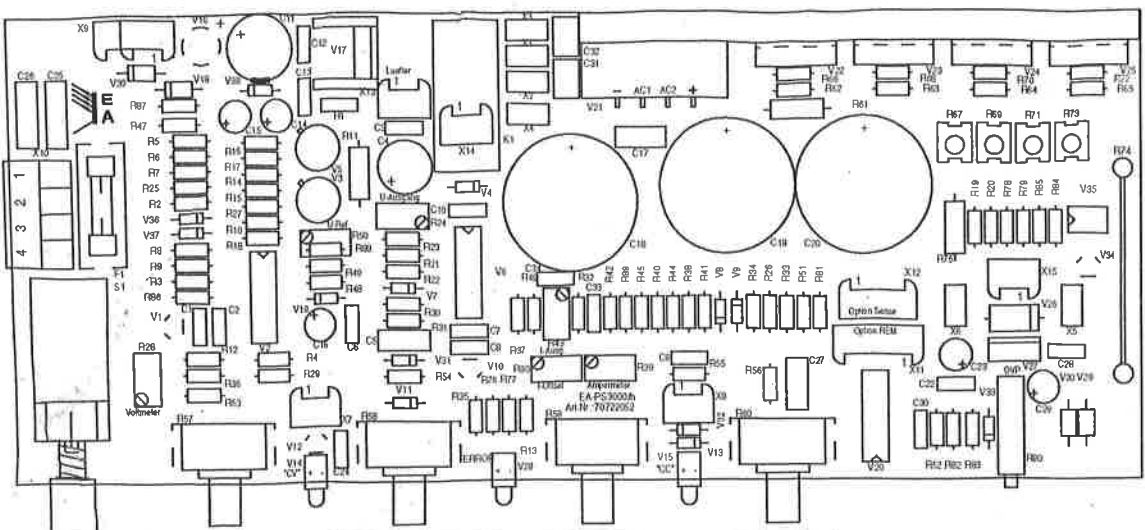
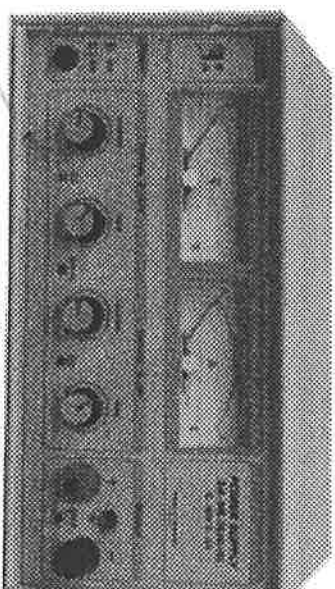




Layout Nr. :	70722052	Bearbeiter:	M.BIENERT
Layout Name :	PS3000/h	Datum :	27.09.99
Layout Mass :	222x91	Ausdruck :	Bestueckung
Plot Name :	BD722052	Follen :	SLKSCR,REFDES



Labornetzgerät **Laboratory** **Power Supply** **EA-PS 3016-05** **0...16V / 0...5A**

Art.-Nr.: 03 100 201

EA - ELEKTRO-AUTOMATIK



Technische Daten / Technical Data EA-PS 3016-05

Eingangsspannung / Input voltage 230V $\pm 10\%$
Eingangsfrequenz / Input frequency 50/60Hz

Ausgangsspannung / Output voltage 0...16V
Feinstellbereich / Fine adjustment range 800mV
Stabilität / stability 0...100% Last / load
Stabilität / stability $\pm 10\%$ UE
Festwertigkeit / ripple $< 0,5\text{mV}$
Ausregelzeit / regulation 10...90% Last / load
Überspannungsschutz / overvoltage protection 0...18V

Ausgangsstrom / Output current 0...5A
Feinstellbereich / Fine adjustment range 500mA
Stabilität / stability 0...100% UA
Restwertigkeit / ripple $< 2\text{mA}$

Option: "REM" und "Sense"
Steuereingang / control input V / I 0...10 V
Monitorausgang / Monitor output V / I 0...10 V

