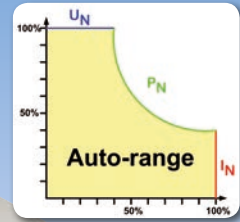


- U
- I
- P
- OVP
- OCP
- OPP
- OTP
- 19"
- USB
- LAN
- IEEE



EA-PS 9080-60 2U

- 多相输入90...264 VAC, 带主动式PFC
- 效率高达93%
- 输出功率有: 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
- 各种保护功能 (OVP, OCP, OPP, OTP)
- 带按钮与蓝色显示器的控制面板, 可显示实际值与设定值、状态与报警
- 隔离模拟接口
 - 通过 0...10 V或0...5 V电压可对U / I / P编程
 - 通过 0...10 V或0...5 V电压可监控U / I
- 温控风扇制冷
- 符合SELV标准 (EN 60950)的40 V产品型号
- 配放电电路(在10 s内 $U_{out} < 60 V$)
- 所有型号都可配高速选项功能
- 内置USB与以太网端口或选择安装IEEE/GPIB端口
- EMC符合EN 55022等级B标准
- 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)
- Control panel with pushbuttons and blue LCD for actual values, set values, status and alarms
- Galvanically isolated analog interface with
 - U / I / P programmable via 0...10 V or 0...5 V
 - U / I monitoring via 0...10 V or 0...5 V
- Temperature controlled fans for cooling
- 40 V models according to SELV (EN 60950)
- Discharge circuit ($U_{out} < 60 V$ in $\leq 10 s$)
- High speed versions of all models
- USB and Ethernet port integrated or alternatively installed IEEE/GPIB port
- EMC according to EN 55022 Class B
- SCPI command language supported

概要

EA-PS 9000 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。

控制面板上清晰地分布有两个旋钮, 六个按钮, 以及两个LED灯。同时还有一显示所有数值与状态的蓝色液晶显示器, 从而简化了产品的使用。

AC 输入

本系列所有型号都采用主动式功率因数校正线路, 1.5 kW以下型号可在90 V_{AC}至264 V_{AC}的输入电压范围下使用。

1.5 kW型号在输入电压<150 V_{AC}时输出功率减少至1 kW。3 kW型号在输入电压<205 V_{AC}时则降至2.5 kW。

General

The microprocessor controlled laboratory power supplies of series EA-PS 9000 2U offer many functions and features in their standard version, making the use of this equipment remarkably easy and most effective.

The clearly arranged control panel features two rotary knobs, six pushbuttons and two LEDs. Together with an illuminated, blue LCD display for all values and status it simplifies the use of the device.

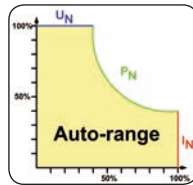
AC input

All units are provided with an active Power Factor Correction circuit and models up to 1.5 kW are even suitable for a world-wide operation on a 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}.

功率

所有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。设定功率都可调。因此一台该产品能涵盖广范围的应用领域。



Power

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 single unit.

直流输出

本系列有多款不同型号，可选择0...40 V至0...750 V输出电压，0...4 A至0...120 A输出电流，0...1000 W至0...3000 W输出功率的类型。

可对电流、电压与功率在0%与100%之间连续调整，不论是手动调整还是远程控制（数字式或模拟式）。

直流输出端位于产品后板。

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 power ratings 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 DC output is located on the rear panel of the devices.

放电电路

额定输出电压为200 V或以上的产品对其输出电容配有一放电电路。在空载或带很小负载的情况下，它能保证危险的输出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身安全有危险的极限电压。

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

为保护连接负载，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。

一旦因任何缘故超过了这三个极限值中的一个，直流输出会被立即切断，在显示器和接口端会发出一状态信号。

本产品还有过温保护功能，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.

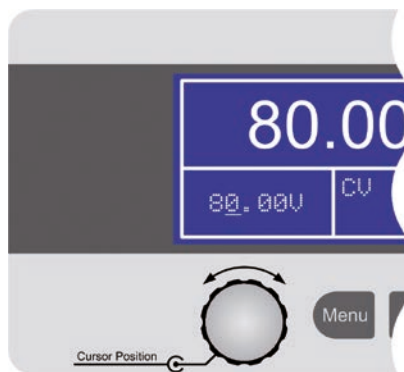
There is furthermore an overtemperature protection, which will shut off the DC output if the device overheats.

