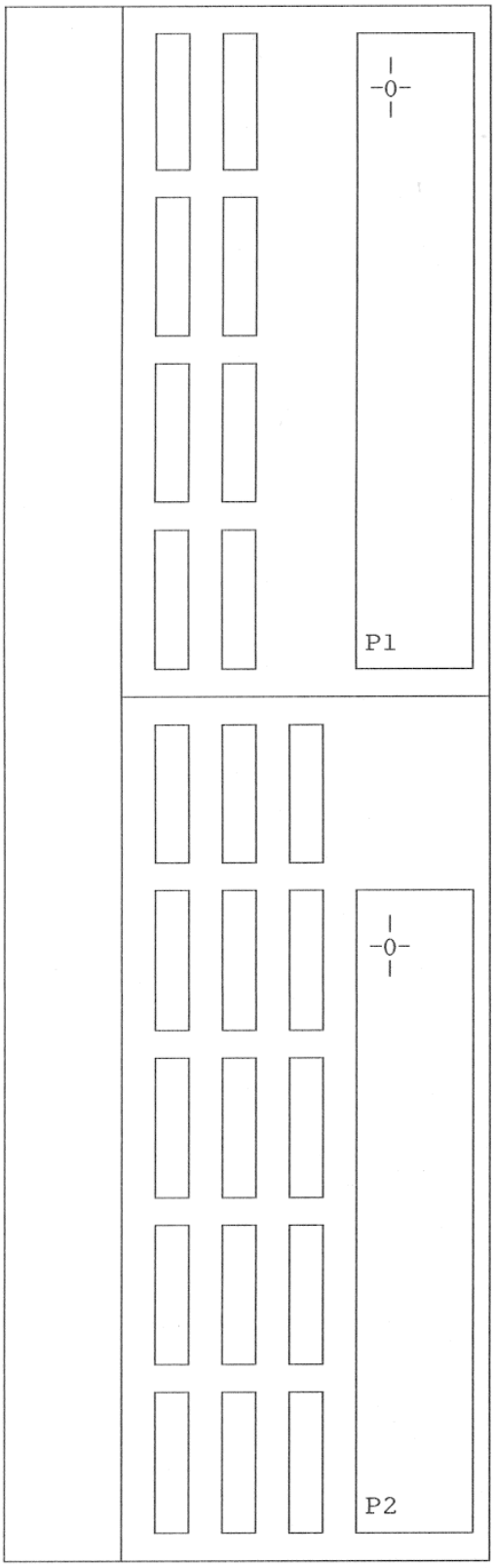
3.0 SYS68K/PWR-09A Description

This chapter describes all connectors and features of the SYS68K/PWR-09A which are important to the user for the installation and to enable the power supply to function correctly.

3.1 The AC Power

On the back plane of the SYS68K/PWR-09A is a DIN 41612 H15 connector P2. The pin number 32 is the AC-Ground and must be connected to the AC Ground of the Mains. The other two pins, numbered 28 and 30, are the AC power's phase lines and must be connected to the Mains phase lines (see Figs 2 and 3).

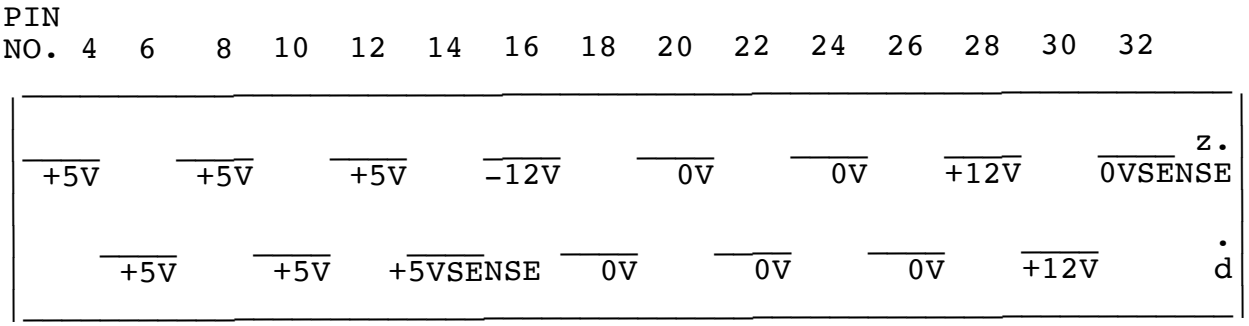
Fig.2 : Back Plane Diagram of the SYS68K/PWR-09A



3.2 The Output Voltage Connector

The output voltage connector P1 DIN 41612 is mounted on the back plane of the power supply for easy installation (see Fig.2). This connector contains the GND pins, the +5V pins, the +12V pins, the -12V pin and the sense lines 0V sense, and +5V sense. Fig. 3 shows the pin assignment of the output voltage connector.

