全系列电源供应器
产品目录

2012

The Complete Power Supply Range
Product Catalogue

Elektro-Automatik

公司介绍 - EA-ELEKTRO AUTOMATIK
THE COMPANY - EA-ELEKTRO AUTOMATIK

通用电源系统

EA-Elektro Automatik公司于1974年由电子工程师Helmut Nolden先生创立。
公司初期主要生产小型固定式和可调式电源，供工业、实验室和业余爱好者使用。随着EA技术团队能力的逐渐提高和持续创新，开发出更多不仅能满足特定客户的精准要求，也符合市场的普遍需求的产品。公司凭藉这些卓越品质的电源产品和系统很快就暂露头角。

根据客户不同的定位并开发出创新产品，成为本公司现在及未来高科技解决方案的发展方向。核心研发部位于德国菲尔森-Viersen，生产基地分布于德国本部和远东地区。EA已经为现在和未来的市场需求做好了充分的准备。

因具备专有的核心技术，高度的灵活性和极短的生产週期，使得EA成为许多知名公司和重要机构的首选供应商。

完整的电源系列

EA的产品系列纵、横范围同样宽广，几乎能满足实验室、工业或教育领域的每一个需求。实验室和工业用电源产品，电子负载，逆变器，内嵌式、导轨式和19“插拔式电源，以及其它大功率产品奠定了坚固的基础，从而使EA能为客户量身定做最适合的电源产品与系统。

为客户最佳利益而研制产品

开发和创新是EA的重要基础，因此我们的产品总是引领技术前沿。所有EMI测量和安规测试都在厂内完成。

专业的电源开发团队在产品系列上展现出强劲优势，创造出例如：电能反馈型电子负载，带自动调整输出的实验室电源，不同凡响的功率密度的内嵌式、导轨式和19“插拔式电源，所有此类产品由于其高效性能，使能源得到最佳利用。

Power supply systems for universal applications

With this vision electronics engineer Helmut Nolden founded **EA-Elektro Automatik** in 1974.
At the beginning production was chiefly of small fixed and adjustable power supply units for industrial, laboratory and hobby use. The high technical competence of the EA team and the continuous strive for innovation enabled the company to deliver ever more products satisfying precise customer requirements and general market needs. In this way the company quickly made a name for itself as a highly qualified supplier of power supply units and systems.
Distinct customer orientation and innovative product development lead to high-tech solutions of today and tomorrow. With the core of R&D based in the headquarter in Viersen and production facilities in Germany and Far East, EA is well prepared for the market requirement of the present and the future.
Everything points to expansion. Know-how, flexibility and short production cycles make EA a preferred supplier to numerous well-known companies and significant institutes.

The complete power supply program

The equally wide and deep product spectrum of EA covers almost every need in laboratory, industrial or education environment. Laboratory and industrial power supplies, electronic loads and inverters, built-in, DIN-rail and 19“ plug-in power supplies and many more power products built the basis upon which EA is also able to offer power supply units and systems tailored to customer requirements.

Development for optimal customer benefit

Development and innovation is of fundamental importance to EA. Through this, EA units have always been at the technological leading edge. All EMI measurements and safety tests are carried out in-house.
A development team specialised in power supply demonstrates its strength over the product line. Examples of such are electronic loads for energy feed back, laboratory power supplies with autoranging output, built-in, DIN-rail and 19“ plug-in power-supplies with outstanding power density, all of which have in common an optimal energy usage by high efficiency.

位于Viersen的EA公司总部

EA building in Viersen

发部和生礒部一览
VIEWS INTO R&D AND THE PRODUCTION

电源系统

EA电源供应器和系统因其稳定的高品质而享有盛名。
我们的品质管理系统，已通过DIN ISO 9001认证，并长期维持稳定的高水准，保证技术可靠性和极低的退货率。这起始于原材料入库，到整个生产过程，直至最后的品质控制。在最后测试过程中，所有**EA**生产的工业类产品都要经过“老化测试”。该测试利用电量反馈型电子负载来操作，这样周围环境不仅不会有热量散发的影响，反而将所有测试设备产生的电流直接转化为230V AC电压，反馈给市电循环使用。

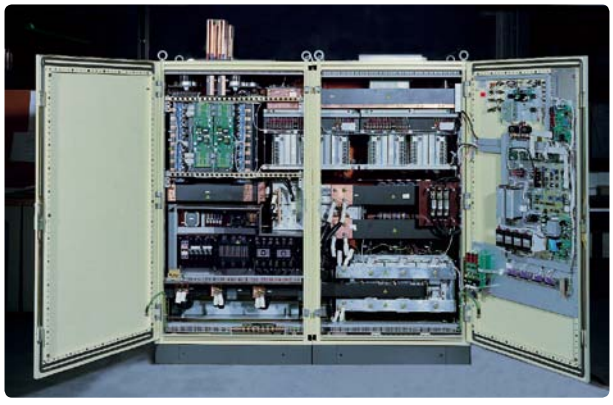
Power supply systems

EA power supply units and systems are renowned for their constant high quality.
A quality management system, certified under DIN ISO 9001 and maintained at a constant high level, guarantees technical reliability and an extremely low return rate. This begins at goods-in and continues through the complete production process to final control. Within the final testing all industrial units from **EA** undergo a „burn-in test“. Where possible these are carried out using an electronic load with energy recovery, so that the environment is not simply impacted by heat emission, but rather the direct current, produced by all test units, is converted to 230V AC and fed back into the public supply.

发部和结构部 / **Development and Construction Division**

EMI 测试和老化测试间 / **EMI Laboratory and Burst test**

客户定制电源供应器 / **User-specific Power Supply**



生产部一览
VIEWS INTO THE PRODUCTION

技术生产

我们产品与系统的概念定位、设计、技术开发与规格制定全部由公司内各相关部门共同完成。将研发取得的技术优势直接转化为成品，于是，**EA**再一次以灵活输出级的实验室功率产品引领技术前沿。

科技生产意味着极其灵活的生产流程。因此，我们能在最短时间内对特定客户需求作出回应：这样能缩短新产品和系统开发周期，我们还保证用尽可能短的反馈时间应对客户的紧急需求。

Technology production

Concept, design, technical development and specification of our units and systems is invariably carried out in-house. The technical advantage gained by the development is converted straight away into finished products. Thus, once again, it was **EA** who led the way with a flexible output stage for laboratory power units.

Technology production means extremely flexible production processes. Thus it is possible to react to specific customer requirements within the shortest timescales: a necessity as the development cycles for new equipment and systems becomes ever shorter. Also we guarantee the shortest possible reaction time for our customers in emergency situations.

半自动组装线 **Semi-automatic Assembly**

成品测试间 **Test Bay for finished Units**

SMD 贴装线 **SMD Assembly Line**

编程产品纵览
PROGRAM OVERVIEW

EA-PS 8000 T / EA-PS 8000 DT
页码 / Pages 10-17

实验室直流电源
Laboratory DC Power Supplies

320W - 1500W

EA-PS 8000 2U / EA-PS 8000 3U
页码 / Pages 18-27

实验室直流电源 / 高效直流电源
Laboratory & High Efficiency DC Power Supplies

640W - 150000W

EA-PSI 8000 T / EA-PSI 8000 DT
页码 / Pages 28-39

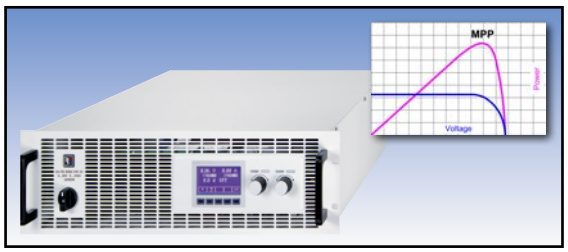
可编程实验室直流电源
Programmable Laboratory DC Power Supplies

320W - 1500W

EA-PSI 8000 2U / EA-PSI 8000 3U
页码 / Pages 40-51

可编程实验室直流电源 / 高效直流电源
Programmable Laboratory & High Efficiency DC Power Supplies

640W - 150000W



EA-PSI 8000 3U HS PV
页码 / Pages 52-55

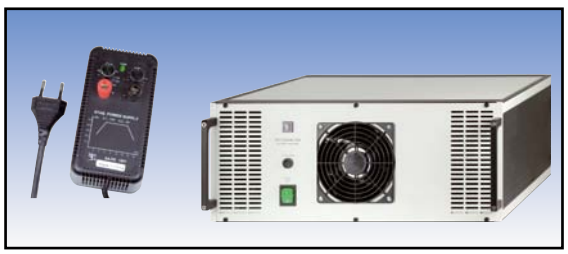
光伏测试用可编程实验室直流电源
Programmable Laboratory DC Power Supplies for Photovoltaics test

10000W - 150000W

EA-PS 9000
页码 / Pages 56-60

实验室直流电源
Laboratory DC Power Supply

1.5kW - 9000W



EA-PS 1501 T / FET
页码 / Page 61

通用桌面式电源
Universal desktop power supply

FET-开关 / FET Switch

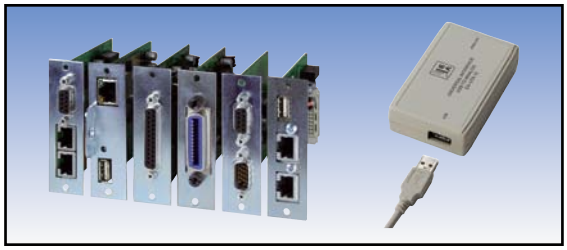
编程产品纵览
PROGRAM OVERVIEW

EA-IF Interfaces / Software
页码 / Pages 62-65

数字和模拟接口
Digital and Analogue Interfaces

USB, RS232, CAN, GPIB, Analog, Ethernet, Profibus

EasySoft Software Suite 软件套件



EA-HV 9000
页码 / Pages 66-67

高压直流电源
High Voltage DC Power Supplies

1200V - 12000V
2000W

EA-PS 1000
页码 / Pages 68-75

重型可调开关模式直流源
Heavy duty, adjustable switching DC sources

2.7kW - 120kW

EA-PS 2000 B
页码 / Pages 76-79

带USB接口的实验室直流电源
Laboratory DC Power Supplies with USB

100W - 332W

EA-PS 3000 B
页码 / Pages 80-81

带模拟接口的实验室直流电源
Laboratory DC Power Supplies with Analogue Interface

160W - 650W

EA-PS 800 R
页码 / Pages 82-85

带模拟接口的机架式直流电源
Rack Mount DC Power Supplies with Analogue Interface

320W - 5kW

EA-PSI 800 R
页码 / Pages 86-89

带模拟接口的机架式可编程直流电源
Programmable Rack Mount DC Power Supplies with Analogue Interface

320W - 5kW

编程产品纵览
PROGRAM OVERVIEW

EA-PS 800 SM
页码 / Pages 90-91

导轨式直流电源
DIN Rail DC Power supplies
80W - 480W

EA-PS 800 KSM
页码 / Pages 92-93

导轨式直流电源
DIN Rail DC Power supplies
10W - 100W

EA-UPS 800 SM / EA-UPS700
页码 / Pages 94-95

TS35导轨式直流UPS电源
DC UPS Units for DIN Rail TS35
120W - 500W

EA-PS 800 19“
页码 / Pages 96-101

符合DIN 41494标准的，19“插拔式直流电源
19“ Plug-In DC Power Supplies, DIN 41494

80W - 240W

EA-BC 800 R
页码 / Pages 102-103

铅酸电池自动充电器
Automatic Battery Chargers for Lead Acid batteries

320W - 1.5kW

EA-BCI 800 R
页码 / Pages 104-107

可编程电池自动充电器
Programmable Automatic Battery Chargers

320W - 1.5kW

EA-EL 3000
页码 / Pages 108-111

直流电子负载
Electronic DC Loads

400W

编程产品纵览
PROGRAM OVERVIEW

EA-EL 9000, EA-EL 9000 HP
页码 / Pages 108-116

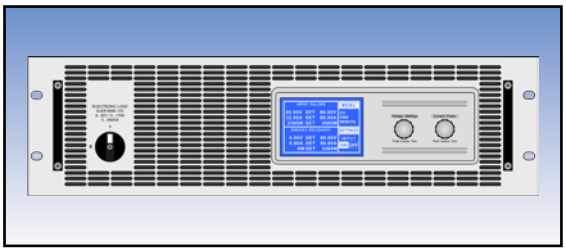
直流电子负载
Electronic DC Loads

2400W - 7200W
按需还供>7200W的型号/ >7200W upon request

EA-ELR 9000
页码 / Page 117

电能反馈型直流电子负载
Electronic DC Loads with Mains Feedback

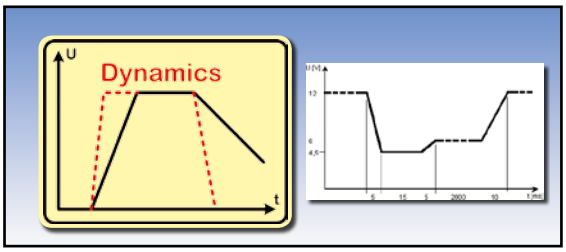
3.5kW-210kW



EA-OPTION
页码 / Pages 118-123

电源供应器选项功能 / Options for Power Supplies

HS - 高速跃变 / High Speed
ZH - 内部有源负载 / Internal, active load
12U - 42U机柜组合 / Cabinets 12U - 42U



	特性和选项功能符号释义	Meaning of the symbols for features and options
	范围可调电压控制符号	Voltage control with adjustable voltage
	范围可调电流控制符号	Current control with adjustable current
	范围可调功率控制符号	Power control with adjustable power
	范围可调内阻控制符号（可选）	Internal resistance control with adjustable resistance (optional)
	过压保护，可调	Overvoltage protection, adjustable
	过温保护	Overtemperature protection
	内置模拟接口	Integrated analogue interface
	主-从操作连接端	Terminal for master-slave equipped
	19“寸外形因数，标准版或按需配置	19“ form factor, standard or optional
	函数管理器 *	Function manager *
	USB数字接口，可选	Optional, digital interface USB
	RS232数字接口，可选	Optional, digital interface RS232
	Ethernet-以太网数字接口，可选	Optional, digital interface Ethernet
	IEEE/GPIB数字接口，可选	Optional, digital interface IEEE/GPIB
	CAN数字接口，可选	Optional, digital interface CAN
	绝缘模拟接口，可选	Optional, isolated analogue interface
	Profibus-现场总线数字接口，可选	Optional, digital interface Profibus

* 见第124 页术语表/ see glossary on page 124

EA-PS 8000 T 320W - 1500W
实验室直流电源 / LABORATORY DC POWER SUPPLIES

U
I
OVP
OT
USB
RS232
LAN
IEEE
CAN
Profi-bus

EA-PS 8032-20 T

- 宽范围输入电压90...264V，带主动式PFC
- 效率高达 92%
- 输出功率：320W 至 1500W
- 输出电压：0...16V 至 0...360V
- 输出电流：0...4A 至 0...60A
- 灵活的功率调整输出级*
- 有过压保护（OVP）
- 有过温保护（OT）
- 四位数显电压、电流显示器
- LED灯指示状态
- 可自动检测的远程感测端
- 多功能模拟接口
  - 通过 0...10V 或 0...5V电压可对U / I 编程
  - 通过 0...10V 或 0...5V电压可监控U / I
- 温控风扇制冷
- 可选购的数字接口卡:
  - RS232, CAN, USB, GPIB (IEEE)
  - Profibus, Ethernet/LAN

- **Wide input voltage range 90...264V with active PFC**
- **High efficiency up to 92%**
- **Output power ratings: 320W up to 1500W**
- **Output voltages: 0...16V up to 0...360V**
- **Output currents: 0...4A up to 0...60A**
- **Flexible, power regulated output stage***
- **Overvoltage protection (OVP)**
- **Overtemperature protection (OT)**
- **Four-digit display for voltage and current**
- **Status indication via LEDs**
- **Remote sense with automatic detection**
- **Analogue interface with multiple functions**
  - **U / I programmable via 0...10V or 0...5V**
  - **U / I monitoring via 0...10V or 0...5V**
- **Temperature controlled fans for cooling**
- **Optional, digital interface cards**
  - **RS232, CAN, USB, GPIB (IEEE)**
  - **Profibus, Ethernet/LAN**

概要

EA-PS8000 T系列是一款由微处理器控制，采用最新技术设计的实验室电源。标准型号配备多种功能和特征，让用户使用起来更方便、有效。

本系列可记忆5组不同的预设值，仅需按下一按钮，即可存储及再次上载这些数值，故用户可即刻取出频繁使用的设定参数。

输入

采用主动式功率因数校正线路，使产品在全世界范围内都适用，输入电压为90V至264V AC。

General

The microprocessor controlled laboratory power supplies of series EA-PS 8000 T cover state-of-the-art technology. They already offer many functions and features in their standard version, making the use of this equipment remarkably easy and most effective.
The units are provided with a memory function for five different preset values, with the ability to save and recall these just by the push of a button. Thus frequently used settings are at immediate reach to the user.

Input

The equipment uses an active **P**ower **F**actor **C**orrection circuit to enable using it worldwide on a mains input from 90V up to 264V AC.

* 针对1kW以上型号

* Models from 1kW

EA-PS 8000 T 320W - 1500W
实验室直流电源 / LABORATORY DC POWER SUPPLIES

功率
1kW 以上型号输出功率可灵活调整，可在低电流时输出更高的电压，或在低电压时输出更大的电流，都由最大额定输出功率来限制。因此一台该产品能涵盖广范围的应用领域。
1.5kW型号产品有功率降额功能，即：在输入电压<150V_{AC}时最大输出功率减少至1kW。

Power
Models from 1kW output power are equipped with a flexible, auto-ranging output stage. It provides a higher output voltage at lower output current or a higher output current at lower output voltage, always limited the max. nominal output power. Therefore, a wide range of applications can already be covered by the use of just one single unit.
Units with 1.5kW are derated, i.e. reduced to 1kW max. power at input voltages below 150V_{AC}.

DC输出
本系列有多种不同型号，可选择0...16V至0...360V输出电压，0...4A至0...60A输出电流，320W至1500W输出功率的型号。
输出端位于产品前板。

DC output
Output voltages between 0...16V and 0...360V, output currents between 0...4A and 0...60A and output power ratings between 320W and 1500W are available.
The output terminals are located in the front panel.

过压保护(OVP)
为保护连接负载，可调整一过压保护极限值(OVP)。
若输出电压超过调整极限值，输出被关断，LED灯和模拟接口发出状态消息信号。

Overvoltage protection (OVP)
In order to protect the connected loads it is possible to adjust an overvoltage protection threshold (OVP).
If the output voltage exceeds the adjusted limit, the output is shut down and status signals via a LED and via the analogue interface will be generated.

远程感测端
远程感测经一可直接连到负载设备的特定输入端执行，以补偿负载线上的压降。它自动检测输入端是否已连接，并直接稳定负载上的电压。该感测输入端位于产品前面板。

Remote sense
Remote sensing can be done via a dedicated input which is directly connected to the load equipment, in order to compensate voltage drops on the load cables. The power supply detects automatically whether the sense input is connected and will stabilise the voltage directly at the load. The remote sensing input terminal is located on the front panel.

显示和控制键
输出电压和电流清晰显示于两个4位数LED显示器上。LED灯指示产品和按钮的功能状态，为用户提供简便、舒适的操作。

两旋钮可设定输出电压、电流和OVP(过压保护)值，还有"fine setting"模式，可进行高分辨率调节。在"lock" 模式下按钮和旋钮都被锁定，避免无意识的设定值误改。电源开关位于产品后面板，输出关闭按钮则在前面板。

Displays and controls
Output voltage and current are clearly visualised on two 4-digit displays. The functional status of the unit and its buttons are indicated via LEDs, providing easier and most comfortable handling to the user.
Output voltage, current and OVP values can be set by two rotary knobs. A fine setting mode for high resolution adjustment is provided as well. With the LOCK mode, buttons and knobs can be locked to prevent unintentional change of settings. The main power switch is located on the back panel, an output shutdown button is on the front panel.

输出值的预设
若不想直接将设定输出值传输到输出端，可采用预设功能。通过此功能用户可预设输出电压、电流和过压保护值(OVP)。

Presetting of output values
To set output values without affecting the output condition, a preset function is implemented.
With this function the user can preset values for the output voltage, output current and overvoltage protection (OVP).

模拟接口
模拟接口位于产品前面板。它具有模拟输入脚，接上0V...10V或0V...5V电压，可设置0...100%的输出电压与电流。在产品设置菜单下可选。

模拟输出脚接上0V...10V或0V...5V电压，可监控输出电压与电流。此外，还有几个输入脚和输出脚，可用来控制和监控产品状态。
该接口无电隔离特性。

Analogue interface
The connection for the analogue interface is located on the front of the device. It offers analogue inputs to set voltage and current from 0...100% in the voltage range of either 0V...10V or 0V...5V. This is selectable in the device setup.
To monitor output voltage and current, analogue outputs with voltage ranges from 0V...10V or 0V...5V can be read out. Furthermore, several inputs and outputs are available for controlling and monitoring the device status.
There is no galvanic isolation with this interface.

EA-PS 8000 T 320W - 1500W
实验室直流电源 / LABORATORY DC POWER SUPPLIES

选购件

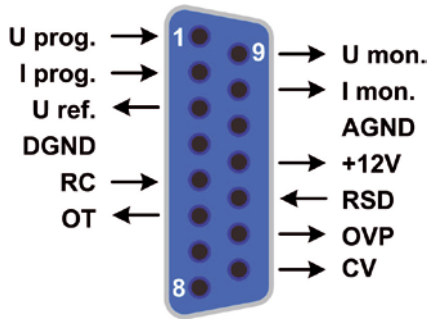
- 本系列电源可利用RS232，CAN，USB，GPIB (IEEE)、乙太网/LAN或Profibus不同的隔离数字接口，用电脑来控制。接口插槽在产品后板，方便用户插上新接口或替换当前接口。产品会自动检测接口类型，并提示需进行几步设置或不用设置。随接口卡附有免费Windows软件，它可控制、监控、记录数据和排序。详情请见63和64页。

- 高速跃变（仅针对1kW,以上产品，见118页）

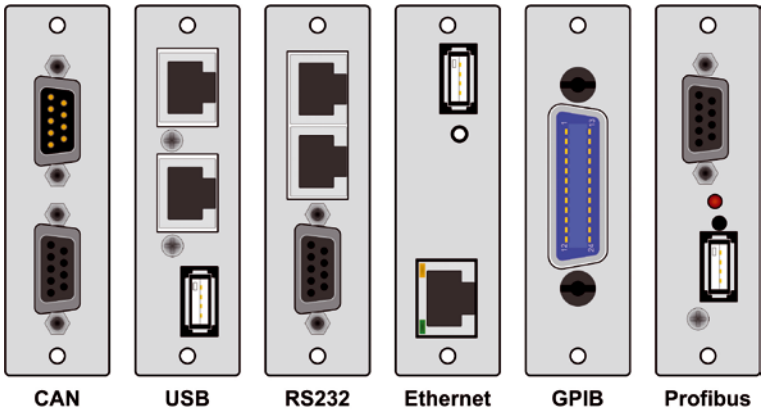
Options

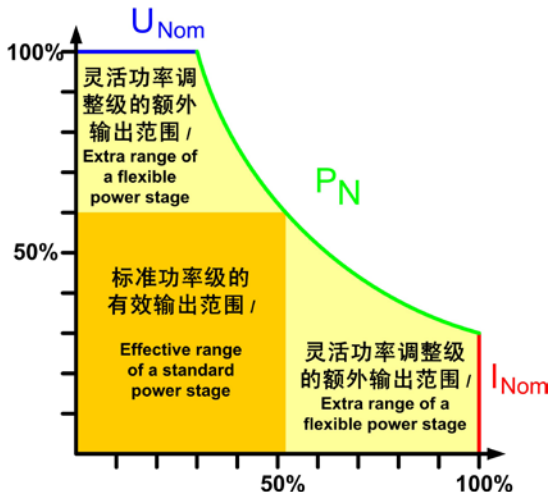
- Isolated digital interface cards for RS232, CAN, USB, GPIB (IEEE), Profibus or Ethernet/LAN to control the device by PC. The interface slot is located on the rear panel, making it easy for the user to plug-in a new interface or to replace an existing one. The interface will be automatically detected by the device and requires no or only little configuration. Included with the interface cards is a free Windows software which provides control and monitoring, data logging and sequences. See pages 63 and 64.
- High speed ramping (only for models as from 1kW, also see page 118)

模拟接口 / **Analogue interface**



数字接口 / **Digital interfaces**





后面板图 **Rear view**

风扇 / Fan

保险丝 / Fuse

电源开关 / Mains switch

电源插座 / Mains input

多款数字接口插槽 / Slot for digital interfaces

EA-PS 8000 T 320W - 1500W
实验室直流电源 / LABORATORY DC POWER SUPPLIES

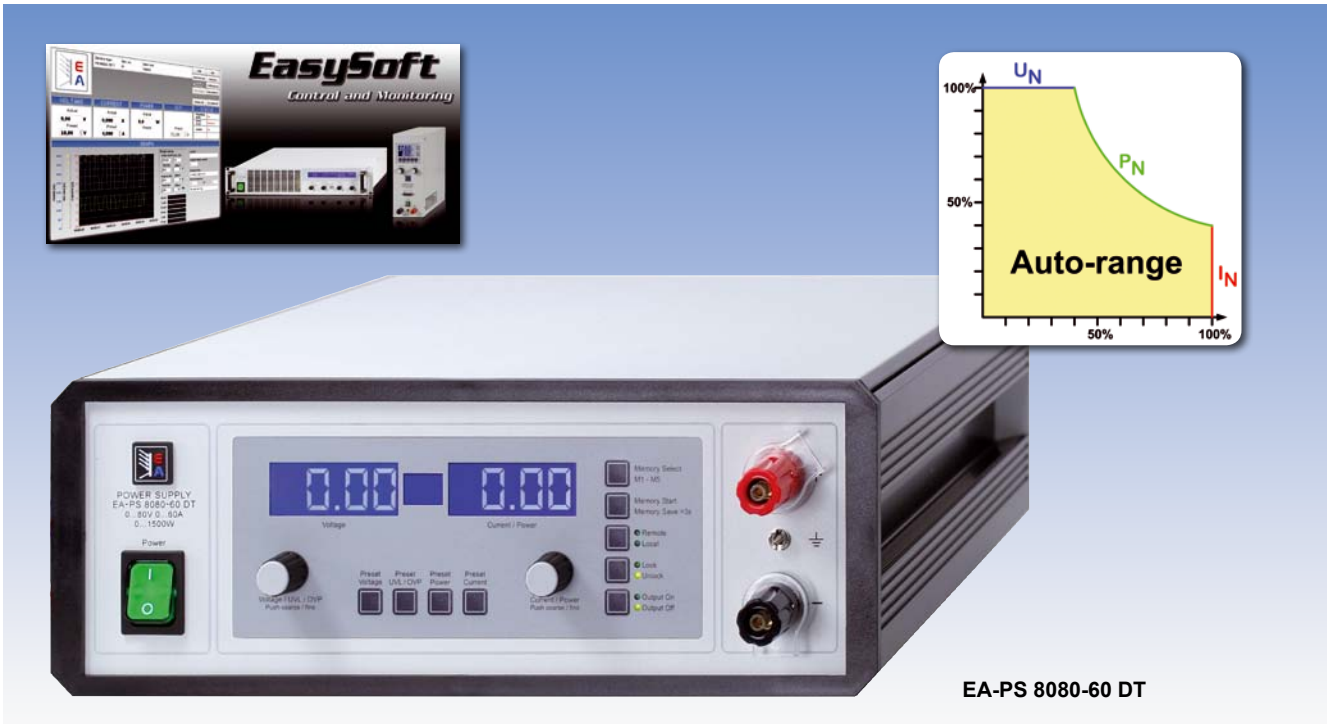
技术参数	Technical Data	EA-PS 8000 T
输入电压	**Input voltage**	90...264V AC
-频率	-Frequency	45...65Hz
-功率因数	-Power factor	>0.99
输入：电压	**Output: Voltage**	
-型号	-Type	直流 / DC
-精确度	-Accuracy	<0.2%
-负载0-100% 时的稳定度	-Stability at 0-100% load	<0.05%
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.02%
-负载从10%-100%调整需时	-Regulation 10-100% load	<2ms
-负载从10-90%上升需时	-Rise time 10-90%	最长 30ms / max. 30ms
-过压保护	-Overvoltage protection	可调，范围为0...110% U_{Nom} / adjustable, 0...110% U_{Nom}
输入：电流	**Output: Current**	
-精确度	-Accuracy	<0.2%
-负载0-100% Δ U_A时的稳定度	-Stability at 0-100% ΔU_{OUT}	<0.15%
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.05%
过压类别	**Overvoltage category**	2
过热保护	**Thermal protection**	输出关闭 / Shutdown of the output
隔离耐压	**Isolation**	
-输入对输出	-Input to output	2500V DC
-输出对外壳	-Output to enclosure	500V DC
污染等级	**Pollution degree**	2
保护级别	**Protection class**	1
模拟编程	**Analogue programming**	
-输入范围	-Input range	0...5V 或 / or 0...10V (可转换 / switchable)
- U / I 的精确度	-Accuracy U / I	<0.2%
-输入阻抗	-Input impedance	53kΩ
安全标准	**Standards**	EN 60950, EN 61326, EN 55022 级别 B / Class B
制冷方式	**Cooling**	风扇 / Fan
工作温度	**Operation temperature**	0...50°C
储存温度	**Storage temperature**	-20...70°C
相对湿度	**Humidity**	<80%
使用高度	**Operation altitude**	<2000m

型号	电压	电流	功率	效率	U最大时的纹波	I最大时的纹波	远程感测补偿电压	尺寸 BxHxT	重量	产品编号
Model	**Voltage**	**Current**	**Power**	**Efficiency**	**Ripple U max.**	**Ripple I max.**	**Remote sense compensation**	**Dimensions WxHxD**	**Weight**	**Article number**
PS 8016-20 T	0...16V	0...20A	320W	90.5%	40mV_{PP} / 4mV_{RMS}	60mA_{PP} / 10mA_{RMS}	max. 2V	90x240x280mm	3.8kg	09200120
PS 8032-10 T	0...32V	0...10A	320W	89%	100mV_{PP} / 10mV_{RMS}	35mA_{PP} / 7mA_{RMS}	max. 2V	90x240x280mm	3.8kg	09200121
PS 8065-05 T	0...65V	0...5A	325W	92%	150mV_{PP} / 20mV_{RMS}	12mA_{PP} / 3mA_{RMS}	max. 2V	90x240x280mm	3.8kg	09200122
PS 8032-20 T	0...32V	0...20A	640W	90.5%	100mV_{PP} / 8mV_{RMS}	65mA_{PP} / 10mA_{RMS}	max. 2V	90x240x280mm	3.8kg	09200123
PS 8065-10 T	0...65V	0...10A	650W	91%	150mV_{PP} / 10mV_{RMS}	25mA_{PP} / 3mA_{RMS}	max. 2V	90x240x280mm	3.8kg	09200124
PS 8160-04 T	0...160V	0...4A	640W	92%	120mV_{PP} / 20mV_{RMS}	3mA_{PP} / 1mA_{RMS}	max. 2V	90x240x280mm	3.8kg	09200125
PS 8080-40 T	0...80V	0...40A	1000W	93%	10mV_{PP} / 4mV_{RMS}	19mA_{PP} / 7mA_{RMS}	max. 2.5V	90x240x395mm	6.5kg	09200126
PS 8360-10 T	0...360V	0...10A	1000W	93%	30mV_{PP} / 11mV_{RMS}	1mA_{PP} / 0.45mA_{RMS}	max. 8V	90x240x395mm	6.5kg	09200128
PS 8080-60 T	0...80V	0...60A	1500W	93%	10mV_{PP} / 4mV_{RMS}	19mA_{PP} / 7mA_{RMS}	max. 2.5V	90x240x395mm	6.5kg	09200127
PS 8360-15 T	0...360V	0...15A	1500W	93%	50mV_{PP} / 8mV_{RMS}	1mA_{PP} / 0.45mA_{RMS}	max. 8V	90x240x395mm	6.5kg	09200129

Elektro-Automatik

EA-PS 8000 DT 320W - 1500W
实验室直流电源 / LABORATORY DC POWER SUPPLIES

U
I
P
OVP
OT
USB
RS232
LAN
IEEE
CAN
Profi-bus



EA-PS 8080-60 DT

- 宽范围输入电压90...264V，带主动式PFC
- 效率高达 92%
- 输出功率：320W 至1500W
- 输出电压：0...16V 至 0...360V
- 输出电流：0...4A 至 0...60A
- 灵活的功率调整输出级*
- 有过压保护（OVP）
- 有过温保护（OT）
- 四位数显器读显电压和电流
- LED灯和显示器指示状态
- 可自动检测的远程感测端
- 多功能模拟接口
  - 通过 0...10V 或 0...5V电压可对U / I / P*编程
  - 通过 0...10V 或 0...5V电压可监控U / I
- 温控风扇制冷
- 可选购多款数字接口卡

- **Wide input voltage range 90...264V with active PFC**
- **High efficiency up to 92%**
- **Output power ratings: 320W up to 1500W**
- **Output voltages: 0...16V up to 0...360V**
- **Output currents: 0...4A up to 0...60A**
- **Flexible, power regulated output stage***
- **Overvoltage protection (OVP)**
- **Overtemperature protection (OT)**
- **Four-digit display for voltage and current**
- **Status indication via LEDs and display**
- **Remote sense with automatic detection**
- **Analogue interface with multiple functions**
  - **U / I / P* programmable via 0...10V or 0...5V**
  - **U / I monitoring via 0...10V or 0...5V**
- **Temperature controlled fans for cooling**
- **Optional, digital interface cards**

概要

EA-PS8000 DT 系列是一款由微处理器控制，采用最新技术设计的实验室电源。其标准型号配备多种功能和特征，让用户使用起来更方便、有效。

本系列可记忆 5 组不同的预设值，仅需按下一按钮，即可存储以及再次上载这些数值。对频繁使用本产品的用户来说，可即刻取出频繁使用的设置参数，工作起来简单，又省时。

本系列为桌面式结构，增加一提手还可改成立式结构。

General

The microprocessor controlled laboratory power supplies of series EA-PS 8000 DT cover state-of-the-art technology. They offer many features in their standard version, making the use of this equipment remarkably easy and most effective.

The units are provided with a memory function for five different preset values, with the ability to save and recall these just by the push of a button Thus frequently used settings are at immediate reach to the user, making the work easy and time efficient.

The models are designed with a desktop housing, which can optionally be extended by a carrying handle that also serves as tilt stand.

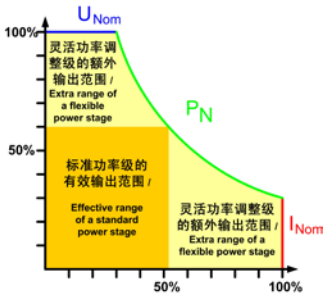
* 针对1kW以上型号

* Models from 1kW

EA-PS 8000 DT 320W - 1500W
实验室直流电源 / LABORATORY DC POWER SUPPLIES

输入
所有型号都采用主动式功率因数校正线路，使产品在 90V 至 264V AC 全世界宽范围输入电压下都适用。1.5kW 型号在输入电压低于 150V AC 时输出功率减少至 1kW。

功率
1kW 以上型号输出功率可灵活调整。可在低电流时输出更高的电压，或在低电压时输出更大的电流，都由最大额定输出功率来限制。因此一台该产品能涵盖广范围的应用领域。设定功率可从 0..100% 之间可调，或手动调节或远程控制。1.5kW 型号产品有功率降额功能，即：在输入电压 <150V_{AC} 时最大输出功率减少至 1kW。



直流输出
本系列有多款不同型号，可选择 0...16V 至 0...360V 输出电压，0...4A 至 0...60A 输出电流，320W 至 0...1500W 输出功率的型号。输出端位于产品前面板。

过压保护 (OVP)
为保护连接负载，可设定一过压保护极限值 (OVP)。
若输出电压由于某种原因超出设定极限值，输出会被立即关断，LED 灯和模拟接口，以及显示屏上会发出一状态信号。

远程感测端
远程感测经一可直接连到负载设备的特定输入端执行，以便补偿负载线上的压降。它自动检测输入端是否已连接，并直接稳定负载上的电压。
该感测输入端在产品后板上。

显示和控制键
产品的所有重要信息都于一点阵显示器上清晰可见。

通过该显示器，电压、电流、功率（1kW 以上型号）的实际输出值和预设值，过压与欠压保护值，(CV, CC, CP) 实际控制状态，错误信息与设置菜单的设定，都清晰显示于显示器上。

用旋钮可简化数值的调节，只要按一下按钮即可在粗调和精调模式间转换。

这都归功于方便用户的操作功能。按下 LOCK 键可锁定控制键，以免发生无意识的误操作，从而保护产品和负载。

产品后板“System Bus”端子上有一感测输入脚和主从线路输入脚（串并联模式）。故可将产品轻易地整合到一完整系统内。

Input
All units are provided with an active **P**ower **F**actor **C**orrection circuit and suitable for a worldwide usage on a mains supply from 90V up to 264V AC.

Power
Models from 1kW output power are equipped with a flexible, auto-ranging output stage. It provides a higher output voltage at lower output current or a higher output current at lower output voltage, always limited the max. nominal output power. Therefore, a wide range of applications can already be covered by the use of just one single unit. The power set value is adjustable on these models from 0..100%, either manually or in remote control. Units with 1.5kW are derated, i.e. reduced to 1kW max. power at input voltages below 150V_{AC}.

DC output
Output voltages between 0...16V and 0...360V, output currents between 0...4A and 0...60A and output power ratings between 320W and 0...1500W are available. The output terminals are located on the front panel.

Overvoltage protection (OVP)
In order to protect the connected loads it is possible to adjust an overvoltage protection threshold (OVP).
If the output voltage exceeds the adjusted limit, the output is shut down and status signals via a LED and via the analogue interface will be generated.

Remote sense
Remote sensing can be done via a dedicated input which is directly connected to the load equipment in order to compensate voltage drops on the load cables. The power-supply detects automatically whether the sense input is connected and will stabilise the voltage directly at the load.
The connection for remote sense input is located on the rear of the device.

Display and controls
All important information is clearly visualised on a dot matrix display.
With this, information about the actual output values, preset set values for voltage, current and power (models from 1kW), over- and undervoltage protection, the actual control state (CV,CC,CP), errors and settings of the setup manu are clearly displayed.
In order to ease adjusting of values by the rotary knobs, they can switch between coarse and fine setting mode, just by a push.
All these features contribute to an operator-friendliness. With the LOCK pushbutton the controls can be locked, in order to protect the equipment and the loads from unintentional misuse.
The „System Bus“ on the rear of the unit provides sense inputs and a Master-Slave circuit (serial and parallel modes) input. Thus the devices can be integrated into a complete system without much effort.

EA-PS 8000 DT 320W - 1500W
实验室直流电源 / LABORATORY DC POWER SUPPLIES

输出值的预设
若不想直接将设定输出值传输到输出端，可采用预设功能。

通过此功能用户可预设输出电压、电流、过压保护值 (OVP)、欠压保护调节极限 (UVL) 和功率（1kW 以上型号）。

模拟接口
模拟接口位于产品前面板。它有模拟接口输入脚，接上 0V...10V 或 0V...5V 电压，可设置 0...100% 的输出电压、电流（1kW 以上型号）。

模拟输出脚接上 0V...10V 或 0V...5V 电压，可监控输出电压和电流。此外，还有输入脚和输出脚，可用来控制和监控产品状态。

选购件
- 本系列电源可通过RS232、CAN、USB、GPIB (IEEE)、乙太网/LAN或Profibus不同的隔离数字接口，用电脑进行遥控。接口插槽在产品后板上，方便用户插上新接口或替换当前接口。也见63和64页。

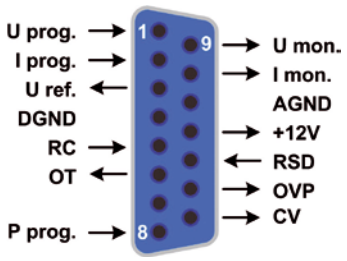
- 高速跃变 （1kW以上产品），见118页
- 提手

Presetting of output values
To set output values without a direct transmission to the output, a preset function is implemented.
With this function the user can preset values for the output voltage, output current, overvoltage protection (OVP), under-voltage adjustment limit (UVL) and power (models from 1kW).

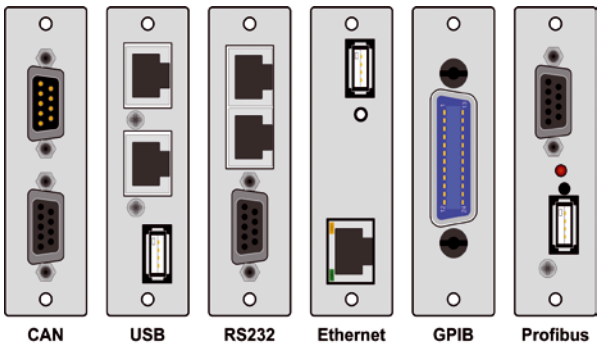
Analogue Interface
The analogue interface terminal is located on the rear of the device. It offers analogue inputs to set voltage, current and power (models from 1kW) from 0...100% through control voltages from 0V...10V or 0V...5V.
To monitor the output voltage and current, there are analogue outputs with voltage ranges of 0V...10V or 0V...5V. Furthermore, there are inputs and outputs available for controlling and monitoring the device status.

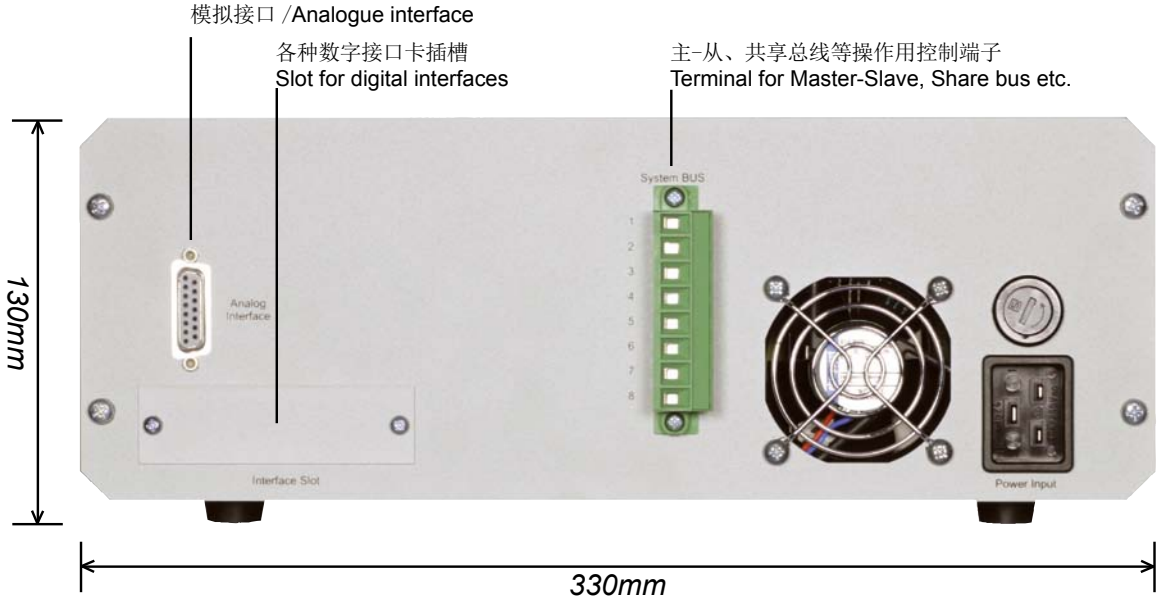
Options
- The power supplies can be remotely controlled by using a personal computer and different isolated digital interface cards for RS232, CAN, USB, GPIB (IEEE), Ethernet/LAN or Profibus. The interface slot is accessible at the rear panel, making it easy to plug a new interface or to replace an existing one. Also see pages 63 and 64.
- High speed ramping (models from 1kW), see page 118
- Carrying handle

模拟接口 / **Analogue interface**



数字接口 / **Digital interfaces**





Elektro-Automatik

EA-PS 8000 DT 320W - 1500W
实验室直流电源 / LABORATORY DC POWER SUPPLIES

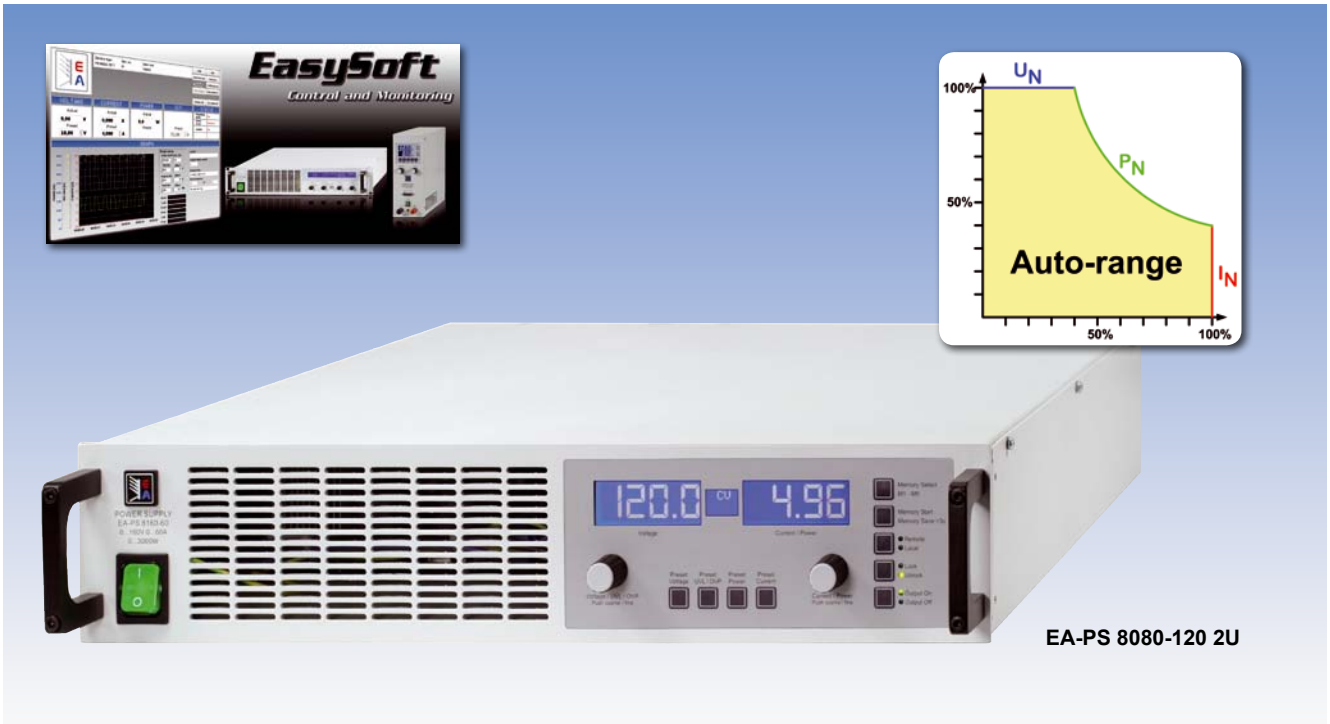
技术参数	Technical Data	EA-PS 8000 DT
输入电压	**Input voltage**	90...264V AC
-频率	-Frequency	45...65Hz
-功率因数	-Power factor	>0.99
输入：电压	**Output: Voltage**	
-型号	-Type	直流 / DC
-精确度	-Accuracy	<0.2%
-负载0-100% 时的稳定度	-Stability at 0-100% load	<0.05%
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.02%
-负载从10%-100%调整需时	-Regulation 10-100% load	<2ms
-负载从10-90%上升需时	-Rise time 10-90%	最长 30ms / max. 30ms
-过压保护	-Overvoltage protection	可调，范围为0...110% U_{Nom} / adjustable, 0...110% U_{Nom}
输入：电流	**Output: Current**	
-精确度	-Accuracy	<0.2%
-负载0-100% Δ U_A时的稳定度	-Stability at 0-100% ΔU_{OUT}	<0.15%
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.05%
过压类别	**Overvoltage category**	2
过热保护	**Thermal protection**	输出关闭 / Shutdown of the output
隔离耐压	**Isolation**	
-输入对输出	-Input to output	2500V DC
-输出对外壳	-Output to enclosure	500V DC
污染等级	**Pollution degree**	2
保护级别	**Protection class**	1
模拟编程	**Analogue programming**	
-输入范围	-Input range	0...5V 或 / or 0...10V (可转换 / switchable)
- U / I 的精确度	-Accuracy U / I	<0.2%
-输入阻抗	-Input impedance	53kΩ
串联	**Series operation**	最高600V
-主-从	-Master-Slave	无 / no
并联	**Parallel operation**	不限 / no limit
-主-从	-Master-Slave	有，经共享总线端可操作多至30台产品 / yes, via Share bus, up to 30 units
安全标准	**Standards**	EN 60950, EN 61326, EN 55022 级别 B / Class B
制冷	**Cooling**	风扇 / Fan
工作温度	**Operation temperature**	0...50°C
储存温度	**Storage temperature**	-20...70°C
相对湿度	**Humidity**	<80%
使用高度	**Operation altitude**	<2000m

型号	电压	电流	功率	效率	U最大时的纹波	I最大时的纹波	远程感测补偿电压	尺寸 WxHxD	重量	产品编号
Model	**Voltage**	**Current**	**Power**	**Efficiency**	**Ripple U max.**	**Ripple I max.**	**Remote sense compensation**	**Dimensions WxHxD**	**Weight**	**Article number**
PS 8016-20 DT	0...16V	0...20A	320W	90.5%	40mV_{PP} / 4mV_{RMS}	60mA_{PP} / 10mA_{RMS}	max. 2V	330x118x308mm	6.5kg	09200130
PS 8032-10 DT	0...32V	0...10A	320W	89%	100mV_{PP} / 10mV_{RMS}	35mA_{PP} / 7mA_{RMS}	max. 2V	330x118x308mm	6.5kg	09200131
PS 8065-05 DT	0...65V	0...5A	325W	93%	150mV_{PP} / 20mV_{RMS}	12mA_{PP} / 3mA_{RMS}	max. 2V	330x118x308mm	6.5kg	09200132
PS 8032-20 DT	0...32V	0...20A	640W	90.5%	100mV_{PP} / 8mV_{RMS}	65mA_{PP} / 10mA_{RMS}	max. 2V	330x118x308mm	6.5kg	09200133
PS 8065-10 DT	0...65V	0...10A	650W	91%	150mV_{PP} / 10mV_{RMS}	25mA_{PP} / 3mA_{RMS}	max. 2V	330x118x308mm	6.5kg	09200134
PS 8160-04 DT	0...160V	0...4A	640W	92%	120mV_{PP} / 20mV_{RMS}	3mA_{PP} / 1mA_{RMS}	max. 2V	330x118x308mm	6.5kg	09200135
PS 8080-40 DT	0...80V	0...40A	1000W	93%	10mV_{PP} / 4mV_{RMS}	19mA_{PP} / 7mA_{RMS}	max. 2.5V	330x118x388mm	8.5kg	09200136
PS 8360-10 DT	0...360V	0...10A	1000W	92%	30mV_{PP} / 11mV_{RMS}	1mA_{PP} / 0.45mA_{RMS}	max. 8V	330x118x388mm	8.5kg	09200138
PS 8080-60 DT	0...80V	0...60A	1500W	93%	10mV_{PP} / 4mV_{RMS}	19mA_{PP} / 7mA_{RMS}	max. 2.5V	330x118x388mm	8.5kg	09200137
PS 8360-15 DT	0...360V	0...15A	1500W	93%	50mV_{PP} / 8mV_{RMS}	1mA_{PP} / 0.45mA_{RMS}	max. 8V	330x118x388mm	8.5kg	09200139

Elektro-Automatik

EA-PS 8000 2U 640W - 3000W
实验室直流电源 / LABORATORY DC POWER SUPPLIES

U
I
P
OVP
OT
19"
USB
RS232
LAN
IEEE
CAN
Profi-bus



- 宽范围输入电压90...264V* 带主动式PFC
- 效率高达 92%
- 输出功率：640W 至0...3200W
- 输出电压：0...32V 至 0...720V
- 输出电流：0...4A 至 0...120A
- 灵活的功率调整输出级**
- 有过压保护（OVP）
- 有过温保护（OT）
- 四位数显器读显电压和电流
- LED指示状态
- 可自动检测的远程感测端
- 多功能模拟接口
  - 通过 0...10V 或 0...5V电压可对U / I / P **编程
  - 通过 0...10V 或 0...5V电压可监控U / I
- 温控风扇制冷
- 可制作符合低压指令的40V型号产品
- 可选购多款数字接口卡

- **Wide input voltage range 90...264V* with active PFC**
- **High efficiency up to 92%**
- **Output power ratings: 640W up to 0...3000W**
- **Output voltages: 0...32V up to 0...720V**
- **Output currents: 0...4A up to 0...120A**
- **Flexible, power regulated output stage****
- **Overvoltage protection (OVP)**
- **Overtemperature protection (OT)**
- **Four-digit display for voltage and current**
- **Status indication via LEDs**
- **Remote sense with automatic detection**
- **Analogue interface with many functions**
  - **U / I /P** programmable via 0...10V or 0...5V**
  - **U / I monitoring via 0...10V or 0...5V**
- **Temperature controlled fans for cooling**
- **40V models according to low voltage directive**
- **Optional, digital interface cards**

概要

EA-PS8000 2U 系列是一款由微处理器控制，采用最新技术设计的实验室电源。其标准型号配备多种功能和特征，让用户使用起来更方便、有效。

本系列可记忆5组不同的预设值，仅需按下一按钮，即可存储以及再次上载这些数值。对频繁使用本产品的用户来说，可即刻取出频繁使用的设置参数。

输入

本系列所有型号都采用主动式功率因数校正线路，1.5kW 以下型号可在 90V 至 264V AC 的输入电压范围下使用。1.5kW 型号在输入电压 <150V AC 时输出功率减少至 1kW。3kW 型号则降至 2kW。

General

The microprocessor controlled laboratory power supplies of series EA-PS 8000 2U cover state-of-the-art technology. They already offer many functions and features in their standard version, making the use of this equipment remarkably easy and most effective.
The units are provided with a memory function for five different preset values, with the ability to save and recall these just by the push of a button. Thus frequently used settings are at immediate reach to the user.

Input

All units are provided with an active **P**ower **F**actor **C**orrection circuit and models up to 1.5kW are suitable for a worldwide usage on a mains supply from 90V up to 264V AC. With the 1.5kW models, the output power is automatically reduced to 1kW on input voltages below 150V AC and with the 3kW models it is reduced to 2kW.

* 针对1.5kW以下型号
** 针对1kW以上型号

* Models up to 1.5kW
** Models from 1kW

EA-PS 8000 2U 640W - 3000W
实验室直流电源 / LABORATORY DC POWER SUPPLIES

功率
1kW 以上型号输出功率可灵活调整。可在低电流时输出更高的电压，或在低电压时输出更大的电流，都由最大额定输出功率来限制。因此一台该产品能涵盖广范围的应用领域。设定功率可从0..100%之间可调，或手动调节或远程控制。1.5kW型号产品有功率降额功能，即：在低输入电压时减少最大输出功率。

Power
Models from 1kW output power are equipped with a flexible, auto-ranging output stage. It provides a higher output voltage at lower output current or a higher output current at lower output voltage, always limited the max. nominal output power. Therefore, a wide range of applications can already be covered by the use of just one single unit. The power set value is adjustable on these models from 0..100%, either manually or in remote control. Units with 1.5kW or higher are derated, i.e. reduced in their max. power at low input voltages.

直流输出
本系列有多款不同型号，可选择0...32V至0...720V输出电压，0...4A至0...120A输出电流，640W至0...3000W输出功率的类型。

如有设备需从高电压快速跃变至低电压，功率1kW以上且电压为400V以下的产品都可配上两象限功率降额模块（有源负载）。

通过功率降额模块来给内部滤波电容以及连接设备的滤波电容放电，从而实现电压的快速变化。

DC output
Output voltages between 0...32V and 0...720V, output currents between 0...4A and 0...120A and output power ratings between 640W and 0...3000W are available.
The output terminal is located on the rear panel.
For applications where a fast variation of voltage from a high to a low value is required, models from 1kW and up to max. 400V can be equipped with a two-quadrants power-sink module (active load).
The fast voltage variation is achieved by the capability of this power-sink module to faster discharge the internal filter capacitors as well as the filter capacitors of the connected equipment.

过压保护(OVP)
为保护连接负载，可设定一过压保护极限值(OVP)。

若输出电压由于某些原因超出设定极限值，输出会被立即关断，同时显示器和模拟接口发出一状态信号。

Overvoltage protection (OVP)
In order to protect the connected loads it is possible to adjust an overvoltage protection threshold (OVP).
If the output voltage exceeds the adjusted limit, the output is shut down and status signals via a LED and via the analogue interface will be generated.

远程感测端
远程感测经一特定输入端直接连到负载设备，以补偿负载线上的压降。电源会自动检测输入端是否已连接，并直接稳定负载上的电压。

远程感测输入端的连接点在产品后板终端“System Bus”上。

Remote sense
Remote sensing can be done via a dedicated input which is directly connected to the load equipment, in order to compensate for voltage drops on the load cables. The power supply detects automatically whether the sense input is connected and will stabilise the voltage directly at the load.
The connection for the remote sense input is located on the rear of the device at the terminal „System Bus“.

显示和控制键
产品的所有重要信息都于一点阵显示器上清晰可见。

通过该显示器，电压、电流、功率（1kW以上型号）的实际输出值和预设值，过压与欠压保护，(CV, CC, CP) 实际控制状态，错误信息与设置菜单的设定，都清晰显示于显示器上。

用旋钮可简化数值的调节，只要按一下按钮即可在粗调和精调模式间转换。

这都归功于方便用户的操作功能。用LOCK键可锁定控制键，以免发生无意识的误操作，从而保护产品和负载。

Display and controls
All important information is clearly visualised on a dot matrix display.
With this, information about the actual output values, preset set values for voltage, current and power (models from 1kW), over- and undervoltage protection, the actual control state (CV,CC,CP), errors and settings of the setup manu are clearly displayed.
In order to ease adjusting of values by the rotary knobs, they can switch between coarse and fine setting mode, just by a push.
All these features contribute to an operator-friendliness. With the LOCK pushbutton the controls can be locked, in order to protect the equipment and the loads from unintentional misuse.

输出值的预设
若不直接将设定输出值传输到输出端时，可采用预设功能。

通过此功能用户可预设输出电压、输出电流、过压保护值(OVP)、欠压极限(UVL)和输出功率。

Presetting of output values
To set output values without a direct transmission to the output, a preset function is implemented.
With this function the user can preset values for the output voltage, output current, overvoltage protection (OVP), undervoltage limit (UVL) and power.

EA-PS 8000 2U 640W - 3000W
实验室直流电源 / LABORATORY DC POWER SUPPLIES

模拟接口
模拟接口端位于产品后板。它提供有模拟接口输入脚，接上0V...10V或0V...5V电压，可设置0...100%的输出电压、电流（1kW以上型号）。

模拟输出脚接上0V...10V或0V...5V电压，可监控输出电压和电流。此外，还有几个输入脚和输出脚，可用来控制和监控产品状态。

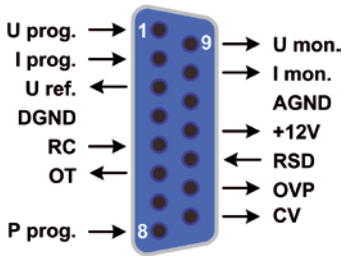
选购件
- 本系列电源可通过RS232、CAN、USB、GPIB (IEEE)、Ethernet/LAN或Profibus不同的隔离数字接口，用电脑进行遥控。接口插槽位于产品后板，方便用户插上新接口或替换当前接口。也可参考63和64.页。

- 高速跃变（1kW以上产品，见118页）
- 两象限操作下的内置有源功率降额（针对1kW以上，电压在400V以下的产品，也可见119页）

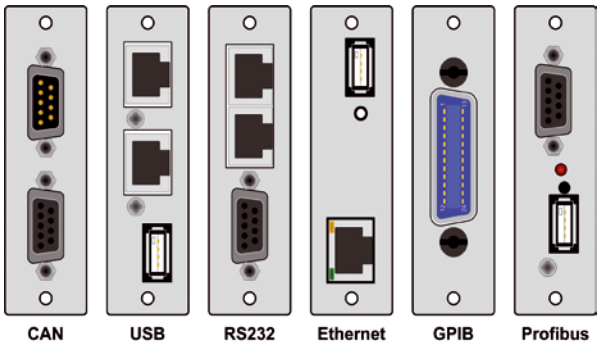
Analogue Interface
The analogue interface terminal is located on the rear of the device. It offers analogue inputs to set voltage, current and power (models from 1kW) from 0...100% through control voltages of 0V...10V or 0V...5V.
To monitor the output voltage and current, there are analogue outputs with voltage ranges of 0V...10V or 0V...5V. Also, several inputs and outputs are available for controlling and monitoring the device status.