显示器和控制键

产品的所有重要信息都于点阵显示器上清晰可见。

通过该显示器，电压与电流的实际输出值和预设值，(CV, CC, CP) 实际控制状态与其它状态，报警与设置菜单的设定，都清晰显示出来。

为使旋钮可以调节参数，只需按一下该旋钮，就可更换数值小数点后的光标位置。所有这些功能都归功于其方便易用的操作方式。

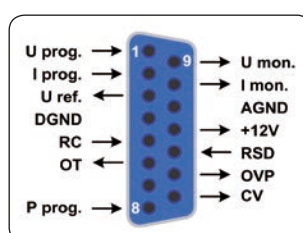


其面板锁定功能可以锁定整个面板，从而避免产品与连接负载出现误操作。

模拟接口

产品后面板上装有一隔离模拟接口。它提供模拟接口输入脚，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。

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。



Display and controls

All important information is clearly visualised on a dot matrix display.

With this, information about the actual output values and set values of voltage and current, the actual control state (CV, CC, CP) and other statuses, as well as alarms and settings of the setup menu are clearly displayed.

In order to ease adjusting of values by the rotary knobs, pushing them can switch between decimal positions of a value. All these features contribute to an operator friendliness.

With a panel lock feature, the whole panel can be locked in order to protect the equipment and the loads from unintentional misuse.

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 and power 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 voltage ranges of 0 V...10 V or 0 V...5 V. Also, several inputs and outputs are available for controlling and monitoring the device status.

数字接口卡

本系列所有型号的后板上标配有两个电隔离数字接口（1x USB & 1x Ethernet, 带3 W选项功能：1x USB & 1x GPIB）。可通过发送SCPI语言指令或Modbus协议经USB与Ethernet端口控制和监控产品，GPIB仅支持SCPI语言。

Digital interfaces

All models features two galvanically isolated, digital interfaces by default (standard: 1x **USB** & 1x **Ethernet**, with option 3 W: 1X USB & 1X GPIB), which are located on the rear side. USB and Ethernet can be used to control and monitor the devices either with SCPI language commands or Modbus protocol, while with GPIB only SCPI is supported.

软件与编程

通过电脑远程控制本产品，可以使用产品上的EA Power Control软件。它可以同时应用于多台不同或同型号的PS 9000 2U 系列上，进行监控与控制。本软件还有一固件升级工具，以及数据记录功能，还可用半自动表格处理控制产品。



Software and programming

For remote control from a Windows PC there is a software EA Power Control included with the device. It can be used with multiple different or identical models of series PS 9000 2U to monitor and control the units. The software furthermore includes a firmware update tool, as well as a feature to record data and

对于更复杂的应用，还提供有一个完整的编程文件，以及LabView VIs可以直接应用。

to control the units by a semi-automatic table processing.

For even more sophisticated, customer specific applications there is a complete programming documentation and also LabView VIs for direct implementation available.

PS 9000 2U所有型号支持通用SCPI指令语言，以及ModBus通讯协议。但是带3 W选项功能的通过GPIB端口仅能使用SCPI语言。

All models of series PS 9000 2U support the common command language **SCPI** and the **ModBus** protocol via both, Ethernet and USB. Models with option 3 W can only use SCPI via the GPIB port.

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后面板。

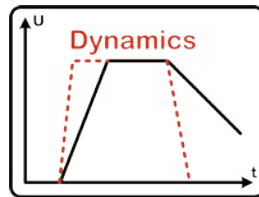
Remote sensing

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

The connection for the remote sensing is located on the rear of the device.

高速版

本系列除了标准型号外，还有一个所谓的告诉版本（产品后缀为：HS）。该版本输出电压动态的反应有很大提升，上升和下降时间极度减少，全归因于产品输出端安排了小电容与合理的电压控制器。见151页。



High speed versions

Alternatively to the standard models of this series, so-called high speed versions (product name appendix: HS) of the standard models are available. They offer significantly improved output voltage dynamics, along with decreased rise and fall times, all due to lower output capacity and an optimised voltage controller. Also see page 151.

我们可以做个比较：PSI 9080-60 2U标准型号的输出电容为5440 μF，而同型号带高速功能的仅为86 μF。

For comparison: the base version of model PS 9080-60 2U has 5440 μF output capacity, while the corresponding high speed version only has 86 μF.

在产品的技术规格表下，特别分开列出了HS型号的特殊参数。

In the technical specifications tables below, the HS models are listed separately with extra, high-speed relevant and significant specifications.

