

RPS-7000

回馈式 AC/DC 电源、电子负载与电网模拟器

高功率 · 高性能

助力可靠电力测试



Regenerative



Easy Use



Compliance



High Range



Constant Power



High Current



主要特点

- 输出功率：每台 9 kVA – 22.5 kVA
- 可扩充功率容量：最高 225 kVA
- 输出电压：0 – 350 V；0 – 400 V (选配)
- 频率：DC、30 – 150 Hz；30 – 1000 Hz (选配)
- 最大电流提升 35%
- 关键组件散热效率提升 20%
- 支持并联连接以扩充高功率容量
- 输出模式：单相、三相或分相 (最高可达额定电压的 200%)
- 三种操作模式：定电压、定电流与定功率
- LIST、STEP、PULSE 与 TRANSIENT 模式
- 任意波形编辑与电力线扰动 (PLD) 模拟
- 谐波扰动 / 波形迭加
- 谐波分析：电压与电流最高可量测至第 50 次谐波

- 符合 LVRT、相位偏移、频率变动等并网标准
- 标准符合性：IEC 61000-3-2/-3-3/-3-11/-3-12/-4-11/-4-13/-4-14/-4-28/-4-34 测试
- 支持接口：USB、LAN、GPIB、CAN 与 Std I/O

应用领域:

- AI 服务器、数据中心与 HDVC 应用
- EV 充电器、BOBC、V2G、V2H、V2X、EV 充电线
- 太阳能 PV 逆变器、并网逆变器与风力发电系统
- 工业与住宅用储能 (ESS)、电力转换 (PCS)
- 不断电系统 (UPS) 与电源分配单元 (PDU)
- 法规测试：IEEE 1547、UL 1741、IEC 62116 等
- 微电网测试、PHIL (Power Hardware-in-the-Loop) 与孤岛保护测试。

产品介绍

RPS-7000 是一款高效能回生式 AC/DC 电源与负载系统，专为进阶电力测试应用而设计。支持四象限操作，可同时具备电源与负载功能，并将能量回收至电网。单机功率范围为 9 kVA 至 22.5 kVA，透过并联操作最高可达 225 kVA。RPS-7000 可提供高电流、精准波形控制与可靠效能，适用于 AI 服务器、EV 充电、储能系统与电力电子验证。可选配置包含 G、L、S 与 B Series。

Platform	Application Example	Conventional 35A Systems	RPS-7000 Series (48A per Phase)
 7.4kW (230V / EU)	Residential AC Charger / OBC	2 UNITS	1 UNIT 
 11kW (208V / US)	Commercial AC Charger / OBC	2 UNITS	1 UNIT 
 22kW (208V / US)	High-Power AC Charger / OBC	3 UNITS	2 UNITS 

图 1：更高电流，更少设备

应用领域

RPS-7000 为研发与生产提供完整的测试支持。在再生能源领域，可作为太阳能 PV 逆变器、电力转换系统（PCS）与储能系统（ESS）测试的工具，精准模拟电网异常并提升能量回收效率。也可验证车载充电器及各类 V2G、V2H、V2X 设备的双向充放电性能。

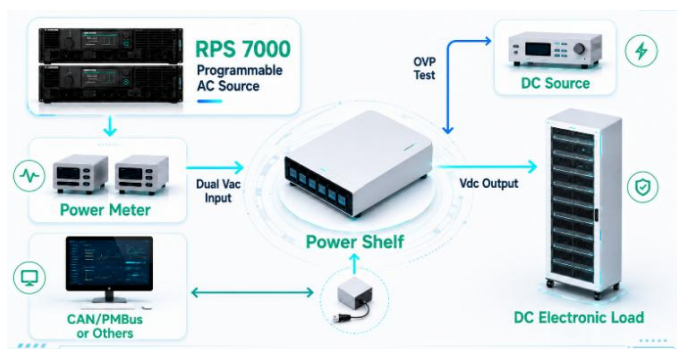


图 2：Power Shelf 测试架构

针对数字基础设施，RPS-7000 是 AI 服务器、数据中心与高压直流（HVDC）应用的最佳解决方案，支持 AC、DC 与 AC+DC 模式，可精准仿真高压直流的电压涟波与负载瞬变，确保供电稳定性。

恒定功率与高电流输出

RPS-7000 采用新一代 SiC MOS 技术，支持最高 400 V L-N 输出电压；针对风力发电等高压应用，更可支持最高 690 V L-L 线电压。其恒定功率输出设计可在低输出电压时提供高电流、高输出电压时提供低电流，无需手动切换高、低电压范围。相较于传统系统在量程切换时可能造成输出中断，RPS-7000 能够提供连续且不中断的输出，满足各种实际应用需求。

RPS-7000 的最大输出电流提升 35%，并可在 200–220 Vac 市电供电条件下维持 100% 额定输出功率，无需降额使用。相较之下，传统可编程电源系统在相同低电压条件下，输出能力可能仅剩 80%、60%，甚至完全无法输出（0%）。RPS-7000 即使在低电压环境下，仍能维持完整的输出性能，充分满足高电流测试需求。此架构可为 AI 服务器电源、电动车充电系统、电池测试平台与新一代电力电子设备提供稳定可靠的测试能力，同时充分发挥设备的可用输出功率。



图 3：全电压范围满功率输出

并联连接以实现高功率

RPS-7000 支持多台并联运转以提升输出功率额定值，满足各类测试需求。透过数字信号处理器（DSP）与高速通讯所实现的实时主动均流技术，系统总功率最高可达 225 kVA。并联运转时，所有功能与精度皆不受影响。此外，设备可透过单一缆线连接，启用并联模式后，系统会自动完成设定，无需复杂的额外配置。

直觉控制与进阶分析

RPS-7000 配备 5 吋触控屏幕并搭配实体旋钮，提供直觉式操作接口，可在波形编辑、实时量测与法规设定之间顺畅切换。此友善设计可让用户快速熟悉系统，并在多样化测试环境中高效率操作。

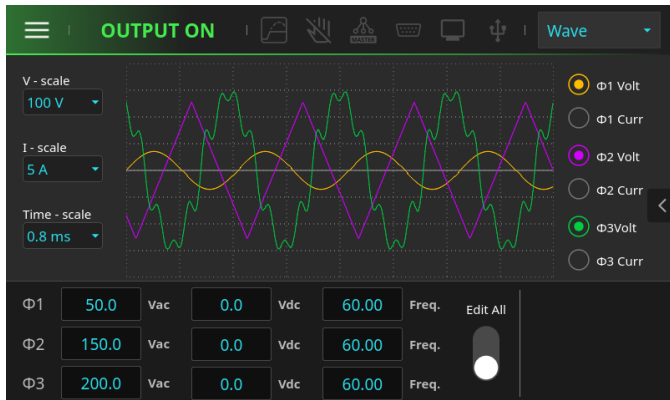


图 4：波形监控功能

为协助优化产品设计，RPS-7000 整合实时波形监控与高精度谐波分析，无需外接示波器。它可同时撷取并显示三相电压与电流波形，让用户实时掌握系统效能。

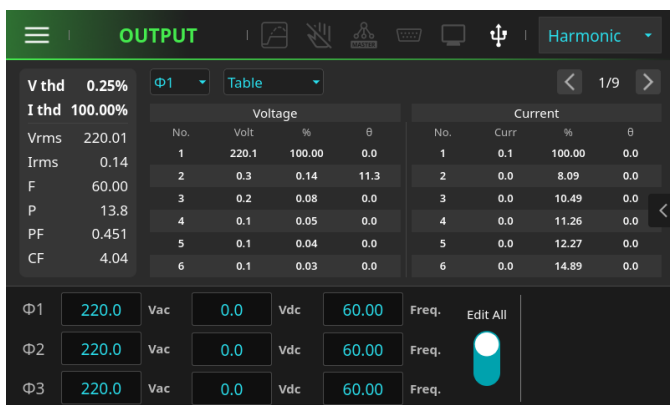


图 5：谐波实时分析清单

本系列亦提供进阶诊断能力，包括总谐波失真 (THD) 量测，以及最高至第 50 次谐波的分析。透过提供各次谐波成分的精确振幅与相位数据，协助工程师准确识别并降低干扰，确保最高等级的电能质量与法规符合性。

