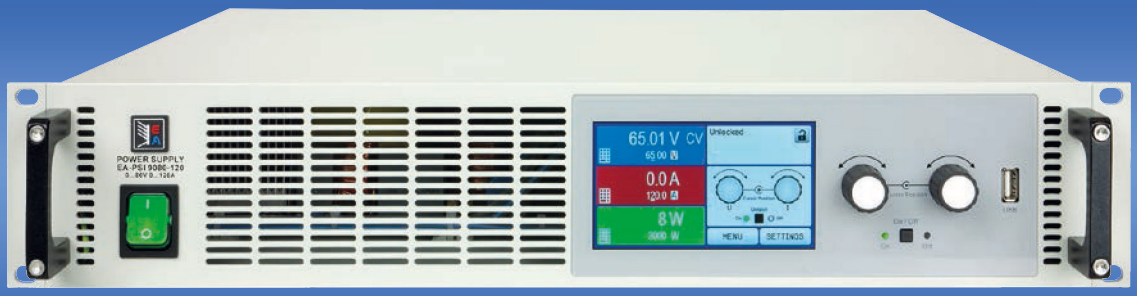
EA-PSI 9000 2U 1000 W - 3000 W

可编程实验室直流电源
Programmable laboratory DC Power supplies



EA-PSI 9080-120 2U

U | I | P | R | OVP | OCP | OPP | OTP | 19“ | MS | USB | Option: | IFAB | IEEE

- 宽范围输入电压90...264 V，带主动式PFC
- 效率高达 93%
- 输出功率：0...1000 W 至0...3000 W
- 输出电压：0...40 V 至 0...750 V
- 输出电流：0...4 A 至 0...120 A
- 灵活的功率调整输出级
- 各种保护功能 (OVP, OCP, OPP, OTP)
- 直观的TFT触摸屏可显示数值、状态与通知
- 远程感测端
- 隔离模拟接口
- 内置函数发生器
- 光伏方阵模拟功能
- 内阻模拟与调整
- 40 V产品型号符合SELV标准 (EN 60950)
- 配放电电路(在10 s内Uout < 60 V)
- 内置USB端口
- 可选数字接口模块，或选择安装IEEE/GPIB端口
- 支持SCPI指令语言

- **Wide input voltage range 90...264 V with active PFC**
- **High efficiency up to 93%**
- **Output power ratings: 0...1000 W up to 0...3000 W**
- **Output voltages: 0...40 V up to 0...750 V**
- **Output currents: 0...4 A up to 0...120 A**
- **Flexible, power regulated output stage**
- **Various protection circuits (OVP, OCP, OPP, OTP)**
- **Intuitive TFT touch panel with display for values, status and notifications**
- **Remote sensing**
- **Galvanically isolated, analog interface**
- **Integrated function generator**
- **Photovoltaics array simulation**
- **Internal resistance simulation and regulation**
- **40 V models compliant to SELV (EN 60950)**
- **Discharge circuit (Uout < 60 V in ≤ 10 s)**
- **USB port integrated**
- **Optional, digital interface modules or alternatively installed IEEE/GPIB port**
- **SCPI command language supported**

概要

EA-PSI 9000 2U系列是一款由微处理器控制的实验室电源。它立足于用户友好的交互式操作概念，配备一套完整的标准功能。其输出参数、监控功能与其它设定都可配置，而且可更换式数字接口模块极其智能且操作舒适。所有输出参数的监控功能可帮助用户减少测试设备，几乎可不用安装外部监控硬件与软件。

General

The microprocessor controlled laboratory power supplies of series EA-PSI 9000 2U offer a user-friendly, interactive handling concept, along with a remarkable set of standard features, which can facilitate operating them. Configuration of output parameters, supervision features and other settings, as well as the replaceable digital interface modules is smart and comfortable. The implemented supervision features for all output parameters can help to reduce test equipment and make it almost unnecessary to install external supervision hardware and software.

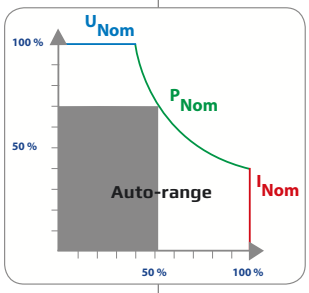
EA-PSI 9000 2U 1000 W - 3000 W

由两旋钮，一个按键，两个LED以及TFT彩色触摸屏组成的控制面板，显示所有关键数值与状态，用户只需轻轻一点手指，就可轻松操作本设备。
若要集成到半自动与远程控制的自动化测试系统中，在其背面提供有一组接口（模拟与数字）。

The clear control panel with its two knobs, one pushbutton, two LEDs and the touch panel with colour TFT display for all important values and status enable the user to handle the device easily with a few touches of a finger.
For the integration into semi-automatic and remotely controlled test and automation systems, the devices offer a set of interfaces (analog and digital) on their rear side.

功率级自动调整

本系列所有型号的输出功率都可灵活调整。可在较低电流时输出较高电压，或在低电压时输出较高电流，但总是维持在最大额定功率范围内。它们的设定功率都可调，因此仅用一台产品就能覆盖广泛的应用。



Auto-ranging power stage

All models 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. The maximum power set value is adjustable with these models. Therefore, a wide range of applications can already be covered by the use of just one unit.

交流输入

本系列采用主动式功率因数，1.5 kW以下型号的输入电压为90 V_{AC}至264 V_{AC}，适合全球范围内使用。1.5 kW的型号在供电电压<150 V_{AC}时，输出功率自动减少到1 kW，3 kW的<205 V_{AC}时，则减少到2.5 kW。

AC input

All units are provided with an active **P**ower **F**actor **C**orrection circuit and models up to 1.5 kW are suitable for a worldwide usage on a mains supply from 90 V_{AC} up to 264 V_{AC}. With the 1.5 kW models, the output power is automatically reduced to 1 kW if the supply voltage is <150 V_{AC} and with the 3 kW models is reduced to 2.5 kW at <205 V_{AC}.

直流输出

本系列有0...40 V和0...750 V输出电压，0...4 A和0...120 A输出电流，0...1000 W和0...3000 W输出功率的不同型号。
不管是手动控制还是远程控制（模拟或数字），都可在0%至100%之间连续调节电流、电压与功率。输出端位于产品后面板上。

DC output

DC output voltages between 0...40 V and 0...750 V, output currents between 0...4 A and 0...120 A and output powers between 0...1000 W and 0...3000 W are available.
Current, voltage and power can thus be adjusted continuously between 0% and 100%, no matter if manually or remotely controlled (analog or digital). The output terminal is located on the rear panel of the devices.

放电电路

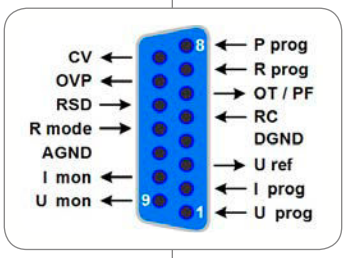
额定输出电压为200 V或以上的产品，其输出电容都配有一放电电路。在空载或带小负载时，它能确保危险电压在直流输出关闭后降至60 V DC以下。该电压值被认为是对人体安全的最高电压。

Discharge circuit

Models with a nominal output voltage of 200 V or higher include a discharge circuit for the output capacities. For no load or low load situations, it ensures that the dangerous output voltage can sink to under 60 V DC after the DC output has been switched off. This value is considered as limit for voltages dangerous to human safety.

内置模拟接口

产品后板上装有一隔离模拟接口端子。它具有一模拟输入脚，接上0 V...10 V或0 V...5 V电压，可设置0...100%的输出电压、电流、功率与内阻。要监控输出电压与电流，可给模拟输出脚接上0 V...10 V或0 V...5 V电压来完成。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。



Built-in analog interface

There is a galvanically isolated analog interface terminal, located on the rear of the device. It offers analog inputs to set voltage, current, power and resistance from 0...100% through control voltages of 0 V...10 V or 0 V...5 V. To monitor the output voltage and current, there are analog outputs with 0 V...10 V or 0 V...5 V. Also, several inputs and outputs are available for controlling and monitoring the device status.

保护功能

为保护连接设备，可给产品设定一过压保护极限值(OVP)，以及过流(OCP)与过功率(OPP)保护极限值。
一旦因故超过这三个值中的一个，直流输出会被立即切断，并在显示器与接口端发出一状态信号。

本产品还有过温保护，如果产品过热，它会关断直流输出。

Protective features

For protection of the equipment connected, it is possible to set an overvoltage protection threshold (OVP), as well as one for overcurrent (OCP) and overpower (OPP).
As soon as one of these thresholds is reached for any reason, the DC output will be immediately shut off and a status signal will be generated on the display and via the interfaces.
There is furthermore an overtemperature protection, which will shut off the DC output if the device overheats.