由于输出电容减小这个优势，随之带来一个劣势，就是从恒流（CC）转换到恒压（CV）时，噪音更大，输出电压会过冲更多，或者在带载阶跃时负尖峰更高。过冲高度可能会达到额定输出电压的10%，有时也取决于连接的负载类型（阻性负载，容性负载，感性负载）。

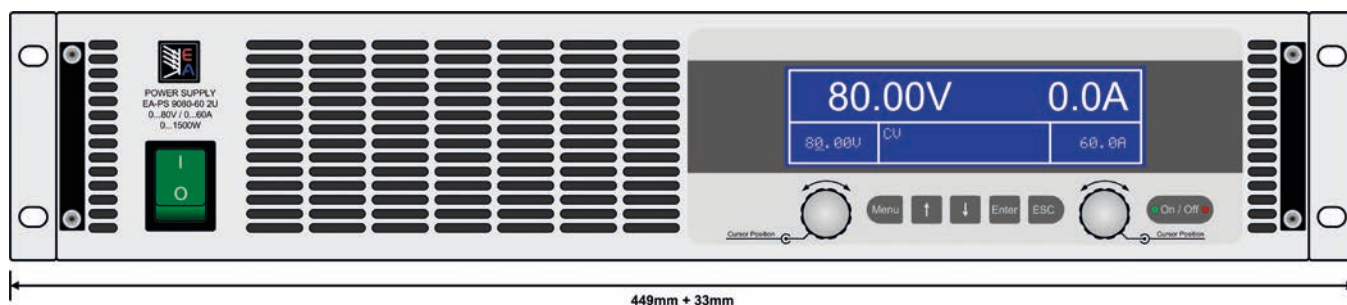
Together with the advantages from the reduced output capacity there are also unavoidable disadvantages, like higher noise (ripple) and higher overshoots of the output voltage after crossover from constant current (CC) to constant voltage (CV) or higher undershoots on load steps. The height of the overshoot can reach up to 10% of the nominal output voltage of the particular model and is also depending on the kind of the attached load (resistive, capacitive, inductive).

选购件

• 还可安装带固定GPIB端口的三位接口（3 W），代替默认以太网插槽

Options

• Three-way interface (3 W) with a rigid GPIB port installed instead of the default Ethernet slot.

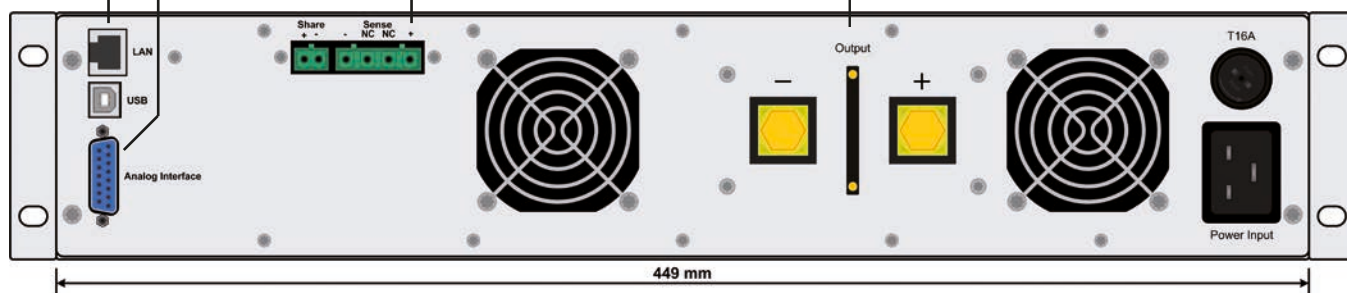


数字接口 (USB, LAN 或 GPIB)
Digital interfaces (USB, LAN or GPIB)