Lagertemperatur / Storage temperature -20...70°C

Betriebstemperatur / operating temperature 0...40°C

Abmessungen BxHxT / dimensions WxHxD 238 x 117 x 195mm

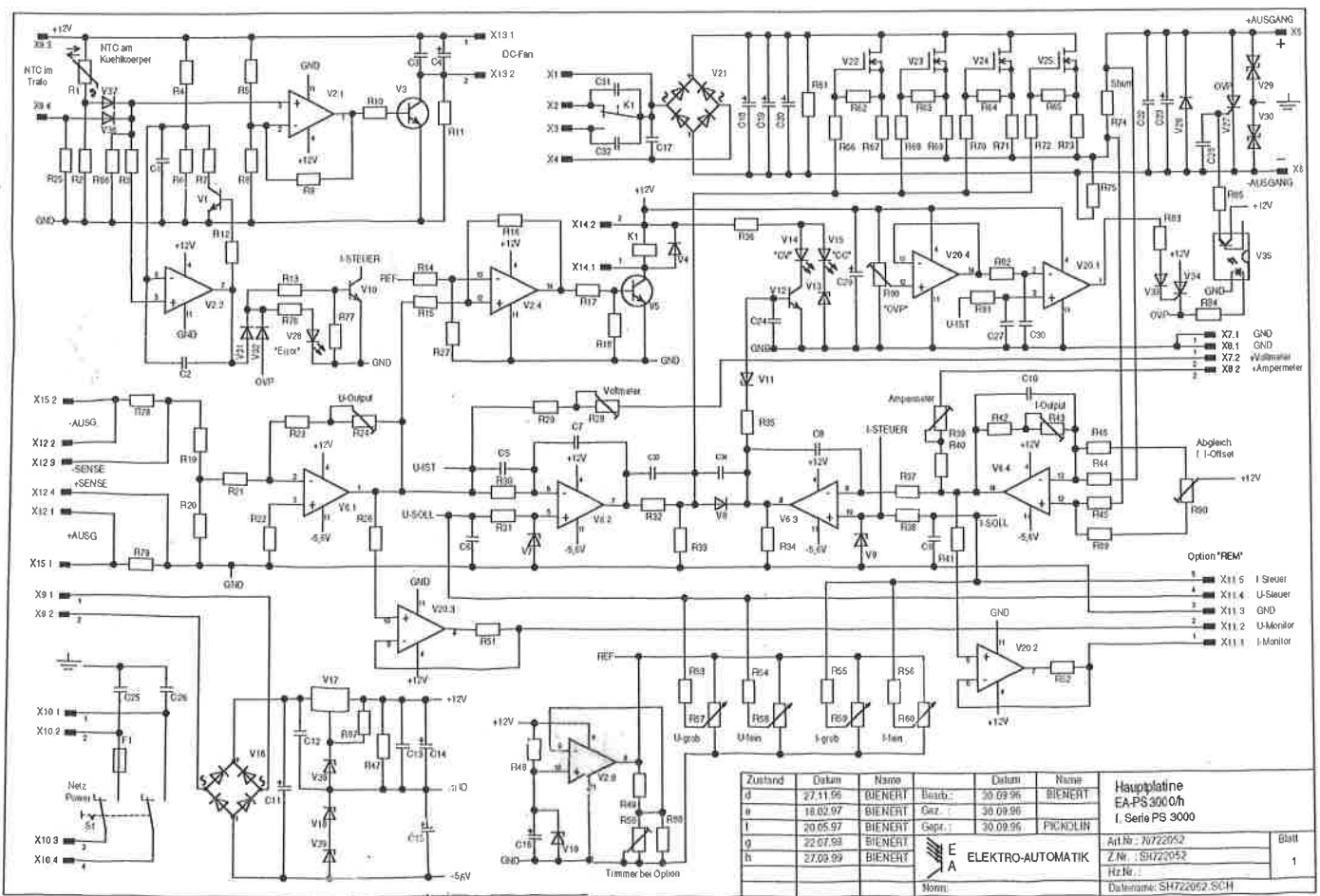
Gewicht / weight 5,4 kg

Inbetriebnahme

Vor der ersten Inbetriebnahme des Gerätes muß das Gehäuse, die Bedien- und Anzeigeelemente sowie das Netzkabel auf Beschädigungen hin untersucht werden. Vor jedem Öffnen des Gerätes muß unbedingt der Netzstecker gezogen werden. Eine Reparatur, Wartung oder Kalibrierung des Gerätes darf nur durch eine Fachkraft erfolgen.
Das Gerät darf nur an eine Schutzkontaktsteckdose mit 230V 50/60Hz angeschlossen werden. Die natürliche Luftzirkulation darf an den Luftschlitzen und Kühlkörpern nicht behindert werden.
Die Netzschaltung befindet sich innerhalb des Gerätes hinter dem Netzschalter. Um diese auszuwechseln, muß das Gerät geöffnet werden. **Vor dem Öffnen des Netzsteckers ziehen!** Zum Öffnen sind vier Schrauben unterhalb des Gerätes zu lösen und das Gerät kann dann nach hinten herausgezogen werden. Es dürfen nur Sicherungen des gleichen Typs und gleichen Wertes ersetzt werden.
Das Gerät muß dabei vom Netz getrennt sein!
Der Anschluß der Verbraucher erfolgt an den mit + und - bezeichneten Ausgangsbuchsen.
Serienschaltungen über 300V sind nicht statthaft, da es sonst zu Isolationsproblemen kommt.

INSTALLATION / INSPECTION AFTER UNPACKING

Before taking the unit into operation it is necessary to inspect the housing, the controls etc. for signs of physical damage. Save all packing materials until the inspection is completed. If damage is found, notify the carriers immediately. Our authorised representative also should be notified. If any physical damage has been found, the equipment should not be connected to the mains.
DO NOT OPEN THE UNIT BEFORE THE POWER CABLE IS DISCONNECTED FROM THE MAINS VOLTAGE!
Servicing, repairs or calibrations should only be carried out by trained engineers. The unit may only be operated using a properly wired and grounded mains plug as the grounding of the unit follows via the earth wire of the power cable. The unit must be operated only on the voltage stipulated on the type plate. The mains fuse is located inside of the unit behind the mains switch. It is necessary to change the fuse, the unit must be opened and it is imperative that it only be replaced by one of same value and physical dimensions as the original supplied fuse. **The unit must be disconnected from the mains whilst replacing the fuse.**