Options
- The power supplies can be controlled remotely by using a personal computer via different isolated digital interface cards for RS232, CAN, USB, GPIB (IEEE), Ethernet/LAN or Profibus. The interface slot is accessible on the rear panel, making it easy to put a new interface or to replace an existing one. Also see pages 63 and 64.
- High speed ramping (models from 1kW, see page 118)
- Internal, active power sink in two-quadrants operation (only for models from 1kW and up to 360V, see page 119)

模拟接口 / Analogue interface



数字接口 / Digital interfaces

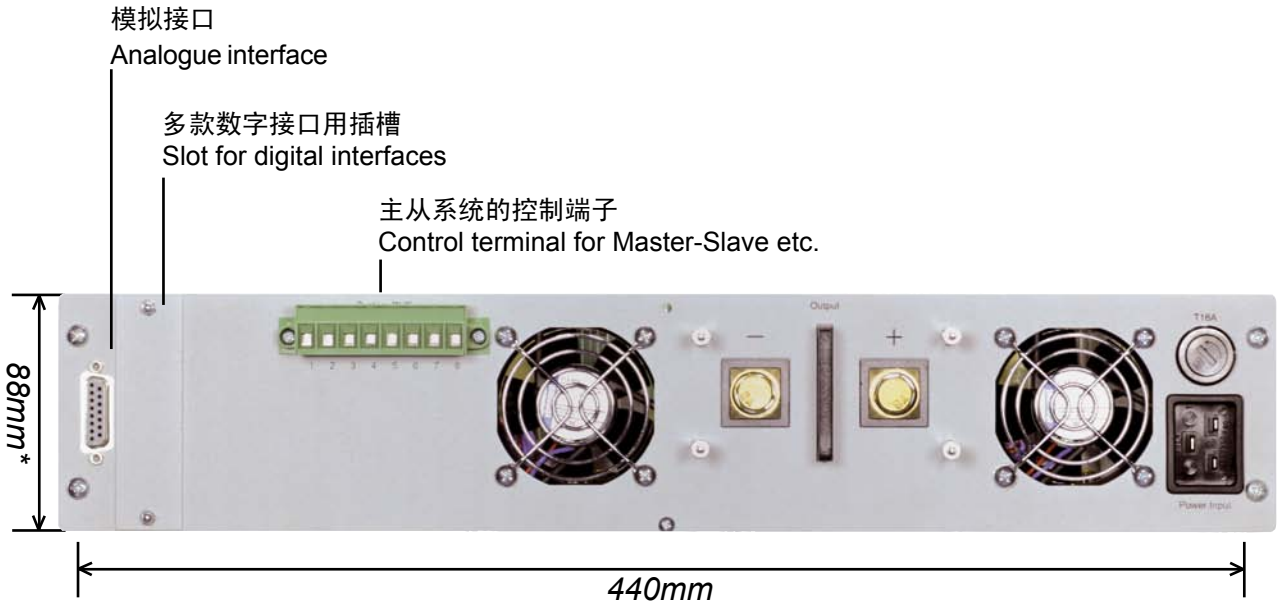


型号	电压	电流	功率	效率	U最大时的纹波	I最大时的纹波	远程感测补偿电压	尺寸 BxHxT**	重量*	产品编号
Model	**Voltage**	**Current**	**Power**	**Efficiency**	**Ripple U max.**	**Ripple I max.**	**Remote sense compensation**	**Dimensions WxHxD****	**Weight***	**Article number**
PS 8032-20 2U	0...32V	0...20A	640W	90.5%	$100mV_{PP}$ / $8mV_{RMS}$	$65mA_{PP}$ / $10mA_{RMS}$	max. 2V	19“ 2U 380mm	9kg	09230130
PS 8065-10 2U	0...65V	0...10A	650W	91%	$150mV_{PP}$ / $10mV_{RMS}$	$25mA_{PP}$ / $3mA_{RMS}$	max. 2V	19“ 2U 380mm	9kg	09230131
PS 8160-04 2U	0...160V	0...4A	640W	92%	$120mV_{PP}$ / $20mV_{RMS}$	$3mA_{PP}$ / $1mA_{RMS}$	max. 2V	19“ 2U 380mm	9kg	09230132
PS 8080-40 2U	0...80V	0...40A	0...1000W	93%	$10mV_{PP}$ / $4mV_{RMS}$	$19mA_{PP}$ / $7mA_{RMS}$	max. 2.5V	19“ 2U 460mm	11.5kg	09230133
PS 8040-60 2U	0...40V	0...60A	0...1500W	93%	$10mV_{PP}$ / $4mV_{RMS}$	$19mA_{PP}$ / $7mA_{RMS}$	max. 2.5V	19“ 2U 460mm	11.5kg	09230144
PS 8080-60 2U	0...80V	0...60A	0...1500W	93%	$10mV_{PP}$ / $4mV_{RMS}$	$19mA_{PP}$ / $7mA_{RMS}$	max. 2.5V	19“ 2U 460mm	11.5kg	09230134
PS 8360-15 2U	0...360V	0...15A	0...1500W	93%	$50mV_{PP}$ / $8mV_{RMS}$	$1mA_{PP}$ / $0.45mA_{RMS}$	max. 8V	19“ 2U 460mm	11.5kg	09230138
PS 8040-120 2U	0...40V	0...120A	0...3000W	93%	$10mV_{PP}$ / $5mV_{RMS}$	$25mA_{PP}$ / $9mA_{RMS}$	max. 2.5V	19“ 2U 460mm	14.7kg	09230145
PS 8080-120 2U	0...80V	0...120A	0...3000W	93%	$10mV_{PP}$ / $5mV_{RMS}$	$25mA_{PP}$ / $9mA_{RMS}$	max. 2.5V	19“ 2U 460mm	14.7kg	09230135
PS 8160-60 2U	0...160V	0...60A	0...3000W	93%	$20mV_{PP}$ / $10mV_{RMS}$	$18mA_{PP}$ / $6mA_{RMS}$	max. 5V	19“ 2U 460mm	14.7kg	09230136
PS 8360-30 2U	0...360V	0...30A	0...3000W	93%	$30mV_{PP}$ / $12mV_{RMS}$	$60mA_{PP}$ / $21mA_{RMS}$	max. 8V	19“ 2U 460mm	14.7kg	09230137
PS 8720-15 2U	0...720V	0...15A	0...3000W	93%	$50mV_{PP}$ / $20mV_{RMS}$	$2mA_{PP}$ / $1mA_{RMS}$	max. 16V	19“ 2U 460mm	14.7kg	09230139

*标准版型号的选项可能会有变化 / of standard version, models with options may vary
** 产品外壳尺寸可能会因选项功能不同而有更改 / Enclosure only, not overall, may change due to options

EA-PS 8000 2U 640W - 3000W
实验室直流电源 / LABORATORY DC POWER SUPPLIES

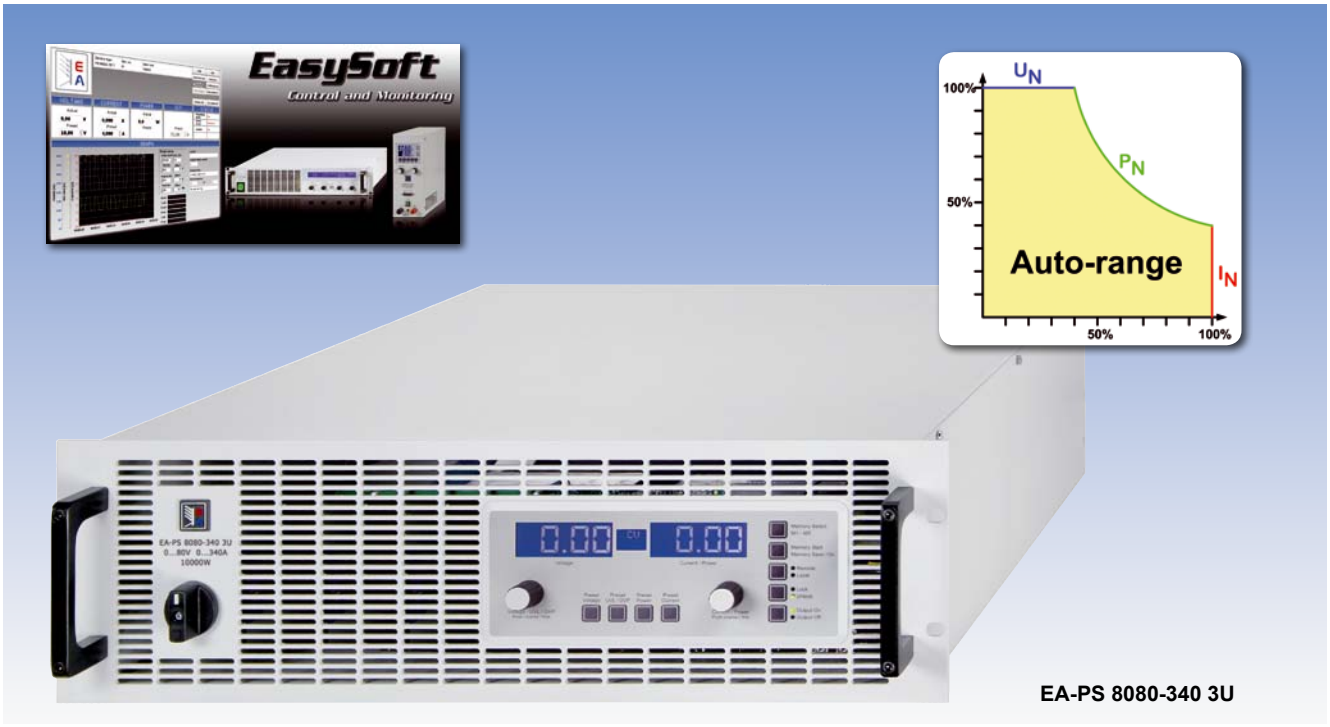
技术参数	Technical Data	EA-PS 8000 2U
输入电压	**Input**	
-电压	-Voltage	90...264V AC (针对型号 / Models 640W - 1500W), 有功率降额 / Derating < 150V AC时 180...264V AC (针对型号 / Models 3000W), 有功率降额 / Derating < 207V AC时
-频率	-Frequency	45...65Hz
-功率因数	-Power factor	>0.99
输入：电压	**Output: Voltage**	
-型号	-Type	直流 / DC
-精确度	-Accuracy	<0.2%
-负载0-100% 时的稳定度	-Stability at 0-100% load	<0.05%
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.02%
-负载从10%-100%调整需时	-Regulation 10-100% load	<2ms
-负载从10-90%上升需时	-Rise time 10-90%	最长 30ms
-过压保护	-Overvoltage protection	可调，范围为0...110% U_{Nom} / adjustable, 0...110% U_{Nom}
输入：电流	**Output: Current**	
-精确度	-Accuracy	<0.2%
-负载0-100% Δ U_A时的稳定度	-Stability at 0-100% ΔU_{OUT}	<0.15%
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.05%
过压类别	**Overvoltage category**	2
过热保护	**Thermal protection**	输出关闭 / Shutdown of the output
隔离耐压	**Isolation**	
-输入对输出	-Input to output	4200V DC
-输出对外壳	-Output to enclosure	360V以下型号：/ Models up to 360V: 500V DC, 360V以上型号：1000V DC
污染等级	**Pollution degree**	2
保护级别	**Protection class**	1
模拟编程	**Analogue programming**	
-输入范围	-Input range	0...5V 或 / or 0...10V (可转换 / switchable)
-U / I 的精确度	-Accuracy U / I	<0.2%
-输入阻抗	-Input impedance	53kΩ
串联	**Series operation**	最大600V
-主-从	-Master-Slave	无 / no
并联	**Parallel operation**	不限 / no limit
-主-从	-Master-Slave	有，经共享总线端可操作多至30台产品 / yes, via Share bus, up to 30 units
安全标准	**Standards**	EN 60950, EN 61326, EN 55022 级别 B / Class B
制冷	**Cooling**	风扇 / Fan
工作温度	**Operation temperature**	0...50°C
储存温度	**Storage temperature**	-20...70°C
相对湿度	**Humidity**	<80%
使用高度	**Operation altitude**	<2000m



* 标准2U型号之产品高度，带选项功能的会不同 / Height of standard 2U model, units with options may vary

EA-PS 8000 3U 3.3KW - 150KW
高效直流电源 / HIGH EFFICIENCY DC POWER SUPPLIES

U
I
P
OVP
OT
19"
USB
RS232
LAN
IEEE
CAN
Profi-bus



- 多相输入340...460VAC 50/60Hz
- 效率高达95.5%
- 输出功率有：3.3kW, 5kW, 6.6kW, 10kW, 15kW
  还可扩展至0...150kW
- 输出电压：0...40V 至 0...1500V
- 输出电流：0...30A 至 0...510A
  还可扩展至0...5100A
- 自动调整输出级别
- 有过压保护 （OVP）
- 有过温保护 （OT）
- 显示电压和电流的4位数显器
- LED灯和显示器指示状态
- 多功能模拟接口
  - 通过 0...10V 或 0...5V电压可对U / I / P编程
  - 通过 0...10V 或 0...5V电压可监控U / I
- 冗余操作（10kW以上型号）
- 可自动检测的远程感测端
- 温控风扇制冷
- 仅3U高的19“ 外壳
- 可制作符合低压指令的40V型号产品
- 还有其它选项功能

- **Multi-phase input 340...460V AC 50/60Hz**
- **High efficiency up to 95.5%**
- **Output power ratings: 3.3kW, 5kW, 6.6kW, 10kW, 15kW Expandable up to 0...150kW**
- **Output voltages: 0...40V up to 0...1500V**
- **Output currents: 0...30A up to 0...510A Expandable up to 0...5100A**
- **Auto-ranging output stage**
- **Overvoltage protection (OVP)**
- **Overtemperature protection (OT)**
- **Four-digit display for voltage and current**
- **Status indication via LEDs and display**
- **Analogue interface with many functions**
  - **U / I / P programmable via 0...10V or 0...5V**
  - **U / I monitoring via 0...10V or 0...5V**
- **Redundancy (from 10kW)**
- **Remote sense with automatic detection**
- **Temperature controlled fans for cooling**
- **19“ housing in 3U**
- **40V models according to low voltage directive**
- **Various options**

概要

EA-PS 8000 3U 系列是一款由微处理器控制的高效实验室电源，其标准型号配备多种功能和特征，用户使用起来非常方便、有效。

本系列产品具有记忆功能，可对 5 组不同的预设值进行存储和重新上载使用，只需按下一按钮，用户即可获得常用的设定值，从而工作起来简单，有效。

根据客户需求，可配置高达150kW和42U的模组机柜。

General

The microprocessor controlled high efficiency laboratory power supplies of series EA-PS 8000 3U offer many functions and features in their standard version, making the use of this equipment remarkably easy and most effective.

The units are provided with a memory function for five different preset values, with the ability to save and recall these just by the push of a button Thus frequently used settings are at immediate reach to the user, making the work easy and time efficient.

Cabinets with up to 150kW and 42U can be configured to match special customer‘s requirements.

EA-PS 8000 3U 3.3KW - 150KW
高效直流电源 / HIGH EFFICIENCY DC POWER SUPPLIES

功率
本系列所有产品输出功率可灵活调整，在低电流时输出更高电压，或在低电压时输出更大电流，都由最大额定输出功率来限制。因此一台该产品能涵盖大范围的应用领域。

输入
本系列所有型号都采用主动式 **PFC** 功率因数校正线路，专为在 340V 至 460V AC 多相供电条件下操作而设计。而且，根据客户需求，可定制 15kW 型号或用其组建的机柜组合，适合于 588...796V（加上中心点）范围内的工业电网输入电压下操作。

直流输出
本系列有多款不同型号，可选择 0...40V 和 0...1500V 输出电压，0...40A 和 0...510A 输出电流，0...3.3 至 0...15kW 完全可调的输出功率的型号。输出端位于产品后板。

过压保护 (OVP)
为保护连接设备，可设定一过压保护极限值 (OVP)。

若输出电压由于某种原因超出设定极限，输出被关断，并显示一行状态文字。

显示和控制键
所有重要信息由4行点阵显示器清晰指示出来。
它显示电压、电流、功率的实际输出值和预设值，过压保护和欠压极限值，(CV, CC, CP)实际控制状态，错误信息和设置菜单的设定值。

为方便当前旋钮的参数调节，按下一按钮即可在粗调和精调模式间转换。

这全归功于方便用户的操作功能。用LOCK键可锁定控制键，以免发生误操作，从而保护产品和负载。

扩展功能
可按需求将本系列单机产品组成各种配置，并装于高至42U的机柜内，并联后获得一个总功率高达150kW的组合系统。也可参考第 121页。

输出值的预设
若不直接将设定输出值传输到输出端时，可采用预设功能。通过该功能，用户可预设输出电压，输出电流，过压保护（OVP），欠压极限（UVL）和功率。

冗余操作
本系列部分型号具有冗余操作。该操作指：它们具有多个功率级别，只要有一个功率级别维持操作，其他都可持续工作。
关于何种型号具有该功能请见下表的技术规格所示。

远程感测端
远程感测输入端可直接连到负载设备，以补偿连线上的压降。如果输入端已接上负载，本电源会自动调整输出电压，以确保负载获得准确所需的电压值。.

Power
The devices are equipped with a flexible, auto-ranging output stage. It provides a higher output voltage at lower output current, or a higher output current at lower output voltage, always limited to the max. nominal output power. Therefore, a wide range of applications can already be covered by the use of just one single unit.

Input
All models are provided with an active Power Factor Correction circuit and are designed for operation on multi-phase supply with 340V up to 460V AC. Alternatively, models with 15kW or cabinets built from it can be modified for industrial grid input 588...796V (plus central point) upon request.

DC output
Output voltages between 0...40V and 0...1500V, output currents between 0...40A and 0...510A and fully adjustable output power ratings between 0...3.3kW and 0...15kW are available. The output terminal is located in the rear panel.

Overvoltage protection (OVP)
In order to protect the connected loads it is possible to adjust an overvoltage protection threshold (OVP).
If the output voltage exceeds the adjusted limit, the output is shut down and status signals via a LED and via the analogue interface will be generated.

Display and controls
All important information is clearly visualised on a 4 line dot display. With this, information about the actual output values, preset set values for voltage, current, power, under- and overvoltage protection, the actual control state (CV, CC, CP), errors and settings of the setup menu are clearly displayed.
In order to ease adjusting of values by the existing rotary knobs, it can be switched between coarse and fine setting mode, just by a key stroke.
All these features contribute to an operator friendliness. With the LOCK push button the controls can be locked, in order to protect the equipment and the loads from unintentional misuse.

Expandability
Upon request, single units can be combined into various configurations in cabinets of up to 42U and up to 150kW total power in parallel connection. Also see page 121.

Presetting of output values
To set output values without a direct transmission to the output, a preset function is implemented.
With this function the user can preset values for the output voltage, output current, overvoltage protection (OVP), undervoltage limit (UVL) and power.

Redundancy
Some models have a redundancy function. It means, they have multiple power stages and will continue working if at least one power stage remains operable. See technical specfications table below for which models include this feature.

Remote sense
The standard sense input can be connected directly to the load in order to compensate voltage drops along the power leads. If the sense input is connected to the load, the power supply will be adjusting the output voltage automatically to ensure the accurate required voltage is available at the load.

EA-PS 8000 3U 3.3KW - 150KW
高效直流电源 / HIGH EFFICIENCY DC POWER SUPPLIES

模拟接口
模拟接口位于产品后板。它有多个模拟输入脚，接上0V...10V或0V...5V电压，可设置0...100%的输出电压、电流和功率（1kW以上型号）。

模拟输出脚接上0V...10V或0V...5V电压，可监控输出电压和电流。此外，还有几个输入脚和输出脚，可用来控制和监控产品状态。

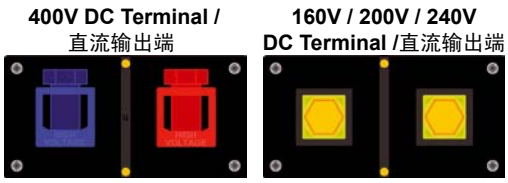
选购件
- 适合RS232、CAN、USB、GPIB (IEEE)、Profibus或乙太网/LAN的绝缘数字接口卡，经电脑可控制产品。接口插槽位于产品后板，方便用户插上新接口或替换当前接口。产品会自动检测接口类型，并提示需要进行少许配置或不用配置。随接口卡附有免费Windows软件，可用来控制和监控，记录数据和排序。也可参考63和64页。

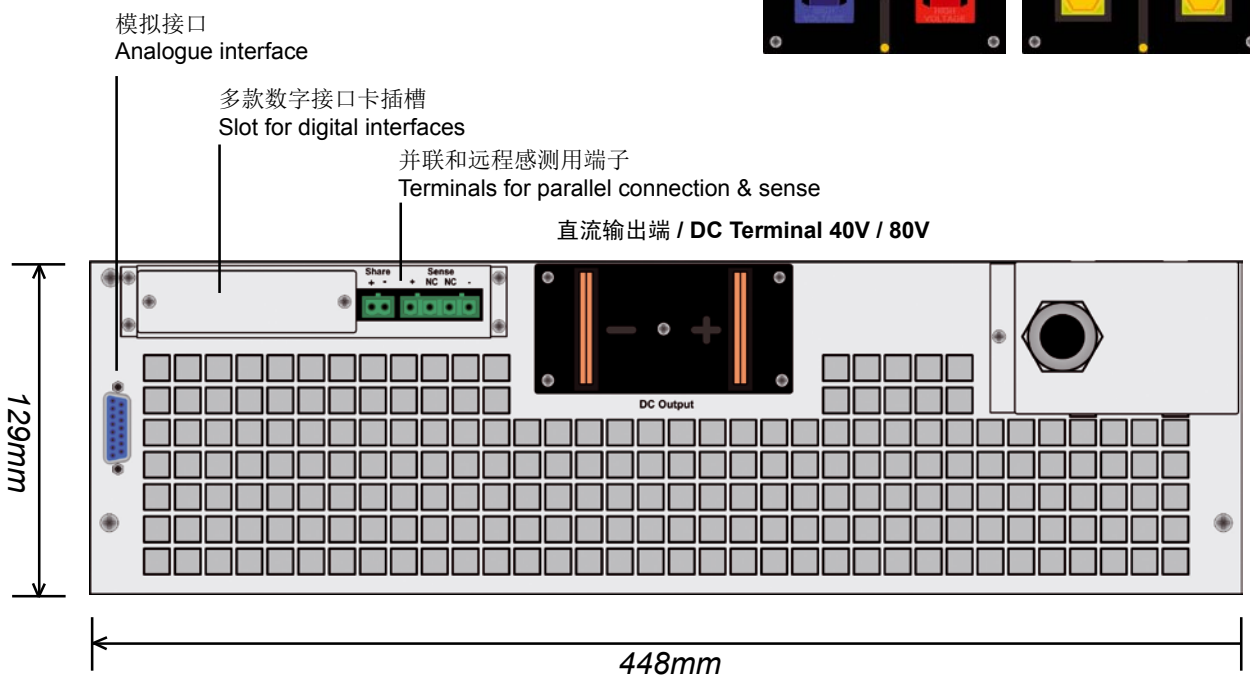
- 电隔离模拟接口（隔离电压可达1500V DC）
- 高速跃变（也可见118页）
- 水制冷
- 适用于588...796V AC范围内的工业电网输入电压（690V）（仅针对15kW型号）

Analogue interface
The analogue interface terminal is located on the rear of the device. It offers analogue inputs to set voltage, current and power (models from 1kW) from 0...100% through control voltage 0V...10V or 0V...5V
To monitor output voltage and current, there are analogue outputs with voltage ranges of 0V...10V or 0V...5V. Also, several inputs and outputs are available for controlling and monitoring the device status.

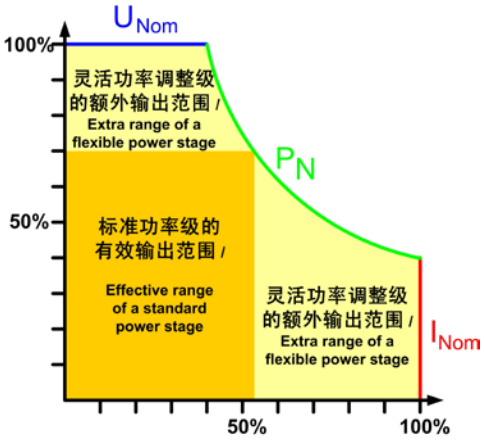
Options
- Isolated digital interface cards for RS232, CAN, USB, GPIB (IEEE), Profibus or Ethernet/LAN to control the device by PC. The interface slot is located on the rear panel, making it easy for the user to plug in a new interface or to replace an existing one. The interface will be automatically detected by the device and requires no or only little configuration. Included with the interface cards is a free Windows software which provides control and monitoring, data logging and sequences. See pages 63 and 64.
- Galvanically isolated analogue interface (up to 1500V DC)
- High speed ramping (also see page 118)
- Water cooler
- Industrial grid input (690V) with 588...796V AC range (15kW models only)

后面板图 3.3kW - 15kW Rear view

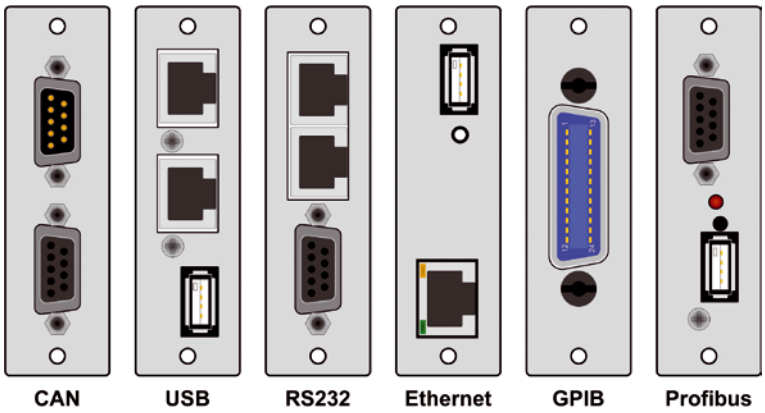




EA-PS 8000 3U 3.3KW - 150KW
高效直流电源 / HIGH EFFICIENCY DC POWER SUPPLIES



数字接口 / **Digital interfaces**



PS 8000 3U 60kW

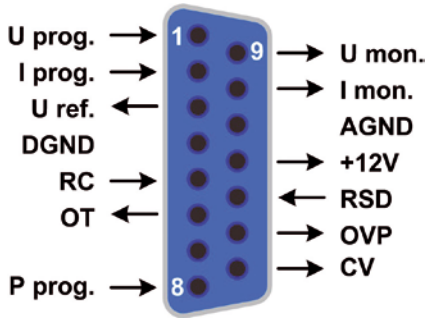
400V型号直流输出端后视图 / Rear side view with DC terminal from 400V

EA-PS 8000 3U 3.3KW - 150KW
高效直流电源 / HIGH EFFICIENCY DC POWER SUPPLIES

技术参数	Technical Data	EA-PS 8000 3U
输入	**Input**	
-标准电压	-Voltage standard	340...460V AC
-可选电压	-Voltage optional	588...796V AC + MP (仅针对15kW-型号 / 15kW models only)
-频率	-Frequency	45...65Hz
-功率因数	-Power factor	>0.99
输出：电压	**Output: Voltage**	
-型号	-Type	直流 / DC
-精确度	-Accuracy	<0.2%
-负载0-100% 时的稳定度	-Stability at 0-100% load	<0.05%
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.02%
-负载从10%-100%调整需时	-Regulation 10-100% load	<2ms
-负载从10-90%上升的转换速率	-Slew rate 10-90%	最长 30ms
-过压保护	-Overvoltage protection	可调，范围为 0...110% U_{Nom} / adjustable, 0...110% U_{Nom}
输出：电流	**Output: Current**	
-精确度	-Accuracy	<0.2%
-负载0-100% Δ U_A时的稳定度	-Stability at 0-100% ΔU_{OUT}	<0.15%
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.05%
输出：电源	**Output: Power**	
-精确度	-Accuracy	<1%
过压类别	**Overvoltage category**	2
过热保护	**Thermal protection**	输出关闭 / Shutdown of the output
隔离耐压	**Isolation**	
-输入对输出	-Input to output	4200V DC
-输出对外壳	-Output to enclosure	请看下页表格 / see tables
污染等级	**Pollution degree**	2
保护级别	**Protection class**	1
模拟编程	**Analogue programming**	
-输入范围	-Input range	0...5V 或 / or 0...10V (可转换 / switchable)
-U / I 的精确度	-Accuracy U / I	<0.2%
-输入阻抗	-Input impedance	53kΩ
串联	**Series operation**	最大 600V
-主-从	-Master-Slave	无 / no
并联	**Parallel operation**	不限 / no limit
-主-从	-Master-Slave	有，经共享总线端可操作多至10台产品 / yes, via Share bus, up to 10 units
安全标准	**Standards**	EN 60950, EN 61326, EN 55022 级别 A / Class A
制冷方式	**Cooling**	风扇 / Fan
工作温度	**Operation temperature**	0...50°C
储存温度	**Storage temperature**	-20...70°C
相对湿度	**Humidity**	<80%
使用高度	**Operation altitude**	<2000m
尺寸 * (W H D)	**Dimensions * (W H D)**	19“ 3U 595mm

* 仅为产品外壳尺寸，非整个外形尺寸 / Enclosure only, not overall

模拟接口 / **Analogue interface**



Elektro-Automatik

EA-PS 8000 3U 3.3KW - 150KW
高效直流电源 / HIGH EFFICIENCY DC POWER SUPPLIES

技术参数	Technical Data	PS 8040-170 3U	PS 8080-170 3U	PS 8200-70 3U	PS 8500-30 3U	PS 8040-340 3U
输出电压	Output voltage	0...40V	0...80V	0...200V	0...500V	0...40V
-纹波 BWL 20MHz	-Ripple BWL 20MHz	<100mV$_{PP}$ <10mV$_{RMS}$	<100mV$_{PP}$ <10mV$_{RMS}$	<200mV$_{PP}$ <25mV$_{RMS}$	<250mV$_{PP}$ <70mV$_{RMS}$	<150mV$_{PP}$ <10mV$_{RMS}$
-远程感测补偿电压	-Sense compensation	max. 2.5V	max. 2.5V	max. 6V	max. 10V	max. 2.5V
输出电流	Output current	0...170A	0...170A	0...70A	0...30A	0...340A
-纹波 BWL 20MHz	-Ripple BWL 20MHz	<528mA$_{PP}$ <106mA$_{RMS}$	<300mA$_{PP}$ <40mA$_{RMS}$	<44mA$_{PP}$ <11mA$_{RMS}$	<14mA$_{PP}$ <8mA$_{RMS}$	<600mA$_{PP}$ <80mA$_{RMS}$
输出功率	Output power	0...3300W	0...5000W	0...5000W	0...5000W	0...6600W
效率	Efficiency	93%	93%	95.5%	95.5%	93%
冗余操作	Redundancy	无 / no	无 / no	无 / no	无 / no	有 / yes
输出对外壳的耐压	Isolation output to enclosure	500V DC	500V DC	500V DC	1000V DC	500V DC
重量 *	Weight *	19.8kg	19.8kg	19.8kg	19.8kg	25.5kg
产品编号	Article No.	09230176	09230160	09230170	09230165	09230177

技术参数	Technical Data	PS 8040-510 3U	PS 8080-340 3U	PS 8160-170 3U	PS 8200-140 3U	PS 8400-70 3U
输出电压 (DC)	Output voltage (DC)	0...40V	0...80V	0...160V	0...200V	0...400V
-纹波 BWL 20MHz	-Ripple BWL 20MHz	<150mV$_{PP}$ <10mV$_{RMS}$	<150mV$_{PP}$ <10mV$_{RMS}$	<300mV$_{PP}$ <30mV$_{RMS}$	<200mV$_{PP}$ <25mV$_{RMS}$	<300mV$_{PP}$ <40mV$_{RMS}$
-远程感测补偿电压	-Sense compensation	max. 2.5V	max. 2.5V	max. 5V	max. 6V	max. 12V
输出电流	Output current	0...510A	0...340A	0...170A	0...140A	0...70A
-纹波 BWL 20MHz	-Ripple BWL 20MHz	<900mA$_{PP}$ <120mA$_{RMS}$	<600mA$_{PP}$ <80mA$_{RMS}$	<300mA$_{PP}$ <60mA$_{RMS}$	<89mA$_{PP}$ <22mA$_{RMS}$	<33mA$_{PP}$ <9mA$_{RMS}$
输出功率	Output power	0...10000W	0...10000W	0...10000W	0...10000W	0...10000W
效率	Efficiency	93%	93%	93%	95.2%	95.2%
冗余操作	Redundancy	有 / yes	有 / yes	无 / no	有 / yes	无 / no
输出对外壳的耐压	Isolation output to enclosure	500V DC	500V DC	500V DC	500V DC	900V DC
重量 *	Weight *	25.5kg	25.5kg	25.5kg	25.5kg	25.5kg
产品编号	Article No.	09230178	09230161	09230163	09230171	09230173

技术参数	Technical Data	PS 8500-60 3U	PS 81000-30 3U	PS 8080-510 3U	PS 8200-210 3U	PS 8240-170 3U
输出电压 (DC)	Output voltage (DC)	0...500V	0...1000V	0...80V	0...200V	0...240V
-纹波 BWL 20MHz	-Ripple BWL 20MHz	<300mV$_{PP}$ <70mV$_{RMS}$	<800mV$_{PP}$ <200mV$_{RMS}$	<150mV$_{PP}$ <10mV$_{RMS}$	<250mV$_{PP}$ <25mV$_{RMS}$	<500mV$_{PP}$ <20mV$_{RMS}$
-远程感测补偿电压	-Sense regulation	max. 10V	max. 20V	max. 2.5V	max. 6V	max. 7.5V
输出电流	Output current	0...60A	0...30A	0...510A	0...210A	0...170A
-纹波 BWL 20MHz	-Ripple BWL 20MHz	<33mA$_{PP}$ <16mA$_{RMS}$	<22mA$_{PP}$ <11mA$_{RMS}$	<900mA$_{PP}$ <120mA$_{RMS}$	<167mA$_{PP}$ <33mA$_{RMS}$	<333mA$_{PP}$ <27mA$_{RMS}$
输出功率	Output power	0...10000W	0...10000W	0...15000W	0...15000W	0...15000W
效率	Efficiency	95.5%	95.5%	93%	95.2%	93%
冗余操作	Redundancy	有 / yes	无 / no	有 / yes	有 / yes	无 / no
输出对外壳的耐压	Isolation output to enclosure	1000V DC	1500V DC	500V DC	500V DC	500V DC
重量 *	Weight *	25.5kg	25.5kg	33kg	33kg	33kg
产品编号	Article No.	09230166	09230168	09230162	09230172	09230164

技术参数	Technical Data	PS 8500-90 3U	PS 8600-70 3U	PS 81500-30 3U
输出电压	Output voltage	0...500V	0...600V	0...1500V
-纹波 BWL 20MHz	-Ripple BWL 20MHz	<300mV$_{PP}$ <70mV$_{RMS}$	<400mV$_{PP}$ <80mV$_{RMS}$	<1000mV$_{PP}$ <350mV$_{RMS}$
-远程感测补偿电压	-Sense regulation	max. 10V	max. 18V	max. 30V
输出电流	Output current	0...90A	0...70A	0...30A
-纹波 BWL 20MHz	-Ripple BWL 20MHz	<50mA$_{PP}$ <23mA$_{RMS}$	<30mA$_{PP}$ <12mA$_{RMS}$	<19mA$_{PP}$ <13mA$_{RMS}$
输出功率	Output power	0...15000W	0...15000W	0...15000W
效率	Efficiency	95.5%	95.2%	95.5%
冗余操作	Redundancy	有 / yes	无 / no	无 / no
输出对外壳的耐压	Isolation output to enclosure	1000V DC	1000V DC	2000V DC
重量 *	Weight *	33kg	33kg	33kg
产品编号	Article No.	09230167	09230174	09230169

* 仅针对本系列标准型号，带选项功能之型号重量会有变化 / of standard version, models with options may vary

Elektro-Automatik

EA-PSI 8000 T 320W - 1500W
可编程实验室直流电源 / PROGRAMMABLE LABORATORY DC POWER SUPPLIES

U I P R OVP OT USB RS232 LAN IEEE CAN AI Profi-bus

EA-PSI 8032-20 T

- 宽范围输入电压90...264V，带主动式PFC
- 效率高达 92%
- 输出功率：320W 至0...1500W
- 输出电压：0...16V 至 0...360V
- 输出电流：0...4A 至 0...60A
- 灵活的功率调整输出级*
- 有过压保护（OVP）
- 有过温保护（OT）
- 图形显示器指示所有数值和功能
- 显示器指示状态和提示信息
- 可自动检测的远程感测端
- 多功能模拟接口
  - 通过 0...10V 或 0...5V电压可对U / I / P* 编程
  - 通过 0...10V 或 0...5V电压可监控U / I
- 报警管理系统，用户配置文档
- 内置函数发生器
- 温控风扇制冷
- 可选多种接口卡
- 内阻调整（可选）

- **Wide input voltage range 90...264V with active PFC**
- **High efficiency up to 92%**
- **Output power ratings: 320W up to 0...1500W**
- **Output voltages: 0...16V up to 0...360V**
- **Output currents: 0...4A up to 0...60A**
- **Flexible, power regulated output stage***
- **Overvoltage protection (OVP)**
- **Overtemperature protection (OT)**
- **Graphic display for all values and functions**
- **Status indication and notifications via display**
- **Remote sense with automatic detection**
- **Analogue interface with many functions**
  - **U / I / P* programmable with 0...10V or 0...5V**
  - **U / I monitoring with 0...10V or 0...5V**
- **Alarm management, user profiles**
- **Integrated function manager**
- **Temperature controlled fans for cooling**
- **Optional interface cards**
- **Internal resistance regulation (optional)**

概要

EA-PSI 8000 T 系列是一款由微处理器控制，采用最新技术设计的实验室电源。标准版配备多种功能和特征，让用户使用起来更方便、有效。

本产品可设置和存储用户与制程配置文档，这样可改善重复测试或其它应用。

带可调延时报警的扩展监控功能，可监控所有输出参数，从而简化了测试组装，故基本无需外部监控。

General

The microprocessor controlled laboratory power supplies of series EA-PSI 8000 T cover state-of-the-art technology. They offer a lot of features in the standard version, making the use of this equipment remarkably easy and most effective. User and process profiles can be configured, saved and archived so that the reproducibility of a test or other application is improved.

The extensive integrated monitoring functions for all output parameters with adjustable delays of alerts simplify test assembly, such that the usual external monitoring is mostly unnecessary.

* 针对1kW以上型号

* Models from 1kW

EA-PSI 8000 T 320W - 1500W
可编程实验室直流电源 / PROGRAMMABLE LABORATORY DC POWER SUPPLIES

输入
采用主动式功率因数校正线路，使产品在 90V 至 264V AC 全世界宽范围输入电压下都适用。1.5kW 型号在输入电压低于 150V AC 时总输出功率将降至 1kW。

功率
1kW 以上型号输出功率可灵活调整。可在低电流时输出更高的电压，或在低电压时输出更大的电流，都由最大额定输出功率来限制。因此一台该产品能涵盖广范围的应用领域。设定功率可从 0..100% 之间可调，或手动调节或远程控制。1.5kW 型号产品有功率降额功能，即：在输入电压 <150V_{AC} 时最大输出功率减少至 1kW。

直流输出
本系列有多款不同型号，可选择 0...16V 和 0...360V 输出电压，0...4A 和 0...60A 输出电流，320W 和 0...1500W 输出功率的型号。输出端位于产品前面板。

过压保护 (OVP)
为保护连接负载，可设定一过压保护极限值(OVP)。

若输出电压超过调节极限值，输出被关断，显示器和模拟接口发出一声频报警信号。

报警管理系统
为监控正确的输出电压和电流，可定义上、下限。

若偏差超过该调节极限，应用设备出现下面三种可能性反应：
- 只显示信号；即使错误仍存在，也不影响输出。

- 警告一直持续，消除错误后必须确认警告信息。

- 报警会暂时性地关断输出。

报警和警告可通过声频发出信号。

显示和控制键
易读型图形显示器清晰显示设定输出值、实际输出值、操作按钮的操作状态和当前功能。菜单清晰指引用户查阅所有必要信息和调节值。

输出电压、电流和功率的设定值与实际值都显示于图形显示器上，还包括产品的运作状态，菜单指引和按钮当前功能，故用户能直观地操作本产品。

输出电压、电流和功率或可调内阻的调节，由两个旋钮完成。旋钮可在不同菜单设置下更改数值。为避免误操作，可锁定所有操作控制键。

Input
The devices have an active **P**ower **F**actor **C**orrection circuit which enables them to be used worldwide on a mains input from 90V up to 264V AC.

Power
Models from 1kW output power are equipped with a flexible, auto-ranging output stage. It provides a higher output voltage at lower output current or a higher output current at lower output voltage, always limited the max. nominal output power. Therefore, a wide range of applications can already be covered by the use of just one single unit. The power set value is adjustable on these models from 0..100%, either manually or in remote control. Units with 1.5kW are derated, i.e. reduced to 1kW max. power at input voltages below 150V_{AC}.

DC output
Output voltages between 0...16V and 0...360V, output currents between 0...4A and 0...60A and output power ratings between 320W and 0...1500W are available. The output terminal is located in the front panel.

Overvoltage protection (OVP)
In order to protect connected loads, it is possible to adjust an overvoltage protection threshold (OVP).
If the output voltage exceeds the defined limit, the output is shut-off and an acoustic warning signal will be given by the unit together with a status signal in the display and via the analogue interface.

Alarm management
For monitoring the correct output voltage and output current, lower and upper limits can be defined.
If the deviation exceeds the adjusted limits, three possibilities are available as to how the appliance should react:
- Signals are displayed only, even if the fault is still active, without affecting to the output.
- Warnings remain active and must be acknowledged after the fault is removed.
- Alarms will shut off the output instantly in case the deviation exceeds the adjusted limits.
Alarms and Warnings can be signalled audibly.

Displays and controls
The easily readable graphic display shows a clear representation of set values, actual output values, the operational state and the current functions of the operation pushbuttons. For all necessary information and adjustments the user is guided by a clear menu.
Set values and actual values of output voltage, output current and output power are clearly represented on the graphic display. The operating state of the device, the menu guidance and the current assignment of the pushbuttons are also shown on the display. So the user is able to operate the unit intuitively.
The adjustment of output voltage, output current and output power, or optional internal resistance, is realised by two rotary knobs. These knobs are used to change values in the different menus as well. To prevent unintentional operations, all operation controls can be locked.

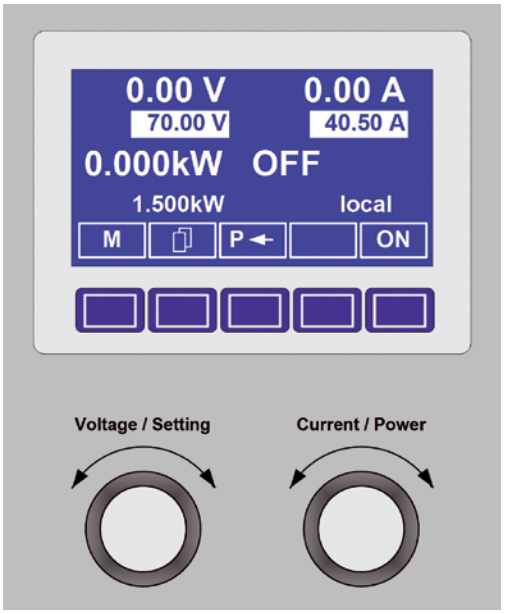
EA-PSI 8000 T 320W - 1500W
可编程实验室直流电源 / PROGRAMMABLE LABORATORY DC POWER SUPPLIES

显示器和控制面板

Display and control panel

实际电压和电流
预设电压和电流
实际功率 / 输出状态
预设功率 / 状态
按钮功能

Actual values voltage and current
Preset values voltage and current
Actual value power / status output
Preset value power / status
Assignment of the pushbuttons



按键面板

Button panel

设置用旋钮

Rotary knobs for settings

函数管理器

函数由序列组成，通过控制面板可对其进行修改。

一个函数由最多5个序列组成，可按任意顺序排列，重复次数最多为5次。

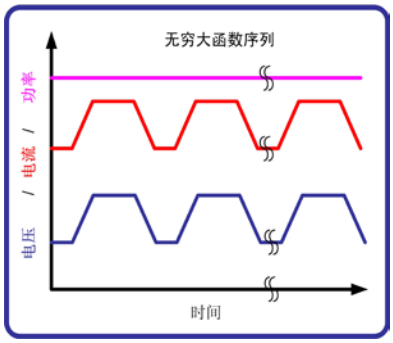
每个序列可设置最大功率或可选内阻，重复次数为一至254次，或者无穷大。

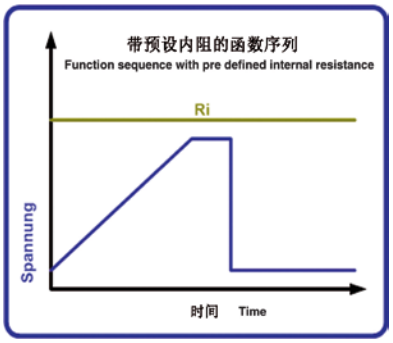
同样地，整个函数段的重复次数可以设置成一至254次，或无穷大。

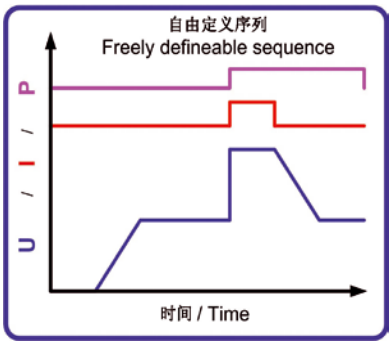
Function manager

Functions consist of sequences and can be modified on the control panel.
Up to five different sequences can be assigned to a function in any succession or be repeated up to five times.

For each sequence, the maximum power, or optionally the internal resistance, and a repetition value from once up to 254 times or endless can be configured.
As well, the repetition of a whole function can be configured from once up to 254 times or endless.







用户配置文档

经控制面板可存储多达四种用户配置文档。

用户配置文档专门用来设置和存储用户指定的参数块。

User profiles

Via the control panel up to four different user profiles can be stored.
The user profiles are designed to set and save user specified parameter blocks.

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远程感测端
远程感测输入端可直接连到负载设备，以补偿连线上的压降。如果输入端已接上负载，本电源会自动检测并调整输出电压，以确保负载获得准确所需的电压值。

输出值的预设
若想在不影响输出状态的条件下预设输出电压、电流或功率（针对1kW以上型号），可先显示设定值，即于实际值的下方。这样用户可预设期望输出电压、电流和功率。并在预设清单内存储4组U / I / P参数块。该清单内的参数块可上载作为常用需求值。

模拟接口
内置模拟接口位于产品前面板。它提供有模拟接口输入脚，接上0V...10V或0V...5V电压，可设置0...100%的输出电压、电流（1kW以上型号）。模拟输出端接上0V...10V或0V...5V电压，可监控输出电压、电流和功率。此外，还有几个输入端和输出端，用来控制和监控产品状态。

选购件
- 可利用匹配RS232、CAN、USB、GPIB (IEEE)、Profibus或Ethernet/LAN的绝缘数字接口卡，经电脑控制产品。接口插槽位于产品后板，方便用户插上新接口或替换当前接口。产品会自动检测接口，并提示需要进行少许配置或不用配置。随接口卡附有免费Windows软件，可用来控制和监控，记录数据和排序。也可参考63和64页。
- 带扩展功能的电隔离模拟接口
- 内阻调整
- 高速跃变（仅针对1kW以上产品，见118页）

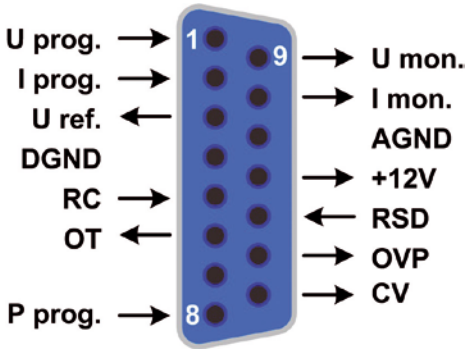
Remote sense
The standard sense input can be connected directly to the load in order to compensate voltage drops along the cables. If the sense input is connected to the load, the power supply will detect this and adjust the output voltage automatically to ensure the accurate required voltage is available at the load.

Presetting of output values
In order to preset output values for voltage, current or power (with models from 1kW) without affecting the output condition, the set values will be displayed right below the actual value. Also four parameter blocks for U / I / P can be stored in a preset list. From this list parameter blocks can be loaded for frequently required values.

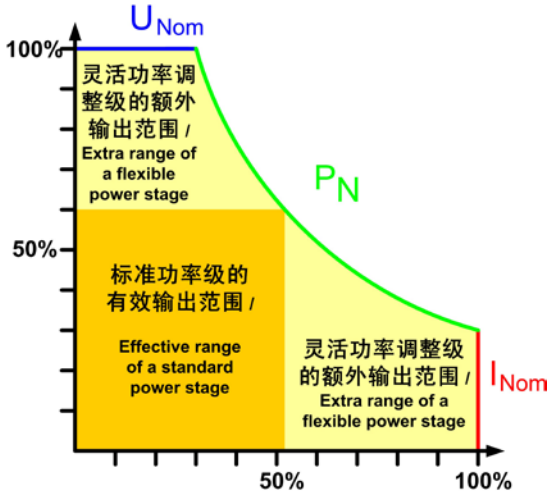
Analogue Interface
The built-in analogue interface is located on the front of the device and provides inputs to set voltage, current and power (models from 1kW) from 0...100% via a control voltage of 0V...10V or 0V...5V. To monitor output voltage and current, analogue outputs of 0V...10V or 0V...5V can be read out. Furthermore, several inputs and outputs are available for controlling and monitoring the device status.

Options
- Isolated digital interface cards for RS232, CAN, USB, GPIB (IEEE), Profibus or Ethernet/LAN to control the device by PC. The interface slot is located on the rear panel, making it easy for the user to plug in a new interface or to replace an existing one. The interface will be automatically detected by the device and requires no or only little configuration. Included with the interface cards is a free Windows software which provides control and monitoring, data logging and sequences. See pages 63 and 64.
- Analogue, galvanically isolated interface card with extended features
- Internal resistance regulation
- High speed ramping (only for models as from 1kW, also see page 118)

模拟接口 / **Analogue interface**



P prog. 引脚仅针对1kW以上型号 /
P prog. only available with models from 1kW



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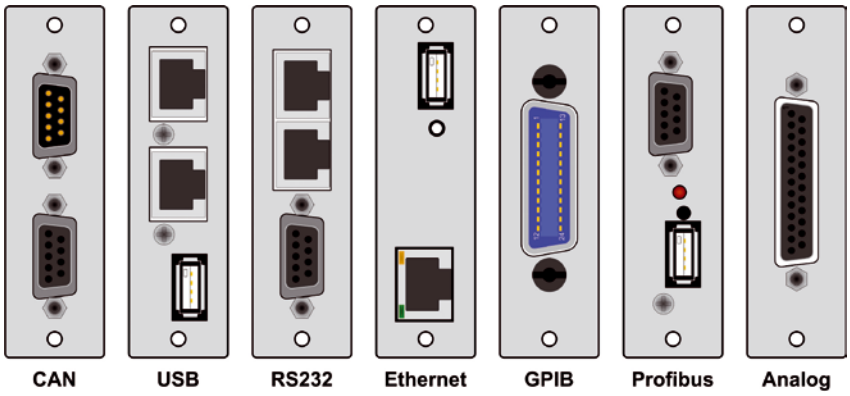
接口卡 / **Interface cards**



后面板图 **Rear view**

风扇 / Fan

保险丝 / Fuse

电源插座 /
Mains input

电源开关 /
Mains switch

接口卡插槽 /
Slot for Interface card

Elektro-Automatik

EA-PSI 8000 T 320W - 1500W
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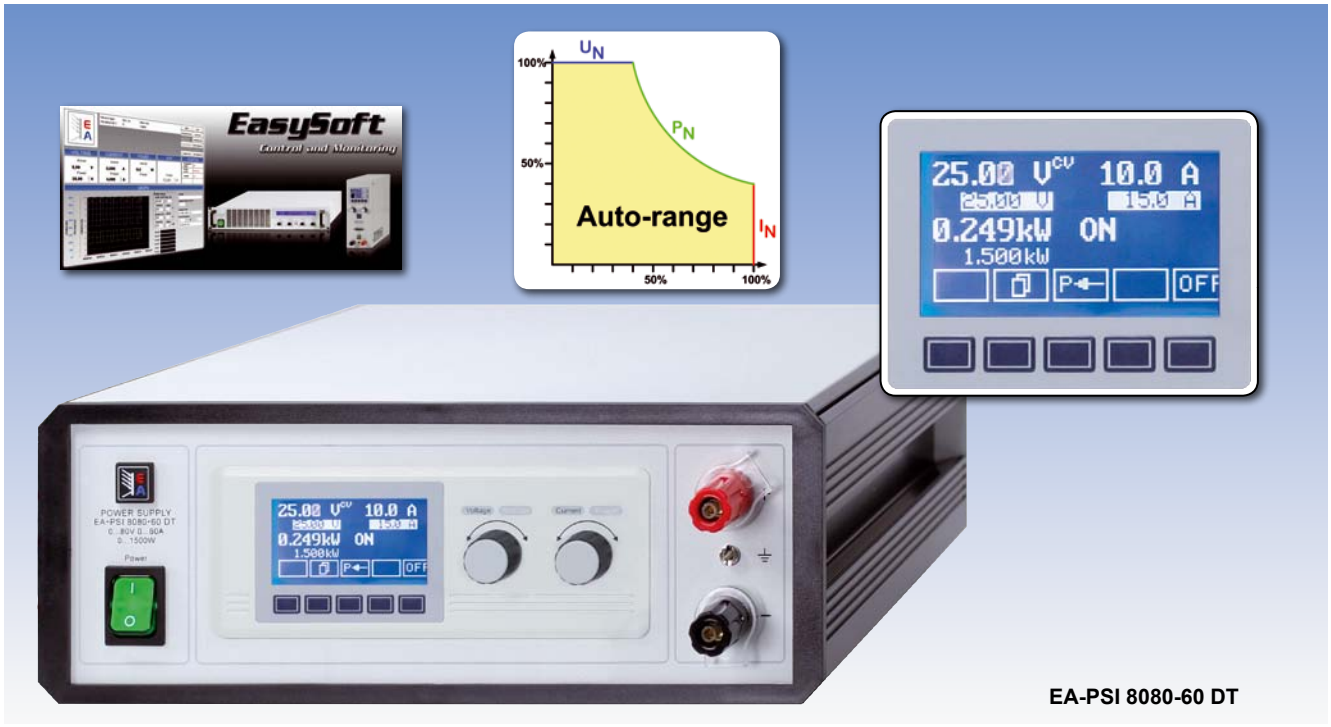
技术参数	Technical Data	EA-PSI 8000 T
输入电压	**Input voltage**	90...264V AC
-频率	-Frequency	45...65Hz
-功率因数	-Power factor	>0.99
输入：电压	**Output: Voltage**	
-型号	-Type	直流 / DC
-精确度	-Accuracy	<0.2%
-负载0-100% 时的稳定度	-Stability at 0-100% load	<0.05%
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.02%
-负载从10%-100%调整需时	-Regulation 10-100% load	<2ms
-负载从10-90%上升需时	-Rise time 10-90%	最长 30ms
-过压保护	-Overvoltage protection	可调，范围为0...110% U_{Nom} / adjustable, 0...110% U_{Nom}
输入：电流	**Output: Current**	
-精确度	-Accuracy	<0.2%
-负载0-100% Δ U_A时的稳定度	-Stability at 0-100% ΔU_{OUT}	<0.15%
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.05%
过压类别	**Overvoltage category**	2
过热保护	**Thermal protection**	输出关闭 / Shutdown of the output
隔离耐压	**Isolation**	
-输入对输出	-Input to output	2500V DC
-输出对外壳	-Output to enclosure	500V DC
污染等级	**Pollution degree**	2
保护级别	**Protection class**	1
模拟编程	**Analogue programming**	
-输入范围	-Input range	0...5V 或 / or 0...10V (可转换 / switchable)
- U / I 的精确度	-Accuracy U / I	<0.2%
-输入阻抗	-Input impedance	53kΩ
安全标准	**Standards**	EN 60950, EN 61326, EN 55022 级别 B / Class B
制冷	**Cooling**	风扇 / Fan
工作温度	**Operation temperature**	0...50°C
储存温度	**Storage temperature**	-20...70°C
相对湿度	**Humidity**	<80%
使用高度	**Operation altitude**	<2000m

型号	电压	电流	功率	效率	U最大时的纹波	I最大时的纹波	远程感测补偿电压	尺寸 BxHxT	重量	产品编号
Model	**Voltage**	**Current**	**Power**	**Efficiency**	**Ripple U max.**	**Ripple I max.**	**Remote sense compensation**	**Dimensions WxHxD**	**Weight**	**Article number**
PSI 8016-20 T	0...16V	0...20A	320W	90.5%	40mV_{PP} / 4mV_{RMS}	60mA_{PP} / 10mA_{RMS}	max. 2V	90x240x280mm	3.8kg	09200400
PSI 8032-10 T	0...32V	0...10A	320W	93%	100mV_{PP} / 10mV_{RMS}	35mA_{PP} / 7mA_{RMS}	max. 2V	90x240x280mm	3.8kg	09200401
PSI 8065-05 T	0...65V	0...5A	325W	93%	150mV_{PP} / 20mV_{RMS}	12mA_{PP} / 3mA_{RMS}	max. 2V	90x240x280mm	3.8kg	09200402
PSI 8032-20 T	0...32V	0...20A	640W	90.5%	100mV_{PP} / 8mV_{RMS}	65mA_{PP} / 10mA_{RMS}	max. 2V	90x240x280mm	3.8kg	09200403
PSI 8065-10 T	0...65V	0...10A	650W	90.5%	150mV_{PP} / 10mV_{RMS}	25mA_{PP} / 3mA_{RMS}	max. 2V	90x240x280mm	3.8kg	09200404
PSI 8160-04 T	0...160V	0...4A	640W	90.5%	120mV_{PP} / 20mV_{RMS}	3mA_{PP} / 1mA_{RMS}	max. 2V	90x240x280mm	3.8kg	09200405
PSI 8080-40 T	0...80V	0...40A	0...1000W	93%	10mV_{PP} / 4mV_{RMS}	19mA_{PP} / 7mA_{RMS}	max. 2.5V	90x240x395mm	6.5kg	09200406
PSI 8360-10 T	0...360V	0...10A	0...1000W	90.5%	30mV_{PP} / 11mV_{RMS}	1mA_{PP} / 0.45mA_{RMS}	max. 8V	90x240x395mm	6.5kg	09200408
PSI 8080-60 T	0...80V	0...60A	0...1500W	93%	10mV_{PP} / 4mV_{RMS}	19mA_{PP} / 7mA_{RMS}	max. 2.5V	90x240x395mm	6.5kg	09200407
PSI 8360-15 T	0...360V	0...15A	0...1500W	90.5%	50mV_{PP} / 8mV_{RMS}	1mA_{PP} / 0.45mA_{RMS}	max. 8V	90x240x395mm	6.5kg	09200409

Elektro-Automatik

EA-PSI 8000 DT 320W - 1500W
可编程实验室直流电源 / PROGRAMMABLE LABORATORY DC POWER SUPPLIES

U
I
P
R
OVP
OT
USB
RS232
LAN
IEEE
CAN
AI
Profi-bus



EA-PSI 8080-60 DT

- 宽范围输入电压90...264V，带主动式PFC
- 效率高达 92%
- 输出功率：320W至0...1500W
- 输出电压：0...16V 至 0...360V
- 输出电流：0...4A 至 0...60A
- 功率自动调整输出*
- 有过压保护 （OVP）
- 有过温保护 （OT）
- 图形显示器显示所有数值和功能
- 显示器指示状态和提示信息
- 可自动检测的远程感测端
- 多功能模拟接口
  - 通过 0...10V 或 0...5V电压可对U / I / P*编程
  - 通过 0...10V 或 0...5V电压可监控U / I
- 报警管理系统
- 内置函数发生器
- 用户配置文档存储区
- 温控风扇制冷
- 其它选项

- **Wide input voltage range 90...264V with active PFC**
- **High efficiency up to 92%**
- **Output power ratings: 320W up to 0...1500W**
- **Output voltages: 0...16V up to 0...360V**
- **Output currents: 0...4A up to 0...60A**
- **Flexible, power regulated output stage***
- **Overvoltage protection (OVP)**
- **Overtemperature protection (OT)**
- **Graphic display for all values and functions**
- **Status indication and notifications via display**
- **Remote sense with automatic detection**
- **Analogue interface with many functions**
  - **U / I / P* programmable with 0...10V or 0...5V**
  - **U / I monitoring with 0...10V or 0...5V**
- **Alarm management**
- **Integrated function manager**
- **Memory bank for user profiles**
- **Temperature controlled fans for cooling**
- **Various options**

概要
EA-PSI 8000 DT 系列是一款由微处理器控制，采用最新技术设计的实验室电源。其标准型号配备多种功能和特征，让用户使用起来更方便、有效。

本产品可设置和存储用户与制程配置文档，这样可改善重复测试或其它应用。

带可调延时报警的扩展监控功能，可监控所有输出参数，从而简化了测试组装，故基本无需外部监控。

General
The microprocessor controlled laboratory power supplies of series EA-PSI 8000 DT cover state-of-the-art technology. They already offer many functions and features in their standard version, making the use of this equipment remarkably easy and most effective.
User and process profiles can be configured, saved and archived so that the reproducibility of a test or other application is improved.

The extensive integrated monitoring functions for all output parameters with adjustable delays of alerts simplify test assembly, such that the usual external monitoring is mostly unnecessary.

* 针对1kW以上型号

* Models from 1kW

EA-PSI 8000 DT 320W - 1500W
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输入
本系列采用主动式功率因数校正，使产品在全世界范围内都适用，输入电压为 90V 至 264V AC。

直流输出
本系列有多款不同型号，可选择 0...16V 和 0...360V 输出电压，0...4A 和 0...60A 输出电流，320W 和 0...1500W 输出功率的型号。输出端位于产品前面板。

功率
1kW 以上型号输出功率可灵活调整。可在低电流时输出更高的电压，或在低电压时输出更大的电流，都由最大额定输出功率来限制。因此一台该产品能涵盖广范围的应用领域。设定功率可从0..100%之间可调，或手动调节或远程控制。1.5kW型号产品有功率降额功能，即：在输入电压 <150V_{AC}时最大输出功率减少至1kW。

过压保护 (OVP)
为保护连接负载，可设定一过压保护极限值(OVP)。

若输出电压超过调节极限值，输出被关断，显示器和模拟接口发出一声频报警信号。

报警管理系统
为监控正确的输出电压和电流，可定义上、下限。

若偏差超过该调节极限，应用设备将出现下列三种可能性反应：
- 只显示信号；即使错误仍存在，也不影响输出。
- 警告一直持续，消除错误后必须确认警告信息。
- 报警会暂时性地关断输出。

报警和警告可通过声频发出信号。

远程感测端
远程感测输入端可直接连到负载设备，以补偿连线上的压降。如果输入端已接上负载，本电源会自动检测并调整输出电压，以确保负载获得准确所需的电压值。

显示和控制键
易读型图形显示器清晰显示设定输出值，实际输出值，操作按钮的操作状态和当前功能。菜单清晰指引用户查阅所有必要信息和调节值。

输出电压、电流和功率的设定值、实际值都显示于图形显示器上，还包括产品的运作状态，菜单指引和按钮当前功能，故用户能直观地操作本产品。

输出电压、电流和功率或可调内阻的调节，由两个旋钮完成。旋钮可在不同菜单下更改数值。为避免误操作，所有操作控制键都可锁定。

Input
The devices use an active **P**ower **F**actor **C**orrection ciruit to enable using it worldwide on a mains input from 90V up to 264V AC.

DC output
Output voltages between 0...16V and 0...360V, output currents between 0...4A and 0...60A and output power ratings between 320W and 0...1500W are available. The output terminal is located in the front panel.

Power
Models from 1kW output power are equipped with a flexible, auto-ranging output stage. It provides a higher output voltage at lower output current or a higher output current at lower output voltage, always limited the max. nominal output power. Therefore, a wide range of applications can already be covered by the use of just one single unit. The power set value is adjustable on these models from 0..100%, either manually or in remote control. Units with 1.5kW are derated, i.e. reduced to 1kW max. power at input voltages below 150V_{AC}.