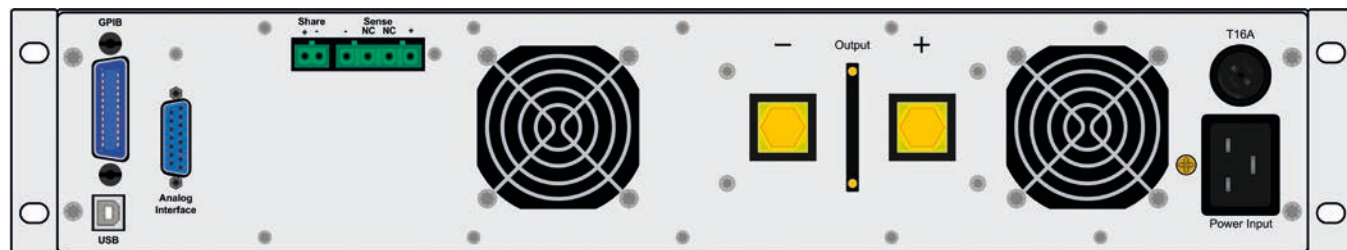
模拟接口
Analog interface

远程感测与共享总线连接端
Connector for remote sense and Share bus

直流输出端
DC output



标准型号后视图 / Rear view of base model



配3 W选项功能型号后视图 / Rear view with option 3 W



EA-PS 9000 2U 1000 W - 3000 W

可编程实验室直流电源 / PROGRAMMABLE LABORATORY DC POWER SUPPLIES

技术参数	Technical Data	Series EA-PS 9000 2U / 系列
AC输入	Input AC	
- 电压	- Voltage	90...264 V, 1ph+N (Models 1000 W & 1500 W / 型号), 180...264 V, 1ph+N (Models 3000 W / 型号)
- 频率	- Frequency	45...65 Hz
- 功率因数	- Power factor	>0.99
- 功率降额	- Derating	型号 / Models 1500 W: < 150 V AC 至 / to P _{out max} 1000 W 型号 / Models 3000 W: < 207 V AC 至 / to P _{out max} 2500 W
输出: DC电压	Output: Voltage DC	
- 精确度	- Accuracy	<0.1%
- 0-100% 的负载调整率	- Load regulation 0-100% load	<0.05%
- ±10% ΔU _{AC} 的线性调整率	- Line regulation ±10% ΔU _{AC}	<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 (标准版 / Standard models) 最长 10ms (高速版 / High speed versions)
输出: 电流	Output: Current	
- 精确度	- Accuracy	<0.2%
- 0-100% Δ U _{DC} 的负载调整率	- Load regulation 0-100% ΔU _{DC}	<0.15%
- ±10% Δ U _{AC} 的线性调整率	- Line regulation ±10% ΔU _{AC}	<0.05%
输出: 功率	Output power	
- 精确度	- Accuracy	<1%
过压类别	Overvoltage category	2
保护功能	Protection	OTP, OVP, OCP, OPP, PF ⁽¹⁾
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	负极: 最大为400 V DC, 正极: 最大为400 V DC + 输出电压 Negative: max. 400 V DC, positive: max. 400 V DC + output voltage
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), 电隔离 / Built in, 15-pole D-Sub (female), galvanically isolated
- 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 / P的精确度	- Accuracy U / I / P	0...10 V: <0.1% 0...5 V: <0.2%
串联操作	Series operation	可实现(任意直流负极端对PE有最大400 V DC的电压转移) / possible (max. potential of any minus DC output: 400 V DC against PE)
- 主-从 (Master-Slave)	- Master-Slave	无 / no
并联操作	Parallel operation	可实现, 通过共享总线操作或模拟接口 / Possible, via Share Bus operation or via analog interface
- 主-从 (Master-Slave)	- Master-Slave	受限 / Restricted
安全标准	Standards	EN 60950, EN 61326, EN 55022 等级 B / Class B
制冷方式	Cooling	风扇 / Fan(s)
环境条件	Ambient conditions	0...50°C, 最大湿度80% / max. 80% humidity
储存温度	Storage temperature	-20...70°C
使用高度	Operation altitude	<2000 m
机械特性	Mechanics	1000 W / 1500 W 3000 W
- 重量 ⁽²⁾	- Weight ⁽²⁾	11.5 kg 14.7 kg
- 产品尺寸 (宽x高x长) ⁽³⁾	- Dimensions (W H D) ⁽³⁾	19" 2 HE/2U 460 mm 19" 2 HE/2U 460 mm

⁽¹⁾ 见152页 / See page 152

⁽²⁾ 标准型号, 带选项功能的则会不同 / Standard version, models with options may vary

⁽³⁾ 标准型号的外壳尺寸, 非整体尺寸, 带选项功能的还会有不同 / Enclosure of the standard version and not overall size, versions with options may vary

