EA-PSI 9000 15U/24U 30 kW - 90 kW

A B C D E

可编程高效直流电源
Programmable high efficiency DC Power supplies

EA-PSI 9000 15U

EA-PSI 9000 24U

U | I | P | R | OVP | OCP | OPP | OTP

USB Option: IFAB | WC

- 三相输入电压400 V 与 50/60 Hz
- 输出功率：在30 kW和90 kW之间
- 输出电压：80 V，200 V，360 V，500 V，750 V，1500 V
- 输出电流可达3060 A
- 产品全部预设好，线也连好，可随时安装使用
- 内装PSI 9000 3U 系列电源，具有下列功能：
  - 真实函数发生器
  - 内置USB与模拟接口
  - 可选接口模块插槽，适用于Profinet，Profibus，CAN，CANopen，RS232，Ethernet或ModBus TCP
  - 支持SCPI与ModBus RTU指令
  - 带彩色TFT触摸屏

概要

EA-PSI 9000 15U/24U系列，是由PSI 9000 3U系列大功率型号全部装于标准的19” 机柜扩展而来的新产品。共能组成30种不同的配置，形成5种不同的功率级别。
一个机柜系统可被当作一个单独的加大功率电源，可手动操作与远程控制，同时还具有PSI 9000 3U系列标准型号的基本功能。

一般有两个基本款机柜，一款为15 U高，可形成30 kW与45 kW的功率，另一款为24 U高，形成60 kW，75 kW与90 kW的功率。机柜的前后门可锁定，还有四个轮脚可固定。本机柜系统可全部配置好后发送给用户，待安装于目标位置后即可使用。

- For three-phase supply 400 V and 50/60 Hz
- Output power ratings: between 30 kW and 90 kW
- Output voltages: 80 V, 200 V, 360 V, 500 V, 750 V, 1500 V
- Currents of up to 3060 A
- Pre-configured, pre-wired, ready to be installed
- Including power supplies of series EA-PSI 9000 3U with:
  - True function generator
  - USB and analog interface built in
  - Slot for optional interface modules Profinet, Profibus, CAN, CANopen, RS232, Ethernet, ModBus TCP
  - Support for SCPI and ModBus RTU commands
  - Colour TFT touch panel

General

The new series EA-PSI 9000 15U/24U extends the power supply series EA-PSI 9000 3U with high power model in standard 19” cabinets. There is a choice of 30 different configurations in 5 different power ratings.
A cabinet system is considered as a single power supply device with extended power, with manual handling and remote control being usual, while offering the same features like the standard models of EA-PSI 9000 3U series.

There will be two base cabinets, one with 15 U of height for 30 kW and 45 kW and one with 24 U of height for 60 kW, 75 kW and 90 kW. The cabinet itself has lockable rear and front doors, as well as four casters which can be fixed. The system will be shipped completely configured and will be ready to use right after installation on location.

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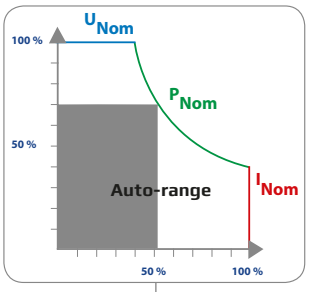
EA-PSI 9000 15U/24U 30 kW - 90 kW

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 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...60 A和0...3060 A输出电流，0...30 kW，0...45 kW，0...60 kW，0...75 kW或0...90 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...80 V and 0...1500 V, output currents between 0...60 A and 0...3060 A and output power ratings of 0...30 kW, 0...45 kW, 0...60 kW, 0...75 kW or 0...90 kW are available. The output terminal is located on the rear panel.

显示器与控制面板

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。

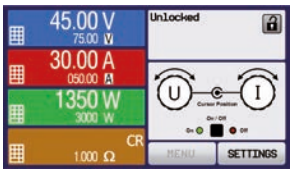
Display and control panel

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.

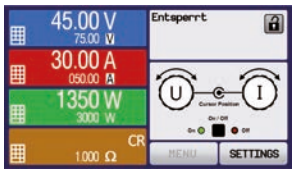
多语言控制面板



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.