EA-PSI 9000 2U 1000 W - 3000 W

远程感测

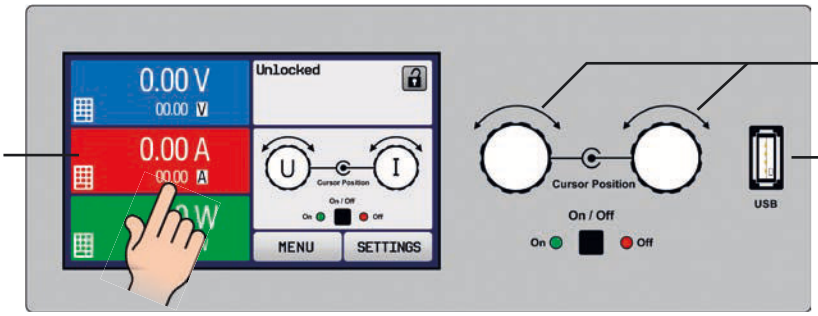
远程感测输入端可直接连到负载设备，以补偿连线上的部分压降。如果感测输入端已接到负载上，本电源会自动调整输出电压，以确保负载获得准确所需的电压值。

Remote sensing

The standard sensing input can be connected directly to the load in order to compensate for voltage drops along the power cables, up to a certain level. Once the sensing input is connected to the load, the power supply will adjust the output voltage automatically to ensure the accurate required voltage is available at the load.

显示器与控制面板

Display and control panel



设定与实际输出电压、电流与功率都清晰显示于图形显示器上。彩色的TFT屏幕为点触式，用一个手指就能控制所有功能。

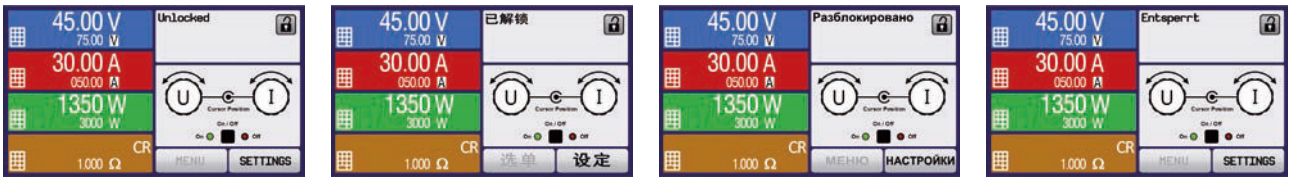
通过旋钮或者数字键盘直接输入参数，也可调节设定电压、电流、功率或阻值（内阻模拟）。

若想防止意外操作，可锁定所有操作键。

Set values and actual values of output voltage, output current and output power are clearly represented on the graphic display. The colour TFT screen is touch sensitive and can be intuitively used to control all functions of the device with just a finger.
Set values of voltage, current, power or resistance (internal resistance simulation) can be adjusted using the rotary knobs or entered directly via a numeric pad.
To prevent unintentional operations, all operation controls can be locked.

多语言控制面板

Multi-language control panel



英文 / English　　中文 / Chinese　　俄文 / Russian　　德文 / German

函数发生器

本系列所有型号都具有一可形成如下典型函数的真实函数发生器，并能将它们应用于输出电压或输出电流上。发生器可通过前板的触摸屏设置，或经某一数字接口远程配置。
预设函数会为用户提供所有必须的参数，如Y偏差值，时间/频率或幅度，整套配置完成。

Function generator

All models within this series include a true function generator which can generate typical functions, as displayed in the figure below, and apply them to either the output voltage or the output current. The generator can be completely configured and controlled by using the touch panel on the front of the device, or by remote control via one of the digital interfaces.
The predefined functions offer all necessary parameters to the user, such as Y offset, time / frequency or amplitude, for full configuration ability.

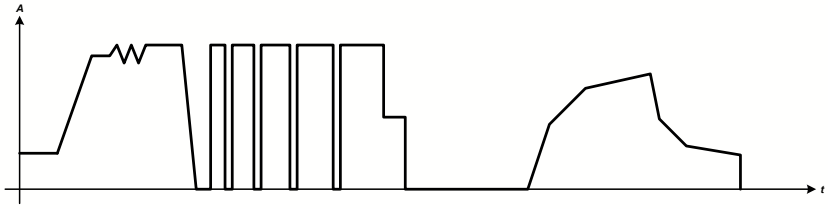
EA-PSI 9000 2U 1000 W - 3000 W

除了基于任意发生器产生的标准函数外，它还可形成某些复杂的函数，并能分成多达99组序列。这些可用于研发和生产的测试。通过前板的USB端口可将这些序列上载使用或存储于标准U盘上，这样可方便更换不同的测试序列。

Additionally to the standard functions, which are all based upon a so-called arbitrary generator, this base generator is accessible for the creation and execution of complex sets of functions, separated into up to 99 sequences. Those can be used for testing purposes in development and production. The sequences can be loaded from and saved to a standard USB flash drive via the USB port on the front panel, making it easy to change between different test sequences.

下图是任意发生器可实现的由40个序列组成的复杂曲线，仅为虚构范例。可以在产品外或者于产品上创建函数，然后上载或保存：

Fictional example of a complex function (40 sequences) as it can be realised with the arbitrary generator. The function can be created on the device or externally and then loaded or saved:



此外还有一个XY发生器，能产生如UI或IU这类的函数，用户一般以表格（CSV文档）形式创建，然后从U盘上上传。针对光伏相关的测试，还可形成PV曲线，作为用户可调关键参数。
通过后续的固件升级，可安装更多的曲线特性，供用户选择。

There is furthermore a XY generator, which is used to generate other functions, such as UI or IU, which are defined by the user in form of tables (CSV file) and then loaded from USB drive. For photovoltaics related tests, a PV curve can be generated and used from user-adjustable key parameters.
Even more characteristics can be installed for user selection by applying future firmware updates.

主-从操作

所有产品标配有一个数字式主-从总线。通过它可并联最多16台同型号产品，将实际电压、电流与功率汇总，形成更大的系统。经产品上的控制面板，或经任意数字通讯接口的远程控制，可完成主-从系统的全部配置。主机的操作也手动控制，也可远程控制（任意接口）。

Master-slave

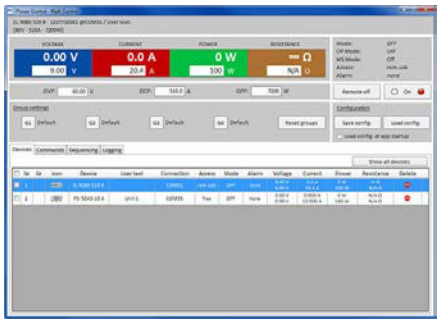
All models feature a digital master-slave bus by default. It can be used to connect up to 16 units of identical models in parallel operation to a bigger system with totals formation of the actual value of voltage, current and power. The configuration of the master-slave system is either completely done on the control panels of the units or by remote control via any of digital communication interfaces. Handling of the master unit is possibly by manual or remote control (any interface).

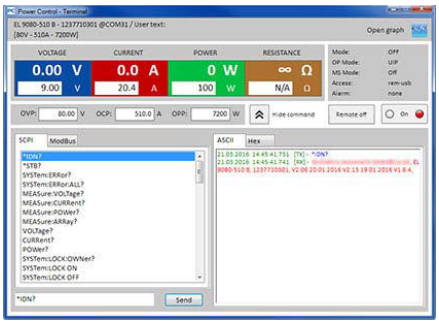
控制软件

本产品还配有适合Windows系统下操作的控制软件，可以远程控制多台同型号产品，甚至不同型号产品。它有一个清晰的主界面，显示所有设定值与实际值，SCPI与ModBus RTU指令的直接输入模式，固件升级特性，以及被称为“排序”的半自动化控制表格。

Control software

Included with the device is a control software for Windows PC, which allows for the remote control of multiple identical or even different types of devices. It has a clear interface for all set and actual values, a direct input mode for SCPI and ModBus RTU commands, a firmware update feature and the semi-automatic table control named “Sequencing”.