标准型号规格 / Standard models

型号	电压	电流	功率	效率	U最大时的纹波 ⁽²⁾	I最大时的纹波 ⁽²⁾	编程 / Programming ⁽¹⁾		订购编号 ⁽³⁾
Model	Voltage	Current	Power	Efficiency	Ripple U max. ⁽²⁾	Ripple I max. ⁽²⁾	U (typ.)	I (typ.)	Ordering number ⁽³⁾
PS 9040-40 2U	0...40 V	0...40 A	0...1000 W	≤92%	114 mV _{pp} / 8 mV _{RMS}	53 mA _{pp} / 3.7 mA _{RMS}	0.8 mV	0.8 mA	06230220
PS 9080-40 2U	0...80 V	0...40 A	0...1000 W	≤92%	114 mV _{pp} / 8 mV _{RMS}	53 mA _{pp} / 3.7 mA _{RMS}	1.5 mV	0.8 mA	06230204
PS 9200-15 2U	0...200 V	0...15 A	0...1000 W	≤93%	164 mV _{pp} / 34 mV _{RMS}	11 mA _{pp} / 2.2 mA _{RMS}	4 mV	0.3 mA	06230205
PS 9360-10 2U	0...360 V	0...10 A	0...1000 W	≤93%	210 mV _{pp} / 59 mV _{RMS}	5.5 mA _{pp} / 1.6 mA _{RMS}	7 mV	0.2 mA	06230206
PS 9500-06 2U	0...500 V	0...6 A	0...1000 W	≤93%	190 mV _{pp} / 48 mV _{RMS}	1.9 mA _{pp} / 0.5 mA _{RMS}	10 mV	0.1 mA	06230207
PS 9750-04 2U	0...750 V	0...4 A	0...1000 W	≤93%	212 mV _{pp} / 60 mV _{RMS}	1 mA _{pp} / 0.3 mA _{RMS}	15 mV	0.1 mA	06230208
PS 9040-60 2U	0...40 V	0...60 A	0...1500 W	≤92%	114 mV _{pp} / 8 mV _{RMS}	79 mA _{pp} / 5.6 mA _{RMS}	0.8 mV	1.1 mA	06230219
PS 9080-60 2U	0...80 V	0...60 A	0...1500 W	≤92%	114 mV _{pp} / 8 mV _{RMS}	79 mA _{pp} / 5.6 mA _{RMS}	1.5 mV	1.1 mA	06230209
PS 9200-25 2U	0...200 V	0...25 A	0...1500 W	≤93%	164 mV _{pp} / 34 mV _{RMS}	16 mA _{pp} / 3.3 mA _{RMS}	4 mV	0.5 mA	06230210
PS 9360-15 2U	0...360 V	0...15 A	0...1500 W	≤93%	210 mV _{pp} / 59 mV _{RMS}	8.3 mA _{pp} / 2.4 mA _{RMS}	7 mV	0.3 mA	06230211
PS 9500-10 2U	0...500 V	0...10 A	0...1500 W	≤93%	190 mV _{pp} / 48 mV _{RMS}	2.8 mA _{pp} / 0.7 mA _{RMS}	10 mV	0.2 mA	06230212
PS 9750-06 2U	0...750 V	0...6 A	0...1500 W	≤93%	212 mV _{pp} / 60 mV _{RMS}	1.5 mA _{pp} / 0.5 mA _{RMS}	15 mV	0.1 mA	06230213
PS 9040-120 2U	0...40 V	0...120 A	0...3000 W	≤92%	114 mV _{pp} / 8 mV _{RMS}	158 mA _{pp} / 11 mA _{RMS}	1.5 mV	2.3 mA	06230214
PS 9080-120 2U	0...80 V	0...120 A	0...3000 W	≤92%	114 mV _{pp} / 8 mV _{RMS}	158 mA _{pp} / 11 mA _{RMS}	0.8 mV	2.3 mA	06230221
PS 9200-50 2U	0...200 V	0...50 A	0...3000 W	≤93%	164 mV _{pp} / 34 mV _{RMS}	32 mA _{pp} / 6.5 mA _{RMS}	4 mV	1 mA	06230215
PS 9360-30 2U	0...360 V	0...30 A	0...3000 W	≤93%	210 mV _{pp} / 59 mV _{RMS}	17 mA _{pp} / 5 mA _{RMS}	7 mV	0.6 mA	06230216
PS 9500-20 2U	0...500 V	0...20 A	0...3000 W	≤93%	190 mV _{pp} / 48 mV _{RMS}	6 mA _{pp} / 1.5 mA _{RMS}	10 mV	0.4 mA	06230217
PS 9750-12 2U	0...750 V	0...12 A	0...3000 W	≤93%	212 mV _{pp} / 60 mV _{RMS}	3 mA _{pp} / 0.9 mA _{RMS}	15 mV	0.2 mA	06230218

⁽¹⁾ 无产品错误时的可编程分辨率 / Programmable resolution without device error

⁽²⁾ 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

⁽³⁾ 标准型号的产品编码, 带3 W选项功能的编码则会不同 / Ordering number of the standard version, models with option 3 W installed have different Ordering numbers.

