

# RPS-7000

回收式 AC/DC 電源、電子負載與電網模擬器

**高功率 · 高效能**

打造值得信賴的電力測試



Regenerative



Easy Use



Compliance



High Range



Constant Power



High Current



## 主要特點

- 輸出功率：每台 9 kVA – 22.5 kVA
- 可擴充功率容量：最高 225 kVA
- 輸出電壓：0 – 350 V ; 0 – 400 V ( 選配 )
- 頻率：DC、30 – 150 Hz ; 30 – 1000 Hz ( 選配 )
- 最大電流提升 35%
- 關鍵元件散熱效率提升 20%
- 支援並聯連接以擴充高功率容量
- 輸出模式：單相、三相或分相 ( 最高可達額定電壓的 200% )
- 三種操作模式：定電壓、定電流與定功率
- LIST、STEP、PULSE 與 TRANSIENT 模式
- 任意波形編輯與電力線擾動 ( PLD ) 模擬
- 諧波擾動 / 波形疊加
- 諧波分析：電壓與電流最高可量測至第 50 次諧波

- 符合 LVRT、相位偏移、頻率變動等併網標準
- 標準符合性：IEC 61000-3-2/-3-3/-3-11/-3-12/-4-11/-4-13/-4-14/-4-28/-4-34 測試
- 支援介面：USB、LAN、GPIB、CAN 與 Std I/O

## 應用領域:

- AI 伺服器、資料中心與 HVDC 應用
- EV 充電器、BOBC、V2G、V2H、V2X、EV 充電線
- 太陽能 PV 逆變器、併網逆變器與風力發電系統
- 工業與住宅用儲能 ( ESS )、電力轉換 ( PCS )
- 不斷電系統 ( UPS ) 與電源分配單元 ( PDU )
- 法規測試：IEEE 1547、UL 1741、IEC 62116 等
- 微電網測試、PHIL ( Power Hardware-in-the-Loop ) 與孤島保護測試。

## 產品介紹

RPS-7000 是一款高效能回生式 AC/DC 電源與負載系統，專為進階電力測試應用而設計。支援四象限操作，可同時具備電源與負載功能，並將能量回收至電網。單機功率範圍為 9 kVA 至 22.5 kVA，透過並聯操作最高可達 225 kVA。RPS-7000 可提供高電流、精準波形控制與可靠效能，適用於 AI 伺服器、EV 充電、儲能系統與電力電子驗證。可選配置包含 G、L、S 與 B Series。

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

圖 1：更高電流，更少設備

## 應用領域

RPS-7000 為研發與生產提供完整的測試支援。在再生能源領域，它可作為太陽能 PV 逆變器、電力轉換系統 (PCS) 與儲能系統 (ESS) 測試的重要工具，能精準模擬電網異常並提升能量回收效率。也非常適合驗證車載充電器及各類 V2G、V2H、V2X 設備的雙向充放電性能。

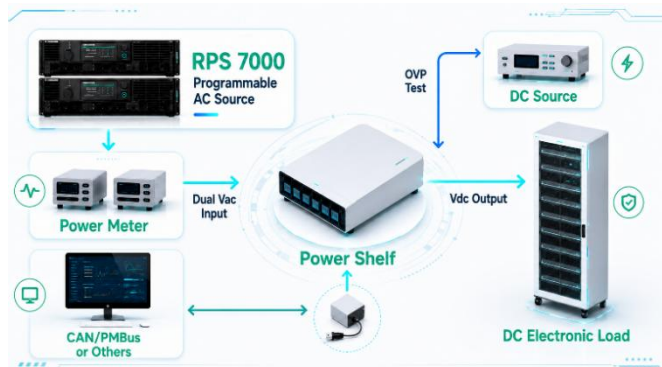


圖 2：Power Shelf 測試架構

針對數位基礎設施，RPS-7000 是 AI 伺服器、資料中心與高壓直流 (HVDC) 應用的最佳解決方案，支援 AC、DC 與 AC+DC 模式，可精準模擬高壓直流的電壓漣

波與負載瞬變，確保供電穩定性。

## 恆定功率與高電流輸出

RPS-7000 採用新一代 SiC MOS 技術，支援最高 400 V L-N 輸出電壓；針對風力發電等高電壓應用，更可支援最高 690 V L-L 線電壓。其恆定功率輸出設計可在低輸出電壓時提供高電流、高輸出電壓時提供低電流，無需手動切換高、低電壓範圍。相較於傳統系統在量程切換時可能造成輸出中斷，RPS-7000 能夠提供連續且不中斷的輸出，滿足各種實際應用需求。