Overvoltage protection (OVP)
In order to protect connected loads, it is possible to adjust an overvoltage protection threshold (OVP).
If the output voltage exceeds the defined limit, the output is shut-off and an acoustic warning signal will be given by the unit together with a status signal in the display and via the analogue interface.

Alarm management
For monitoring the correct output voltage and output current, lower and upper limits can be defined.
If the deviation exceeds the adjusted limits, three possibilities are available as to how the appliance should react:
- Signals are displayed only, even if the fault is still active, without affecting to the output.
- Warnings remain active and must be acknowledged after the fault is removed.
- Alarms will shut off the output instantly in case the deviation exceeds the adjusted limits.

Alarms and Warnings can be signalled acoustically.

Remote sense
The standard sense input can be connected directly to the load in order to compensate voltage drops along the cables. If the sense input is connected to the load, the power supply will detect this and adjust the output voltage automatically to ensure the accurate required voltage is available at the load.

Displays and controls
The easily readable graphic display shows a clear representation of set values, actual output values, the operational state and the current functions of the operation pushbuttons. For all necessary information and adjustments the user is guided by a clear menu.
Set values and actual values of output voltage, output current and output power are clearly represented on the graphic display. The operating state of the device, the menu guidance and the current assignment of the pushbuttons are also shown on the display. So the user is able to operate the unit intuitively.
The adjustment of output voltage, output current and output power, or optional internal resistance, is realised by two rotary knobs. These knobs are used to change values in the different menus as well. To prevent unintentional operations, all operation controls may be locked.

EA-PSI 8000 DT 320W - 1500W
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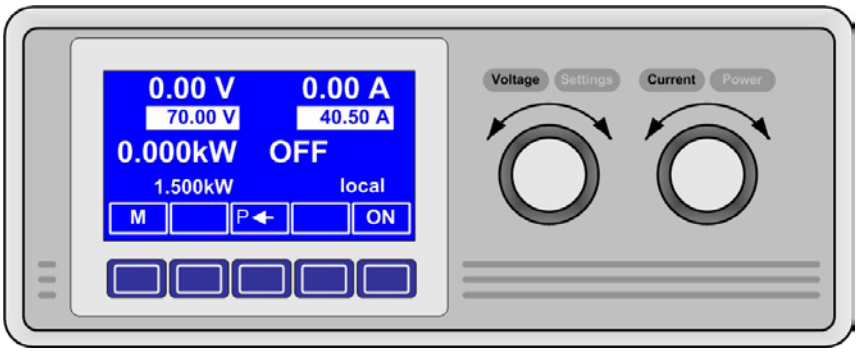
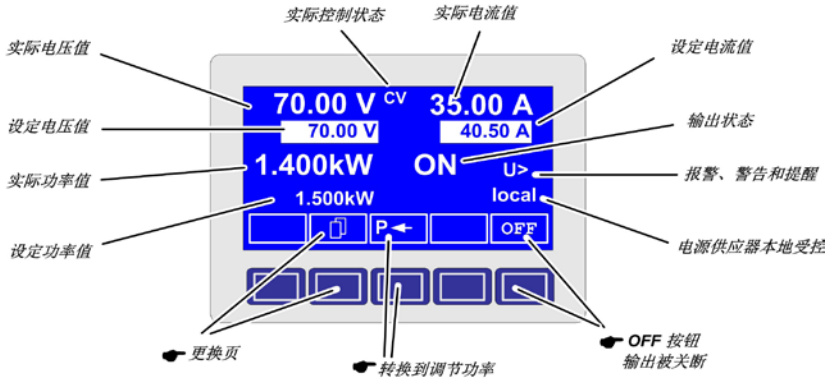
显示器和控制面板

Display and control panel



设置用旋钮
Rotary knobs for settings



函数管理器

函数由序列组成，通过控制面板可对其进行修改。

一个函数由最多5个序列组成，可按任意顺序排列，重复次数最多为5次。

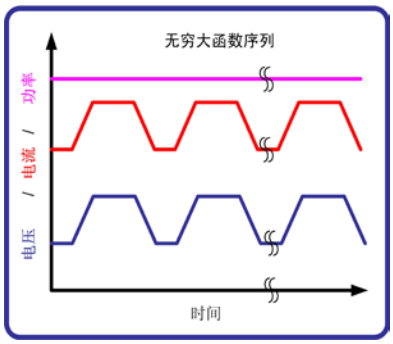
每个序列可设置最大功率或可选内阻，重复次数为一至254次，或者无穷大。

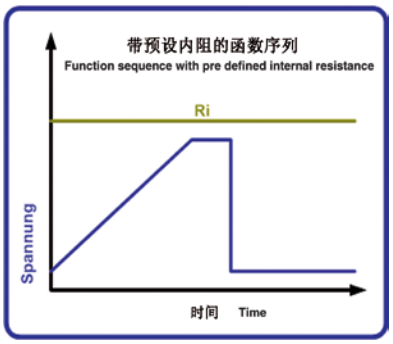
同样地，整个函数段的重复次数可以设置成一至254次，或无穷大。

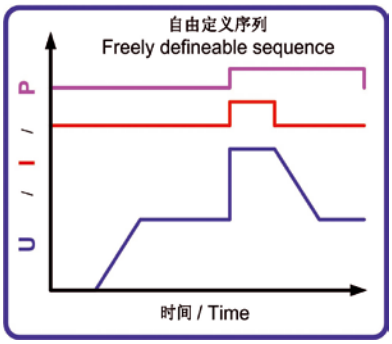
Function manager

Functions consist of sequences and can be modified via the control panel.
Up to five different sequences can be assigned to a function in any succession or be repeated up to five times.

For each sequence, the maximum power, or optionally the internal resistance, and a repetition value from once up to 254 times or endless can be configured.
As well, the repetition of a whole function can be configured from once up to 254 times or endless.







用户配置文档

利用控制面板可存储多达四种用户配置文档。

用户配置文档专门用来设置和存储用户指定的参数块。

User profiles

Via the control panel up to four different user profiles can be stored.
The user profiles are designed to set and save user specified parameter blocks.

EA-PSI 8000 DT 320W - 1500W
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输出值的预设
若想在不影响输出状态的条件下预设输出电压、电流或功率（针对1kW以上型号），显示器上可先显示预设值，即实际值的下方。这样用户可预设期望输出电压、电流和功率。并在预设清单内存储4组U / I / P参数块。该清单内的参数块可上载作为常用需求值。

模拟接口
内置模拟接口位于产品后板。它提供有模拟接口输入脚，接上0V...10V或0V...5V电压，可设置0...100%的输出电压、电流（1kW以上型号）。模拟输出脚接上0V...10V或0V...5V电压，可监控输出电压、电流和功率。此外，还有几个输入脚和输出脚，用来控制和监控产品状态。

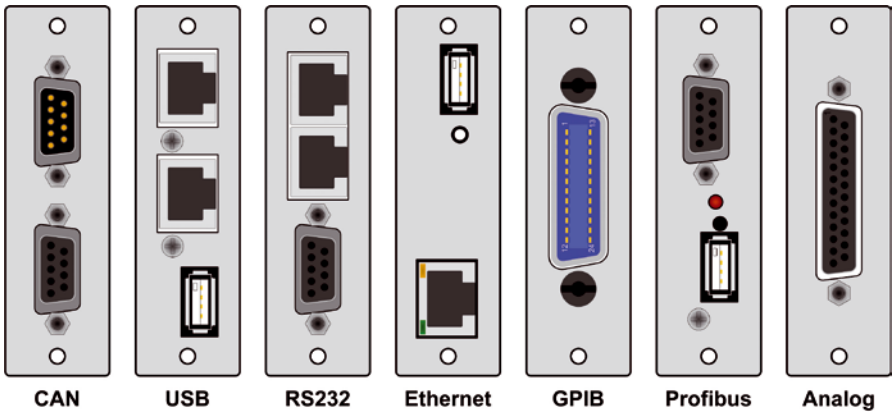
选购件
- 可利用匹配RS232、CAN、USB、GPIB (IEEE)、Profibus或Ethernet/LAN的绝缘数字接口卡，经电脑控制产品。接口插槽位于产品后板，用户很方便就能插上新接口或替换当前接口。产品会自动检测接口，并提示需要进行少许配置或不用配置。随接口卡附有免费Windows软件，可用来控制和监控，记录数据和排序。也可参考63和64页。
- 带扩展功能的电隔离模拟接口
- 内阻调整
- 高速跃变（仅针对1kW以上产品，见118页）
- 提手（也可当立式支撑件）

Presetting of output values
In order to preset output values for voltage, current or power (with models from 1kW) without affecting the output condition, the set values will be displayed right below the actual value. Also four parameter blocks for U / I / P can be stored in a preset list. From this list parameter blocks can be loaded for frequently required values.

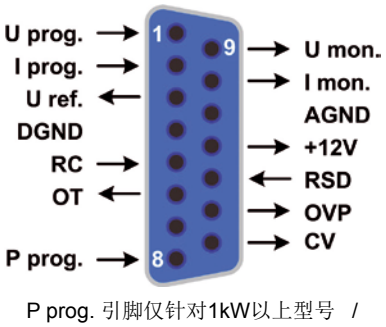
Analogue interface
The built-in analogue interface is located on the rear of the device and provides inputs to set voltage, current and power (models from 1kW) from 0...100% via a control voltage of 0V...10V or 0V...5V. To monitor output voltage and current, analogue outputs of 0V...10V or 0V...5V can be read out. Furthermore, several inputs and outputs are available for controlling and monitoring the device status.

Options
- Isolated digital interface cards for RS232, CAN, USB, GPIB (IEEE), Profibus or Ethernet/LAN to control the device by PC. The interface slot is located on the rear panel, making it easy for the user to plug in a new interface or to replace an existing one. The interface will be automatically detected by the device and requires no or only little configuration. Included with the interface cards is a free Windows software which provides control and monitoring, data logging and sequences. See pages 63 and 64.
- Analogue, galvanically isolated interface card with extended features
- Internal resistance regulation
- High speed ramping (only for models as from 1kW, also see page 118)
- Carrying handle (usable as tilt stand)

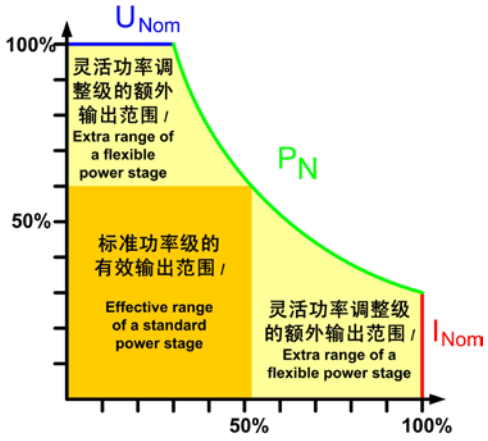
各类接口卡 / Interface cards



模拟接口 / Analogue interface

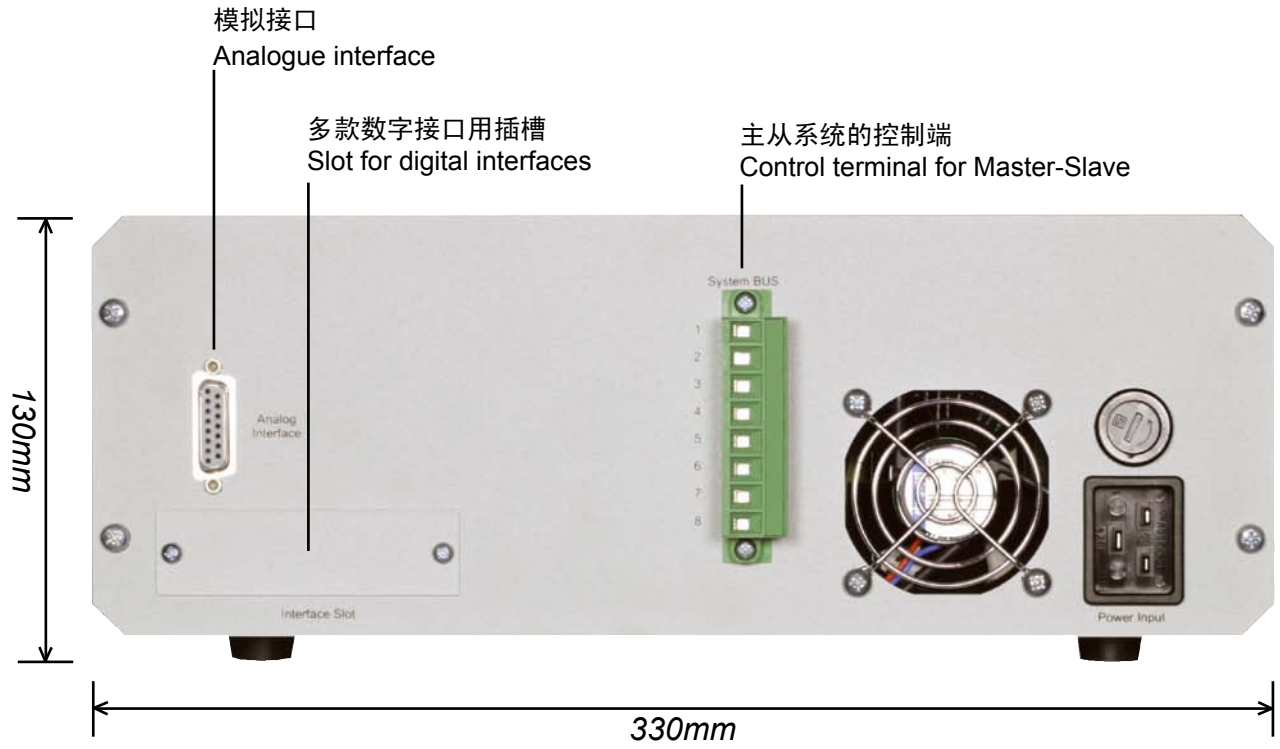


P prog. 引脚仅针对1kW以上型号 /
P prog. only available with models from 1kW

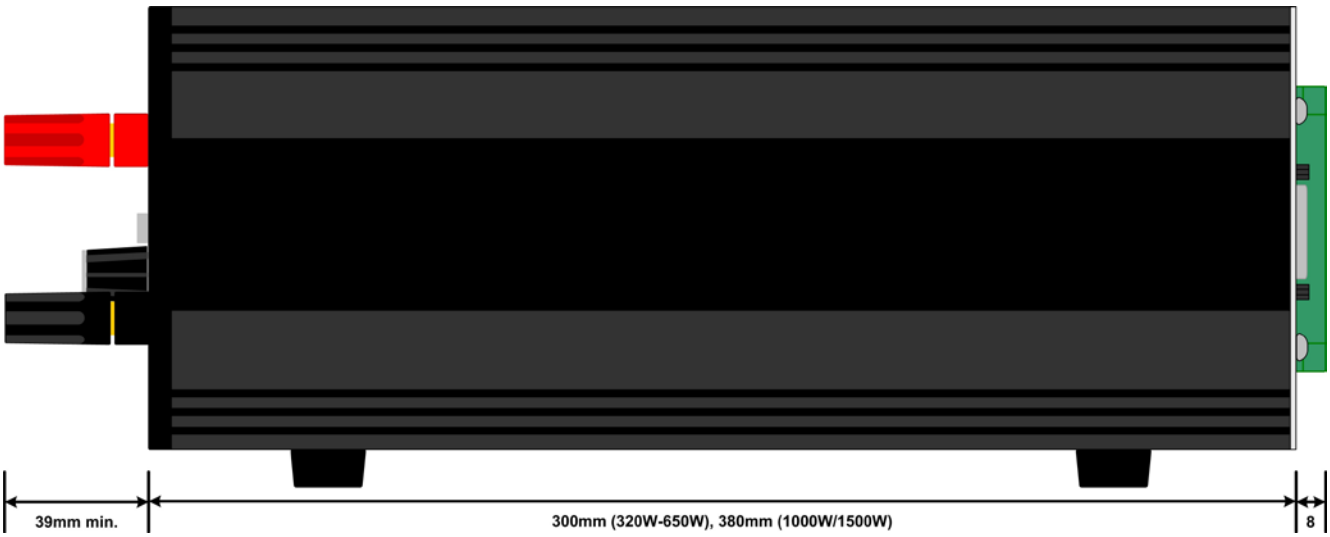


EA-PSI 8000 DT 320W - 1500W
可编程实验室直流电源 / PROGRAMMABLE LABORATORY DC POWER SUPPLIES

后面板图 Rear view



侧视图 Side view



EA-PSI 8000 DT 320W - 1500W
可编程实验室直流电源 / PROGRAMMABLE LABORATORY DC POWER SUPPLIES

技术参数	Technical Data	EA-PS 8000 DT
输入电压	**Input voltage**	90...264V AC
-频率	-Frequency	45...65Hz
-功率因数	-Power factor	>0.99
输入：电压	**Output: Voltage**	
-型号	-Type	直流 / DC
-精确度	-Accuracy	±0.2%
-负载0-100% 时的稳定度	-Stability at 0-100% load	<0.05%
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.02%
-负载从10%-100%调整需时	-Regulation 10-100% load	<2ms
-负载从10-90%上升需时	-Rise time 10-90%	最长 30ms
-过压保护	-Overvoltage protection	可调，范围为0...110% U_{Nom} / adjustable, 0...110% U_{Nom}
输入：电流	**Output: Current**	
-精确度	-Accuracy	±0.2%
-负载0-100% Δ U_A时的稳定度	-Stability at 0-100% ΔU_{OUT}	<0.15%
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.05%
过压类别	**Overvoltage category**	2
过热保护	**Thermal protection**	输出关闭 / Shutdown of the output
隔离耐压	**Isolation**	
-输入对输出	-Input to output	2500V DC
-输出对外壳	-Output to enclosure	500V DC
污染等级	**Pollution degree**	2
保护级别	**Protection class**	1
模拟编程	**Analogue programming**	
-输入范围	-Input range	0...5V 或 / or 0...10V (可转换 / switchable)
- U / I 的精确度	-Accuracy U / I	±0.2%
安全标准	**Standards**	EN 60950, EN 61326, EN 55022 级别 B / Class B
制冷	**Cooling**	风扇 / Fan
工作温度	**Operation temperature**	0...50°C
储存温度	**Storage temperature**	-20...70°C
相对湿度	**Humidity**	<80%
使用高度	**Operation altitude**	<2000m

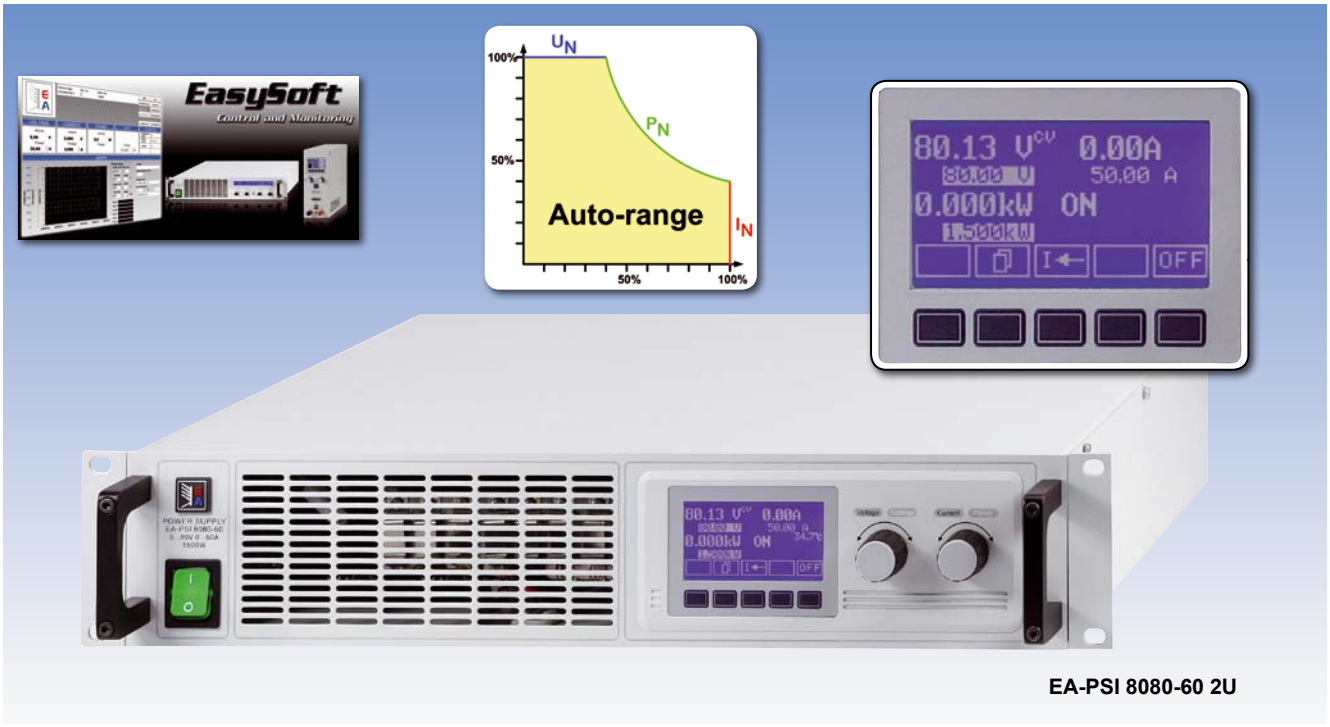
型号	电压	电流	功率	效率	U最大时的纹波	I最大时的纹波	远程感测补偿电压	尺寸* BxHxT	重量	产品编号
Model	**Voltage**	**Current**	**Power**	**Efficiency**	**Ripple U max.**	**Ripple I max.**	**Remote sense compensation**	**Dimensions* WxHxD**	**Weight**	**Article number**
PSI 8016-20 DT	0...16V	0...20A	320W	90.5%	40mV_{PP} / 4mV_{RMS}	60mA_{PP} / 10mA_{RMS}	max. 2V	330x118x308mm	6.5kg	09200410
PSI 8032-10 DT	0...32V	0...10A	320W	89%	100mV_{PP} / 10mV_{RMS}	35mA_{PP} / 7mA_{RMS}	max. 2V	330x118x308mm	6.5kg	09200411
PSI 8065-05 DT	0...65V	0...5A	325W	93%	150mV_{PP} / 20mV_{RMS}	12mA_{PP} / 3mA_{RMS}	max. 2V	330x118x308mm	6.5kg	09200412
PSI 8032-20 DT	0...32V	0...20A	640W	90.5%	100mV_{PP} / 8mV_{RMS}	65mA_{PP} / 10mA_{RMS}	max. 2V	330x118x308mm	6.5kg	09200413
PSI 8065-10 DT	0...65V	0...10A	650W	91%	150mV_{PP} / 10mV_{RMS}	25mA_{PP} / 3mA_{RMS}	max. 2V	330x118x308mm	6.5kg	09200414
PSI 8160-04 DT	0...160V	0...4A	640W	92%	120mV_{PP} / 20mV_{RMS}	3mA_{PP} / 1mA_{RMS}	max. 2V	330x118x308mm	6.5kg	09200415
PSI 8080-40 DT	0...80V	0...40A	0...1000W	93%	10mV_{PP} / 4mV_{RMS}	19mA_{PP} / 7mA_{RMS}	max. 2.5V	330x118x388mm	8.5kg	09200416
PSI 8360-10 DT	0...360V	0...10A	0...1000W	92%	30mV_{PP} / 11mV_{RMS}	1mA_{PP} / 0.45mA_{RMS}	max. 8V	330x118x388mm	8.5kg	09200418
PSI 8080-60 DT	0...80V	0...60A	0...1500W	93%	10mV_{PP} / 4mV_{RMS}	19mA_{PP} / 7mA_{RMS}	max. 2.5V	330x118x388mm	8.5kg	09200417
PSI 8360-15 DT	0...360V	0...15A	0...1500W	93%	50mV_{PP} / 8mV_{RMS}	1mA_{PP} / 0.45mA_{RMS}	max. 8V	330x118x388mm	8.5kg	09200419

* 仅为产品外壳尺寸，非整个外形尺寸 / Enclosure only, not overall

Elektro-Automatik

EA-PSI 8000 2U 640W - 3000W
可编程实验室直流电源 / PROGRAMMABLE LABORATORY DC POWER SUPPLIES

U
I
P
R
19"
OVP
OT
USB
RS232
LAN
IEEE
CAN
AI
Profi-bus



EA-PSI 8080-60 2U

- 宽范围输入电压90...264V*，带主动式PFC
- 效率高达 92%
- 输出功率：640W 至0...3000W
- 输出电压：0...32V 至 0...720V
- 输出电流：0...4A 至 0...120A
- 灵活的功率调整输出级**
- 有过压保护（OVP）
- 有过温保护（OT）
- 图形显示器显示所有数值与功能
- LED指示状态和提示信息
- 可自动检测的远程感测端
- 多功能模拟接口
  - 通过 0...10V 或 0...5V电压可对U / I / P**编程
  - 通过 0...10V 或 0...5V电压可监控U / I
- 控报警管理器
- 内置函数发生器
- 用户配置文档存储区
- 温控风扇制冷
- 可制作符合低压指令的40V型号产品
- 其它选项

- **Wide input voltage range 90...264V* with active PFC**
- **High efficiency up to 92%**
- **Output power ratings: 640W up to 0...3000W**
- **Output voltages: 0...32V up to 0...720V**
- **Output currents: 0...4A up to 0...120A**
- **Flexible, power regulated output stage****
- **Overvoltage protection (OVP)**
- **Overtemperature protection (OT)**
- **Graphic display for all values and functions**
- **Status indication and notifications via display**
- **Remote sense with automatic detection**
- **Analogue interface with many functions**
  - **U / I / P** programmable via 0...10V or 0...5V**
  - **U / I monitoring via 0...10V or 0...5V**
- **Alarm management**
- **Integrated function generator**
- **Memory bank for user profiles**
- **Temperature controlled fans for cooling**
- **40V models according to low voltage directive**
- **Various options**

概要

EA-PSI 8000 2U 系列是一款由微处理器控制，采用最新技术设计的实验室电源。其标准型号配备多种功能和特征，让用户使用起来更方便、有效。

本产品可设置和存储用户与制程配置文档，这样可改善重复测试或其它应用。

带可调延时报警的扩展监控功能，可监控所有输出参数，从而简化了测试组装，故基本无需外部监控。

General

The microprocessor controlled laboratory power supplies of series EA-PSI 8000 2U cover state-of-the-art technology. They already offer many functions and features in their standard version, making the use of this equipment remarkably easy and most effective.

User and process profiles can be configured, saved and archived so that the reproducibility of a test or other application is improved.

The extensive integrated monitoring functions for all output parameters with adjustable delays of alerts simplify test assembly, such that the usual external monitoring is mostly unnecessary.

* 针对1.5kW以下型号
** 针对1kW以上型号

* Models up to 1.5kW
** Models from 1kW

EA-PSI 8000 2U 640W - 3000W
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功率
1kW 以上型号输出功率可灵活调整。可在低电流时输出更高的电压，或在低电压时输出更大的电流，都由最大额定输出功率来限制。因此一台该产品能涵盖广范围的应用领域。设定功率可从0..100%之间可调，或手动调节或远程控制。1.5kW型号产品有功率降额功能，即：在较低输入电压时减少最大输出功率。

输入
本系列所有型号都采用主动式功率因数校正线路，1.5kW 以下产品在为 90V 至 264V AC 输入电压下都可使用。

直流输出
本系列有多款不同型号，可选择0...32V和0...720V输出电压，0...4A和0...120A输出电流，640W和0...3000W输出功率的类型。
输出端位于产品后板。
针对电压由高至低快速跃变的应用，1kW以上且电压在400V以下的型号，可配上两象限功率降额模块（有源负载）完成该操作。

通过功率降额模块对电源内部滤波电容和连接负载的输入滤波电容快速放电，实现电压的快速变化。

过压保护 (OVP)
为保护连接负载，可设定一过压保护极限值 (OVP)。

若输出电压超过调节极限值，输出被关断，显示器和模拟接口发出一声频报警信号。

报警管理系统
为监控正确的输出电压和电流，可定义上、下限。

若偏差超过该调节极限，应用设备会出现下列三种可能性反应：
- 只显示信号；即使错误仍存在，也不影响输出。
- 警告一直持续，消除错误后必须确认警告信息。
- 报警会暂时关断输出。
报警和警告发出声音信号。

远程感测端
远程感测输入端可直接连到负载设备，以补偿连线上的压降。如果输入端已接上负载，本电源会自动调整输出电压，以确保负载获得准确所需的电压值。

显示和控制键
输出电压、电流和功率的设定值、实际值都显示于图形显示器上，还包括产品的运作状态，菜单指引和按钮当前功能，故用户能直观地操作本产品。

Power
Models from 1kW output power are equipped with a flexible, auto-ranging output stage. It provides a higher output voltage at lower output current or a higher output current at lower output voltage, always limited the max. nominal output power. Therefore, a wide range of applications can already be covered by the use of just one single unit. The power set value is adjustable on these models from 0..100%, either manually or in remote control. Units with 1.5kW or higher are derated, i.e. reduced in their max. power at low input voltages.

Input
All units are provided with an active **P**ower **F**actor **C**orrection circuit and models up to 1.5kW are suitable for a worldwide usage on a mains supply from 90V up to 264V AC.

DC output
Output voltages between 0...32V and 0...720V, output currents between 0...4A and 0...120A and output powers between 640W and 0...3000W are available.
The output terminal is located on the rear panel.
For applications where a fast variation of voltage from a high to a low value is required, models from 1kW and up to max. 400V can be equipped with a two-quadrants power-sink module (active load).
The fast voltage variation is achieved by the capability of this power-sink module to faster discharge the internal filter capacitors, as well as filter capacitors of the equipment connected.

Overvoltage protection (OVP)
Intended to protect connected loads, it is possible to define an overvoltage protection limit (OVP).
If the output voltage exceeds the defined limit, the output is shut-off and an acoustic warning signal will be given by the unit and also a status message signal, in the display and via the analogue interface, is available.

Alarm management
For monitoring the correct output voltage and output current, lower and upper limits can be defined.
If the deviation exceeds the adjusted limits, three possibilities are available as to how the appliance should react.
- Signals are displayed only, even if the fault is still active, without affecting to the output.
- Warnings remain active and must be acknowledged after the fault is removed.
- Alarms will shut off the output instantly in case the deviation exceeds the adjusted limits.
Alarms and Warnings can be signalled audibly.

Remote sense
The standard sense input can be connected directly to the load in order to compensate voltage drops along the power leads. If the sense input is connected to the load, the power supply will be adjusting the output voltage automatically to ensure the accurate required voltage is available at the load.

Display and controls
Set values and actual values of output voltage, output current and output power are clearly represented on the graphic display. The operating state of the device, the menu guidance and the current assignment of the pushbuttons are also shown on the display. So the user is able to operate the unit intuitively.

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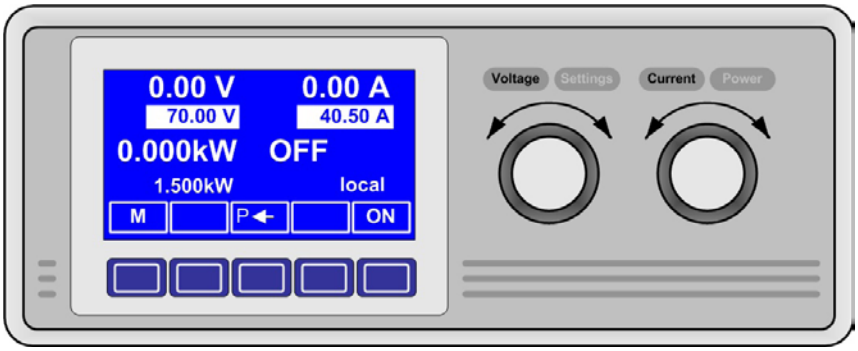
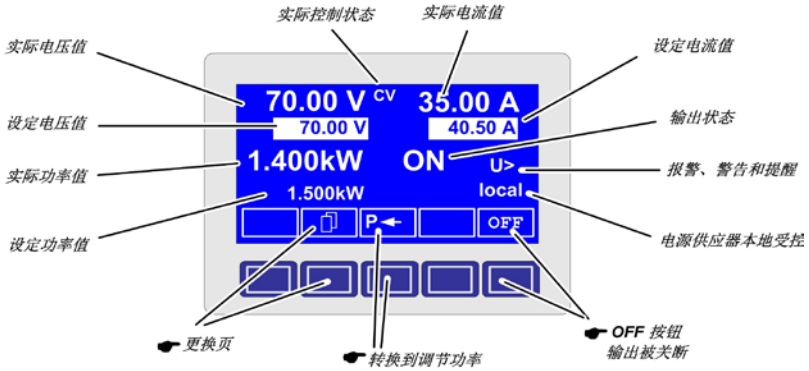
显示器和控制面板
输出电压、电流和功率或可调内阻的调节，由两个旋钮完成。旋钮可在不同菜单下更改数值。

为避免误操作，可锁定所有操作控制键。

Display and control panel
The adjustment of output voltage, output current and output power, or optional internal resistance, is realised by two rotary knobs. The rotary knobs are required for changing values in the different menus as well.
To prevent unintentional operations, all operation controls can be locked.





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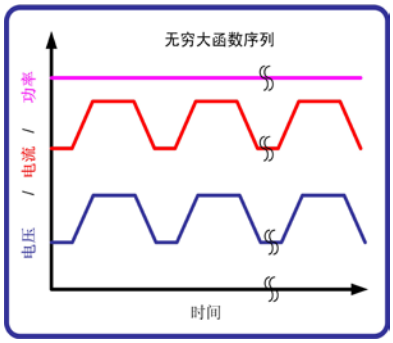
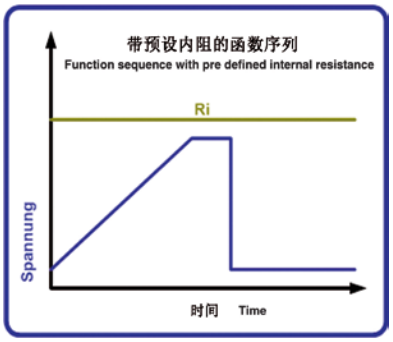
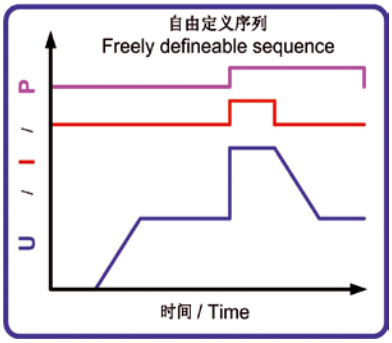
Functions consist of sequences and can be modified via the control panel.
Up to five different sequences can be assigned to a function in any succession or be repeated up to five times.
For each sequence, the maximum power, or optionally the internal resistance, and a repetition value from once up to 254 times or endless can be configured.
As well, the repetition of a whole function can be configured from once up to 254 times or endless.







用户配置文档
利用控制面板可存储多达四种用户配置文档。用户配置文档专门用来设置和存储用户指定的参数块。

User profiles
Via the control panel up to four different user profiles can be stored. The user profiles are designed to set and save user specified parameter blocks.

EA-PSI 8000 2U 640W - 3000W
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输出值的预设

在不影响输出状态的条件下设置输出值，显示器上可先显示预设值，即实际值的下方。

这样用户可预设期望输出电压、电流和功率。并在预设清单内存储4组U / I / P参数块。该清单内的参数块可上载作为常用需求值。

内置模拟接口

模拟接口位于产品后面板，供有模拟输入脚，接上0V...10V或0V...5V电压，可设置0...100%的输出电压、电流（1kW或更大功率型号）。
模拟输出脚接上0V...10V或0V...5V电压，可监控输出电压和电流。此外，还有几个输入和输出脚，可用来控制和监控产品状态。

选购件

- 可利用匹配RS232、CAN、USB、GPIB (IEEE)、Profibus或Ethernet/LAN的绝缘数字接口卡，经电脑控制产品。接口插槽位于产品后板，方便用户插上新接口或替换当前接口。产品会自动检测接口，并提示需要进行少许的配置或不用配置。随接口卡附有免费Windows软件，可用来控制和监控，记录数据和排序。也可参考63和64页。
- 带扩展功能的电隔离模拟接口
- 内阻调整
- 高速跃变（仅针对1kW以上产品，见118页）
- 两象限操作下的内置有源功率降额（针对1kW以上，且电压在360V以下的产品，也可见119页）

Presetting of output values

To set output values without a direct reaction to the output condition, set values can be preset. They‘re shown on the display, positioned below the actual values.
So the user can preset required values for voltage, current and power. Also four parameter blocks for U / I / P can be deposit in a preset list. From this list parameter blocks can be loaded for frequently required values.

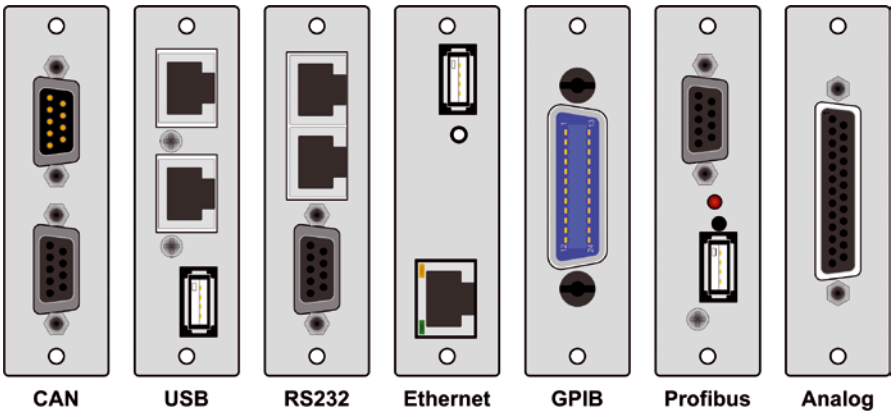
Built-in analogue interface

The analogue interface is located on the rear of the device. It offers analogue inputs to set voltage, current and power (models from 1kW) from 0...100% through control voltages of 0V...10V or 0V...5V.
To monitor output voltage and current, there are analogue outputs with voltage ranges of 0V...10V or 0V...5V. Also, several inputs and outputs are available for controlling and monitoring the device status.

Options

- Isolated digital interface cards for RS232, CAN, USB, GPIB (IEEE), Profibus or Ethernet/LAN to control the device by PC. The interface slot is located on the rear panel, making it easy for the user to plug in a new interface or to replace an existing one. The interface will be automatically detected by the device and requires no or only little configuration. Included with the interface cards is a free Windows software which provides control and monitoring, data logging and sequences. See pages 63 and 64.
- Analogue, galvanically isolated interface card with extended features
- Internal resistance regulation
- High speed ramping (only for models as from 1kW, also see page 118)
- Internal, active power sink in two-quadrants operation (only for models from 1kW and up to 360V, see page 119)

各类接口卡 / Interface cards



EA-PSI 8000 2U 640W - 3000W
可编程实验室直流电源 / PROGRAMMABLE LABORATORY DC POWER SUPPLIES

技术参数	Technical Data	EA-PSI 8000 2U
输入	**Input**	
-电压	-Voltage	90...264V AC (针对型号 / Models 640W - 1500W), 有功率降额 / Derating < 150V AC时 180...264V AC (针对型号 / Models 3000W), 有功率降额 / Derating < 207V AC时
-频率	-Frequency	45...65Hz
-功率因数	-Power factor	>0.99
输入：电压	**Output: Voltage**	
-型号	-Type	直流 / DC
-精确度	-Accuracy	<0.2%
-负载0-100% 时的稳定度	-Stability at 0-100% load	<0.05%
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.02%
-负载从10%-100%调整需时	-Regulation 10-100% load	<2ms
-负载从10-90%上升需时	-Rise time 10-90%	最长 30ms
-过压保护	-Overvoltage protection	可调，范围为0...110% U_{nenn} / adjustable, 0...110% U_{nom}
输入：电流	**Output: Current**	
-精确度	-Accuracy	<0.2%
-负载0-100% Δ U_A时的稳定度	-Stability at 0-100% ΔU_{OUT}	<0.15%
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.05%
过压类别	**Overvoltage category**	2
过热保护	**Thermal protection**	输出关闭 / Shutdown of the output
隔离耐压	**Isolation**	
-输入对输出	-Input to output	4200V DC
-输出对外壳	-Output to enclosure	360V以下型号/ Models up to 360V: 500V DC, 720V以上型号/720V model：1000V DC
污染等级	**Pollution degree**	2
保护级别	**Protection class**	1
模拟编程	**Analogue programming**	
-输入范围	-Input range	0...5V 或 / or 0...10V (可转换 / switchable)
- U / I的精确度	-Accuracy U / I	<0.2%
串联	**Series operation**	最高 600V
-主-从	-Master-Slave	无 / no
并联	**Parallel operation**	不限 / no limit
-主-从	-Master-Slave	有，经共享总线端可操作多至30台产品 / yes, via Share bus, up to 30 units
安全标准	**Standards**	EN 60950, EN 61326, EN 55022 级别 B / Class B
制冷	**Cooling**	风扇 / Fan
工作温度	**Operation temperature**	0...50°C
储存温度	**Storage temperature**	-20...70°C
相对湿度	**Humidity**	<80%
使用高度	**Operation altitude**	<2000m

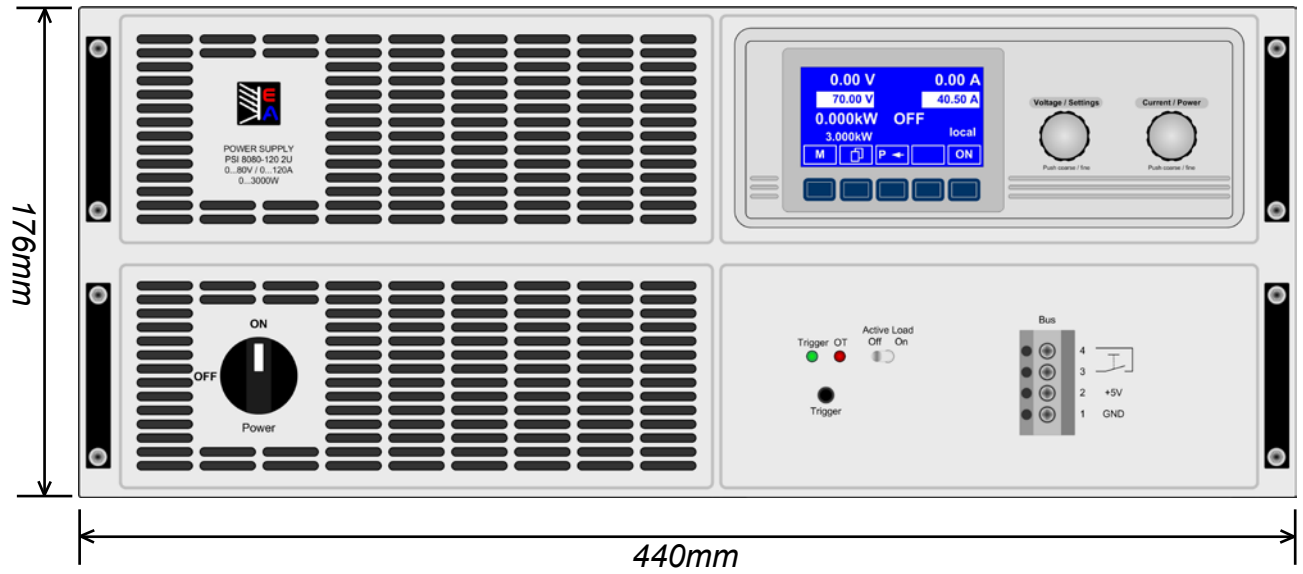
型号	电压	电流	功率	效率	U最大时的纹波	I最大时的纹波	远程感测补偿电压	尺寸 W H D **	重量 *	产品编号
Model	**Voltage**	**Current**	**Power**	**Efficiency**	**Ripple U**	**Ripple I**	**Remote sense compen-sation**	**Dimensions W H D ****	**Weight ***	**Article number**
PSI 8032-20 2U	0...32V	0...20A	640W	90.5%	100mV_{PP} / 8mV_{RMS}	65mA_{PP} / 10mA_{RMS}	max. 2V	19" 2U 380mm	9kg	09230417
PSI 8065-10 2U	0...65V	0...10A	650W	93%	150mV_{PP} / 10mV_{RMS}	25mA_{PP} / 3mA_{RMS}	max. 2V	19" 2U 380mm	9kg	09230418
PSI 8160-04 2U	0...160V	0...4A	640W	93%	120mV_{PP} / 20mV_{RMS}	3mA_{PP} / 1mA_{RMS}	max. 2V	19" 2U 380mm	9kg	09230419
PSI 8080-40 2U	0...80V	0...40A	0...1000W	90.5%	10mV_{PP} / 4mV_{RMS}	19mA_{PP} / 7mA_{RMS}	max. 2.5V	19" 2U 460mm	11.5kg	09230410
PSI 8040-60 2U	0...40V	0...60A	0...1500W	90.5%	10mV_{PP} / 4mV_{RMS}	19mA_{PP} / 7mA_{RMS}	max. 2.5V	19" 2U 460mm	11.5kg	09230425
PSI 8080-60 2U	0...80V	0...60A	0...1500W	90.5%	10mV_{PP} / 4mV_{RMS}	19mA_{PP} / 7mA_{RMS}	max. 2.5V	19" 2U 460mm	11.5kg	09230411
PSI 8360-15 2U	0...360V	0...15A	0...1500W	93%	50mV_{PP} / 8mV_{RMS}	1mA_{PP} / 0.45mA_{RMS}	max. 8V	19" 2U 460mm	11.5kg	09230414
PSI 8040-120 2U	0...40V	0...120A	0...3000W	90.5%	10mV_{PP} / 5mV_{RMS}	25mA_{PP} / 9mA_{RMS}	max. 2.5V	19" 2U 460mm	14.7kg	09230426
PSI 8080-120 2U	0...80V	0...120A	0...3000W	90.5%	10mV_{PP} / 5mV_{RMS}	25mA_{PP} / 9mA_{RMS}	max. 2.5V	19" 2U 460mm	14.7kg	09230412
PSI 8160-60 2U	0...160V	0...60A	0...3000W	93%	20mV_{PP} / 10mV_{RMS}	18mA_{PP} / 6mA_{RMS}	max. 5V	19" 2U 460mm	14.7kg	09230413
PSI 8360-30 2U	0...360V	0...30A	0...3000W	90.5%	30mV_{PP} / 12mV_{RMS}	60mA_{PP} / 21mA_{RMS}	max. 8V	19" 2U 460mm	14.7kg	09230415
PSI 8720-15 2U	0...720V	0...15A	0...3000W	90.5%	50mV_{PP} / 20mV_{RMS}	2mA_{PP} / 1mA_{RMS}	max. 16V	19" 2U 460mm	14.7kg	09230416

* 仅针对本系列标准型号，带选项功能之型号重量会有变化 / of standard version, models with options may vary

** 仅为产品外壳尺寸，非整个外形尺寸，带选项功能之型号尺寸会有变化 / Enclosure only, not overall, may change due to options

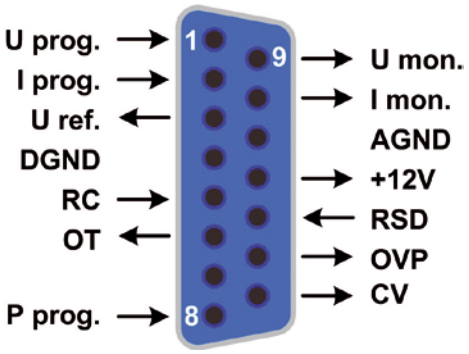
日期 / Date: 14.05.12

EA-PSI 8000 2U 640W - 3000W
可编程实验室直流电源 / PROGRAMMABLE LABORATORY DC POWER SUPPLIES

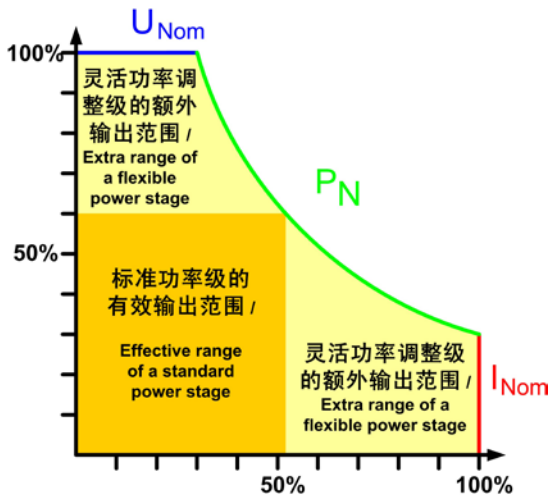


内置ZH选项的产品前视图 (4U高) / Front view of model with ZH option integrated (4U height)

模拟接口 / Analogue interface

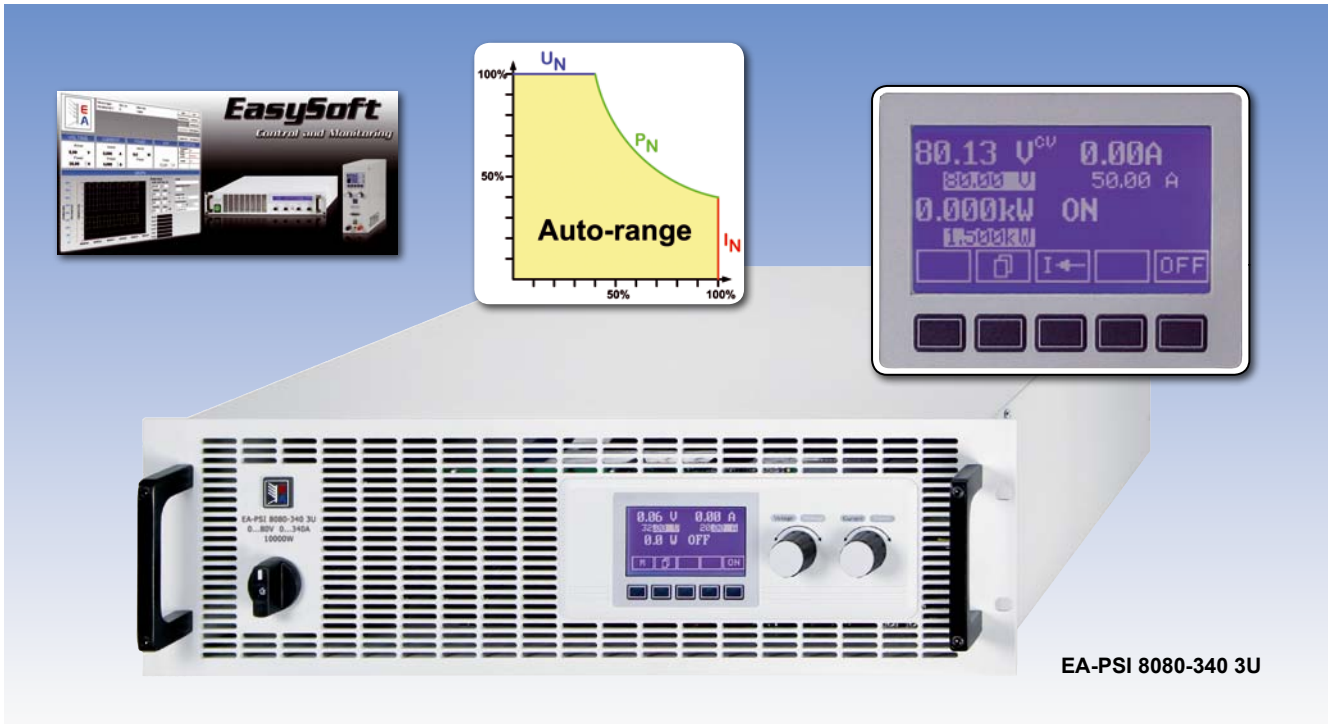


P prog. 引脚仅针对1kW以上型号才有用 /
P prog. only available with models from 1kW



EA-PSI 8000 3U 3.3KW - 150KW
高效直流电源 / HIGH EFFICIENCY DC POWER SUPPLIES

U
I
P
R
19"
OVP
OT
USB
RS232
LAN
IEEE
CAN
AI
Profi-bus



EA-PSI 8080-340 3U

- 三相输入340...460VAC 50/60Hz
- 效率高达95.5%
- 输出功率有：3.3kW, 5kW, 6.6kW, 10kW, 15kW
  还可扩展至0...150kW
- 输出电压：0...40V 至 0...1500V
- 输出电流：0...30A 至 0...510A
  还可扩展至0...5100A
- 灵活的功率调整输出
- 有过压保护（OVP）
- 有过温保护（OT）
- 带菜单的图形显示器
- 多功能模拟接口
  - 通过 0...10V 或 0...5V电压可对U / I / P编程
  - 通过 0...10V 或 0...5V电压可监控U / I / P
- 冗余操作（10kW以上型号）
- 可自动检测的远程感测端
- 仅3U的19“ 机架安装式外壳
- 报警管理系统
- 内置函数管理器
- 用户配置文档存储区
- 温控风扇制冷
- 可做符合低压指令的40V型号
- 还有其它选项功能

- **Three-phase input 340...460V_{AC} 50/60Hz**
- **High efficiency up to 95.5%**
- **Output power ratings: 3.3kW, 5kW, 6.6kW, 10kW, 15kW Expandable up to 0...150kW**
- **Output voltages: 0...40V up to 0...1500V**
- **Output currents: 0...30A up to 0...510A Expandable up to 0...5100A**
- **Flexible, power regulated output stage**
- **Overvoltage protection (OVP)**
- **Overtemperature protection (OT)**
- **Graphical display with menus**
- **Analogue interface with many functions**
  - **U / I / P programmable via 0...10V or 0...5V**
  - **U / I monitoring via 0...10V or 0...5V**
- **Redundancy (from 10kW)**
- **Remote sense with automatic detection**
- **19“ rack mount housing in 3U**
- **Alarm management**
- **Integrated function manager**
- **Memory bank for user profiles**
- **Temperature controlled fans for cooling**
- **40V models according to low voltage directive**
- **Various options**

概要

EA-PSI 8000 3U 系列是一款由微处理器控制的高效实验室电源，其标准型号配备多种功能和特征。用户交互式菜单导航功能，让用户使用起来更方便、有效。

可对用户和进程文档进行编辑、存储，以及再次上载，从而改善重复测试或其它应用。

根据客户需求，可配置高达 150kW 和 42U 的模组机柜。

General

The microprocessor controlled high efficiency laboratory power supplies of series EA-PSI 8000 3U offer multiple functions and features in their standard version. User-friendly, interactive menu navigation makes the use of this equipment remarkably easy and most effective.

User and process profiles can be edited, saved and archived so that the reproducibility of a test or other application is improved.

Cabinets with up to 150kW and 42U can be configured to meet user specifications.

EA-PSI 8000 3U 3.3KW - 150KW
高效直流电源 / HIGH EFFICIENCY DC POWER SUPPLIES

功率
本系列所有产品输出功率灵活变化，在低电流时输出更高电压，或在低电压时输出更大电流，都由最大额定输出功率来限制。

因此一台该仪器能涵盖大范围的应用领域。

输入
本系列所有型号都采用主动式**PFC**功率因数校正线路，专为在340V至460V AC多相供电条件下操作而设计。而且，根据客户需求，可定制15kW型号或用其组建的机柜组合，适合于588...796V（加上中心点）范围内的工业电网输入电压下操作。

直流输出
本系列有多款不同型号，可选择0...40V和0...1500V输出电压，0...40A和0...510A输出电流，3.3kW至15kW完全可调的输出功率的型号。输出端位于产品后板。

过压保护 (OVP)
为保护连接负载，可设定一过压保护极限值(OVP)。

若输出电压超过定义极限，输出被关断，产品发出声频报警信号，显示器也发送一个状态信号。

报警管理系统
为监控正确的输出电压和电流，可定义上、下限。

若偏差超过该调节极限，应用设备将会出现下面三种可能性反应：
- 只显示信号；即使错误仍存在，也不影响输出。
- 警告一直持续，消除错误后必须确认警告信息。
- 报警会暂时关断输出。

报警和警告发出可听信号。

显示和控制键
易读型图形显示器清晰显示设定输出值，实际输出值，操作按钮的操作状态和当前功能。菜单清晰指引用户查阅所有必要信息和调节值。

输出电压、电流和功率的设定值、实际值都显示于图形显示器上，还包括产品的运作状态，菜单指引和按钮当前功能，故用户能直观地操作本产品。

输出电压、电流和功率或可调内阻的调节，由两个旋钮完成。旋钮可在不同菜单下更改数值。为避免误操作，可锁定所有操作控制键。

远程感测端
远程感测输入端可直接连到负载设备，以补偿连线上的压降。如果输入端已接上负载，本电源会自动调整输出电压，以确保负载获得准确所需的电压值。

Power
All units are equipped with a flexible autoranging output stage. It provides a higher output voltage at lower output current, or a higher output current at lower output voltage, always limited to the maximum nominal output power.
Therefore, a wide range of applications can already be covered by the use of just one single unit.

Input
All models are provided with an active Power Factor Correction circuit and are designed for operation on multi-phase supply with 340V up to 460V AC. Alternatively, models with 15kW or cabinets built from it can be modified for industrial grid input 588...796V (plus central point) upon request.

DC output
Output voltages between 0...40V and 0...1500V, output currents between 0...40A and 0...510A and fully adjustable output power ratings between 3.3kW and 15kW are available. The output terminal is located in the rear panel.

Overvoltage protection (OVP)
Intended to protect connected loads, it is possible to define an overvoltage protection limit (OVP).
If the output voltage exceeds the defined limit, the output is shut-off and an acoustic warning signal will be given by the unit and also a status message signal in the display is available.

Alarm management
For monitoring the correct output voltage and output current, lower and upper limits can be defined.
If the deviation exceeds the adjusted limits, three possibilities are available as to how the appliance should react.
- Signals are displayed only, even if the fault is still active, without affecting to the output
- Warnings remain active and must be acknowledged after the fault is removed
- Alarms will shut off the output instantly in case the deviation exceeds the adjusted limits

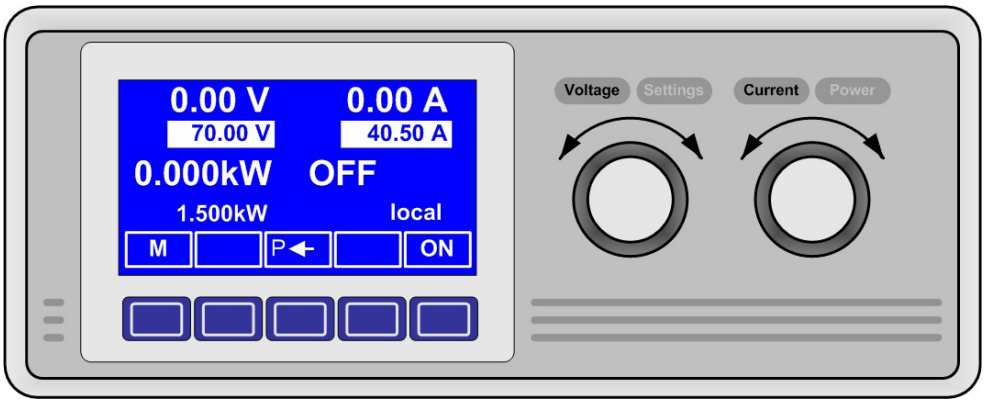
Alarms and warnings can be signalled audibly.

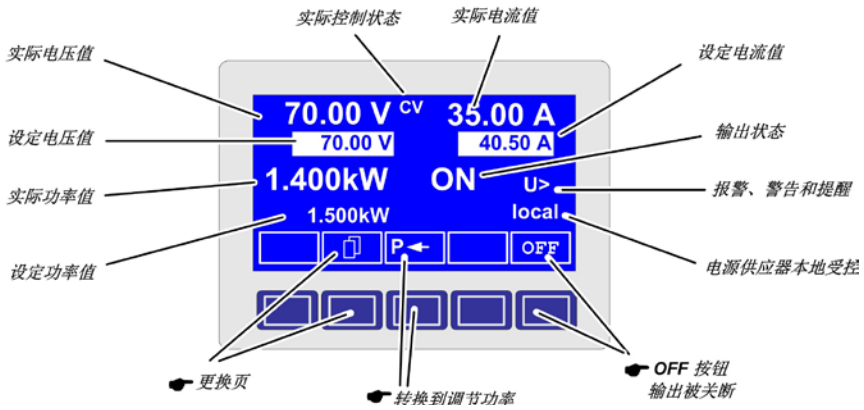
Display and controls
The easily readable graphic display shows a clear representation of set values, actual output values, the operational state and the current functions of the operation pushbuttons. For all necessary information and adjustments the user is guided by a clear menu.
Set values and actual values of output voltage, output current and output power are clearly represented on the graphic display. The operating state of the device and the current assignment of the pushbuttons are also shown on the display. So the user is able to operate the unit intuitively.
The adjustment of output voltage, output current and output power or internal resistance (optional) is realised by two rotary knobs. These knobs are used to change values in the different menus as well. To prevent unintentional operations, all operation controls can be locked.

Remote sense
The sense input can be connected directly to the load in order to compensate voltage drops along the power leads. If the sense input is connected to the load, the power supply will be adjusting the output voltage automatically to make sure the accurate required voltage is available at the load.

EA-PSI 8000 3U 3.3KW - 150KW
高效直流电源 / HIGH EFFICIENCY DC POWER SUPPLIES

显示器和控制面板 Display and control panel





函数管理器

函数由序列组成，通过控制面板或数字接口可对其进行控制。也可读取、重写和存档。

一个函数由最多5个序列组成，可按任意顺序排列，重复次数最多为5次。

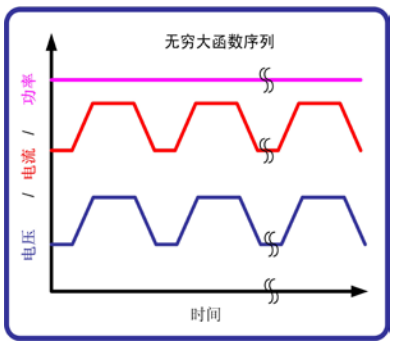
每个序列可设置最大功率或可选内阻，重复次数为一至254次，或者无穷大。

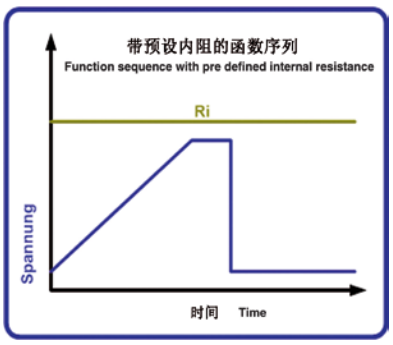
同样地，整个函数段的重复次数可以设置成一至254次，或无穷大。

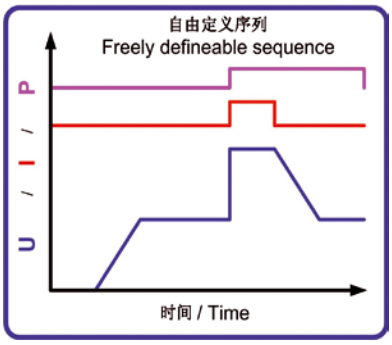
Function manager

Functions consist of sequences and can be modified via the control panel or the optional, digital interfaces. They can also be read, written and filed.
Up to five different sequences can be assigned to a function in any succession or be repeated up to five times.