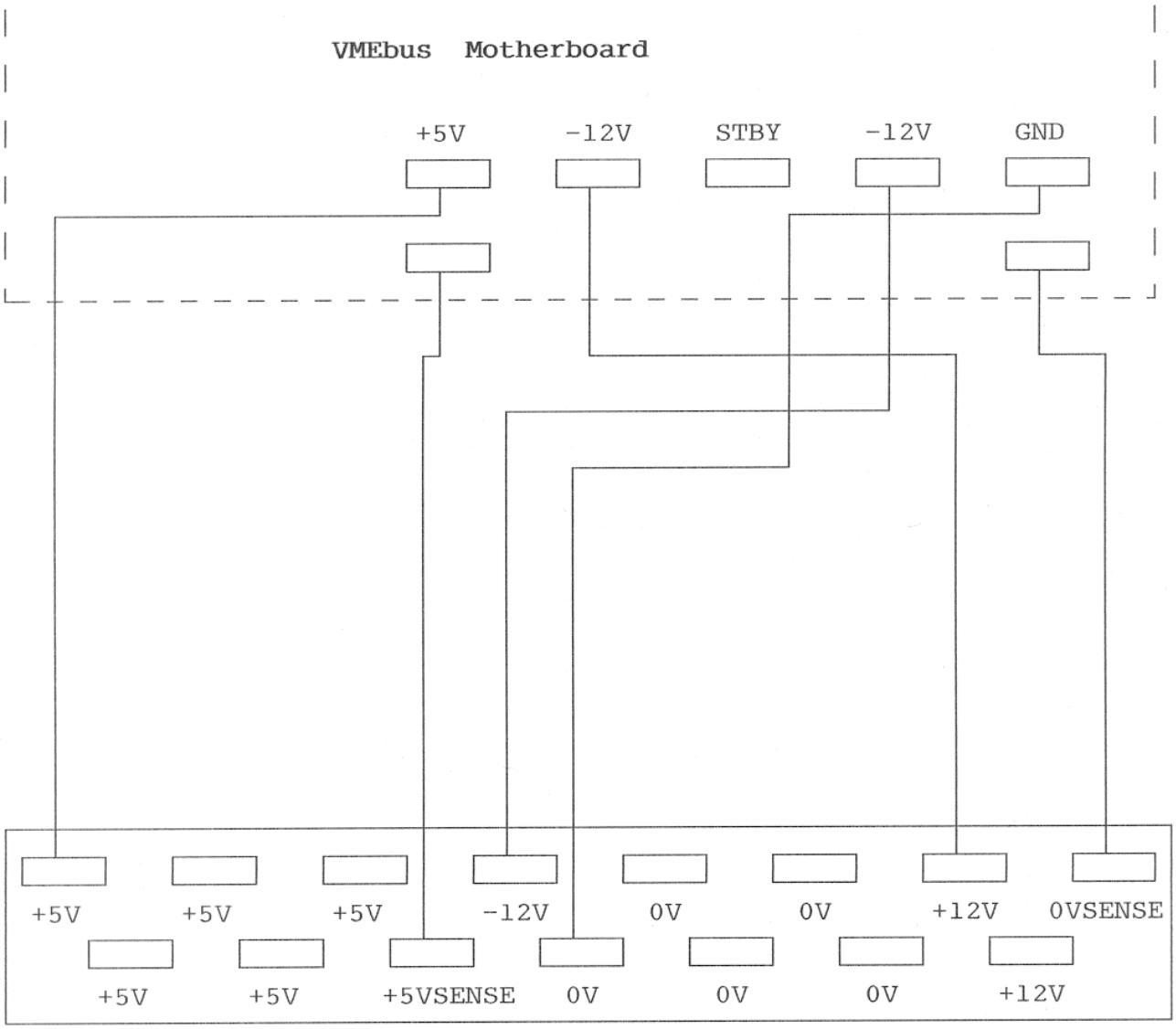
Fig.3 : Pin Assignment of the Output Voltage Connector



The output voltage connector contains the two rows z and d, and also more groups of power pins. The first group is the +12V, which can be connected to the +12V lines. The second group is the ground, the third group is the -12V power, and the fourth group is the +5V group. In addition, the connector contains one GND sense pin, and one +5V sense pin.

Fig. 4 shows an example of how to connect the output voltage connector to the VMEbus motherboard.