EA-PSI 9000 2U 1000 W - 3000 W

选项

- 适合RS232、CAN、CANopen、ModBus TCP、Profibus、Profinet/IO、EtherCAT或Ethernet的绝缘数字接口模块。接口插槽位于产品后板（仅针对标准型号），方便用户插上新模块或替换当前模块。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。也可参考134。
- 还可安装带固定GPIB端口的三位接口（3 W），代替接口模块用的默认插槽。

数字接口模块

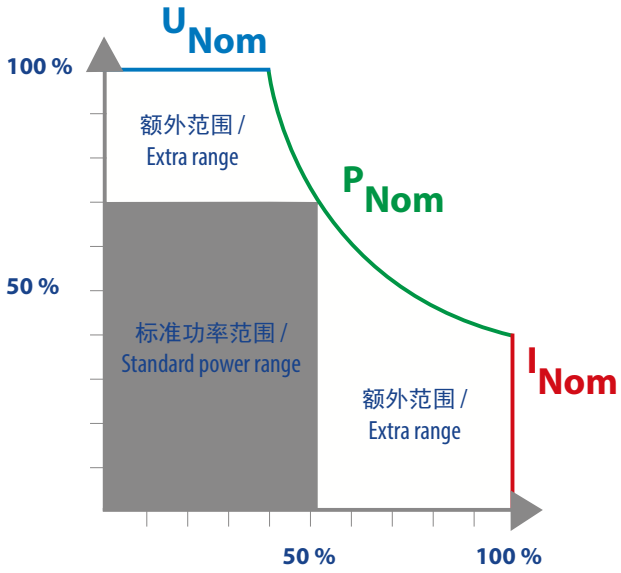
Options

- Isolated digital interface modules for RS232, CAN, CANopen, ModBus TCP, Profibus, Profinet/IO, EtherCAT or Ethernet. The interface slot is located on the rear panel (standard models only), 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. Also see page 134.
- Three-way interface (3W) with a rigid GPIB port installed instead of the default slot for retrofittable interface modules

Digital interface modules

自动调整原理

Auto-ranging principle



EA-PSI 9000 2U 1000 W - 3000 W

技术参数	Technical Data	Series PSI 9000 2U / 系列	
交流输入	Input AC		
- 电压	- Voltage	90...264 V, 1ph+N (型号 / Models 1000 W - 1500 W) 180...264 V, 1ph+N (型号 / Models 3000 W)	
- 频率	- Frequency	45...66 Hz	
- 功率因数	- Power factor	>0.99	
- 功率降额	- Derating	型号 / Models 1500 W: < 150 V AC 降至 / to $P_{out\,max}$ 1000 W 型号 / Models 3000 W: < 207 V AC 降至 / to $P_{out\,max}$ 2500 W	
直流：电压	DC: Voltage		
- 精确度	- Accuracy	<额定值的0.1% / <0.1% of rated value	
- 0-100%的负载调整率	- Load regulation 0-100%	<额定值的0.05% / <0.05% of rated value	
- ±10% ΔU_{AC}线性调整率	- Line regulation ±10% ΔU_{AC}	<额定值的0.02% / <0.02% of rated value	
- 带载10-100%调整需时	- Regulation 10-100% load	<2 ms	
- 带载10-90%上升时间	- Rise time 10-90%	最大 / Max. 30 ms	
- 过压保护	- Overvoltage protection	可调， 0...110% U_{Nenn} / Adjustable, 0...110% U_{Nom}	
直流：电流	DC: Current		
- 精确度	- Accuracy	<额定值的0.2% / <0.2% of rated value	
- 1-100% ΔU_{DC}的负载调整率	- Load regulation 1-100% ΔU_{DC}	<额定值的0.15% / <0.15% of rated value	
直流：功率	DC: Power		
- 精确度	- Accuracy	<额定值的1% / <1% of rated value	
过压类别	Overvoltage category	2	
保护功能	Protection	OTP, OVP, OCP, OPP, PF (1	
隔离耐压	Insulation		
- 交流输入对外壳	- AC Input to enclosure	2500 V DC	
- 交流输入对直流输出	- AC Input to DC output	2500 V DC	
- 直流输出对外壳 (PE)	- DC output to enclosure (PE)	负极：最大400 V DC，正极：最大400 V DC + 输出电压 / Negative: max. 400 V DC, positive: max. 400 V DC + output voltage	
污染等级	Degree of pollution	2	
保护等级	Protection class	1	
显示器与控制面板	Display / control panel	带触摸面板的图形显示器 / Graphics display with touch panel	
数字接口	Digital interfaces		
- 内置	- Built-in	1x 通讯用B类USB端口 / 1x USB type B for communication 1x GPIB (3W选项功能时可选) / 1x GPIB (optional with option 3W)	
- 插槽	- Slot	1x 可拆卸内置模块（仅针对标准版） / 1x for retrofittable plug-in modules (standard models only)	
模拟接口	Analog interface	内置15-针D-Sub母插，电隔离 / Built in, 15-pole D-Sub (female), galvanically isolated	
- 信号范围	- Signal range	0...5 V 或 0...10 V (可切换) / 0...5 V or 0...10 V (switchable)	
- 输入脚	- Inputs	U, I, P, R, 远程开-关，直流输出开-关，内阻模式开-关 / U, I, P, R, Remote on-off, DC output on-off, resistance mode on-off	
- 输出脚	- Outputs	U / I, 过压，报警，参考电压 / U / I, Overvoltage, alarms, reference voltage	
- U / I / P / R精确度	- Accuracy U / I / P / R	0...10 V: <0.2%	0...5 V: <0.4%
并联操作	Parallel operation	可实现，通过真实主-从操作，可连接多达16台产品（经共享总线) / Yes, with true master-slave, up to 16 units (via Share bus)	
安规标准	Standards	EN 60950, EN 61326, EN 55022 等级 B / Class B	
制冷方式	Cooling	温控风扇 / Temperature controlled fan(s)	
工作温度	Operation temperature	0...50 °C	
储存温度	Storage temperature	-20...70 °C	
湿度	Humidity	<80%, 无凝露 / non-condensing	
工作高度	Operation altitude	<2000 m	
机械结构	Mechanics	1000 W / 1500 W	3000 W
- 重量 (2	- Weight (2	12 kg	15 kg
- 尺寸 (宽 高 深) (3	- Dimensions (W H D) (3	19" x 2 HE/U x 463 mm	19" x 2 HE/U x 463 mm

(1 见第146页 / See page 146
(2 为标准版参数，带选项功能的则会不同 / Standard version, models with options may vary
(3 仅为标准版的外壳尺寸，非整体尺寸，带选项功能的还会不同 / Enclosure of the standard version and not overall size, versions with options may vary