AC/DC 负载仿真

RPS-7000 Model L 回生式电子负载适用于广泛的再生能源测试应用。除了恒定电流、恒定功率与恒定阻抗等基本功能外，亦支持进阶负载仿真能力，包括如图 6 所示

的感性与容性负载仿真。用户可仿真复杂负载情境，在不同电压与电流条件下精准测试受测装置效能，包括负载角度、负载移除与循环设定。

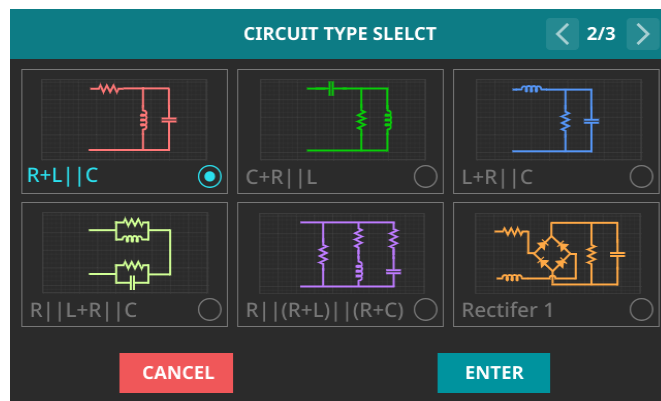


图 6：多模式负载仿真

此外，其独特的整合式谐波与扰动仿真功能可产生各类谐波成分，用于评估电源处理不同谐波负载的能力。

结合 AC/DC 负载仿真的多功能性，RPS-7000 Model L 可满足电动车供电设备 (EVSE)、车载充电器 (OBC) 与不断电系统 (UPS) 等多元应用需求。其回生式设计可避免传统电阻式负载常见的能量浪费与散热需求，大幅提升效率。

任意波形编辑

RPS-7000 系列为研发、法规符合性与实验室应用提供进阶可程序化电源仿真。它支持 List、Step、Pulse、Transient、Harmonic Synthesis 与 Inter-Harmonic 模式，并具备独立相位控制，可建立弹性的测试情境，同时支持 IEC 61000-4-3、IEC 61000-4-11、UL 1741 SA、IEEE 1547 与 IEC 62116 等标准的符合性验证。

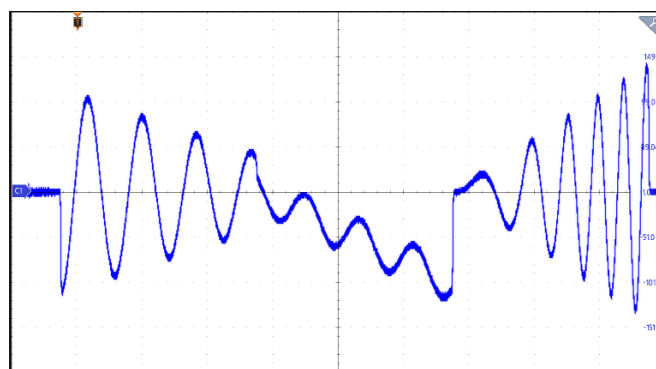


图 7：List 模式波形

Step 模式可逐步调整电压或频率，以评估受测装置在不同条件下的反应。Pulse 模式可产生短时间高电压或高电流脉冲，用于突波测试。此外，Inter-Harmonic 模式可仿真电力系统中的谐波扰动，以评估受测装置对谐波干扰的耐受能力；Transient 模式则可重现电力系统的瞬时响应，用于测试受测装置有效承受快速变化的能力。

Synthesis 模式提供弹性的自定义波形设计功能。用户可透过直觉式程序接口，精准调整各次谐波的振幅与相位，以产生多阶谐波合成波形。此模式支持最高第 50 次谐波成分，可协助测试人员模拟非正弦波电源环境，以满足不同测试需求。

PowerVUE 远程控制软件

RPS-7000 配备 PC 软件 PowerVUE，用户可直接透过计算机操作设备。透过 PowerVUE，使用者能轻松调整参数、监控效能、快速建立测试程序并产生报告。软件亦提供 IEC 61000-4-11、4-13、4-14、4-28 与 4-34 等标准的默认测试模式，使用户可依照法规定义的参数操作系统，确保符合各项国际标准。

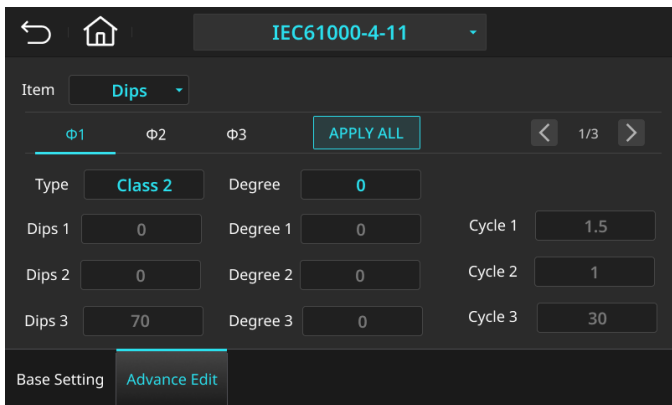


图 9：IEC61000-4-11 电压骤降设定

支持标准 SCPI 与 LabVIEW 驱动程序

RPS-7000 支持 SCPI 标准通讯协议，可透过 GPIB、LAN 或 External IO 接口使用 SCPI 指令，无需复杂修改即可无缝整合至既有测试系统。此外，RPS-7000 亦支持 LabVIEW，用于测试、量测与控制应用。

AIoT 智慧预测诊断

PowerSense AI 可实现实时健康监测与预测性预防服务 (PPS)，持续分析系统行为，在故障发生前侦测潜在风险。透过识别功率模块、冷却系统与运行参数中的异常趋势，可协助设备可用率提升至 95% 以上、降低非预期停机时间，并保护关键研发时程。



图 10：PowerSense 预测诊断

认证制造卓越质量

RPS-7000 系列于台湾制造，生产系统通过 IEC 62443-4-1、TL 9000、ISO 27001 与 IATF 16949 认证。每台 RPS-7000 系列设备皆依循 TÜV 标准进行严谨的工程验证与确认流程，确保在严苛测试环境中具备一致的性、生产质量与长期可靠性。