The load must be connected to the plus (+) and the minus (-) sockets on the front. Check for correct polarity.



Zustand	Datum	Name	Bearb.	Datum	Name
d	27.11.96	BIENERT	Gez.	30.09.96	BIENERT
e	18.02.97	BIENERT	Gepr.	30.09.96	PICKLIN
f	20.05.97	BIENERT			
g	22.07.98	BIENERT			
h	27.09.99	BIENERT			

E A ELEKTRO-AUTOMATIK		Hauptplatte EA-PS 300 0h I. Serie PS 3000
Art.Nr.: N722052		Blatt 1
Z.Nr.: SH722052		
Fz.Nr.:		
Dokument: SH722052 SCH		

Laboratory Power Supplies EA-PS 3000

General

Main characteristics of this series are state of the art technology, compact design and a wide type spectrum. The units may be used as constant voltage supply with current limiting or as constant current sources with voltage limitation. Current and voltage are continuously adjustable by means of coarse and fine potentiometers. High reliability - even under most extreme conditions - is provided by automatic transformer switching, MOS-FET power stages and a temperature-controlled ventilation regulation with functional monitoring. The unit is designed without ventilation slots at the top and the bottom and has no external heat sinks.

Indication Instruments

The units are equipped with separate volt- and ammeters, class 2,0

Overload Protection

All units are provided with overload protection. The current can be set between 0 and 100% of the rated current in coarse and fine mode.

Overvoltage Protection

All units are equipped with an overvoltage protection (OVP). The threshold of the OVP can be set by means of the trimmer "OVP" on the front panel within the range of 0V and 20% above the rated voltage.

Operation Mode Indicator

The LED "CV" indicates that the unit is operating in constant voltage mode, the LED "CC" indicates that the unit is operating in constant current mode. The LED "Error" indicates that the unit output was switched off either by the integrated overtemperature protection or by the overvoltage protection.

Operation in Parallel or Series

It is possible to operate two or more units in series or in parallel.

Options

The units can be supplied with the option "REM" and "Sense". The option "REM" provides each a programming input (0...10V) and a monitor output (0...10V) for voltage and current. These inputs resp. outputs have a common ground contact which is connected to the +output. At the back of the unit there is a 9 pole SUB-D socket as well as the sense input.

The remote "Sense" can be used to compensate the voltage drop up to 1V on the each load cable.