For each sequence, the maximum power, or optionally the internal resistance, and a repetition value from once up to 254 times or endless can be configured.
As well, the repetition of a whole function can be configured from once up to 254 times or endless.







用户配置文档

利用控制面板可存储多达四种用户配置文档。

用户配置文档用来设置和存储用户指定的参数块。

User profiles

Via the control panel up to four different user profiles can be stored.
The user profiles are designed to set and save user specified parameter blocks.

EA-PSI 8000 3U 3.3KW - 150KW
高效直流电源 / HIGH EFFICIENCY DC POWER SUPPLIES

扩展功能
可按需求将本系列单机产品组成各种配置，并装于高至42U的机柜内，并联后获得一个总功率高达150kW的组合系统。也可参考第121.页。

冗余操作
本系列部分型号具有冗余操作。该操作指：它们具有多个功率级别，只要有一个功率级别维持操作，其他都可持续工作。
关于何种型号具有该功能请见下表的技术规格所示。

内置模拟接口
模拟接口位于产品后面板。它供有模拟输入脚，接上0V...10V或0V...5V电压，可设置0...100%的输出电压、电流（1kW或更大功率型号）。

模拟输出脚接上0V...10V或0V...5V电压，可监控输出电压和电流。此外，还有几个输入脚和输出脚，可用来控制和监控产品状态。

选购件
- 可利用适合RS232、CAN、USB、GPIB (IEEE)、Profibus或Ethernet/LAN的绝缘数字接口卡，经电脑控制产品。接口卡内含有免费Windows软件，具有控制和监控，记录数据和排序功能。也可参考63和64页。
- 带扩展功能的隔离模拟接口卡
- 内置有隔离模拟接口 (隔离电压可达1500V DC)
- 内阻调整
- 高速跃变（仅针对1kW以上产品），见118页
- 水制冷
- 588...796V AC输入电压，适合690V工业电网（仅针对15kW型号）

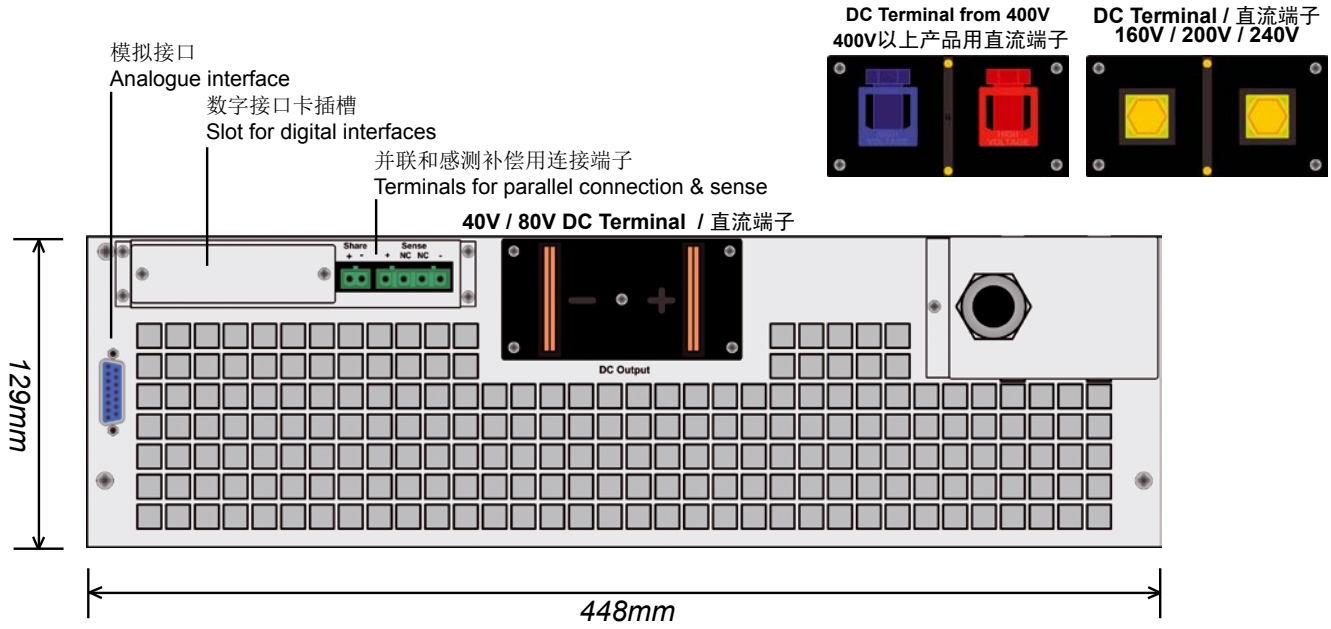
Expandability
Upon request, single units can be combined into various configurations in cabinets of up to 42U and up to 150kW total power in parallel connection. Also see page 121.

Redundancy
Some models have a redundancy function. It means, they have multiple power stages and will continue working if at least one power stage remains operable. See technical specfications table below for which models include this feature.

Built-in analogue Interface
The analogue interface terminal is located on the rear of the device. It offers analogue inputs to set voltage, current and power (models from 1kW) from 0...100% through control voltages of 0V...10V or 0V...5V.
To monitor the output voltage and current, there are analogue outputs with voltage ranges of 0V...10V or 0V...5V. Also, several inputs and outputs are available for controlling and monitoring the device status.

Options
- Isolated digital interface cards for RS232, CAN, USB, GPIB (IEEE), Profibus or Ethernet/LAN to control the device by PC. Included with the interface cards is a free Windows software which provides control and monitoring, data logging and sequences. Also see pages 63 and 64.
- Isolated analogue interface card with extended features
- Built-in, isolated analogue interface (up to 1500V DC)
- Internal resistance regulation
- High speed ramping (models from 1kW), see page 118
- Water cooling
- Input with 588...796V AC for industrial 690V grids (15kW models only)

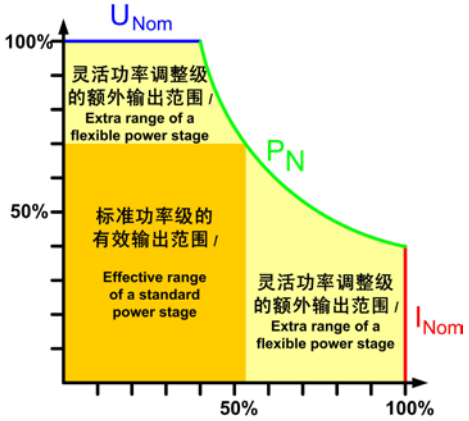
后板图 3.3kW - 15kW Rear view



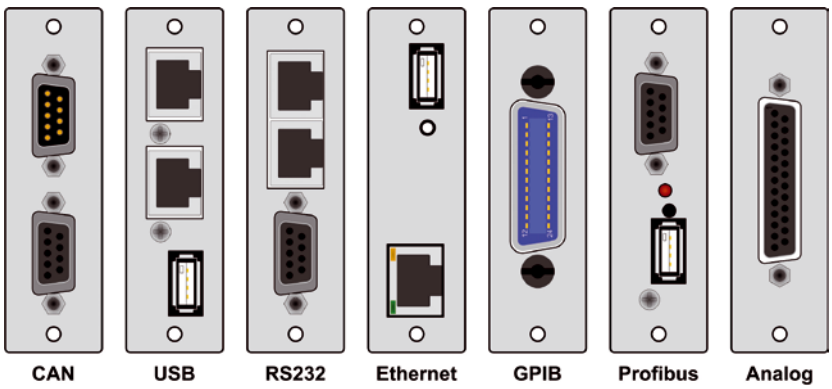
EA-PSI 8000 3U 3.3KW - 150KW
高效直流电源 / HIGH EFFICIENCY DC POWER SUPPLIES

技术参数	Technical Data	EA-PSI 8000 3U
输入	**Input**	
-标准电压	-Voltage standard	340...460V AC
-可选电压	-Voltage optional	588...796V AC + MP (仅针对15kW-型号 / 15kW models only)
-频率	-Frequency	45...65Hz
-功率因数	-Power factor	>0.99
输出：电压	**Output: Voltage**	
-型号	-Type	直流 / DC
-精确度	-Accuracy	<0.2%
-负载0-100% 时的稳定度	-Stability at 0-100% load	<0.05%
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.02%
-负载从10%-100%调整需时	-Regulation 10-100% load	<2ms
-负载从10-90%的转换速率	-Slew rate 10-90%	最长30ms
-过压保护	-Overvoltage protection	可调，范围为 0...110% U_{Nom} / adjustable, 0...110% U_{Nom}
输出：电流	**Output: Current**	
-精确度	-Accuracy	<0.2%
-负载0-100% Δ U_A时的稳定度	-Stability at 0-100% ΔU_{OUT}	<0.15%
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.05%
输出：电源	**Output: Power**	
-精确度	-Accuracy	
过压类别	**Overvoltage category**	2
过热保护	**Thermal protection**	输出关闭 / Shutdown of the output
隔离耐压	**Isolation**	
-输入对输出	-Input to output	4200V DC
-输出对外壳	-Output to enclosure	请看下页表格 / see tables
污染等级	**Pollution degree**	2
保护级别	**Protection class**	1
模拟编程	**Analogue programming**	
-输入范围	-Input range	0...5V 或 / or 0...10V (可转换 / switchable)
-U / I 的精确度	-Accuracy U / I	<0.2%
串联	**Series operation**	最大 600V
-主-从	-Master-Slave	无 / no
并联	**Parallel operation**	不限 / no limit
-主-从	-Master-Slave	有，经共享总线端可操作多至10台产品 / yes, via Share bus, up to 10 units
安全标准	**Standards**	EN 60950, EN 61326, EN 55022 级别 A / Class A
制冷方式	**Cooling**	风扇 / Fan / Fan
工作温度	**Operation temperature**	0...50°C
储存温度	**Storage temperature**	-20...70°C
相对湿度	**Humidity**	<80%
尺寸 * (W H D)	**Dimensions * (W H D)**	19“ 3U 595mm
使用高度	**Operation altitude**	<2000m

* 仅为产品外壳尺寸，非整个外形尺寸 / Enclosure only, not overall



接口卡 / **Interface cards**



日期 / Date: 14.05.12

Elektro-Automatik

EA-PSI 8000 3U 3.3KW - 150KW
高效直流电源 / HIGH EFFICIENCY DC POWER SUPPLIES

技术参数	Technical Data	PSI 8040-170 3U	PSI 8080-170 3U	PSI 8200-70 3U	PSI 8500-30 3U	PSI 8040-340 3U
输出电压	**Output voltage**	0...40V	0...80V	0...200V	0...500V	0...40V
-纹波 BWL 20MHz	-Ripple BWL 20MHz	<100mV$_{PP}$ <10mV$_{RMS}$	<100mV$_{PP}$ <10mV$_{RMS}$	<200mV$_{PP}$ <25mV$_{RMS}$	<250mV$_{PP}$ <70mV$_{RMS}$	<150mV$_{PP}$ <10mV$_{RMS}$
-远程感测补偿电压	-Sense compensation	max. 2.5V	max. 2.5V	max. 6V	max. 10V	max. 2.5V
输出电流	**Output current**	0...170A	0...170A	0...70A	0...30A	0...340A
-纹波 BWL 20MHz	-Ripple BWL 20MHz	<528mA$_{PP}$ <106mA$_{RMS}$	<300mA$_{PP}$ <40mA$_{RMS}$	<44mA$_{PP}$ <11mA$_{RMS}$	<14mA$_{PP}$ <8mA$_{RMS}$	<600mA$_{PP}$ <80mA$_{RMS}$
输出功率	**Output power**	0...3300W	0...5000W	0...5000W	0...5000W	0...6600W
效率	**Efficiency**	93%	93%	95.5%	95.5%	93%
冗余操作	**Redundancy**	无 / no	无 / no	无 / no	无 / no	有 / yes
输出对外壳的耐压	**Isolation output to enclosure**	500V	500V	500V	1000V	500V
重量 *	**Weight ***	19.8kg	19.8kg	19.8kg	19.8kg	25.5kg
产品编号	**Article No.**	09230445	09230430	09230440	09230435	09230446

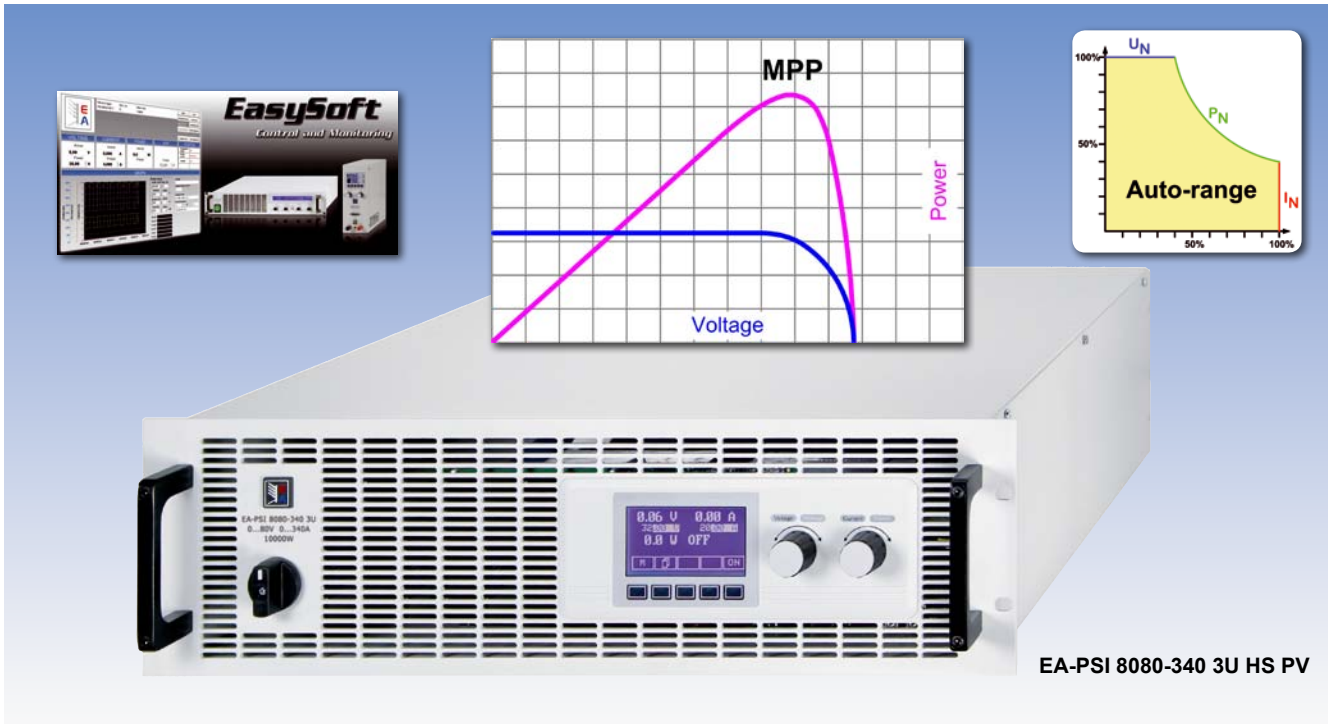
技术参数	Technical Data	PSI 8040-510 3U	PSI 8080-340 3U	PSI 8160-170 3U	PSI 8200-140 3U	PSI 8400-70 3U
输出电压	**Output voltage (DC)**	0...40V	0...80V	0...160V	0...200V	0...400V
-纹波 BWL 20MHz	-Ripple BWL 20MHz	<150mV$_{PP}$ <10mV$_{RMS}$	<150mV$_{PP}$ <10mV$_{RMS}$	<300mV$_{PP}$ <30mV$_{RMS}$	<200mV$_{PP}$ <25mV$_{RMS}$	<300mV$_{PP}$ <40mV$_{RMS}$
-远程感测补偿电压	-Sense compensation	max. 2.5V	max. 2.5V	max. 5V	max. 6V	max. 12V
输出电流	**Output current**	0...510A	0...340A	0...170A	0...140A	0...70A
-纹波 BWL 20MHz	-Ripple BWL 20MHz	<900mA$_{PP}$ <120mA$_{RMS}$	<600mA$_{PP}$ <80mA$_{RMS}$	<300mA$_{PP}$ <60mA$_{RMS}$	<89mA$_{PP}$ <22mA$_{RMS}$	<33mA$_{PP}$ <9mA$_{RMS}$
输出功率	**Output power**	0...10000W	0...10000W	0...10000W	0...10000W	0...10000W
效率	**Efficiency**	93%	93%	93%	95.2%	95.2%
冗余操作	**Redundancy**	有 / yes	有 / yes	无 / no	有 / yes	无 / no
输出对外壳的耐压	**Isolation output to enclosure**	500V	500V	500V	500V	900V
重量 *	**Weight ***	25.5kg	25.5kg	25.5kg	25.5kg	25.5kg
产品编号	**Article No.**	09230447	09230431	09230433	09230441	09230443

技术参数	Technical Data	PSI 8500-60 3U	PSI 81000-30 3U	PSI 8080-510 3U	PSI 8200-210 3U	PSI 8240-170 3U
输出电压 **(DC)**	**Output voltage (DC)**	0...500V	0...1000V	0...80V	0...200V	0...240V
-纹波 BWL 20MHz	-Ripple BWL 20MHz	<300mV$_{PP}$ <70mV$_{RMS}$	<800mV$_{PP}$ <200mV$_{RMS}$	<150mV$_{PP}$ <10mV$_{RMS}$	<250mV$_{PP}$ <25mV$_{RMS}$	<500mV$_{PP}$ <20mV$_{RMS}$
-远程感测补偿电压	-Sense regulation	max. 10V	max. 20V	max. 2.5V	max. 6V	max. 7.5V
输出电流	**Output current**	0...60A	0...30A	0...510A	0...210A	0...170A
-纹波 BWL 20MHz	-Ripple BWL 20MHz	<33mA$_{PP}$ <16mA$_{RMS}$	<22mA$_{PP}$ <11mA$_{RMS}$	<900mA$_{PP}$ <120mA$_{RMS}$	<167mA$_{PP}$ <33mA$_{RMS}$	<333mA$_{PP}$ <27mA$_{RMS}$
输出功率	**Output power**	0...10000W	0...10000W	0...15000W	0...15000W	0...15000W
效率	**Efficiency**	95.5%	95.5%	93%	95.2%	93%
冗余操作	**Redundancy**	有 / yes	无 / no	有 / yes	有 / yes	无 / no
输出对外壳的耐压	**Isolation output to enclosure**	1000V	1500V	500V	500V	500V
重量 *	**Weight ***	25.5kg	25.5kg	33kg	33kg	33kg
产品编号	**Article No.**	09230436	09230438	09230432	09230442	09230434

技术参数	Technical Data	PSI 8500-90 3U	PSI 8600-70 3U	PSI 81500-30 3U
输出电压	**Output voltage**	0...500V	0...600V	0...1500V
-纹波 BWL 20MHz	-Ripple BWL 20MHz	<300mV$_{PP}$ <70mV$_{RMS}$	<400mV$_{PP}$ <80mV$_{RMS}$	<1000mV$_{PP}$ <350mV$_{RMS}$
-远程感测补偿电压	-Sense regulation	max. 10V	max. 18V	max. 30V
输出电流	**Output current**	0...90A	0...70A	0...30A
-纹波 BWL 20MHz	-Ripple BWL 20MHz	<50mA$_{PP}$ <23mA$_{RMS}$	<30mA$_{PP}$ <12mA$_{RMS}$	<19mA$_{PP}$ <13mA$_{RMS}$
输出功率	**Output power**	0...15000W	0...15000W	0...15000W
效率	**Efficiency**	95.5%	95.2%	95.5%
冗余操作	**Redundancy**	有 / yes	无 / no	无 / no
输出对外壳的耐压	**Isolation output to enclosure**	1000V	1000V	2000V
重量 *	**Weight ***	33kg	33kg	33kg
产品编号	**Article No.**	09230437	09230444	09230439

* 仅针对本系列标准型号，带选项功能之型号重量会有变化 / of standard version, models with options may vary

EA-PSI 8000 3U HS PV 10KW & 15KW
高效率光伏直流电源 / HIGH EFFICIENCY DC POWER SUPPLIES FOR PHOTOVOLTAICS



EA-PSI 8080-340 3U HS PV

- 适用于太阳能PV逆变器老化测试
- 模拟太阳能电池板特性
- 三相输入340...460V_{AC} 50/60Hz
- 效率高达95.5%
- 输出功率有：10kW 或 15kW
  还可扩展至 0...150kW
- 输出电压：0...600V, 0...1000V, 0...1500V
- 输出电流：0...30A , 0...70A
  还可扩展至0...700A
- 灵活的功率调整输出
- 有过压保护（OVP）
- 有过温保护（OT）
- 带菜单的图形显示器
- 隔离模拟接口
  - 通过 0...10V或0...5V电压可对U/I/P编程
  - 通过 0...10V或0...5V电压可监控U/I
- 冗余操作
- 可自动检测的远程感测端
- 报警管理系统
- 内置HS选项功能（高速，快速上升/下降）
- 内置PV选项功能（光伏模拟）
- 多款可选数字接口

- **For solar PV inverter burn-in tests**
- **Simulates solar panel characteristics**
- **Three-phase input 340...460V_{AC} 50/60Hz**
- **High efficiency up to 95.5%**
- **Output power ratings: 0...10kW or 0...15kW**
  Expandable up to 0...150kW
- **Output voltages: 0...600V, 0...1000V, 0...1500V**
- **Output currents: 0...30A, 0...70A**
  Expandable up to 0...700A
- **Flexible, power regulated output stage**
- **Overvoltage protection (OVP)**
- **Overtemperature protection (OT)**
- **Graphical display with menus**
- **Isolated analogue interface**
  - **U / I / P programmable via 0...10V or 0...5V**
  - **U / I monitoring via 0...10V or 0...5V**
- **Redundancy**
- **Remote sense with automatic detection**
- **Alarm management**
- **Built-in option HS (High speed, fast ramp up/down)**
- **Built-in option PV (Photovoltaics)**
- **Optional digital interfaces**

概要

EA-PSI 8000 3U HS PV系列是一款由微处理器控制的, 从EA-PSI 8000 3U系列中选出的高效实验室电源。他们具有标准型号的所有功能和特征，外加内置高速（HS）和光伏（PV）选项。这些选项功能使产品能模拟太阳能电池板的特性，从而应用于工业领域的太阳能逆变器的测试。
用户交互式菜单导航功能，让用户使用起来更方便、有效。

根据客户需求，可配置高达150kW和42U高的模组机柜。

General

The microprocessor controlled high efficiency laboratory power supplies of series EA-PSI 8000 3U HS PV are a variation of selected models of series EA-PSI 8000 3U. They include all features of the standard models, plus built-in high speed (HS) and photovoltaics (PV) options. These options enable the device to simulate the characteristics of a solar panel, which can be used for solar inverter tests in the industry.

Cabinets with up to 150kW and 42U can be configured to meet user specifications.

EA-PSI 8000 3U HS PV 10KW & 15KW
高效率光伏直流电源 / HIGH EFFICIENCY DC POWER SUPPLIES FOR PHOTOVOLTAICS

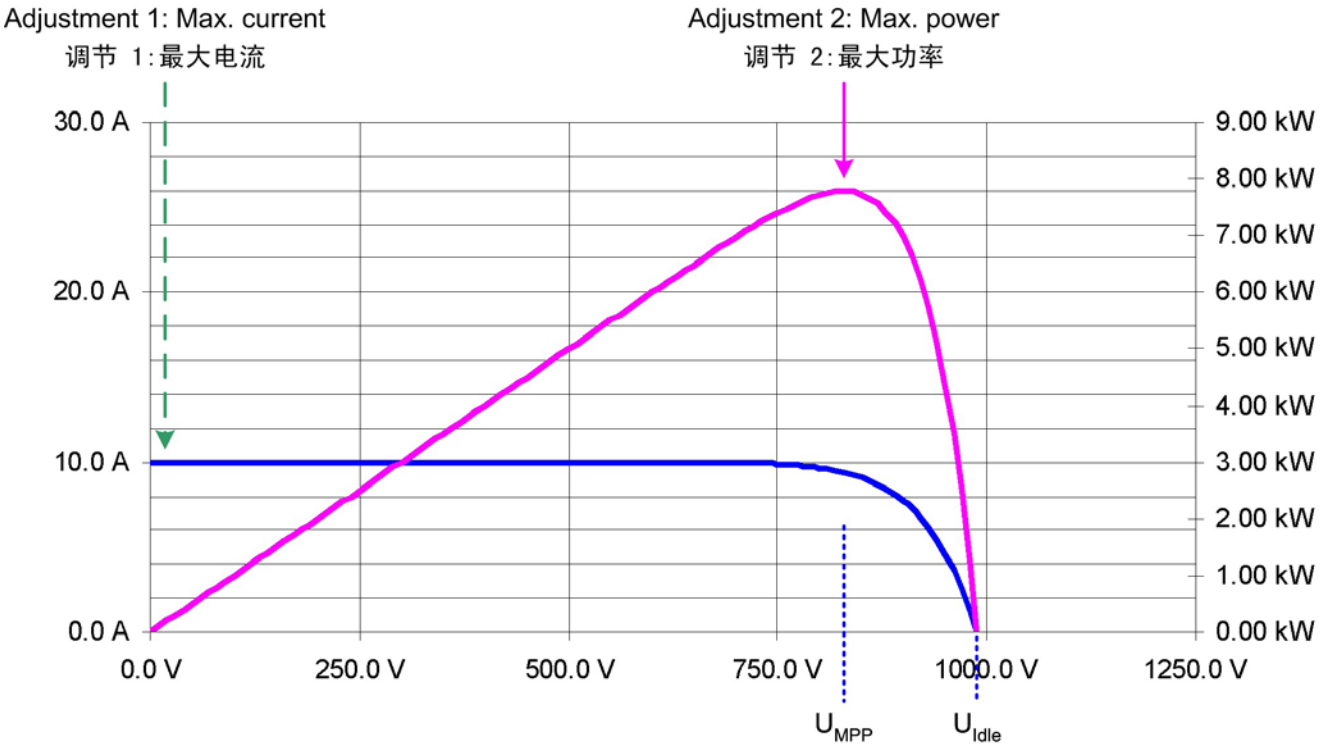
太阳能电池板的模拟
内置PV功能可模拟标准太阳能电池板的功率和电压特性曲线，通过可调输出电流来控制不同的光照条件。操作非常简便。用户仅需在电源上调节模拟太阳能电池板的典型规格参数即可，如最大输出功率（MPP），空载电压与短路电流，打开直流输出，即启动模拟操作。将太阳能逆变器连到电源上后，逆变器会在形成的功率曲线上寻找最大功率点（MPP）。

还能通过一工具（Excel表）预先计算期望的电压与功率曲线，该工具随同产品文件将存储于CD光盘上。

应用领域
此类特殊的电源主要应用于工业领域太阳能逆变器的测试。可用它来执行逆变器的老化和功能测试，能模拟多种不同电压和功率范围的太阳能电池板。

Solar panel simulation
The built-in PV feature reproduces the characteristics curve of power and voltage of a standard solar panel. Different light situations are simulated by an adjustable output current. The handling is very easy. The user only has to adjust the typical specifications of the simulated solar panel on the power supply, such as max. output power (MPP), idle voltage and short-circuit current and with the DC output switched on, the simulation starts. With the solar inverter connected to the power supply, the inverter can find the maximum power point (MPP) in the resulting power curve.
The expected voltage and power curve can be precalculated by a tool (Excel sheet), which is provided on CD with the device documentation.

Application areas
Main application for this type of special power supply is the test of industrial solar inverters. The device can be used to run burn-in and functionality tests of the inverters, covering a wide range of solar panel type by a large voltage and power range.



举例：1500V型号的曲线图（设定值为：10A，8kW和1000V）
Example curve of the 1500V model with 10A, 8kW and 1000V settings

功率
本系列所有产品输出功率灵活变化，可在低电流时输出更高电压，或在低电压时输出更大电流，都由最大额定输出功率来限制。

因此一台该仪器能涵盖大范围的应用领域。

输入
本系列所有型号都采用主动式**PFC**功率因数校正线路，专为在340V至460V AC多相供电条件下操作而设计。而且根据客户需求，可定制15kW型号或用其组建的机柜组合，适合于588...796V（加上中心点）范围内的工业电网输入电压下操作。

Power
All units are equipped with a flexible autoranging output stage. It provides a higher output voltage at lower output current, or a higher output current at lower output voltage, always limited to the maximum nominal output power.
Therefore, a wide range of applications can already be covered by the use of just one single unit.

Input
All models are provided with an active Power Factor Correction circuit and are designed for operation on multi-phase supply with 340V up to 460V AC. Alternatively, models with 15kW or cabinets built from it can be modified for industrial grid input 588...796V (plus central point) upon request.

EA-PSI 8000 3U HS PV 10KW & 15KW
高效率光伏直流电源 / HIGH EFFICIENCY DC POWER SUPPLIES FOR PHOTOVOLTAICS

直流输出
本系列有多款不同型号，可选择0...600V，0...1000V 和0...1500V输出电压，0...30A和0...70A输出电流，10kW或15kW完全可调的输出功率的型号。输出端位于产品后板。

过压保护 (OVP)
为保护连接负载，可设定一过压保护极限值(OVP)。

若输出电压超过定义极限，输出被关断，产品发出声频报警信号，显示器也发出一状态信号。

扩展功能
可按需求将本系列单机产品组成各种配置，并装于高达42U的机柜内，并联后获得一个总功率高达150kW的组合系统。也可参考第121页。

内置隔离模拟接口
内置模拟接口位于产品后面板，隔离电压高达1500V DC。故即使在其直流输出端连接无变压器的太阳能逆变器也可操作。

该接口上有多个模拟输入脚，接上0V...10V或0V...5V电压，可设置0...100%的输出电压、电流和功率。

模拟输出脚接上0V...10V或0V...5V电压，可监控输出电压和电流。此外，还有几个输入脚和输出脚，可用来控制和监控产品状态。

选购件
- 可利用适合RS232、CAN、USB、GPIB (IEEE)或Ethernet/LAN的绝缘数字接口卡，经电脑控制产品。接口卡内含有免费Windows软件，具有控制和监控，记录数据和排序功能。也可参考63和64页。
- 带扩展特性的隔离模拟接口卡

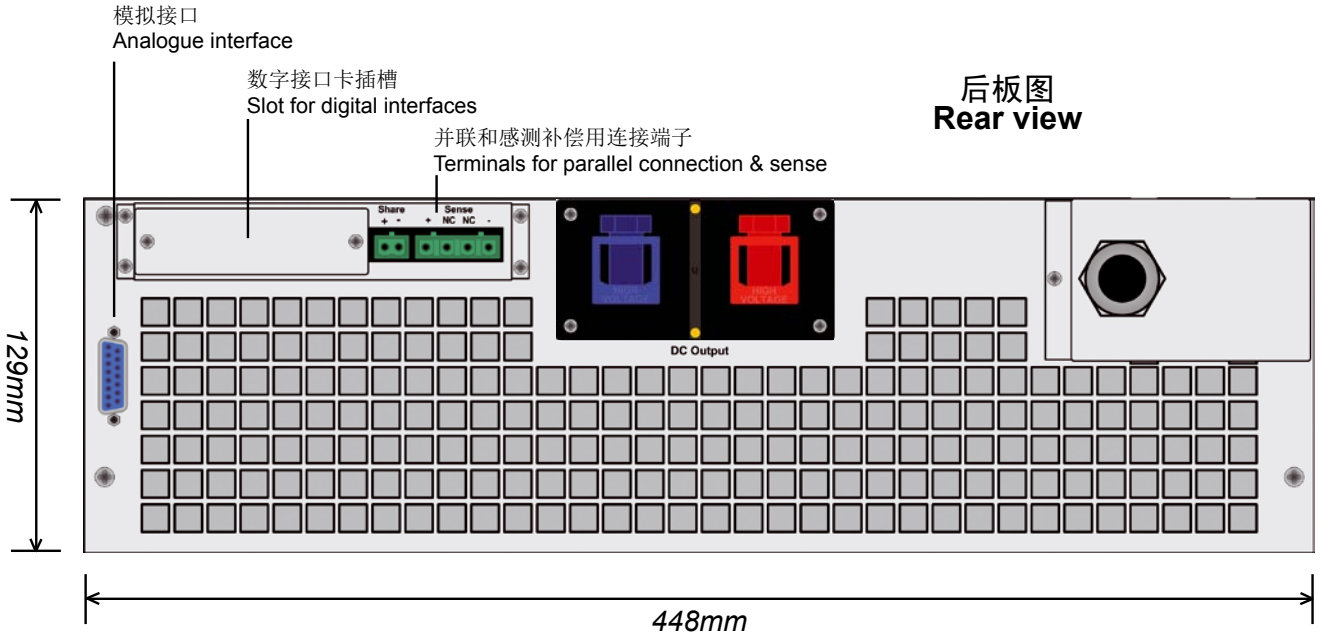
DC output
Output voltages of 0...600V, 0...1000V and 0...1500V, output currents of 0...30A or 0...70A and fully adjustable output power ratings 10kW or 15kW are available. The output terminal is located in the rear panel.

Overvoltage protection (OVP)
Intended to protect connected loads, it is possible to define an overvoltage protection limit (OVP).
If the output voltage exceeds the defined limit, the output is shut-off and an acoustic warning signal will be given by the unit and also a status message signal in the display is available.

Expandability
Upon request, single units can be combined into various configurations in cabinets of up to 42U and up to 150kW total power in parallel connection. Also see page 121.

Built-in, isolated analogue Interface
The built-in analogue interface terminal is located on the rear of the device and offers galvanic isolation of up to 1500V DC. This provides the possibility to even work with transformerless solar inverters on the DC output.
There are analogue inputs to set voltage, current and power from 0...100% by feeding control voltages of 0V...10V or 0V...5V.
To monitor the output voltage and current, there are analogue outputs with voltage ranges of 0V...10V or 0V...5V. Also, several inputs and outputs are available for controlling and monitoring the device status.

Options
- Isolated digital interface cards for RS232, CAN, USB, GPIB (IEEE) or Ethernet/LAN to control the device by PC. Included with the interface cards is a free Windows software which provides control and monitoring, data logging and sequences. Also see pages 63 and 64.
- Isolated analogue interface card with extended features



EA-PSI 8000 3U HS PV 10KW & 15KW
高效率光伏直流电源 / HIGH EFFICIENCY DC POWER SUPPLIES FOR PHOTOVOLTAICS

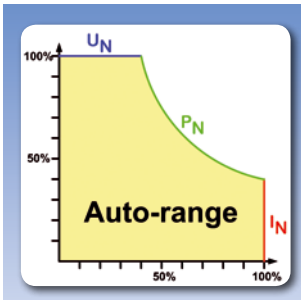
技术参数	Technical Data	EA-PSI 8000 3U HS PV
输入	**Input**	
-标准电压	-Voltage standard	340...460V AC
-可选电压	-Voltage optional	588...796V AC + MP (仅针对15kW型号 / 15kW models only)
-频率	-Frequency	45...65Hz
-功率因数	-Power factor	>0.99
输出：电压	**Output: Voltage**	
-类型	-Type	直流 / DC
-精确度	-Accuracy	<0.2%
-负载0-100% 时的稳定度	-Stability at 0-100% load	<0.05%
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.02%
-负载从10%-100%调整需时	-Regulation 10-100% load	<2ms
-负载从10-90%的转换速率	-Slew rate 10-90%	最长/max. 30ms
-过压保护	-Overvoltage protection	可调，范围为 0...110% U_{Nom} / adjustable, 0...110% U_{Nom}
输出：电流	**Output: Current**	
-精确度	-Accuracy	<0.2%
-负载0-100% Δ U_A时的稳定度	-Stability at 0-100% ΔU_{OUT}	<0.15%
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.05%
输出：功率	**Output: Power**	
-精确度	-Accuracy	<1%
过压类别	**Overvoltage category**	2
过热保护	**Thermal protection**	输出关闭 / Shutdown of the output
隔离耐压	**Isolation**	
-输入对输出	-Input to output	4200V DC
-输出对外壳	-Output to enclosure	见下表 / see tables
污染等级	**Pollution degree**	2
保护级别	**Protection class**	1
模拟接口	**Analogue interface**	
-耐压	-Isolation	max. 1500V DC
-输入范围	-Input range	0...5V 或 / or 0...10V (可转换 / switchable)
-U / I 的精确度	-Accuracy U / I	<0.2%
并联操作	**Parallel operation**	不限 / no limit
-主-从操作	-Master-Slave	有，经共享总线端可操作多至10台产品 / yes, via Share bus, up to 10 units
安全标准	**Standards**	EN 60950, EN 61326, EN 55022 级别 A / Class A
制冷方式	**Cooling**	风扇 / Fan
工作温度	**Operation temperature**	0...50°C
储存温度	**Storage temperature**	-20...70°C
相对湿度	**Humidity**	<80%
尺寸 * (W H D)	**Dimensions * (W H D)**	19“ 3U 595mm
使用高度	**Operation altitude**	<2000m

* 仅为产品外壳尺寸，非整个外形尺寸 / Enclosure only, not overall

技术参数	Technical Data	PSI 81000-30 3U HS PV	PSI 8600-70 3U HS PV	PSI 81500-30 3U HS PV
输出电压	**Output voltage**	0...1000V	0...600V	0...1500V
-纹波HF BWL 20MHz	-Ripple HF BWL 20MHz	<600mV_{PP}	<3.5V_{PP}	<1.5V_{PP}
-纹波NF BWL 300kHz	-Ripple NF BWL 300kHz	<60mV_{RMS}	<1.2V_{RMS}	<1V_{RMS}
-远程感测补偿电压	-Sense regulation	max. 20V	max. 18V	max. 30V
输出电流	**Output current**	0...30A	0...70A	0...30A
-纹波HF BWL 20MHz	-Ripple HF BWL 20MHz	<30mA_{PP}	<900mA_{PP}	<40mA_{PP}
-纹波NF BWL 300kHz	-Ripple NF BWL 300kHz	<8mA_{RMS}	<350mA_{RMS}	<40mA_{RMS}
输出功率	**Output power**	0...10000W	0...15000W	0...15000W
效率	**Efficiency**	95.5%	95.2%	95.5%
输出对外壳的耐压	**Isolation output to enclosure**	1500V	1000V	2000V
重量	**Weight**	25.5kg	33kg	33kg
产品编号	**Article No.**	09901438	09901444	09901439

Elektro-Automatik

EA-PS 9000 1500W - 9000W
实验室直流电源 / LABORATORY DC POWER SUPPLIES



EA-PS 9080-50 T

- 宽范围输入电压90...264V，带主动式PFC
- 效率高达 90%
- 输出功率：1500W至9000W
- 输出电压：0...80V 至 0...750V
- 输出电流：0...15A 至 0...300A
- 灵活的功率调整输出级
- 10圈电位器调节电压和电流
- 有过压保护（OVP）
- 有过温保护（OT）
- 3½数显屏显示电压和电流
- LED指示状态和提示
- 远程感测功能
- 多功能模拟接口
  - 通过 0...10V电压可对U / I /P 编程
  - 通过 0...10V电压可监控U / I
- 温控风扇制冷
- 有桌面式结构类型和2U至6U的19“类型
- 可选数字接口：
  - 带RS232端口的GPIB (IEEE)（内置）
  - Ethernet/LAN（内置）
  - CAN（内置）
  - USB（外置）

- **Wide input voltage range with active PFC**
- **High efficiency up to 90%**
- **Output power ratings: 1500W up to 9000W**
- **Output voltages: 0...80V up to 0...750V**
- **Output currents: 0...15A up to 0...300A**
- **Flexible, power regulated output stage**
- **Voltage and current adjustable via 10-turn potentiometer**
- **Overvoltage protection (OVP)**
- **Overtemperature protection (OT)**
- **3½ digit display for voltage and current**
- **Status indication via LEDs**
- **Remote sense**
- **Analogue interface with many functions**
  - **U / I / P programmable via 0...10V**
  - **U / I monitoring via 0...10V**
- **Temperature controlled fans for cooling**
- **Desktop model and 19“ models 2U up to 6U**
- **Optional, digital interfaces:**
  - **GPIB (IEEE) with RS232 (internal)**
  - **Ethernet/LAN (internal)**
  - **CAN (internal)**
  - **USB (external)**

概要

EA-PS 9000 系列是一款由微处理器控制，采用最新技术设计的实验室电源。它配备多种功能和特征，让用户使用起来更方便、有效。

本系列输出功率灵活变化，在低电流时输出更高的电压，或在低电压时输出更大的电流，总由最大额定输出功率来限制。见上面左图。

因此一台该仪器能涵盖广范围的应用领域。

输入

本系列所有型号都采用主动式PFC功率因数校正线路。另外，1.5kW以下的型号为宽范围输入电压，使产品在全世界范围内都适用。输出功率为3kW以上的产品可作两相和三相操作。

General

The state-of-the-art and thousandfold approved laboratory power supplies of the series EA-PS 9000 offer a wide variety of useful integrated functions and features, turning them into an extremely effective and highly comfortable tool for the user.
The units are equipped with a flexible, auto-ranging output stage which provides a higher output voltage at lower output current, or a higher output current at lower output voltage, always limited to the max. nominal output power. See figure to the left.
Therefore, a wide range of applications can already be covered by the use of just one single unit.

Input

All models feature an active PFC. Additionally, models up to 1.5kW have a wide input range which enables usage on worldwide mains supply. Models with power higher than 3kW are available for 2- or 3-phase operation.

EA-PS 9000 1500W - 9000W
实验室直流电源 / LABORATORY DC POWER SUPPLIES

EA-PS 9080-100

直流输出
本系列有多款不同型号，可选择0...80V和0...750V输出电压，0...15A和0...300A输出电流，1.5kW和9kW输出功率的型号。
桌面式产品的输出端位于前板，而19“型号则在产品后板。

若想从高电压快速跃变至低电压，需配耗散功率模块。

通过耗散功率模块对电源的内部滤波电容和连接负载的输入滤波电容放电，实现电压的快速变化。可参考119页的详细描述。

过压保护(OVP)
为保护连接负载，可设定一过压保护极限值(OVP)。

若输出电压超过调节极限值，输出被关断，LED灯和模拟接口发出一状态信号。

远程感测端
300V以下型号配有一远程感测输入端，可直接连到负载设备，以补偿连线上的压降。

显示和控制键
输出电压和电流清晰显示于3½ 数字显示器上。

操作状态用LED灯指示，简单、直观。

10圈电位器可调节电压、电流和过压保护OVP。

显示和控制面板
用“Value Fix“开关可选择产品输出固定电压。此时电流和电压调节用10圈电位器不工作，而内部电位器工作，从前板伸入螺丝刀可调节。
产品后板“System Bus”端子上有一感测输入端和主从接线输入端。
因此不用很费力，即可将本产品融入完整的系统内。

DC output
A variety of output voltages between 0...80V and 0...750V, output currents between 0...15A and 0...300A and output powers between 1.5kW and 9kW is available.
The output terminal of the desktop models is located on the front panel and the one of the 19“ models on the rear panel.
In case fast voltage steps from high to low are required, selected models can be equipped with a power sink module.
The fast voltage change is achieved by the capability of this power-sink module to discharge the internal filter capacitor of the power supply as well as the input filter capacitors of the equipment connected. See page 119 for details.

Overvoltage protection (OVP)
Intended to protect connected loads, it is possible to define an overvoltage protection limit (OVP).
If the output voltage exceeds the defined limit, the output is shut off and a status message signal via LED and via the analogue interface will be generated.

Remote sense
Devices up to 300V provide a sense input that can be connected directly to the load to compensate voltage drops along the high power leads.

Displays and controls
Output voltage and output current are clearly represented on 3½ figure displays.
The operation states of the equipment will be indicated by LEDs, simplifying operation for the user.
The adjustment of voltage, current and OVP is done by 10-turn potentiometers.

Display and control panel
The functionality of a fixed voltage unit is implemented by a “Value Fix“ switch. The 10-turn potentiometers for current and voltage are disabled and switched over to an internal trimmer which can be adjusted on the front panel with a screwdriver.
A „System Bus“ at the rear of the unit provides a remote sense input and inputs for master-slave wiring.
Thus the units can, with minor effort, be integrated into complete systems.

EA-PS 9000 1500W - 9000W
实验室直流电源 / LABORATORY DC POWER SUPPLIES

EA-PS 9080-200

输出值的预设
在不影响输出状态的条件下设置输出值，可采用预设功能。

通过此功能用户可预设输出电压、输出电流和过压保护值(OVP)。

模拟接口
塔式产品的模拟接口位于产品前面板，而 19“ 结构的则在产品后板。

此处有模拟接口输入脚，接上 0V...10V 或 0V...5V 电压，可设置 0...100% 的输出电压、电流和功率。

模拟输出脚接上 0V...10V 或 0V...5V 电压，可监控输出电压、电流。此外，还有几个输入脚和输出脚，可用来控制和监控产品状态。

750V 型号由于安全原因没有配备模拟接口。

选购件
- GPIB (IEEE，带RS232接口)，Ethernet/LAN或CAN用内置数字接口，总是位于产品后板。
- 利用外部USB接口控制器EA-UTA 12可连到模拟接口。于是可经USB接口用电脑来控制产品。也可参考62页。
-
- 两象限模块操作下使用的内置有源功率降额（见119页）
- 水冷系统
- 提手和斜立脚架（针对„T“ 型产品）

Presetting of output values
To set output values, without affecting the output condition, there is a preset function.
With this function the user can preset the values for the output voltage, output current and over voltage protection (OVP).

Analogue interface
The connector of the analogue interface is located on the front panel with the tower models and with the 19“ models it is on the rear panel of the device.
There are analogue inputs for the common voltage range 0V...10V available, in order to set output voltage, current and power from 0...100%.
To monitor output voltage and current, analogue outputs are available with the same voltage range 0V...10V. Furthermore, several inputs and outputs are available for controlling and monitoring the device status.
The 750V model is not equipped with an analogue interface because of safety reasons.

Options
- Built-in, digital interface for GPIB (IEEE with RS232), Ethernet/LAN or CAN, always located on the rear panel.
- External USB interface EA-UTA 12, for connection to the analogue interface. In this way, a device can be controlled via USB by a PC. Also see page 62.
- Internal, active power sink in two-quadrants operation (see page 119)
- Water cooling
- Carrying handle and tilt stand (for „T“ models)

Elektro-Automatik

EA-PS 9000 1500W - 9000W
实验室直流电源 / LABORATORY DC POWER SUPPLIES

EA-PS 9080-300

EA-PS 9080-100, 19“ 2U 型号后视图 / Rear view EA-PS 9080-100, 19“ 2U model

技术参数	Technical Data	EA-PS 9080-50 T	EA-PS 9080-50	EA-PS 9080-100	EA-PS 9080-200	EA-PS 9080-300
输入电压	**Input voltage**	90...264V	90...264V	180...264V	2x 180...264V	3x 180...264V
-频率	-Frequency	45...65Hz	45...65Hz	45...65Hz	45...65Hz	45...65Hz
-90...180V AC时功率降额	-Derating at 90...180V AC	降至 / to 1.2kW	降至 / to 1.2kW	-	-	-
-180...207V AC时功率降额	-Derating at 180...207V AC	-	-	降至 / to 2.5kW	降至 / to 5kW	降至 / to 7.5kW
-功率因数	-Power factor	>0.99	>0.99	>0.99	>0.99	>0.99
输出电压	**Output voltage**	0...80V	0...80V	0...80V	0...80V	0...80V
-负载0-100% 时的稳定度	-Stability at 0-100% load	<0.05%	<0.05%	<0.05%	<0.05%	<0.05%
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.02%	<0.02%	<0.02%	<0.02%	<0.02%
-纹波 BWL 20MHz	-Ripple BWL 20MHz	<150mV$_{PP}$ <2mV$_{RMS}$	<150mV$_{PP}$ <2mV$_{RMS}$	<150mV$_{PP}$ <2mV$_{RMS}$	<150mV$_{PP}$ <5mV$_{RMS}$	<150mV$_{PP}$ <5mV$_{RMS}$
-负载从10%-100%调整需时	-Regulation 10-100% load	<2ms	<2ms	<2ms	<2ms	<2ms
-OVP过压保护调节范围	-OVP adjustment	0...88V	0...88V	0...88V	0...88V	0...88V
输出电流	**Output current**	0...50A	0...40A	0...100A	0...200A	0...300A
-0-100% Δ U_{OUT}时的稳定度	-Stability at 0-100% ΔU_{OUT}	<0.15%	<0.15%	<0.15%	<0.15%	<0.15%
-±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.05%	<0.05%	<0.05%	<0.05%	<0.05%
-纹波 BWL 20MHz	-Ripple BWL 20MHz	<250mA$_{PP}$ <6mA$_{RMS}$	<250mA$_{PP}$ <6mA$_{RMS}$	<500mA$_{PP}$ <35mA$_{RMS}$	<650mA$_{PP}$ <35mA$_{RMS}$	<950mA$_{PP}$ <80mA$_{RMS}$
输出功率	**Output power**	1500W	1500W	3000W	6000W	9000W
模拟编程	**Analogue programming**	0...10V				
安全标准	**Standards**	EN 60950, EN 61326, EN 55022 级别 B / Class B				
制冷方式	**Cooling**	风扇 / Fan				
工作温度	**Operation temperature**	0...40°C				
储存温度	**Storage temperature**	-20°C...70°C				
相对湿度	**Relative humidity**	0...95%,无凝露 / non-condensing				
尺寸 ** (W H D)	**Dimensions ** (W H D)**	330x118x388mm	19“ 2U 380mm	19“ 2U 460mm	19“ 4U 460mm	19“ 6U 460mm
重量 *	**Weight ***	10.5kg	13.5kg	16.5kg	26.5kg	36.5kg
产品编号	**Article No.**	15100520	15100768	15100770	15100771	15100772

* 仅针对本系列标准型号，带选项功能之型号重量会有变化 / of standard version, models with options may vary

** 仅为产品外壳尺寸，非整个外形尺寸 / Enclosure only, not overall

日期 / Date: 14.05.12

EA-PS 9000 1500W - 9000W
实验室直流电源 / LABORATORY DC POWER SUPPLIES

技术参数	Technical Data	EA-PS 9300-15 T	EA-PS 9300-15	EA-PS 9300-25	EA-PS 9300-50	EA-PS 9300-75
输入电压	**Input voltage**	90...264V	90...264V	180...264V	2x 180...264V	3x 180...264V
-频率	-Frequency	45...65Hz	45...65Hz	45...65Hz	45...65Hz	45...65Hz
-90...180V AC时功率降额	-Derating at 90...180V AC	降至 / to 1.2kW	降至 / to 1.2kW	-	-	-
-180...207V AC时功率降额	-Derating at 180...207V AC	-	-	降至 / to 2.5kW	降至 / to 5kW	降至 / to 7.5kW
-功率因数	-Power factor	>0.99	>0.99	>0.99	>0.99	>0.99
输出电压	**Output voltage**	0...300V	0...300V	0...300V	0...300V	0...300V
-负载0-100% 时的稳定度	-Stability at 0-100% load	<0.05%	<0.05%	<0.05%	<0.05%	<0.05%
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.02%	<0.02%	<0.02%	<0.02%	<0.02%
-纹波 BWL 20MHz	-Ripple BWL 20MHz	<100mV$_{PP}$ <7mV$_{RMS}$	<100mV$_{PP}$ <7mV$_{RMS}$	<50mV$_{PP}$ <9mV$_{RMS}$	<45mV$_{PP}$ <9mV$_{RMS}$	<45mV$_{PP}$ <9mV$_{RMS}$
-负载从10%-100%调整需时	-Regulation 10-100% load	<2ms	<2ms	<2ms	<2ms	<2ms
-OVP过压保护调节范围	-OVP adjustment	0...330V	0...330V	0...330V	0...330V	0...330V
输出电流	**Output current**	0...15A	0...15A	0...25A	0...50A	0...75A
-0-100% Δ U_{OUT}时的稳定度	-Stability at 0-100% ΔU_{OUT}	<0.15%	<0.15%	<0.15%	<0.15%	<0.15%
-±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.05%	<0.05%	<0.05%	<0.05%	<0.05%
-纹波 BWL 20MHz	-Ripple BWL 20MHz	<15mA$_{PP}$ <2mA$_{RMS}$	<15mA$_{PP}$ <2mA$_{RMS}$	<15mA$_{PP}$ <2mA$_{RMS}$	<20mA$_{PP}$ <5mA$_{RMS}$	<30mA$_{PP}$ <8mA$_{RMS}$
输出功率	**Output power**	1500W	1500W	3000W	6000W	9000W
模拟编程	**Analogue programming**	0...10V				
安全标准	**Standards**	EN 60950, EN 61326, EN 55022 级别 B / Class B				
制冷方式	**Cooling**	风扇 / Fan				
工作温度	**Operation temperature**	0...40°C				
储存温度	**Storage temperature**	-20°C...70°C				
相对湿度	**Relative humidity**	0...95%, 无凝露 / non-condensing				
尺寸 ** (W H D)	**Dimensions ** (W H D)**	330x118x388mm	19“ 2U 380mm	19“ 2U 460mm	19“ 4U 460mm	19“ 6U 460mm
重量 *	**Weight ***	10.5kg	13.5kg	16.5kg	26.5kg	36.5kg
产品编号	**Article No.**	15100521	15100769	15100773	15100774	15100775

技术参数	Technical Data	EA-PS 9160-100	EA-PS 9240-100	EA-PS 9600-15	EA-PS 9600-25	EA-PS 9750-25
输入电压	**Input voltage**	2x 180...264V	3x 180...264V	180...264V	2x 180...264V	3x 180...264V
-频率	-Frequency	45...65Hz	45...65Hz	45...65Hz	45...65Hz	45...65Hz
-180...207V AC时功率降额	-Derating at 180...207V AC	降至 / to 5kW	降至 / to 7.5kW	降至 / to 2.5kW	降至 / to 5kW	降至 / to 7.5kW
-功率因数	-Power factor	>0.99	>0.99	>0.99	>0.99	>0.99
输出电压	**Output voltage**	0...160V	0...240V	0...600V	0...600V	0...750V
-负载0-100% 时的稳定度	-Stability at 0-100% load	<0.05%	<0.05%	<0.05%	<0.05%	<0.05%
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.02%	<0.02%	<0.02%	<0.02%	<0.02%
-纹波 BWL 20MHz	-Ripple BWL 20MHz	<300mV$_{PP}$ <5mV$_{RMS}$	<300mV$_{PP}$ <6mV$_{RMS}$	<200mV$_{PP}$ <20mV$_{RMS}$	<200mV$_{PP}$ <20mV$_{RMS}$	<200mV$_{PP}$ <20mV$_{RMS}$
-负载从10%-100%调整需时	-Regulation 10-100% load	<2ms	<2ms	<2ms	<2ms	<2ms
-OVP过压保护调节范围	-OVP adjustment	0...176V	0...264V	0...660V	0...660V	0...825V
输出电流	**Output current**	0...100A	0...100A	0...15A	0...25A	0...25A
-0-100% Δ U_{OUT}时的稳定度	-Stability at 0-100% ΔU_{OUT}	<0.15%	<0.15%	<0.15%	<0.15%	<0.15%
-±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.05%	<0.05%	<0.05%	<0.05%	<0.05%
-纹波 BWL 20MHz	-Ripple BWL 20MHz	<600mA$_{PP}$ <35mA$_{RMS}$	<500mA$_{PP}$ <35mA$_{RMS}$	<15mA$_{PP}$ <3.5mA$_{RMS}$	<15mA$_{PP}$ <3.5mA$_{RMS}$	<15mA$_{PP}$ <3.5mA$_{RMS}$
输出功率	**Output power**	6000W	9000W	3000W	6000W	9000W
模拟编程	**Analogue programming**	0...10V				
安全标准	**Standards**	EN 60950, EN 61326, EN 55022 级别 B / Class B				
制冷方式	**Cooling**	风扇 / Fan				
工作温度	**Operation temperature**	0...40°C				
储存温度	**Storage temperature**	-20°C...70°C				
相对湿度	**Relative humidity**	0...95%, 无凝露 / non-condensing				
尺寸 ** (W H D)	**Dimensions ** (W H D)**	19“ 4U 460mm	19“ 6U 380mm	19“ 2U 460mm	19“ 4U 460mm	19“ 6U 460mm
重量 *	**Weight ***	26.5kg	36.5kg	16.5kg	26.5kg	36.5kg
产品编号	**Article No.**	15100782	15100783	15100784	15100776	15100777

* 仅针对本系列标准型号，带选项功能之型号重量会有变化 / of standard version, models with options may vary

** 仅为产品外壳尺寸，非整个外形尺寸 / Enclosure only, not overall

EA-PS 1501 T / FET-开关
通用电源 / UNIVERSAL POWER SUPPLY / FET SWITCH

EA-PS 1501 T

FET-开关 / FET Switch

EA-PS 1501 T
该通用电源为台式稳压电源，用可调电位器可调节0...100%范围内的电压和电流。适合给各种电子设备和电路供电，或当电池充电器用。出厂产品附有带EU插头的连接线，可当电源输入连接线用。

是业余爱好者，实验室，学校和教育培训机构的理想之选。

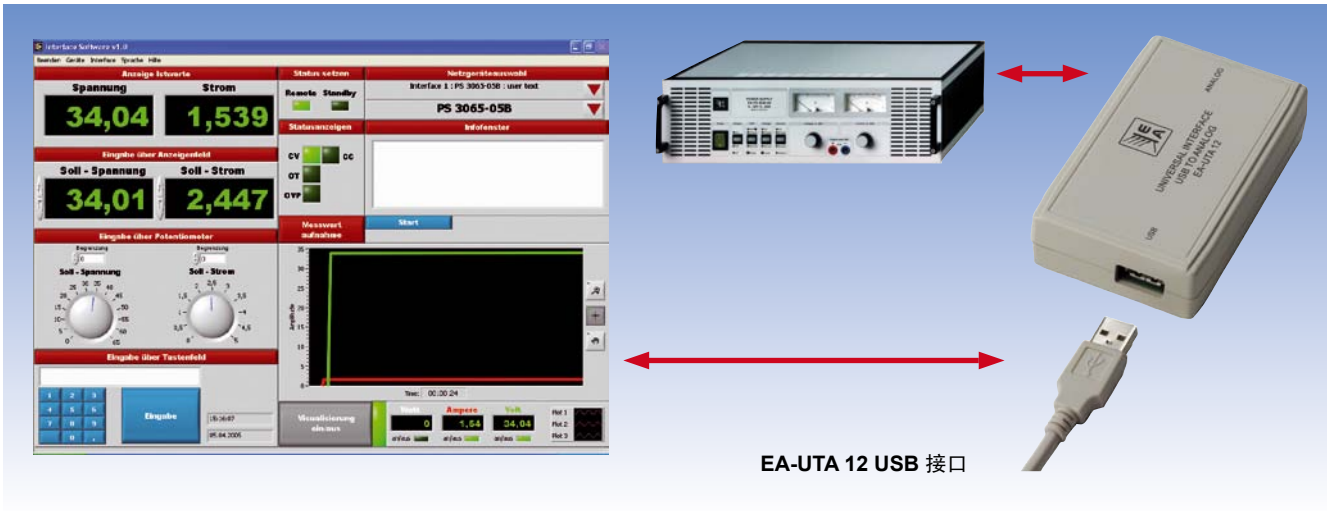
FET开关
本产品安装于19“外壳内，基于场效应三极管设计的大电流FET开关。可转换高达400A的电流，用外部控制器还可转换更大电流，且只消耗极低的功耗。此类开关适用于测试和生产车间，产生极快的方形跃变。通过9针D-Sub插座可控制该开关。

EA-PS 1501 T
This universal power supply is a stabilised bench power supply unit, which can be adjusted for voltage and current by potentiometers in the range 0...100%. It is suitable to feed various electronic equipment and circuits or can be used as battery charger. A mains cord with Euro plug is installed and serves as mains input.
It is ideally suited for use with hobby, laboratory, school and education purposes.

FET Switch
This device, designed in a 19“ enclosure, is a high-current FET switch based upon field-effect transistors. It is able to switch up to 400A and more by external control with extremely low power dissipation. Such a FET switch is used in testing or production environment, where it is required to generate ultrafast and rectangular ramping. Controlling the switch is done via a 9-pole D-Sub socket.

技术参数	Technical Data	PS 1501 T	FET开关 1	FET开关 2
输入电压	**Input voltage**	100...253V AC	230V AC	230V AC
-频率	-Frequency	50/60Hz	50Hz	50Hz
输出电压	**Output voltage**	15V	max. 60V DC	max. 100V DC
-调整范围	-Adjustment range	2.7...15V	-	-
-负载0-100% 时的稳定度	-Stability at 0-100% load	<20mV$_{RMS}$	-	-
-纹波 BWL 20MHz	-Ripple BWL 20MHz	<30mV$_{RMS}$	-	-
输出电流	**Output current**	1A	max. 300A DC	max. 300A DC
-可调极限	-Limitation adjustable	0,2...1A	-	-
-0-100% Δ U_{OUT}时的稳定度	-Stability at 0-100% ΔU_{OUT}	<5mA$_{RMS}$	-	-
-纹波 BWL 20MHz	-Ripple BWL 20MHz	<3mA$_{RMS}$	-	-
开关频率	**Switching frequency**	-	max. 3kHz	max. 3kHz
工作温度	**Operation temperature**	0...45°C	0...45°C	0...45°C
储存温度	**Storage temperature**	-20...70°C	-20...70°C	-20...70°C
尺寸 (WxHxD)	**Dimensions (WxHxD)**	77 x 66 x 112mm	19“ x 4U x 460mm	19“ x 4U x 460mm
重量	**Weight**	0.9kg		
产品编号	**Article No.**	38917204	33906179	33901179

EA-UTA 12
通用型USB转模拟接口适配器 / UNIVERSAL USB-TO-ANALOGUE INTERFACE



EA-UTA 12 USB 接口

- 通用型USB转模拟接口适配器
- 12位数的分辨率
- 安装简易，USB即插即用
- 无需外部供电
- 供配模拟接口的EA产品用
- 也适用其他生产商电源用
- 可监控状态信号
- 可设定控制信号
- 包装内含软件
- LabView™-驱动（VIs）
- 编程文档

- **Universal USB-to-Analogue Interface**
- **Resolution 12 Bit**
- **Simple installation, USB plug+play**
- **No external supply voltage required**
- **For EA devices with analogue interface**
- **Also for power supplies of other manufacturers**
- **Status signals monitorable**
- **Control signals settable**
- **Software included**
- **LabView™ drivers (VIs)**
- **Programming documentation**

概述
利用此通用型USB转模拟接口适配器，经过0...10V模拟接口，可用电脑来监控任意电源的电流和电压，并设定参数。随产品包装付有一Windows软件以及LabView™ VIs，可用来创建客户指定的应用。

具有下列功能
- 分开设置电流和电压
- 分开记录实际电压和电流值
- 状态信号
- 控制信号
- 数据记录
- 分析
- 图行化历史记录显示
- 数据导出至Excel文档

软硬件需求
- 配0...10V模拟接口的实验室电源
- 带Windows操作系统的电脑一台，至少有P4, 800MHz, 64MB RAM, Win2000 / XP或更新

该接口卡适合EA-PS 3000 B，EA-PS 9000系列用。
按客户需求也可提供其他系列用的接口。
PS 3000B系列随产品还附有USB线，驱动器/软件，适配器连接线。
PS 3000B以外的系列用适配器连线需另外订购。

从我司网站：www.elektroautomatik.de可获取相关软件和文档。

General
With this universal USB-to-Analogue interface it is possible to monitor and control current and voltage of any power supply with an 0...10V analogue interface by means of a PC. A Windows software, as well as LabView™ VIs to create custom-designed applications, are included in the package.