RPS-7000 的最大輸出電流提升 35%，並可在 200–240 Vac 市電供電條件下維持 100% 額定輸出功率，無需降額使用。相較之下，傳統可編程電源系統在相同低電壓條件下，輸出能力可能僅剩 80%、60%，甚至完全無法輸出 (0%)。RPS-7000 即使在低電壓環境下，仍能維持完整的輸出性能，充分滿足高電流測試需求。此架構可為 AI 伺服器電源、電動車充電系統、電池測試平台 與新一代電力電子設備提供穩定可靠的測試能力，同時充分發揮設備的可用輸出功率。



圖 3：全電壓範圍滿功率輸出

## 並聯連接以實現高功率

RPS-7000 支援多台並聯運轉以提升輸出功率額定值，滿足各類測試需求。透過數位訊號處理器 (DSP) 與高速通訊所實現的即時主動均流技術，系統總功率最高可達 225 kVA。並聯運轉時，所有功能與精度皆不受影響。此外，設備可透過單一纜線連接，啟用並聯模式後，系統會自動完成設定，無需複雜的額外配置。

## 直覺控制與進階分析

RPS-7000 配備 5 吋觸控螢幕並搭配實體旋鈕，提供直覺式操作介面，可在波形編輯、即時量測與法規設定之間順暢切換。此友善設計可讓使用者快速熟悉系統，並在多樣化測試環境中高效率操作。

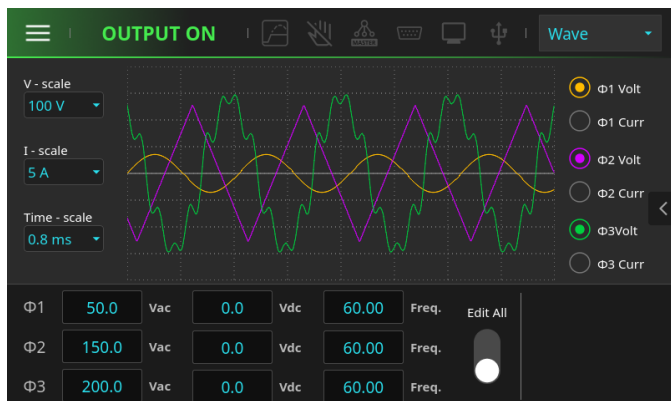


圖 4：波形監控功能

為協助最佳化產品設計，RPS-7000 整合即時波形監控與高精度諧波分析，無需外接示波器。它可同時擷取並顯示三相電壓與電流波形，讓使用者即時掌握系統效能。

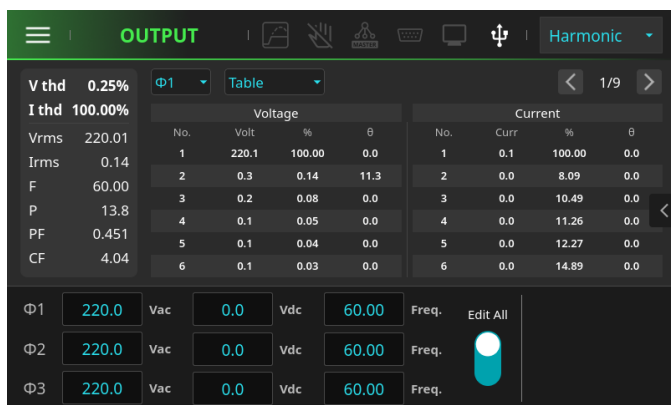


圖 5：諧波即時分析清單

本系列亦提供進階診斷能力，包括總諧波失真 (THD) 量測，以及最高至第 50 次諧波的分析。透過提供各次諧波成分的精確振幅與相位資料，協助工程師準確識別並降低干擾，確保最高等級的電能品質與法規符合性。

## AC/DC 負載模擬

RPS-7000 Model L 回生式電子負載適用於廣泛的再生能源測試應用。除了恆定電流、恆定功率與恆定阻抗等基本功能外，亦支援進階負載模擬能力，包括如圖 6 所示

