Elektro-Automatik

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

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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。
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。

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。

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。

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。

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。

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)。

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。

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 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.

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 remote sensing input terminal is located on the front panel.

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.

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).

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.

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选购件

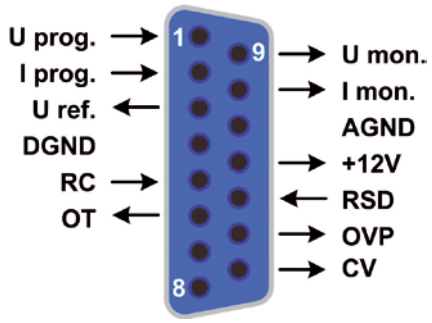
- 本系列电源可利用RS232，CAN，USB，GPIB (IEEE)、乙太网/LAN或Profibus不同的隔离数字接口，用电脑来控制。接口插槽在产品后板，方便用户插上新接口或替换当前接口。产品会自动检测接口类型，并提示需进行几步设置或不用设置。随接口卡附有免费Windows软件，它可控制、监控、记录数据和排序。详情请见63和64页。

- 高速跃变（仅针对1kW,以上产品，见118页）

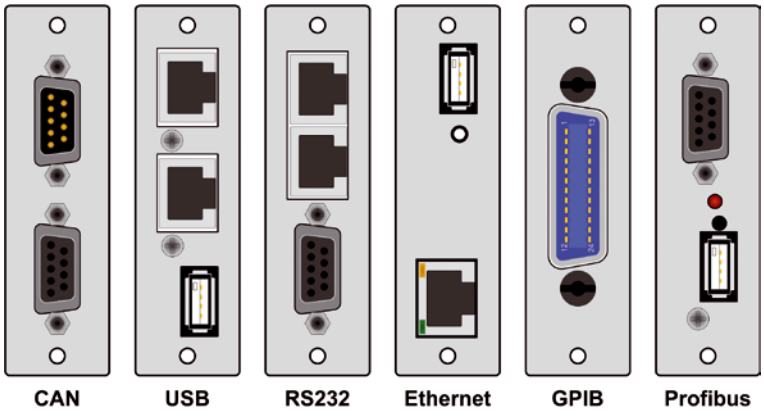
Options

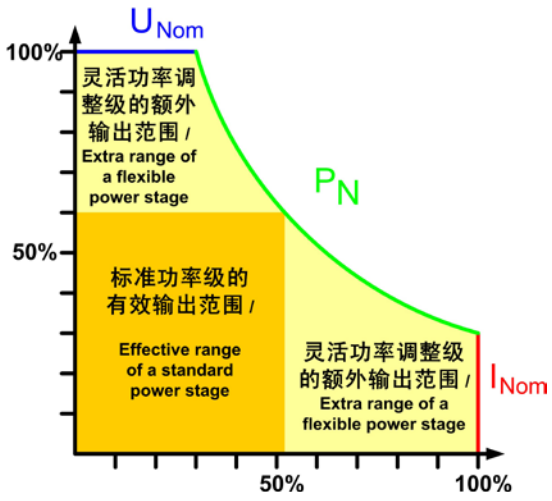
- Isolated digital interface cards for RS232, CAN, USB, GPIB (IEEE), Profibus or Ethernet/LAN to control the device by PC. The interface slot is located on the rear panel, making it easy for the user to plug-in a new interface or to replace an existing one. The interface will be automatically detected 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

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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

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