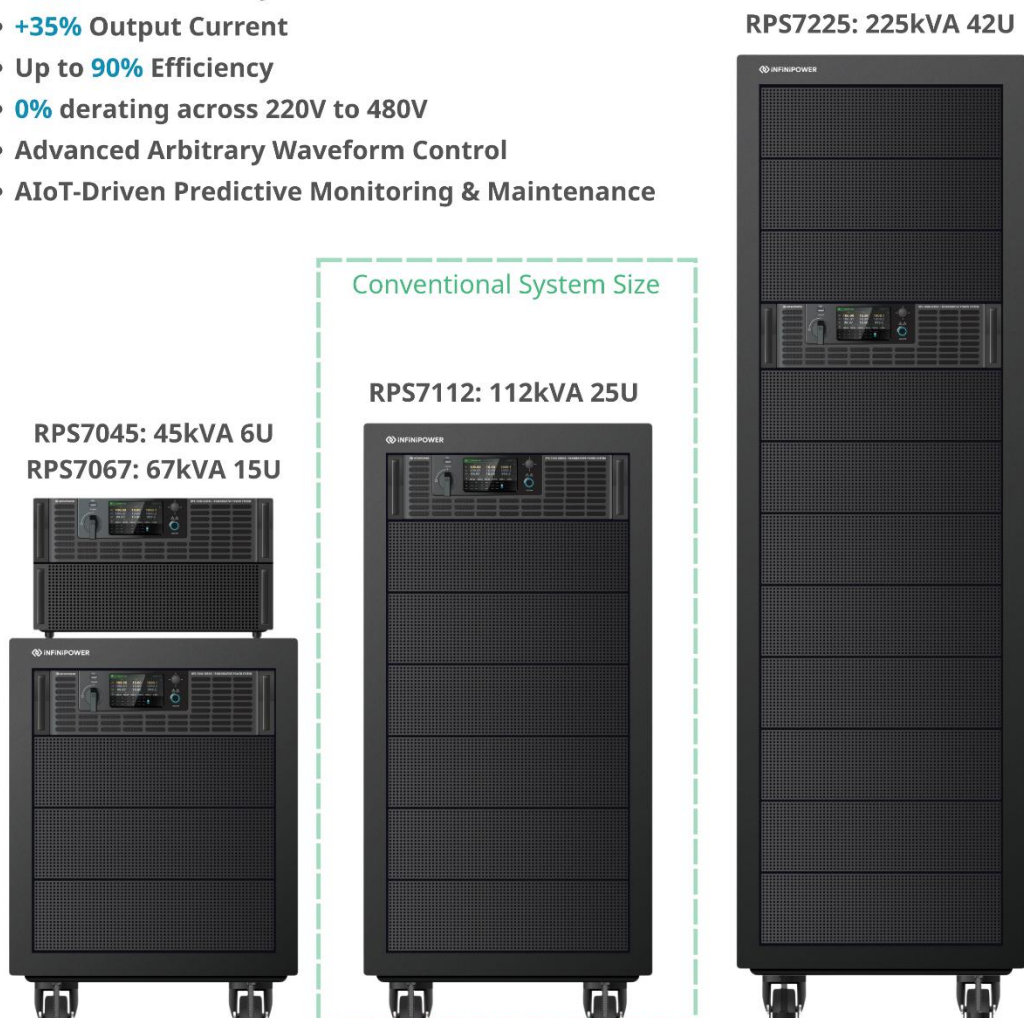


图 11：认证质量与工程验证

Model	Output Voltage Vac		Output Current (Aac)		Output Power (Pac)	Phase	Height
	V L-N	V L-L	Arms(1Ø)	Arms(3Ø)			
RPS-7009	350V	606V	96A	32A	9kVA	3Ø,1Ø,Split phase	3U
RPS-7012	350V	606V	105A	35A	12kVA	3Ø,1Ø,Split phase	3U
RPS-7015	350V	606V	120A	40A	15kVA	3Ø,1Ø,Split phase	3U
RPS-7018	350V	606V	144A	48A	18kVA	3Ø,1Ø,Split phase	3U
RPS-7022	350V	606V	144A	48A	22.5kVA	3Ø,1Ø,Split phase	3U
RPS-7045	350V	606V	288A	96A	45kVA	3Ø,1Ø,Split phase	6U
RPS-7067	350V	606V	432A	144A	67.5kVA	3Ø,1Ø,Split phase	15U
RPS-7090	350V	606V	576A	192A	90kVA	3Ø,1Ø,Split phase	25U
RPS-7112	350V	606V	720A	240A	112.5kVA	3Ø,1Ø,Split phase	25U
RPS-7225	350V	606V	1440A	480A	225kVA	3Ø,1Ø,Split phase	42U

Engineered for the Next Power Era

- **+30%** Power Density
- **+35%** Output Current
- Up to **90%** Efficiency
- **0%** derating across 220V to 480V
- Advanced Arbitrary Waveform Control
- AIoT-Driven Predictive Monitoring & Maintenance



Technical Specifications

Item			RPS-7012	RPS-7015	RPS-7018	
AC INPUT	Phase		3Ø3W			
	Voltage		200 - 240 VL-L ± 10% 380 - 400 VL-L ± 10% 440 - 480 VL-L ± 10%			
	Frequency		47 - 63Hz			
	Max. Current		47A/phase (200 - 240 VL-L ± 10%) 25A/phase (380 - 480 VL-L ± 10%)	58A/phase (200 - 240 VL-L ± 10%) 31A/phase (380 - 480 VL-L ± 10%)	70A/phase (200 - 240 VL-L ± 10%) 38A/phase (380 - 480 VL-L ± 10%)	
	Power Factor(*1)		0.99(Typical)			
AC OUTPUT	Phase Modes		3Ø, 1Ø or Split phase selectable			
	Max. Power		12kVA/8kVA(Split phase)	15kVA/10kVA(Split phase)	18kVA/12kVA(Split phase)	
	Per Phase/Channel		4kVA	5kVA	6kVA	
AC VOLTAGE	Range		0 - 350VL-N, 0 - 606VL-L, 0-700VL-L(Split phase) Option : 0 - 400VL-N, 0 - 692VL-L, 0-800VL-L(Split phase)			
	Resolution		0.1V			
	Setting Accuracy		± (0.1% of setting + 0.2% F.S.)			
	Total Harmonic Distortion (THD)(*2)		<0.5% @ 50/60Hz <1% @ 30-1000Hz			
	Line Regulation (*3)		± 0.1%			
	Load Regulation (*4)		± 0.2%			
	Phase Angle	Range	0 - 359.9°			
		Resolution	0.1°			
MAX. AC CURRENT	RMS(*5)		105A(1Ø)/35A(3Ø/Split)	120A(1Ø)/40A(3Ø/Split)	144A(1Ø)/48A(3Ø/Split)	
	Peak		315A(1Ø)/105A(3Ø/Split)	360A(1Ø)/120A(3Ø/Split)	432A(1Ø)/144A(3Ø/Split)	
	Crest Factor		3	3	3	
FREQUENCY	Range		DC, 30.00 – 150.0 Hz Option : DC, 30.00 - 1000.0 Hz			
	Resolution		0.01Hz			
	Accuracy(*6)		± 0.01% F.S			
DC OUTPUT	Max. Power		12kW/8kW (Split phase)	15kW/10kW(Split phase)	18kW/12kW(Split phase)	
	Per Phase/Channel		4kW	5kW	6kW	
DC VOLTAGE	Range		±495VDC, ±990VDC(Split phase) Option : ±565VDC, ±1130VDC(Split phase)			
	Resolution		0.1V			
	Setting Accuracy		± (0.1 % of setting + 0.2% F.S.)			
MAX. DC CURRENT	Range		78.75A(1Ø)/26.25A(3Ø/Split)	90A(1Ø)/30A(3Ø/Split)	108A(1Ø)/36A(3Ø/Split)	
HARMONIC SYNTHESIS FUNCTION	up to 50 Harmonic orders @ 50/60Hz fundamental frequency					
REGENERATIVE FUNCTION	Current Total Harmonic Distortion (iTHD)(*7)		<6%(Typical)	<5%(Typical)	<5%(Typical)	
	Power Factor(*8)		>0.97(Typical)			
CURRENT LIMIT FUNCTION	Setting	Range	1Ø	0.1 - 105A	0.1 - 120.0A	0.1 - 144.0A
			3Ø/Split phase	0.1 - 35A	0.1 - 40.0A	0.1 - 48.0A
		Resolution		0.1A		
		Accuracy		± (2.0% of setting + 0.5% F.S.)		
	Response Time		< 0.5s			
MEASUREMENT	Voltage (AC)	Range	0 - 350VL-N, 0 - 606VL-L, 0 – 700VL-L(Split) Option : 0 - 400VL-N, 0 - 692VL-L, 0 – 800VL-L(Split)			
		Resolution	0.01V			
		Accuracy	± (0.1% of reading + 0.2% F.S.) at Voltage > 5V			