的感性與容性負載模擬。使用者可模擬複雜負載情境，在不同電壓與電流條件下精準測試受測裝置效能，包括負載角度、負載移除與循環設定。

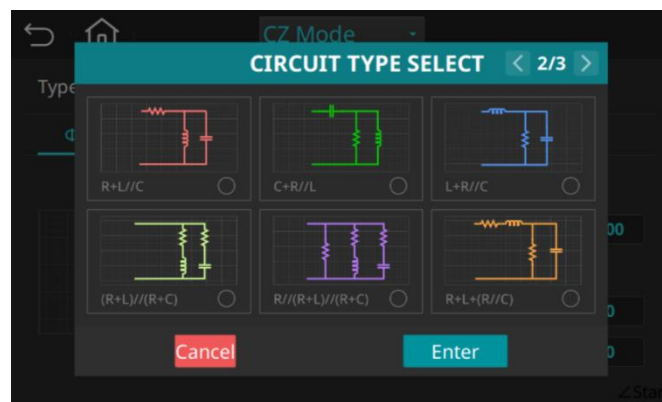


圖 6：多模式負載模擬

此外，其獨特的整合式諧波與擾動模擬功能可產生各類諧波成分，用於評估電源處理不同諧波負載的能力。

結合 AC/DC 負載模擬的多功能性，RPS-7000 Model L 可滿足電動車供電設備 (EVSE)、車載充電器 (OBC) 與不斷電系統 (UPS) 等多元應用需求。其回生式設計可避免傳統電阻式負載常見的能量浪費與散熱需求，大幅提升效率。

## 任意波形編輯

RPS-7000 系列為研發、法規符合性與實驗室應用提供進階可程式化電源模擬。它支援 List、Step、Pulse、Transient、Harmonic Synthesis 與 Inter-Harmonic 模式，並具備獨立相位控制，可建立彈性的測試情境，同時支援 IEC 61000-4-3、IEC 61000-4-11、UL 1741 SA、IEEE 1547 與 IEC 62116 等標準的符合性驗證。

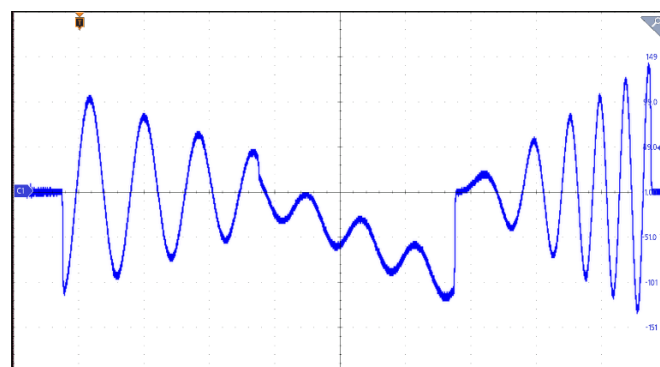


圖 7：List 模式波形

Step 模式可逐步調整電壓或頻率，以評估受測裝置在不同條件下的反應。Pulse 模式可產生短時間高電壓或高電流脈衝，用於突波測試。此外，Inter-Harmonic 模式可模擬電力系統中的諧波擾動，以評估受測裝置對諧波干擾的耐受能力；Transient 模式則可重現電力系統的瞬時響應，用於測試受測裝置有效承受快速變化的能力。

Synthesis 模式提供彈性的自訂波形設計功能。使用者可透過直覺式程式介面，精準調整各次諧波的振幅與相位，以產生多階諧波合成波形。此模式支援最高第 50 次諧波成分，可協助測試人員模擬非正弦波電源環境，以滿足不同測試需求。

## PowerVUE 遠端控制軟體

RPS-7000 配備 PC 軟體 PowerVUE，使用者可直接透過電腦操作設備。透過 PowerVUE，使用者能輕鬆調整參數、監控效能、快速建立測試程式並產生報告。軟體亦提供 IEC 61000-4-11、4-13、4-14、4-28 與 4-34 等標準的預設測試模式，使使用者可依照法規定義的參數操作系統，確保符合各項國際標準。

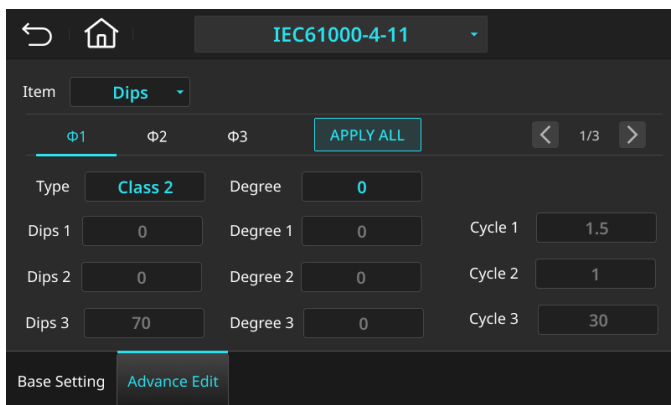


圖 9：IEC61000-4-11 電壓驟降設定

## 支援標準 SCPI 與 LabVIEW 驅動程式

RPS-7000 支援 SCPI 標準通訊協定，可透過 GPIB、LAN 或 External IO 介面使用 SCPI 指令，無需複雜修改即可無縫整合至既有測試系統。此外，RPS-7000 亦支援 LabVIEW，用於測試、量測與控制應用。