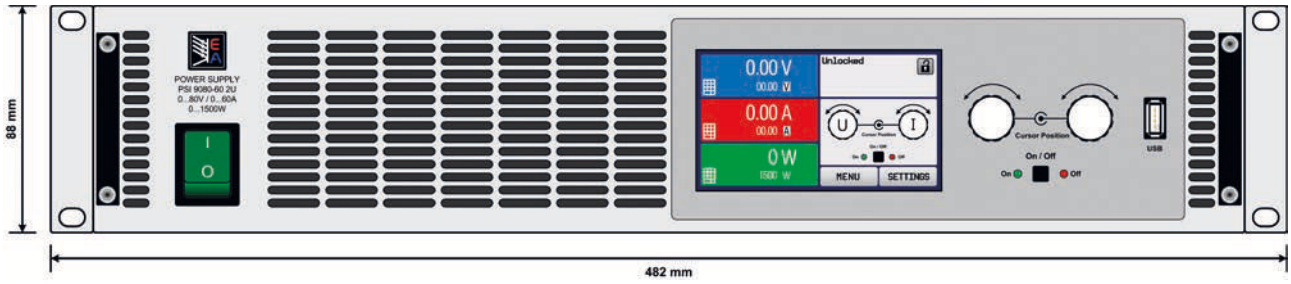
EA-PSI 9000 2U 1000 W - 3000 W

型号 Model	电压 Voltage	电流 Current	功率 Power	效率 Efficiency	U的纹波 (2 Ripple U (2	I的纹波 (2 Ripple I(2	编程 (1 U (typ.)	 I (typ.)	订购编号 (3 Ordering number (3
PSI 9040-40 2U	0...40 V	0...40 A	0...1000 W	≤92%	114 mV_{PP} / 8 mV_{RMS}	3.7 mA_{RMS}	~1.5 mV	~1.5 mA	06230319
PSI 9080-40 2U	0...80 V	0...40 A	0...1000 W	≤92%	114 mV_{PP} / 8 mV_{RMS}	3.7 mA_{RMS}	~3 mV	~1.5 mA	06230304
PSI 9200-15 2U	0...200 V	0...15 A	0...1000 W	≤93%	164 mV_{PP} / 34 mV_{RMS}	2.2 mA_{RMS}	~7.6 mV	~0.6 mA	06230305
PSI 9360-10 2U	0...360 V	0...10 A	0...1000 W	≤93%	210 mV_{PP} / 59 mV_{RMS}	1.6 mA_{RMS}	~13.7 mV	~0.4 mA	06230306
PSI 9500-06 2U	0...500 V	0...6 A	0...1000 W	≤93%	190 mV_{PP} / 48 mV_{RMS}	0.5 mA_{RMS}	~19 mV	~0.23 mA	06230307
PSI 9750-04 2U	0...750 V	0...4 A	0...1000 W	≤93%	212 mV_{PP} / 60 mV_{RMS}	0.3 mA_{RMS}	~28.6 mV	~0.15 mA	06230308
PSI 9040-60 2U	0...40 V	0...60 A	0...1500 W	≤92%	114 mV_{PP} / 8 mV_{RMS}	5.6 mA_{RMS}	~1.5 mV	~2.3 mA	06230320
PSI 9080-60 2U	0...80 V	0...60 A	0...1500 W	≤92%	114 mV_{PP} / 8 mV_{RMS}	5.6 mA_{RMS}	~3 mV	~2.3 mA	06230309
PSI 9200-25 2U	0...200 V	0...25 A	0...1500 W	≤93%	164 mV_{PP} / 34 mV_{RMS}	3.3 mA_{RMS}	~7.6 mV	~1 mA	06230310
PSI 9360-15 2U	0...360 V	0...15 A	0...1500 W	≤93%	210 mV_{PP} / 59 mV_{RMS}	2.4 mA_{RMS}	~13.7 mV	~0.6 mA	06230311
PSI 9500-10 2U	0...500 V	0...10 A	0...1500 W	≤93%	190 mV_{PP} / 48 mV_{RMS}	0.7 mA_{RMS}	~19 mV	~0.4 mA	06230312
PSI 9750-06 2U	0...750 V	0...6 A	0...1500 W	≤93%	212 mV_{PP} / 60 mV_{RMS}	0.5 mA_{RMS}	~28.6 mV	~0.23 mA	06230313
PSI 9040-120 2U	0...40 V	0...120 A	0...3000 W	≤92%	114 mV_{PP} / 8 mV_{RMS}	11 mA_{RMS}	~3 mV	~4.6 mA	06230321
PSI 9080-120 2U	0...80 V	0...120 A	0...3000 W	≤92%	114 mV_{PP} / 8 mV_{RMS}	11 mA_{RMS}	~1.5 mV	~4.6 mA	06230314
PSI 9200-50 2U	0...200 V	0...50 A	0...3000 W	≤93%	164 mV_{PP} / 34 mV_{RMS}	6.5 mA_{RMS}	~7.6 mV	~1.9 mA	06230315
PSI 9360-30 2U	0...360 V	0...30 A	0...3000 W	≤93%	210 mV_{PP} / 59 mV_{RMS}	5 mA_{RMS}	~13.7 mV	~1.2 mA	06230316
PSI 9500-20 2U	0...500 V	0...20 A	0...3000 W	≤93%	190 mV_{PP} / 48 mV_{RMS}	1.5 mA_{RMS}	~19 mV	~0.8 mA	06230317
PSI 9750-12 2U	0...750 V	0...12 A	0...3000 W	≤93%	212 mV_{PP} / 60 mV_{RMS}	0.9 mA_{RMS}	~28.6 mV	~0.5 mA	06230318

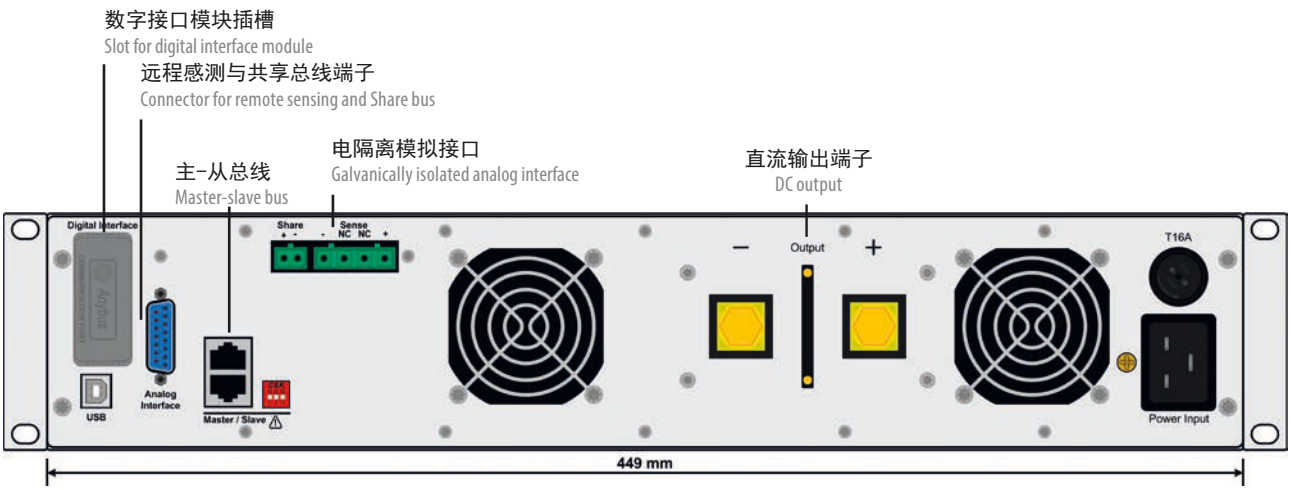
(1 忽略产品错误时的可编程分辨率 / Programmable resolution disregarding device errors
(2 RMS值：在BWL 300 kHz时测量的LF值，PP值：在BWL 20MHz时测量的HF值 / RMS value: measures at LF with BWL 300 kHz, PP value: measured at HF with BWL 20MHz
(3 为标准版的订购编号，带3W选项功能的型号则为不同 / Ordering number of the standard version, models with option 3W installed have different ordering numbers

EA-PSI 9000 2U 1000 W - 3000 W

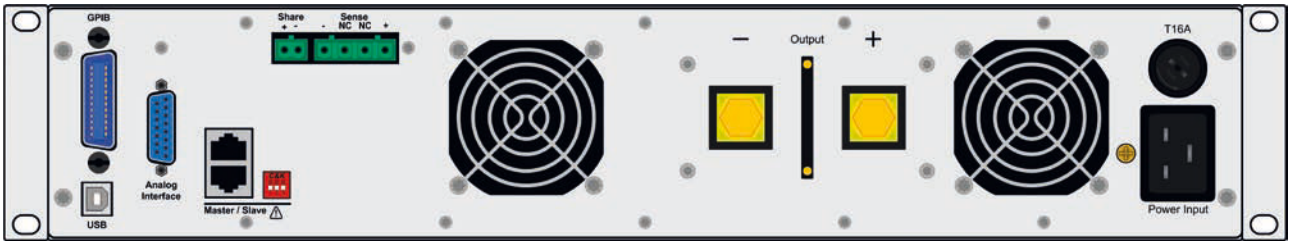
产品图片 **Product views**



前视图 Front view



标准版后视图 Rear view of base model



带3W选项的后视图 Rear view with option 3W

EA-PSI 9000 3U 3.3 kW - 15 kW

可编程高效实验室直流电源
Programmable high efficiency DC Power supplies

EA-PSI 9080-120 2U

U | I | P | R | OVP | OCP | OPP | OTP | 19" | MS | USB | Option: | IFAB | IEEE | WC

- 多相输入400 V_{AC}
- 效率高达95.5%
- 输出功率等级：3.3 kW, 5 kW, 6.6 kW, 10 kW, 或15 kW, 还可扩展至480 kW
- 输出电压：40 V 至 1500 V
- 输出电流：30 A 至 510 A，还可扩展至5100 A
- 灵活的功率调整输出级
- 各种保护功能 (OVP, OCP, OPP, OTP)
- 直观的TFT触摸屏可显示数值、状态与通知
- 能自动检测远程感测
- 隔离模拟接口
- 内置真实函数发生器
- 光伏方阵模拟功能
- 内阻模拟与调整
- 40 V产品型号符合SELV标准 (EN 60950)
- 配放电电路(在10 s内U_{out} < 60 V)
- 内置USB端口
- EMC符合EN 61010 等级B，且获得TÜV认证
- 可选数字接口模块，或选择安装IEEE/GPIB端口
- 支持SCPI指令语言

- **Multi-phase input for 400 V_{AC}**
- **High efficiency up to 95.5%**
- **Output power ratings: 3.3 kW, 5 kW, 6.6 kW, 10 kW or 15 kW, expandable up to 480 kW**
- **Output voltages: 40 V up to 1500 V**
- **Output currents: 30 A up to 510 A, expandable up to 5100 A**
- **Flexible, power regulated output stage**
- **Various protection circuits (OVP, OCP, OPP, OTP)**
- **Intuitive TFT touch panel with display for values, status and notifications**
- **Remote sensing with automatic detection**
- **Galvanically isolated, analog interface**
- **Integrated true function generator**
- **Photovoltaic array simulation**
- **Internal resistance simulation and regulation**
- **40 V models compliant to SELV (EN 60950)**
- **Discharge circuit (Uout < 60 V in ≤ 10 s)**
- **USB port integrated**
- **EMC TÜV approved for EN 61010 Class B**
- **Optional, digital interface modules or alternatively installed IEEE/GPIB port**
- **SCPI command language supported**

概要

EA-PSI 9000 3U系列是一款由微处理器控制的高效实验室电源，其标准版配备多种功能和特征。用户友好交互式菜单导航功能，让用户使用起来极其方便且有效率。

General

The microprocessor controlled high efficiency laboratory power supplies of series EA-PSI 9000 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.

EA-PSI 9000 3U 3.3 kW - 15 kW

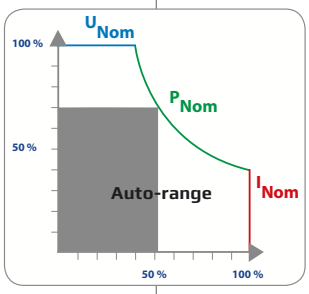
可对用户和进程文档进行编辑、存储，以及再次上载，从而改善测试或其它应用的可重复性。
为了实现更大输出功率，可配置高达150 kW和42U的机柜，以满足用户需求。

User and process profiles can be edited, saved and archived so that the reproducibility of a test or other application is improved.
In order to achieve even higher output power, cabinets with up to 150 kW and up to 42U size can be configured to suit the user's requirements.

交流输入
本系列所有型号采用主动式功率因数，专门设计成使用340 V至460 V AC的三相交流电。

AC input
All models are provided with an active Power Factor Correction circuit and are designed for a usage on a three-phase supply with 340 V up to 460 V AC.

功率级自动调整
所有型号的输出功率都灵活可调。可在较低电流时输出较高电压，或在低电压时输出较高电流，但总是维持在最大额定功率范围内。它们的设定功率都可调，因此仅用一台产品就能覆盖广泛的应用。



Auto-ranging power stage
All models 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. The power set value is adjustable with these models. Therefore, a wide range of applications can already be covered by the use of just one unit.

直流输出
本系列有0...40 V和0...1500 V输出电压，0...4 A和0...510 A输出电流，0...3.3 kW，0...5 kW，0...10 kW或0...15 kW输出功率的不同型号。输出端位于产品后面板上。

DC output
DC output voltages between 0...40 V and 0...1500 V, output currents between 0...40 A and 0...510 A and output power ratings of 0...3.3 kW, 0...5 kW, 0...6.6 kW, 0...10 kW or 0...15 kW are available. The output terminal is located on the rear panel.

放电电路
额定输出电压为200 V或以上的产品，其输出电容都配有一放电电路。在空载或带小负载时，它能确保危险电压在直流输出关闭后降至60 V DC以下。该电压值被认为是对人体安全的最高电压。

Discharge circuit
Models with a nominal output voltage of 200 V or higher include a discharge circuit for the output capacities. For no load or low load situations, it ensures that the dangerous output voltage can sink to under 60 V DC after the DC output has been switched off. This value is considered as limit for voltages dangerous to human safety.

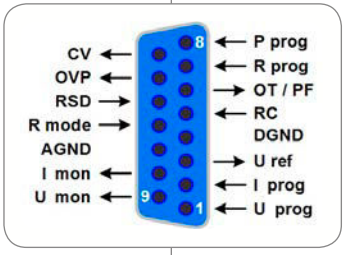
保护功能
为保护连接设备，可给产品设定一过压保护极限值(OVP)，以及过流(OCP)与过功率(OPP)保护极限值。
一旦因故超过这三个值中的一个，直流输出会被立即切断，并在显示器与接口端发出一状态信号。
本产品还有过温保护，如果产品过热，它会关断直流输出。

Protective features
For protection of the equipment connected, it is possible to set an overvoltage protection threshold (OVP), as well as one for overcurrent (OCP) and overpower (OPP).
As soon as one of these thresholds is reached for any reason, the DC output will be immediately shut off and a status signal will be generated on the display and via the interfaces. There is furthermore an overtemperature protection, which will shut off the DC output if the device overheats.

远程感测
远程感测输入端可直接连到负载设备，以补偿连线上的部分压降。如果感测输入端已接到负载上，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。

Remote sensing
The standard sensing input can be connected directly to the load in order to compensate voltage drops along the power cables up to a certain level. If the sensing input is connected to the load, the power supply will adjust the output voltage automatically to make ensure the accurate required voltage is available at the load.

内置模拟接口
产品后板上装有一隔离模拟接口端子。它具有一模拟输入脚，接上0 V...10 V或0 V...5 V电压，可设置0...100%的输出电压、电流与功率。要监控输出电压与电流，可给模拟输出脚接上0 V...10 V或0 V...5 V电压来完成。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。

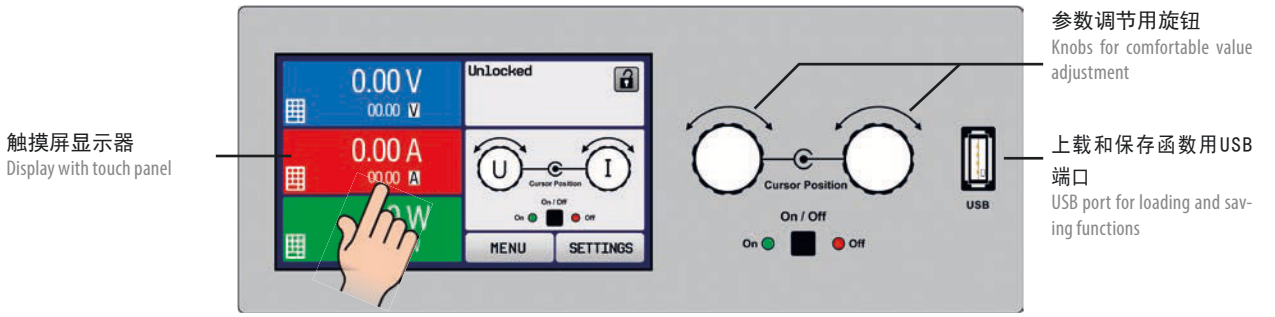


Analog interface
There is a galvanically isolated analog interface terminal, located on the rear of the device. It offers analog inputs to set voltage, current, power and resistance from 0...100% through control voltages of 0 V...10 V or 0 V...5 V. To monitor the output voltage and current, there are analog outputs with 0 V...10 V or 0 V...5 V. Also, several inputs and outputs are available for controlling and monitoring the device status.

EA-PSI 9000 3U 3.3 kW - 15 kW

显示器与控制面板

Display and control panel



设定与实际输出电压、电流与功率都清晰显示于图形显示器上。彩色的TFT屏幕为点触式，用一个手指就能控制所有功能。

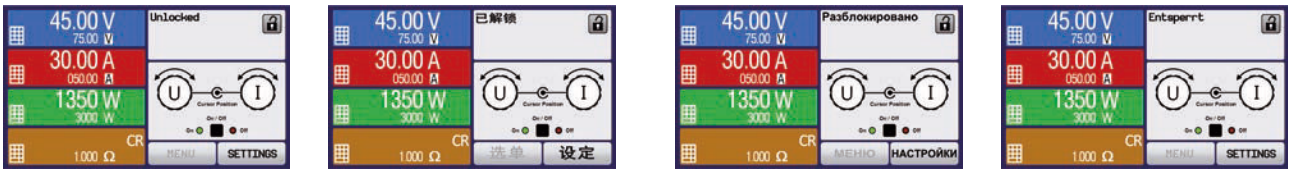
通过旋钮或者数字键盘直接输入参数，也可调节设定电压、电流、功率或阻值（内阻模拟）。

若想防止意外操作，可锁定所有操作键。

Set values and actual values of output voltage, output current and output power are clearly represented on the graphic display. The colour TFT screen is touch sensitive and can be intuitively used to control all functions of the device with just a finger.
Set values of voltage, current, power or resistance (internal resistance simulation) can be adjusted using the rotary knobs or entered directly via a numeric pad.
To prevent unintentional operations, all operation controls can be locked.

多语言控制面板

Multi-language control panel



英文 / English　中文 / Chinese　俄文 / Russian　德文 / German

函数发生器

本系列所有型号都具有一可形成如下典型函数的真实函数发生器，并能将它们应用于输出电压或输出电流上。发生器可通过前板的触摸屏设置，或经某一数字接口远程配置。

预设函数会为用户提供所有必须的参数，如Y偏差值，时间/频率或幅度，整套配置完成。

Function generator

All models within this series include a true function generator which can generate typical functions, as displayed in the figure below, and apply them to either the output voltage or the output current. The generator can be completely configured and controlled by using the touch panel on the front of the device, or by remote control via one of the digital interfaces.
The predefined functions offer all necessary parameters to the user, such as Y offset, time / frequency or amplitude, for full configuration ability.

三角形 *Triangle*　矩形 *Rectangle*　梯形 *Trapezoid*　正弦 *Sine*　阶跃 *Ramp*　DIN 40839

除了基于任意发生器产生的标准函数外，它还可形成某些复杂的函数，并能分成多达99组序列。这些可用于研发和生产的测试。通过前板的USB端口可将这些序列上载使用或存储于标准U盘上，这样可方便更换不同的测试序列。

Additionally to the standard functions, which are all based upon a so-called arbitrary generator, this base generator is accessible for the creation and execution of complex sets of functions, separated into up to 99 sequences. Those can be used for testing purposes in development and production.
The sequences can be loaded from and saved to a standard USB flash drive via the USB port on the front panel, making it easy to change between different test sequences.

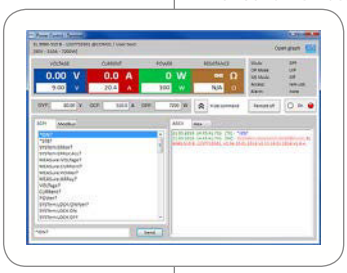
EA-PSI 9000 3U 3.3 kW - 15 kW

此外还有一个XY发生器，能产生如UI或IU这类的函数，用户一般以表格（CSV文档）形式创建，然后从U盘上上传。
针对光伏相关的测试，还可形成PV曲线，作为用户可调关键参数。
通过后续的固件升级，可安装更多的曲线特性，供用户选择。

主-从操作

所有产品默认有一个数字式主-从总线。通过它可并联最多32台同型号产品，将实际电压、电流与功率汇总，形成更大的系统。经产品上的控制面板，或经任意数字通讯接口的远程控制，可完成主-从系统的全部配置。主机的操作可手动控制，也可远程控制（任意接口）。

控制软件



本产品还配有适合Windows系统下操作的控制软件，可以远程控制多台同型号产品，甚至不同型号产品。它有一个清晰的主界面，显示所有设定值与实际值，SCPI与ModBus RTU指令的直接输入模式，固件升级特性，以及被称为“排序”的半自动化控制表格。

选项

- 适合RS232、CAN、CANopen、ModBus TCP、Profibus、Profinet/IO、EtherCAT或Ethernet的绝缘数字接口模块。接口插槽位于产品后板（仅针对标准型号），方便用户插上新模块或替换当前模块。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。也可参考第134页。
- 还可安装带固定GPIB端口的三位接口（3 W），代替接口模块用的默认插槽。
- 高速跃变（见第144页） *
- 水冷（按需可供，详见页面145）

* 并非针对所有电压 – 请咨询我们获取更多信息

There is furthermore a XY generator, which is used to generate other functions, such as UI or IU, which are defined by the user in form of tables (CSV file) and then loaded from USB drive.
For photovoltaics related tests, a PV curve can be generated and used from user-adjustable key parameters.
Even more characteristics can be installed for user selection by applying future firmware updates.

Master-slave

All models feature a digital master-slave bus by default. It can be used to connect up to 32 units of identical models in parallel operation to a bigger system with totals formation of the actual value of voltage, current and power. The configuration of the master-slave system is either completely done on the control panels of the units or by remote control via any of digital communication interfaces. Handling of the master unit is possibly by manual or remote control (any interface).

Control software

Included with the device is a control software for Windows PC, which allows for the remote control of multiple identical or even different types of devices. It has a clear interface for all set and actual values, a direct input mode for SCPI and ModBus RTU commands, a firmware update feature and the semi-automatic table control named “Sequencing”.

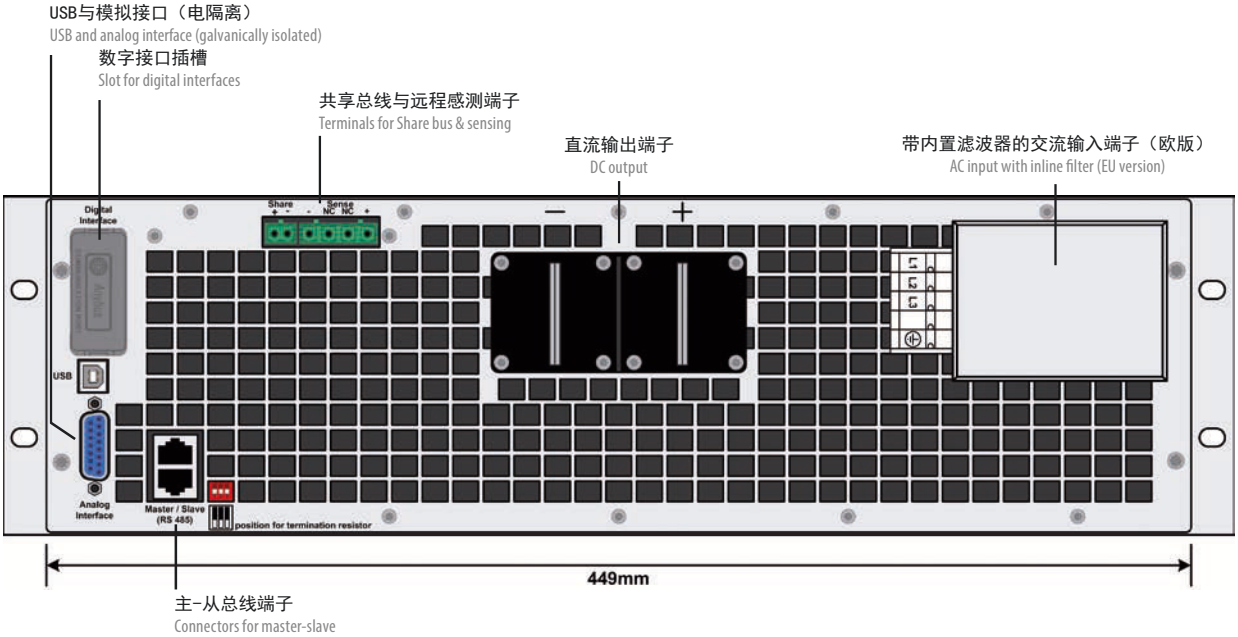
Options

- Digital interface modules for RS232, CAN, CANopen, ModBus TCP, Profibus, Profinet/IO, EtherCAT or Ethernet. The interface slot is located on the rear panel (standard models only), 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. See page 134.
- Three-way interface (3W) with a rigid GPIB port installed instead of the default slot for retrofittable interface modules
- High Speed ramping (see page 144) *
- Water Cooling (upon request, also see page 145)

* Not available for all voltages - please quote for availability

产品视图

Product views



标准版后视图

Rear view of base model

EA-PSI 9000 3U 3.3 kW - 15 kW

技术参数	Technical Data	Series PSI 9000 3U / 系列	
交流：供电	AC: Supply		
- 电压标准	- Voltage standard	欧版型号 / European models: 340...460 V, 2ph/3ph 美版型号 / US models: 188...229 V, 2ph/3ph	
- 频率	- Frequency	45...66 Hz	
- 功率因数	- Power factor	>0.99	
直流：电压	DC: Voltage		
- 精确度	- Accuracy	<额定值的0.1% / <0.1% of rated value	
- 0-100%的负载调整率	- Load regulation 0-100%	<额定值的0.05% / <0.05% of rated value	
- ±10% ΔU_{AC}的线性调整率	- Line regulation ±10% ΔU_{AC}	<额定值的0.02% / <0.02% of rated value	
- 带载10-100%调整需时	- Regulation 10-100% load	<2 ms	
- 带载10-90%的斜率	- Slew rate 10-90%	最大 / Max. 30 ms	
- 过压保护	- Overvoltage protection	可调， 0...110% U_{Nenn} / Adjustable, 0...110% U_{Nom}	
- 直流关闭时空载放电时间	- No load discharge time on DC off	100% U 降至 / to <60 V: 少于10 s / less than 10 s	
直流：电流	DC: Current		
- 精确度	- Accuracy	<额定值的0.2% / <0.2% of rated value	
- 1-100% ΔU_{DC}的负载调整率	- Load regulation 1-100% ΔU_{DC}	<额定值的0.15% / <0.15% of rated value	
- ±10% ΔU_{AC}的线性调整率	- Line regulation ±10% ΔU_{AC}	<额定值的0.05% / <0.05% of rated value	
直流：功率	DC: Power		
- 精确度	- Accuracy	<额定值的1% / <1% of rated value	
过压类别	Overvoltage category	2	
保护功能	Protection	OT, OVP, OPP, OCP, PF (2	
隔离耐压 1	Insulation 1		
- 交流输入对外壳	- AC input to enclosure	2500 V DC	
- 交流输入对直流输出	- AC iput to DC output	2500 V DC	
- 直流输出对外壳 (PE)	- DC output to enclosure (PE)	依型号而定，具体见后面表格 / Depending on model, see tables	
污染等级	Degree of pollution	2	
保护等级	Protection class	1	
显示器与面板	Display and panel	带触摸面板的图形显示器 / Graphics display with touch panel	
数字接口	Digital interfaces		
- 内置	- Built-in	1x 通讯用B类USB端口 / 1x USB type B for communication 1x GPIB (3W选项功能时可选) / 1x GPIB (optional with option 3W)	
- 插槽	- Slot	1x 可拆卸内置模块（仅针对标准版） / 1x for retrofittable plug-in modules (standard models only)	
模拟接口	Analog interface	内置15-针D-Sub母插，电隔离 / Built-in, 15-pole D-Sub (female), galvanically isolated	
- 输入范围	- Signal range	0...5 V 或 0...10 V (可切换) / 0...5 V or 0...10 V (switchable)	
- 输入脚	- Inputs	U, I, P, R, 远程开-关，直流输出开-关，内阻模式开-关 / U, I, P, R, Remote on-off, DC output on-off, resistance mode on-off	
- 输出脚	- Outputs	U / I, 过压，报警，参考电压 / U / I, Overvoltage, alarms, reference voltage	
- U / I / P / R精确度	- Accuracy U / I / P / R	0...10 V: <0.2%	0...5 V: <0.4%
并联操作	Parallel operation	可实现，通过真实主-从操作，可接多达32台产品 / Yes, with master-slave, up to 32 units	
安规标准	Standards	EN 61326, IEC 1010, EN 61010 EMC获得 TÜV认证，符合 / EMC TÜV approved according to IEC 61000-6-2:2005 IEC 61000-6-3:2006 Class B / 等级B	
制冷方式	Cooling	温控风扇（可选水冷） / Temperature controlled fans (optional: water)	
工作温度	Operation temperature	0...50 °C	
储存温度	Storage temperature	-20...70 °C	
相对湿度	Relative humidity	<80%, 无凝露 / non-condensing	
工作高度	Operation altitude	<2000 m	
尺寸 (宽 高 深) (1	Dimensions (W H D) (1	19"x 3 HE / 3U x 609 mm	

(1 外壳尺寸非整体尺寸 / Enclosure only, not overall
(2 见第146页 / See page 146

EA-PSI 9000 3U 3.3 kW - 15 kW

技术参数	Technical Data	PSI 9040-170 3U	PSI 9080-170 3U	PSI 9200-70 3U	PSI 9360-40 3U
额定电压&范围	Rated voltage & range	0...40 V	0...80 V	0...200 V	0...360 V
- 纹波 (1	- Ripple (1	<200 mV_{PP} <16 mV_{RMS}	<200 mV_{PP} <16 mV_{RMS}	<300 mV_{PP} <40 mV_{RMS}	<550 mV_{PP} <65 mV_{RMS}
- 感测补偿电压	- Sensing compensation	~1 V	~2 V	~5 V	~7.5 V
隔离耐压	Insulation				
- 直流负极 <-> PE	- Negative DC pole <-> PE	±400 V DC	±400 V DC	±400 V DC	±400 V DC
- 直流正极 <-> PE	- Positive DC pole <-> PE	±400 V DC	±400 V DC	±600 V DC	±600 V DC
额定电流&范围	Rated current & range	0...170 A	0...170 A	0...70 A	0...40 A
- 纹波 (1	- Ripple (1	<80 mA_{RMS}	<80 mA_{RMS}	<22 mA_{RMS}	<18 mA_{RMS}
额定功率&范围	Rated power & range	0...3300 W	0...5000 W	0...5000 W	0...5000 W
效率	Efficiency	~93%	~93%	~95%	~93%
U的编程分辨率	Programming resolution U	≤2 mV	≤4 mV	≤9 mV	≤15 mV
I的编程分辨率	Programming resolution I	≤7 mA	≤7 mA	≤3 mA	≤2 mA
重量 (2	Weight (2	~17 kg	~17 kg	~17 kg	~17 kg
订购编号-欧版 (3	Ordering number Euro (3	06230350	06230351	06230352	06230353
订购编号-美版 (3	Ordering number US (3	06238350	06238351	06238352	06238353

技术参数	Technical Data	PSI 9500-30 3U	PSI 9750-20 3U	PSI 9040-340 3U	PSI 9040-510 3U
额定电压&范围	Rated voltage & range	0...500 V	0...750 V	0...40 V	0...40 V
- 纹波 (1	- Ripple (1	<350 mV_{PP} <70 mV_{RMS}	<800 mV_{PP} <200 mV_{RMS}	<320 mV_{PP} <25 mV_{RMS}	<320 mV_{PP} <25 mV_{RMS}
- 感测补偿电压	- Sensing compensation	~10 V	~15 V	~1 V	~1 V
隔离耐压	Insulation				
- 直流负极 <-> PE	- Negative DC pole <-> PE	±725 V DC	±725 V DC	±400 V DC	±400 V DC
- 直流正极 <-> PE	- Positive DC pole <-> PE	±1000 V DC	±1000 V DC	±400 V DC	±400 V DC
额定电流&范围	Rated current & range	0...30 A	0...20 A	0...340 A	0...510 A
- 纹波 (1	- Ripple (1	<16 mA_{RMS}	<16 mA_{RMS}	<160 mA_{RMS}	<120 mA_{RMS}
额定功率&范围	Rated power & range	0...5000 W	0...5000 W	0...6600 W	0...10000 W
效率	Efficiency	~95.5%	~94%	~93%	~93%
U的编程分辨率	Programming resolution U	≤21 mV	≤31 mV	≤2 mV	≤2 mV
I的编程分辨率	Programming resolution I	≤2 mA	≤1 mA	≤14 mA	≤21 mA
重量 (2	Weight (2	~17 kg	~17 kg	~24 kg	~30 kg
订购编号-欧版 (3	Ordering number Euro (3	06230354	06230355	06230356	06230363
订购编号-美版 (3	Ordering number US (3	06238354	06238355	06238356	06238363

技术参数	Technical Data	PSI 9080-340 3U	PSI 9200-140 3U	PSI 9360-80 3U	PSI 9500-60 3U
额定电压&范围	Rated voltage & range	0...80 V	0...200 V	0...360 V	0...500 V
- 纹波 (1	- Ripple (1	<320 mV_{PP} <25 mV_{RMS}	<300 mV_{PP} <40 mV_{RMS}	<550 mV_{PP} <65 mV_{RMS}	<350 mV_{PP} <70 mV_{RMS}
- 感测补偿电压	- Sensing compensation	~2 V	~5 V	~7.5 V	~10 V
隔离耐压	Insulation				
- 直流负极 <-> PE	- Negative DC pole <-> PE	±400 V DC	±400 V DC	±400 V DC	±725 V DC
- 直流正极 <-> PE	- Positive DC pole <-> PE	±400 V DC	±600 V DC	±600 V DC	±1000 V DC
额定电流&范围	Rated current & range	0...340 A	0...140 A	0...80 A	0...60 A
- 纹波 (1	- Ripple (1	<160 mA_{RMS}	<44 mA_{RMS}	<35 mA_{RMS}	<32 mA_{RMS}
额定功率&范围	Rated power & range	0...10000 W	0...10000 W	0...10000 W	0...10000 W
效率	Efficiency	~93%	~95%	~93%	~95%
U的编程分辨率	Programming resolution U	≤4 mV	≤9 mV	≤15 mV	≤21 mV
I的编程分辨率	Programming resolution I	≤14 mA	≤6 mA	≤4 mA	≤3 mA
重量 (2	Weight (2	~24 kg	~24 kg	~24 kg	~24 kg
订购编号-欧版 (3	Ordering number Euro (3	06230357	06230358	06230359	06230360
订购编号-美版 (3	Ordering number US (3	06238357	06238358	06238359	06238360

(1 RMS值：在BWL 300 kHz时测量的LF值，PP值：在BWL 20MHz时测量的HF值 / RMS value: measures at LF with BWL 300 kHz, PP value: measured at HF with BWL 20MHz
(2 为标准版的重量，带选项功能的则不同 / Weight of the base version, models with option(s) may vary
(3 为标准版的订购编号，带选项功能的则不同 / Ordering number of the base version, models with option(s) installed have different ordering numbers