The remote connections can be made via the 9-pole SUB-D socket on the rear of the unit as following:

- Pin 1 Control input ext. current I- Remote 0...10V DC
- Pin 2 Control input ext. voltage U-Remote 0...10V DC
- Pin 3 GND
- Pin 4 U-Monitor 0...10V
- Pin 5 I-Monitor 0...10V
- Pin 6 + Output
- Pin 7 - Output
- Pin 8 - Sense
- Pin 9 + Sense

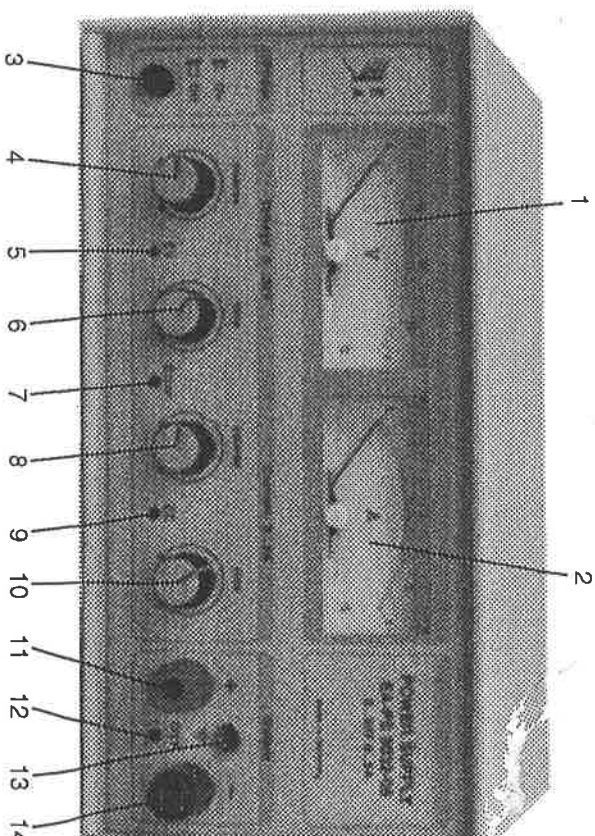
During external current and voltage control (Remote) the potentiometer V and I on the front must be set in the extreme counter clock wise position.

Remote Sense: For Remote Sense Mode the jumper on Pin 6-9 and Pin 7-8 must be removed. Pin 8 must be connected to - on the load and Pin 9 to + on the load. When no sense is required, jumpers must be installed from Pin 6 to Pin 9 and Pin 7 to Pin 8.

Notice

The continuing development of our products can be the reason that the unit described in this manual may be slightly different from the one being delivered. Only data with tolerances or boundaries are guaranteed. Data without tolerances are for information only and not guaranteed.

Bedienelemente Frontplatte Operating Elements Frontpanel



- | | |
|--------------------------------------|------------------------------------|
| 1 Voltmeter, Ausgangsspannung | 1 Voltmeter, Output voltage |
| 2 Amperemeter, Ausgangsstrom | 2 Ammeter, Output current |
| 3 Netzschalter Ein/Aus | 3 Mains switch, ON/OFF |
| 4 Spannungseinsteller grob | 4 Voltage adjustment coarse |
| 5 LED "CV", Konstantspannungsbetrieb | 5 LED "CV", Constant voltage mode |
| 6 Spannungseinsteller fein | 6 Voltage adjustment fine |
| 7 LED Error, Übertemperatur, OVP | 7 LED Error, Over temperature, OVP |
| 8 Stromeinsteller grob | 8 Current adjustment coarse |
| 9 LED "CC", Konstantstrombetrieb | 9 LED "CC", Constant current mode |
| 10 Stromeinsteller fein | 10 Current adjustment fine |
| 11 Ausgangsbuchse +, (Rot) | 11 Output socket +, (red) |
| 12 Trimmer OVP, OVP einstellen | 12 Trimmer OVP, OVP adjustment |
| 13 Erdungsbuchse | 13 Earth socket |
| 14 Ausgangsbuchse -, (Schwarz) | 14 Output socket -, (black) |

Stückliste EA-PS3016-05

A1	PCB EA-PS 3016-05	EA-NP PS 3016-05	67181572
M1	Lüfter / Fan	30m3/h 1,3W 12V	54420103
T1	Transformator / Transformer	EA-Typ 754	57121754
P1	Voltmeter (Skala 18V Art Nr.:41171302)	RUR 75 AMS EB 75 I	41130901
P2	Amperemeter (Skala 6A Art Nr.:41172303)	RUR 75 AMS EB 75 I	41130901