选项

- 适合RS232、CAN、CANopen、ModBus TCP、Profibus、Profinet、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。
- 水冷选项（按需可供，也可见页面 145）
- 带停止开关、门磁开关以及外部断路器接触器用螺丝端子的紧急停止系统

Options

- Digital interface modules for RS232, CAN, CANopen, ModBus TCP, Profibus, Profinet, 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.
- Water cooling (upon request, also see page 145)
- Emergency stop system with stop switch, door contacts and screw terminals for external breaker contacts

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EA-PSI 9000 15U/24U 30 kW - 90 kW

24U 90 kW后视图 /
Rear view 24U 90 kW

直流总线端 /
DC bus terminal

交流输入端 /
AC input terminal

型号	电压	电流	功率	C_{OUT}	交流电流	隔离耐压 DC <> PE		高度	订购编号
Model	Voltage	Current	Power	C_{OUT}	Supply current	DC -	DC +	Height	Ordering number
PSI 9080-1020 15U	0...80 V	0...1020 A	0...30 kW	50,8 mF	~ 56 A	± 400 V	+ 400 V	15 HE / U	06400601
PSI 9200-420 15U	0...200 V	0...420 A	0...30 kW	15,1 mF	~ 56 A	± 400 V	+ 600 V	15 HE / U	06400602
PSI 9360-240 15U	0...360 V	0...240 A	0...30 kW	2400 µF	~ 56 A	± 400 V	+ 600 V	15 HE / U	06400603
PSI 9500-180 15U	0...500 V	0...180 A	0...30 kW	1518 µF	~ 56 A	± 725 V	+ 1000 V	15 HE / U	06400604
PSI 9750-120 15U	0...750 V	0...120 A	0...30 kW	618 µF	~ 56 A	± 725 V	+ 1000 V	15 HE / U	06400605
PSI 91000-80 15U	0...1000 V	0...80 A	0...30 kW	266 µF	~ 56 A	± 1000 V	+ 1500 V	15 HE / U	06400631
PSI 91500-60 15U	0...1500 V	0...60 A	0...30 kW	168 µF	~ 56 A	± 1000 V	+ 1800 V	15 HE / U	06400606
PSI 9080-1530 15U	0...80 V	0...1530 A	0...45 kW	76,1 mF	~ 84 A	± 400 V	+ 400 V	15 HE / U	06400607
PSI 9200-630 15U	0...200 V	0...630 A	0...45 kW	22,7 mF	~ 84 A	± 400 V	+ 600 V	15 HE / U	06400608
PSI 9360-360 15U	0...360 V	0...360 A	0...45 kW	3600 µF	~ 84 A	± 400 V	+ 600 V	15 HE / U	06400609
PSI 9500-270 15U	0...500 V	0...270 A	0...45 kW	2277 µF	~ 84 A	± 725 V	+ 1000 V	15 HE / U	06400610
PSI 9750-180 15U	0...750 V	0...180 A	0...45 kW	927 µF	~ 84 A	± 725 V	+ 1000 V	15 HE / U	06400611
PSI 91000-120 15U	0...1000 V	0...120 A	0...45 kW	399 µF	~ 84 A	± 1000 V	+ 1500 V	15 HE / U	06400632
PSI 91500-90 15U	0...1500 V	0...90 A	0...45 kW	252 µF	~ 84 A	± 1000 V	+ 1800 V	15 HE / U	06400612
PSI 9080-2040 24U	0...80 V	0...2040 A	0...60 kW	101,5 mF	~ 112 A	± 400 V	+ 400 V	24 HE / U	06400613
PSI 9200-840 24U	0...200 V	0...840 A	0...60 kW	30,2 mF	~ 112 A	± 400 V	+ 600 V	24 HE / U	06400614
PSI 9360-480 24U	0...360 V	0...480 A	0...60 kW	4800 µF	~ 112 A	± 400 V	+ 600 V	24 HE / U	06400615
PSI 9500-360 24U	0...500 V	0...360 A	0...60 kW	3036 µF	~ 112 A	± 725 V	+ 1000 V	24 HE / U	06400616
PSI 9750-240 24U	0...750 V	0...240 A	0...60 kW	1236 µF	~ 112 A	± 725 V	+ 1000 V	24 HE / U	06400617
PSI 91000-160 24U	0...1000 V	0...160 A	0...60 kW	432 µF	~ 112 A	± 1000 V	+ 1500 V	24 HE / U	06400633
PSI 91500-120 24U	0...1500 V	0...120 A	0...60 kW	336 µF	~ 112 A	± 1000 V	+ 1800 V	24 HE / U	06400618
PSI 9080-2550 24U	0...80 V	0...2550 A	0...75 kW	127 mF	~ 140 A	± 400 V	+ 400 V	24 HE / U	06400619
PSI 9200-1050 24U	0...200 V	0...1050 A	0...75 kW	37,8 mF	~ 140 A	± 400 V	+ 600 V	24 HE / U	06400620
PSI 9360-600 24U	0...360 V	0...600 A	0...75 kW	6000 µF	~ 140 A	± 400 V	+ 600 V	24 HE / U	06400621
PSI 9500-450 24U	0...500 V	0...450 A	0...75 kW	3795 µF	~ 140 A	± 725 V	+ 1000 V	24 HE / U	06400622
PSI 9750-300 24U	0...750 V	0...300 A	0...75 kW	1545 µF	~ 140 A	± 725 V	+ 1000 V	24 HE / U	06400623
PSI 91000-200 24U	0...1000 V	0...200 A	0...75 kW	665 µF	~ 140 A	± 1000 V	+ 1500 V	24 HE / U	06400634
PSI 91500-150 24U	0...1500 V	0...150 A	0...75 kW	420 µF	~ 140 A	± 1000 V	+ 1800 V	24 HE / U	06400624
PSI 9080-3060 24U	0...80 V	0...3060 A	0...90 kW	152,3 mF	~ 168 A	± 400 V	+ 400 V	24 HE / U	06400625
PSI 9200-1260 24U	0...200 V	0...1260 A	0...90 kW	45,4 mF	~ 168 A	± 400 V	+ 600 V	24 HE / U	06400626
PSI 9360-720 24U	0...360 V	0...720 A	0...90 kW	7200 µF	~ 168 A	± 400 V	+ 600 V	24 HE / U	06400627
PSI 9500-540 24U	0...500 V	0...540 A	0...90 kW	4554 µF	~ 168 A	± 725 V	+ 1000 V	24 HE / U	06400628
PSI 9750-360 24U	0...750 V	0...360 A	0...90 kW	1854 µF	~ 168 A	± 725 V	+ 1000 V	24 HE / U	06400629
PSI 91000-240 24U	0...1000 V	0...240 A	0...90 kW	800 µF	~ 168 A	± 1000 V	+ 1500 V	24 HE / U	06400635
PSI 91500-180 24U	0...1500 V	0...180 A	0...90 kW	504 µF	~ 168 A	± 1000 V	+ 1800 V	24 HE / U	06400630

