LABORATORY POWER SUPPLIES SERIES PS 2000

EA-PS 2032-050

- ❑ **Schools, Universities and Laboratories**
- ❑ **Industry and system applications**
- ❑ **Workshop and development**
- ❑ **Laboratories and test institutions**
- ❑ **Output voltage: 0...16V or 0...32V**
- ❑ **Output current: 0...2,5A, 0...5A, 0...10A**
- ❑ **Output power: 80W or 160W**
- ❑ **Digital LED Volt- and Ammeter**
- ❑ **Case closed on top and bottom**
- ❑ **Safety output sockets**
- ❑ **100% duty cycle**
- ❑ **Safety: EN 60950**
- ❑ **EMI: EN 50081 part 1, EN 50082 part 1**

General

The main features of this series include the use of state of the art technology, safe and easy to use, compact size and very low cost. They are delivered in two output power classes: 80W and 160W.
There are no ventilation slots in either the top or base of the equipment, also no external heatsinks, again for improved safety all sockets are recessed. This attention to the safety and unit protection makes it ideal for schools and universities as well as test and development laboratories.
The output voltage is available through safety sockets on the front panel.
Voltage and current are indicated on separate LED-meters. Two or more units can be operated in parallel or in series connection.
The units can operate as constant voltage source with current limiter or as constant current source with voltage limiter. Constant voltage and constant current are adjustable from 0 up to the rated value.
The use of automatic transformer switching, MOS-FET power stages and temperature controlled variable fan cooling ensures accurate performance and very high reliability even under the most demanding conditions.
The units are capable of 100% duty cycle.

Meters

Digital meters for current and voltage

Voltmeter:	0...16V or 0...32V
Accuracy:	± (1% + 2 digit) at 23°C ±5°C
Ammeter:	0...2,5A, 0...5A or 0...10A
Accuracy:	± (1% + 4 digit) at 23°C ±5°C

Ambient conditions

Operating temperature:	0°C ... 40°C at a
Humidity	10%... 80% non condensing

Storage conditions

Temperature:	-25°C... 70°C
Humidity:	10% ... 80% non condensing

Safety

Fuse in the primary circuit (the mains voltage is switched off).

The fan is fitted with a temperature sensor, which shuts down the unit in case the fan fails.
The units are according the EMI regulations and carry the CE mark.

TECHNICAL DATA	EA-PS 2016-050	EA-PS 2016-100	EA-PS 2032--025	EA-PS 2032-050
Input voltage 50...60Hz	230V ±8%	230V ±8%	230V ±8%	230V ±8%
Input power max.	200VA	400VA	200VA	400VA
Output power	0...16V DC	0...16V DC	0...32V DC	0...32V DC
-Stability 0...100% Load	≤20mV	≤40mV	≤10mV	≤20mV
-Stability ±8% V_{INPUT}	≤3mV	≤3mV	≤5mV	≤5mV
-Ripple	≤4mV p-p	≤4mV p-p	≤4mV p-p	≤4mV p-p
-Regulation 80...100% Load	≤100µs	≤100µs	≤100µs	≤100µs
-Temperature coefficient	500ppm/°C	500ppm/°C	500ppm/°C	500ppm/°C
Output current	0...5A	0...10A	0...2,5A	0...5A
-Stability 0...100% V_{OUTPUT}	≤1mA	≤1mA	≤1mA	≤1mA
Dimensions WxHxD mm	210x132x255	210x132x255	210x132x255	210x132x255
Weight	5,25kg	5,9kg	5,25kg	5,9kg
Article No.	39200100	39200101	39200102	39200103

DOUBLE - LABORATORY POWER SUPPLIES SERIE EA-PS 2000

- ❑ **Schools, Universities and Laboratories**
- ❑ **Industry and system applications**
- ❑ **Workshop and development**
- ❑ **Laboratories and test institutes**
- ❑ **Output: 2 x 0...16V or 2 x 0...32V**
  Fixed voltage 3...6VDC/2A
- ❑ **Output current: 2 x 0...2,5A, 2 x 0...5A**
- ❑ **Parallel or serial mode**
  selectable on the front
- ❑ **Dual tracing from master**
- ❑ **Output power: 2 x 80W**
- ❑ **Digital LED Volt- and Ammeter**
- ❑ **Case closed on top and bottom**
- ❑ **Safety output sockets**
- ❑ **100% duty cycle**
- ❑ **Safety: EN 60950**
- ❑ **EMI: EN 50081 part 1, EN 50082 part 1**

EA-PS 2332-025

General
The main features of this series include the use of state of the art technology, safe and easy to use, compact size and very low cost. They are delivered with an output power of: 2 x 80W. The are based on the single units of the series PS 2000. Voltage and current are indicated on separate LED-meters. The output voltages are available through safety sockets on the front panel.

Dual Tracking (Serial and parallel operation)
Both lab-outputs can be connected in parallel or in series by means of a switch on the front panel. The left hand unit is then operating as the master control unit. The output values are indicated on the meters of the master unit (left side).