## AIoT 智慧預測診斷

PowerSense AI 可實現即時健康監測與預測性預防服務 (PPS)，持續分析系統行為，在故障發生前偵測潛在風險。透過識別功率模組、冷卻系統與運行參數中的異常趨勢，可協助設備可用率提升至 95% 以上、降低非預期停機時間，並保護關鍵研發時程。



圖 10：PowerSense 預測診斷

## 認證製造卓越品質

RPS-7000 系列於台灣製造，生產系統通過 IEC 62443-4-1、TL 9000、ISO 27001 與 IATF 16949 認證。每台 RPS-7000 系列設備皆依循 TÜV 標準進行嚴謹的工程驗證與確認流程，確保在嚴苛測試環境中具備一致的性、生產品質與長期可靠性。

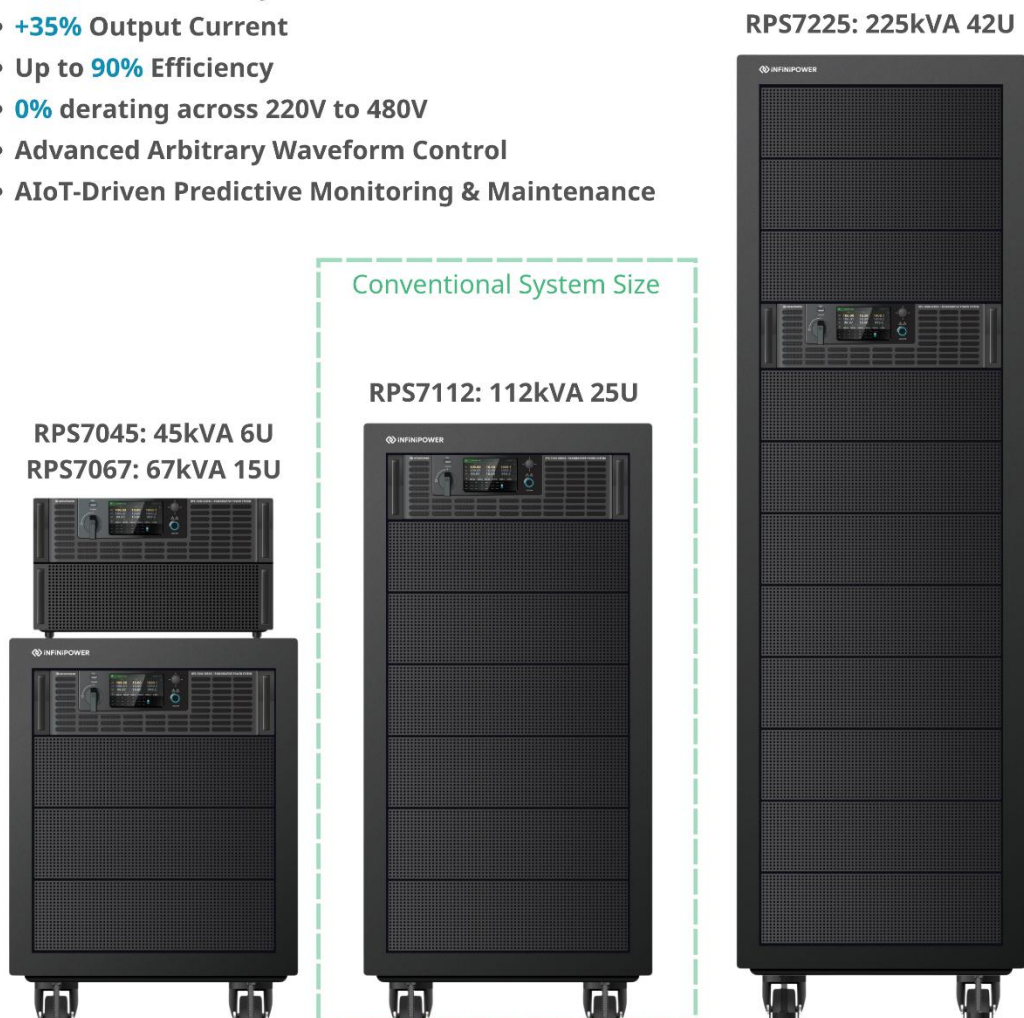


圖 11：認證品質與工程驗證

| 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,Split phase    | 6U     |
| RPS-7067 | 350V               | 606V  | 432A                 | 144A     | 67.5kVA            | 3Ø,Split phase    | 15U    |
| RPS-7090 | 350V               | 606V  | 576A                 | 192A     | 90kVA              | 3Ø,Split phase    | 25U    |
| RPS-7112 | 350V               | 606V  | 720A                 | 240A     | 112.5kVA           | 3Ø,Split phase    | 25U    |
| RPS-7225 | 350V               | 606V  | 1440A                | 480A     | 225kVA             | 3Ø,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%<br>380 - 400 VL-L ± 10%<br>440 - 480 VL-L ± 10%                                          |                                                                            |                                                                            |  |
|                             | Frequency                                                |            | 47 - 63Hz                                                                                                     |                                                                            |                                                                            |  |
|                             | Max. Current                                             |            | 48A/phase<br>(200 - 240 VL-L ± 10%)<br>25A/phase<br>(380 - 480 VL-L ± 10%)                                    | 60A/phase<br>(200 - 240 VL-L ± 10%)<br>32A/phase<br>(380 - 480 VL-L ± 10%) | 72A/phase<br>(200 - 240 VL-L ± 10%)<br>38A/phase<br>(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)<br>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<br><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<br>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)<br>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                                                               |  |
|                             |                                                          |            | 3Ø/Split phase                                                                                                | 0.1 - 35A                                                                  | 0.1 - 40.0A                                                                |  |
|                             |                                                          | 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)<br>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 <sub>pk</sub> | 0.0 - 360.0A <sub>pk</sub> |
|                       |                               |            | 3 $\emptyset$ /Split phase                                                                                                  | 0.0 - 105.0A <sub>pk</sub> | 0.0 - 120.0A <sub>pk</sub> |
|                       |                               | 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 $\emptyset$                                                                                                               | 0.0VA - 12kVA              | 0.0VA - 15kVA              |