Implemented functions
- Separated setting of current and voltage
- Separate actual values of current and voltage
- Status signals
- Control signals
- Data recording
- Analysis
- Graphical history display
- Data export to Exce

Hardware and software requirements
- Laboratory power supply with analogue 0...10V interface
- PC with Windows OS, at least P4, 800MHz, 64MB RAM, Win2000/ XP or newer

This interface is suitable for our power supply series EA-PS 3000B and EA-PS 9000. Other series upon request.
USB cable, driver, software and adapter cable for series PS 3000 are included. *For series other than PS 3000B, an appropriate adaptor cable can be ordered separately.*

Software and documentation are available at:
www.elektroautomatik.de

EasySoft - 电源和电子负载用软件
EasySoft - Software for Power Supplies and Electronic Loads

利用基于Windows操作系统的软件工具，可控制和监控电源与电子负载。这些工具操作简单，仅需几步设置。显示界面全为英文。它们仅能与下列产品系列和接口卡兼容。也可参考64页。

EasyPower Lite （电源产品用）
- 一个实例控制一台产品
- 与下面系列产品兼容：
  - PSI 9000
  - PSI 8000 T / DT / 2U / 3U
  - PS 8000 T / DT / 2U / 3U
  - PSI 800 R
- 数据采集（CSV文档）
- 以列表形式列出半自动序列
- ***与USB (IF-Ux, IF-Ex) 和 RS232 (IF-Rx)接口卡兼容***

EasyLoad Lite （电子负载用）
- 一个实例控制一台产品
- 与下面系列产品兼容：
  - EL 3000
  - EL 9000
  - EL 9000 HP
- 数据采集（CSV文档）
- 以列表形式列出半自动序列
- ***与USB (IF-Ux, IF-Ex) 和 RS232 (IF-Rx)接口卡兼容***

系统需求
- 带Windows（XP或更新）电脑，至少有512MB RAM
- 150MB硬盘空间
- 有数据分析用Excel 或 OpenOffice Calc 计算软件

按照客户需求还可提供带扩展功能的其它软件或版本。

There is software for Windows OS available to control and monitor power supplies or electronic loads. The software are very easy to handle, with a minimum of setup required. The surface is completely in english. The tools are only compatible to the device series and interface cards listed below. Also see page 64 about interfaces.

EasyPower Lite (for Power Supplies only)
- One device can be controlled per instance
- Compatible to the device series:
  - PSI 9000
  - PSI 8000 T / DT / 2U / 3U
  - PS 8000 T / DT / 2U / 3U
  - PSI 800 R
- Data acquisition (CSV files)
- Semi-automatic sequences by list tables
- ***Compatible to interface cards USB (IF-Ux, IF-Ex) and RS232 (IF-Rx)***

EasyLoad Lite (for Electronic Loads only)
- One device can be controlled per instance
- Compatible to the device series:
  - EL 3000
  - EL 9000
  - EL 9000 HP
- Data acquisition (CSV files)
- Semi-automatic sequences by list tables
- ***Compatible to interface cards USB (IF-U1), Ethernet (IF-E1B) and RS232 (IF-R1)***

System requirements
- Windows-PC (XP or newer) with min. 512MB RAM
- 150MB free harddisk space
- Excel or OpenOffice Calc for data analysis

Other softwares or versions with extended functionality upon request.

EA-IF系列 / EA-IF SERIES
数字与模拟接口卡 / DIGITAL & ANALOGUE INTERFACE CARDS

EA-IF接口卡

- 可轻易安装及拆卸
- 通过产品设置菜单可简便地进行配置
- 多台不同设备可轻易联网
- 绝缘耐压高达2000V
- 软件刻录成CD，配有工具和说明书

- **Retrofittable, simple installation (plug'n'play)**
- **Easy configuration via a setup menu on the device**
- **Simple networking of different devices**
- **Galvanic isolation up to 2000V**
- **Software CD with tools and documentation**

概述
EA接口卡有插拔式数字和模拟卡，适用于不同系列的可编程电源供应器、充电器或电子负载用。

对于**PSI 800 R** 和 **BCI 800 R**系列墙挂式产品，有专门的接口卡。见下表型号结尾为 „2“ 的接口卡。

支持LabView™
针对有些数字接口卡我们可供即时使用的LabView™ VIs，见下表。

支持其他编程语言
通讯协议可轻易打开，它存储于文件内。故可应用到任何编程语言。

软件和驱动程序
随同接口卡，还附有一工具CD，里面含有文件和软件。软件分为Windows软件套件***EasySoft***（也可参考63页）和LabView™ VIs。特定接口卡支持的软件和产品型号请参考下表。

General
The EA interface cards are pluggable digital resp. analogue cards for different series of programable power supplies, battery charger or electronic loads.
There are special versions of some interface cards available for wall mount series **PSI 800 R** and **BCI 800 R**. See overview below, model names with „2“ at the end.

Support for LabView™
For some of the digital cards we provide ready-to-use LabView™ VIs. See table below.

Support for other programming languages
The communication protocol is open and included in the documentation. Thus it can be integrated in virtually any programming language.

Software and drivers
The interface cards are delivered with a tools CD that includes documentation and software. The software is divided into the Windows software suite ***EasySoft*** (also see page 63) and LabView™ compatible VIs. For the software and device support of the particular interface cards see table below.

型号概览

Model overview

接口卡型号：**USB**
- EA-IF-U1　　产品编号：33100212
- EA-IF-U2　　产品编号：33100220
- 带VCP的USB驱动程序
- 传输速度：最大57600 Bd
- 隔离电压：最大2000V DC

Interface type: USB
- EA-IF-U1　　Art.No. 33100212
- EA-IF-U2　　Art.No. 33100220
- USB driver with VCP (Virtual Com Port)
- Transfer speed: max. 57600 Bd
- Galvanic isolation: max. 2000V DC

接口卡型号：**CAN**
- EA-IF-C1　　产品编号：33100214
- EA-IF-C2　　产品编号：33100222
- 可变数据传输速率，最高可达1Mbit/s
- 兼容CAN2.0A
- 内置可选总线终端
- 隔离电压：最大2000V DC

Interface type: CAN
- EA-IF-C1　　Art.No. 33100214
- EA-IF-C2　　Art.No. 33100222
- Variable data transmission rates up to 1Mbit/s
- CAN2.0A compatible
- Integrated, selectable bus termination
- Galvanic isolation: max. 2000V DC

EA-IF系列 / EA-IF SERIES
数字与模拟接口卡 / DIGITAL & ANALOGUE INTERFACE CARDS

接口卡型号：**Analog**
- EA-IF-A1　　产品编号：33100215
- 电隔离
- 电压范围可调（如：0...5V，2...7V）
- 数字和模拟输入、输出脚
- 输出/输入脚可参数化
- 隔离电压：最大2000V DC

接口卡型号：**IEEE/GPIB**
- EA-IF-G1　　产品编号：33100216
- 命令执行时间典型值<30ms
- SCPI指令集
- 隔离电压：最大2000V DC

接口卡型号：**RS232**
- EA-IF-R1　　产品编号：33100213
- EA-IF-R2　　产品编号：33100221
- 可变波特率高达57600 Baud
- 隔离电压：最大2000V DC

接口卡型号：**Ethernet/LAN**
- EA-IF-E1B　　产品编号：33100227
- SCPI指令集
- 指令执行时间 ≥20ms
- 带用户控制接口的HTTP服务器
- 增加一USB端口可执行IF-U1卡的功能
- 隔离电压：最大1500V DC

接口卡型号：**Profibus-现场总线**
- EA-IF-PB1　　产品编号：33100219
- 符合IEC 61158标准
- 数据传输速率高达12MBit/s
- 一个总线段可连接多达30台设备
- 增加一USB端口可执行IF-U1卡的功能
- 隔离电压：最大1000V DC

Interface type: Analogue
- EA-IF-A1　　Art.No.33100215
- Galvanically isolated
- Voltage range adjustable (e.g. 0...5V, 2...7V)
- Digital and analogue inputs and outputs
- Outputs / inputs parameterisable
- Galvanic isolation: max. 2000V DC

Interface type: IEEE/GPIB
- EA-IF-G1　　Art.No. 33100216
- Command execution time <30ms typ.
- SCPI command set
- Galvanic isolation: max. 2000V DC

Interface type: RS232
- EA-IF-R1　　Art.No. 33100213
- EA-IF-R2　　Art.No. 33100221
- Variable baud rates up to 57600 Baud
- Galvanic isolation: max. 2000V DC

Interface type: Ethernet/LAN
- EA-IF-E1B　　Art.Nr. 33100227
- SCPI command set
- Command execution time ≥20ms typ.
- HTTP server with user control interface
- Integrated IF-U1 functionality by add. USB port
- Galvanic isolation: max. 1500V DC

Interface type: Profibus
- EA-IF-PB1　　Art.Nr. 33100219
- According to standard IEC 61158
- Data transmission rate up to 12MBit/s
- Up to 30 units on a bus segment
- Integrated IF-U1 functionality by add. USB port
- Galvanic isolation: max. 1000V DC

	IF-U1	IF-U2	IF-R1	IF-R2	IF-C1	IF-C2	IF-G1	IF-E1b	IF-PB1	IF-A1
	USB	USB	RS232	RS232	CAN	CAN	GPIB	Ethernet	Profibus	Analog
PS 8000 T / DT / 2U	●		●		●		●	●	●	
PS 8000 3U	●		●		●		●	●	●	
PSI 8000 T / DT / 2U	●		●		●		●	●	●	●
PSI 8000 3U	●		●		●		●	●	●	●
PSI 800 R		●		●		●				
BCI 800 R		●		●		●				
EL 3000	●		●		●		●	●	●[2]	
EL 9000 (HP)	●		●		●		●	●	●[2]	
BCI 8000	●		●		●					
EasyLoad Lite	●	●	●	●				●[1]	●[1]	
EasyPower Lite	●	●	●	●				●[1]	●[1]	
LabView™ VIs	●	●	●	●			●	●		

[1] 仅能通过额外的USB端口完成 / only via the additional USB port
[2] 按需求可供 / upon request

提示：表格上半部分显示哪些产品支持哪类接口卡。下半部分显示哪类接口卡具有哪些软件。意思是，带Ethernet接口卡的电子负载产品支持Easy-Load Lite软件，但是只能使用接口卡的USB端口。

Note: the upper part of the table indicates which device supports which interface cards. The lower part shows, for which interface cards there is software available. It means, for example, that an electronic load with an Ethernet card is supported by EasyLoad Lite, but only if the USB port of the card is used.

EA-HV 9000　2000W
高压直流电源 / HIGH VOLTAGE DC POWER SUPPLIES

U
I
19"
OVP
OT
USB
IEEE
LAN

EA-HV 9000-6K-2000

- 宽范围输入电压90...264V，带主动式PFC
- 效率高达 91%
- 输出功率：2000W
- 输出电压：0...1200V 至 0...12kV
- 输出电流：0...170mA 至 0...1.67A
- 谐振转换器
- 高调整精度，低纹波
- 有过压保护（OVP）
- 有过温保护（OT）
- 3½位数显示显示电压和电流
- LED指示状态提示
- 有闪络和短路保护功能
- 多功能模拟接口
  - 通过 0...10V电压可对U / I 编程
  - 通过 0...10V电压可监控U / I
- 温控风扇制冷
- 有桌面式和3U的19“类型
- 可选数字接口：
  - GPIB / IEEE（内置，带RS232端口）
  - USB（外置）

- **Wide input voltage range 90...264V with active PFC**
- **High efficiency up to 91%**
- **Output power: 2000W**
- **Output voltages: 0...1200V up to 0...12kV**
- **Output currents: 0...170mA up to 0...1.67A**
- **Resonance converter**
- **High regulation accuracy, low ripple**
- **Overvoltage protection (OVP)**
- **Overtemperature protection (OT)**
- **3½ digit displays for voltage and current**
- **Status indication signal via LEDs**
- **Flashover & short circuit proof**
- **Analogue interface**
  - **U / I programmable via 0...10V**
  - **U / I monitoring via 0...10V**
- **Temperature controlled fans for cooling**
- **Desktop unit and 19“ unit with 3U**
- **Optional, digital interfaces:**
  - **GPIB/IEEE (internal, with RS232)**
  - **USB (external)**

概要

EA-HV 9000系列是一款高压调频谐振变换器，已无数次验证其配备的性能。

产品配有一易用型10圈电位器，3½数字背光显示器，具有电压、电流和过压保护预设功能。

还有一模拟接口，可编程、记录电压和电流。

通过一连锁回路（安全关闭）也可从外部编程。

输出

本系列有多款不同类型，可选择1200V和12kV输出电压，170mA和1.67A输出电流，2000W输出功率的型号。输出端位于产品后面板。为保护连接负载，可设定一过压保护极限值(OVP)。

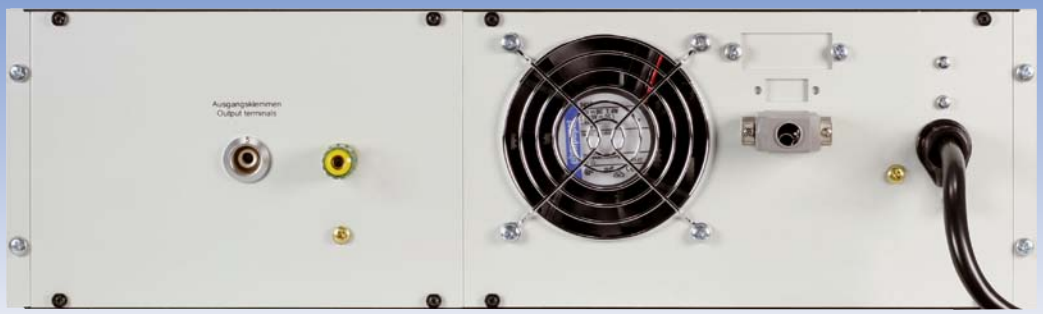
General

The high voltage power supplies of the EA-HV 9000 series are frequency modulated resonance converters and have proved themselves thousandfold.
The units are provided with easy-to-use 10 turn potentiometers, 3½ digit illuminated displays and preset functions for voltage, current and OVP.
An analogue interface is provided to program and record voltage and current.
The analogue programming connection is also equipped with an interlock loop (safety cutout).

Output

A selection of output voltages between 1200V and 12kV, output currents between 170mA and 1.67A at an output power of 2000W is available. The output terminal is located on the rear panel. Intended to protect connected loads, it is possible to define an overvoltage protection limit (OVP).

EA-HV 9000　2000W
高压直流电源 / HIGH VOLTAGE DC POWER SUPPLIES



后板图 / **Rear panel EA-HV 9000-6K-2000**

技术参数	Technical Data	HV 9000-1K2-2000	HV 9000-2K-2000	HV 9000-6K-2000	HV 9000-12K-2000
输入电压	**Input voltage**	90...264V *	90...264V *	90...264V *	90...264V *
-频率	-Frequency	45...65Hz	45...65Hz	45...65Hz	45...65Hz
-功率因数	-Power factor	>0.99	>0.99	>0.99	>0.99
-230V时的输入电流	-Input current at 230V	10A	10A	10A	10A
输出电压	**Output voltage**	0...1200V	0...2000V	0...6000V	0...12000V
-负载0-100% 时的稳定度	-Stability at 0-100% load	<0.05%	<0.05%	<0.05%	<0.05%
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.05%	<0.05%	<0.05%	<0.05%
-纹波 BWL 20MHz	-Ripple BWL 20MHz	<0.05%	<0.05%	<0.05%	<0.05%
-负载从10%-100%调整需时	-Regulation 10-100% load	<2ms	<2ms	<2ms	<2ms
-温度稳定度	-Temperature stability	<50ppm/°C	<50ppm/°C	<50ppm/°C	<50ppm/°C
-OVP过压保护调节范围	-OVP adjustment	0...1212V	0...2020V	0...6060V	0...12120V
输出电流	**Output current**	0...1.67A	0...1A	0...350mA	0...170mA
-0-100% Δ U_{OUT}时的稳定度$_A$	-Stability at 0-100% ΔU_{OUT}	<0.05%	<0.05%	<0.05%	<0.05%
-±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.05%	<0.05%	<0.05%	<0.05%
-纹波 BWL 20MHz	-Ripple BWL 20MHz	<0.05%	<0.05%	<0.05%	<0.05%
-温度稳定度	-Temperature stability	<500ppm/°C	<500ppm/°C	<500ppm/°C	<500ppm/°C
输出功率	**Output power**	2000W	2000W	2000W	2000W
模拟编程	**Analogue programming**	0...10V			
制冷方式	**Cooling**	风扇 / Fan			
工作温度	**Operation temperature**	0...40°C			
储存温度	**Storage temperature**	-20°C...70°C			
尺寸 ** (B H T)	**Dimensions ** (W H D)**	19“ 3U 460mm	19“ 3U 460mm	19“ 3U 460mm	19“ 3U 460mm
产品编号	**Article No.**	26100103	26100104	26100105	26100106

* 当输入电流>16A时功率小自动受限 / Automatic power limitting on input currents > 16A

EA-PS 1000 5000W - 120000W
开关模式直流源 / SWITCHED DC CURRENT SOURCES

- 高效 >85%
- 输出功率：5kW 至 120kW
- 输出电压：0...20V 至 0...900V
- 输出电流：0...3 A 至 0...6000A
- 调整偏差 <2%
- 纹波 (300 Hz) <2%
- 恒压和恒流调整
- 电压和电流0...100%可调
- 有电压、电流显示仪表
- 通过0...10V电压对U / I编程
- 通过0...10V电压监控U / I
- 直流输出远距离“开/关”
- 电源输入参数3 x 400V AC, PFC值 >0.95
- 浪涌电流限制
- 用铜条当直流输出端
- 可选项:
  - 用电脑编程 (RS485 / RS232 / LAN)
  - 绝缘模拟放大器
  - 远程感测
  - 调整偏差 <1%
  - 纹波 (300 Hz) <1%

- **High efficiency >85%**
- **Output power ratings: 5kW up to 120kW**
- **Output voltages: 0...20V up to 0...900V**
- **Output currents: 0...3 A up to 0...6000A**
- **Regulation deviation <2%**
- **Ripple (300 Hz) <2%**
- **Constant voltage and current regulation**
- **Voltage and current adjustable 0...100%**
- **Meters for voltage and current**
- **U / I programmable via 0...10V**
- **U / I monitoring via 0...10V**
- **Remote „on/off“ for DC output**
- **Mains input 3 x 400V$_{AC}$, Power factor >0.95**
- **Inrush current limit**
- **DC output connector via copper bars**
- **Options:**
  - **Programming via PC (RS485 / RS232 / LAN)**
  - **Isolated analogue amplifiers**
  - **Remote sensing**
  - **Regulation deviation <1%**
  - **Ripple (300 Hz) <1%**

概要

EA-PS 1000系列为可调重型开关电源，输出电压高达900V，电流达6000A，输出功率至120kW。（按需还提供高达1000V电压/40000A电流/800kW功率的型号）主要应用于大功率环境（如：表面处理，水净化），及多种工业应用，如给马达发动机、直流发动机等供电；还可用于自动下线检测系统的测试，如：接触器、继电器、开关、断路器以及一般重型直流元件。

所有型号都能经0...10V电压，如PLC (可编程控制器）,远距离控制和回读。有些型号还配有输出电压和电流调节用10圈电位器，及电压与电流表。另外，通过外部面板EA-PS280也能对产品进行控制。

本系列所有型号都有过载保护和短路保护，配有远程感测和电脑接口(RS232/RS485) 可选。按需还提供乙太网(LAN)接口。所有型号的输入参数为3x400V，50-60Hz。

General

The EA-PS 1000 series is a range of adjustable, heavy-duty, switched-mode power supplies offering standard output voltages of up to 900V, output currents of up to 6000A and output powers ratings of up to 120kW (output voltage/current/power of up to 1000V/40000A/800kW upon request). This series is used in high-power environments such as electroplating (e.g. surface treatment, water purification), multiple industrial applications such as powering of electric engine starters, DC motors etc. and also in automatic end-of-line test systems for the testing of contactors, relays, switches, breakers and heavy duty DC components in general.

All units can be remotely controlled and read back via 0...10V, e.g via a PLC. Depending on the model, they are equipped with 10-turn potentiometers for voltage and current adjustment and volt- and amperemeters. Furthermore, all models can be controlled via the optional, external and comfortable user panel EA-PS 280.
All units are protected against overload and short-circuit and can be equipped with remote sensing and computer interface (RS232/RS485) as an option. An Ethernet interface (LAN) is available upon request as well. All units have a 3 x 400V, 50-60Hz mains input.

EA-PS 1000-6KW 2700W - 6000W
开关模式直流源 / SWITCHED DC CURRENT SOURCES

可选件 **EA-PS 280**

EA-PS 1020-250

U
I
19"
RS232
LAN

- 高效，效率>85%
- 输出功率：2700W 至 6000W
- 输出电压：0...20V 至 0...900V
- 输出电流：0...3 A 至 0...250A
- 恒压和恒流调整
- 三位数LED显示器，显示电压和电流
- 通过0...10V电压对U / I编程
- 通过0...10V电压监控U / I
- 直流输出远距离“开/关”
- 工作温度0-35°C（按需也可做40°C）
- 电源输入参数3 x 400V +/-10% 50-60Hz, P.F >0.95
- 浪涌电流限制
- 风扇制冷
- 19“结构产品采用不锈钢外壳
- 用铜条当直流输出端
- 可选项
  - 用电脑编程（RS485 / RS232 / LAN）
  - 绝缘模拟放大器
  - 远程感测
  - 调整偏差 <1%
  - 纹波(300 Hz) <1%

- **High efficiency >85%**
- **Output power ratings: 2700W up to 6000W**
- **Output voltages: 0...20V up to 0...900V**
- **Output currents: 0...3A up to 0...250A**
- **Constant voltage and current regulation**
- **3-digit LED display for voltage and current**
- **U / I programmable via 0...10V**
- **U / I monitoring via 0...10V**
- **Remote „on/off“ for DC output**
- **Operation temp range 0-35°C (40°C on req.)**
- **Mains input 3 x 400V +/-10% 50-60Hz, P.F. >0.95**
- **Inrush current limiter**
- **Air cooling by fans**
- **Stainless steel enclosure for 19“ rack systems**
- **DC output connector via copper bars**
- **Options**
  - **Programming via PC (RS485/RS232/LAN)**
  - **Isolated analogue amplifiers**
  - **Remote sensing**
  - **Regulation deviation <1%**
  - **Ripple (300 Hz) <1%**

技术参数	Technical Data	EA-PS 1020-250	EA-PS 1040-150	EA-PS 1060-100	EA-PS 1080-60
输入电压	Input voltage	3x 400 +/- 10%	3x 400 +/- 10%	3x 400 +/- 10%	3x 400 +/- 10%
-频率	-Frequency	50...60Hz	50...60Hz	50...60Hz	50...60Hz
输出电压	Output voltage	0...20V	0...40V	0...60V	0...80V
-稳定度	-Stability	<2%	<2%	<2%	<2%
-纹波	-Ripple	<2%	<2%	<2%	<2%
输出电流	Output current	0...250A	0...150A	0...100A	0...60A
输出功率	Output power	5000W	6000W	6000W	4800W
尺寸 (W H D)	Dimensions (W H D)	19“ 4U 510mm	19“ 4U 510mm	19“ 4U 510mm	19“ 4U 510mm
重量	Weight	22kg	22kg	22kg	22kg

技术参数	Technical Data	EA-PS 1150-40	EA-PS 1300-20	EA-PS 1600-10	EA-PS 1900-3
输入电压	Input voltage	3x 400 +/- 10%	3x 400 +/- 10%	3x 400 +/- 10%	3x 400 +/- 10%
-频率	-Frequency	50...60Hz	50...60Hz	50...60Hz	50...60Hz
输出电压	Output voltage	0...150V	0...300V	0...600V	0...900V
-稳定度	-Stability	<2%	<2%	<2%	<2%
-纹波	-Ripple	<2%	<2%	<2%	<2%
输出电流	Output current	0...40A	0...20A	0...10A	0...3A
输出功率	Output power	6000W	6000W	6000W	2700W
尺寸 (W H D)	Dimensions (W H D)	19“ 4U 510mm	19“ 4U 510mm	19“ 4U 510mm	19“ 4U 510mm
重量	Weight	22kg	22kg	22kg	22kg

Elektro-Automatik

EA-PS 1000-15KW 14000W - 18000W
开关模式直流源 / SWITCHED DC CURRENT SOURCES

U

I

19"

RS232

LAN

可选件 **EA-PS 280**

EA-PS 1020-750

- 高效, 效率>85%
- 输出功率：14kW至18kW
- 输出电压：0...20V 至 0...900V
- 输出电流：0...20 A 至 0...750A
- 恒压和恒流调整
- 三位数LED显示器，显示电压和电流
- 通过0...10V电压对U / I编程
- 通过0...10V电压监控U / I
- 直流输出远距离“开/关”
- 工作温度0-35°C（按需也可做40°C）
- 电源输入参数3 x 400V +/-10% 50-60Hz, P.F. >0,95
- 浪涌电流限制
- 风扇制冷
- 19“结构产品采用不锈钢外壳
- 用铜条当直流输出端
- 可选项
  - 用电脑编程 (RS485 / RS232 / LAN)
  - 绝缘模拟放大器
  - 远程感测
  - 调整偏差 <1%
  - 纹波 (300 Hz) <1%

- **High efficiency >85%**
- **Output power ratings: 14kW up to 18kW**
- **Output voltages: 0...20V up to 0...900V**
- **Output currents: 0...20A up to 0...750A**
- **Constant voltage and current regulation**
- **3-digit LED display for voltage and current**
- **U / I programmable via 0...10V**
- **U / I monitoring via 0...10V**
- **Remote „on/off“ for DC output**
- **Operation temp range 0-35°C (40°C on req.)**
- **Mains input 3 x 400V +/-10% 50-60Hz, P.F. >0.95**
- **Inrush current limit**
- **Air cooling by fans**
- **Stainless steel enclosure for 19“ rack systems**
- **DC output connection via copper bars**
- **Options**
  - **Programming via PC (RS485/RS232/LAN)**
  - **Insulated analogue amplifiers**
  - **Remote sensing**
  - **Regulation deviation <1%**
  - **Ripple (300 Hz) <1%**

技术参数	Technical Data	EA-PS 1020-750	EA-PS 1040-350	EA-PS 1060-250	EA-PS 1080-200
输入电压	Input voltage	3x 400 +/- 10%	3x 400 +/- 10%	3x 400 +/- 10%	3x 400 +/- 10%
-频率	-Frequency	50...60Hz	50...60Hz	50...60Hz	50...60Hz
输出电压	Output voltage	0...20V	0...40V	0...60V	0...80V
-稳定度	-Stability	<2%	<2%	<2%	<2%
-纹波	-Ripple	<2%	<2%	<2%	<2%
输出电流	Output current	0...750A	0...350A	0...250A	0...200A
输出功率	Output power	15000W	14000W	15000W	16000W
尺寸 (W H D)	Dimensions (W H D)	19“ 8U 470mm	19“ 8U 470mm	19“ 8U 470mm	19“ 8U 470mm
重量	Weight	70kg	70kg	70kg	70kg

技术参数	Technical Data	EA-PS 1150-100	EA-PS 1300-50	EA-PS 1600-25	EA-PS 1900-20
输入电压	Input voltage	3x 400 +/- 10%	3x 400 +/- 10%	3x 400 +/- 10%	3x 400 +/- 10%
-频率	-Frequency	50...60Hz	50...60Hz	50...60Hz	50...60Hz
输出电压	Output voltage	0...150V	0...300V	0...600V	0...900V
-稳定度	-Stability	<2%	<2%	<2%	<2%
-纹波	-Ripple	<2%	<2%	<2%	<2%
输出电流	Output current	0...100A	0...50A	0...25A	0...20A
输出功率	Output power	15000W	15000W	15000W	18000W
尺寸 (W H D)	Dimensions (W H D)	19“ 8U 470mm	19“ 8U 470mm	19“ 8U 470mm	19“ 8U 470mm
重量	Weight	70kg	70kg	70kg	70kg

Elektro-Automatik

EA-PS 1000-40KW 30000W - 40000W
开关模式直流源 / SWITCHED DC CURRENT SOURCES

可选件 **EA-PS 280**

EA-PS 1040-1000

U
I
RS232
LAN

- 高效, 效率>85%
- 输出功率：30kW至45kW
- 输出电压：0...20V 至 0...900V
- 输出电流：0...50 A 至 0...2000A
- 恒压和恒流调整
- 电压和电流可调
- 通过0...10V电压对U / I编程
- 通过0...10V电压监控U / I
- 直流输出远距离“开/关”
- 工作温度0-35°C（按需也可做40°C）
- 电源输入参数3 x 400V +/-10% 50-60Hz, P.F. >0,95
- 浪涌电流限制
- 风扇制冷
- 内嵌式采用不锈钢外壳
- 用铜条当直流输出端
- 可选项
  - 外部控制器 EA-PS 280
  - 用电脑编程(RS485 / RS232 / LAN)
  - 远程感测
  - 绝缘模拟放大器
  - 调整偏差<1%
  - 纹波 (300 Hz) <1%

- **High efficiency >85%**
- **Output power ratings: 30kW up to 45kW**
- **Output voltages: 0...20V up to 0...900V**
- **Output currents: 0...50A up to 0...2000A**
- **Constant voltage and current regulation**
- **Voltage and current adjustable**
- **U / I programmable via 0...10V**
- **U / I monitoring via 0...10V**
- **Remote „on/off“ for DC output**
- **Operation temp range 0-35°C (40°C on req.)**
- **Mains input 3 x 400V +/-10% 50-60Hz, P.F. >0.95**
- **Inrush current limit**
- **Air cooling by fans**
- **Stainless steel enclosure for rack mount**
- **DC output connection via copper bars**
- **Options**
  - **External control unit EA-PS 280**
  - **Programming via PC (RS485/RS232/LAN)**
  - **Remote sensing**
  - **Isolated analogue amplifiers**
  - **Regulation deviation <1%**
  - **Ripple (300 Hz) <1%**

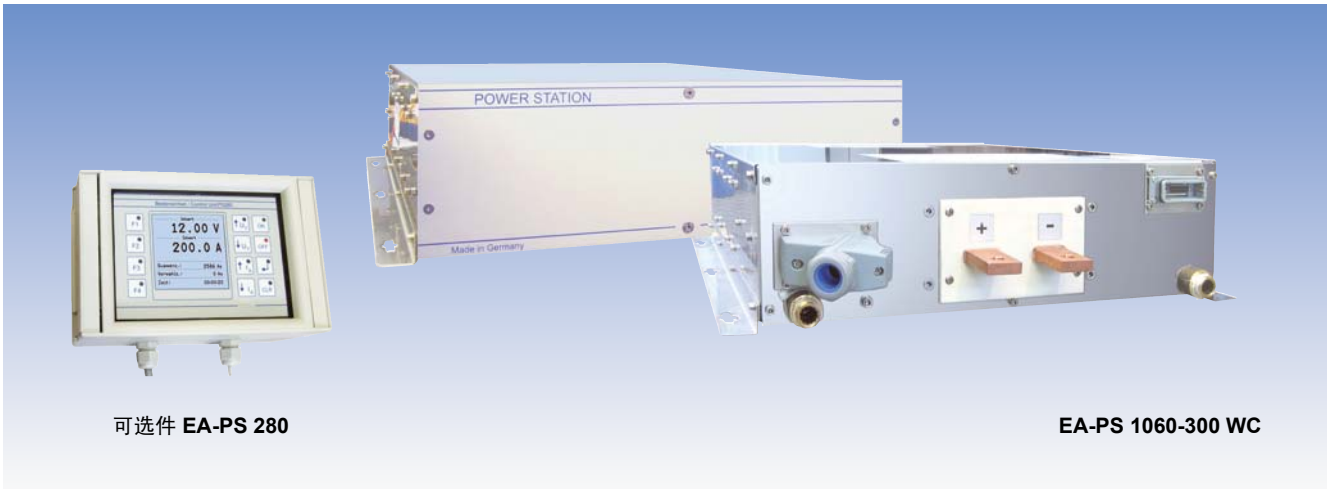
技术参数	Technical Data	EA-PS 1020-2000	EA-PS 1040-1000	EA-PS 1060-600	EA-PS 1080-500
输入电压	**Input voltage**	3x 400 +/- 10%	3x 400 +/- 10%	3x 400 +/- 10%	3x 400 +/- 10%
-频率	-Frequency	50...60Hz	50...60Hz	50...60Hz	50...60Hz
输出电压	**Output voltage**	0...20V	0...40V	0...60V	0...80V
-稳定度	-Stability	<2%	<2%	<2%	<2%
-纹波	-Ripple	<2%	<2%	<2%	<2%
输出电流	**Output current**	0...2000A	0...1000A	0...600A	0...500A
输出功率	**Output power**	40kW	40kW	36kW	40kW
尺寸 **(WxHxD)**	**Dimensions (WxHxD)**	557x332x1027 mm	557x332x1027 mm	557x332x1027 mm	557x332x1027 mm
重量	**Weight**	111kg	111kg	111kg	111kg

技术参数	Technical Data	EA-PS 1150-250	EA-PS 1300-120	EA-PS 1600-50	EA-PS 1900-40
输入电压	**Input voltage**	3x 400 +/- 10%	3x 400 +/- 10%	3x 400 +/- 10%	3x 400 +/- 10%
-频率	-Frequency	50...60Hz	50...60Hz	50...60Hz	50...60Hz
输出电压	**Output voltage**	0...150V	0...300V	0...600V	0...900V
-稳定度	-Stability	<2%	<2%	<2%	<2%
-纹波	-Ripple	<2%	<2%	<2%	<2%
输出电流	**Output current**	0...250A	0...120A	0...50A	0...40A
输出功率	**Output power**	37.5kW	36kW	30kW	36kW
尺寸 **(WxHxD)**	**Dimensions (WxHxD)**	557x332x1027 mm	557x332x1027 mm	557x332x1027 mm	557x332x1027 mm
重量	**Weight**	111kg	111kg	111kg	111kg

日期 / Date: 14.05.12

EA-PS 1000-20KW WC 18000W - 20000W
开关模式直流源 / SWITCHED DC CURRENT SOURCES

U
I
19"
RS232
LAN



可选件 **EA-PS 280**

EA-PS 1060-300 WC

- 高效, 效率>85%
- 输出功率：18kW至20kW
- 输出电压：0...20V 至 0...900V
- 输出电流：0...20 A 至 0...1000A
- 恒压和恒流调整
- 微处理器控制调整
- 通过0...10V电压对U / I编程
- 通过0...10V电压监控U / I
- 直流输出远距离“开/关”
- 工作温度 5-40°C
- 电源输入参数 3 x 360V...506V 50-60Hz
- 功率因数值为cos φ 0.95
- 有软启动功能
- 温控水冷制冷方式
- 19“结构产品采用 IP53不锈钢外壳
- 铜条直流输出端在产品后面
- 可并联和串联多达30台产品
- 可选项
  - 外部控制器 EA-PS 280
  - 用电脑编程（RS485 / RS232 / LAN）
  - 绝缘模拟放大器
  - 远程感测

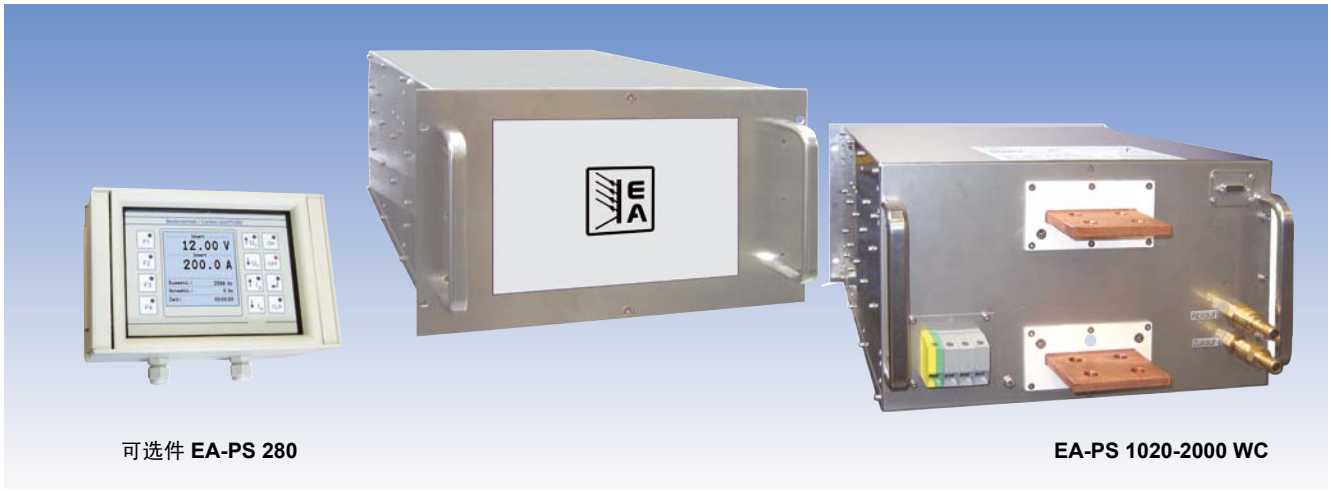
- **High efficiency >85%**
- **Output power ratings: 18kW up to 20kW**
- **Output voltages: 0...20V up to 0...900V**
- **Output currents: 0...20A up to 0...1000A**
- **Constant voltage and current regulation**
- **Microprocessor controlled regulation**
- **U / I programmable via 0...10V**
- **U / I monitoring via 0...10V**
- **Remote „on/off“ for DC output**
- **Operation temp. range 5° - 40°C**
- **Mains input 3 x 360V...506V 50-60Hz**
- **Power factor cos φ 0.95**
- **Soft start function**
- **Water cooling, temperature controlled**
- **Stainless IP53 steel enclosure for 19“ rack systems**
- **DC output connection via copper bars on the rear**
- **Parallel and series connection of up to 30 units**
- **Options**
  - **External control unit EA-PS 280**
  - **Programming via PC (RS485/RS232/LAN)**
  - **Isolated analogue amplifiers**
  - **Remote sensing**

技术参数	Technical Data	EA-PS 1020-1000 WC	EA-PS 1040-500 WC	EA-PS 1060-300 WC	EA-PS 1080-250 WC
输入电压	Input voltage	3x 360...506V	3x 360...506V	3x 360...506V	3x 360...506V
-频率	-Frequency	50...60Hz	50...60Hz	50...60Hz	50...60Hz
输出电压 (DC)	Output voltage (DC)	0...20V	0...40V	0...60V	0...80V
-稳定度	-Stability	<1%	<1%	<1%	<1%
-纹波	-Ripple	<1% rms	<1% rms	<1% rms	<1% rms
输出电流	Output current	0...1000A	0...500A	0...300A	0...250A
输出功率	Output power	20kW	20kW	18kW	20kW
尺寸 (W H D)	Dimensions (W H D)	19“ 3U 520mm	19“ 3U 520mm	19“ 3U 520mm	19“ 3U 520mm
重量	Weight	55kg	55kg	55kg	55kg

技术参数	Technical Data	EA-PS 1150-120 WC	EA-PS 1300-60 WC	EA-PS 1600-30 WC	EA-PS 1900-20 WC
输入电压	Input voltage	3x 360...506V	3x 360...506V	3x 360...506V	3x 360...506V
-频率	-Frequency	50...60Hz	50...60Hz	50...60Hz	50...60Hz
输出电压 (DC)	Output voltage (DC)	0...150V	0...300V	0...600V	0...900V
-稳定度	-Stability	<1%	<1%	<1%	<1%
-纹波	-Ripple	<1% rms	<1% rms	<1% rms	<1% rms
输出电流	Output current	0...120A	0...60A	0...30A	0...20A
输出功率	Output power	18kW	18kW	18kW	18kW
尺寸 (W H D)	Dimensions (W H D)	19“ 3U 520mm	19“ 3U 520mm	19“ 3U 520mm	19“ 3U 520mm
重量	Weight	55kg	55kg	55kg	55kg

日期 / Date: 14.05.12

EA-PS 1000-40KW WC 36000W - 40000W
开关模式直流源 / SWITCHED DC CURRENT SOURCES



可选件 **EA-PS 280**

EA-PS 1020-2000 WC

- 高效, 效率>85%
- 输出功率：36kW 至 40kW
- 输出电压：0...20V 至 0...900V
- 输出电流：0...40A 至 0...2000A
- 恒压和恒流调整
- 微处理器控制调整
- 通过 0...10V 电压对U / I 编程
- 通过 0...10V 电压监控U / I
- 直流输出远距离“开/关”
- 工作温度 5-40°C
- 电源输入参数 3 x 360V...506V 50-60Hz
- 功率因数校正值为cosφ 0.95
- 有软启动功能
- 温控水冷制冷方式
- 19“结构的类型采用 IP53不锈钢外壳
- 铜条直流输出端在产品后面
- 可并联和串联多达30台产品
- 可选项
  - 外部控制器 EA-PS 280
  - 用电脑编程 (RS485 / RS232 / LAN)
  - 绝缘模拟放大器
  - 远程感测

- **High efficiency >85%**
- **Output power ratings: 36kW up to 40kW**
- **Output voltages: 0...20V up to 0...900V**
- **Output currents: 0...40A up to 0...2000A**
- **Constant voltage and current regulation**
- **Microprocessor controlled regulation**
- **U / I programmable via 0...10V**
- **U / I monitoring via 0...10V**
- **Remote „on/off“ for DC output**
- **Operation temp. range 5° - 40°C**
- **Mains input 3 x 360V...506V 50-60Hz**
- **Power factor cos φ 0.95**
- **Soft start function**
- **Water cooling, temperature controlled**
- **Stainless IP53 steel enclosure for 19“ rack system**
- **DC output connection via copper bars on the rear**
- **Parallel and series connection of up to 30 units**
- **Options**
  - **External control unit EA-PS 280**
  - **Programming via PC (RS485/RS232/LAN)**
  - **Isolated analogue amplifiers**
  - **Remote sensing**

技术参数	Technical Data	EA-PS 1020-2000 WC	EA-PS 1040-1000 WC	EA-PS 1060-600 WC	EA-PS 1080-500 WC
输入电压	Input voltage	3x 360...506V	3x 360...506V	3x 360...506V	3x 360...506V
-频率	-Frequency	50...60Hz	50...60Hz	50...60Hz	50...60Hz
输出电压 (DC)	Output voltage (DC)	0...20V	0...40V	0...60V	0...80V
-稳定度	-Stability	<1%	<1%	<1%	<1%
-纹波	-Ripple	<1% rms	<1% rms	<1% rms	<1% rms
输出电流	Output current	0...2000A	0...1000A	0...600A	0...500A
输出功率	Output power	40kW	40kW	36kW	40kW
尺寸 (WxHxD)	Dimensions (W H D)	19“ 6U 520mm	19“ 6U 520mm	19“ 6U 520mm	19“ 6U 520mm
重量	Weight	106kg	106kg	106kg	106kg

技术参数	Technical Data	EA-PS 1150-250 WC	EA-PS 1300-120 WC	EA-PS 1600-60 WC	EA-PS 1900-40 WC
输入电压	Input voltage	3x 360...506V	3x 360...506V	3x 360...506V	3x 360...506V
-频率	-Frequency	50...60Hz	50...60Hz	50...60Hz	50...60Hz
输出电压 (DC)	Output voltage (DC)	0...150V	0...300V	0...600V	0...900V
-稳定度	-Stability	<1%	<1%	<1%	<1%
-纹波	-Ripple	<1% rms	<1% rms	<1% rms	<1% rms
输出电流	Output current	0...250A	0...120A	0...60A	0...40A
输出功率	Output power	37.5kW	36kW	36kW	36kW
尺寸 (WxHxD)	Dimensions (W H D)	19“ 6U 520mm	19“ 6U 520mm	19“ 6U 520mm	19“ 6U 520mm
重量	Weight	106kg	106kg	106kg	106kg

EA-PS 1000-75KW 60000W - 80000W
开关模式直流源 / SWITCHED DC CURRENT SOURCES

- 高效, 效率>85%
- 输出功率：60kW 至 80kW
- 输出电压：0...20V 至 0...900V
- 输出电流：0...75A 至 0...3500A
- 调整偏差 <2%，纹波 (300Hz)<2%
- 恒压和恒流调整
- 通过 0...10V 电压对U / I 编程
- 通过 0...10V 电压监控U / I
- 直流输出远距离“开/关”
- 工作温度0-35°C（按需也可做40°C）
- 电源输入参数3 x 400V +/-10% 50-60Hz, P.F. >0.95
- 浪涌电流限制
- 配有电源断路保护器和电源开关
- 有风冷(AC)和水冷(WC)制冷方式
- 采用威图TS机柜，着RAL 7035喷粉涂层
- 可选项
  - 外部控制器 EA-PS 280
  - 用电脑编程 (RS485/RS232/LAN)
  - 绝缘模拟放大器
  - 远程感测
  - 调整偏差 <1%，纹波 (300 Hz) <1%

- **High efficiency >85%**
- **Output power ratings: 60kW up to 80kW**
- **Output voltages: 0...20V up to 0...900V**
- **Output currents: 0...75A up to 0...3500A**
- **Regulation deviation <2%, Ripple (300Hz)<2%**
- **Constant voltage and current regulation**
- **U / I programmable via 0...10V**
- **U / I monitoring via 0...10V**
- **Remote „on/off“ for DC output**
- **Operation temp range 0-35°C (40°C on req.)**
- **Mains input 3 x 400V +/-10% 50-60Hz, P.F. >0.95**
- **Inrush current limiter**
- **Mains circuit breaker and mains power switch incl.**
- **Air cooling (AC) or water cooling (WC)**
- **Cabinet Rittal TS, RAL 7035 powder coated**
- **Options**
  - **External control unit EA-PS 280**
  - **Programming via PC (RS485/RS232/LAN)**
  - **Isolated analogue amplifiers**
  - **Remote sensing**
  - **Regulation deviation <1%, ripple (300Hz) <1%**

技术参数	Technical Data	EA-PS 1020-3500 (WC)	EA-PS 1040-1700 (WC)	EA-PS 1060-1200 (WC)	EA-PS 1080-1000 (WC)
输入电压	Input voltage	3x 400 +/- 10%	3x 400 +/- 10%	3x 400 +/- 10%	3x 400 +/- 10%
-频率	-Frequency	50...60Hz	50...60Hz	50...60Hz	50...60Hz
输出电压 (DC)	Output voltage (DC)	0...20V	0...40V	0...60V	0...80V
-稳定度	-Stability	<2%	<2%	<2%	<2%
-纹波	-Ripple	<2%	<2%	<2%	<2%
输出电流	Output current	0...3500A	0...1700A	0...1200A	0...1000A
输出功率	Output power	70kW	68kW	72kW	80kW
风冷式产品尺寸 (WxHxD)	Dim. air cooling (WxHxD)	600x2200x600mm	600x2200x600mm	600x2200x600mm	600x2200x600mm
水冷式产品尺寸 (WxHxD)	Dim. water cooling (WxHxD)	600x2200x600mm	800x2200x600mm	800x2200x600mm	800x2200x600mm
重量	Weight	300kg	300kg	300kg	300kg

技术参数	Technical Data	EA-PS 1150-500 (WC)	EA-PS 1300-250 (WC)	EA-PS 1600-100 (WC)	EA-PS 1900-75 (WC)
输入电压	Input voltage	3x 400 +/- 10%	3x 400 +/- 10%	3x 400 +/- 10%	3x 400 +/- 10%
-频率	-Frequency	50...60Hz	50...60Hz	50...60Hz	50...60Hz
输出电压 (DC)	Output voltage (DC)	0...150V	0...300V	0...600V	0...900V
-稳定度	-Stability	<2%	<2%	<2%	<2%
-纹波	-Ripple	<2%	<2%	<2%	<2%
输出电流	Output current	0...500A	0...250A	0...100A	0...75A
输出功率	Output power	75kW	75kW	60kW	67,5kW
风冷式产品尺寸 (WxHxD)	Dim. air cooling (WxHxD)	600x2200x600mm	600x2200x600mm	600x2200x600mm	600x2200x600mm
水冷式产品尺寸 (WxHxD)	Dim. water cooling (WxHxD)	800x2200x600mm	800x2200x600mm	800x2200x600mm	800x2200x600mm
重量	Weight	300kg	300kg	300kg	300kg

日期 / Date: 14.05.12

EA-PS 1000-120KW 117000W - 120000W
开关模式直流源 / SWITCHED DC CURRENT SOURCES

EA-PS 1040-3000 WC

360kW WC

- 高效, 效率>85%
- 输出功率：117kW 至 120kW
- 输出电压：0...20V 至 0...900V
- 输出电流：0...130A 至 0...6000A
- 调整偏差 <2%，纹波 (300Hz) <2%
- 恒压和恒流调整
- 通过0...10V电压对U / I 编程
- 通过0...10V电压监控U / I
- 直流输出远距离“开/关”
- 工作温度0-35°C（按需也可做40°C）
- 电源输入参数3 x 400V +/-10% 50-60Hz, P.F. >0.95
- 浪涌电流限制
- 配有电源断路保护器和电源开关
- 有风冷(AC)或水冷(WC)制冷方式
- 采用威图TS机柜，着RAL 7035喷粉涂层
- 可选项
  - 外部控制器 EA-PS 280
  - 用电脑编程 (RS485 / RS232 / LAN)
  - 绝缘模拟放大器
  - 远程感测
  - 调整偏差 <1%，纹波 (300 Hz) <1%

- **High efficiency >85%**
- **Output power ratings: 117kW up to 120kW**
- **Output voltages: 0...20V up to 0...900V**
- **Output currents: 0...130A up to 0...6000A**
- **Regulation deviation <2%, Ripple (300Hz) <2%**
- **Constant voltage and current regulation**
- **U / I programmable via 0...10V**
- **U / I monitoring via 0...10V**
- **Remote „on/off“ for DC output**
- **Operation temp range 0-35°C (40°C on req.)**
- **Mains input 3 x 400V +/-10% 50-60Hz, P.F. >0.95**
- **Inrush current limit**
- **Mains circuit breaker and mains power switch incl.**
- **Air cooling (AC) or water cooling (WC)**
- **Cabinet Rittal TS, RAL 7035 powder coated**
- **Options**
  - **External control unit EA-PS 280**
  - **Programming via PC (RS485/RS232/LAN)**
  - **Isolated analog amplifiers**
  - **Remote sensing**
  - **Regulation deviation <1%, ripple (300Hz) <1%**

技术参数	Technical Data	EA-PS 1020-6000 (WC)	EA-PS 1040-3000 (WC)	EA-PS 1060-2000 (WC)	EA-PS 1080-1500 (WC)
输入电压	Input voltage	3x 400 +/- 10%	3x 400 +/- 10%	3x 400 +/- 10%	3x 400 +/- 10%
-频率	-Frequency	50...60Hz	50...60Hz	50...60Hz	50...60Hz
输出电压 (DC)	Output voltage (DC)	0...20V	0...40V	0...60V	0...80V
-稳定度	-Stability	<2%	<2%	<2%	<2%
-纹波	-Ripple	<2%	<2%	<2%	<2%
输出电流	Output current	0...6000A	0...3000A	0...2000A	0...1500A
输出功率	Output power	120kW	120kW	120kW	120kW
风冷式产品尺寸 (WxHxD)	Dim. air cooling (WxHxD)	1800x2200x600mm	1800x2200x600mm	1800x2200x600mm	1800x2200x600mm
水冷式产品尺寸 (WxHxD)	Dim. water cooling (WxHxD)	600x2200x600mm	800x2200x600mm	800x2200x600mm	800x2200x600mm
重量	Weight	300kg	300kg	300kg	300kg

技术参数	Technical Data	EA-PS 1150-800 (WC)	EA-PS 1300-400 (WC)	EA-PS 1600-200 (WC)	EA-PS 1900-130 (WC)
输入电压	Input voltage	3x 400 +/- 10%	3x 400 +/- 10%	3x 400 +/- 10%	3x 400 +/- 10%
-频率	-Frequency	50...60Hz	50...60Hz	50...60Hz	50...60Hz
输出电压 (DC)	Output voltage (DC)	0...150V	0...300V	0...600V	0...900V
-稳定度	-Stability	<2%	<2%	<2%	<2%
-纹波	-Ripple	<2%	<2%	<2%	<2%
输出电流	Output current	0...800A	0...400A	0...200A	0...130A
输出功率	Output power	120kW	120kW	120kW	117kW
风冷式产品尺寸 (WxHxD)	Dim. air cooling (WxHxD)	1800x2200x600mm	1800x2200x600mm	1800x2200x600mm	1800x2200x600mm
水冷式产品尺寸 (WxHxD)	Dim. water cooling (WxHxD)	800x2200x600mm	800x2200x600mm	800x2200x600mm	800x2200x600mm
重量	Weight	300kg	300kg	300kg	300kg

Elektro-Automatik

EA-PS 2000 B SINGLE 100W - 320W
实验室直流电源 / LABORATORY DC POWER SUPPLIES

U
I
OVP
OT
USB

EA-PS 2084-05 B

- 微处理器控制
- 专为下列应用而设计
  - 学校，大学与实验室
  - 工业与系统应用
  - 工厂车间与研发部
  - 实验室与测试机构
- 输出功率分别有：100W, 160W 或 320W*
- 输出电压：0...42V 与 0...84V
- 输出电流：高达0...20A
- 带过温保护 (OT)
- 四位数显示屏指示电压和电流
- 自然对流冷却
- 密封式上盖与底座
- 安全输出插座
- 符合EN 60950安规标准

- **Microprocessor controlled**
- **Designed for**
  - **Schools, university, educational facilities**
  - **Industry and system applications**
  - **Workshop and development**
  - **Laboratories and test institutes**
- **Output power ratings: 100W, 160W or 320W**
- **Output voltages: 0...42V and 0...84V**
- **Output currents: up to 0...20A**
- **Overtemperature protection (OT)**
- **Four-digit display for voltage and current**
- **Convection cooling**
- **Chassis top and bottom closed**
- **Safety output sockets**
- **Safety EN60950**

概要

EA-PS 2000 B系列实验室电源有三种额定输出功率，100W，160W和320W*。本系列的优点为结构紧凑，外壳实用，输出参数优越。其上下盖完全封闭，无外置散热片。故特别适用于学校和培训机构。

产品前板装有安全输出插座。可从零至所需电压和电流之间自由调节。该系列允许多个并联或串联。灵活的功率管理系统保证在满载时操作稳定可靠。

保护功能

本系列除了具有标准保护功能如过压保护(OVP)外，还可阻止峰值电压或高电压输送给用户应用设备。并带可调极限（0...110%额定电流）的过流保护特性，过流时它会即刻切断输出，从而避免损坏应用设备。

*自2012年6月始有供货

General

The laboratory power supplies of the EA-PS 2000 B series are available in three power ratings of 100W, 160W or 320W*. The series demonstrates compact design, practical housing and excellent value. The units are closed at top and bottom and have no external heatsinks. Thus they are especially suitable for use in schools and training establishments.
The safety output sockets are located on the front face of the unit. Voltage and current can be adjusted from zero to the required value. The units can be connected in parallel or in series. A flexible power management ensures reliable operation at full load.

Protective features

Besides standard features like overvoltage protection (OVP), which is intended to protect sensitive user applications against unwanted voltage peaks or high voltage, the series now features an overcurrent protection with an adjustable threshold of 0...110% nominal current. It will protect a malfunctioning application from overcurrent by immediate output shutdown.

*Available from June 2012

EA-PS 2000 B SINGLE 100W - 320W
实验室直流电源 / LABORATORY DC POWER SUPPLIES

电脑接口
利用标准USB端口和Windows软件，可监控和远程控制本系列产品。要解锁产品及使软件能完全工作，需为每台产品购买一许可证。随附软件套件有一条USB线，可用它将电脑与产品连接起来。还可提供LabView™ VIs和编程文档。

灵活可选的功率范围
设定电压和电流值可相互调整，根据P = U * I公式，保证这些输出值维持在最大输出功率范围内。这样用户可选择输出高电压或大电流。

控制和监控软件
EasyPS2000软件以CD方式供应，该软件能完全远程控制或监控本产品。在图形用户界面上显示所有功能。该软件的多实例模式允许同步控制多台产品。

主要特征：
- 事件日志
- 解开产品许可证对话框
- 通过CSV表格进行自动控制（排序）
- 以CSV格式记录数据
- 兼容Windows
- 使用简便的图形用户界面
- 一台PS 2000 B产品一个实例

选项功能
- EasyPS2000软件的产品许可证

PC interface
The unit can be monitored and remotely controlled by a Windows software and via an USB port which is equipped as standard. In order to unlock a device and to enable full functionality of the software, it is required to purchase a licence for every unit. Connection to the PC is done with the USB cable, which is included with the software kit. LabView™ VIs and programming documentation are also available.

Flexible power ranging
The set values of voltage and current adjust each other in order to maintain the max. output power according to P = U * I. This allows to work with either high output voltage or with high output current.

Control and monitoring software
The software EasyPS2000, which is contained on an optionally available software CD, allows complete remote control or monitoring of the device. All functions of the device are also available on the graphical user interface. Multiple instances of the software allow control of several units simultaneously.
The main features:
- Event log
- Unlocking dialogue for device licences
- Automated control by CSV tables (sequencing)
- Data logging to CSV
- Windows compatible
- Easy to use GUI
- One PS 2000 B per instance

Options
- Device licence for EasyPS2000 control software

技术参数	Technical Data	PS 2042-06B	PS 2042-10B	PS 2042-20B	PS 2084-03B	PS 2084-05B	PS 2084-10B
输入电压	**Input voltage**	90...264V	90...264V	90...264V	90...264V	90...264V	90...264V
-频率	-Frequency	45...65Hz	45...65Hz	45...65Hz	45...65Hz	45...65Hz	45...65Hz
-功率因数	-Power factor	>0.99	>0.99	>0.99	>0.99	>0.99	>0.99
输出电压	**Output voltage**	0...42V	0...42V	0...42V	0...84V	0...84V	0...84V
-负载0-100% 时的稳定度	-Stability at 0-100% load	<0.15%	<0.15%	<0.15%	<0.15%	<0.15%	<0.15%
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.02%	<0.02%	<0.02%	<0.02%	<0.02%	<0.02%
-纹波 BWL 20MHz	-Ripple BWL 20MHz	<80mV$_{PP}$ 9mV$_{RMS}$	<80mV$_{PP}$ 9mV$_{RMS}$	<80mV$_{PP}$ 9mV$_{RMS}$	<60mV$_{PP}$ 10mV$_{RMS}$	<60mV$_{PP}$ 10mV$_{RMS}$	<60mV$_{PP}$ 10mV$_{RMS}$
-负载从10%-100%调整需时	-Regulation 10-100% load	<1ms	<2ms	<2ms	<2ms	<1ms	<1ms
-OVP过压保护调节范围	-OVP adjustment	0...46.2V	0...46.2V	0...46.2V	0...92.4V	0...92.4V	0...92.4V
-精确度	-Accuracy	≤0.2%	≤0.2%	≤0.2%	≤0.2%	≤0.2%	≤0.2%
输出电流	**Output current**	0...6A	0...10A	0...20A	0...3A	0...5A	0...10A
-0-100% Δ U_{OUT}时的稳定度	-Stability at 0-100% ΔU_{OUT}	<0.05%	<0.05%	<0.05%	<0.05%	<0.05%	<0.05%
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.15%	<0.15%	<0.15%	<0.15%	<0.15%	<0.15%
-纹波	-Ripple	<25mA$_{PP}$ 9mA$_{RMS}$	<40mA$_{PP}$ 15mA$_{RMS}$	<80mA$_{PP}$ 30mA$_{RMS}$	<6mA$_{PP}$ 2mA$_{RMS}$	<9mA$_{PP}$ 3mA$_{RMS}$	<18mA$_{PP}$ 6mA$_{RMS}$
-精确度	-Accuracy	≤0.2%	≤0.2%	≤0.2%	≤0.2%	≤0.2%	≤0.2%
效率	**Efficiency**	85%	85%	85%	85%	85%	85%
输出功率	**Output power**	100W	160W	320W	100W	160W	320W
保护级别	**Protection class**	1					
制冷方式	**Cooling**	无风扇，自然对流冷却 / fanless, natural convection					
工作温度	**Operation temperature**	0...50°C					
储存温度	**Storage temperature**	-20...70°C					
尺寸 (WxHxD)	**Dimensions (WxHxD)**	174x82x240mm	174x82x240mm	174x82x320mm	174x82x240mm	174x82x240mm	174x82x320mm
重量	**Weight**	1.9kg	2kg	2.3kg	1.9kg	2kg	2.3kg
产品编号	**Article No.**	39200112	39200113	39200114	39200116	39200117	39200118

所有参数为典型值 / All values are typical values

日期 / Date: 14.05.12

Elektro-Automatik

EA-PS 2000 B TRIPLE 212W / 332W
实验室直流电源 / LABORATORY DC POWER SUPPLIES

U

I

OVP

OT

USB

EA-PS 2342-10B

- 专为下列应用而设计
  - 学校，大学与实验室
  - 工业与系统应用
  - 工厂车间与研发部
  - 实验室与测试机构
- 输出电压: 2x 0...42V 或 2x 0...84V
- 输出电流: 0...3A, 0...5A, 0...6A 或 0...10A
- 辅助输出: 3...6V, 12W
- 带过温保护 (OT)
- 四位数显示屏指示电压和电流
- 自然对流冷却
- 密封式上盖与底座
- 安全输出插座

- **Designed for**
  - **Schools, university and educational facilities**
  - **Industry and system applications**
  - **Workshop and development**
  - **Laboratories and test institutes**
- **Output voltages: 2x 0...42V or 2x 0...84V**
- **Output currents: 0...3A, 0...5A, 0...6A or 0...10A**
- **Auxiliary output: 3...6V, 12W**
- **Overtemperature protection (OT)**
- **Four-digit display for voltage and current**
- **Convection cooling**
- **Chassis top and bottom closed**
- **Safety output sockets**

概要

EA-PS 2000 B Triple系列实验室电源输出两组主输出，功率可为100W或160W ，另外还有一组3...6V与12W的辅助输出。
新的“追踪”功能，让用户通过控制面板左边的旋钮可同时控制这两组输出。它们之间相互隔离，可以串联或并联。结合该追踪特征，用户可以设置另外一不同的输出，如±15V。

安全输出插座位于产品前板。能从零到最大值之间调节电压和电流。

保护功能

本系列除了具有标准保护功能如过压保护(OVP)外，还可阻止峰值电压或高电压输送给用户应用设备。并带可调极限（0...110%额定电流）的过流保护特性，过流时它会即刻切断输出，从而避免损坏应用设备。

General

The power supplies of the EA-PS 2000 B Triple series have two main outputs of 100W or 160W each and an auxiliary output with 3...6V and 12W.
The new „Tracking“ feature provides simultaneous control of both main outputs with the adjustment knobs of the left-hand control panel. The outputs are galvanically isolated to each other and can be connected in series or parallel. In combination with the tracking feature, the user can set up a variable ±15V output, for example.
The safety output sockets are located on the front panel of the unit. Voltage and current can be adjusted from zero to maximum.