The units are equipped with a third output supplying a fixed voltage of 3...6 Volts and a max. current of 2A. This output is located on the right side with safety sockets. The voltage can be adjusted by means of a screwdriver near the output.
The use of automatic transformer switching, MOS-FET power stages and temperature controlled variable fan cooling ensures accurate performance and very high reliability even under the most demanding conditions.
The units are capable of 100% duty cycle.

Input voltage: 230 V ±10% 50/60Hz

Meters:
Digital meters for current and voltage
2 x Voltmeter: 0...16V or 0...32V
Accuracy: ± (1% + 2 digit) at 23°C ±5°C
2 x Ammeter: 0...2,5A, 0...5A
Accuracy: ± (1% + 4 digit) at 23°C ±5°C

Ambient conditions:
Operating temperature: 0°C ... 40°C at
Humidity 10%... 80% non condensing

Storage:
Temperature: -25°C... 70°C
Humidity: 10% ... 80% non condensing

Safety:
Fuse in the primary circuit (the mains voltage is switched off).
The fan is fitted with a temperature sensor, which shuts down the unit in case the fan fails.
The units are according the EMI regulations and carry the CE mark.

TECHNICAL DATA	EA-PS 2316-050	EA-PS 2332--025
Input power max. **Output power**	230V ±10% 400VA	230V ±10% 400VA
Output voltage **-Stability 0...100% Load** **-Stability ±8% V_{INPUT}** **-Ripple** **-Regulation 80...100% Load** **-Temperature coefficient** **Output current** **-Stability 0...100% V_{OUTPUT}**	2 x 0...16V DC ≤50mV ≤5mV ≤5mV p-p ≤100µs 500ppm/°C 2 x 0...5A ≤1mA	2 x 0...32V DC ≤50mV ≤5mV ≤5mV p-p ≤100µs 500ppm/°C 2 x 0...2,5A ≤1mA
Fixed voltage, Output 3	3...6V DC/2A	3...6V DC/2A
Dimensions WxHxD mm **Weight** **Article No.**	355 x 132 x 320 13kg 39200104	355 x 132 x 320 13kg 39200106

LABORATORY POWER SUPPLIES SERIES PS 3000

EA-PS 3032-05

- **Output power 80...320W**
- **Output voltage 0...16V, 0...32V**
- **Output current 3 to 16A**
- **Schools, Universities and Laboratories**
- **Industry and system applications**
- **Single and Double units with auxilary outputs**
- **Option: External programming, Monitor outputs and remote sense (Option "REM")**
- **Option: CAN-Bus (RS 232)**
- **Overvoltage protection (OVP) adjustable**
- **Volt- and Ammeter class 2.0**
- **Mode indication "CV" and "CC"**
- **Short regulation time, High regulation accuracy**
- **Low Ripple**
- **Safety: EN 60950**
- **EMI: EN 50081 part 1, EN 50082 part 1**

General

Main characteristics of this series are state of the art technology, compact design and a wide type spectrum. The output power is between 80 and 320 Watts.

High reliability even under the 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. The units are capable of 100% duty cycle in any operation mode. 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 (on double power supplies only voltage with fine potentiometer).

The units are equipped with separate volt and ammeters, class 2,0 (the ammeter of EA-PS 3300 can be switched between both outputs).

The output voltage is available on safety sockets on the front panel. Output voltage is floating and can therefore be referenced to earth via the positive or negative rail.

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 (EA-PS 3300 only coarse).

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

Operation Mode Indication: The LED "**CV**" indicates constant voltage mode, the LED "**CC**" indicates constant current mode. The LED "**Error**" indicates that the unit output was switched off either by the over temperature protection or by the OVP. Two or more units can be operated in series or in parallel.

Options: "**REM**" and "**Sense**".

On "**Sense**" mode it is possible to compensate the voltage drop on the load cables up to 1V on each cable.

The option "**REM**" provides each a programming input (0...10 V) and a monitor output (0...10 V) for voltage and current. These inputs resp. outputs have a common ground contact which is connected to the +output. A 9-pole SUB-D socket which includes also the sense input connection is located on the rear.