Fig.4 : Connection Example of the SYS68K/PWR-09A to the VMEbus motherboard

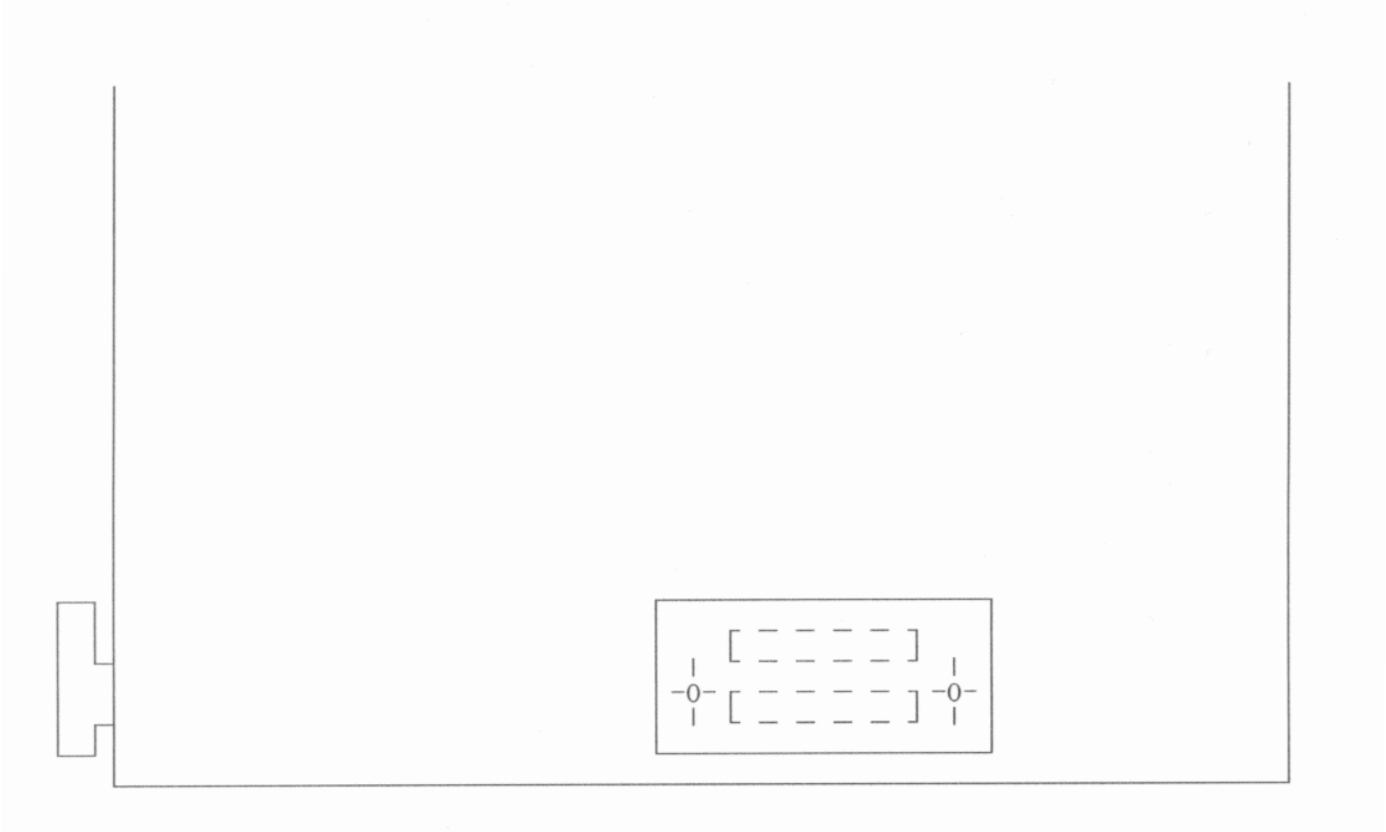


3.3 The 220V/110V AC Fuse Setting

The user can alter the power supply for 220V AC or for 110V AC mains. There are two fuses on the SYS68K/PWR-09A which are shown on the PC-board of the Power supply.

The first fuse,shown by 220V, must be installed when the power supply is running on 220V voltage AC power. The value of this fuse must be 5 Amps, and the second fuse must be removed. The second fuse, shown by 110V must be installed when the power supply is running on 110 Voltage AC power. In this case, the value of this fuse must be 8 Amps and the 220 Voltage fuse must be removed.

Fig. 5 : Location of the 220V/110V AC Fuse Setting



3.4 The Main Power Switch and the Control LEDs

The front panel of the SYS68K/PWR-09A contains a switch and four LEDs.