Protective features

Besides basic features like overvoltage protection (OVP), which is intended to protect sensitive user applications against unwanted voltage peaks or high voltage, the series now features an overcurrent protection with an adjustable threshold of 0...110% nominal current. It will protect a mal-functioning application from overcurrent by immediate output shutdown.

EA-PS 2000 B TRIPLE 212W & 332W
实验室直流电源 / LABORATORY DC POWER SUPPLIES

电脑接口
利用标准USB端口和Windows软件，可监控和远程控制本系列产品。要解锁产品及使软件能完全工作，需为每台产品购买一许可证。随附软件套件内有一条USB线，可用它连接电脑与产品。还可提供LabView™ VIs和编程文档。

灵活可选的功率范围
设定电压和电流值可相互调整，根据P = U * I公式，保证这些输出值维持在最大输出功率范围内。这样用户可选择输出高电压或大电流。

控制和监控软件
EasyPS2000软件以CD方式供应，该软件能完全远程控制或监控本产品。在图形用户界面上显示所有功能。该软件的多实例模式允许同步控制多台产品。

主要特征：
- 事件日志
- 解开产品许可证对话框
- 通过CSV表格进行半自动控制（排序）
- 以CSV格式记录数据
- 使用简便的图形用户界面
- 一台PS 2000 B产品一个实例

选项功能
- EasyPS2000软件的产品许可证

PC interface
The unit can be monitored and remotely controlled by a Windows software and via the standard USB port. In order to unlock a device and to enable full functionality of the software, it is required to purchase a licence for every unit. Connection to the PC is done with the USB cable which is included with the software kit. LabView™ VIs and programming documentation are also available.

Flexible power ranging
The set values of voltage and current adjust each other in order to maintain the max. output power according to P = U * I. This allows to work with either high output voltage or with high output current.

Control and monitoring software
The software EasyPS2000, which is contained on an optionally available software CD, allows complete remote control or monitoring of the device. All functions of the device are also available on the graphical user interface. Multiple instances of the software allow control of several units simultaneously.
The key features:
- Event log
- Unlocking dialogue for device licences
- Semi-automatic control by CSV tables (sequencing)
- Data logging to CSV
- Easy to use GUI
- One PS 2000 B per instance

Options
- Device licence for EasyPS2000 control software

技术参数	Technical Data	EA-PS 2342-06 B	EA-PS 2342-10 B	EA-PS 2384-03 B	EA-PS 2384-05 B
输入电压	Input voltage	90...264V	90...264V	90...264V	90...264V
-频率	-Frequency	45...65Hz	45...65Hz	45...65Hz	45...65Hz
-功率因数	-Power factor	>0.99	>0.99	>0.99	>0.99
输出电压	Output voltage	Output 1+2: 0...42V Output 3: 3...6V	Output 1+2: 0...42V Output 3: 3...6V	Output 1+2: 0...84V Output 3: 3...6V	Output 1+2: 0...84V Output 3: 3...6V
-负载0-100% 时的稳定度	-Stability at 0-100% load	<0.15%	<0.15%	<0.15%	<0.15%
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.02%	<0.02%	<0.02%	<0.02%
-纹波 BWL 20MHz	-Ripple BWL 20MHz	<80mV$_{PP}$ / <9mV$_{RMS}$	<80mV$_{PP}$ / <9mV$_{RMS}$	<60mV$_{PP}$ / <10mV$_{RMS}$	<60mV$_{PP}$ / <10mV$_{RMS}$
-负载从10%-90%调整需时	-Regulation 10-90% load	<2ms	<2ms	<2ms	<2ms
-OVP过压保护调节范围	-Overvoltage protection	0...46.2V	0...92.4V	0...46.2V	0...92.4V
-精确度	-Accuracy	≤0.2%	≤0.2%	≤0.2%	≤0.2%
输出电流	Output current	Output 1+2: 0...6A Output 3: max. 4A	Output 1+2: 0...10A Output 3: max. 4A	Output 1+2: 0...3A Output 3: max. 4A	Output 1+2: 0...5A Output 3: max. 4A
-0-100% Δ U_{OUT}时的稳定度	-Stability at 0-100% ΔU_{OUT}	<0.15%	<0.15%	<0.15%	<0.15%
-1+2组输出的纹波	-Ripple output 1+2	<25mA$_{PP}$ / 9mA$_{RMS}$	<40mA$_{PP}$ / 15mA$_{RMS}$	<6mA$_{PP}$ / 2mA$_{RMS}$	<9mA$_{PP}$ / 3mA$_{RMS}$
-精确度	-Accuracy	≤0.2%	≤0.2%	≤0.2%	≤0.2%
-效率	Efficiency	85%	85%	85%	85%
输出功率	Output power	2x 100W + 1x 12W	2x 160W + 1x 12W	2x 100W + 1x 12W	2x 160W + 1x 12W
保护级别	Protection class	1			
制冷方式	Cooling	无风扇，自然对流冷却 / fanless, natural convection			
工作温度	Operation temperature	0...50°C			
工作温度	Storage temperature	-20...70°C			
尺寸 (WxHxD)	Dimensions (WxHxD)	外壳尺寸 / Enclosure: 282x82x243mm			
		整体尺寸 / Overall: 282x90x260mm			
重量	Weight	3.8kg	4kg	3.8kg	4kg
产品编号	Article No.	39200120	39200121	39200125	39200126

Elektro-Automatik

EA-PS 3000 B 160W - 650W
实验室直流电源 / LABORATORY DC POWER SUPPLIES

EA-PS 3032-10 B

- 输入电压可选 115V / 230V (160W/320W)
- 宽范围输入电压90...264V带PFC (650W)
- 输出功率：160W 至 650W
- 输出电压：0...16V 至 0...150V
- 输出电流：0...4A 至 0...40A
- 电压和电流可粗调和精调
- 有过压保护 (OVP)
- 有过温保护 (OT)
- 三位数显示器读显电压和电流
- LED指示状态
- 远程感测功能
- 多功能模拟接口
  通过 0...10V 电压可对U / I 编程
  通过 0...10V 电压可监控U / I
- 温控风扇制冷
- 可选USB适配器EA-UTA12（外置）

- **Input voltage @160W/320W: 115V / 230V (selectable)**
- **Input voltage @ 640W/650W: 90...264V (PFC)**
- **Output power ratings: 160W up to 650W**
- **Output voltages: 0...16V up to 0...150V**
- **Output currents: 0...4A up to 0...40A**
- **Voltage and current adjustable coarse and fine**
- **Overvoltage protection (OVP)**
- **Overtemperature protection (OT)**
- **Three-digit display for voltage and current**
- **Status indication via LEDs**
- **Remote sense**
- **Analogue interface with many functions**
  U / I programmable with 0...10V
  U / I monitoring with 0...10V
- **Temperature controlled fans for cooling**
- **Optional USB adapter EA-UTA12 (external)**

概要

EA-PS 3000 B系列电源具备多种多样的功能，包括：可预设电流和OVP的LED显示器，外接模拟接口，还有状态指示灯。

160W和320W产品基于线性技术，而650W基于开关性技术和功率因数校正线路。
上下盖无任何通风槽，也无外部散热器。这种安全和保护方式使产品成为学校和大学，以及测试和研发实验室与工业领域的理想选择。

输入

所有型号都采用主动式**功率因数**校正线路，使产品在全世界范围内都适用，输入电压为90V至264V AC，或可在115V和230V AC间转换。

输出

本系列有多款不同型号，可选择0...16V和0...150V输出电压，0...4A和0...40A输出电流，160W和650W输出功率的型号。输出端位于产品前面板。

过压保护(OVP)

为保护连接负载，可调节一过压保护极限值(OVP)。

若输出电压超过调节极限值，输出被切断，LED灯和模拟接口端口发出状态信号。

General

The power supply series EA-PS 3000 B offers versatile functionality: LED displays with preset functions for current and OVP, an extensive analogue interface and status indicators via LEDs.
Along with the linear technology power classes of 160W and 320W, there is a 650W power class with switching technology and PFC.
There are no ventilation slots in either the top or base of the units, also no external heatsinks. This attention to safety and protection makes it ideal for schools and universities as well as test and development laboratories and industry.

Input

The devices use an active **P**ower **F**actor **C**orrection, enabling worldwide use on a mains input from 90V up to 264V AC or they are also switchable between 115V and 230V AC.

Output

A variety of output voltages between 0...16V and 0...150V, output currents between 0...4A and 0...40A and output powers between 160W and 650W is available.
The output terminal is located on the front panel.

Overvoltage protection (OVP)

In order to protect connected loads, it is possible to adjust an overvoltage protection threshold (OVP).
If the output voltage exceeds the defined limit, the output is cut off and a status signal by LED and via the analogue interface will be generated.

EA-PS 3000 B 160W - 650W
实验室直流电源 / LABORATORY DC POWER SUPPLIES

远程感测端
远程感测输入端可直接连到负载设备，以补偿连线上的压降。

显示和控制
输出电压和电流清晰显示于两个3位数显示器上。通过LED灯指示产品和按钮的功能状态，使用户操作起来更简便。
用电位器可调节输出电压、电流和OVP(过压保护)值。

输出值的预设
要设置输出值，但不影响输出状态，可采用预设功能。
通过此功能用户可预设输出电压、电流和过压保护值(OVP)。

模拟接口
模拟接口连接点位于产品前板。此处有模拟接口输入脚，接上0V...10V电压，可设置0...100%的输出电压、电流。
此外，还有数个输入脚和输出脚，用来控制和监控产品状态。

选购件
- USB适配器EA-UTA12，见62页

Remote sense
The sense input can be connected directly to the load to compensate voltage drops along the high power leads.

Display and controls
Output voltage and output current are clearly represented on two three-digit displays. The operation states of the equipment and the pushbuttons will be indicated by LEDs, that makes the operation essentially simpler for the user. The adjustment for voltage, current and OVP is realised by potentiometers.

Presetting of output values
To set output values without a direct effection to the output condition, a preset function is implemented.
With this function the user can preset values for the output voltage, output current and overvoltage protection (OVP).

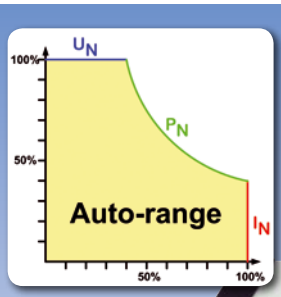
Analogue Interface
The connection for the analogue interface is located on the front of the device. Analogue inputs and outputs are available for the common voltage range of 0V...10V, used to set and monitor voltage and current from 0...100%.
Furthermore, several inputs and outputs are available for controlling and monitoring the device status.

Options
- USB adapter EA-UTA12 (see page 62)

技术参数	Technical Data	EA-PS 3016-10B	EA-PS 3032-05B	EA-PS 3065-03B	EA-PS 3016-20B	EA-PS 3032-10B
输入电压	Input voltage	115/230V	115/230V	115/230V	115/230V	115/230V
-频率	-Frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
输出电压 (DC)	Output voltage (DC)	0...16V	0...32V	0...65V	0...16V	0...32V
-负载0-100% 时的稳定度	-Stability at 0-100% load	<10mV	<10mV	<10mV	<10mV	<8mV
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<1mV$_{RMS}$	<1mV$_{RMS}$	<1mV$_{RMS}$	<5mV$_{RMS}$	<5mV$_{RMS}$
-纹波	-Ripple	<2mV$_{RMS}$	<2mV$_{RMS}$	<2mV$_{RMS}$	<2mV$_{RMS}$	<2mV$_{RMS}$
-负载从10%-100%调整需时	-Regulation 10-100% load	<1ms	<1ms	<1ms	<1ms	<1ms
-OVP过压保护调节范围	-OVP adjustment	0...17.6V	0...35.2V	0...71.5V	0...17.6V	0...35.2V
输出电流	Output current	0...10A	0...5A	0...3A	0...20A	0...10A
-0-100% Δ U_{OUT}时的稳定度	-Stability at 0-100% ΔU_{OUT}	<4mA	<4mA	<4mA	<4mA	<4mA
输出功率	Output power	160W	160W	160W	320W	320W
安规标准	Safety	EN60950	EN60950	EN60950	EN60950	EN60950
尺寸 (WxHxD)	Dimensions (WxHxD)	240x120x300mm	240x120x300mm	240x120x300mm	240x120x300mm	240x120x300mm
重量	Weight	6.5kg	6.5kg	6.5kg	10kg	10kg
产品编号	Article No.	35320170	35320171	35320172	353201703	35320174

技术参数	Technical Data	EA-PS 3065-05B	EA-PS 3016-40B	EA-PS 3032-20B	EA-PS 3065-10B	EA-PS 3150-04B
输入电压	Input voltage	115/230V	90...264V	90...264V	90...264V	90...264V
-频率	-Frequency	50/60Hz	45...65Hz	45...65Hz	45...65Hz	45...65Hz
输出电压 (DC)	Output voltage (DC)	0...65V	0...16V	0...32V	0...65V	0...150V
-负载0-100% 时的稳定度	-Stability at 0-100% load	<10mV	<10mV	<20mV	<30mV	<40mV
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<5mV$_{RMS}$	<2mV$_{RMS}$	<2mV$_{RMS}$	<2mV$_{RMS}$	<30mV$_{RMS}$
-纹波	-Ripple	<2mV$_{RMS}$	<10mV$_{RMS}$	<10mV$_{RMS}$	<10mV$_{RMS}$	<5mV$_{RMS}$
-负载从10%-100%调整需时	-Regulation 10-100% load	<1ms	<3ms	<3ms	<3ms	<3ms
-OVP过压保护调节范围	-OVP adjustment	0...71.5V	0...17.6V	0...35.2V	0...71.5V	0...165V
输出电流	Output current	0...5A	0...40A	0...20A	0...10A	0...4A
-0-100% Δ U_{OUT}时的稳定度	-Stability at 0-100% ΔU_{OUT}	<4mA	<50mA	<50mA	<50mA	<10mA
输出功率	Output power	325W	640W	640W	650W	640W
安规标准	Safety	EN60950	EN60950	EN60950	EN60950	EN60950
尺寸 (WxHxD)	Dimensions (WxHxD)	240x120x300mm	240x120x300mm	240x120x300mm	240x120x300mm	240x120x300mm
重量	Weight	10kg	5.5kg	5.5kg	5.5kg	5.5kg
产品编号	Article No.	35320175	35320176	35320177	35320178	35320179

EA-PS 800 R 320W - 5000W
内嵌式直流电源 / BUILT-IN DC POWER SUPPLIES



320W / 640W 结构类型/type

1kW/1.5kW结构类型/type

- 宽范围输入电压90...264V（1500W以下型号）
- 两相输入电压340...460V（5000W型号）
- 效率高达 93.5%
- 输出功率：320W 至 5000W
- 输出电压：0...16V 至 0...500V
- 输出电流：4A 至 170A
- 灵活的功率调整输出**
- 有过压保护(OVP)
- 有过温保护(OT)
- LED灯指示状态
- 自动检测远程感测
- 0...10V模拟接口
- 自然风冷却*
- 温控风扇制冷**

- **Wide range input 90...264V (models up to 1500W)**
- **Two-phase input 340...460V (5000W models)**
- **High efficiency up to 93.5%**
- **Output power ratings: 320W up to 5000W**
- **Output voltages: 0...16V up to 0...500V**
- **Output currents: 4A up to 170A**
- **Auto-ranging output stage****
- **Overvoltage protection (OVP)**
- **Overtemperature protection (OT)**
- **Status indication via LEDs**
- **Remote sense with automatic detection**
- **Analogue interface for 0...10V**
- **Natural convection cooling***
- **Temperature controlled fans for cooling****

概要

EA-PS 800 R系列是一款由微处理器控制，采用最新技术设计的实验室电源。它配备多种功能，是用户使用非常方便和极其有效的工具。

1kW 以上型号输出功率灵活变化，在低电流时输出更高的电压，或在低电压时输出更大的电流，都由最大输出功率来限制。因此一台该仪器能涵盖广范围的应用领域。

输入

采用主动式功率因数校正线路，使产品在全世界范围内都适用，输入电压为 90V 至 264V AC（针对 1.5kW 以下型号），也可在 340V...460V AC 两相输入电压下操作。

General

The microprocessor controlled wall mount power supplies of the series EA-PS 800 R offer useful integrated functions, turning them into an extremely effective and highly comfortable tool for the user.

Units as from 1000W output power are equipped with a flexible autoranging output stage which provides a higher output voltage at lower output current, or a higher output current at lower output voltage, always limited to the max. nominal output power. Therefore, a wide range of applications can already be covered by the use of just one single unit.

Input

The equipment uses an active PFC and is suitable for worldwide operation on mains supply of 90...264V (models up to 1.5kW) or require a two-phase input with 340...460V AC.

* 650W以下型号
** 1000W以上型号

* Models up to 650W
** Models from 1000W

EA-PS 800 R 320W - 5000W
内嵌式直流电源 / BUILT-IN DC POWER SUPPLIES

输出
本系列有多款不同型号，可选择0...16V和0...500V输出电压，4A和170A输出电流，320W， 640W，1000W，1500W和5kW输出功率的类型。输出电压可分成3个调节范围。电压和电流不可调，故限制在额定值范围内。

过压保护(OVP)
为避免连接负载接收过多电压，可设定一过压保护值(OVP)。它会根据输出电压自动调整。意即，它会以一固定偏移值随调节后输出电压变动。若出现过压，输出自动被切断，前板和模拟接口端口发出报警信号。

远程感测端
远程感测输入端可直接连到负载设备，以补偿连线上的压降。如果输入端已接上负载，本电源会自动调整输出电压，以确保负载获得准确所需的电压值。

模拟接口
模拟输入脚接上0V...10V电压，可设置0...100%的输出电压和电流，然后通过模拟输出脚接上0V...10V电压来监控输出电压和电流。此外，还有几个输入脚和输出脚，用来控制和监控产品状态。

并联
1kW - 5kW型号有一额外的共享总线端子，可轻易将10台产品并联，从而获得均匀的电流分布。

选项
- 水冷制冷方式（仅供5kW型号产品）

Output
Different units with output voltages from 0...16V to 0...500V, currents from 4A to 170A and power ratings of 320W, 640W, 1000W, 1500W and 5kW are available. The output voltage of each model is divided into three selectable adjustment ranges. The power limitation is not adjustable and thus limited to the nominal value, the current limitation is adjustable via the analogue interface only.

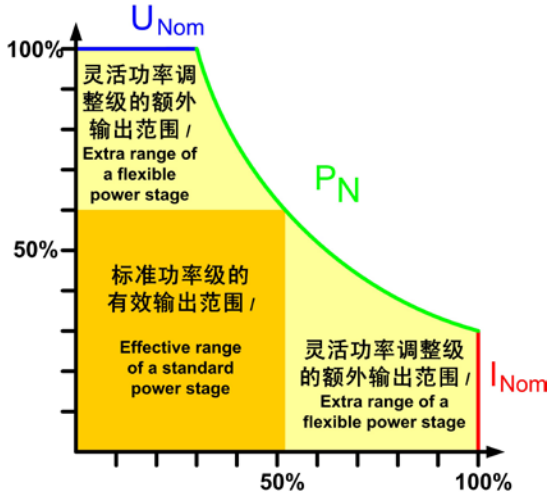
Overvoltage protection (OVP)
To protect equipment connected against excess of voltage, an overvoltage protection (OVP) is implemented, which will automatically adjust according to the output voltage. I means, it will follow the adjusted output voltage with a fixed offset. In case of overvoltage, the output will disconnect automatically and an alarm will be generated both on the front panel and the analogue interface.

Remote sense
The sense input can be connected directly to the load to compensate voltage drops along the power leads. If the sense input is connected to the load, the power supply will correct the output voltage automatically in order to ensure that the accurate required voltage is available on the load.

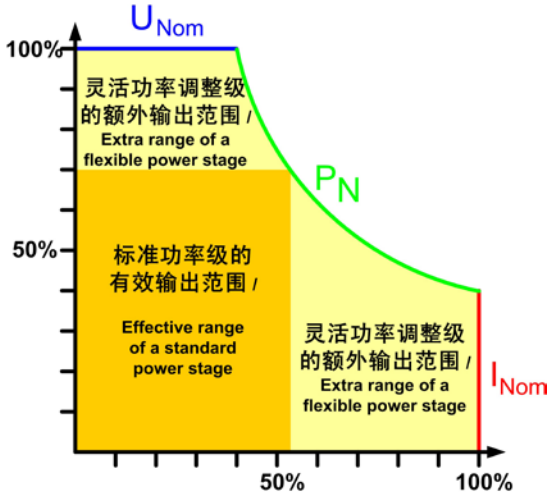
Analogue interface
Analogue inputs for control voltages in the common 0...10V range for setting voltage and current from 0...100% are available. To monitor output voltage and current, analogue outputs are realised with voltage range of 0...10V. Furthermore, there are several digital inputs and outputs to control and monitor the device status.

Parallel connection
The 1kW - 5kW models feature an additional Sharebus connector, which makes it easy to connect up to 10 units in parallel operation and in order to gain symmetric current distribution.

Options
- Water cooling (only for 5kW models)



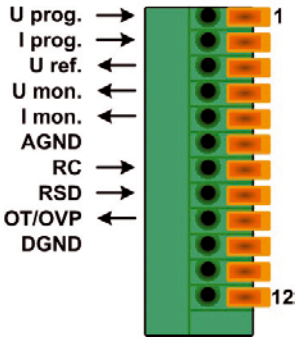
1000/1500W型号的功率范围 /
Power range of 1000/1500W models



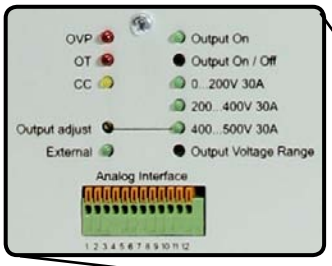
5000W型号的功率范围 /
Power range of 5000W models

EA-PS 800 R 320W - 5000W
内嵌式直流电源 / BUILT-IN DC POWER SUPPLIES

模拟接口 / **Analogue interface**



控制面板
Control panel



5kW结构类型/type

技术参数	Technical Data	EA-PS 816-20 R	EA-PS 832-10 R	EA-PS 865-05 R	EA-PS 832-20 R	EA-PS 865-10 R
输入电压	**Input voltage**	90...264V	90...264V	90...264V	90...264V	90...264V
-频率	-Frequency	45...65Hz	45...65Hz	45...65Hz	45...65Hz	45...65Hz
-功率因数	-Power factor	>0.99	>0.99	>0.99	>0.99	>0.99
输出电压 (DC)	**Output voltage (DC)**	0...16V	0...32V	0...65V	0...32V	0...65V
-负载0-100% 时的稳定度	-Stability at 0-100% load	<0.05%	<0.05%	<0.05%	<0.05%	<0.05%
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.02%	<0.02%	<0.02%	<0.02%	<0.02%
-纹波	-Ripple	<40mV_{PP} <4mV_{RMS}	<100mV_{PP} <10mV_{RMS}	<150mV_{PP} <20mV_{RMS}	<100mV_{PP} <8mV_{RMS}	<150mV_{PP} <10mV_{RMS}
-负载从10%-100%调整需时	-Regulation 10-100% load	<2ms	<2ms	<2ms	<2ms	<2ms
-感测端调整电压	-Sense regulation	max. 2V	max. 2V	max. 2V	max. 2V	max. 2V
-10-90% 的转换速率	-Slew rate 10-90%	max. 30ms	max. 30ms	max. 30ms	max. 30ms	max. 30ms
输出电流	**Output current**	0...20A	0...10A	0...5A	0...20A	0...10A
-0-100%ΔU_{OUT} 时的稳定度	-Stability at 0-100% ΔU_{OUT}	<0.15%	<0.15%	<0.15%	<0.15%	<0.15%
-±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.05%	<0.05%	<0.05%	<0.05%	<0.05%
-纹波	-Ripple	<60mA_{PP} <10mA_{RMS}	<35mA_{PP} <7mA_{RMS}	<12mA_{PP} <3mA_{RMS}	<65mA_{PP} <10mA_{RMS}	<25mA_{PP} <3mA_{RMS}
输出功率	**Output power**	320W	320W	325W	640W	650W
效率	**Efficiency**	90.5%	89%	92%	90.5%	91%
过压类别	**Overvoltage category**	2				
污染等级	**Pollution degree**	2				
保护等级	**Protection class**	1				
模拟编程	**Analogue programming**	0...10V				
制冷方式	**Cooling**	底盖进风，上盖排风/ Bottom air inlet and top exhaust				
工作温度	**Operation temperature**	0...50°C				
尺寸 (WxHxD)	**Dimensions (WxHxD)**	218x163x83mm	218x163x83mm	218x163x83mm	218x163x83mm	218x163x83mm
安装尺寸 (WxHxD)	**Installation dim. (WxHxD)**	218x190x85mm	218x190x85mm	218x190x85mm	218x190x85mm	218x190x85mm
重量	**Weight**	2.2kg	2.2kg	2.2kg	2.2kg	2.2kg
产品编号	**Article No.**	21540101	215401102	21540103	21540104	21540105

日期 / Date: 14.05.12

Elektro-Automatik

EA-PS 800 R 320W - 5000W
内嵌式直流电源 / BUILT-IN DC POWER SUPPLIES

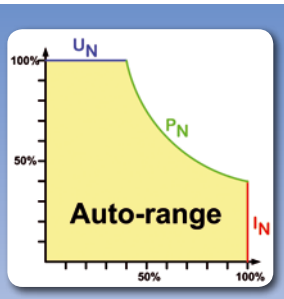
技术参数	Technical Data	EA-PS 8160-04 R	EA-PS 880-40 R	EA-PS 8360-10 R	EA-PS 880-60 R	EA-PS 8360-15 R
输入电压	Input voltage	90...264V	90...264V	90...264V	90...264V	90...264V
-频率	-Frequency	45...65Hz	45...65Hz	45...65Hz	45...65Hz	45...65Hz
-功率因数	-Power factor	>0.99	>0.99	>0.99	>0.99	>0.99
输出电压 (DC)	Output voltage (DC)	0...160V	0...80V	0...360V	0...80V	0...360V
-负载0-100% 时的稳定度	-Stability at 0-100% load	<0.05%	<0.05%	<0.05%	<0.05%	<0.05%
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.02%	<0.02%	<0.02%	<0.02%	<0.02%
-纹波	-Ripple	<120mV$_{PP}$ <20mV$_{RMS}$	<10mV$_{PP}$ <5mV$_{RMS}$	<30mV$_{PP}$ <12mV$_{RMS}$	<10mV$_{PP}$ <5mV$_{RMS}$	<30mV$_{PP}$ <12mV$_{RMS}$
-负载从10%-100%调整需时	-Regulation 10-100% load	<2ms	<2ms	<2ms	<2ms	<2ms
-感测端调整电压	-Sense regulation	max. 2V	max. 2V	max. 8V	max. 2V	max. 8V
-10-90% 的转换速率	-Slew rate 10-90%	max. 30ms	max. 30ms	max. 30ms	max. 30ms	max. 30ms
输出电流	Output current	0...4A	0...40A	0...10A	0...60A	0...15A
-0-100%ΔU_{OUT} 时的稳定度	-Stability at 0-100% ΔU_{OUT}	<0.15%	<0.15%	<0.15%	<0.15%	<0.15%
-±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.05%	<0.05%	<0.05%	<0.05%	<0.05%
-纹波	-Ripple	<3mA$_{PP}$ <1mA$_{RMS}$	<19mA$_{PP}$ <7mA$_{RMS}$	<1,2mA$_{PP}$ <0,45mA$_{RMS}$	<19mA$_{PP}$ <7mA$_{RMS}$	<1,2mA$_{PP}$ <0,45mA$_{RMS}$
输出功率	Output power	640W	1000W	1000W	1500W	1500W
效率	Efficiency	92%	93%	93%	93%	93%
过压类别	Overvoltage category	2				
污染等级	Pollution degree	2				
保护等级	Protection class	1				
模拟编程	Analogue programming	0...10V				
制冷方式	Cooling	底盖进风，上盖排风 / Bottom air inlet and top exhaust				
工作温度	Operation temperature	0...50°C				
尺寸 (WxHxD)	Dimensions (WxHxD)	218x163x83mm	90x360x240mm	90x360x240mm	90x360x240mm	90x360x240mm
安装尺寸 (WxHxD)	Installation dim. (WxHxD)	218x190x85mm	90x370x295mm	90x370x295mm	90x370x295mm	90x370x295mm
重量	Weight	2.2kg	6.4kg	6.4kg	6.4kg	6.4kg
产品编号	Article No.	21540106	215401107	21540109	21540108	21540110

技术参数	Technical Data	EA-PS 880-170 R	EA-PS 8200-70 R	EA-PS 8500-30 R
输入电压	Input voltage	2x 340...460V	2x 340...460V	2x 340...460V
-频率	-Frequency	50/60Hz	50/60Hz	50/60Hz
-功率因数	-Power factor	>0.99	>0.99	>0.99
输出电压 (DC)	Output voltage (DC)	0...80V	0...200V	0...500V
-负载0-100% 时的稳定度	-Stability at 0-100% load	<0.05%	<0.05%	<0.05%
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.02%	<0.02%	<0.02%
-纹波	-Ripple	<150mV$_{PP}$ / <10mV$_{RMS}$	<200mV$_{PP}$ / <25mV$_{RMS}$	<250mV$_{PP}$ / <70mV$_{RMS}$
-负载从10%-100%调整需时	-Regulation 10-100% load	<1ms	<2ms	<2ms
-感测端调整电压	-Sense regulation	max. 2.5V	max. 6V	max. 10V
-10-90% 的转换速率	-Slew rate 10-90%	17ms	17ms	17ms
输出电流	Output current	0...170A	0...70A	0...30A
-0-100%ΔU_{OUT} 时的稳定度	-Stability at 0-100% ΔU_{OUT}	<0.15%	<0.15%	<0.15%
-±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.05%	<0.05%	<0.05%
-纹波	-Ripple	<300mA$_{PP}$ / <40mA$_{RMS}$	<44mA$_{PP}$ / <11mA$_{RMS}$	<14mA$_{PP}$ / <8mA$_{RMS}$
输出功率	Output power	5000W	5000W	5000W
效率	Efficiency	93%	95.2%	95.5%
过压类别	Overvoltage category	2		
污染等级	Pollution degree	2		
保护等级	Protection class	1		
模拟编程	Analogue programming	0...10V		
制冷方式	Cooling	底盖进风，上盖排风 / Bottom air inlet and top exhaust		
工作温度	Operation temperature	0...50°C		
尺寸 (WxHxD)	Dimensions (WxHxD)	180x530x171mm	180x530x171mm	180x530x171mm
安装尺寸 (WxHxD)	Installation dim. (WxHxD)	180x595x175mm	180x595x175mm	180x595x175mm
重量	Weight	12kg	12kg	12kg
产品编号	Article No.	21540122	21540124	21540123

Elektro-Automatik

EA-PSI 800 R 320W - 5000W
可编程内嵌式直流电源 / PROGRAMMABLE BUILT-IN DC POWER SUPPLIES

U
I
OVP
OT
USB
RS232
LAN
CAN



320W/640W 类型

- 宽范围输入电压90...264V（1500W以下型号）
- 两相输入电压340...460V（5000W型号）
- 效率高达 95.5%
- 输出功率：320W 至 0...5000W
- 输出电压：0...16V 至 0...500V
- 输出电流：0...4A 至 0...170A
- 灵活的功率调整输出级**
- 有过压保护(OVP)
- 有过温保护(OT)
- 图形显示器显示所有值和功能
- 自动检测远程感测
- 0...10V或0...5V模拟接口
- 报警管理系统
- 自然风冷*
- 温控风扇制冷**
- 其它选项

- **Wide range input 90...264V (models up to 1500W)**
- **Two-phase input 340...460V (5000W models)**
- **High efficiency up to 95.5%**
- **Output power ratings: 320W up to 0...5000W**
- **Output voltages: 0...16V up to 0...500V**
- **Output currents: 0...4A up to 0...170A**
- **Auto-ranging output stage****
- **Overvoltage protection (OVP)**
- **Overtemperature protection (OT)**
- **Graphic display for all values and functions**
- **Remote sense with automatic detection**
- **Analogue interface for 0...10V or 0...5V**
- **Alarm management**
- **Natural convection cooling***
- **Temperature controlled fans for cooling****
- **Various options**

概要
EA-PSI 800 R系列是一款由微处理器控制的、底盘安装式实验室电源。它配备多种功能和特征，让用户使用起来更方便、有效。

输入
本系列采用主动式**功率因数**，使产品在全世界范围内都适用，输入电压为90V至264V AC（针对1.5kW以下型号），或在340V...460V AC两相输入电压（针对5kW型号）下操作。

功率
本系列所有产品输出功率灵活变化，在低电流时输出更高的电压，或在低电压时输出更大的电流，都由最大额定输出功率来限制。

General
The microprocessor controlled chassis mounting power-supplies from series EA-PSI 800 R have a multitude of functions and features making the use of this equipment easier and more effective.

Input
The equipment uses an active PFC and are suitable for worldwide operation on mains supply of 90...264V (models up to 1500W) or require a two-phase input with 340...460V AC (5000W models).

Power
All models are equipped with a flexible autoranging output stage. It provides a higher output voltage at lower output current, or a higher output current at lower output voltage, always limited to the max. nominal output power.

* 650W以下型号
** 1000W以上型号

* Models up to 650W
** Models from 1000W

EA-PSI 800 R 320W - 5000W
可编程内嵌式直流电源 / PROGRAMMABLE BUILT-IN DC POWER SUPPLIES

输出
本系列有多款不同型号，可选择0...16V和0...500V输出电压，0...4A和0...170A输出电流，320W和0...5kW输出功率的型号。输出电压、电流、功率、OVP等都能通过菜单设定，并显示于显示器上。

保护功能
为保护连接负载，可设定一过压保护极限值(OVP)。若输出电压超过调节极限值，输出被关断，显示器和模拟接口都发出一状态信号。

由于可调限流功能的存在，本产品也有短路和过载保护功能。

远程感测端
远程感测输入端可直接连到负载设备，以补偿连线上的压降。如果输入端已接上负载，本电源会自动调整输出电压，以确保负载获得准确所需的电压值。

模拟接口
模拟接口输入引脚接上0V...10V或0V...5V电压，可设置0...100%的输出电压、电流。
模拟接口输出脚接上0V...10V或0V...5V电压，还可监控输出电压、电流和功率。此外，还有几个输入脚和输出脚，用来控制和监控产品状态。

并联
5000W型号有一额外的共享总线端子，可轻易将10台产品并联，从而获得均匀的电流分布。

选购件
- 可通过RS232、CAN、USB绝缘数字接口，用电脑来控制产品。接口插槽位于产品后板，方便用户插上新接口或替换当前接口。本产品将自动检测接口卡，并要求进行少许的配置或不用配置。随接口卡附有免费Windows软件，可用来控制和监控，记录数据和排序。也可参考63和64页。
- 水冷式制冷系统（仅针对5kW型号）

Output
Different units with output voltages from 0...16V to 0...500V, output currents from 0...4A to 0...170A and output power ratings of 320W up to 0...5kW are available. Output voltage, current, power, OVP etc. can be set via a menu and are shown on the integrated display.

Protective features
Intended to protect connected loads, it is possible to define an overvoltage protection threshold (OVP). If the output voltage exceeds the defined limit, the output is shut off. Also a status signal on the display and via the analogue interface will be generated.
Due to the adjustable current limitation, the devices are also short-circuit- and overload-proof.

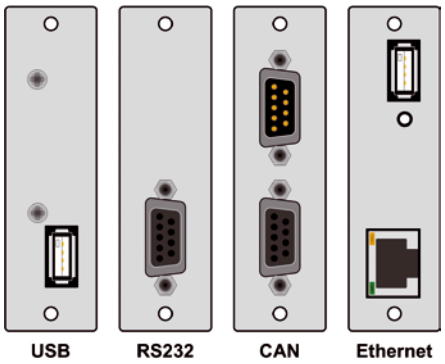
Remote sense
The sense input can be connected directly to the load to compensate voltage drops along the power leads. If the sense input is connected to the load, the power supply will correct the output voltage to ensure that the accurate required voltage is available on the load.

Analogue interface
Analogue inputs for the common voltage range 0V...10V or 0V...5V are available to set output voltage and current from 0...100%. To monitor the output voltage and current, analogue outputs for 0V...10V or 0V...5V are provided as well. Several digital inputs and outputs can be used to control and monitor the status.

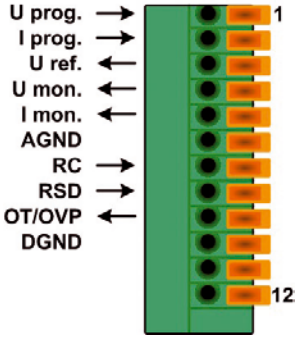
Parallel connection
The 5000W models feature an additional Sharebus connector, which makes it easy to connect up to 10 units in parallel operation and in order to gain symmetric current distribution.

Options
- Isolated digital interface cards for RS232, CAN or USB to control the device by PC. The interface slot is located on the rear panel, making it easy for the user to plug in a new interface or to replace an existing one. The interface will be automatically detected by the device and requires no or only little configuration. Included with the interface cards is a free Windows software which provides control and monitoring, data logging and sequences. See pages 63 and 64.
- Water cooling (5kW models only)

数字接口 / **Digital interfaces**

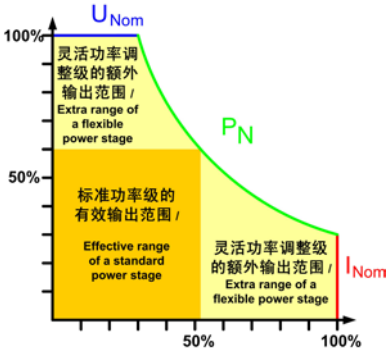


模拟接口 / **Analogue interface**



EA-PSI 800 R 320W - 5000W
可编程内嵌式直流电源 / PROGRAMMABLE BUILT-IN DC POWER SUPPLIES

EA-PSI 800 R 1.5kW



1000/1500W 型号的功率范围 /
Power range of 1000/1500W models

彩显显示器 / **Graphical display**

EA-PSI 800 R 5kW

技术参数	Technical Data	EA-PSI 816-20 R	EA-PSI 832-10 R	EA-PSI 865-05 R	EA-PSI 832-20 R	EA-PSI 865-10 R
输入电压	**Input voltage**	90...264V	90...264V	90...264V	90...264V	90...264V
-频率	-Frequency	45...65Hz	45...65Hz	45...65Hz	45...65Hz	45...65Hzy
-功率因数	-Power factor	>0.99	>0.99	>0.99	>0.99	>0.99
输出电压 (DC)	**Output voltage (DC)**	0...16V	0...32V	0...65V	0...32V	0...65V
-负载0-100% 时的稳定度	-Stability at 0-100% load	<0.05%	<0.05%	<0.05%	<0.05%	<0.05%
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.02%	<0.02%	<0.02%	<0.02%	<0.02%
-纹波	-Ripple HF	<40mV$_{PP}$ <4mV$_{RMS}$	<100mV$_{PP}$ <10mV$_{RMS}$	<150mV$_{PP}$ <20mV$_{RMS}$	<100mV$_{PP}$ <8mV$_{RMS}$	<150mV$_{PP}$ <10mV$_{RMS}$
-负载从10%-100%调整需时	-Regulation 10-100% load	<2ms	<2ms	<2ms	<2ms	<2ms
-感测端调整电压	-Sense regulation	max. 2V	max. 2V	max. 2V	max. 2V	max. 2V
-10-90% 的转换速率	-Slew rate 10-90%	max. 30ms	max. 30ms	max. 30ms	max. 30ms	max. 30ms
输出电流	**Output current**	0...20A	0...10A	0...5A	0...20A	0...10A
-0-100%ΔU_{OUT} 时的稳定度	-Stability at 0-100% ΔU_{OUT}	<0.15%	<0.15%	<0.15%	<0.15%	<0.15%
-±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.05%	<0.05%	<0.05%	<0.05%	<0.05%
-纹波	-Ripple	<60mA$_{PP}$ <10mA$_{RMS}$	<35mA$_{PP}$ <7mA$_{RMS}$	<12mA$_{PP}$ <3mA$_{RMS}$	<65mA$_{PP}$ <10mA$_{RMS}$	<25mA$_{PP}$ <3mA$_{RMS}$
输出功率	**Output power**	320W	320W	325W	640W	650W
效率	**Efficiency**	90.5%	89%	92%	90.5%	91%
过压类别	**Overvoltage category**	2				
污染等级	**Pollution degree**	2				
保护等级	**Protection class**	1				
模拟编程	**Analogue programming**	0...10V 或 0...5V, 可选 / 0...10V or 0...5V, selectable				
制冷方式	**Cooling**	底盖进风，上盖排风/ Bottom air inlet and top exhaust				
工作温度	**Operation temperature**	0...50°C				
尺寸 (WxHxD)	**Dimensions (WxHxD)**	218x163x83mm	218x163x83mm	218x163x83mm	218x163x83mm	218x163x83mm
安装尺寸 (WxHxD)	**Installation dim. (WxHxD)**	218x190x85mm	218x190x85mm	218x190x85mm	218x190x85mm	218x190x85mm
重量	**Weight**	2.2kg	2.2kg	2.2kg	2.2kg	2.2kg
产品编号	**Article No.**	21540401	215401402	21540403	21540404	21540405

日期 / Date: 14.05.12

Elektro-Automatik

EA-PSI 800 R 320W - 5000W
可编程内嵌式直流电源 / PROGRAMMABLE BUILT-IN DC POWER SUPPLIES

技术参数	Technical Data	EA-PSI 8160-04 R	EA-PSI 880-40 R	EA-PSI 8360-10 R	EA-PSI 880-60 R	EA-PSI 8360-15 R
输入电压	Input voltage	90...264V	90...264V	90...264V	90...264V	90...264V
-频率	-Frequency	45...65Hz	45...65Hz	45...65Hz	45...65Hz	45...65Hz
-功率因数	-Power factor	>0.99	>0.99	>0.99	>0.99	>0.99
输出电压 (DC)	Output voltage (DC)	0...160V	0...80V	0...360V	0...80V	0...360V
-负载0-100% 时的稳定度	-Stability at 0-100% load	<0.05%	<0.05%	<0.05%	<0.05%	<0.05%
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.02%	<0.02%	<0.02%	<0.02%	<0.02%
-纹波	-Ripple	<120mV$_{PP}$ <20mV$_{RMS}$	<10mV$_{PP}$ <5mV$_{RMS}$	<30mV$_{PP}$ <12mV$_{RMS}$	<10mV$_{PP}$ <5mV$_{RMS}$	<30mV$_{PP}$ <12mV$_{RMS}$
-负载从10%-100%调整需时	-Regulation 10-100% load	<2ms	<2ms	<2ms	<2ms	<2ms
-感测端调整电压	-Sense regulation	max. 2V	max. 2V	max. 8V	max. 2V	max. 8V
-10-90% 的转换速率	-Slew rate 10-90%	max. 30ms	max. 30ms	max. 30ms	max. 30ms	max. 30ms
输出电流	Output current	0...4A	0...40A	0...10A	0...60A	0...15A
-0-100%ΔU_{OUT} 时的稳定度	-Stability at 0-100% ΔU_{OUT}	<0.15%	<0.15%	<0.15%	<0.15%	<0.15%
-±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.05%	<0.05%	<0.05%	<0.05%	<0.05%
-纹波	-Ripple	<3mA$_{PP}$ <1mA$_{RMS}$	<19mA$_{PP}$ <7mA$_{RMS}$	<1,2mA$_{PP}$ <0,45mA$_{RMS}$	<19mA$_{PP}$ <7mA$_{RMS}$	<1,2mA$_{PP}$ <0,45mA$_{RMS}$
输出功率	Output power	640W	1000W	1000W	1500W	1500W
效率	Efficiency	92%	93%	93%	93%	93%
过压类别	Overvoltage category	2				
污染等级	Pollution degree	2				
保护等级	Protection class	1				
模拟编程	Analogue programming	0...10V 或 0...5V, 可选 / 0...10V or 0...5V, selectable				
制冷方式	Cooling	底盖进风，上盖排风 / Bottom air inlet and top exhaust				
工作温度	Operation temperature	0...50°C				
尺寸 (WxHxD)	Dimensions (WxHxD)	218x163x83mm	90x360x240mm	90x360x240mm	90x360x240mm	90x360x240mm
安装尺寸 (WxHxD)	Installation dim. (WxHxD)	218x190x85mm	90x370x295mm	90x370x295mm	90x370x295mm	90x370x295mm
重量	Weight	2.2kg	6.4kg	6.4kg	6.4kg	6.4kg
产品编号	Article No.	21540406	215401407	21540409	21540408	21540410

技术参数	Technical Data	EA-PSI 880-170 R	EA-PSI 8200-70 R	EA-PSI 8500-30 R
输入电压	Input voltage	340...460V	340...460V	340...460V
-频率	-Frequency	50/60 Hz	50/60 Hz	50/60 Hz
-功率因数	-Power factor	>0.99	>0.99	>0.99
输出电压 (DC)	Output voltage (DC)	0...80V	0...200V	0...500V
-负载0-100% 时的稳定度	-Stability at 0-100% load	<0.05%	<0.05%	<0.05%
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.02%	<0.02%	<0.02%
-纹波	-Ripple HF	<150mV$_{PP}$ / <10mV$_{RMS}$	<200mV$_{PP}$ / <25mV$_{RMS}$	<250mV$_{PP}$ / <70mV$_{RMS}$
-负载从10%-100%调整需时	-Regulation 10-100% load	<1ms	<2ms	<2ms
-感测端调整电压	-Sense regulation	max. 2.5V	max. 6V	max. 10V
-10-90% 的转换速率	-Slew rate 10-90%	17ms	17ms	17ms
输出电流	Output current	0...170A	0...70A	0...30A
-0-100%ΔU_{OUT} 时的稳定度	-Stability at 0-100% ΔU_{OUT}	<0.15%	<0.15%	<0.15%
-±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.05%	<0.05%	<0.05%
-纹波	-Ripple	<300mA$_{PP}$ / <40mA$_{RMS}$	<44mA$_{PP}$ / <11mA$_{RMS}$	<14mA$_{PP}$ / <8mA$_{RMS}$
输出功率	Output power	5000W	5000W	5000W
效率	Efficiency	93%	95.2%	95.5%
过压类别	Overvoltage category	2		
污染等级	Pollution degree	2		
保护等级	Protection class	1		
模拟编程	Analogue programming	0...10V 或 0...5V, 可选 / 0...10V or 0...5V, selectable		
制冷方式	Cooling	底盖进风，上盖排风 / Bottom air inlet and top exhaust		
工作温度	Operation temperature	0...50°C		
尺寸 (WxHxD)	Dimensions (WxHxD)	180x530x171mm	180x530x171mm	180x530x171mm
安装尺寸 (WxHxD)	Installation dim. (WxHxD)	180x595x175mm	180x595x175mm	180x595x175mm
重量	Weight	12kg	12kg	12kg
产品编号	Article No.	21540411	21540413	21540412

EA-PS 800 SM 80W - 480W
导轨式直流电源 / DIN RAIL MOUNT DC POWER SUPPLIES

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EA-PS 824-10 SM

- 宽范围输入电压 90...264V，带主动式 PFC
- 效率：高达 93%
- 输出功率：80W 至 480W
- 输出电压：12V, 24V 和 48V
- 输出电流：1.6A 至 40A
- 可过载 50% 持续 8 秒后即保护
- 导轨式安装
- 有过压保护 (OVP)
- 有过温保护 (OT)
- 状态 LED 指示灯
- 自由电位信号接点表示 ″ 输出 OK″
- 自然风冷式冷却方式
- 符合 EN 60950 安规标准
- 符合 EMI EN 61000-6-1, EN 61000-6-3 标准

- **Wide input voltage range 90...264V with active PFC**
- **High efficiency: up to 93%**
- **Output power ratings: 80W up to 480W**
- **Output voltages: 12V, 24V and 48V**
- **Output currents: 1.6A up to 40A**
- **50% overload for 8 seconds**
- **DIN rail mount**
- **Overvoltage protection (OVP)**
- **Overtemperature protection (OT)**
- **Status indication via LEDs**
- **Potential-free signal contact for „Output OK“**
- **Natural convection cooling**
- **Safety EN 60950**
- **EMI EN 61000-6-1, EN 61000-6-3**

概要

EA-PS 800 SM 这一代DIN导轨安装式电源系列，已经发展成重型工业领域应用之产品。其效率高达93%，体积小巧，全因使用了创新的开关技术。本产品的功率因数值(PFC) >99%。

本产品在8秒钟内可输出超过额定功率50%的峰值功率。

电源断电时能持续供电时间 >20ms。

调节前板电位器可调节输出电压。

所有型号都有一干式继电器接点（直流电源失效），可用来监控输出电压，还有两个状态LED灯指示输出和错误。
本产品还有过载和短路保护功能，以及浪涌电流限制。过压和过温保护电路还可保护连接负载以及电源。

以自然对流作为冷却方式，工作温度为0...70°C，60°C以上每升高一度降额2%的功率。（480W型号则从50°C开始）

安装于DIN导轨上时，仅需弹簧夹即可，不需其它工具协助。

General

This generation of DIN rail mount DC power supply series EA-PS 800 SM has been developed for heavy-duty industrial applications. An outstanding efficiency of up to 93% and smallest dimensions are the result of an innovative switching technology. The units have a power factor correction (PFC) with >99% power factor.
They are able to supply an additional peak power of 50% of the nominal rating for 8 seconds.

The hold-up time upon mains power failure is >20ms.

The output voltage can be adjusted by a trimmer on the front panel.
All models have a dry relay contact (DC power fail) to monitor the output voltage and two status LEDs for output and error. They are furthermore equipped with overload and short-circuit protection, as well as inrush current limitting. Over-voltage and overtemperature circuits protect the connected load and the power supply, too.
Cooling is arranged via natural convection, operating temperature is 0...70°C with a 2%/°C derating above 60°C (50°C with the 480W models).

Mounting on DIN rails is done with springclips, eliminating the need for tools.

EA-PS 800 SM 80W - 480W
导轨式直流电源 / DIN RAIL MOUNT DC POWER SUPPLIES

输入
本产品采用主动式**PFC**校正线路，从而产品能应用于世界范围内，输入电压为90V至264V AC，还可当90V至360V DC的隔离DC/DC转换器用。

输出
本系列有多款不同型号，可选择12V, 24V和48V输出电压，1.6A 至40A输出电流，80W至480W输出功率的类型。输出电压可调。输出端为螺丝端。

过压保护 (OVP)
为保护连接负载，可将过压保护极限值(OVP)设定为输出电压的110%。超过该值，则关断输出。

过温保护 (OT)
为保护产品和连接设备，本产品配备过温保护功能。一旦达到关键温度，如：在高的环境温度或在有限空气环流条件下工作，输出被关断，当温度下降后又自动重启。

选项
- 本系列配上合适的电池组可当多功能直流UPS用。详见94页。

Input
The equipment uses an active **P**ower **F**actor **C**orrection to enable using it worldwide on a mains input from 90V up to 264V AC and for a usage as isolated DC/DC converters for 90V DC up to 360V DC as well.

Output
Different units with voltage output ranges from 12V, 24V and 48V, current output ranges from 1.6A to 40A and power output ranges from 80W to 480W, are available. The output voltage is adjustable. The output is provided at screw terminals.

Overvoltage protection (OVP)
To protect connected equipment an overvoltage protection (OVP) of 110% of output voltage is set. Exceeding this value shuts the output off.

Overtemperature protection (OT)
To protect the unit and connected equipment the units are fitted with an overtemperature protection (OT). On reaching critical temperature, e.g. high ambient temperature or operating with limited air circulation, the output is cut off and is automatically restarted when the temperature has reduced.

Options
- This series can also be supplied as DC-USV units with many functions, together with suitable battery units. See also from page 94.

技术参数	Technical Data	PS 812-07 SM	PS 824-04 SM	PS 848-02 SM	PS 812-10 SM	PS 824-05 SM	PS 848-03 SM
AC输入电压	Input voltage AC	90...264V	90...264V	90...264V	90...264V	90...264V	90...264V
-频率	-Frequency	45...65Hz	45...65Hz	45...65Hz	45...65Hz	45...65Hz	45...65Hz
-功率因数	-Power factor	>0.99	>0.99	>0.99	>0.99	>0.99	>0.99
DC输入电压	Input voltage DC	150...360V	150...360V	150...360V	150...360V	150...360V	150...360V
输出电压	Output voltage	12...15V	24...28V	48...56V	12...15V	24...28V	48...56V
-负载0-100% 时的稳定度	-Stability at 0-100% load	<1%	<1%	<1%	<1%	<1%	<1%
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.05%	<0.05%	<0.05%	<0.05%	<0.05%	<0.05%
-纹波	-Ripple	<40mV_{pp}	<40mV_{pp}	<40mV_{pp}	<50mV_{pp}	<50mV_{pp}	<50mV_{pp}
-调整时间	-Regulation	<2msec.	<2msec.	<2msec.	<2msec.	<2msec.	<2msec.
-过压保护	-Overvoltage protection	16V ±1V	30V ±1V	58V ±1V	16V ±1V	30V ±1V	58V ±1V
输出电压	Output current	6.6A	3.3A	1.6A	10.0A	5.0A	2.5A
输出功率	Output power	80W	80W	80W	120W	120W	120W
尺寸 (WxHxD)	Dimensions (WxHxD)	48x126x112mm	48x126x112mm	48x126x112mm	48x126x112mm	48x126x112mm	48x126x112mm
重量	Weight	0.9kg	0.9kg	0.9kg	0.9kg	0.9kg	0.9kg
产品编号	Article No.	35320187	35320188	35320189	35320190	35320191	35320192

技术参数	Technical Data	PS 812-16 SM	PS 824-10 SM	PS 848-05 SM	PS 824-20 SM	PS 848-10 SM
AC输入电压	Input voltage AC	90...264V	90...264V	90...264V	90...264V	90...264V
-频率	-Frequency	45...65Hz	45...65Hz	45...65Hz	45...65Hz	45...65Hz
-功率因数	-Power factor	>0.99	>0.99	>0.99	>0.99	>0.99
DC输入电压	Input voltage DC	150...360V	150...360V	150...360V	150...360V	150...360V
输出电压	Output voltage	12...15V	24...28V	48...56V	24...28V	48...56V
-负载0-100% 时的稳定度	-Stability at 0-100% load	<1%	<1%	<1%	<1%	<1%
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.05%	<0.05%	<0.05%	<0.05%	<0.05%
-纹波	-Ripple	<50mV_{pp}	<50mV_{pp}	<100mV_{pp}	<120mV_{pp}	<180mV_{pp}
-调整时间	-Regulation	<2msec.	<2msec.	<2msec.	<2msec.	<2msec.
-过压保护	-Overvoltage protection	16V ±1V	30V ±1V	58V ±1V	30V ±1V	58V ±1V
输出电压	Output current	16.0A	10.0A	5.0A	20.0A	10.0A
输出功率	Output power	240W	240W	240W	480W	480W
尺寸 (WxHxD)	Dimensions (WxHxD)	60x126x112mm	60x126x112mm	60x126x112mm	78x126x125mm	78x126x125mm
重量	Weight	1.0kg	1.0kg	1.0kg	1.3kg	1.3kg
产品编号	Article No.	35320193	35320194	35320195	35320197	35320198

Elektro-Automatik

EA-PS 800 KSM 10W - 100W
导轨式直流电源 / DIN RAIL MOUNT DC POWER SUPPLIES

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- AC输入电压：90...264V
- DC输入电压：120...370V
- 输出功率级别：10W, 30W, 60W, 78W, 100W
- 输出电压：12V 或 24V
- 输出电流：0.4A 至 6.5A
- 过载和短路保护
- 过温保护
- 过压保护
- 自然冷却
- 保护等级为IP20
- 绝缘级别为II
- 符合EN 60950安全标准
- EMC EAN 61204 (EN 55022 B等级)

- **Input voltage AC: 90...264V**
- **Input voltage DC: 120...370V**
- **Output powers ratings: 10W, 30W, 60W, 78W, 100W**
- **Output voltages: 12V or 24V**
- **Output currents: 0.4A up to 6.5A**
- **Overload- and short-circuit-proof**
- **Overtemperature protection**
- **Overvoltage protection**
- **Natural convection cooling**
- **Protection degree IP20**
- **Isolation class II**
- **Safety EN 60950**
- **EMC EAN 61204 (EN 55022 class B)**

概要

这类开关模式电源专为DIN TS35/7.5 or DIN TS35/15类的导轨安装而设计。它们建于坚固的塑胶外壳内，符合IP20保护等级。

所有型号都为90V至260V AC，或120V至370V DC宽范围输入电压。故不需进行输入电压的选择，便可在世界各地使用。

本产品有短路保护、过载保护、过温保护和过压保护。

输出端与市电（浮动）隔离。

输出电压可在12...15V DC (12V型号) 或24...28V DC (24V型号) 范围内调节。本产品还具有输出电流限定功能，限定在在110%-130%（过载时）或150%（短路时）范围内。

温度>55°C，直至70°C时都可接受，但会有2.5%/°C的功率降额。

General

These switching mode power supplies are designed for DIN rail mount on DIN TS35/7.5 or DIN TS35/15 rails. They are enclosed in rugged plastic cases with protection degree IP20.

All models have a wide input range of 90V...264V AC or 120V...370V DC for worldwide usage without the need to select the input range.

The units are protected against short-circuit, overload, overtemperature and overvoltage.

The output is isolated against the mains supply (floating). The output voltage is adjustable within 12...15V DC (12V models) or 24...28V DC (24V models). The units are provided with an output current limitation of 110%-130% (overload) or 150% (short-circuit).

A power derating of 2.5%/°C for temperatures of >55°C up to 70°C is required.

EA-PS 800 KSM 10W - 100W
导轨式直流电源 / DIN RAIL MOUNT DC POWER SUPPLIES

技术参数	Technical Data	EA-PS 800 KSM
输入	**Input**	
-AC电压范围	-Voltage range AC	90...264V
-DC电压范围	-Voltage range DC	120...370V
-频率范围	-Frequency range	47...63Hz
效率	**Efficiency**	>83% @ 230V
转换频率	**Converter frequency**	50...65kHz
输出	**Output**	
-过流保护极限值	-Overcurrent protection	10-150%
-过压保护极限值	-Overvoltage protection	120-140%
-过热保护极限值	-Thermal protection	是 / yes
-滞留时间	-Hold-up time	~100ms @ 230V
-降额	-Derating	2.5%/°C @ 55°C...70°C
指示灯	**Indicators**	DC OK LED (绿灯/green), DC Low LED (红灯/red)
安规标准	**Standards**	EN 61204 (EMC), EN 60950-1 (Safety)
制冷方式	**Cooling**	自然冷却 / Natural cooling
工作温度	**Operation temperature**	0...+55°C (0...+70°C 功率降额 / with derating)
储存温度	**Storage temperature**	-20...+70°C

技术参数	Technical Data	EA-PS 812-010 KSM	EA-PS 812-022 KSM	EA-PS 812-045 KSM	EA-PS 812-070 KSM
输出	**Output**				
-电压	-Voltage	12...15V DC	12...15V DC	12...15V DC	12...15V DC
-带载0-100%的稳定度	-Stability at 0-100% load	≤350mV	≤350mV	≤300mV	≤300mV
-纹波	-Ripple	≤40mV$_{pp}$	≤40mV$_{pp}$	≤40mV$_{pp}$	≤40mV$_{pp}$
-额定电流	-Nominal current	0.83A	2.5A	5A	6.5A
-额定功率	-Nominal power	10W	30W	60W	78W
尺寸 (WxHxD)	**Dimensions (WxHxD)**	23x91x57mm	53x91x57mm	71x91x57mm	90x91x57mm
重量	**Weight**	0.07kg	0.19kg	0.25kg	0.37kg
产品编号	**Article No.**	38917154	38917155	38917156	38917157

技术参数	Technical Data	EA-PS 824-004 KSM	EA-PS 824-012 KSM	EA-PS 824-025 KSM	EA-PS 824-040 KSM
输出	**Output**				
-电压	-Voltage	24...28V DC	24...28V DC	24...28V DC	24...28V DC
-带载0-100%的稳定度	-Stability at 0-100% load	≤350mV	≤350mV	≤300mV	≤320mV
-纹波	-Ripple	≤20mV$_{pp}$	≤20mV$_{pp}$	≤20mV$_{pp}$	≤90mV$_{pp}$
-额定电流	-Nominal current	0.42A	1.25A	2.5A	4.2A
-额定功率	-Nominal power	10W	30W	60W	100W
尺寸 (WxHxD)	**Dimensions (WxHxD)**	23x91x57mm	53x91x57mm	71x91x57mm	90x91x57mm
重量	**Weight**	0.07kg	0.19kg	0.25kg	0.37kg
产品编号	**Article No.**	38917150	38917151	38917152	38917153

Elektro-Automatik

EA-UPS 800 SM 120W - 480W, EA-BU 800 SM
导轨式直流UPS电源 / DIN RAIL MOUNT DC UPS

EA-BU 824-04 EA-UPS 824-10 SM EA-CU 724-20

- 90...264V 宽范围输入电压带主动式 PFC
- 效率：高达 93%
- 输出功率级别：120W 至 480W
- 输出电压：12V, 24V 和 48V
- 输出电流：2.5A 至 20A
- 导轨式安装
- 过压保护 (OVP)
- 过温保护 (OT)
- 过放保护，电池电压低报警
- LED 灯显示状态
- 手动和外部启动电池测试
- 多功能模拟接口
- 自然风冷式冷却方式
- 符合 EN 60950 安规标准
- EMI EN 61000-6-1, EN 61000-6-3

- **Wide input voltage range 90...264V with active PFC**
- **High efficiency: up to 93%**
- **Output powers: 120W up to 480W**
- **Output voltages: 12V, 24V and 48V**
- **Output currents: 2.5A up to 20A**
- **DIN-Rail mounting**
- **Overvoltage protection (OVP)**
- **Overtemperature protection (OT)**
- **Deep discharge protection, battery voltage low alarm**
- **Status indication via LEDs**
- **Battery test start either manual and external**
- **Analogue interface with many functions**
- **Natural convection cooling**
- **Safety EN 60950**
- **EMI EN 61000-6-1, EN 61000-6-3**

概述

新一代导轨安装式 DC UPS 电源 EA-UPS 800 SM 系列已发展为应用于重型工业设备的产品。

高达 93% 的效率和小体积特点，全因使用了创新的开关技术。其功率因数校正值高达 (PFC) >99%。

所有型号都有一干式继电器接点（DC power fail- 直流电源失效），可用来监控输出电压，还有数个状态 LED 灯。

如想在正常操作模式期间对电池进行测试，可使用本产品的测试功能。通过产品上的按钮或模拟接口可激活该功能。测试过程中，输出电压降低至电池代替负载供电的水平。

本产品有过载和短路保护功能，以及浪涌电流限制。

以自然风作为冷却方式，工作温度为 0...70°C，60°C 以上则以每升高一度降额 2% 功率。（480W 型号则从 50°C 开始）

安装于导轨上，仅需使用弹簧夹，不用其它工具。

General

This new generation of DIN rail mount DC UPS, series EA-UPS 800 SM, has been developed for heavy-duty industrial applications.
An outstanding efficiency up to 93% and smallest dimensions are the result of an innovative switching technology. The units have a power factor correction (PFC) with >99% power factor.