|                       |                               |            | 3 $\emptyset$                                                                                                               | 0.0VA - 4kVA               | 0.0VA - 5kVA               |
|                       |                               |            | Split phase                                                                                                                 | 0.0VA - 8kVA               | 0.0VA - 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                                                                    |                            |                            |
|                       | External Signal Response time |            | <70 $\mu$ s                                                                                                                 |                            |                            |
|                       | 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 / 5.23 x 17.01 x 28.27 inch                                                                            |                            |                            |
|                       | Weight                        |            | 60 kg / 132.28 lbs                                                                                                          |                            |                            |
| ENVIRONMENTAL         | Cooling                       |            | Variable speed fan cooled, front intake, rear exhaust                                                                       |                            |                            |
|                       | Operating Temperature         |            | 0 to 40°C (32°F to 104°F)                                                                                                   |                            |                            |
|                       | Storage Temperature           |            | -40 to 85°C (-40°F to 185°F)                                                                                                |                            |                            |
|                       | 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<br>(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<br>(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<br>(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<br>(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<br>(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<br>(each phase)       | Voltage      | Range         | 20 - 495V                                           |              |              |
|                               |              | Resolution    | 0.01V                                               |              |              |
|                               |              | Accuracy      | ± (0.1% of setting + 0.2% F.S.) at Voltage > 20V    |              |              |
| CP Mode<br>(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<br>(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<br>(each phase) | Mode         |               | CCD, CRD                                            |              |              |

