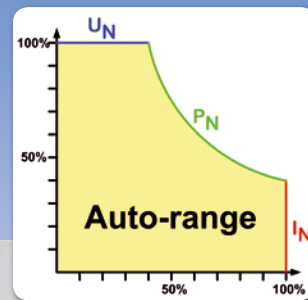


EA-PS 8000 3U 3.3KW - 150KW

高效直流电源 / HIGH EFFICIENCY DC POWER SUPPLIES

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



EA-PS 8080-340 3U

- 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位数显示器
- 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，按一下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接到负载设备，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 specifications 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或以太网/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.

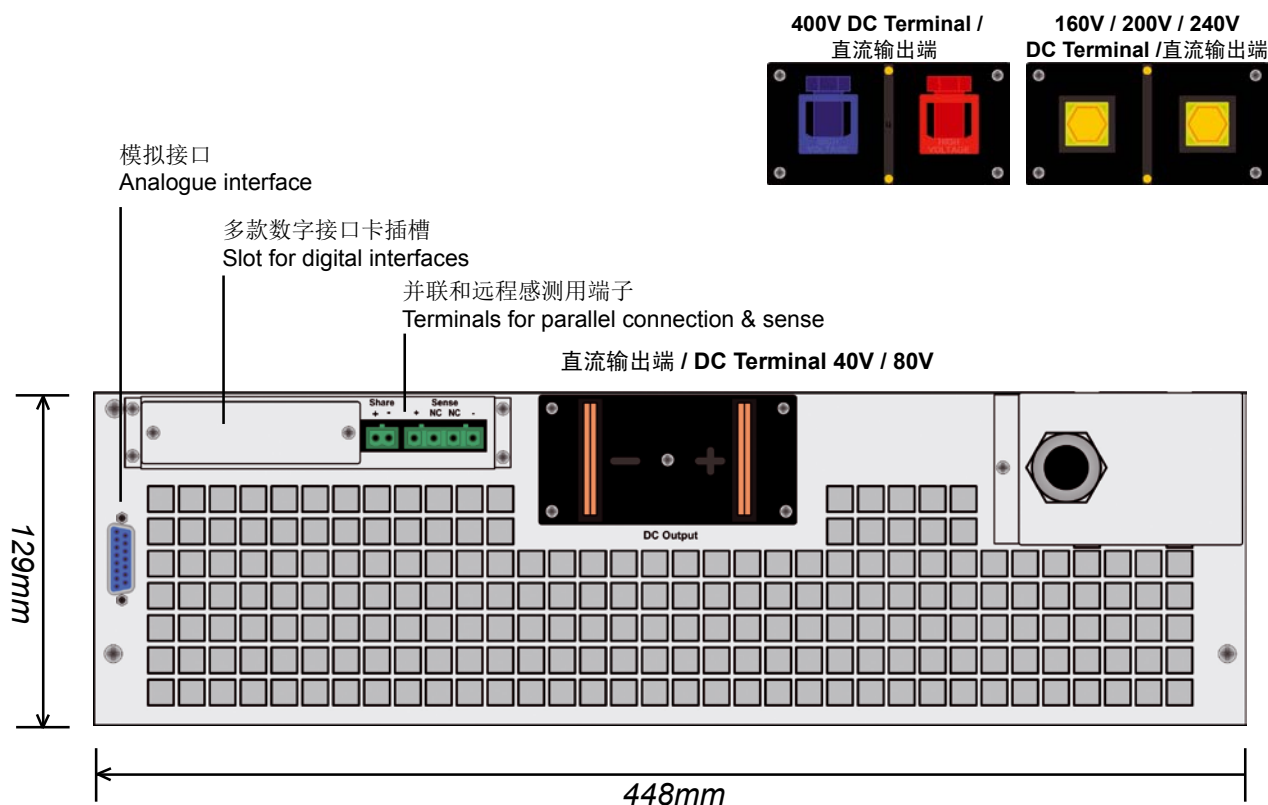
Options

- 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

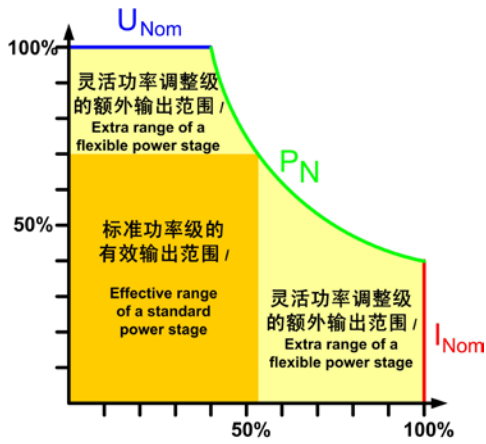
3.3kW - 15kW

Rear view

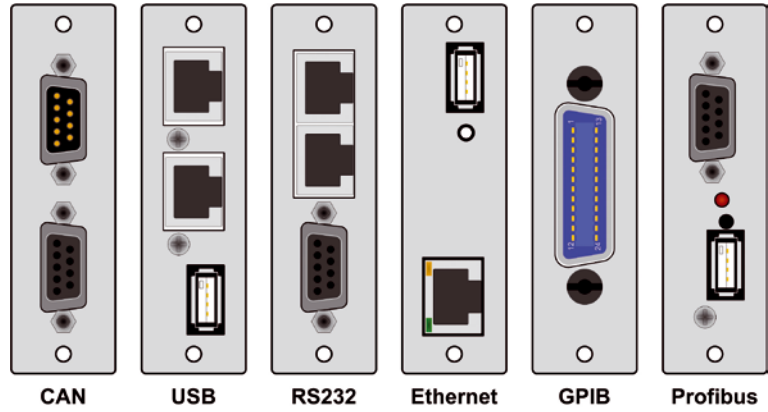


EA-PS 8000 3U 3.3KW - 150KW

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

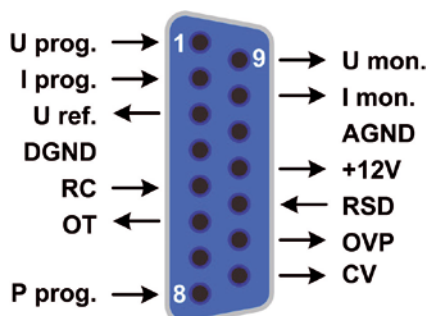
EA-PS 8000 3U 3.3KW - 150KW

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 $\pm 10\% \Delta U_{IN}$ 时的稳定度	-Stability at $\pm 10\% \Delta U_{IN}$	<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% ΔU_A 时的稳定度	-Stability at 0-100% ΔU_{OUT}	<0.15%
-在 $\pm 10\% \Delta U_{IN}$ 时的稳定度	-Stability at $\pm 10\% \Delta U_{IN}$	<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	53k Ω
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



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