All models have a dry relay contact (DC power fail, to monitor the output voltage) and several LEDs for status indication.

In order to test battery function during normal operation, the units are equipped with a test function. This function can be activated by a button on the unit or via the analogue interface. During the test procedure, the output voltage of the unit is reduced to a level where the battery takes over the supply of the load.

The units are provided with overload and short-circuit protection as well as inrush current limiting.

Cooling is arranged via natural convection, operating temperature is 0...70°C with a 2%/°C derating above 60°C (50°C at the 480W models).

Mounting is done on DIN rails with springclips, eliminating the need for tools.

EA-UPS 800 SM 120W - 480W, EA-BU 800 SM
导轨式直流UPS电源 / DIN RAIL MOUNT DC UPS

输入
本产品采用主动式PFC，从而使得其能应用于世界范围内，市电输入电压范围为100V至264V AC，或当输入电压为90V DC至360V DC时当隔离DC/DC转换器用。

过压保护 (OVP)
为保护连接负载，可将过压保护极限值(OVP)设定为输出电压的110%。
输出电压超过该值，则关断输出。

过温保护 (OT)
为保护连接负载，本产品具有过温保护功能(OT)。一旦达到关键温度，如：在高的环境温度或在有限空气环流条件下工作，输出被关断，此时连接电池供电，当温度下降至一接受值后，产品又自动重启。

Input
The equipment uses an active **P**ower **F**actor **C**orrection to enable worldwide use on a mains input from 90V...264V AC or for use as isolated DC/DC converters on 120V...360V DC input as well.

Overvoltage protection (OVP)
To protect connected equipment, an overvoltage protection (OVP) circuit with a limit of 110% max. output voltage is set. In case the output voltage exceeds the defined limit, the output is switched off.

Overtemperature protection (OT)
To protect connected equipment, an overtemperature protection (OT) circuit is built in. On reaching a critical temperature, ambient or through poor air circulation, the unit cuts out. In such a case the connected battery provides power until the temperature has reduced to an acceptable value.

技术参数	Technical Data	UPS 812-10 SM	UPS 824-05 SM	UPS 848-03 SM	UPS 812-16 SM	UPS 824-10 SM	UPS 848-05 SM
AC输入电压	AC input voltage	90...264V	90...264V	90...264V	90...264V	90...264V	90...264V
-频率	-Frequency	45...65Hz	45...65Hz	45...65Hz	45...65Hz	45...65Hz	45...65Hz
-功率因数	-Power factor	>0.99	>0.99	>0.99	>0.99	>0.99	>0.99
DC输入电压	DC input voltage	120...360V	120...360V	120...360V	120...360V	120...360V	120...360V
输出电压	Output voltage	10.5...13.5V	21...27V	42...54V	10.5...13.5V	21...27V	42...54V
-负载0-100% 时的稳定度	-Stability 0-100% load	<1%	<1%	<1%	<1%	<1%	<1%
--±10% Δ U_{IN}时的稳定度$_E$	-Stability ±10% Δ U_{IN}	<0.05%	<0.05%	<0.05%	<0.05%	<0.05%	<0.05%
-纹波	-Ripple	<50mV_{pp}	<50mV_{pp}	<50mV_{pp}	<50mV_{pp}	<50mV_{pp}	<50mV_{pp}
-调整率	-Regulation	<2ms	<2ms	<2ms	<2ms	<2ms	<2ms
-OVP过压保护值	-OVP	16V ±1V	30V ±1V	58V ±1V	16V ±1V	30V ±1V	58V ±1V
输出电流	Output current	10.0A	5.0A	2.5A	16.0A	10.0A	5.0A
输出功率	Output power	120W	120W	120W	240W	240W	240W
尺寸 (WxHxD)	Dimensions (WxHxD)	100x126x112mm	100x126x112mm	100x126x112mm	100x126x112mm	100x126x112mm	100x126x112mm
重量	Weight	1.2kg	1.2kg	1.2kg	1.3kg	1.3kg	1.3kg
产品编号	Article No.	36940103	36940104	36940105	36940106	36940107	36940108

技术参数	Technical Data	PS 812-27 SM S01 + CU 712-20	PS 824-20 SM S02 + CU 724-20	PS 848-10 SM S01 + CU 748-20
AC输入电压	AC input voltage	90...264V	90...264V	90...264V
-频率	-Frequency	45...65Hz	45...65Hz	45...65Hz
-功率因数	-Power factor	>0.99	>0.99	>0.99
DC输入电压	DC input voltage	120...360V	120...360V	120...360V
输出电压	Output voltage	10.5...13.5V	21...27V	42...54V
--±10% Δ U_{IN}时的稳定度$_E$	-Stability ±10% Δ U_{IN}	<0.05%	<0.05%	<0.05%
-纹波	-Ripple	<80mV_{pp}	<120mV_{pp}	<180mV_{pp}
-调整率	-Regulation	<2ms	<2ms	<2ms
-OVP过压保护值	-OVP	16V ±1V	30V ±1V	58V ±1V
输出电流	Output current	20.0A	17.0A	9.0A
输出功率	Output power	400W	480W	480W
尺寸 (WxHxD)	Dimensions (WxHxD)	(108+78) x 126 x 125mm	(108+78) x 126 x 125mm	(108+78) x 126 x 125mm
重量	Weight	1.7kg	1.7kg	1.7kg
产品编号	Article No.	35901196 + 10270102	35902197 + 10270100	35901198 + 10270101

导轨安装式电池组 / DIN RAIL MOUNT BATTERY UNITS

技术参数	Technical Data	BU 812-08 SM	BU 824-04 SM	BU 848-02 SM	BU 824-07 SM
电池电压	Battery voltage	12V	24V	48V	24V
容量	Capacity	8Ah	4Ah	1.2Ah	6.5Ah
240分钟备份时间	Back up time 240min.	at 2A / 2A时	at 1A / 1A时	at 0.3A / 0.3A时	at 1.6A / 1.6A时
50分钟备份时间	Back up time 50min.	at 5A / 5A时	at 2.5A / 2.5A时	at 0.8A / 0.8A时	at 4.5A / 4.5A时
25分钟备份时间	Back up time 25min.	at 10A / 10A时	at 5A / 5A时	at 1.8A / 1.8A时	at 9.0A / 9.0A时
9分钟备份时间	Back up time 9min.	at 20A / 20A时	at 10A / 10A时	at 3.0A / 3.0A时	at 16A / 16A时
尺寸 WxHxD	Dimensions WxHxD	168x126x112mm	168x126x112mm	210x126x112mm	162x133x115mm
重量	Weight	3.9kg	3.9kg	2.9kg	6.7kg
产品编号	Article no.	36940112	36940113	36940114	36940115

Elektro-Automatik

EA-PS 800 19“ 80W - 240W
19“ 插拔式直流电源 / 19“ PLUG-IN DC POWER SUPPLIES

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EA-PS 800 19“

- 宽范围输入电压 90...264V，带主动式 PFC
- 效率：高达 92%
- 输出功率：58W 至 240W
- 输出电压：3.3V 至 24V
- 输出电流：2.5A 至 30A
- 单组，两组和三组输出
- 功率受限，所有输出端可输出全功率
- 所有输出端可分开调节和调整
- 有过压保护 (OVP)
- 有过温保护 (OT)
- 远程开 / 关，电源断电提示信号
- 远程感测功能
- 可选项
  - 电源输出端功率共用
  - 无前面板

- **Wide input voltage range 90...264V with active PFC**
- **High efficiency: up to 92%**
- **Output power ratings: 58W up to 240W**
- **Output voltages: 3.3V up to 24V**
- **Output currents: 2.5A up to 30A**
- **Single, double or triple output**
- **Power limited, all outputs for full power**
- **All outputs separately adjustable and regulated**
- **Overvoltage protection (OVP)**
- **Overtemperature protection (OT)**
- **Remote on/off and power fail signal**
- **Remote sense**
- **Options**
  - **Power sharing between main outputs**
  - **Without front plate**

概要
EA-PS 800 19“系列有单组，两组和三组输出的不同类型产品。结合同步整流二极管和半谐振变换器，使得其效率高达92%。

输出
本系列有不同型号，可选择3.3V, 5V, 12V和24V输出电压，80W, 150W和240W输出功率的类型。所有输出端，不管是主输出还是辅助输出，都有静态限流和限功率电路，并能单独稳定，实现真正零负载兼容，具有完全的短路保护和超载保护。通过前板可调电位器可在特定范围内调节所有输出电压，以适应敏感性负载，并经LED灯指示出来。内置OVP保护电流可保护连接负载不因直流过压而受损。

输入
采用主动式功率因数校正，输入电压为90V. . . 264V AC或90…360 V DC，使产品在全世界范围内都适用, 或当隔离DC/DC转换器用。

远程感测端
远程感测输入电路为一H15端子，可直接连到负载上，以补偿负载线上的压降，确保给敏感性设备供应稳定而又精确的电压。

General
The models of series EA-PS 800 19” are available as single, dual or triple output power supplies. By combining the synchronised rectifier and semi-resonant converter principle, an efficiency of up to 92% is achieved.

Output
A variety of output voltages of 3.3V, 5V, 12V and 24V at power ratings of 80W, 150W and 240W are available. All outputs, main and auxiliary, are provided with a static current and power limiter circuit and are stabilised independently, making them truly zero-load compatible and fully short-circuit- and overload-proof. All output voltages can be trimmed within a specific range by potentiometers located in the front panel to accommodate sensitive loads, and are indicated via LEDs. The integrated overvoltage protection (OVP) circuit protects the connected equipment from DC overvoltage damage.

Input
A wide input range of 90...264V AC or 90…360 V DC, together with an active PFC (power factor correction) makes these devices suitable for a worldwide usage or as isolated DC/DC converters as well.

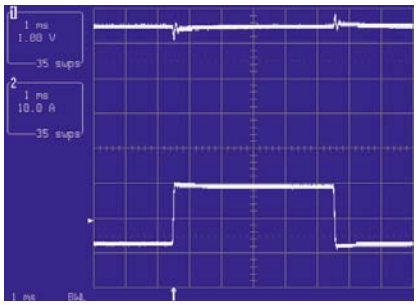
Remote sense
The remote sensing circuit, located at the H15 plug, can be connected to the load in order to compensate the voltage drop along the load cables, ensuring a stable and precise voltage for sensitive equipment.

EA-PS 800 19“ 80W - 240W
19“ 插拔式直流电源 / 19“ PLUG-IN DC POWER SUPPLIES

输出端
图 1: PS805-150 19“ 输出从2.5A至18A的负载变化图。

图 2: 主输出的负载步阶表明在不影响辅助输出时被分开稳定。

主输出 /
Main output



输出电流 /
Output current

图 1 / Figure 1

远距离开/关
此外，还有一个输出抑制功能，允许远距离启动或关闭输出，应用领域如：自动化系统和/或为了安全的目的。

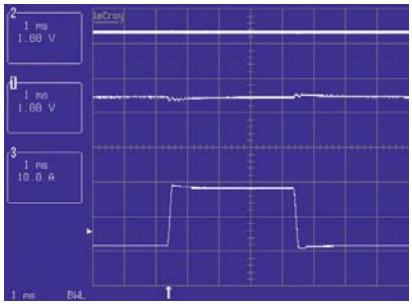
可选项
- 功率共用功能ASF（仅针对单组输出型号的产品）。ASF允许两台或两台以上产品并联，逐步增加系统功率，有必要时，还可在外部增加退藕二极管，以便建立多余的电源系统。
- 用并联多个模块可组合19”机架式系统，按需还能组成客户指定的输出版本。

Outputs
Figure 1: Load step from 2.5A to 18A at PS805-150 19“

Figure 2: The load step on the main output clarifies the separated stabilisation where the auxiliary output is not effected.

辅助输出 /
Aux. output

主输出 /
Main output



输出电流 /
Output current

图 2 / Figure 2

Remote on/off
Furthermore, an output inhibit feature allows to remotely enable or disable the output, in order to use it for automated systems and/or for safety purposes, for example.

Options
- Power sharing function ASF (only for single output models). The ASF allows the parallel operation of two or more units to gradually increase system power and, where required, the possibility to build up a redundant power system by addition of external decoupling diodes.
- Complete 19” rack systems with parallel redundant modules and custom specific output versions can be made upon request.

技术参数	Technical Data	EA-PS 800 19“ 80W	EA-PS 800 19“ 150W	EA-PS 800 19“ 240W
AC输入电压 / 频率	Input voltage AC / Frequency	90...264V / 45...65Hz	90...264V / 45...65Hz	90...264V / 45...65Hz
DC输入电压	Input voltage DC	150...360V	150...360V	150...360V
功率因数	Power factor	>0.99	>0.99	>0.99
效率	Efficiency	高达 / up to 89%	高达 / up to 91%	高达 / up to 92%
输入浪涌电流限制值	Input surge current limitation	<23A NTC限制/by NTC	<23A NTC限制/by NTC	<23A NTC限制/by NTC
输入尖峰电压限制值	Input voltage spike suppression	VDR限制 / by VDR	VDR限制 / by VDR	VDR限制 / by VDR
滞留时间	Hold-up time	>20ms	>20ms	>20ms
输出功率	Output power	58W ... 96W	87 ... 150W	108 ... 240W
工作温度	Operation temperature	0...70°C	0...70°C	0...70°C
温度 / 输出功率降额	Temperature / Derating			
- 自然对流	- with natural convection			
V1 = 5V	V1 = 5V	>45°C 1.6W/°C	>45°C 2.5W/°C	>45°C 3.5W/°C
V1 = 12V	V1 = 12V	>60°C 2.0W/°C	>45°C 2.3W/°C	>45°C 5.0W/°C
V1 = 24V	V1 = 24V	不降额 / no derating	>45°C 2.0W/°C	>45°C 4.0W/°C
- 强制风冷 1m/s	- with forced cooling 1m/s			
V1 = 5V	V1 = 5V	不降额 / no derating	>60°C 6,0W/°C	>60°C 7,5W/°C
V1 = 12V	V1 = 12V	不降额 / no derating	>60°C 5,0W/°C	>60°C 9,0W/°C
V1 = 24V	V1 = 24V	不降额 / no derating	>60°C 4,0W/°C	>60°C 8,0W/°C
储存温度	Storage temperature	-40°C ... +85°C	-40°C ... +85°C	-40°C ... +85°C
相对湿度 (无凝露)	Relative humidity (no condensation)	90% max.	90% max.	90% max.
安全标准	Safety	EN 60950, IEC 950	EN 60950, IEC 950	EN 60950, IEC 950
EMI辐射	EMI emission	EN 61000-6-3	EN 61000-6-3	EN 61000-6-3
EMI抗扰度	EMI noise immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
尺寸 (WxHxD)	Dimensions (WxHxD)	8TE/HPx3HE/Ux162mm	10TE/HPx3HE/Ux162mm	12TE/HPx3HE/Ux162mm
重量	Weight	640g	780g	930g

Elektro-Automatik

EA-PS 800 19“ 80W
19“ 插拔式直流电源 / 19“ PLUG-IN DC POWER SUPPLIES

技术参数	Technical Data	PS 803-80 Single	PS 805-80 Single	PS 812-80 Single	PS 824-80 Single
输出电压	Output voltage	3.3V (3.0...3.6V)	5V (4.8...5.5V)	12V (11.8...15.2V)	24V (23.5...28.5V)
0-100% I_{out}负载调整率	Load regulation 0...100% I_{out}	<0.05%	<0.05%	<0.05%	<0.05%
100% I_{out}线性调整率	Line regulation 100% I_{out}	<0.05%	<0.05%	<0.05%	<0.05%
纹波	Ripple	<40mV_{pp}	<40mV_{pp}	<40mV_{pp}	<40mV_{pp}
负载从10%-100%调整需时	Regulation time 10-100% load	<0.5ms	<0.5ms	<0.5ms	<0.5ms
OVP过压保护调节范围	OVP adjustment	3.8...4.5V	6.0...6.7V	16.5...18.0V	29.0...33.0V
输出电流 / 功率	Output current / power	16A / 58W	16A / 80W	7.5A / 90W	4A / 96W
输出电流限制	Output current limit	<19A	<19A	<8.5A	<4.8A
感测端的电压调整	Voltage regulation with sense	0.5V max.	0.5V max.	0.5V max.	0.5V max.
电源失效信号	Power fail signal	>5ms	>5ms	>5ms	>5ms
输入信号	Input signal	外部开-关/ext. on-off	外部开-关/ext. on-off	外部开-关/ext. on-off	外部开-关/ext. on-off
均流，带ASF信号	Current share with ASF signal	可选 / optional	可选 / optional	可选 / optional	可选 / optional
产品编号	Article No.	08130300	08130301	08130302	08130303

技术参数	Technical Data	PS 805-12-80 Double		PS 805-24-80 Double	
		输出 / Output 1	输出 / Output 2	输出 / Output 1	输出 / Output 2
输出电压	Output voltage	5V (4.8...5.5V)	12V (11.8...15.2V)	5V (4.8...5.5V)	24V (23.8...27.2V)
0-100% I_{out}负载调整率	Load regulation 0...100% I_{out}	<0.05%	<0.2%	<0.05%	<0.2%
100% I_{out}线性调整率	Line regulation 100% I_{out}	<0.05%	<0.2%	<0.05%	<0.2%
纹波	Ripple	<40mV_{pp}	<40mV_{pp}	<40mV_{pp}	<40mV_{pp}
负载从10%-100%调整需时	Regulation time 10-100% load	<0.5ms	<0.5ms	<0.5ms	<0.5ms
OVP过压保护调节范围	OVP adjustment	6.0...6.7V	16.5...18.0V	6.0...6.7V	33.0...36.0V
输出电流 / 功率	Output current / power	16A / 80W	2.5A	16A / 80W	2.5A
输出电流限制	Output current limit	<19A	<3.0A	<19A	<3.0A
感测端的电压调整	Voltage regulation with sense	0.5V max.		0.5V max.	
电源失效信号	Power fail signal	>5ms		>5ms	
输入信号	Input signal	外部开-关 / extern on-off		外部开-关 / extern on-off	
均流，带ASF信号	Current share with ASF signal	可选 / optional		可选 / optional	
产品编号	Article No.	08130304		08130305	

技术参数	Technical Data	PS 812-12-80 Double		PS 812-24-80 Double	
		输出 / Output 1	输出 / Output 2	输出 / Output 1	输出 / Output 2
输出电压	Output voltage	12V (11.8...15.2V)	12V (11.8...15.2V)	12V (11.8...15.2V)	24V (23.8...27.2V)
0-100% I_{out}负载调整率	Load regulation 0...100% I_{out}	<0.05%	<0.2%	<0.05%	<0.2%
100% I_{out}线性调整率	Line regulation 100% I_{out}	<0.05%	<0.2%	<0.05%	<0.2%
纹波	Ripple	<40mV_{pp}	<40mV_{pp}	<40mV_{pp}	<40mV_{pp}
负载从10%-100%调整需时	Regulation time 10-100% load	<0.5ms	<0.5ms	<0.5ms	<0.5ms
OVP过压保护调节范围	OVP adjustment	16.5...18.0V	16.5...18.0V	16.5...18.0V	33.0...36.0V
输出电流 / 功率	Output current / power	7.5A / 90W	2.5A	7.5A / 90W	2.5A
输出电流限制	Output current limit	<8.5A	<3.0A	<8.5A	<3.0A
感测端的电压调整	Voltage regulation with sense	0.5V max.		0.5V max.	
电源失效信号	Power fail signal	>5ms		>5ms	
输入信号	Input signal	外部开-关 / extern on-off		外部开-关 / extern on-off	
均流，带ASF信号	Current share with ASF signal	可选 / optional		可选 / optional	
产品编号	Article No.	08130306		08130307	

技术参数	Technical Data	PS 805-12-12-80 Triple		
		输出 / Output 1	输出 / Output 2	输出 / Output 3
输出电压	Output voltage	5V (4.8...5.5V)	+12V (11.8...15.2V)	-12V (11.8...15.2V)
0-100% I_{out}负载调整率	Load regulation 0...100% I_{out}	<0.05%	<0.2%	<0.2%
100% I_{out}线性调整率	Line regulation 100% I_{out}	<0.05%	<0.2%	<0.2%
纹波	Ripple	<40mV_{pp}	<40mV_{pp}	<40mV_{pp}
负载从10%-100%调整需时	Regulation time 10-100% load	<0.5ms	<0.5ms	<0.5ms
OVP过压保护调节范围	OVP adjustment	6.0...6.7V	16.5...18.0V	16.5...18.0V
输出电流 / 功率	Output current / power	16A / 80W	2.5A	2.5A
输出电流限制	Output current limit	<19A	<3.0A	<3.0A
感测端的电压调整	Voltage regulation with sense	0.5V max.		
电源失效信号	Power fail signal	>5ms		
输入信号	Input signal	外部开-关 / extern on-off		
均流，带ASF信号	Current share with ASF signal	可选 / optional		
产品编号	Article No.	08130308		

Elektro-Automatik

EA-PS 800 19“ 150W
19“ 插拔式直流电源 / 19“ PLUG-IN DC POWER SUPPLIES

技术参数	Technical Data	PS 803-150 Single	PS 805-150 Single	PS 812-150 Single	PS 824-150 Single
输出电压	Output voltage	3.3V (3.0...3.6V)	5V (4.8...5.5V)	12V (11.8...15.2V)	24V (23.5...28.5V)
0-100% I_{out}负载调整率	Load regulation 0...100% I_{out}	<0.05%	<0.05%	<0.05%	<0.05%
100% I_{out}线性调整率	Line regulation 100% I_{out}	<0.05%	<0.05%	<0.05%	<0.05%
纹波	Ripple	<40mV$_{pp}$	<40mV$_{pp}$	<40mV$_{pp}$	<40mV$_{pp}$
负载从10%-100%调整需时	Regulation time 10-100% load	<0.5ms	<0.5ms	<0.5ms	<0.5ms
OVP过压保护调节范围	OVP adjustment	3.8...4.5V	6.0...6.7V	16.5...18.0V	29.0...33.0V
输出电流 / 功率	Output current / power	24A / 87W	24A / 132W	10.7A / 150W	6.3A / 150W
输出电流限制	Output current limit	<28A	<28A	<12.8A	<7.5A
感测端的电压调整	Voltage regulation with sense	0.5V max.	0.5V max.	0.5V max.	0.5V max.
电源失效信号	Power fail signal	>5ms	>5ms	>5ms	>5ms
输入信号	Input signal	外部开-关/ext. on-off	外部开-关/ext. on-off	外部开-关/ext. on-off	外部开-关/ext. on-off
均流，带ASF信号	Current share with ASF signal	可选 / optional	可选 / optional	可选 / optional	可选 / optional
产品编号	Article No.	08130309	08130310	08130311	08130312

技术参数	Technical Data	PS 805-12-150 Double		PS 805-24-150 Double	
		输出 / Output 1	输出 / Output 2	输出 / Output 1	输出 / Output 2
输出电压	Output voltage	5V (4.8...5.5V)	12V (11.8...15.2V)	5V (4.8...5.5V)	24V (23.8...27.2V)
0-100% I_{out}负载调整率	Load regulation 0...100% I_{out}	<0.05%	<0.2%	<0.05%	<0.2%
100% I_{out}线性调整率	Line regulation 100% I_{out}	<0.05%	<0.2%	<0.05%	<0.2%
纹波	Ripple	<40mV$_{pp}$	<40mV$_{pp}$	<40mV$_{pp}$	<40mV$_{pp}$
负载从10%-100%调整需时	Regulation time 10-100% load	<0.5ms	<0.5ms	<0.5ms	<0.5ms
OVP过压保护调节范围	OVP adjustment	6.0...6.7V	16.5...18.0V	6.0...6.7V	33.0...36.0V
输出电流 / 功率	Output current / power	24A / 150W	2.5A	24A / 150W	2.5A
输出电流限制	Output current limit	<28A	<3.0A	<28A	<3.0A
感测端的电压调整	Voltage regulation with sense	0.5V max.		0.5V max.	
电源失效信号	Power fail signal	>5ms		>5ms	
输入信号	Input signal	外部开-关 / extern on-off		外部开-关 / extern on-off	
均流，带ASF信号	Current share with ASF signal	可选 / optional		可选 / optional	
产品编号	Article No.	08130313		08130314	

技术参数	Technical Data	PS 812-12-150 Double		PS 812-24-150 Double	
		输出 / Output 1	输出 / Output 2	输出 / Output 1	输出 / Output 2
输出电压	Output voltage	12V (11.8...15.2V)	12V (11.8...15.2V)	12V (11.8...15.2V)	24V (23.8...27.2V)
0-100% I_{out}负载调整率	Load regulation 0...100% I_{out}	<0.05%	<0.2%	<0.05%	<0.2%
100% I_{out}线性调整率	Line regulation 100% I_{out}	<0.05%	<0.2%	<0.05%	<0.2%
纹波	Ripple	<40mV$_{pp}$	<40mV$_{pp}$	<40mV$_{pp}$	<40mV$_{pp}$
负载从10%-100%调整需时	Regulation time 10-100% load	<0.5ms	<0.5ms	<0.5ms	<0.5ms
OVP过压保护调节范围	OVP adjustment	16.5...18.0V	16.5...18.0V	16.5...18.0V	33.0...36.0V
输出电流 / 功率	Output current / power	10.7A / 150W	2.5A	10.7A / 150W	2.5A
输出电流限制	Output current limit	<12.8A	<3.0A	<12.8A	<3.0A
感测端的电压调整	Voltage regulation with sense	0.5V max.		0.5V max.	
电源失效信号	Power fail signal	>5ms		>5ms	
输入信号	Input signal	外部开-关 / extern on-off		外部开-关 / extern on-off	
均流，带ASF信号	Current share with ASF signal	可选 / optional		可选 / optional	
产品编号	Article No.	08130315		08130316	

技术参数	Technical Data	PS 805-12-12-150 Triple		
		输出 / Output 1	输出 / Output 2	输出 / Output 3
输出电压	Output voltage	5V (4.8...5.5V)	+12V (11.8...15.2V)	-12V (11.8...15.2V)
0-100% I_{out}负载调整率	Load regulation 0...100% I_{out}	<0.05%	<0.2%	<0.2%
100% I_{out}线性调整率	Line regulation 100% I_{out}	<0.05%	<0.2%	<0.2%
纹波	Ripple	<40mV$_{pp}$	<40mV$_{pp}$	<40mV$_{pp}$
负载从10%-100%调整需时	Regulation time 10-100% load	<0.5ms	<0.5ms	<0.5ms
OVP过压保护调节范围	OVP adjustment	6.0...6.7V	16.5...18.0V	16.5...18.0V
输出电流 / 功率	Output current / power	24A / 150W	2.5A	2.5A
输出电流限制	Output current limit	<28A	<3.0A	<3.0A
感测端的电压调整	Voltage regulation with sense	0.5V max.		
电源失效信号	Power fail signal	>5ms		
输入信号	Input signal	外部开-关 / extern on-off		
均流，带ASF信号	Current share with ASF signal	可选 / optional		
产品编号	Article No.	08130317		

Elektro-Automatik

EA-PS 800 19“ 240W
19“ 插拔式直流电源 / 19“ PLUG-IN DC POWER SUPPLIES

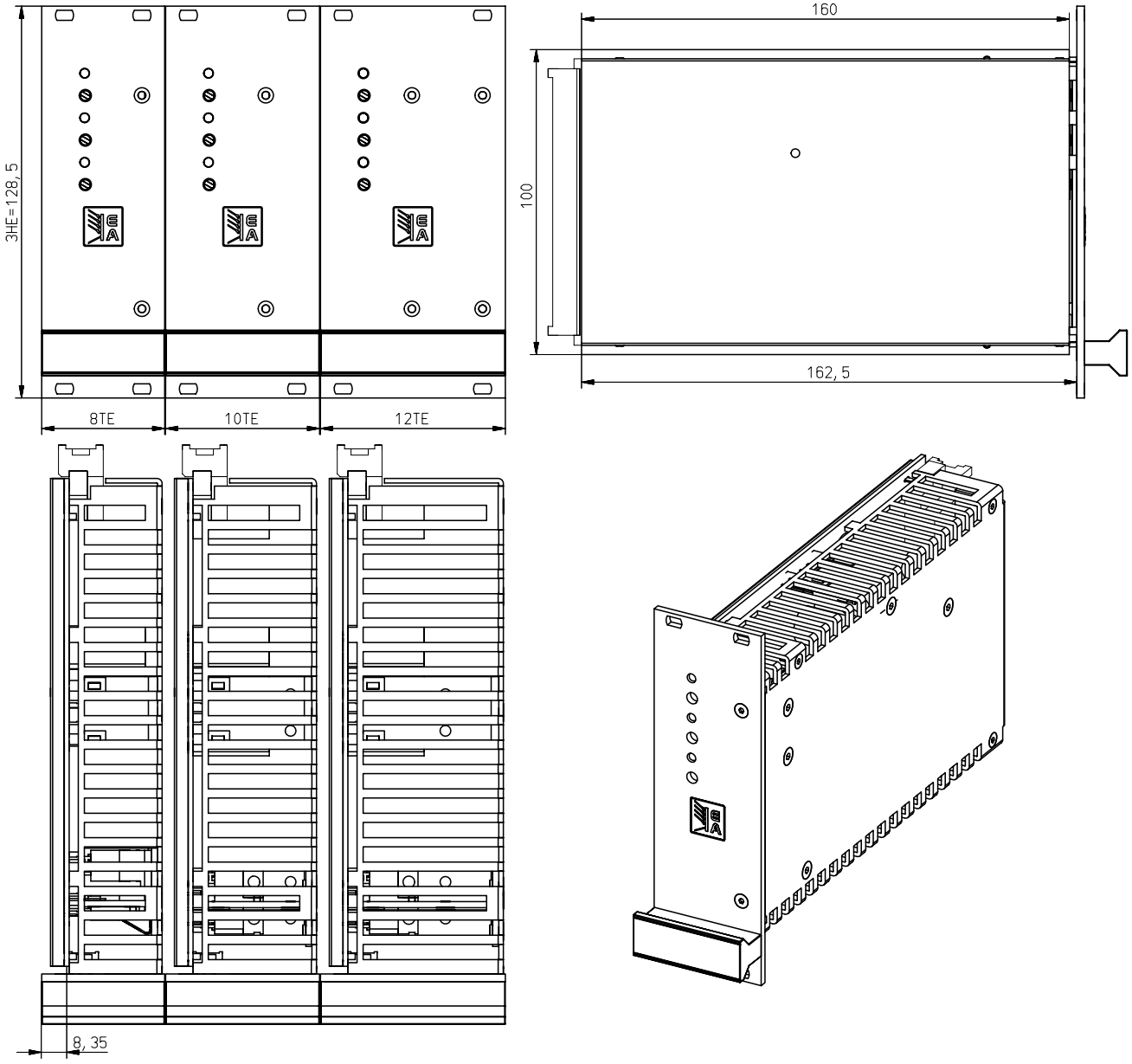
技术参数	Technical Data	PS 803-240 Single	PS 805-240 Single	PS 812-240 Single	PS 824-240 Single
输出电压	Output voltage	3.3V (3.0...3.6V)	5V (4.8...5.5V)	12V (11.8...15.2V)	24V (23.5...28.5V)
0-100% I_{out}负载调整率	Load regulation 0...100% I_{out}	<0.05%	<0.05%	<0.05%	<0.05%
100% I_{out}线性调整率	Line regulation 100% I_{out}	<0.05%	<0.05%	<0.05%	<0.05%
纹波	Ripple	<40mV_{pp}	<40mV_{pp}	<40mV_{pp}	<40mV_{pp}
负载从10%-100%调整需时	Regulation time 10-100% load	<0.5ms	<0.5ms	<0.5ms	<0.5ms
OVP过压保护调节范围	OVP adjustment	3.8...4.5V	6.0...6.7V	16.5...18.0V	29.0...33.0V
输出电流 / 功率	Output current / power	30A / 108W	30A / 165W	16A / 240W	10A / 240W
输出电流限制	Output current limit	<36A	<36A	<19.2A	<19.2A
感测端的电压调整	Voltage regulation with sense	0.5V max.	0.5V max.	0.5V max.	0.5V max.
电源失效信号	Power fail signal	>5ms	>5ms	>5ms	>5ms
输入信号	Input signal	外部开-关/ext. on-off	外部开-关/ext. on-off	外部开-关/ext. on-off	外部开-关/ext. on-off
均流，带ASF信号	Current share with ASF signal	可选 / optional	可选 / optional	可选 / optional	可选 / optional
产品编号	Article No.	08130318	08130319	08130320	08130321

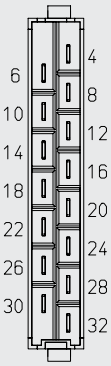
技术参数	Technical Data	PS 805-12-240 Double		PS 805-24-240 Double	
		输出 / Output 1	输出 / Output 2	输出 / Output 1	输出 / Output 2
输出电压	Output voltage	5V (4.8...5.5V)	12V (11.8...15.2V)	5V (4.8...5.5V)	24V (23.8...27.2V)
0-100% I_{out}负载调整率	Load regulation 0...100% I_{out}	<0.05%	<0.2%	<0.05%	<0.2%
100% I_{out}线性调整率	Line regulation 100% I_{out}	<0.05%	<0.2%	<0.05%	<0.2%
纹波	Ripple	<40mV_{pp}	<40mV_{pp}	<40mV_{pp}	<40mV_{pp}
负载从10%-100%调整需时	Regulation time 10-100% load	<0.5ms	<0.5ms	<0.5ms	<0.5ms
OVP过压保护调节范围	OVP adjustment	6.0...6.7V	16.5...18.0V	6.0...6.7V	33.0...36.0V
输出电流 / 功率	Output current / power	30A / 195W	2.5A	34A / 225W	2.5A
输出电流限制	Output current limit	<36A	<3.0A	<36A	<3.0A
感测端的电压调整	Voltage regulation with sense	0.5V max.		0.5V max.	
电源失效信号	Power fail signal	>5ms		>5ms	
输入信号	Input signal	外部开-关 / extern on-off		外部开-关 / extern on-off	
均流，带ASF信号	Current share with ASF signal	可选 / optional		可选 / optional	
产品编号	Article No.	08130322		08130323	

技术参数	Technical Data	PS 812-12-240 Double		PS 812-24-240 Double	
		输出 / Output 1	输出 / Output 2	输出 / Output 1	输出 / Output 2
输出电压	Output voltage	12V (11.8...15.2V)	12V (11.8...15.2V)	12V (11.8...15.2V)	24V (23.8...27.2V)
0-100% I_{out}负载调整率	Load regulation 0...100% I_{out}	<0.05%	<0.2%	<0.05%	<0.2%
100% I_{out}线性调整率	Line regulation 100% I_{out}	<0.05%	<0.2%	<0.05%	<0.2%
纹波	Ripple	<40mV_{pp}	<40mV_{pp}	<40mV_{pp}	<40mV_{pp}
负载从10%-100%调整需时	Regulation time 10-100% load	<0.5ms	<0.5ms	<0.5ms	<0.5ms
OVP过压保护调节范围	OVP adjustment	16.5...18.0V	16.5...18.0V	16.5...18.0V	33.0...36.0V
输出电流 / 功率	Output current / power	16A / 240W	2.5A	16A / 240W	2.5A
输出电流限制	Output current limit	<19.2A	<3.0A	<19.2A	<3.0A
感测端的电压调整	Voltage regulation with sense	0.5V max.		0.5V max.	
电源失效信号	Power fail signal	>5ms		>5ms	
输入信号	Input signal	外部开-关 / extern on-off		外部开-关 / extern on-off	
均流，带ASF信号	Current share with ASF signal	可选 / optional		可选 / optional	
产品编号	Article No.	08130324		08130325	

技术参数	Technical Data	PS 805-12-12-240 Triple		
		输出 / Output 1	输出 / Output 2	输出 / Output 3
输出电压	Output voltage	5V (4.8...5.5V)	+12V (11.8...15.2V)	-12V (11.8...15.2V)
0-100% I_{out}负载调整率	Load regulation 0...100% I_{out}	<0.05%	<0.2%	<0.2%
100% I_{out}线性调整率	Line regulation 100% I_{out}	<0.05%	<0.2%	<0.2%
纹波	Ripple	<40mV_{pp}	<40mV_{pp}	<40mV_{pp}
负载从10%-100%调整需时	Regulation time 10-100% load	<0.5ms	<0.5ms	<0.5ms
OVP过压保护调节范围	OVP adjustment	6.0...6.7V	16.5...18.0V	16.5...18.0V
输出电流 / 功率	Output current / power	30A / 225W	2.5A	2.5A
输出电流限制	Output current limit	<36A	<3.0A	<3.0A
感测端的电压调整	Voltage regulation with sense	0.5V max.		
电源失效信号	Power fail signal	>5ms		
输入信号	Input signal	外部开-关 / extern on-off		
均流，带ASF信号	Current share with ASF signal	可选 / optional		
产品编号	Article No.	08130326		

EA-PS 800 19“ 80W - 240W
19“ 插拔式直流电源 / 19“ PLUG-IN DC POWER SUPPLIES



H15 连接器	引脚	H15连接器脚位分布说明 / Connector H15 pin layout		
Connector H15	Pin	PS 800 19“ Single	PS 800 19“ Double	PS 800 19“ Triple
	4	+V1	+V1	+V1
	6	+V1	+V1	+V1
	8	GND V1	GND V1	GND V1
	10	GND V1	GND V1	GND V1
	12	+Sense	+Sense	+Sense
	14	-Sense	-Sense	-Sense
	16	Power fail	Power fail	Power fail
	18	---	+V2	+V2
	20	--- (optional ASF*)	GND V2	GND V2 / V3
	22	---	---	-V3
	24	Extern On/Off	Extern On/Off / ASF*	Extern On/Off / ASF*
	26	---	---	---
	28	N	N	N
	30	L	L	L
	32	PE	PE	PE

* ASF = 可选功率均衡特征 / optional power sharing feature

EA-BC 800 R 320W - 1500W
铅酸电池自动充电器 / AUTOMATIC LEAD ACID BATTERY CHARGERS

外壳结构类型 **1 / Enclosure type 1**

EA-BC 812-20 R

- 宽范围输入电压90...264V带PFC
- 效率：高达 92%
- 输出功率：320W 至 1500W
- 电池电压：12V，24V 和 48V
- 充电电流：5A 至 60A
- 温控充电特性
- 单片机控制充电特性
- 三种不同的电池类型可选
- 可转为可调电源
- 有短路保护和反接保护
- 有过压保护(OVP)
- 有过温保护(OT)
- 可自动检测的远程感测端
- 模拟接口
- 自然风冷*
- 温控风扇制冷**

- **Wide input voltage 90...264V with PFC**
- **High efficiency: up to 92%**
- **Output powers: 320W up to 1500W**
- **Battery voltages: 12V, 24V and 48V**
- **Charging currents: 5A up to 60A**
- **Temperature controlled charging characteristics**
- **Microprocessor controlled charging characteristics**
- **Three different lead-acid battery types selectable**
- **Power supply mode with adjustable voltage**
- **Short-circuit and reverse polarity protected**
- **Overvoltage protection (OVP)**
- **Overtemperature protection (OT)**
- **Remote sense with automatic detection**
- **Analogue interface**
- **Natural convection cooling***
- **Temperature controlled fans for cooling****

概要

EA-BC 800 R系列是一款由单片机控制的电池充电器。它有3个充电阶段，能快速、完整地完成充电循环，并优化电池寿命。

各充电循环阶段

本系列充电器可充液态、胶体(Gel 电池)、或电解液吸收在隔板内的贫液(AGM)铅酸电池。
电池接到充电器上后，微处理器会检测电池极型和电池电压，再确定是否开始充电。电池极性错误或完全过放(<0.2 x U_{Bat})时，则不开始充电。

稍微过放或深度过放的电池(>0.2 至 <0.9 x U_{Bat})，可以减小后的电流开始**预充循环**阶段。

完成上述阶段后，紧接着进行**快充循环**阶段，以全电压和最大电流进行，直到充电电流下降到输出电流的5%以下。
第三阶段就是**涓充循环**阶段，此时一直保持给电池充电，防止电池自放电。

General

The microprocessor controlled battery chargers from series EA-BC 800 R operate with a 3-stage charging process for a rapid and complete charging cycle, optimising the life of the battery.

Charging cycles

The chargers can be used to charge lead-acid batteries with liquid, gel cell or felt soaked (AGM) electrolyte.
After connecting the battery to the charger, the microprocessor checks the polarity and voltage of the battery and determines if the charging process is allowed to start. At false polarity or complete discharge (<0.2 x U_{Bat}) the charging procedure can not be started.
Normally or deeply discharged batteries (>0.2 to <0.9 x U_{Bat}) start with a **precharge cycle** at reduced current.

This stage is followed by a **boost charging cycle** with full voltage and maximum current, until the charging current sinks below 5% of the nominal output current.
The third stage is a **trickle charge cycle** in which the charging level of the battery is kept constant, preventing self-discharge.

* 650W以下型号
** 1000W以上型号

* Models up to 650W
** Models from 1000W

Elektro-Automatik

EA-BC 800 R 320W - 1500W
铅酸电池自动充电器 / AUTOMATIC LEAD ACID BATTERY CHARGERS

温度补偿充电循环阶段
电池充电时建议用一温度感测器，根据电池的温度，调节电压，从而限制危险气体的释放，防止过充。

输出
本系列不同型号针对不同电压(12V，24V，和48V)的电池充电，充电电流有从5A至60A，功率从320W至1500W的型号。

远程感测端
远程感测输入端可直接连到负载输入端，以补偿连线上的压降。如果输入端已接上电池，本充电器将自动纠正输出电压，确保电池获得准确所需的电压。

模拟接口
模拟接口上有一温度补偿输入端。想要监控充电电压和电流，可在模拟输出端接上 0V...10V电压。此外，还有数个输入端和输出端，用来控制和监控产品状态。

Temperature compensated charging cycle
It is recommended to use the included emperature sensor for battery charging. The charging voltage will then be adjusted by the temperature of the battery and thus limiting the emissions of dangerous gases and prevent overcharging.

Output
Different units for batteries with 12V, 24V and 48V, charging currents from 5A to 60A and powers from 320W to 1500W are available.

Remote sense
The sense input is directly connected to the battery to compensate voltage drops along the leads. The battery charger will correct the voltage automatically, in order to ensure that the accurate required voltage is available on the battery.

Analogue Interface
An input for temperature compensation is available. To monitor the charging voltage and current, analogue outputs are realised with voltage ranges from 0V...10V. Several digital inputs and outputs are available for controlling and monitoring the status.

外壳类型**2** / **Enclosure type 2**

技术参数	Technical Data	EA-BC 800 R
输入电压	**Input voltage**	90...264V
-频率	-Frequency	45...65Hz
-功率因数	-Power factor	>0.99
输出：电压	**Output: Voltage**	
-精确度	-Accuracy	<0.2%
-负载0-100% 时的稳定度	-Stability at 0-100% load	<0.05%
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.02%
-负载10%-100%调整需时	-Regulation 10-100% load	<2ms
-过压保护值	-Overvoltage protection	自动偏移 / automatic offset
输出：电流	**Output: Current**	
-精确度	-Accuracy	<0.2%
-负载0-100% 时的稳定度	-Stability at 0-100% ΔU_{OUT}	<0.15%
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.05%
安规标准	**Standards**	EN 60950, EN 61326, EN 55022 级别 B / Class B
工作温度	**Operation temperature**	0...50°C
储存温度	**Storage temperature**	-20...70°C

型号	充电电压	电流	功率	U纹波	I纹波	电源模式的调节范围	尺寸 WxHxD	安装尺寸 WxHxD	外壳类型	重量	产品编号
Model	**Charging voltage**	**Current**	**Power**	**Ripple U**	**Ripple I**	**Adjustment range PS mode**	**Dimensions WxHxD**	**Installation dimensions WxHxD**	**Housing type**	**Weight**	**Article number**
BC 812-20 R	12V	20A	300W	<40mV_{PP}	<60mA_{PP}	10...15V	218x163x83mm	218x190x85mm	1	2.2kg	27150311
BC 824-10 R	24V	10A	300W	<100mV_{PP}	<35mA_{PP}	20...30V	218x163x83mm	218x190x85mm	1	2.2kg	27150312
BC 848-05 R	48V	5A	300W	<150mV_{PP}	<12mA_{PP}	40...60V	218x163x83mm	218x190x85mm	1	2.2kg	27150313
BC 824-20 R	24V	20A	600W	<100mV_{PP}	<65mA_{PP}	20...30V	218x163x83mm	218x190x85mm	1	2.2kg	27150314
BC 848-10 R	48V	10A	600W	<150mV_{PP}	<25mA_{PP}	40...60V	218x163x83mm	218x190x85mm	1	2.2kg	27150315
BC 812-40 R	12V	40A	600W	<10mV_{PP}	<19mA_{PP}	10...15V	90x360x240mm	90x370x265mm	2	6.5kg	27150316
BC 812-60 R	12V	60A	900W	<10mV_{PP}	<19mA_{PP}	10...15V	90x360x240mm	90x370x265mm	2	6.5kg	27150317
BC 824-40 R	24V	40A	1200W	<10mV_{PP}	<19mA_{PP}	20...30V	90x360x240mm	90x370x265mm	2	6.5kg	27150318
BC 824-60 R	24V	60A	1500W	<10mV_{PP}	<19mA_{PP}	20...30V	90x360x240mm	90x370x265mm	2	6.5kg	27150319
BC 848-40 R	48V	40A	1500W	<10mV_{PP}	<19mA_{PP}	40...60V	90x360x240mm	90x370x265mm	2	6.5kg	27150320

Elektro-Automatik

EA-BCI 800 R 320W - 1500W
通用型可编程电池充电器 / PROGRAMMABLE UNIVERSAL BATTERY CHARGERS

U
I
OVP
OT
USB
RS232
CAN

外壳结构类型 **1 / Enclosure type 1**

EA-BCI 812-20 R

- 宽范围输入电压90...264V带PFC
- 输出功率：320W 至 1500W
- 输出电压：12V, 24V 或 48V
- 充电电流高达60A
- 适合于：Li-Ion和Pb, NiCd, NiMH
- 温控充电特性
- 自由编程充电特性
- 可当电源使用
- 图形显示器显示所有数值和功能
- 有短路保护和反接保护
- 有过压保护(OVP)
- 有过温保护(OT)
- 可自动检测的远程感测端
- 模拟接口
- 自然风冷却*
- 温控风扇制冷**
- 可选件数字接口卡

- **Wide range input 90...264V with PFC**
- **Output power ratings: 320W up to 1500W**
- **Output voltages: 12V, 24V or 48V**
- **Charging currents up to 60A**
- **Suitable for: Li-Ion and Pb, NiCd, NiMH**
- **Temperature controlled charging**
- **Programmable charging profiles**
- **Power supply mode**
- **Graphic display for all values and status**
- **Short-circuit and reverse polarity protection**
- **Overvoltage protection (OVP)**
- **Overtemperature protection (OT)**
- **Remote sense with automatic detection**
- **Analogue interface**
- **Natural convection cooling***
- **Temperature controlled fans for cooling****
- **Optional, digital interface cards**

概要

EA-BCI 800 R系列是一款由单片机控制的电池充电器。它具有几乎满足所有需求的多种功能和特点。

图形显示器上的清晰菜单快速、简便地指导用户进行正确的设置。本系列通过可选数字接口可编程、遥控和监控。这样可管理、分析和评估一个或多个电池的所有相关数据。

充电循环

EA-BCI 800 R系列非常适合充Li-Ion电池，也可充铅性、NiCd、NiMH电池。用户可针对特定电池类型简便地预编程。

锂离子电池的充电循环阶段

针对锂离子电池，可编程修复充电、预充、快充和峰值充电的各项参数。

可编程的参数有：比如充电电压、电流、时间、温度补偿。按此种方式每个电池可单独充电，从而使充满容量和寿命得到最大优化。

还可在允许的可调宽范围内编辑几乎任何电池参数，该项特征使得本产品成为任何类型锂电池的理想充电器。

* 600W以下型号
** 1kW以上型号

General

The microprocessor controlled battery chargers of the series EA-BCI 800 R have a multitude of functions and features covering all needs.
The clear menu in the graphic display provides a fast and simple guide to correct settings. The chargers can be programmed, remotely controlled and monitored using the optional digital interface cards. Thus all the data for one or more batteries can be administered, analysed and evaluated.

Charging profiles

The chargers in the EA-BCI 800 R series are very suitable for Lithium ion batteries. But also lead, NiCd or NiMH batteries can be charged. The built-in charging profiles are easily parameterised by the user for specific batteries.

Charging cycles for Lithium ion batteries

For Lithium ion batteries the parameters for maintenance charge, precharge, fast charge and peak charge are programmable.
Charging voltage, current, time, temperature compensation are some examples of the parameters which can be modified. In this way, every battery can be individually charged and battery capacity and life are optimised.
The possibility to edit virtually any battery parameter within a wide adjustment range makes the chargers ideal for any type of Lithium batteries.

* Models up to 600W
** Models from 1kW

EA-BCI 800 R 320W - 1500W
通用型可编程电池充电器 / PROGRAMMABLE UNIVERSAL BATTERY CHARGERS

铅酸电池的充电阶段
本产品可用4个充电循环阶段来充液态、GEL或AGM铅酸电池，也可用5个循环阶段来充，包含存储和刷新模式。

铅酸电池分四个充电阶段的情况
电池接到充电器上后，单片机检测电池极性和电压，确定是否开始充电。如果电池极性错误或完全过放(<0.2 x U_{Nom}) ，则不开始充电。只过放一点点的电池(>0.2 至 <0.9 x U_{Nom})，则以减小后的电流开始**预充循环阶段**。

然后紧接着进行**快充阶段**，以全电压和最大电流进行，直到充电电流下降到输出电流的80%以下。

接着进入**补足充电阶段**，以恒压进行，直到电流下降到额定充电电流的15%，或已完成12个小时充电时间而结束。

第四阶段是**涓充循环阶段**，此时一直保持给电池充电。

铅酸电池分五个充电阶段的情况
如果电池在很长一段时间内一直与充电器相连，且不释放任何能量，24小时后存储的电量会被减少。此时以较低电压对闲置电池进行储存充电，可以延长电池寿命。定期进行的维护充电可修复电池以补偿自放电释放的电量。

NiCd 和 NiMH 电池的充电循环阶段
针对NiCd 和 NiMh电池，可编程预充、主充和POST充。另外，充满识别条件可选择ΔU 或 ΔT或两者的结合。

可编程参数有，如：充电电压、电流、时间、温度补偿。按此种方式每个电池可单独充电，从而使充满容量和寿命得到最大优化。
由于对电池充电器所有参数进行编程的特点，使得产品适合所有类型的NiCd 和 NiMh电池。

温度补偿充电循环
电池充电时建议用一温度感测器，根据电池的温度，调节电压，从而限制危险气体的释放，防止过充。
针对NiCd 和 NiMH电池，该温度感测器不仅可以帮助辨别充满状态，也可防止释放危险气体。

输出
本系列有不同型号，可选择5A至60A输出电流，320W至1500W输出功率的类型。

远程感测输入端
远程感测输入端可直接连到负载输入端，以补偿连线上的压降。如果输入端已接上电池，本充电器将自动纠正输出电压，确保电池获得准确所需的电压。

Charging profile for lead-acid batteries
The devices use either a 4-stage charging cycle for charging lead-acid batteries with liquid, gel or felt soaked (AGM) electrolyte, or a 5-stage cycle which includes a storage and refresh mode.

Four step charging for lead-acid batteries
After connecting the battery, the microprocessor checks the polarity and voltage of the battery, and determines if and when the charging process should begin. False polarity or complete discharge (<0.2 x U_{Nom}) will not be charged.
Lowly discharged batteries (>0.2 to <0.9 x U_{Nom}) start with a **precharge cycle** at reduced current.

This stage is followed by a **boost charge**, using full power and maximum current until the charging current sinks below 80% of the nominal current.

There follows an **absorption charge** at constant voltage until either the current has fallen below 15% or a charging time of 12 hours is reached.

The fourth stage is a **trickle charge** in which the total charge in the battery is kept constant.

Five step charging for lead-acid batteries
If a battery remains connected to a charger for a long period without delivering any energy, the maintenance charge is reduced after 24 hours. This storage charge with reduced voltage for an unused battery leads to a longer battery life. At regular intervals the maintenance charge refreshes the battery to compensate for autodischarge.

Charging cycles for NiCd and NiMH batteries
For NiCd and NiMh batteries the parameters for precharge, main charge and post charge are programmable. In addition the recognition of fully-charged can be selected as either ΔU or ΔT or as a combination of both.
Charging voltage, current, time, temperature compensation are some examples of the parameters which can be programmed. In this way every battery can be individually charged and the capacity and life optimised.
The possibility of programming the battery charger for all parameters makes it suitable for all types of NiCd and NiMH batteries.

Temperature compensated charging cycles
It is recommended that a temperature sensor is used for lead-acid battery charging. The charging voltage can then be adjusted to the temperature of the battery thus limiting the emissions of dangerous gases and overcharging.
For NiCd and NiMH batteries a temperature sensor can help not only with fully-charged recognition, but also as protection against dangerous gas emission.

Output
Chargers with charging currents from 5A up to 60A and powers from 320W up to 1500W are available.

Sense input
The sense input can be connected directly to the battery to compensate voltage drops alongs the power leads. If the sense input is connected to the load, the battery charger will correct the voltage automatically, in order to ensure that the accurate required voltage is available on the battery.

EA-BCI 800 R 320W - 1500W
通用型可编程电池充电器 / PROGRAMMABLE UNIVERSAL BATTERY CHARGERS

模拟接口
模拟输入脚上有温度补偿功能。想要监控充电电压和电流，需在模拟输出脚接上0V...10V电压。此外，还有数个输入脚和输出脚，用来控制和监控产品状态。

可选项
- 可用RS232，CAN或USB隔离数字接口进行远程控制和监控。在产品前方有一接口卡插槽。也可见64页。

Analogue interface
An analogue input for temperature compensation is available. For monitoring the charging voltage and current, analogue outputs are available with voltages of 0V...10V. Several digital inputs and outputs are available for controlling and monitoring the status.

Options
- Isolated, digital interface cards for RS232, CAN or USB for remote control and monitorig. There is an interface slot on the front of the devices. Also see page 64.

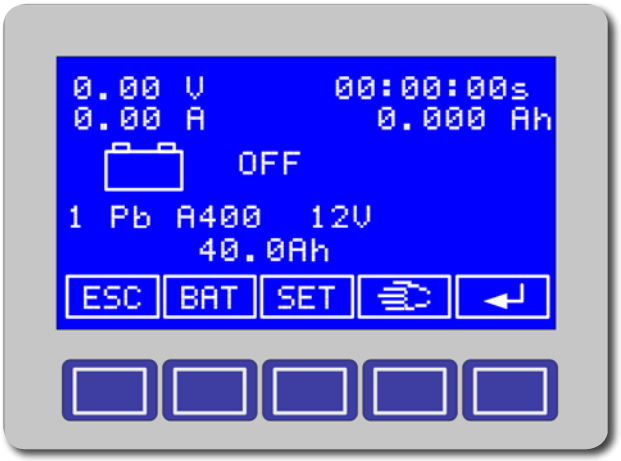
技术参数	Technical Data	EA-BCI 800 R
输入电压	**Input voltage**	90...264V
-频率	-Frequency	45...65Hz
-功率因数	-Power factor	>0.99
输出：电压	**Output: Voltage**	
-精确度	-Accuracy	<0.2%
-负载0-100% 时的稳定度	-Stability at 0-100% load	<0.05%
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.02%
-负载10%-100%调整需时	-Regulation 10-100% load	<2ms
-过压保护值	-Overvoltage protection	可调 / adjustable
输出：电流	**Output: Current**	
-精确度	-Accuracy	<0.2%
-负载0-100% 时的稳定度	-Stability at 0-100% ΔU_{OUT}	<0.15%
-在±10% Δ U_{IN}时的稳定度	-Stability at ±10% ΔU_{IN}	<0.05%
过压类别	**Overvoltage category**	2
污染等级	**Pollution degree**	2
保护级别	**Protection class**	1
模拟编程	**Analogue programming**	启动，停止，温度感测 / Start, Stop, Temperature sensor
制冷方式	**Cooling**	640W以下: 自然冷却，1000W以上: 风扇制冷 / Up to 640W: convectional, from 1000W: fan
安规标准	**Standards**	EN 60950, EN 61326, EN 55022 级别 B / Class B
工作温度	**Operation temperature**	0...50°C
储存温度	**Storage temperature**	-20...+70°C

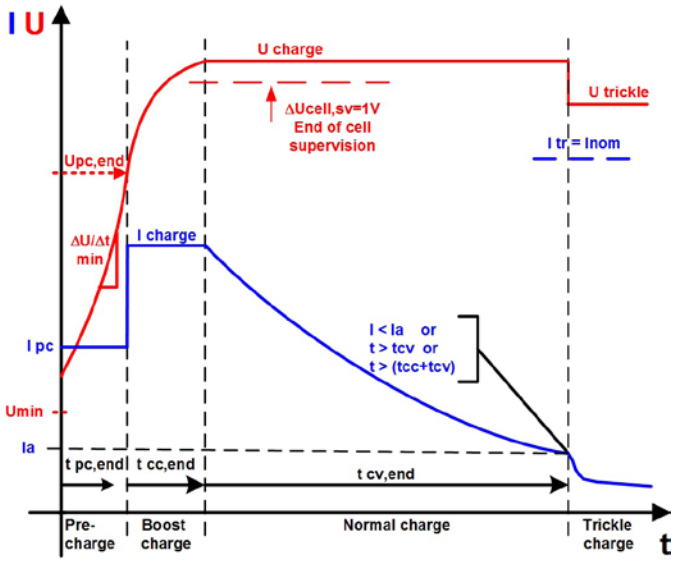
型号	充电电压	电流	功率	U纹波	I纹波	尺寸 WxHxD	安装尺寸 WxHxD	外壳类型	重量	产品编号
Model	**Charging voltage**	**Charging current ***	**Power**	**Ripple U**	**Ripple I**	**Dimensions WxHxD**	**Installation dimensions WxHxD**	**Housing type**	**Weight**	**Article number**
BCI 812-20 R	12V	max. 20A	320W	<40mV$_{PP}$	<60mA$_{PP}$	218x163x83mm	218x190x85mm	1	2.2kg	27150401
BCI 824-10 R	24V	max. 10A	320W	<100mV$_{PP}$	<35mA$_{PP}$	218x163x83mm	218x190x85mm	1	2.2kg	27150402
BCI 848-05 R	48V	max. 5A	320W	<150mV$_{PP}$	<12mA$_{PP}$	218x163x83mm	218x190x85mm	1	2.2kg	27150403
BCI 824-20 R	24V	max. 20A	640W	<100mV$_{PP}$	<65mA$_{PP}$	218x163x83mm	218x190x85mm	1	2.2kg	27150404
BCI 848-10 R	48V	max. 10A	640W	<150mV$_{PP}$	<25mA$_{PP}$	218x163x83mm	218x190x85mm	1	2.2kg	27150405
BCI 812-40 R	12V	max. 40A	640W	<10mV$_{PP}$	<19mA$_{PP}$	90x360x240mm	90x370x265mm	2	6.5kg	27150406
BCI 812-60 R	12V	max. 60A	1000W	<10mV$_{PP}$	<19mA$_{PP}$	90x360x240mm	90x370x265mm	2	6.5kg	27150407
BCI 824-40 R	24V	max. 40A	1500W	<10mV$_{PP}$	<19mA$_{PP}$	90x360x240mm	90x370x265mm	2	6.5kg	27150408
BCI 824-60 R	24V	max. 60A	1500W	<10mV$_{PP}$	<19mA$_{PP}$	90x360x240mm	90x370x265mm	2	6.5kg	27150409
BCI 848-40 R	48V	max. 40A	1500W	<10mV$_{PP}$	<19mA$_{PP}$	90x360x240mm	90x370x265mm	2	6.5kg	27150410

* 最大电流始终由自动功率调整的最大功率限制 / the max. current is always limited by the max. power of the auto-ranging power stage

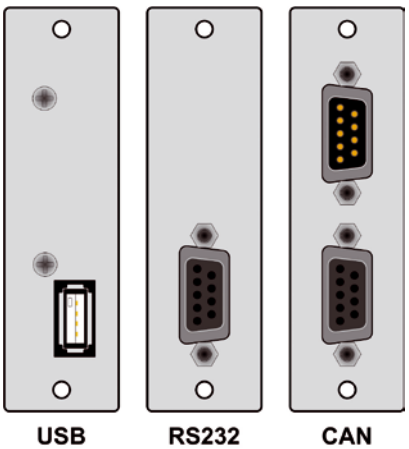
EA-BCI 800 R 320W - 1500W
通用型可编程电池充电器 / PROGRAMMABLE UNIVERSAL BATTERY CHARGERS

外壳类型 2
Housing type 2





数字接口 / Digital interfaces



Elektro-Automatik

EA-EL 3000 / EA-EL 9000 / EA-EL 9000 HP　400W - 7200W
直流电子负载 / ELECTRONIC DC LOADS

EA-EL 3160-60

- 功率级别：0...400W至0...7200W
- 按客户需求可提供更大功率的机柜式组合
- 输入电压：0...80V, 0...160V, 0...400V, 0...750V
- 输入电流：0...25A至0...600A
- 阻值：0...1.2Ω至0...800Ω
- 过温保护(OT)
- 带可调占空比的脉动操作
- 可调上升/下降时间
- 操作模式
  - 恒流（CC）
  - 恒压（CV）
  - 恒功率（CP）
  - 恒阻（CR）
- 远程感测，触发输入，触发输出*
- 电池测试模式，带时间和容量计算器
- 选购件，数字接口
  - RS232, CAN, USB, GPIB (IEEE)
  - Ethernet/LAN
- 可选水冷式（EL 9000系列）

- **Power ratings: 0...400W up to 0...7200W**
- **Cabinets with higher power upon request**
- **Input voltages: 0...80V, 0...160V, 0...400V, 0...750V**
- **Input currents: 0...25A up to 0...600A**
- **Resistances: 0...1.2Ω up to 0...800Ω**
- **Overtemperature protection (OT)**
- **Pulse operation with adjustable duty cycle**
- **Rise/fall time adjustable**
- **Operation modes**
  - **Constant current (CC)**
  - **Constant voltage (CV)**
  - **Constant power (CP)**
  - **Constant resistance (CR)**
- **Remote sense, trigger input, trigger output***
- **Battery test mode with time and capacity counter**
- **Optional, digital interface cards**
  - **RS232, CAN, USB, GPIB (IEEE)**
  - **Ethernet/LAN**
- **Optional water cooling (EL 9000 series)**

概述
EA-EL 3000 和 EA-EL 9000系列是一款由最先进微处理器控制的电子负载，它能满足，特别是现代实验室和工业的各种需求。

操作模式
本负载提供下列几种操作模式：恒压（CV），恒流（CC），恒功率(CP)和恒阻(CR)。

用一开关可选择上述操作模式。选择恰当的参数来保护测试设备。举例：恒流模式有一个最大功率设定，而恒压或恒阻则有一最大电流和功率设定。

静态操作
在静态操作模式下，可通过精调旋钮设定A，B两组数据。用户可用旋转开关在这两组数间转换使用。

General
The state-of-the-art microprocessor controlled electronic loads of the EA-EL 3000 and EA-EL 9000 series satisfy practically every need of modern laboratories and industry.