Option: CAN-Bus

TECHNICAL DATA	EA-PS 3016-05	EA-PS 3032-03	EA-PS 3016-10	EA-PS 3032-05	EA-PS 3016-16	EA-PS 3032-10
Input voltage ±10%	230V 50/60Hz	230V 50/60Hz	230V 50/60Hz	230V 50/60Hz	230V 50/60Hz	230V 50/60Hz
Output voltage	0...16V	0...32V	0...16V	0...32V	0...16V	0...32V
-Fine adjustment range	800mV	1,6V	800mV	1,6V	800mV	1,6V
-Stability 0...100% load	<8mV	<6mV	<10mV	<8mV	<12mV	<10mV
-Stability ±10% V_{IN}	<1mV	<1mV	<1mV	<1mV	<1mV	<1mV
-Ripple	<0,5mV	<1mV	<1mV	<2mV	<1mV	<2mV
-Regulation 10...90% load	<100µs	<100µs	<100µs	<100µs	<150µs	<150µs
-Overvoltage protection	0...18V	0...36V	0...18V	0...36V	0...18V	0...36V
Output current	0...5A	0...3A	0...10A	0...5A	0...16A	0...10A
-Fine adjustment range	500mA	300mA	1A	500mA	1,6A	1A
-Stability 0...100% V_{OUT}	<1mA	<1mA	<1mA	<1mA	<1mA	<1mA
-Ripple	<2mA	<1mA	<3mA	<2mA	<5mA	<3mA
Output 3	—	—	—	—	—	—
-Stability 0...100% Load	—	—	—	—	—	—
Operating temperature	0...40°C	0...40°C	0...40°C	0...40°C	0...40°C	0...40°C
Dimensions WxHxD (mm)	238x117x195	238x117x195	238x117x195	238x117x195	238x117x240	238x117x240
Weight	5,4kg	5,4kg	6,6kg	6,6kg	10,5kg	10,5kg
Article No.	03100201	03100200	03100202	03100203	03100204	03100205

- **Output voltage 2 x 0...16V or 2 x 0...32V**
- **Output current 2 x 3A and 2 x 5A**
- **Laboratory, Schools, Industry and workshop applications**
- **Double units with auxilary outputs 3...6V DC/2A**
- **Option: External programming, Monitor outputs and remote sense (Option "REM")**
- **Option: CAN-Bus (RS 232)**
- **Overvoltage protection (OVP) adjustable**
- **Volt- and Ammeter class 2.0**
- **Mode indication "CV" and "CC"**
- **Safety: EN 60950**
- **EMI: EN 50081 part 1, EN 50082 part 1**

EA-3316-05

General
These double output laboratory power supplies are based on the units of the Series PS 3000.
Voltage and current are indicated on instruments of the class 2,0. The output voltages are available on safety sockets on the front panel.
The outputs can be connected in series or in parallel to achieve higher voltages or currents.

The units are equipped with an auxiliary output, supplying a fixed voltage of 3...6 Volts and a max. current of 2A. This output is located on the right side with safety sockets. The voltage can be adjusted by means of a screwdriver near the output.
The use of automatic transformer switching, MOS-FET power stages and temperature controlled variable fan cooling ensures accurate performance and very high reliability even under the most demanding conditions.
The units are capable of 100% duty cycle.

TECHNIAL DATA	EA-PS 3316-05	EA-PS 3332-03
Input voltage ±10%	230V 50/60Hz	230V 50/60Hz
Output voltage	2 x 0...16V	2 x 0...32V
-Fine adjustment range	800mV	1,6V
-Stability 0...100% Load	<8mV	<6mV
-Stability ±10% V_{IN}	<1mV	<1mV
-Ripple	<0,5mV	<1mV
-Regulation 10...90% Load	<100µs	<100µs
-Overvoltage protection	0...18V	0...36V
Output current	2 x 0...5A	2 x 0...3A
-Fine adjustment range	—	—
-Stability 0...100% U_A	<1mA	<1mA
-Ripple	<2mA	<1mA
Output 3	3...6V / 2A	3...6V / 2A
-Stability 0...100% Load	<20mV	<20mV
Operating temperature	0...40°C	0...40°C
Dimensions WxHxD (mm)	312x117x215	312x117x215
Weight	7,6kg	7,6kg
Article No.	03100207	03100206

VARIABLE TRANSFORMER

- **Output isolated from the mains**
- **Output voltage 0...250V AC variable**
- **Volt- and Ammeter class 2,0**
- **Thermic overload protection**
- **Workshop and Laboratory applications**
- **EMI: EN 50081 part 1 and EN 50082 part 1**
- **Safety: EN 60950**

The isolated variable transformer **EA-STT 2000** is ideal for both workshop or laboratory. The output is isolated from the mains input, so an instrument supplied from this transformer can be used for measurements on TV-Sets, primary switched power supplies etc.
The output voltage is variable from 0...250V AC by means of the knob on the front panel. The max. output current is 2A (500VA at 250V).
The output voltage and current are indicated on separate instruments. On sustained overload the thermic overload switch will be activated. Reset by pressing the over load switch.
Due to the user friendly construction and layout these units are ideally suited for use by non-skilled operatives. They do not have cooling slits on the top of the unit so that liquids or pointed objects cannot be inadvertently introduced into the unit.

EA-STT 2000

TECHNIAL DATA	EA-STT 2000
Mains input voltage	230V ±10% 50/60Hz
Output voltage	0...250V AC
Output current	2A max.
Output power	500VA
Overload protection	over temperature protected
Operating temperature	0...50°C
Storage temperature	-30...70°C
Weight	14kg
Dimensions WxHxD	265 x 200 x 270mm
Article No.	08 100 112