Item			RPS-7012	RPS-7015	RPS-7018
MEASUREMENT	Voltage (DC)	Range	$\pm 495\text{VDC}$, $\pm 990\text{VDC}$ (Split phase) / Option : $\pm 565\text{VDC}$, $\pm 1130\text{VDC}$ (Split phase)		
		Resolution	0.01V		
		Accuracy	$\pm (0.1\% \text{ of reading} + 0.2\% \text{ F.S.})$ at Voltage > 5V		
	Current (AC,DC)	Range	1 $\emptyset$	0.00 - 105.00A	0.00 - 120.00A
			3 $\emptyset$ /Split phase	0.00 - 35.00A	0.00 - 40.00A
		Resolution	0.01A		
		Accuracy	$\pm (0.4\% \text{ of reading} + 0.3\% \text{ F.S.})$		
	Peak Current	Range	1 $\emptyset$	0.0 - 315.0A _{pk}	0.0 - 360.0A _{pk}
			3 $\emptyset$ /Split phase	0.0 - 105.0A _{pk}	0.0 - 120.0A _{pk}
		Resolution	0.1A		
		Accuracy	$\pm (0.4\% \text{ of reading} + 0.6\% \text{ F.S.})$		
	Power (AC,DC)	Range	1 $\emptyset$	0.0W - 12kW	0.0W - 15kW
			3 $\emptyset$	0.0W - 4kW	0.0W - 5kW
			Split phase	0.0W - 8kW	0.0W - 10kW
		Resolution	0.1W at 0.0 - 9999.9W / 1W at Power $\geq 10000\text{W}$		
		Accuracy	$\pm (0.4\% \text{ of reading} + 0.4\% \text{ F.S.})$		
	Power Apparent (VA)	Range	1 $\emptyset$	0.0W - 12kVA	0.0W - 15kVA
			3 $\emptyset$	0.0W - 4kVA	0.0W - 5kVA
			Split phase	0.0W - 8kVA	0.0W - 10kVA
		Resolution	0.1VA at 0.0 - 9999.9VA / 1VA at Power $\geq 10000\text{VA}$		
		Accuracy	V $\times$ A, Calculated value		
	Power Factor	Range	0 - 1.000		
		Resolution	0.001		
		Accuracy	W / VA, Calculated and displayed to three significant digits		
	Crest Factor	Range	0 - 10.00		
		Resolution	0.01		
		Accuracy	Ap / A, Calculated and displayed to two significant digits		
GENERAL	Interface		USB, Ethernet, External I/O(DB25), Option: GPIB, CAN Bus		
	Display		Full Color, Touch LCD Display, 5" Diagonal size, 800 x 400 Pixels resolution		
	Protection		OCP, OVP, OPP, OTP, SHORT, FAN		
	V Sense		Yes		
	Efficiency (*9)		90% (Typical)		
	Dimension(H x W x D)		132.8 x 432 x 718 mm		
	Weight		60kg		
ENVIRONMENTAL	Cooling		Variable speed fan cooled, front intake, rear exhaust		
	Operating Temperature		0 to 40°C		
	Storage Temperature		-40 to 85°C		
	Altitude		2000m (6500 feet)		
	Operating Humidity(*10)		0% to 95% RAH		
REGULATORY COMPLIANCE	Safety		Low Voltage Directive 2014/30/EU, EN 61010-1:2017		
	EMC		CE marked for EMC Directive 2014/30/EU per EN 61326-1:2013 Class A		
	CE Mark LVD Categories		Installation Overvoltage Category: II; Pollution Degree: 2; indoor use only.		

Note.

- *1 Tested on input voltage 380Vac with full output power
- *2 Maximum distortion is tested on output voltage 350Vac with full output power under linear load
- *3 With respect to changes in the rated range of input voltage.
- *4 Load regulation is tested by sine wave and remote sense
- *5 At working voltage 125V

- *6 When the output voltage is greater than 40V
- *7 Current total harmonic distortion is tested on input voltage 220Vac with full output power
- *8 Power factor is tested on input voltage 220Vac with full output power
- *9 Efficiency is tested on input voltage 380V and output voltage 250Vac with full output power under linear load
- *10 In the state of non-condensing

The above specifications are subject to change without prior notice.

AC Load Function			RPS-7012	RPS-7015	RPS-7018
CC Mode (each phase)	Current	Range	0 - 35A	0 - 40A	0 - 48A
		Resolution	0.01A		
		Accuracy	± (0.3% of setting + 0.5% F.S.) at Current > 1.5A		
	Crest Factor	Range	1.414 - 3.000		
		Resolution	0.001		
	Power Factor	Range	0.593 - 1.000(type=PF) / 0.202 - 1.000(type=CFPF)		
		Resolution	0.001		
CP/CS Mode (each phase)	POWER	Range	0 - 4kW, kVA	0 - 5kW, kVA	0 - 6kW, kVA
		Resolution	1W, VA		
		Accuracy	± (0.3% of setting + 0.3% F.S.) at Power > 100W, VA		
	Crest Factor	Range	1.414 - 3.000		
		Resolution	0.001		
	Power Factor	Range	0.593 - 1.000(type=PF) / 0.202 - 1.000(type=CFPF)		
		Resolution	0.001		
CR Mode (each phase)	Resistance	Range	0.45 - 525Ω		
		Resolution	0.01Ω		
		Accuracy	± (0.3% of reading + 0.5% F.S.) at Current > 1.5A		
CZ Mode (each phase)	Impedance	R1 Range	0.01 - 1000Ω		
		R1 Resolution	0.01Ω		
		R2 Range	0.01 - 1000Ω		
		R2 Resolution	0.01Ω		
		R3 Range	0.01 - 1000Ω		
		R3 Resolution	0.01Ω		
		C Range	0.001 - 100.000mF		
		C Resolution	0.001mF		
		L Range	0 - 1000.000mH		
		L Resolution	0.001mH		
DC Load Function			RPS-7012	RPS-7015	RPS-7018
CC Mode (each phase)	Current	Range	0 - 35A	0 - 36A	0 - 36A
		Resolution	0.01A		
		Accuracy	± (0.3% of setting + 0.5% F.S.) at Current > 1.5A		
CV Mode (each phase)	Voltage	Range	20 - 495V		
		Resolution	0.01V		
		Accuracy	± (0.1% of setting + 0.2% F.S.) at Voltage > 20V		
CP Mode (each phase)	Power	Range	0 - 4kW	0 - 5kW	0 - 6kW
		Resolution	1W		
		Accuracy	± (0.3% of setting + 0.3% F.S.) at Power > 200W		
CR Mode (each phase)	Resistance	Range	0.45 - 742.5Ω		
		Resolution	0.01Ω		
		Accuracy	± (0.3% of reading + 0.5% F.S.) at Current > 1.5A		
Advanced Mode (each phase)	Mode		CCD, CRD		