## Technical Specifications

| Item                        |                                                          |            | RPS-7022                                                                                                      | RPS-7045                            |
|-----------------------------|----------------------------------------------------------|------------|---------------------------------------------------------------------------------------------------------------|-------------------------------------|
| AC INPUT                    | Phase                                                    |            | 3Ø3W                                                                                                          |                                     |
|                             | Voltage                                                  |            | 380 - 400 VL-L ± 10%<br>440 - 480 VL-L ± 10%                                                                  |                                     |
|                             | Frequency                                                |            | 47 - 63Hz                                                                                                     |                                     |
|                             | Max. Current                                             |            | 47A/phase<br>(380 - 480 VL-L ± 10%)                                                                           | 95A/phase<br>(380 - 480 VL-L ± 10%) |
|                             | Power Factor(*1)                                         |            | 0.99(Typical)                                                                                                 |                                     |
| AC OUTPUT                   | Phase Modes                                              |            | 3Ø, 1Ø or Split phase selectable                                                                              | 3Ø 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)<br>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<br><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)                                                  |            | 144A(1Ø)/48A(3Ø/Split)                                                                                        | 96A(3Ø/Split)                       |
|                             | Peak                                                     |            | 432A(1Ø)/144A(3Ø/Split)                                                                                       | 288A(3Ø/Split)                      |
|                             | Crest Factor                                             |            | 3                                                                                                             | 3                                   |
| FREQUENCY                   | Range                                                    |            | DC, 30.00 – 150.0 Hz<br>Option : DC, 30.00 - 1000.0 Hz                                                        |                                     |
|                             | Resolution                                               |            | 0.01Hz                                                                                                        |                                     |
|                             | Accuracy(*6)                                             |            | ± 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                                                    |            | ±495Vdc, ±990Vdc(Split phase)<br>Option : ±565Vdc, ±1130Vdc(Split phase)                                      |                                     |
|                             | Resolution                                               |            | 0.1V                                                                                                          |                                     |
|                             | Setting Accuracy                                         |            | ± (0.1 % of setting + 0.2% F.S.)                                                                              |                                     |
| MAX. DC CURRENT             | Range                                                    |            | 108A(1Ø)/36A(3Ø/Split)                                                                                        | 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   | ± (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)<br>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-7022                                                                                                    | RPS-7045                                             |
|-----------------------|-------------------------------|------------|-------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| MEASUREMENT           | Voltage (DC)                  | Range      | $\pm 495V_{DC}$ , $\pm 990V_{DC}$ (Split phase) / Option : $\pm 565V_{DC}$ , $\pm 1130V_{DC}$ (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 $\emptyset$                                                                                               | N/A                                                  |
|                       |                               |            | 3 $\emptyset$ /Split phase                                                                                  | 0.00 - 96.00A                                        |
|                       |                               | Resolution | 0.01A                                                                                                       |                                                      |
|                       |                               | Accuracy   | $\pm (0.4\% \text{ of reading} + 0.3\% \text{ F.S.})$                                                       |                                                      |
|                       | Peak Current                  | Range      | 1 $\emptyset$                                                                                               | N/A                                                  |
|                       |                               |            | 3 $\emptyset$ /Split phase                                                                                  | 0.0 - 288.0Apk                                       |
|                       |                               | Resolution | 0.1A                                                                                                        |                                                      |
|                       |                               | Accuracy   | $\pm (0.4\% \text{ of reading} + 0.6\% \text{ F.S.})$                                                       |                                                      |
|                       | Power (AC,DC)                 | Range      | 1 $\emptyset$                                                                                               | N/A                                                  |
|                       |                               |            | 3 $\emptyset$                                                                                               | 0.0W - 15kW                                          |
|                       |                               |            | Split phase                                                                                                 | 0.0W - 30kW                                          |
|                       |                               | Resolution | 0.1W at 0.0 - 9999.9W / 1W at Power $\geq 10000W$                                                           |                                                      |
|                       |                               | Accuracy   | $\pm (0.4\% \text{ of reading} + 0.4\% \text{ F.S.})$                                                       |                                                      |
|                       | Power Apparent (VA)           | Range      | 1 $\emptyset$                                                                                               | N/A                                                  |
|                       |                               |            | 3 $\emptyset$                                                                                               | 0.0VA - 15kVA                                        |
|                       |                               |            | Split phase                                                                                                 | 0.0VA - 30kVA                                        |
|                       |                               | Resolution | 0.1VA at 0.0 - 9999.9VA / 1VA at Power $\geq 10000VA$                                                       |                                                      |
|                       |                               | 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                                                    |                                                      |
|                       | External Signal Response time |            | <70us                                                                                                       |                                                      |
|                       | 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 /<br>5.23 x 17.01 x 28.27 inch                                                         | 265.6 x 432 x 718 mm /<br>10.46 x 17.01 x 28.27 inch |
|                       | Weight                        |            | 60 kg / 132.28 lbs                                                                                          | 150 kg / 330.69 lbs                                  |
| ENVIRONMENTAL         | Cooling                       |            | Variable speed fan cooled, front intake, rear exhaust                                                       |                                                      |
|                       | Operating Temperature         |            | 0 to 40°C (32°F to 104°F)                                                                                   |                                                      |
|                       | Storage Temperature           |            | -40 to 85°C (-40°F to 185°F)                                                                                |                                                      |
|                       | 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<br>(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<br>(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<br>(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<br>(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<br>(each phase)       | Current    | Range      | 0 - 36A                                           |
|                               |            | Resolution | 0.01A                                             |
|                               |            | Accuracy   | ± (0.3% of setting + 0.5% F.S.) at Current > 1.5A |
| CV Mode<br>(each phase)       | Voltage    | Range      | 20 - 495V                                         |
|                               |            | Resolution | 0.01V                                             |
|                               |            | Accuracy   | ± (0.1% of setting + 0.2% F.S.) at Voltage > 20V  |
| CP Mode<br>(each phase)       | Power      | Range      | 0 – 7.5kW, kVA                                    |
|                               |            | Resolution | 1W                                                |
|                               |            | Accuracy   | ± (0.3% of setting + 0.3% F.S.) at Power > 200W   |
| CR Mode<br>(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<br>(each phase) | Mode       | CCD, CRD   |                                                   |