Operation modes
The loads provide the following operation modes: Constant Voltage (CV), Constant Current (CC), Constant Power (CP) and Constant Resistance (CR).
The modes are selected by a switch. Appropriate parameters become available to protect the test equipment. For example, constant current can have a maximum power setting and constant voltage or resistance can have a maximum current and power setting.

Static operation
In static operation, two values A and B can be set using a fine adjustment rotary knob. The user can toggle between these two values by a rotary switch.

* 仅针对EL 3000型号

* EL 3000 models only

EA-EL 3000 / EA-EL 9000 / EA-EL 9000 HP 400W - 7200W
直流电子负载 / ELECTRONIC DC LOADS

2400W 型号/model

4800W 型号/model

动态操作
在动态操作模式下，单片机根据编程时间和间隔时间在A和B间转换。可为每个数值设置50µs 至 100s的脉冲间隔时间，此外，可设置30µs 至 200ms向上和向下的跃变时间。模拟接口上还有一外部触发输入脚，用来给外部电源供电，从而转换A和B数值。

电池测试模式
在电池测试模式下，电池以恒流，恒功率或恒阻放电，直到达到预设终止放电电压。于是测量并显示放电时间和消耗容量。

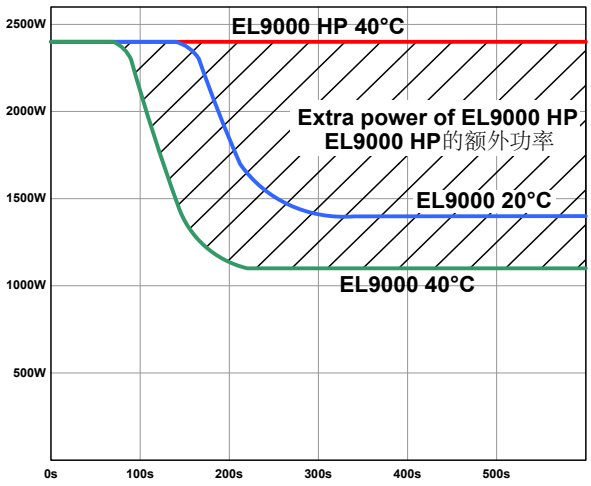
功率范围
标准功率范围为400W至7200W，按需可做更高功率产品。此外，还可参数化测试设备的需求。EL 9000 和 EL 9000HP 系列产品具有热降额功能，以限制功率，避免在最大功率范围下操作时过载。环境温度越低，终端阶段的冷却状况越好，负载可送出的功率越大。为避免该状况发生，我们还提供水冷式型号，即使在极致条件下，产品也能输出恒定功率。

Dynamic Operation
In dynamic operation, the microcontroller switches between two values A and B, according to the adjusted pulse width and duty cycle. For each value, a pulse interval between 50µs and 100s can be set. In addition, ramp up/down time between 30µs and 200ms can be adjusted. There is also an external trigger input on the analogue interface to be fed from an external source and to toggle between A and B.

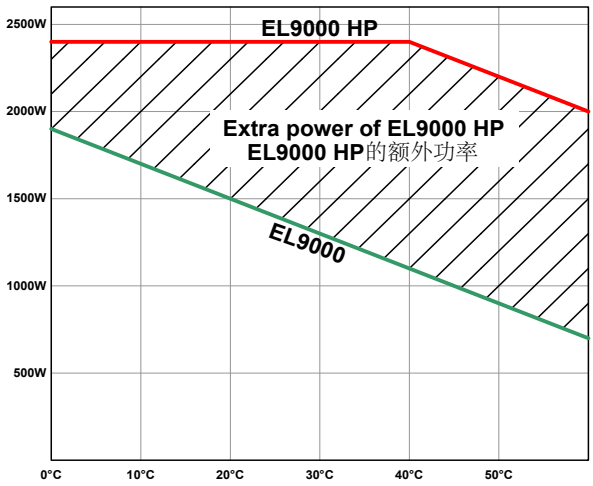
Battery test mode
In the battery test mode the battery is discharged under constant current, constant power or constant resistance until it reaches a predetermined final discharge voltage. The discharge time and consumed capacity are measured and displayed.

Power range
The standard range provides loads from 400W to 7200W, or, upon request, cabinets with higher power.
Units of the EL 9000 and EL 9000HP series are equipped with thermal derating in order to limit power and avoid overheating when operating in the maximum power range. The lower the ambient temperature and the better the cooling, the higher the power that the load can take. To circumvent this situation, models with water cooling can be delivered for permanent performance at maximum value and in extreme conditions.

EL 9000 / EL 9000 HP 功率特性



Power characteristics EL 9000 / EL 9000 HP



EA-EL 3000 / EA-EL 9000 / EA-EL 9000 HP 400W - 7200W
直流电子负载 / ELECTRONIC DC LOADS

显示
所有重要信息都直接显示于屏幕上。
因此关于U,I, P, R的实际输出值或预设值，实际控制状态(CV,CC,CP,CR)，错误信息，设置菜单的设定从屏幕上清新可见。同样，可选数字接口的信息也显示出来。

模拟接口卡
此卡有电压、电流、功率和阻值设定值输入端，电压和电流监控用输出端，控制输入端，信号输出端和触发输入端。

触发输出端 (仅针对EL 3000)
在动态操作模式下，A和B数值转换用的内部触发信号可用来控制或校准其它设备。

System Bus
EA EL9000 和 EL 9000 HP系列后板的„System Bus“端子有多种功能，比如：远程感测输入，为PS9000, PSI 9000, PSI 8000 2U或PS 8000 2U系列电源创建两象限模式的共享总线，以及内置速度调整转换点。一个输入端用于调节两象限操作的一个环流。

可选项
- 经RS232，CAN，USB和GPIB (IEEE)，Ethernet/LAN绝缘数字接口卡，，可用个人电脑控制。随接口卡附有免费Windows软件，可用来控制和监控、数据记录和序列。关于接口卡的信息也可参考63和64页。
- 还提供水冷式类型产品（仅针对EL 9000系列）

Display
All important information is directly represented on a display. Thus, information about the actual output values or set values for U, I, P, R, the actual regulation mode (CV,CC,CP,CR), error messages and settings in the setup menu are clearly available. Similiarly, settings of the optionally available digital interfaces will be shown.

Analogue interface
Inputs for voltage, current, power and resistance set values, outputs for voltage and current monitoring, control inputs, signal outputs and a trigger input are available.

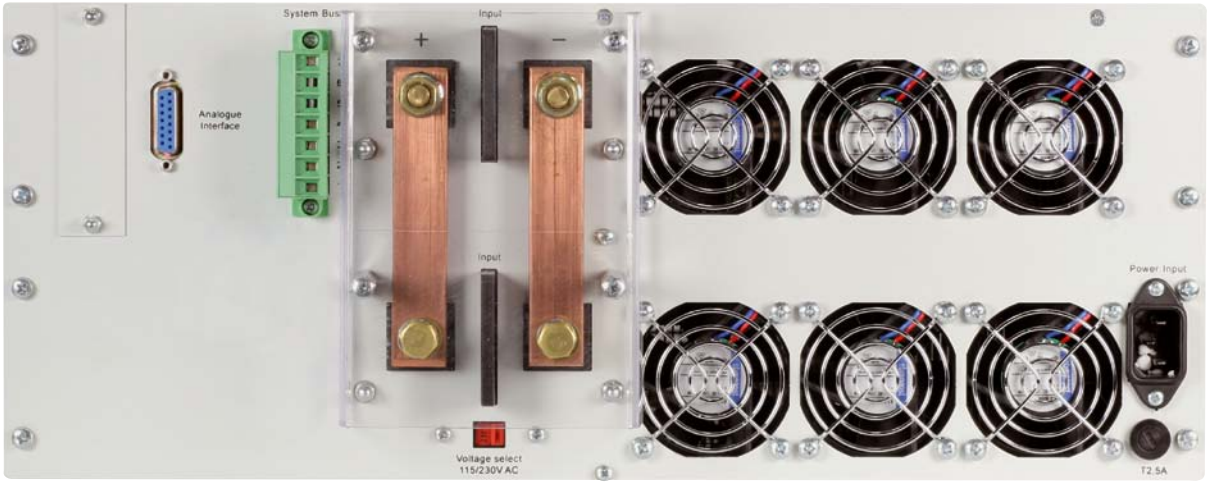
Trigger output (EL 3000 series only)
In dynamic operation, the internal trigger signal, which is generated for switching between A and B values, is led to a clamp terminal and can be used to control external applications.

System Bus
The „System Bus“ at the rear of the EL 9000 and EL 9000 HP series has a number of functions, such as the remote sense input, the Share bus input to build a two quadrant operation system with laboratory power supplies of the PS 9000, PSI 9000, PSI 8000 2U or PS 8000 2U series, and switching of the internal regulation speed. One input is used to adjust a cross current for two-quadrants operation.

Options
- Isolated, digital interface cards for RS232, CAN, USB, GPIB (IEEE), Ethernet/LAN to control the device by PC. Included with the interface cards is a free Windows software which provides control and monitoring, data logging and sequences. Also see pages 63 and 64.
- Water cooling (EL 9000 series only)

EL 9000 2400W 后视图 / Rear view EL 9000 2400W

EL 9000 4800W 后视图 / Rear view EL 9000 4800W



EA-EL 3000 / EA-EL 9000 / EA-EL 9000 HP 400W - 7200W
直流电子负载 / ELECTRONIC DC LOADS

一般规格 General specifications

技术参数	Technical Data	EA-EL 3000	EA-EL 9000 / EA-EL 9000 HP
电源输入电压	**Power input voltage**	115V/230V @ 50/60Hz	115V/230V @ 50/60Hz
显示器	**Display**	显示2x40个字符 / Display 2x40 Characters	显示2x40个字符 / Display 2x40 Characters
电池测试	**Batterie testing**		
- 关断电压	- Cut off voltage	自由调节 / Free adjustable	自由调节 / Free adjustable
- 显示器显示数值	- Read out at display	放电时间 / Duration of discharge	放电时间 / Duration of discharge
		放电容量 / Capacity of discharge	放电容量 / Capacity of discharge
模拟接口	**Analogue interface**		
- U / I / P / R设定输入脚	- Setting inputs U / I / P / R	0...10V	0...10V
- U / I监控输出脚	- Monitoring outputs U / I	0...10V	0...10V
- 控制信号	- Control signals	Intern / Extern, 内/外，输入开/关 / Input on/off	Intern / Extern, 内/外，输入开/关 / Input on/off
		R-模式 / R mode	R-模式 / R mode
- 状态信号	- Status signals	过压 / Overvoltage	过压 / Overvoltage
		过温 / Overtemperature	过温 / Overtemperature
- 参考电压	- Reference voltage	10V	10V
制冷方式	**Cooling**	温控风扇 / Temperature controlled fan	温控风扇 / Temperature controlled fan
连接端子	**Terminals**	前板 / Front panel	后板 / Rear panel
- 负载输入	- Load input	安全插座 / Safety sockets	M8螺丝端子 / Screw terminal M8
- 系统总线	- System Bus	- -	7 Pin螺丝端子 / Screw terminal 7 Pin
- 模拟接口	- Analogue interface	Sub-D 连接器 / Sub-D connector 15 Pin	Sub-D 连接器 / Sub-D connector 15 Pin
- 感测/触发输出	- Sense/Trigger out	4极螺丝端子 / 4 pole screw terminal	-
模拟接口	**Analogue interface**		
- 编程电压	- Programming voltage	0...10V	0...10V
- 监控电压	- Monitoring voltage	0...10V	0...10V
- 输入脚	- Inputs	U, I, P, R,Standby-待机, Remote/远程, Trigger-触发	U, I, P, R, Standby-待机, Remote-远程
- 输出脚	- Outputs	U, I, OT/OVP, Reference参考	U, I, OT/OVP, Reference参考

EL 3000系列
EA-EL 3000系列电子负载安装于小巧的桌面式外壳内，配备多种电子负载必备功能。

Series EL 3000
The electronic loads in the EA-EL 3000 series are in compact table-top housings and offer all the features that can be expected of an electronic load.

技术参数	Technical Data	EA-EL 3160-60	EA-EL 3400-25
最大输入功率	**Power input maximum**	400W	400W
20°C时恒定输入功率	**Steady power input at 20°C**	400W	400W
电压	**Voltage**		
- 调节范围	- Adjustment range	0...160V DC	0...400V DC
- 分辨率	- Resolution	100mV	100mV
- 精确度	- Accuracy	≤0.1%	≤0.1%
- 最大电流时的最小电压	- Min. voltage at max. current	约 / approx. 1.4V	约 / approx. 1.0V
电流	**Current**		
- 调节范围	- Adjustment range	0...60A	0...25A
- 分辨率	- Resolution	10mA	10mA
- 精确度	- Accuracy	≤0.2%	≤0.2%
功率	**Power**		
- 调节范围	- Adjustment range	0...400W	0...400W
- 分辨率	- Resolution	100mW	100mW
- 精确度	- Accuracy	≤2%	≤2%
内阻	**Resistance**		
- 调节范围 1	- Adjustment range 1	0...10Ω	0...40Ω
- 分辨率	- Resolution	10mΩ	10mΩ
- 调节范围 2	- Adjustment range 2	0...400Ω	0...800Ω
- 分辨率	- Resolution	100mΩ	1Ω
- 精确度	- Accuracy	≤2%	≤2%
动态函数	**Dynamic function**	2个级别 / 2 levels	2个级别 / 2 levels
- A / B占空比级别	- Duty cycle level A / B	50µs...100s	50µs...100s
- 各级别升降时间	- Level rise and fall time	30µs...200ms	30µs...200ms
尺寸 (WxHxD)	**Dimensions (WxHxD)**	240 x 120 x 300mm	240 x 120 x 300mm
重量	**Weight**	6.0 kg	6.0 kg
产品编号	**Article No.**	35320200	35320201

EA-EL 3000 / EA-EL 9000 / EA-EL 9000 HP 400W - 7200W
直流电子负载 / ELECTRONIC DC LOADS

EL 9000系列
EA-EL 9000 系列电子负载经上千次验证，配备多种电子负载必备功能。

Series EL 9000
The electronic loads in the EA-EL9000 series have proved themselves thousandfold and offer all the features that can be expected of an electronic load.

技术参数	Technical Data	EA-EL 9080-200	EA-EL 9080-400	EA-EL 9080-600
最大输入功率	**Power input maximum**	2400W	4800W	7200W
25°C时恒定输入功率	**Steady power input at 25°C**	1400W	2800W	4200W
电压	**Voltage**			
- 调节范围	- Adjustment range	0...80V DC	0...80V DC	0...80V DC
- 分辨率	- Resolution	100mV	100mV	100mV
- 精确度	- Accuracy	≤0.1%	≤0.1%	≤0.1%
- 最大电流时的最小电压	- Min. voltage at max. current	约 / approx. 1.0V	约 / approx. 1.0V	约 / approx. 1.0V
电流	**Current**			
- 调节范围	- Adjustment range	0...200A	0...400A	0...600A
- 分辨率	- Resolution	100mA	100mA	100mA
- 精确度	- Accuracy	≤0.2%	≤0.2%	≤0.2%
功率	**Power**			
- 调节范围	- Adjustment range	0...2400W	0...4800W	0...7200W
- 分辨率	- Resolution	1W	1W	1W
- 精确度	- Accuracy	≤2%	≤2%	≤2%
内阻	**Resistance**			
- 调节范围 1	- Adjustment range 1	0...5Ω	0...2.5Ω	0...1.2Ω
- 分辨率	- Resolution	10mΩ	1mΩ	1mΩ
- 调节范围 2	- Adjustment range 2	0...100Ω	0...50Ω	0...25Ω
- 分辨率	- Resolution	100mΩ	100mΩ	10mΩ
- 精确度	- Accuracy	≤2%	≤2%	≤2%
动态函数	**Dynamic function**	2个级别 / 2 levels	2个级别 / 2 levels	2个级别 / 2 levels
- A / B占空比级别	- Duty cycle level A / B	50µs...100s	50µs...100s	50µs...100s
- 各级别升降时间	- Level rise and fall time	30µs...200ms	30µs...200ms	30µs...200ms
尺寸 **(W H D)**	**Dimensions (W H D)**	19“ 2U 460mm	19“ 4U 460mm	19“ 6U 460mm
重量	**Weight**	16kg	26 kg	36 kg
产品编号	**Article No.**	33200230	33200231	33200232

技术参数	Technical Data	EA-EL 9160-100	EA-EL 9160-200	EA-EL 9160-300
最大输入功率	**Power input maximum**	2400W	4800W	7200W
25°C时恒定输入功率	**Steady power input at 25°C**	1400W	2800W	4200W
电压	**Voltage**			
- 调节范围	- Adjustment range	0...160V DC	0...160V DC	0...160V DC
- 分辨率	- Resolution	100mV	100mV	100mV
- 精确度	- Accuracy	≤0.1%	≤0.1%	≤0.1%
- 最大电流时的最小电压	- Min. voltage at max. current	约 / approx. 0.7V	约 / approx. 0.7V	约 / approx. 0.7V
电流	**Current**			
- 调节范围	- Adjustment range	0...100A	0...200A	0...300A
- 分辨率	- Resolution	100mA	100mA	100mA
- 精确度	- Accuracy	≤0.2%	≤0.2%	≤0.2%
功率	**Power**			
- 调节范围	- Adjustment range	0...2400W	0...4800W	0...7200W
- 分辨率	- Resolution	1W	1W	1W
- 精确度	- Accuracy	≤2%	≤2%	≤2%
内阻	**Resistance**			
- 调节范围 1	- Adjustment range 1	0...10Ω	0...5Ω	0...2.5Ω
- 分辨率	- Resolution	10mΩ	10mΩ	1mΩ
- 调节范围 2	- Adjustment range 2	0...200Ω	0...100Ω	0...50Ω
- 分辨率	- Resolution	100mΩ	100mΩ	100mΩ
- 精确度	- Accuracy	≤2%	≤2%	≤2%
动态函数	**Dynamic function**	2个级别 / 2 levels	2个级别 / 2 levels	2个级别 / 2 levels
- A / B占空比级别	- Duty cycle level A / B	50µs...100s	50µs...100s	50µs...100s
- 各级别升降时间	- Level rise and fall time	30µs...200ms	30µs...200ms	30µs...200ms
尺寸 **(W H D)**	**Dimensions (W H D)**	19“ 2U 460mm	19“ 4U 460mm	19“ 6U 460mm
重量	**Weight**	16kg	26kg	36kg
产品编号	**Article No.**	33200233	33200234	33200235

EA-EL 3000 / EA-EL 9000 / EA-EL 9000 HP 400W - 7200W
直流电子负载 / ELECTRONIC DC LOADS

技术参数	Technical Data	EA-EL 9400-50	EA-EL 9400-100	EA-EL 9400-150
最大输入功率	**Power input maximum**	2400W	4800W	7200W
25°C时恒定输入功率	**Steady power input at 25°C**	1400W	2800W	4200W
电压	**Voltage**			
- 调节范围	- Adjustment range	0...400V DC	0...400V DC	0...400V DC
- 分辨率	- Resolution	100mV	100mV	100mV
- 精确度	- Accuracy	≤0.1%	≤0.1%	≤0.1%
- 最大电流时的最小电压	- Min. voltage at max. current	约 / approx. 0.5V	约 / approx. 0.5V	约 / approx. 0.5V
电流	**Current**			
- 调节范围	- Adjustment range	0...50A	0...100A	0...150A
- 分辨率	- Resolution	10mA	100mA	100mA
- 精确度	- Accuracy	≤0.2%	≤0.2%	≤0.2%
功率	**Power**			
- 调节范围	- Adjustment range	0...2400W	0...4800W	0...7200W
- 分辨率	- Resolution	1W	1W	1W
- 精确度	- Accuracy	≤2%	≤2%	≤2%
内阻	**Resistance**			
- 调节范围 1	- Adjustment range 1	0...10Ω	0...5Ω	0...5Ω
- 分辨率	- Resolution	10mΩ	10mΩ	10mΩ
- 调节范围 2	- Adjustment range 2	0...400Ω	0...200Ω	0...100Ω
- 分辨率	- Resolution	100mΩ	100mΩ	100mΩ
- 精确度	- Accuracy	≤2%	≤2%	≤2%
动态函数	**Dynamic function**	2个级别 / 2 levels	2个级别 / 2 levels	2个级别 / 2 levels
- A / B占空比级别	- Duty cycle level A / B	50µs...100s	50µs...100s	50µs...100s
- 各级别升降时间	- Level rise and fall time	30µs...200ms	30µs...200ms	30µs...200ms
尺寸 **(W H D)**	**Dimensions (W H D)**	19“ 2U 460mm	19“ 4U 460mm	19“ 6U 460mm
重量	**Weight**	16kg	26kg	36kg
产品编号	**Article No.**	33200236	33200237	33200238

技术参数	Technical Data	EA-EL 9750-25	EA-EL 9750-50	EA-EL 9750-75
最大输入功率	**Power input maximum**	2400W	4800W	7200W
20°C时恒定输入功率	**Steady power input at 20°C**	1400W	2800W	4200W
电压	**Voltage**			
- 调节范围	- Adjustment range	0...750V DC	0...750V DC	0...750V DC
- 分辨率	- Resolution	100mV	100mV	100mV
- 精确度	- Accuracy	≤0.1%	≤0.1%	≤0.1%
- 最大电流时的最小电压	- Min. voltage at max. current	约 / approx. 0.5V	约 / approx. 0.5V	约 / approx. 0.5V
电流	**Current**			
- 调节范围	- Adjustment range	0...25A	0...50A	0...75A
- 分辨率	- Resolution	10mA	10mA	10mA
- 精确度	- Accuracy	≤0.2%	≤0.2%	≤0.2%
功率	**Power**			
- 调节范围	- Adjustment range	0...2400W	0...4800W	0...7200W
- 分辨率	- Resolution	1W	1W	1W
- 精确度	- Accuracy	≤2%	≤2%	≤2%
内阻	**Resistance**			
- 调节范围 1	- Adjustment range 1	0...40Ω	0...20Ω	0...15Ω
- 分辨率	- Resolution	10mΩ	10mΩ	10mΩ
- 调节范围 2	- Adjustment range 2	0...800Ω	0...400Ω	0...300Ω
- 分辨率	- Resolution	100mΩ	100mΩ	100mΩ
- 精确度	- Accuracy	≤2%	≤2%	≤2%
动态函数	**Dynamic function**	2个级别 / 2 levels	2个级别 / 2 levels	2个级别 / 2 levels
- A / B占空比级别	- Duty cycle level A / B	50µs...100s	50µs...100s	50µs...100s
- 各级别升降时间	- Level rise and fall time	30µs...200ms	30µs...200ms	30µs...200ms
尺寸 **(W H D)**	**Dimensions (W H D)**	19“ 2U 460mm	19“ 4U 460mm	19“ 6U 460mm
重量	**Weight**	16kg	26kg	36kg
产品编号	**Article number**	33200252	33200253	33200254

EA-EL 3000 / EA-EL 9000 / EA-EL 9000 HP 400W - 7200W
直流电子负载 / ELECTRONIC DC LOADS

EA-EL 9000 HP
EA-EL 9000 HP 电子负载系列是EA-EL 9000 系列的升级型号，它增加了一个高性能冷却器和风箱。

在40°C环境温度下，输入功率最大时，负载热降额功能启动。在此温度下，EA-EL 9000 HP 系列的性能大约比EA-EL 9000 系列的要高60%。

水冷式产品也可达到上述特征，可额外提供（选配）。

Series EL 9000 HP
The electronic loads in the EA-EL 9000 HP series offer an upgrade of the EA-EL 9000 series by incorporating a high performance cooling block and bigger fans.
At maximum input power thermal derating of the load commences at an ambient temperature of 40°C. At such a temperature the performance of the EA-EL 9000 HP series is approx. 60% higher than that of the EA-EL 9000 series.

A similiar advantage may also be gained with water cooling, which is available as an optional extra.

技术参数	Technical Data	EA-EL 9080-200 HP	EA-EL 9080-400 HP	EA-EL 9080-600 HP
最大输入功率	Power input maximum	2400W	4800W	7200W
40°C时恒定输入功率	Steady power input at 40°C	2400W	4800W	7200W
电压	Voltage			
- 调节范围	- Adjustment range	0...80V DC	0...80V DC	0...80V DC
- 分辨率	- Resolution	100mV	100mV	100mV
- 精确度	- Accuracy	≤0.1%	≤0.1%	≤0.1%
- 最大电流时的最小电压	- Min. voltage at max. current	约 / approx. 1.0V	约 / approx. 1.0V	约 / approx. 1.0V
电流	Current			
- 调节范围	- Adjustment range	0...200A	0...400A	0...600A
- 分辨率	- Resolution	100mA	100mA	100mA
- 精确度	- Accuracy	≤0.2%	≤0.2%	≤0.2%
功率	Power			
- 调节范围	- Adjustment range	0...2400W	0...4800W	0...7200W
- 分辨率	- Resolution	1W	1W	1W
- 精确度	- Accuracy	≤2%	≤2%	≤2%
内阻	Resistance			
- 调节范围 1	- Adjustment range 1	0...5Ω	0...2.5Ω	0...1.2Ω
- 分辨率	- Resolution	10mΩ	1mΩ	1mΩ
- 调节范围 2	- Adjustment range 2	0...100Ω	0...50Ω	0...25Ω
- 分辨率	- Resolution	100mΩ	100mΩ	10mΩ
- 精确度	- Accuracy	≤2%	≤2%	≤2%
动态函数	Dynamic function	2个级别 / 2 levels	2个级别 / 2 levels	2个级别 / 2 levels
- A / B占空比级别	- Duty cycle level A / B	50µs...100s	50µs...100s	50µs...100s
- 各级别升降时间	- Level rise and fall time	30µs...200ms	30µs...200ms	30µs...200ms
尺寸 (W H D)	Dimensions (W H D)	19“ 3U 460mm	19“ 6U 460mm	19“ 9U 460mm
重量	Weight	19kg	29 kg	39 kg
产品编号	Article No.	33200240	33200241	33200246

EA-EL 9000 HP 7200W

EA-EL 3000 / EA-EL 9000 / EA-EL 9000 HP 400W - 7200W
直流电子负载 / ELECTRONIC DC LOADS

技术参数	Technical Data	EA-EL 9160-100 HP	EA-EL 9160-200 HP	EA-EL 9160-300 HP
最大输入功率	**Power input maximum**	2400W	4800W	7200W
40°C时恒定输入功率	**Steady power input at 40°C**	2400W	4800W	7200W
电压	**Voltage**			
- 调节范围	- Adjustment range	0...160V DC	0...160V DC	0...160V DC
- 分辨率	- Resolution	100mV	100mV	100mV
- 精确度	- Accuracy	≤0.1%	≤0.1%	≤0.1%
- 最大电流时的最小电压	- Min. voltage at max. current	约 / approx. 0.7V	约 / approx. 0.7V	约 / approx. 0.7V
电流	**Current**			
- 调节范围	- Adjustment range	0...100A	0...200A	0...300A
- 分辨率	- Resolution	100mA	100mA	100mA
- 精确度	- Accuracy	≤0.2%	≤0.2%	≤0.2%
功率	**Power**			
- 调节范围	- Adjustment range	0...2400W	0...4800W	0...7200W
- 分辨率	- Resolution	1W	1W	1W
- 精确度	- Accuracy	≤2%	≤2%	≤2%
内阻	**Resistance**			
- 调节范围 1	- Adjustment range 1	0...10Ω	0...5Ω	0...2.5Ω
- 分辨率	- Resolution	10mΩ	10mΩ	1mΩ
- 调节范围 2	- Adjustment range 2	0...200Ω	0...100Ω	0...50Ω
- 分辨率	- Resolution	100mΩ	100mΩ	100mΩ
- 精确度	- Accuracy	≤2%	≤2%	≤2%
动态函数	**Dynamic function**	2个级别 / 2 levels	2个级别 / 2 levels	2个级别 / 2 levels
- A / B占空比级别	- Duty cycle level A / B	50µs...100s	50µs...100s	50µs...100s
- 各级别升降时间	- Level rise and fall time	30µs...200ms	30µs...200ms	30µs...200ms
尺寸 **(W H D)**	**Dimensions (W H D)**	19“ 3U 460mm	19“ 6U 460mm	19“ 9U 460mm
重量	**Weight**	19kg	29kg	39kg
产品编号	**Article No.**	33200242	33200243	33200247

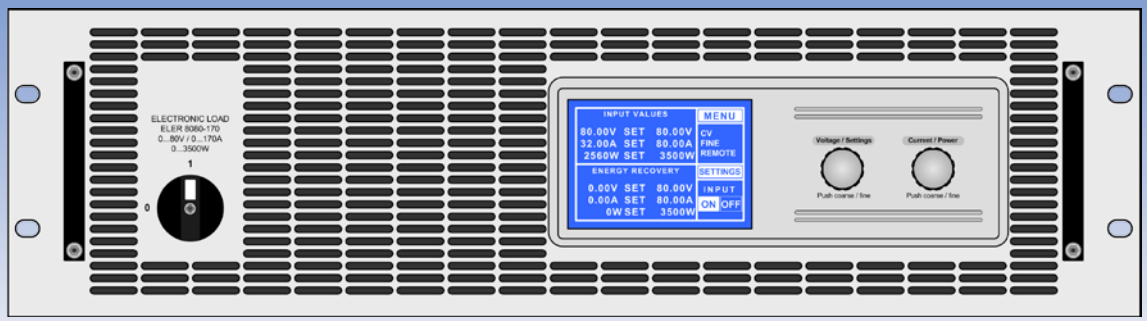
技术参数	Technical Data	EA-EL 9400-50 HP	EA-EL 9400-100 HP	EA-EL 9400-150 HP
最大输入功率	**Power input maximum**	2400W	4800W	7200W
40°C时恒定输入功率	**Steady power input at 40°C**	2400W	4800W	7200W
电压	**Voltage**			
- 调节范围	- Adjustment range	0...400V DC	0...400V DC	0...400V DC
- 分辨率	- Resolution	100mV	100mV	100mV
- 精确度	- Accuracy	≤0.1%	≤0.1%	≤0.1%
- 最大电流时的最小电压	- Min. voltage at max. current	约 / approx. 0.5V	约 / approx. 0.5V	约 / approx. 0.5V
电流	**Current**			
- 调节范围	- Adjustment range	0...50A	0...100A	0...150A
- 分辨率	- Resolution	100mA	100mA	100mA
- 精确度	- Accuracy	≤0.2%	≤0.2%	≤0.2%
功率	**Power**			
- 调节范围	- Adjustment range	0...2400W	0...4800W	0...7200W
- 分辨率	- Resolution	1W	1W	1W
- 精确度	- Accuracy	≤2%	≤2%	≤2%
内阻	**Resistance**			
- 调节范围 1	- Adjustment range 1	0...10Ω	0...5Ω	0...5Ω
- 分辨率	- Resolution	10mΩ	10mΩ	10mΩ
- 调节范围 2	- Adjustment range 2	0...400Ω	0...200Ω	0...100Ω
- 分辨率	- Resolution	100mΩ	100mΩ	100mΩ
- 精确度	- Accuracy	≤2%	≤2%	≤2%
动态函数	**Dynamic function**	2个级别 / 2 levels	2个级别 / 2 levels	2个级别 / 2 levels
- A / B占空比级别	- Duty cycle level A / B	50µs...100s	50µs...100s	50µs...100s
- 各级别升降时间	- Level rise and fall time	30µs...200ms	30µs...200ms	30µs...200ms
尺寸 **(W H D)**	**Dimensions (W H D)**	19“ 3U 460mm	19“ 6U 460mm	19“ 9U 460mm
重量	**Weight**	19kg	29kg	39kg
产品编号	**Article No.**	33200244	33200245	33200248

EA-EL 3000 / EA-EL 9000 / EA-EL 9000 HP 400W - 7200W
直流电子负载 / ELECTRONIC DC LOADS

技术参数	Technical Data	EA-EL 9750-25 HP	EA-EL 9750-50 HP	EA-EL 9750-75 HP
最大输入功率	**Power input maximum**	2400W	4800W	7200W
40°C时恒定输入功率	**Steady power input at 40°C**	2400W	4800W	7200W
电压	**Voltage**			
- 调节范围	- Adjustment range	0...750V DC	0...750V DC	0...750V DC
- 分辨率	- Resolution	100mV	100mV	100mV
- 精确度	- Accuracy	≤0.1%	≤0.1%	≤0.1%
- 最大电流时的最小电压	- Min. voltage at max. current	约 / approx. 0.5V	约 / approx. 0.5V	约 / approx. 0.5V
电流	**Current**			
- 调节范围	- Adjustment range	0...25A	0...50A	0...75A
- 分辨率	- Resolution	10mA	10mA	10mA
- 精确度	- Accuracy	≤0.2%	≤0.2%	≤0.2%
功率	**Power**			
- 调节范围	- Adjustment range	0...2400W	0...4800W	0...7200W
- 分辨率	- Resolution	1W	1W	1W
- 精确度	- Accuracy	≤2%	≤2%	≤2%
内阻	**Resistance**			
- 调节范围 1	- Adjustment range 1	0...40Ω	0...20Ω	0...15Ω
- 分辨率	- Resolution	10mΩ	10mΩ	10mΩ
- 调节范围 2	- Adjustment range 2	0...800Ω	0...400Ω	0...300Ω
- 分辨率	- Resolution	100mΩ	100mΩ	100mΩ
- 精确度	- Accuracy	≤2%	≤2%	≤2%
动态函数	**Dynamic function**	2个级别 / 2 levels	2个级别 / 2 levels	2个级别 / 2 levels
- A / B占空比级别	- Duty cycle level A / B	50µs...100s	50µs...100s	50µs...100s
- 各级别升降时间	- Level rise and fall time	30µs...200ms	30µs...200ms	30µs...200ms
尺寸 **(W H D)**	**Dimensions (W H D)**	19“ 3U 460mm	19“ 6U 460mm	19“ 9U 460mm
重量	**Weight**	19kg	29kg	39kg
产品编号	**Article number**	33200249	33200250	33200251

Elektro-Automatik

ANNOUNCEMENT: ELECTRONIC LOADS WITH ENERGY RECOVERY (INVERTER)
新产品预告：能量回馈式（逆变式）电子负载



出不设计概念 / Preliminary design concept

U I P R OT

USB LAN CAN Profi-bus

- 2012年即将面世
- 能量回馈特点
- 每台产品的输入功率高达10.5kW
  还可扩展至200kW或更高功率
- 输入电压达1500V
- 输入电流高达510A
- 触摸屏控制
- 用户配置文档，数据记录，真实函数发生器
- 模拟接口，USB接口
- 多款可选数字接口
  - CANopen, Profibus, Ethernet 以及其他
- 并联用共享总线

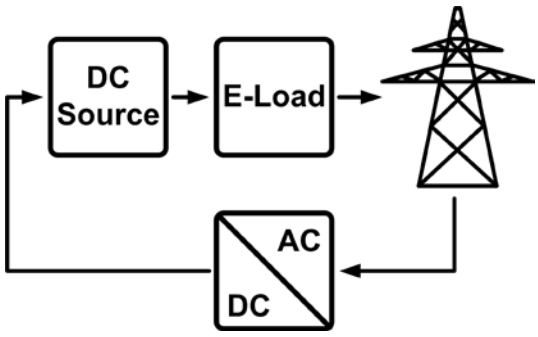
2012年将面试一款新的直流电子负载，带能量返回（即：返回市电），新的额定电压、电流和功率的产品。这类负载含有EL 9000系列的所有功能，如：四个标准调整模式，恒压、恒流、恒功率和恒阻。还增加了很多新功能。能量返回功能可将直流源输出来的能量转化，然后供应给电源电网，同时还不会有热能散发，不需额外制冷，从而节省耗能成本。

本产品将配上一个大的蓝色液晶触摸屏，将以全新的方式进行操作。
经模拟或数字远程设定数值的反应时间因DSP硬件控制而大大增加。直流输入端，数字接口卡插槽，模拟接口，共享总线端子都会安排在产品后板。

- **Coming 2012**
- **Energy recovery feature with backfeed**
- **Input power ratings up to 10.5kW per unit**
  Expandable to 200kW or more
- **Input voltages up to 1500V**
- **Input currents up to 510A**
- **Touchpanel control**
- **User profiles, data logging, true function generator**
- **Analogue interface, USB interface**
- **Optional, digital interfaces**
  - **CANopen, Ethernet, Profibus and others**
- **Share bus for parallel connection**

A new series of electronic DC loads with energy recovery (i.e. mains backfeed) and new voltages, currents and power ratings will be available in 2012. These loads incorporate all features of electronic load series EL 9000 such as the four common regulation modes constant voltage, constant current, constant power and constant resistance, plus a lot of new features. The energy recovery feature converts energy from a DC source and feeds it back into the power supply grid while it eliminates heat dissipation and extra cooling and helps to save energy costs .
The big touch panel with blue LC display offers a new way of intuitive handling.
The overall reaction time for setting values by analogue or digital remote will be significantly increased by DSP hardware control. The DC input, the digital interface card slot, the analogue interface and the Share bus connector will be located on the rear side.

技术规格	功率	电压	电流	宽 / 深	高
Technical Data	**Power**	**Voltage**	**Current**	**Width / Depth**	**Height**
EA-ELR 9080-170	0...3500W	0...80V	0...170A	19“ / 595mm	3U
EA-ELR 9250-70	0...3500W	0...250V	0...70A	19“ / 595mm	3U
EA-ELR 9500-30	0...3500W	0...500V	0...30A	19“ / 595mm	3U
EA-ELR 9700-22	0...3500W	0...700V	0...22A	19“ / 595mm	3U
EA-ELR 9080-340	0...7000W	0...80V	0...340A	19“ / 595mm	3U
EA-ELR 9250-140	0...7000W	0...250V	0...140A	19“ / 595mm	3U
EA-ELR 9500-60	0...7000W	0...500V	0...60A	19“ / 595mm	3U
EA-ELR 9700-44	0...7000W	0...700V	0...44A	19“ / 595mm	3U
EA-ELR 91000-30	0...7000W	0...1000V	0...30A	19“ / 595mm	3U
EA-ELR 9080-510	0...10500W	0...80V	0...510A	19“ / 595mm	3U
EA-ELR 9250-210	0...10500W	0...250V	0...210A	19“ / 595mm	3U
EA-ELR 9500-90	0...10500W	0...500V	0...90A	19“ / 595mm	3U
EA-ELR 9700-66	0...10500W	0...700V	0...66A	19“ / 595mm	3U
EA-ELR 91500-30	0...10500W	0...1500V	0...30A	19“ / 595mm	3U

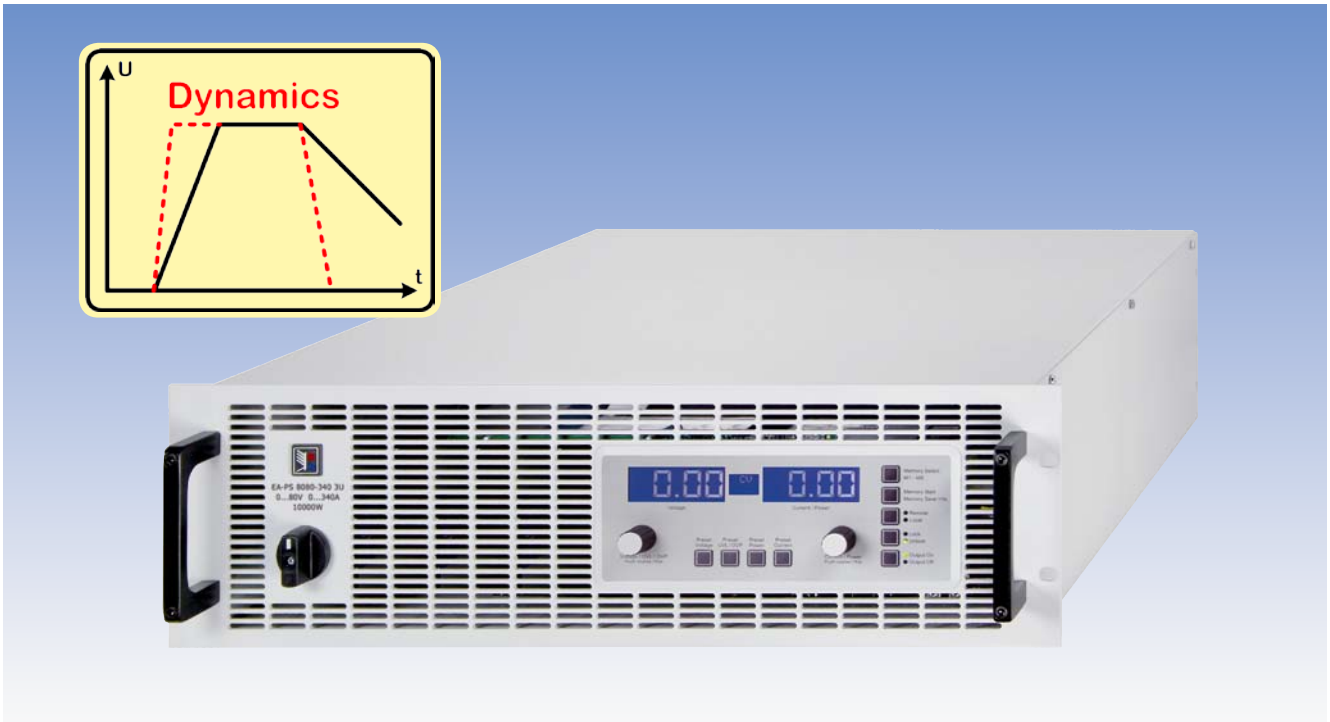


能量返回原理图
Backfeed principle of energy recovery

提示：此页出现的所有品名，参数和图纸 都为初步定义，如有变动。
Note: All names, values and drawings on this page are preliminary and subject to change

日期 / Date: 25.06.12

HS选项功能：电源供应器用高速跃变
OPTION HS: HIGH SPEED FOR POWER SUPPLIES



更优化的调整速度
为了在最短上升和下降时间内获得电压快速变化，按客户需求可减小直流输出端正常需求的滤波量。

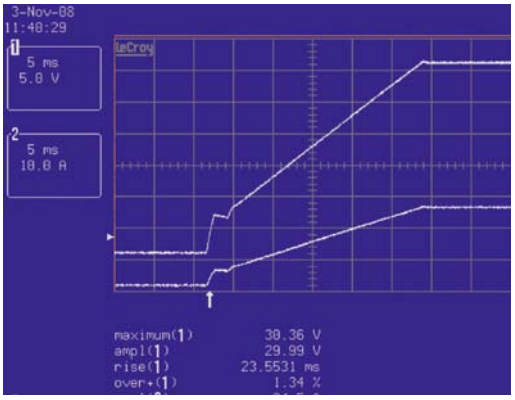
滤波量的减小，加上外部电子负载可使输出电压在不到1ms的时间内完成从0...100%和100...0%的变化。

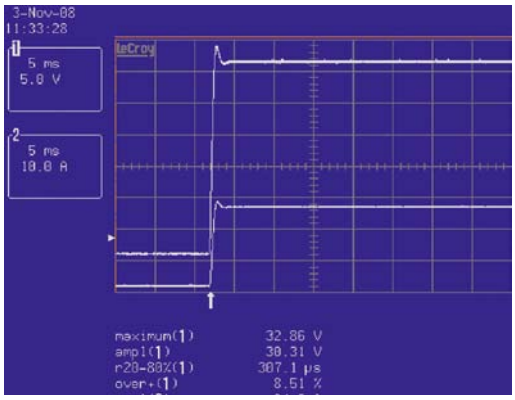
必须注意的是减小滤波量将使输出纹波升高。

Improved regulation speed
In order to achieve rapid voltage changes with minimal ramp up and down times, the normally required filter capacity at the DC output of selected power supplies can be reduced upon request.

This reduction, combined with an external electronic load, can result in ramp times for the output voltage from 0-100% or 100-0% of less than 1ms.

At the same time, that reduction of the output filter capacity results in a higher output ripple.



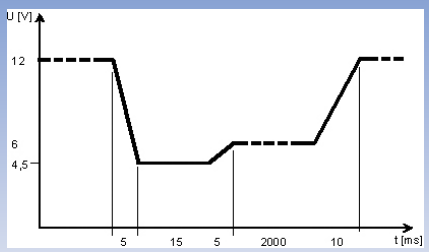


下图为正常输出滤波量（左图）和减少滤波量（右图）的跃变时间的对比。

Visualisation of the ramp time with normal (left figure) and reduced output capacity (right figure).

ZH选项功能：实验室电源用两象限模块，符合DIN 40839
OPTION ZH: 2-QUADRANTS MODULE FOR LAB POWER SUPPLIES INCL. DIN 40839

EA-PS 9080-100 ZH KFZ



电压曲线符合 **DIN 40839**
Voltage characteristic DIN 40839

- 内部负载模块
- 峰值脉冲功率高达2400W
- 峰值脉冲电流高达200A
- 连续输出功率为150W
- 模拟汽车电性测试中发动机的启动
- 为汽车高保真度HIFI测试提供大电流
- 输出电压高达360V
- 也可为汽车测试网供应42V电压
- 符合DIN 40839标准的内置电压序列
- 无外部负载时快速的电压阶跃

- **Internal load module**
- **Peak pulse power up to 2400W**
- **Peak pulse current up to 200A**
- **Continuous power 150W**
- **Simulation of engine start for car electronics tests**
- **High current for car HiFi tests**
- **For models up to 360V**
- **Also for the 42V automotive net**
- **Integrated voltage sequence according DIN 40839**
- **Fast voltage step without external load**

概要

输出电压在400V以下这些系列的部分产品：
- EA-PS 9000
- EA-PS 8000 2U
- EA-PSI 8000 2U

配有内部电子负载模块。

采用高输出容量的基于开关技术的电源必然能比线性电源输出更慢的电压动态。利用这个额外的负载模块能快速、精确地减小电压。以同样方式，可给连接设备的电容放电，从而达到快速动态控制设备的目的。ZH型号产品采用源-吸原理操作。意指根据需求，产品可当电压或电流源，以及电流吸收器操作。

快速的曲线描迹和极短的减压时间，使产品能应用于原来只有复杂且昂贵的线性控制器才支持的设备上。内置有源负载模块适合脉动操作，可吸取高达2400W的峰值功率，且带内置热过载保护功能。

发动机启动序列

按下一按钮，通过外部触发信号或内部函数管理器（仅针对EA-PSI 8000），即可形成符合DIN 40839的汽车电网电压轨迹。

启动电压完全可调，故能适用于所有标准电压，如12V，24V，以及以后会使用的42V。

General

For selected models up to 400V nominal voltage of the series
- EA-PS 9000
- EA-PS 8000 2U
- EA-PSI 8000 2U

there is an internal electronic load available.

The inevitable high output capacity of switching technology power supplies causes slower voltage dynamics than with linear power supplies. A quick and accurate voltage reduction can be achieved by this additional electronic load. In the same way, the capacitors of connected equipment are discharged, thus a rapid control dynamic of the units is achieved. The ZH models operate with the source-sink principle. It means that the devices can function as voltage or current sources, as well as current sinks, just according to the requirements.
Rapid curve tracing and especially short reduction times enable their use in applications which previously could only be supported by complex and expensive linear controllers. The integrated active load module is suitable for pulsed operation and can take a peak power of up to 2400W, with a built-in thermal overload protection.

Motor start sequence

By the push of a button, using an external trigger signal or the internal function manager (EA-PSI 8000 only) the voltage trace of an automotive power network according to DIN 40839 can be reproduced.
The starting voltage is adjustable and is therefore suitable for all standard voltages, e.g 12V, 24V and the future 42V.

ZH选项功能：实验室电源用两象限模块，符合DIN 40839
OPTION ZH: 2-QUADRANTS MODULE FOR LAB POWER SUPPLIES INCL. DIN 40839

EA-PSI 9080-50 & EA-EL 9160-100

实验室电源与负载的组合

经内置„System bus“系统总线可将电源与负载相连，并通过该总线进行转换，从而实现两象限操作。

EA-PS 9000，EA-PS 8000（除3U型号外）和EA-PSI 8000（除3U型号外）电源产品的系统总线与EA-EL 9000负载产品的系统总线相匹配。通过该总线，电源输出的电流由负载在两象限操作模式下控制。

负载和电源都能用特定软件来控制和监控，实现自动测试。

在典型测试条件下，测试设备可以为吸收电源能量（负载不工作）后又释放能量（电源此时不工作）的设备。

可用它做某类元件的测试，如电感，线圈，直流马达（刹车类回感产品），以及聚光器或电池（充/放电）。

Combination Laboratory Power Supply & Load

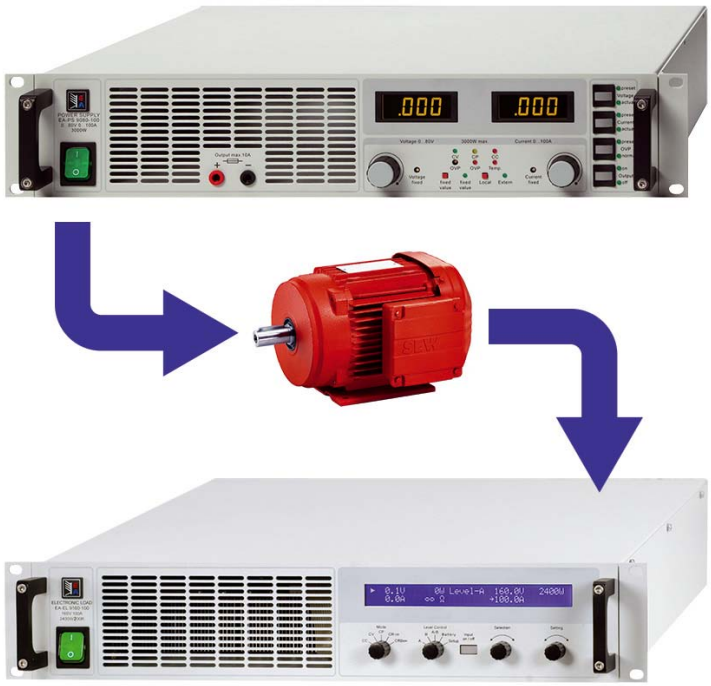
Two-quadrant operation can be achieved through the switch-over from a power supply to an electronic load via the built-in System Bus.

The System Bus of the power supply series EA-PS 9000, EA-PS 8000 (except 3U models) and EA-PSI 8000 (except 3U models) matches the one of the electronic loads of the series EA-EL 9000 and EA-EL 9000 HP. Via this System Bus, the current of the power supply is controlled by the load in two-quadrant operation.

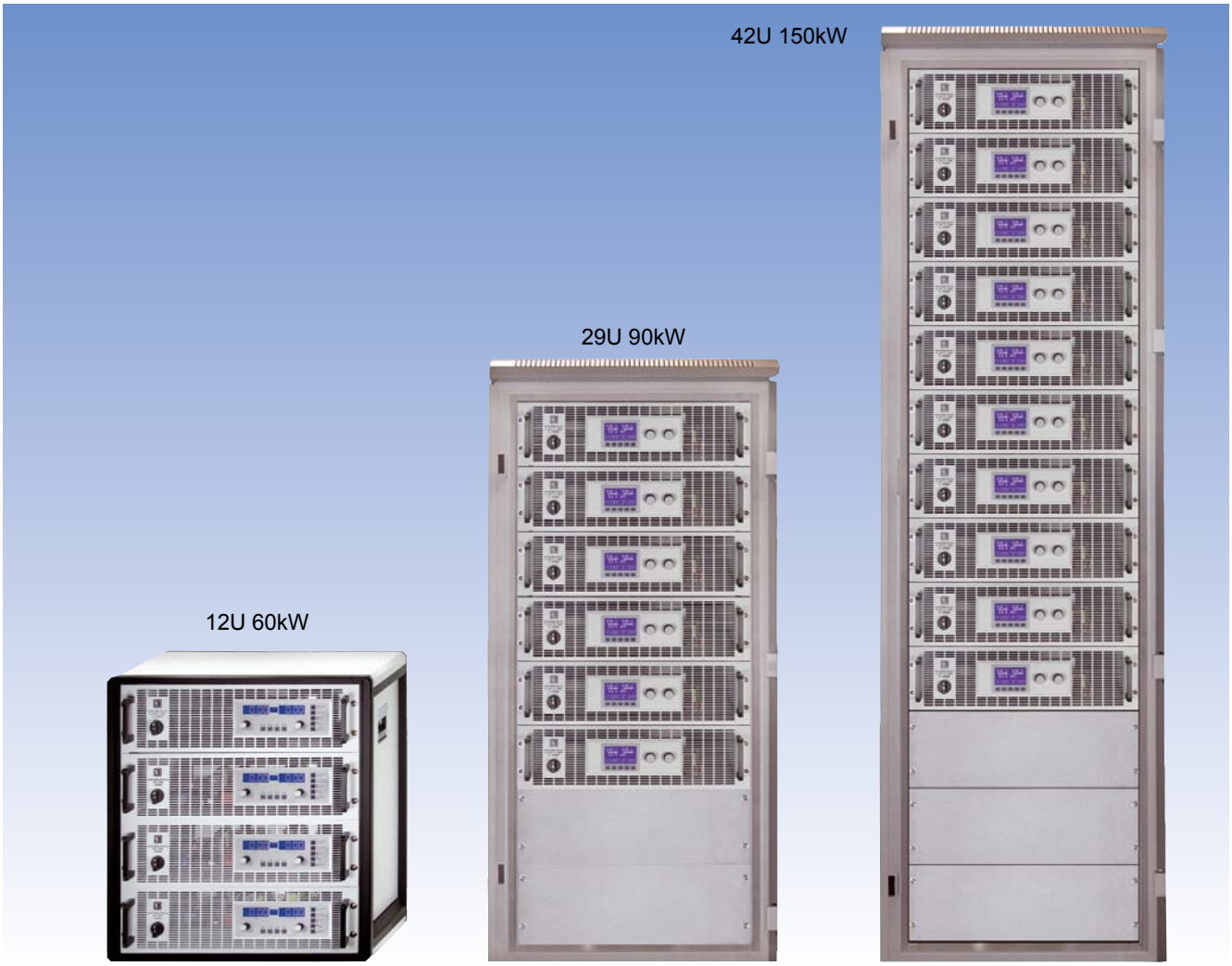
Electronic load and power supply can both be controlled and monitored by custom software, making automatic tests possible.

In typical test situations, the E.U.T. might be a component that consumes energy from a power supply (then the load will be inactive) and later supplies this energy (then the power supply will be inactive) to a sink.

This can be used to test components like coils, inductors, DC motors (return inductive such as braking), as well as condensators or batteries (charge/discharge).



选项：机柜组合
OPTION: CABINETS



一般信息
这些机柜可给下面装于19外壳的电源和充电器系列所用：

- PSI 8000 2U, PSI 8000 3U
- PS 8000 2U, PS 8000 3U
- EL 9000, EL 9000 HP
- ELER 9000 (2012即将面世)

可按客户需求提供其他系列机柜组合年。

配置
可按客户选择预先配置各种机柜。根据机柜类型，最多可配10台设备。

机柜系统内的产品一般以并联连接。
60kW型号的单机使用单相电力网连接，而90kW和150kW型号则使用三相电力网连接，如果产品配有的话。对于电子负载或电子负载与电源的混合系统，普通的单相供电即足够。

机柜内产品的DC输出端通过铜条或高压连接线并联在一起，可即时使用。
基础系统一般由机柜，电力网端子（仅针对90kW和150kW）和输入线组成。

能按客户需求还有更多选项。

General
These cabinet systems are available for following power supply and battery charger series with 19“ housing:

- PSI 8000 2U, PSI 8000 3U
- PS 8000 2U, PS 8000 3U
- EL 9000, EL 9000 HP
- ELER 9000 (coming 2012)

Configurations for other series upon request.

Configuration
The cabinets are always preconfigured to the customer‘s choice. Depending on the cabinet type, up to 10 units can be equipped.
The system is always working in parallel connection.
The 60kW type uses single power grid connection for all units, while the 90kW and 150kW types feature a three-phase power grid connection terminal, if equipped with power supplies. For a system with electronic loads or mixed systems with e-loads and power supplies, a normal one-phase supply can be sufficient.

The DC outputs are connected in parallel via copper bars or high voltage leads and are ready-to-use.
The base system consists of the cabinet, power grid terminal (only with 90kW and 150kW) and input wiring.

Various options are available upon request.

机柜规格
CABINETS

技术参数	Technical Data	System 1	System 2	System 3	System 4
机柜高度 (HE)	Height cabinet (U)	12	29	33	42
机柜高度 *	Height cabinet *	600mm	1400mm	1600mm	2000mm
宽度	Width	535mm	600mm	600mm	600mm
深度	Depth	800mm	800mm	800mm	800mm
最多可配置设备数量	Number of max. devices	4	6	7	10
最大功率	Maximum power	60kW	90kW	105kW	150kW
其它选项	Options	-	座 / Pedestal 冷却设备 / Cooling device 轮子 / Wheels	基座 / Pedestal 冷却设备 / Cooling device 轮子 / Wheels	基座 / Pedestal 冷却设备 / Cooling device 轮子 / Wheels

* 根据选件不同其高度可能有变动重量为约值 / Height may vary depending due to options
** 根据选件不同可能有变动 / Weight is approximate and may vary due to options

配置范例

例 **1**:
这个42U机柜，由10台3U高的电源组合而成，如PS 8000 3U系列。每台机的最大功率为15kW，则整个机柜的总功率将可达150kW。可获得高达5100A的大电流，能应用于电镀或焊接领域。

Example 1:
42U cabinet, equipped with 10 units of power supplies in 3U height, for example PS 8000 3U series. With a maximum of 15kW per unit, the cabinet has a total power of 150kW. High currents of up to 5100A can be used for electro-plating or welding.

Configuration examples

例 **2**:
这个42U机柜，由6台6U高的EL 9000电子负载组合而成。每台机的最大输入功率为7.2kW，则整个机柜的总功率可达43.2kW。可获得高达3600A的大电流，能应用于大容量电池的测试或其它高性能的电源产品上。

Example 2:
42U cabinet, equipped with 6 units of electronic loads EL 9000 in 6U height. With 7.2kW input power per unit, the cabinet can take a total power of 43.2kW. High currents of up to 3600A can be used to test high capacity batteries or other high performance power sources.

机柜规格
CABINETS

例 3:
这个42U机柜，由4台3U高的电源如PSI 8000 3U系列，与4台6U高的EL 9000 HP电子负载组合而成。电源产品能提供20kW，40kW或60kW的功率，而这四台电子负载可吸收高达21.6kW的恒定输入功率。这种组合可应用于如两象限操作中。

Example 3:
Mixed configuration in a 42U cabinet, equipped with 4 units of power supplies in 3U height, for example PSI 8000 3U series, and 4 units of electronic loads EL 9000 with 6U each. The power supplies can provide 20kW, 40kW or 60kW power, while the four loads can take up to 28.8kW input power. This combination can be used for two-quadrants operation, for example.

术语表
GLOSSARY

函数管理器

函数管理器的特征为，它可让一台电源根据 ΔU/Δt在一个函数内运行自动序列。用户只要用电压、电流和时间的设定值定义步宽即可，也称为点数。于是产品就运行形成的函数，并于两步间(若设定值改变了）和一定时间形成输出电压的跃变。也可参考30页。

Function manager

The function manager is a feature which provides the opportunity to let a power supply run automated sequences in a function according to ΔU/Δt. The user just has to define steps, also called points, by set values for voltage, current and time. The resulting function is run by the device and result in ramps of the output voltage between two steps (if the set value changes) and the given time. Also see page 30.

高速跃变

为减少输出电压和电流的动态动作，可执行产品内部永久更改，即输出容量减至最小值。该修改可使输出电压的上升和下降时间缩至最短，但同时电压和电流的纹波会增加。部分电源系列配备该功能。

High speed ramping

Device internal and permanent modification where the output capacities are reduced to a minimum value in order to increase the dynamics of the output regarding voltage and current. With this optional modification, the rise and fall time of the output voltage minimizes significantly while at the same time the voltage and current ripples are increased. This option is available for selected power supply series.

功率因素校正（PFC)

像直流电源类消耗市电能量的电子设备，都配有一平缓电容的肖特基二极管。交流电压转变为直流电压时会产生输入电流峰值，这些峰值会使交流输入电压的正弦波变形。这是用户不希望发生的，因为它会扭曲整个电网的正弦波形,产生反作用电流和功率，从而降低这些设备的功率因素。

功率因素校正是产品上输入部分的一个电路，它会消除这个反作用功率，将功率因素尽可能拉到接近于1。同时它也作用于输入电流，从而使正弦波形不再被扭曲。

Power Factor Correction (PFC)

Electronic devices, such as DC power supplies, which consume power from the mains have a rectifier with smoothing capacitors. The rectification of AC voltage to DC voltage causes input current peaks and those peaks cause the sine wave shaped AC input voltage to malform. This is not wanted because it distorts the sine wave in the whole grid and also results in reactive currents and thus reactive power, lowering the power factor of these devices.
The power factor correction is an electronic circuit in the input part of the device which eliminates the reactive power and brings the power factor of the device as close as possible to the maximum of 1. As a side effect, the input current follows the input voltage and the sine wave is not distorted anymore.