Technical Specifications

Item			RPS-7022	RPS-7045
AC INPUT	Phase		3Ø3W	
	Voltage		380 - 400 VL-L $\pm$ 10% 440 - 480 VL-L $\pm$ 10%	
	Frequency		47 - 63Hz	
	Max. Current		54A/phase (380 - 480 VL-L $\pm$ 10%)	108A/phase (380 - 480 VL-L $\pm$ 10%)
	Power Factor(*1)		0.99(Typical)	
AC OUTPUT	Phase Modes		3Ø, 1Ø or Split phase selectable	
	Max. Power		22.5kVA/15kVA(Split phase)	45kVA/30kVA(Split phase)
	Per Phase/Channel		7.5kVA	15kVA
AC VOLTAGE	Range		0 - 350VL-N, 0 - 606VL-L, 0-700VL-L(Split phase) Option : 0 - 400VL-N, 0 - 692VL-L, 0-800VL-L(Split phase)	
	Resolution		0.1V	
	Setting Accuracy		$\pm$ (0.1% of setting + 0.2% F.S.)	
	Total Harmonic Distortion (THD)(*2)		<0.5% @ 50/60Hz <1% @ 30-1000Hz	
	Line Regulation (*3)		$\pm$ 0.1%	
	Load Regulation (*4)		$\pm$ 0.2%	
	Phase Angle	Range	0 - 359.9°	
		Resolution	0.1°	
MAX. AC CURRENT	RMS(*5)		144A(1Ø)/48A(3Ø/Split)	288A(1Ø)/96A(3Ø/Split)
	Peak		432A(1Ø)/144A(3Ø/Split)	864A(1Ø)/288A(3Ø/Split)
	Crest Factor		3	3
FREQUENCY	Range		DC, 30.00 – 150.0 Hz Option : DC, 30.00 - 1000.0 Hz	
	Resolution		0.01Hz	
	Accuracy(*6)		$\pm$ 0.01% F.S	
DC OUTPUT	Max. Power		22.5kW/15kW (Split phase)	45kW/30kW(Split phase)
	Per Phase/Channel		7.5kW	15kW
DC VOLTAGE	Range		$\pm$ 495VDC, $\pm$ 990VDC(Split phase) Option : $\pm$ 565VDC, $\pm$ 1130VDC(Split phase)	
	Resolution		0.1V	
	Setting Accuracy		$\pm$ (0.1 % of setting + 0.2% F.S.)	
MAX. DC CURRENT	Range		108A(1Ø)/36A(3Ø/Split)	216A(1Ø)/72A(3Ø/Split)
HARMONIC SYNTHESIS FUNCTION	up to 50 Harmonic orders @ 50/60Hz fundamental frequency			
REGENERATIVE FUNCTION	Current Total Harmonic Distortion (iTHD)(*7)		<6%(Typical)	<5%(Typical)
	Power Factor(*8)		>0.97(Typical)	
CURRENT LIMIT FUNCTION	Setting	Range	1Ø	0.1 - 144.0A
			3Ø/Split phase	0.1 - 48.0A
		Resolution	0.1A	
		Accuracy	$\pm$ (2.0% of setting + 0.5% F.S.)	
	Response Time		< 0.5s	
MEASUREMENT	Voltage (AC)	Range	0 - 350VL-N, 0 - 606VL-L, 0 - 700VL-L(Split) Option : 0 - 400VL-N, 0 - 692VL-L, 0 - 800VL-L(Split)	
		Resolution	0.01V	
		Accuracy	$\pm$ (0.1% of reading + 0.2% F.S.) at Voltage > 5V	

Item			RPS-7022	RPS-7045
MEASUREMENT	Voltage (DC)	Range	$\pm 495\text{VDC}$, $\pm 990\text{VDC}$ (Split phase) / Option : $\pm 565\text{VDC}$, $\pm 1130\text{VDC}$ (Split phase)	
		Resolution	0.01V	
		Accuracy	$\pm (0.1\% \text{ of reading} + 0.2\% \text{ F.S.})$ at Voltage > 5V	
	Current (AC,DC)	Range	1 $\emptyset$	0.00 - 144.00A
			3 $\emptyset$ /Split phase	0.00 - 48.00A
		Resolution	0.01A	
		Accuracy	$\pm (0.4\% \text{ of reading} + 0.3\% \text{ F.S.})$	
	Peak Current	Range	1 $\emptyset$	0.0 - 432.0Apk
			3 $\emptyset$ /Split phase	0.0 - 144.0Apk
		Resolution	0.1A	
		Accuracy	$\pm (0.4\% \text{ of reading} + 0.6\% \text{ F.S.})$	
	Power (AC,DC)	Range	1 $\emptyset$	0.0W - 22.5kW
			3 $\emptyset$	0.0W - 7.5kW
			Split phase	0.0W - 15kW
		Resolution	0.1W at 0.0 - 9999.9W / 1W at Power $\geq 10000\text{W}$	
		Accuracy	$\pm (0.4\% \text{ of reading} + 0.4\% \text{ F.S.})$	
	Power Apparent (VA)	Range	1 $\emptyset$	0.0W - 22.5kVA
			3 $\emptyset$	0.0W - 7.5kVA
			Split phase	0.0W - 15kVA
		Resolution	0.1VA at 0.0 - 9999.9VA / 1VA at Power $\geq 10000\text{VA}$	
		Accuracy	V $\times$ A, Calculated value	
	Power Factor	Range	0 - 1.000	
		Resolution	0.001	
		Accuracy	W / VA ,Calculated and displayed to three significant digits	
	Crest Factor	Range	0 - 10.00	
		Resolution	0.01	
		Accuracy	Ap / A ,Calculated and displayed to two significant digits	
GENERAL	Interface		USB, Ethernet, External I/O(DB25), Option: GPIB, CAN Bus	
	Display		Full Color, Touch LCD Display, 5" Diagonal size, 800 x 400 Pixels resolution	
	Protection		OCP, OVP, OPP, OTP, SHORT, FAN	
	V Sense		Yes	
	Efficiency (*9)		90% (Typical)	
	Dimension(H x W x D)		132.8 x 432 x 718 mm	265.6 x 432 x 718 mm
	Weight		60kg	150kg
ENVIRONMENTAL	Cooling		Variable speed fan cooled, front intake, rear exhaust	
	Operating Temperature		0 to 40°C	
	Storage Temperature		-40 to 85°C	
	Altitude		2000m (6500 feet)	
	Operating Humidity(*10)		0% to 95% RAH	
REGULATORY COMPLIANCE	Safety		Low Voltage Directive 2014/30/EU, EN 61010-1:2017	
	EMC		CE marked for EMC Directive 2014/30/EU per EN 61326-1:2013 Class A	
	CE Mark LVD Categories		Installation Overvoltage Category: II; Pollution Degree: 2; indoor use only.	