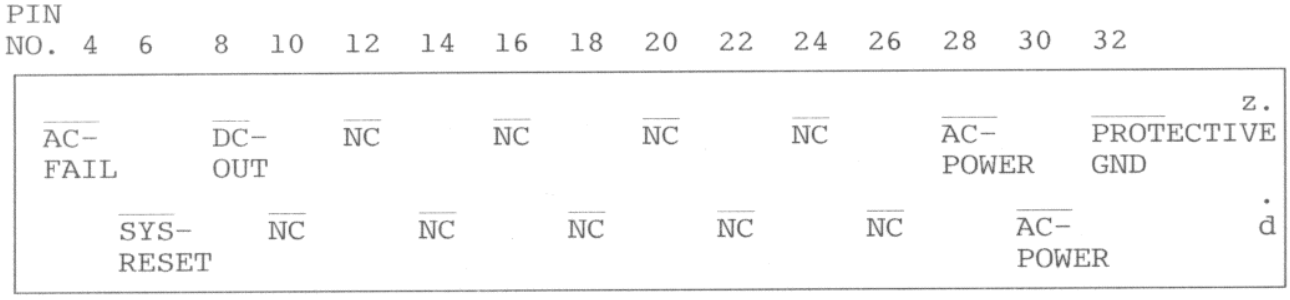
The main power switch is used to switch on the power supply and control LEDs. All LEDs should be lit if the power supply is working correctly. The first LED indicates that the power supply is on, and the other three LEDs indicate that the output voltages +5V, +12V, and -12V are working correctly. If, for example, the +12V LED is off then there is a power failure on the +12V.

3.5 The Power Fail and SYSRESET Connector

On the back of the SYS68K/PWR-09A power supply is a second DIN 41612 H15 Connector P2 with fifteen pins (see Fig.6). On pin number 4 is a TTL signal named ACFAIL, VMEbus compatible, and on pin number 6 also a TTL signal named SYSRESET which can be used in a VMEbus environment.

Both signals are relative to the signal ground of the P1 connector.

Fig. 6 : The Power Fail and SYSRESET Signal



4.0 Installation Procedure

The following steps should be carried out before the power supply is switched on:

1. Insert the right fuse for 220V/110V AC, depending on the mains

2. Connect the output voltage connector with the sense lines and all output voltages which are required

3. Connect the mains power cable

4. Switch on the power supply via the mains power switch on the front panel

5. Check whether the power supply is working correctly or not by looking at the control LEDs.

CAUTION - These steps must be carried out in this order. No responsibility can be assumed for any other order.

5.0 Specifications

Input Voltage	UE=110V/220V AC +/- 10% user selectable via fuse
Input Frequency	f=50-60Hz
Input Current	220V AC:IE=2.5A(typ) IE=50A(max)input peak 110V AC:IE=5.0A(typ) IE=50A(max)input peak

Output Voltage

DC OUTPUT

	Nom.	Voltage Settl.Range	Current 40DegC convection	50DegC convection	40DegC forced	50DegC forced
+5V	5...5.5V		36A	36A	36A	36A
+12V	12V		6A	6A	6A	6A
-12V	-12V		2A	2A	2A	2A

Efficiency	>75%(5V)
Pard(periodic ripple)	<50mVpp (30 MHz bandwidth)
(random noise)	<30mVr.m.s (10 MHz bandwidth)
Dynamic Behaviour	For instantaneous load changes (dlo/dt=0.5A/us) the transient recovery time to settle within 1.5% of output voltage:2ms for lo=30%-80% IA nominal For transient voltage changes(overshoot) which could exceed the regulation limits: 200mV for IA nom.=30%-80% or 80%-30%
Regulation	for +/-10% main input variations +5V stat +/-1%
Turn-on Delay Time	<800ms to reach load specification at 25 degree C
Turn-off Decay Time	>10ms at nom.load and nom.mains
Output Protection	Full overload protection of all outputs Ishort approx. 0.66xIAnom. OVP(5V)approx. 1.3xUAnom.
Specials	ACFAIL signal(TTL compatible), SYSRESET Signal,5V Sense line and GND sense
M.T.B.F.	80,000 operating hours at 25 degrees C
Cooling	Free convection or forced cooling (3m/s)
Operating Temp.	0 to +50 degrees C
Storage Temp.	-25 to +85 degrees C
Relative Humidity	10% to 90% (non condensing)
Safety Class	Conforms to ClassI VDE 0804
RFI	At VDE 0871
Connectors	Two H15 DIN 41612
Dimensions	Full metal cassette 6HE/12TE, depth 210mm/8.26inch
Weight	3.0kg

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP