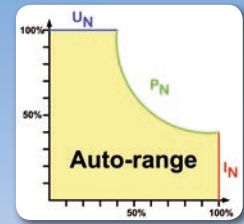


- U
- I
- OVP
- OTP
- USB
- RS232
- LAN
- IEEE
- CAN
- Profibus



EA-PS 8032-20 T

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

- ▶ **Wide input voltage range 90...264 V with active PFC**
- ▶ **High efficiency up to 92%**
- ▶ **Output power ratings: 320 W up to 1500 W**
- ▶ **Output voltages: 0...16 V up to 0...360 V**
- ▶ **Output currents: 0...4 A up to 0...60 A**
- ▶ **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**
- ▶ **Analog interface with**
  - **U / I programmable via 0...10 V or 0...5 V**
  - **U / I monitoring via 0...10 V or 0...5 V**
- ▶ **Temperature controlled fan 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90 V<sub>AC</sub>至264 V<sub>AC</sub>全世界宽范围输入电压下都适用。

功率为1.5 kW的型号在输入电压<150 V<sub>AC</sub>时总输出功率将降至1 kW。

\* 针对1 kW以上型号

### 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

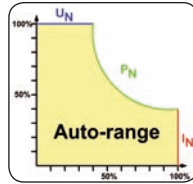
The equipment uses an active Power Factor Correction circuit to enable using it worldwide on a mains input between 90 V<sub>AC</sub> and 264 V<sub>AC</sub>.

The 1.5 kW models are derated, ie. power reduced, to 1 kW at input voltages less than 150 V<sub>AC</sub>.

\* Models from 1 kW

**功率**

1 kW 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大范围的应用领域。



**Power**

Models with 1 kW or higher output power 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. Therefore, a wide range of applications can already be covered by the use of one unit.

**DC输出**

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

**DC output**

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

**过压保护(OVP)**

为保护连接负载，可设定一过压保护极限值(OVP)。

**Overvoltage protection (OVP)**

In order to protect the connected loads it is possible to adjust an overvoltage protection limit (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。

If the output voltage exceeds the adjusted limit, the output is shut off and status signals via a LED and via the analog interface will be generated.

**远程感测**

用一条连接线将指定输入端与负载设备直接连上，可进行远程感测，以便补偿负载线上的压降。产品会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 sensing**

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 if 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.

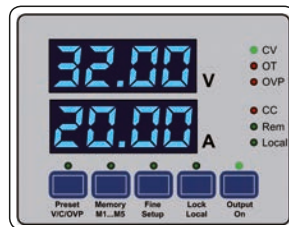
**显示器和控制键**

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。

**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.

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



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 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。

**Presetting of output values**

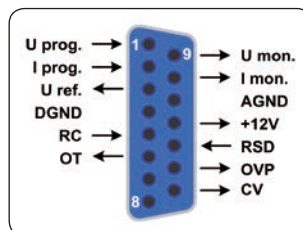
To set output values without affecting the output condition, a preset function is implemented.

通过此功能用户可预设输出电压、电流和过压保护值(OVP)。

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0 V...10 V或0 V...5 V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0 V...10 V或0 V...5 V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。

**Analog interface**

The connection for the analog interface is located on the front of the device. Analog inputs are available here, to set voltage and current from 0...100% in the voltage ranges 0 V...10 V or 0 V...5 V.

To monitor output voltage and current, analog outputs with voltage ranges from 0 V...10 V or 0 V...5 V can be read out. Furthermore, several inputs and outputs are available for controlling and monitoring the device status.

This interface is not galvanically isolated.

该接口无电隔离特性。

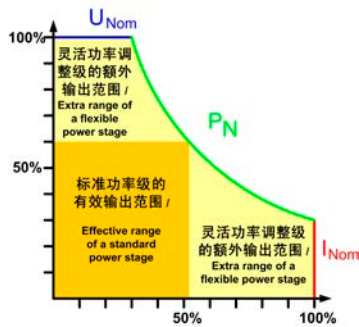
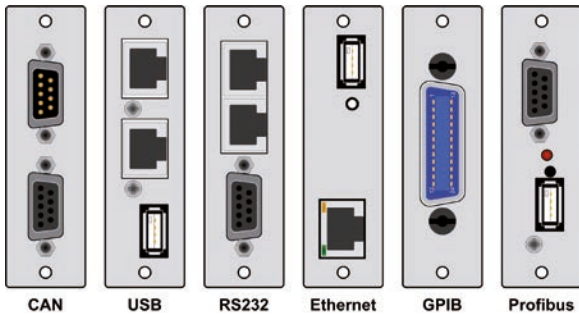
### 选购件

- 本系列电源可利用RS232, CAN, USB, GPIB (IEEE)、以太网/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。随接口卡附有适合RS232/USB/GPIB (IEEE)/Ethernet的免费Windows软件, 它可控制、监控、记录数据和排序。详情请见136和142页。
- 高速跃变 (仅针对1 kW,以上产品, 见151页)

### Options

- Isolated digital interface cards for RS232, CAN, USB, GPIB (IEEE), Profibus or Ethernet 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 for RS232/USB/GPIB/Ethernet, which provides control and monitoring, data logging and semi-automatic sequences. See pages 136 and 142.
- High speed ramping (only for models as from 1 kW, also see page 151)

### 数字接口 / Digital interfaces

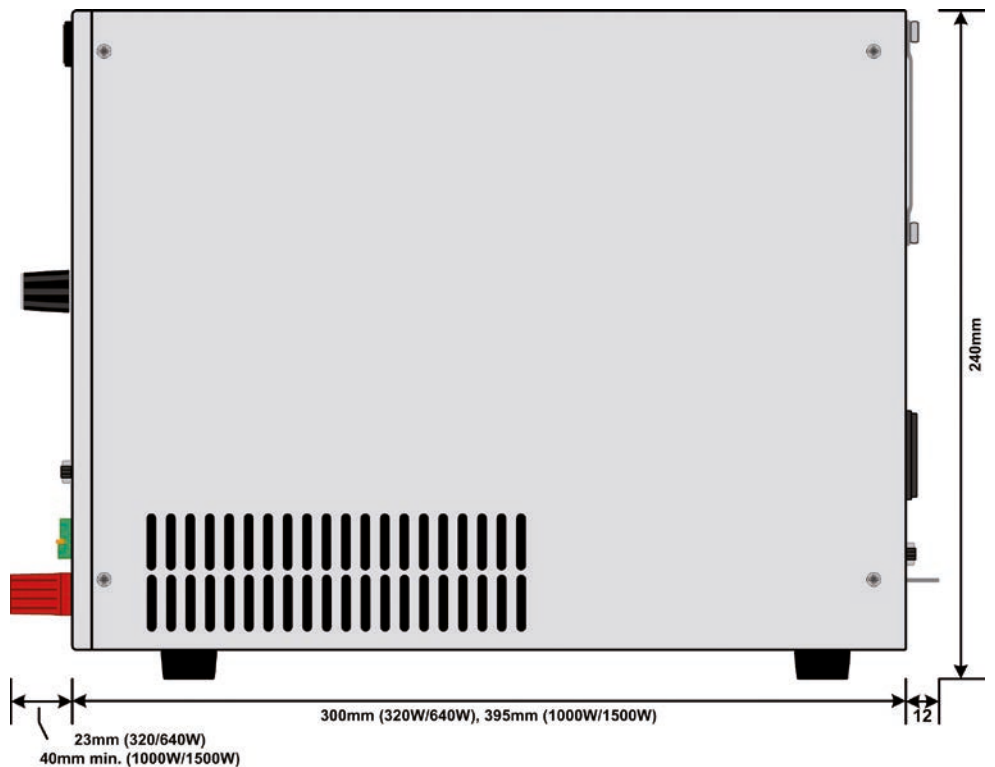
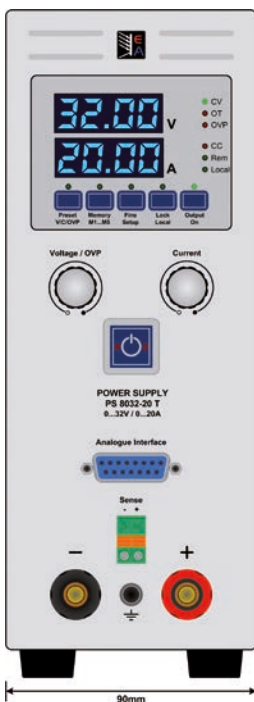


风扇 / Fan

输入插座 / Mains input (320 W-640 W)

电源开关 / Mains switch

接口卡插槽 / Slot for Interface card



技术参数	Technical Data	Series EA-PS 8000 T / 系列
AC输入电压	Input voltage AC	90...264 V, 1ph+N
- 频率	- Frequency	45...65 Hz
- 功率因数	- Power factor	>0.99
DC输出电压	Output voltage DC	
- 精确度	- Accuracy	<0.2%
- 0-100% 的负载调整率	- Load regulation 0-100%	<0.05%
- ±10% ΔU <sub>AC</sub> 的线性调整率	- Line regulation ±10% ΔU <sub>AC</sub>	<0.02%
- 负载从10%-100%调整需时	- Regulation 10-100% load	<2 ms
- 负载从10-90%上升需时	- Rise time 10-90%	最长30 ms
- 过压保护	- Overvoltage protection	可调, 0...110% U <sub>nom</sub> / Adjustable, 0...110% U <sub>nom</sub>
输出电流	Output current	
- 精确度	- Accuracy	<0.2%
- 0-100% ΔU <sub>DC</sub> 时的负载调整率	- Load regulation 0-100% ΔU <sub>DC</sub>	<0.15%
- ±10% ΔU <sub>AC</sub> 的线性调整率	- Line regulation ±10% ΔU <sub>AC</sub>	<0.05%
过压类别	Overvoltage category	2
保护功能	Protection	OT, OVP <sup>(2)</sup>
隔离耐压	Isolation	
- 输入对外壳	- Input to enclosure	2500 V DC
- 输入对输出	- Input to output	2500 V DC
- 输出对外壳	- Output to enclosure	DC-对PE最大耐压为300 V / Max.300 V on DC- against PE
污染等级	Pollution degree	2
保护级别	Protection class	1
模拟接口	Analog interface	内置15-针D-Sub母插 / Built in, 15-pole D-Sub, female
- 输入范围	- Input range	0...5 V 或 0...10 V (可转换) / 0...5 V or 0...10 V (switchable)
- U / I 的精确度	- Accuracy U / I	0...10 V: <0.2%                      0...5 V: <0.4%
- 编程分辨率	- Programming resolution	见下表 / See table below
串联操作	Series operation	可实现, 任意直流负极端对PE最大有300 V DC的电压转移 / Possible, with max. potential shift of 300 V DC of any DC minus against PE
并联操作	Parallel operation	可实现, 通过模拟接口执行主从操作 / Possible, with master-slave via analog interface
安全标准	Standards	EN 60950, EN 61326, EN 55022 等级 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	Relative humidity	<80% n.c./<80%, 无凝结
使用高度	Operation altitude	<2000 m
重量	Weight	320 W - 650 W: 3.8 kg                      1000 W - 1500 W: 6.5 kg
产品尺寸(宽x高x长) <sup>(1)</sup>	Dimensions (WxHxD) <sup>(1)</sup>	320 W - 650 W: 90x240x280 mm    1000 W - 1500 W: 90x240x395 mm

型号	电压	电流	功率	效率	U最大时的纹波 <sup>(4)</sup>	I最大时的纹波 <sup>(4)</sup>	编程 / Programming <sup>(3)</sup>		订购编号
Model	Voltage	Current	Power	Efficiency	Ripple U max. <sup>(4)</sup>	Ripple I max. <sup>(4)</sup>	U (typ.)	I (typ.)	Ordering number
PS 8016-20 T	0...16 V	0...20 A	320 W	90.5%	40 mV <sub>PP</sub> / 4 mV <sub>RMS</sub>	60 mA <sub>PP</sub> / 10 mA <sub>RMS</sub>	4 mV	5 mA	09200120
PS 8032-10 T	0...32 V	0...10 A	320 W	89%	100 mV <sub>PP</sub> / 10 mV <sub>RMS</sub>	35 mA <sub>PP</sub> / 7 mA <sub>RMS</sub>	9 mV	3 mA	09200121
PS 8065-05 T	0...65 V	0...5 A	325 W	92%	150 mV <sub>PP</sub> / 20 mV <sub>RMS</sub>	12 mA <sub>PP</sub> / 3 mA <sub>RMS</sub>	18 mV	2 mA	09200122
PS 8032-20 T	0...32 V	0...20 A	640 W	90.5%	100 mV <sub>PP</sub> / 8 mV <sub>RMS</sub>	65 mA <sub>PP</sub> / 10 mA <sub>RMS</sub>	9 mV	5 mA	09200123
PS 8065-10 T	0...65 V	0...10 A	650 W	91%	150 mV <sub>PP</sub> / 10 mV <sub>RMS</sub>	25 mA <sub>PP</sub> / 3 mA <sub>RMS</sub>	18 mV	3 mA	09200124
PS 8160-04 T	0...160 V	0...4 A	640 W	92%	120 mV <sub>PP</sub> / 20 mV <sub>RMS</sub>	3 mA <sub>PP</sub> / 1 mA <sub>RMS</sub>	43 mV	1.5 mA	09200125
PS 8080-40 T	0...80 V	0...40 A	1000 W	93%	10 mV <sub>PP</sub> / 4 mV <sub>RMS</sub>	19 mA <sub>PP</sub> / 7 mA <sub>RMS</sub>	20 mV	11 mA	09200126
PS 8360-10 T	0...360 V	0...10 A	1000 W	93%	30 mV <sub>PP</sub> / 11 mV <sub>RMS</sub>	1 mA <sub>PP</sub> / 0.45 mA <sub>RMS</sub>	88 mV	3 mA	09200128
PS 8080-60 T	0...80 V	0...60 A	1500 W	93%	10 mV <sub>PP</sub> / 4 mV <sub>RMS</sub>	19 mA <sub>PP</sub> / 7 mA <sub>RMS</sub>	20 mV	16 mA	09200127
PS 8360-15 T	0...360 V	0...15 A	1500 W	93%	50 mV <sub>PP</sub> / 8 mV <sub>RMS</sub>	1 mA <sub>PP</sub> / 0.45 mA <sub>RMS</sub>	88 mV	4 mA	09200129

<sup>(1)</sup> 仅为外壳尺寸, 非产品整体尺寸 / Enclosure only, not overall

<sup>(2)</sup> 见第152页 / See page 152

<sup>(3)</sup> 无产品错误时的可编程分辨率 / Programmable resolution without device error

<sup>(4)</sup> RMS值: 在BWL 300kHz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