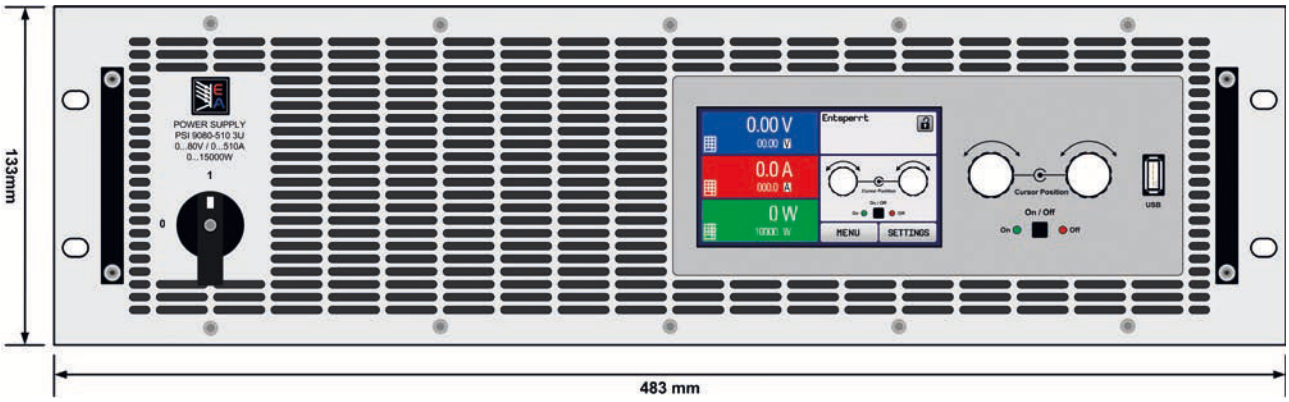
EA-PSI 9000 3U 3.3 kW - 15 kW

技术参数	Technical Data	PSI 9750-40 3U	PSI 91000-30 3U	PSI 9080-510 3U	PSI 9200-210 3U
额定电压&范围	Rated voltage & range	0...750 V	0...1000 V	0...80 V	0...200 V
- 纹波 (1	- Ripple (1	<800 mV_{PP} <200 mV_{RMS}	<1600 mV_{PP} <350 mV_{RMS}	<320 mV_{PP} <25 mV_{RMS}	<300 mV_{PP} <40 mV_{RMS}
- 感测补偿电压	- Sensing compensation	~15 V	~20 V	~2.5 V	~6 V
隔离耐压	Insulation				
- 直流负极 <-> PE	- Negative DC pole <-> PE	±725 V DC	±725 V DC	±400 V DC	±400 V DC
- 直流正极 <-> PE	- Positive DC pole <-> PE	±1000 V DC	±1000 V DC	±400 V DC	±600 V DC
额定电流&范围	Rated current & range	0...40 A	0...30 A	0...510 A	0...210 A
- 纹波 (1	- Ripple (1	<32 mA_{RMS}	<22 mA_{RMS}	<240 mA_{RMS}	<66 mA_{RMS}
额定功率&范围	Rated power & range	0...10000 W	0...10000 W	0...15000 W	0...15000 W
效率	Efficiency	~94%	~95%	~93%	~95%
U的编程分辨率	Programming resolution U	≤31 mV	≤41 mV	≤4 mV	≤9 mV
I的编程分辨率	Programming resolution I	≤2 mA	≤2 mA	≤21 mA	≤9 mA
重量 (2	Weight (2	~24 kg	~24 kg	~30 kg	~30 kg
订购编号-欧版 (3	Ordering number Euro (3	06230361	06230362	06230364	06230365
订购编号-美版 (3	Ordering number US (3	06238361	06238362	06238364	06238365

技术参数	Technical Data	PSI 9360-120 3U	PSI 9500-90 3U	PSI 91000-40 3U	PSI 9750-60 3U	PSI 91500-30 3U
额定电压&范围	Rated voltage & range	0...360 V	0...500 V	0...1000 V	0...750 V	0...1500 V
- 纹波 (1	- Ripple (1	<550 mV_{PP} <65 mV_{RMS}	<350 mV_{PP} <70 mV_{RMS}	<2000 mV_{PP} <300 mV_{RMS}	<800 mV_{PP} <200 mV_{RMS}	<2400 mV_{PP} <400 mV_{RMS}
- 感测补偿电压	- Sensing compensation	~7.5 V	~10 V	~20 V	~15 V	~30 V
隔离耐压	Insulation					
- 直流负极 <-> PE	- Negative DC pole <-> PE	±400 V DC	±725 V DC	±725 V DC	±725 V DC	±725 V DC
- 直流正极 <-> PE	- Positive DC pole <-> PE	±600 V DC	±1000 V DC	±1000 V DC	±1000 V DC	±1500 V DC
额定电流&范围	Rated current & range	0...120 A	0...90 A	0...40 A	0...60 A	0...30 A
- 纹波 (1	- Ripple (1	<50 mA_{RMS}	<48 mA_{RMS}	<22 mA_{RMS}	<48 mA_{RMS}	<26 mA_{RMS}
额定功率&范围	Rated power & range	0...15000 W	0...15000 W	0...15000 W	0...15000 W	0...15000 W
效率	Efficiency	~93%	~95%	~95%	~94%	~95%
U的编程分辨率	Programming resolution U	≤15 mV	≤21 mV	≤41 mV	≤31 mV	≤61 mV
I的编程分辨率	Programming resolution I	≤5 mA	≤4 mA	≤2 mA	≤3 mA	≤2 mA
重量 (2	Weight (2	~30 kg	~30 kg	~30 kg	~30 kg	~30 kg
订购编号-欧版 (3	Ordering number Euro (3	06230366	06230367	06230370	06230368	06230369
订购编号-美版 (3	Ordering number US (3	06238366	06238367	06238370	06238368	06238369

(1 RMS值：在BWL 300 kHz时测量的LF值，PP值：在BWL 20MHz时测量的HF值 / RMS value: measures at LF with BWL 300 kHz, PP value: measured at HF with BWL 20MHz
(2 为标准版的重量，带选项功能的则不同 / Weight of the base version, models with option(s) may vary
(3 为标准版的订购编号，带选项功能的则不同 / / Ordering number of the base version, models with option(s) installed have different ordering numbers

产品视图 Product views



EA-PSI 9000 3U SLAVE 15 kW

EA-PSI 9000 3U系列从机电源模块
Slave power supply modules for series EA-PSI 9000 3U

EA-PSI 9500-00 3U Slave

一般信息
被称为“从机模块”的EA-PSI 9000 3U Slave系列，可快速地扩展EA-PSI 9000 3U系列15kW型号的功率，且还节省成本。它们可并联，并进行主-从操作，最多可组合32台，以获得额定功率高达480 kW的直流电源系统。其所有技术规格都与EA-PSI 9000 3U系列一模一样，除了几个连接端子外。

操作与配置
正常的控制面板精简到剩下几个必要部件。为配合手动操作、状态指示与配置，配有少数几个LED灯，一个按钮，以及一个USB端口。本系列经前板USB端口可通过软件配置，比如EA Power Control（见136页）。

主-从系统
主-从系统的配置简易又快捷。将从机模块与主机装在一起，比如在一19“机柜内。将产品连至交流供电端，并联他们的直流输出（连线或铜条），再经主-从总线与共享总线连接起来。主机上的操作仅为启动主从操作，然后整个系统将按照通电的机器数量自己配置，并准备好供用户使用或者软件操作。

General
The so-called “slave module” of series EA-PSI 9000 3U Slave are available for quick and cost saving power extension of 15 kw models of series EA-PSI 9000 3U. Their purpose is to run in parallel connection and master-slave operation of up to 32 units in total, in order to achieve DC power supply systems with power ratings of up to 480 kW. All technical specifications are identical to EA-PSI 9000 3U series, except for the available connectors.

Handling and configuration
The extensive control panel, as usual with regular power supply models, has been reduced to the absolute necessary. For manual handling, status indication and configuration it offers a few LEDs, a pushbutton and an USB port. The devices are configured with software through the front USB port, for example with EA Power Control (see page 136).

Master-slave system
Configuring a master-slave system is very quick and easy. The slave modules and the master unit are installed together, for example in a 19” cabinet. Then they are connected to the AC supply and paralleled on their DC outputs (cables or copper bars), plus also linked via master-slave bus and Share bus. The only thing to do on the master is to enable master-slave and the system will self-configure to the number of powered units and represent itself to the user or a control software accordingly.

型号	功率	电压	电流	重量	适用于	尺寸 (宽x高x深)	订购编号
Model	Power	Voltage	Current	Weight	Suitable for	Dimensions (WxHxD)	Ordering number
EA-PSI 9080-510 3U Slave	0...15000 W	0...80 V	0...510 A	~ 30 kg	EA-PSI 9080-510 3U	483 mm x 3 HE / 3 U x 610 mm	06290364
EA-PSI 9200-210 3U Slave	0...15000 W	0...200 V	0...210 A	~ 30 kg	EA-PSI 9200-210 3U	483 mm x 3 HE / 3 U x 610 mm	06290365
EA-PSI 9360-120 3U Slave	0...15000 W	0...360 V	0...120 A	~ 30 kg	EA-PSI 9360-120 3U	483 mm x 3 HE / 3 U x 610 mm	06290366
EA-PSI 9500-90 3U Slave	0...15000 W	0...500 V	0...90 A	~ 30 kg	EA-PSI 9500-90 3U	483 mm x 3 HE / 3 U x 610 mm	06290367
EA-PSI 9750-60 3U Slave	0...15000 W	0...750 V	0...60 A	~ 30 kg	EA-PSI 9750-60 3U	483 mm x 3 HE / 3 U x 610 mm	06290368
EA-PSI 91500-30 3U Slave	0...15000 W	0...1500 V	0...30 A	~ 30 kg	EA-PSI 91500-30 3U	483 mm x 3 HE / 3 U x 610 mm	06290369