Note.

- *1 Tested on input voltage 380Vac with full output power
- *2 Maximum distortion is tested on output voltage 350Vac with full output power under linear load
- *3 With respect to changes in the rated range of input voltage.
- *4 Load regulation is tested by sine wave and remote sense
- *5 At working voltage 125V

- *6 When the output voltage is greater than 40V
- *7 Current total harmonic distortion is tested on input voltage 220Vac with full output power
- *8 Power factor is tested on input voltage 220Vac with full output power
- *9 Efficiency is tested on input voltage 380V and output voltage 250Vac with full output power under linear load
- *10 In the state of non-condensing

The above specifications are subject to change without prior notice.

AC Load Function (RPS-7022)			
CC Mode (each phase)	Current	Range	0 – 48A
		Resolution	0.01A
		Accuracy	± (0.3% of setting + 0.5% F.S.) at Current > 1.5A
	Crest Factor	Range	1.414 - 3.000
		Resolution	0.001
	Power Factor	Range	0.593 - 1.000(type=PF) / 0.202 - 1.000(type=CFPF)
Resolution		0.001	
CP/CS Mode (each phase)	POWER	Range	0 – 7.5kW, kVA
		Resolution	1W, VA
		Accuracy	± (0.3% of setting + 0.3% F.S.) at Power > 100W, VA
	Crest Factor	Range	1.414 - 3.000
		Resolution	0.001
	Power Factor	Range	0.593 - 1.000(type=PF) / 0.202 - 1.000(type=CFPF)
Resolution		0.001	
CR Mode (each phase)	Resistance	Range	0.45 - 525Ω
		Resolution	0.01Ω
		Accuracy	± (0.3% of reading + 0.5% F.S.) at Current > 1.5A
CZ Mode (each phase)	Impedance	R1 Range	0.01 - 1000Ω
		R1 Resolution	0.01Ω
		R2 Range	0.01 - 1000Ω
		R2 Resolution	0.01Ω
		R3 Range	0.01 - 1000Ω
		R3 Resolution	0.01Ω
		C Range	0.001 - 100.000mF
		C Resolution	0.001mF
		L Range	0 - 1000.000mH
		L Resolution	0.001mH
DC Load Function (RPS-7022)			
CC Mode (each phase)	Current	Range	0 - 36A
		Resolution	0.01A
		Accuracy	± (0.3% of setting + 0.5% F.S.) at Current > 1.5A
CV Mode (each phase)	Voltage	Range	20 - 495V
		Resolution	0.01V
		Accuracy	± (0.1% of setting + 0.2% F.S.) at Voltage > 20V
CP Mode (each phase)	Power	Range	0 – 7.5kW, kVA
		Resolution	1W
		Accuracy	± (0.3% of setting + 0.3% F.S.) at Power > 200W
CR Mode (each phase)	Resistance	Range	0.45 - 742.5Ω
		Resolution	0.01Ω
		Accuracy	± (0.3% of reading + 0.5% F.S.) at Current > 1.5A
Advanced Mode (each phase)	Mode		CCD, CRD

Technical Specifications

Item				RPS-7067	RPS-7090
AC INPUT	Phase			3Ø3W	
	Voltage			380 - 400 VL-L ± 10% 440 - 480 VL-L ± 10%	
	Frequency			47 - 63Hz	
	Max. Current			162A/phase (380 - 480 VL-L ± 10%)	216A/phase (380 - 480 VL-L ± 10%)
	Power Factor(*1)			0.99(Typical)	
AC OUTPUT	Phase Modes			3Ø, 1Ø or Split phase selectable	
	Max. Power			67.5kVA/45kVA(Split phase)	90kVA/60kVA(Split phase)
	Per Phase/Channel			22.5kVA	30kVA
AC VOLTAGE	Range			0 - 350VL-N, 0 - 606VL-L, 0-700VL-L(Split phase) Option : 0 - 400VL-N, 0 - 692VL-L, 0-800VL-L(Split phase)	
	Resolution			0.1V	
	Setting Accuracy			± (0.1% of setting + 0.2% F.S.)	
	Total Harmonic Distortion (THD)(*2)			<0.5% @ 50/60Hz <1% @ 30-1000Hz	
	Line Regulation (*3)			± 0.1%	
	Load Regulation (*4)			± 0.2%	
	Phase Angle	Range	0 - 359.9°		
		Resolution	0.1°		
MAX. AC CURRENT	RMS(*5)			432A(1Ø)/144A(3Ø/Split)	576A(1Ø)/192A(3Ø/Split)
	Peak			1296A(1Ø)/432A(3Ø/Split)	1728A(1Ø)/576A(3Ø/Split)
	Crest Factor			3	3
FREQUENCY	Range			DC, 30.00 – 150.0 Hz Option : DC, 30.00 - 1000.0 Hz	
	Resolution			0.01Hz	
	Accuracy(*6)			± 0.01% F.S	
DC OUTPUT	Max. Power			67.5kW/45kW (Split phase)	90kW/60kW(Split phase)
	Per Phase/Channel			22.5kW	30kW
DC VOLTAGE	Range			±495VDC, ±990VDC(Split phase) Option : ±565VDC, ±1130VDC(Split phase)	
	Resolution			0.1V	
	Setting Accuracy			± (0.1 % of setting + 0.2% F.S.)	
MAX. DC CURRENT	Range			324A(1Ø)/108A(3Ø/Split)	432A(1Ø)/144A(3Ø/Split)
HARMONIC SYNTHESIS FUNCTION	up to 50 Harmonic orders @ 50/60Hz fundamental frequency				
REGENERATIVE FUNCTION	Current Total Harmonic Distortion (iTHD)(*7)			<6%(Typical)	<5%(Typical)
	Power Factor(*8)			>0.97(Typical)	
CURRENT LIMIT FUNCTION	Setting	Range	1Ø	0.1 - 432.0A	0.1 - 576.0A
			3Ø/Split phase	0.1 - 144.0A	0.1 - 192.0A
		Resolution		0.1A	
		Accuracy		± (2.0% of setting + 0.5% F.S.)	
	Response Time			< 0.5s	
MEASUREMENT	Voltage (AC)	Range		0 - 350VL-N, 0 - 606VL-L, 0 - 700VL-L(Split) Option : 0 - 400VL-N, 0 - 692VL-L, 0 - 800VL-L(Split)	
		Resolution		0.01V	
		Accuracy		± (0.1% of reading + 0.2% F.S.) at Voltage > 5V	