## Technical Specifications

| Item                        |                                                          | RPS-7067                                                                                                      | RPS-7090                                                                                              |
|-----------------------------|----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| AC INPUT                    | Phase                                                    | 3Ø3W                                                                                                          |                                                                                                       |
|                             | Voltage                                                  | 380 - 400 VL-L ± 10%<br>440 - 480 VL-L ± 10%                                                                  |                                                                                                       |
|                             | Frequency                                                | 47 - 63Hz                                                                                                     |                                                                                                       |
|                             | Max. Current                                             | 142A/phase<br>(380 - 480 VL-L ± 10%)                                                                          | 189A/phase<br>(380 - 480 VL-L ± 10%)                                                                  |
|                             | Power Factor(*1)                                         | 0.99(Typical)                                                                                                 |                                                                                                       |
| AC OUTPUT                   | Phase Modes                                              | 3Ø 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)<br>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<br><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)                                                  | 144A(3Ø/Split)                                                                                                | 192A(3Ø/Split)                                                                                        |
|                             | Peak                                                     | 432A(3Ø/Split)                                                                                                | 576A(3Ø/Split)                                                                                        |
|                             | Crest Factor                                             | 3                                                                                                             | 3                                                                                                     |
| FREQUENCY                   | Range                                                    | DC, 30.00 – 150.0 Hz<br>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)<br>Option : ±565Vdc, ±1130Vdc(Split phase)                                      |                                                                                                       |
|                             | Resolution                                               | 0.1V                                                                                                          |                                                                                                       |
|                             | Setting Accuracy                                         | ± (0.1 % of setting + 0.2% F.S.)                                                                              |                                                                                                       |
| MAX. DC CURRENT             | Range                                                    | 108A(3Ø/Split)                                                                                                | 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 3Ø/Split phase                                                                                          | 0.1 - 144.0A                                                                                          |
|                             |                                                          | 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)<br>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      | $\pm 495V_{DC}$ , $\pm 990V_{DC}$ (Split phase) / Option : $\pm 565V_{DC}$ , $\pm 1130V_{DC}$ (Split phase) |                                                      |
|                       |                               | Resolution | 0.01V                                                                                                       |                                                      |
|                       |                               | Accuracy   | $\pm (0.1\% \text{ of reading} + 0.2\% \text{ F.S.})$ at Voltage > 5V                                       |                                                      |
|                       | Current (AC,DC)               | Range      | 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      | 3 $\emptyset$ /Split phase                                                                                  | 0.0 - 432.0A <sub>pk</sub>                           |
|                       |                               | Resolution | 0.1A                                                                                                        |                                                      |
|                       |                               | Accuracy   | $\pm (0.4\% \text{ of reading} + 0.6\% \text{ F.S.})$                                                       |                                                      |
|                       | Power (AC,DC)                 | Range      | 3 $\emptyset$                                                                                               | 0.0W - 22.5kW                                        |
|                       |                               |            | Split phase                                                                                                 | 0.0W - 45kW                                          |
|                       |                               | Resolution | 0.1W at 0.0 - 9999.9W / 1W at Power $\geq 10000W$                                                           |                                                      |
|                       |                               | Accuracy   | $\pm (0.4\% \text{ of reading} + 0.4\% \text{ F.S.})$                                                       |                                                      |
|                       | Power Apparent (VA)           | Range      | 3 $\emptyset$                                                                                               | 0.0W - 22.5kVA                                       |
|                       |                               |            | Split phase                                                                                                 | 0.0W - 45kVA                                         |
|                       |                               | Resolution | 0.1VA at 0.0 - 9999.9VA / 1VA at Power $\geq 10000VA$                                                       |                                                      |
|                       |                               | 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                                                    |                                                      |
|                       | External Signal Response time |            | <70us                                                                                                       |                                                      |