高速选项的参数

注意: 带高速选项功能的型号主要是其输出电容与噪音(即: 纹波)与标准型号不同。

High speed models

Note: the high speeds models primarily differ from the standard models regarding output capacity and noise (i.e. ripple).

型号	电压	电流	功率	U最大时的纹波 ⁽¹⁾	输出电容	下降时间 ⁽²⁾	订购编号 ⁽³⁾
Model	Voltage	Current	Power	Ripple U max. ⁽¹⁾	Output capacity	Fall time ⁽²⁾	Ordering number ⁽³⁾
PS 9040-40 2U HS	0...40 V	0...40 A	0...1000 W	500 mV _{pp} / 64 mV _{RMS}	86 μF	< 146 ms	06730219
PS 9080-40 2U HS	0...80 V	0...40 A	0...1000 W	500 mV _{pp} / 64 mV _{RMS}	86 μF	< 146 ms	06730204
PS 9200-15 2U HS	0...200 V	0...15 A	0...1000 W	450 mV _{pp} / 17 mV _{RMS}	40 μF	< 266 ms	06730205
PS 9360-10 2U HS	0...360 V	0...10 A	0...1000 W	1200 mV _{pp} / 48 mV _{RMS}	20 μF	< 479 ms	06730206
PS 9500-06 2U HS	0...500 V	0...6 A	0...1000 W	700 mV _{pp} / 24 mV _{RMS}	15 μF	< 688 ms	06730207
PS 9750-04 2U HS	0...750 V	0...4 A	0...1000 W	680 mV _{pp} / 44 mV _{RMS}	9 μF	< 1037 ms	06730208
PS 9040-60 2U HS	0...40 V	0...60 A	0...1500 W	500 mV _{pp} / 64 mV _{RMS}	86 μF	< 146 ms	06730220
PS 9080-60 2U HS	0...80 V	0...60 A	0...1500 W	500 mV _{pp} / 64 mV _{RMS}	86 μF	< 146 ms	06730209
PS 9200-25 2U HS	0...200 V	0...25 A	0...1500 W	450 mV _{pp} / 17 mV _{RMS}	40 μF	< 266 ms	06730210
PS 9360-15 2U HS	0...360 V	0...15 A	0...1500 W	1200 mV _{pp} / 48 mV _{RMS}	20 μF	< 479 ms	06730211
PS 9500-10 2U HS	0...500 V	0...10 A	0...1500 W	700 mV _{pp} / 24 mV _{RMS}	15 μF	< 688 ms	06730212
PS 9750-06 2U HS	0...750 V	0...6 A	0...1500 W	680 mV _{pp} / 44 mV _{RMS}	9 μF	< 1037 ms	06730213
PS 9040-120 2U HS	0...40 V	0...120 A	0...3000 W	500 mV _{pp} / 64 mV _{RMS}	172 μF	< 146 ms	06730221
PS 9080-120 2U HS	0...80 V	0...120 A	0...3000 W	500 mV _{pp} / 64 mV _{RMS}	172 μF	< 146 ms	06730214
PS 9200-50 2U HS	0...200 V	0...50 A	0...3000 W	450 mV _{pp} / 17 mV _{RMS}	80 μF	< 266 ms	06730215
PS 9360-30 2U HS	0...360 V	0...30 A	0...3000 W	1200 mV _{pp} / 48 mV _{RMS}	40 μF	< 479 ms	06730216
PS 9500-20 2U HS	0...500 V	0...20 A	0...3000 W	700 mV _{pp} / 24 mV _{RMS}	30 μF	< 688 ms	06730217
PS 9750-12 2U HS	0...750 V	0...12 A	0...3000 W	680 mV _{pp} / 44 mV _{RMS}	18 μF	< 1037 ms	06730218

⁽¹⁾ 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
⁽²⁾ 针对标准型号, 带可选件的重量会不同 / of standard version, models with options may vary

⁽³⁾ 标准型号的产品编码, 带3 W选项功能的编码则会不同 / Ordering number of the standard version, models with option 3 W installed have different Ordering numbers.