Item			RPS-7067	RPS-7090
MEASUREMENT	Voltage (DC)	Range	$\pm 495\text{VDC}$, $\pm 990\text{VDC}$ (Split phase) / Option : $\pm 565\text{VDC}$, $\pm 1130\text{VDC}$ (Split phase)	
		Resolution	0.01V	
		Accuracy	$\pm (0.1\% \text{ of reading} + 0.2\% \text{ F.S.})$ at Voltage > 5V	
	Current (AC,DC)	Range	1 $\emptyset$	0.00 - 432.00A
			3 $\emptyset$ /Split phase	0.00 - 144.00A
		Resolution	0.01A	
		Accuracy	$\pm (0.4\% \text{ of reading} + 0.3\% \text{ F.S.})$	
	Peak Current	Range	1 $\emptyset$	0.0 - 1296.0A _{pk}
			3 $\emptyset$ /Split phase	0.0 - 432.0A _{pk}
		Resolution	0.1A	
		Accuracy	$\pm (0.4\% \text{ of reading} + 0.6\% \text{ F.S.})$	
	Power (AC,DC)	Range	1 $\emptyset$	0.0W - 67.5kW
			3 $\emptyset$	0.0W - 22.5kW
			Split phase	0.0W - 45kW
		Resolution	0.1W at 0.0 - 9999.9W / 1W at Power $\geq 10000\text{W}$	
		Accuracy	$\pm (0.4\% \text{ of reading} + 0.4\% \text{ F.S.})$	
	Power Apparent (VA)	Range	1 $\emptyset$	0.0W - 67.5kVA
			3 $\emptyset$	0.0W - 22.5kVA
			Split phase	0.0W - 45kVA
		Resolution	0.1VA at 0.0 - 9999.9VA / 1VA at Power $\geq 10000\text{VA}$	
		Accuracy	V $\times$ A, Calculated value	
	Power Factor	Range	0 - 1.000	
		Resolution	0.001	
		Accuracy	W / VA ,Calculated and displayed to three significant digits	
	Crest Factor	Range	0 - 10.00	
		Resolution	0.01	
		Accuracy	Ap / A ,Calculated and displayed to two significant digits	
GENERAL	Interface		USB, Ethernet, External I/O(DB25), Option: GPIB, CAN Bus	
	Display		Full Color, Touch LCD Display, 5" Diagonal size, 800 x 400 Pixels resolution	
	Protection		OCP, OVP, OPP, OTP, SHORT, FAN	
	V Sense		Yes	
	Efficiency (*9)		90% (Typical)	
	Dimension(H x W x D)		845 x 600 x 1100 mm	1290 x 600 x 1100 mm
	Weight		235kg	325kg
ENVIRONMENTAL	Cooling		Variable speed fan cooled, front intake, rear exhaust	
	Operating Temperature		0 to 40°C	
	Storage Temperature		-40 to 85°C	
	Altitude		2000m (6500 feet)	
	Operating Humidity(*10)		0% to 95% RAH	
REGULATORY COMPLIANCE	Safety		Low Voltage Directive 2014/30/EU, EN 61010-1:2017	
	EMC		CE marked for EMC Directive 2014/30/EU per EN 61326-1:2013 Class A	
	CE Mark LVD Categories		Installation Overvoltage Category: II; Pollution Degree: 2; indoor use only.	

Note.

- *1 Tested on input voltage 380Vac with full output power
- *2 Maximum distortion is tested on output voltage 350Vac with full output power under linear load
- *3 With respect to changes in the rated range of input voltage.
- *4 Load regulation is tested by sine wave and remote sense
- *5 At working voltage 125V

- *6 When the output voltage is greater than 40V
- *7 Current total harmonic distortion is tested on input voltage 220Vac with full output power
- *8 Power factor is tested on input voltage 220Vac with full output power
- *9 Efficiency is tested on input voltage 380V and output voltage 250Vac with full output power under linear load
- *10 In the state of non-condensing

The above specifications are subject to change without prior notice.

Technical Specifications

Item			RPS-7112	RPS-7225
AC INPUT	Phase		3Ø3W	
	Voltage		380 - 400 VL-L ± 10% 440 - 480 VL-L ± 10%	
	Frequency		47 - 63Hz	
	Max. Current		270A/phase (380 - 480 VL-L ± 10%)	540A/phase (380 - 480 VL-L ± 10%)
	Power Factor(*1)		0.99(Typical)	
AC OUTPUT	Phase Modes		3Ø, 1Ø or Split phase selectable	
	Max. Power		112.5kVA/75kVA(Split phase)	225kVA/150kVA(Split phase)
	Per Phase/Channel		37.5kVA	75kVA
AC VOLTAGE	Range		0 - 350VL-N, 0 - 606VL-L, 0-700VL-L(Split phase) Option : 0 - 400VL-N, 0 - 692VL-L, 0-800VL-L(Split phase)	
	Resolution		0.1V	
	Setting Accuracy		± (0.1% of setting + 0.2% F.S.)	
	Total Harmonic Distortion (THD)(*2)		<0.5% @ 50/60Hz <1% @ 30-1000Hz	
	Line Regulation (*3)		± 0.1%	
	Load Regulation (*4)		± 0.2%	
	Phase Angle	Range	0 - 359.9°	
		Resolution	0.1°	
MAX. AC CURRENT	RMS(*5)		720A(1Ø)/240A(3Ø/Split)	1440A(1Ø)/480A(3Ø/Split)
	Peak		2160A(1Ø)/720A(3Ø/Split)	4320A(1Ø)/1440A(3Ø/Split)
	Crest Factor		3	3
FREQUENCY	Range		DC, 30.00 – 150.0 Hz Option : DC, 30.00 - 1000.0 Hz	
	Resolution		0.01Hz	
	Accuracy(*6)		± 0.01% F.S	
DC OUTPUT	Max. Power		112.5kW/75kW (Split phase)	225kW/150kW (Split phase)
	Per Phase/Channel		37.5kW	75kW
DC VOLTAGE	Range		±495VDC, ±990VDC(Split phase) Option : ±565VDC, ±1130VDC(Split phase)	
	Resolution		0.1V	
	Setting Accuracy		± (0.1 % of setting + 0.2% F.S.)	
MAX. DC CURRENT	Range		540A(1Ø)/180A(3Ø/Split)	1080A(1Ø)/360A(3Ø/Split)
HARMONIC SYNTHESIS FUNCTION	up to 50 Harmonic orders @ 50/60Hz fundamental frequency			
REGENERATIVE FUNCTION	Current Total Harmonic Distortion (iTHD)(*7)		<6%(Typical)	<6%(Typical)
	Power Factor(*8)		>0.97(Typical)	
CURRENT LIMIT FUNCTION	Setting	Range	1Ø	0.1 - 720.0A
			3Ø/Split phase	0.1 - 240.0A
		Resolution		0.1A
		Accuracy		± (2.0% of setting + 0.5% F.S.)
	Response Time		< 0.5s	