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EA-PSI 9000 15U/24U 30 kW - 90 kW

技术参数	Technical Data	Series EA-PSI 9000 15U & EA-PSI 9000 24U / 系列
交流供电	AC Supply	
- 电压	- Voltage	340...460 V, 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 (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)	依型号而定，具体见后面各型号规格表 / Depending on model, see model table
污染等级	Degree of pollution	2
保护等级	Protection class	1
显示器与面板	Display and panel	带触摸屏的图形显示器 / 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
- 插槽	- Slot	1x 可拆卸内置模块 / 1x for retrofittable plug-in modules
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 (可转换) / 0...5 V or 0...10 V (switchable)
- U / I / P / R精确度	- Accuracy U / I / P / R	0...10 V: <0.2% 0...5 V: <0.4%
串联操作	Series operation	无 / No
并联操作	Parallel operation	无 / No
安规标准	Standards	EN 61010-1:2010, 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	Ambient temperature	0...40 °C
储存温度	Storage temperature	-20...70 °C
湿度	Relative humidity	<80%, 无凝露 / non-condensing
工作高度	Operation altitude	<2000 m
尺寸 (宽 高 深)	Dimensions (W H D)	19" x 15 HE / U x 1000 mm 19" x 24 HE / U x 1000 mm

(1 见第146页 / See page 146

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