Item			RPS-7112	RPS-7225
MEASUREMENT	Voltage (DC)	Range	$\pm 495\text{VDC}$, $\pm 990\text{VDC}$ (Split phase) / Option : $\pm 565\text{VDC}$, $\pm 1130\text{VDC}$ (Split phase)	
		Resolution	0.01V	
		Accuracy	$\pm (0.1\% \text{ of reading} + 0.2\% \text{ F.S.})$ at Voltage > 5V	
	Current (AC,DC)	Range	1 $\emptyset$	0.00 - 720.00A
			3 $\emptyset$ /Split phase	0.00 - 240.00A
		Resolution	0.01A	
		Accuracy	$\pm (0.4\% \text{ of reading} + 0.3\% \text{ F.S.})$	
	Peak Current	Range	1 $\emptyset$	0.0 - 2160.0Apk
			3 $\emptyset$ /Split phase	0.0 - 720.0Apk
		Resolution	0.1A	
		Accuracy	$\pm (0.4\% \text{ of reading} + 0.6\% \text{ F.S.})$	
	Power (AC,DC)	Range	1 $\emptyset$	0.0W - 112.5kW
			3 $\emptyset$	0.0W - 37.5kW
			Split phase	0.0W - 75kW
		Resolution	0.1W at 0.0 - 9999.9W / 1W at Power $\geq 10000\text{W}$	
		Accuracy	$\pm (0.4\% \text{ of reading} + 0.4\% \text{ F.S.})$	
	Power Apparent (VA)	Range	1 $\emptyset$	0.0VA - 112.5kVA
			3 $\emptyset$	0.0VA - 37.5kVA
			Split phase	0.0VA - 75kVA
		Resolution	0.1VA at 0.0 - 9999.9VA / 1VA at Power $\geq 10000\text{VA}$	
		Accuracy	V $\times$ A, Calculated value	
	Power Factor	Range	0 - 1.000	
		Resolution	0.001	
		Accuracy	W / VA ,Calculated and displayed to three significant digits	
	Crest Factor	Range	0 - 10.00	
		Resolution	0.01	
		Accuracy	Ap / A ,Calculated and displayed to two significant digits	
GENERAL	Interface		USB, Ethernet, External I/O(DB25), Option: GPIB, CAN Bus	
	Display		Full Color, Touch LCD Display, 5" Diagonal size, 800 x 400 Pixels resolution	
	Protection		OCP, OVP, OPP, OTP, SHORT, FAN	
	V Sense		Yes	
	Efficiency (*9)		90% (Typical)	
	Dimension(H x W x D)		1290 x 600 x 1100 mm	2045 x 600 x 1100 mm
	Weight		385kg	750kg
ENVIRONMENTAL	Cooling		Variable speed fan cooled, front intake, rear exhaust	
	Operating Temperature		0 to 40°C	
	Storage Temperature		-40 to 85°C	
	Altitude		2000m (6500 feet)	
	Operating Humidity(*10)		0% to 95% RAH	
REGULATORY COMPLIANCE	Safety		Low Voltage Directive 2014/30/EU, EN 61010-1:2017	
	EMC		CE marked for EMC Directive 2014/30/EU per EN 61326-1:2013 Class A	
	CE Mark LVD Categories		Installation Overvoltage Category: II; Pollution Degree: 2; indoor use only.	

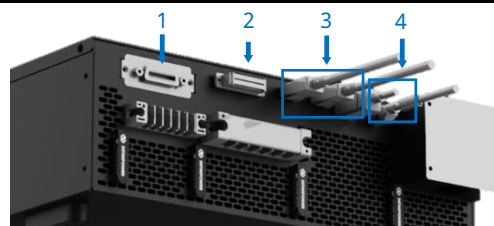
Notes:

- *1 Tested on input voltage 380Vac with full output power
- *2 Maximum distortion is tested on output voltage 350Vac with full output power under linear load
- *3 With respect to changes in the rated range of input voltage.
- *4 Load regulation is tested by sine wave and remote sense
- *5 At working voltage 125V

- *6 When the output voltage is greater than 40V
- *7 Current total harmonic distortion is tested on input voltage 220Vac with full output power
- *8 Power factor is tested on input voltage 220Vac with full output power
- *9 Efficiency is tested on input voltage 380V and output voltage 250Vac with full output power under linear load
- *10 In the state of non-condensing

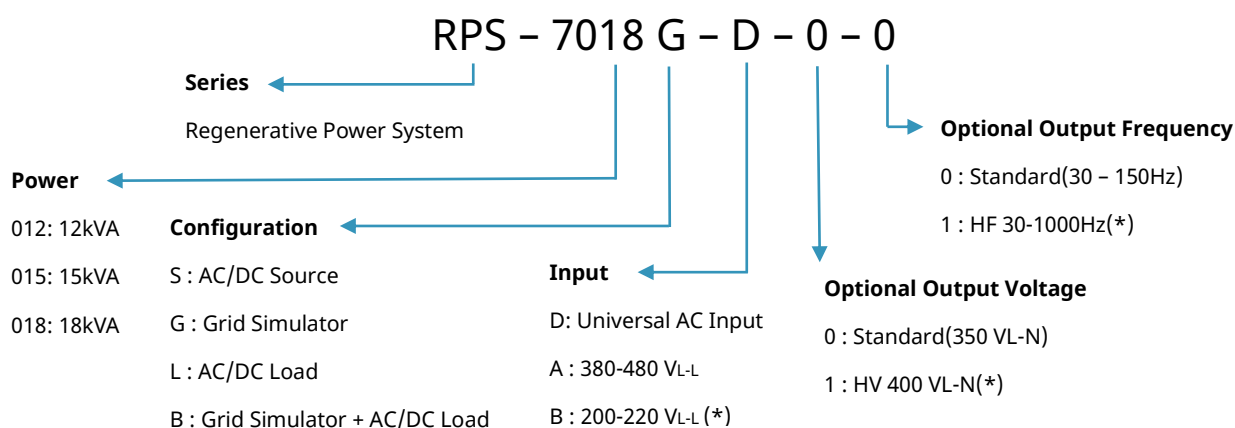
The above specifications are subject to change without prior notice.

RPS-7000 Dimensions



- 1 GPIB/CAN Optional Card
- 2 External I/O (AC_ON, FAULT-OUT, Ext-ON/OFF, etc.).
- 3 Parallel Communication Interface
- 4 Type-B USB, Network control interface

Ordering Information



* Special specifications, please contact the INFINIPOWER Tech. office or your local distributor
* 200-220 V L-L input available for RPS7018 parallel up to 180 kVA.

Accessories list

Typical Delivery Items	Optional accessories
- Regenerative Power System - USB cable (Type A to Type B) (1.5m) - LAN cable CAT5E(2m) - DB25 adapter board (for I/O signal) - Test Report - Certificate of Compliance - Output shorting adapter (for single phase mode)	- Parallel cable (Display port) (1.2m) - CAN Bus interface card / CAN Bus cable(1.5m) - GPIB cable(1.5m) - DB25 (male to male) adapter - RPS-7000 series input power cable (3m) - Output voltage calibration fixture(Remote sense cable)

* Special specifications, please contact the INFINIPOWER Tech. office or your local distributor

工程为本，重新定义电力测试的新标准

英菲菱电源由资深电力电子工程师创立，结合超过 20 年的电力测试研发经验与精密工程技术，专注于提供高精度、高可靠性的电力测试解决方案。从研发验证到公用事业级能源测试，每套系统皆依循国际质量标准设计与制造，为客户提供值得信赖的技术与稳定卓越的测试效能，实践品牌承诺——Powering Trust, Driving Innovation (精准可靠，无限动力)。



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