|                       | 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 /<br>33.27 x 23.62 x 43.31 inch                                                         | 1290 x 600 x 1100 mm /<br>50.79 x 23.62 x 43.31 inch |
|                       | Weight                        |            | 235 kg / 518.09 lbs                                                                                         | 325kg / 716.50 lbs                                   |
| ENVIRONMENTAL         | Cooling                       |            | Variable speed fan cooled, front intake, rear exhaust                                                       |                                                      |
|                       | Operating Temperature         |            | 0 to 40°C (32°F to 104°F)                                                                                   |                                                      |
|                       | Storage Temperature           |            | -40 to 85°C (-40°F to 185°F)                                                                                |                                                      |
|                       | 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%<br>440 - 480 VL-L ± 10%                                                                  |                                      |
|                             | Frequency                                                | 47 - 63Hz                                                                                                     |                                      |
|                             | Max. Current                                             | 237A/phase<br>(380 - 480 VL-L ± 10%)                                                                          | 473A/phase<br>(380 - 480 VL-L ± 10%) |
|                             | Power Factor(*1)                                         | 0.99(Typical)                                                                                                 |                                      |
| AC OUTPUT                   | Phase Modes                                              | 3Ø 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)<br>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<br><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)                                                  | 240A(3Ø/Split)                                                                                                | 480A(3Ø/Split)                       |
|                             | Peak                                                     | 720A(3Ø/Split)                                                                                                | 1440A(3Ø/Split)                      |
|                             | Crest Factor                                             | 3                                                                                                             | 3                                    |
| FREQUENCY                   | Range                                                    | DC, 30.00 – 150.0 Hz<br>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)<br>Option : ±565Vdc, ±1130Vdc(Split phase)                                      |                                      |
|                             | Resolution                                               | 0.1V                                                                                                          |                                      |
|                             | Setting Accuracy                                         | ± (0.1 % of setting + 0.2% F.S.)                                                                              |                                      |
| MAX. DC CURRENT             | Range                                                    | 180A(3Ø/Split)                                                                                                | 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 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      | $\pm 495V_{DC}$ , $\pm 990V_{DC}$ (Split phase) / Option : $\pm 565V_{DC}$ , $\pm 1130V_{DC}$ (Split phase) |                                                      |
|                       |                               | Resolution | 0.01V                                                                                                       |                                                      |
|                       |                               | Accuracy   | $\pm (0.1 \% \text{ of reading} + 0.2\% \text{ F.S.})$ at Voltage > 5V                                      |                                                      |
|                       | Current (AC,DC)               | Range      | 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      | 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      | 3 $\emptyset$                                                                                               | 0.0W - 37.5kW                                        |
|                       |                               |            | Split phase                                                                                                 | 0.0W - 75kW                                          |
|                       |                               | Resolution | 0.1W at 0.0 - 9999.9W / 1W at Power $\geq 10000W$                                                           |                                                      |
|                       |                               | Accuracy   | $\pm (0.4\% \text{ of reading} + 0.4\% \text{ F.S.})$                                                       |                                                      |
|                       | Power Apparent (VA)           | Range      | 3 $\emptyset$                                                                                               | 0.0VA - 37.5kVA                                      |
|                       |                               |            | Split phase                                                                                                 | 0.0VA - 75kVA                                        |
|                       |                               | Resolution | 0.1VA at 0.0 - 9999.9VA / 1VA at Power $\geq 10000VA$                                                       |                                                      |
|                       |                               | Accuracy   | VxA, 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                                                    |                                                      |
|                       | External Signal Response time |            | <70us                                                                                                       |                                                      |
|                       | 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 /<br>50.79 x 23.62 x 43.31 inch                                                        | 2045 x 600 x 1100 mm /<br>80.51 x 23.62 x 43.31 inch |
|                       | Weight                        |            | 385 kg / 848.78 lbs                                                                                         | 750 kg / 1653.47 lbs                                 |
| ENVIRONMENTAL         | Cooling                       |            | Variable speed fan cooled, front intake, rear exhaust                                                       |                                                      |
|                       | Operating Temperature         |            | 0 to 40°C (32°F to 104°F)                                                                                   |                                                      |
|                       | Storage Temperature           |            | -40 to 85°C (-40°F to 185°F)                                                                                |                                                      |
|                       | 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.                                |                                                      |

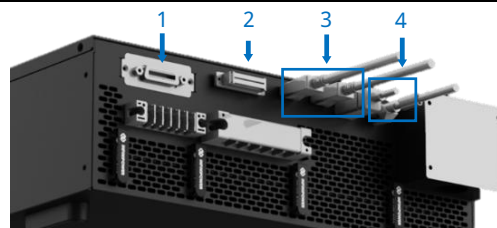
#### Notes:

- \*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

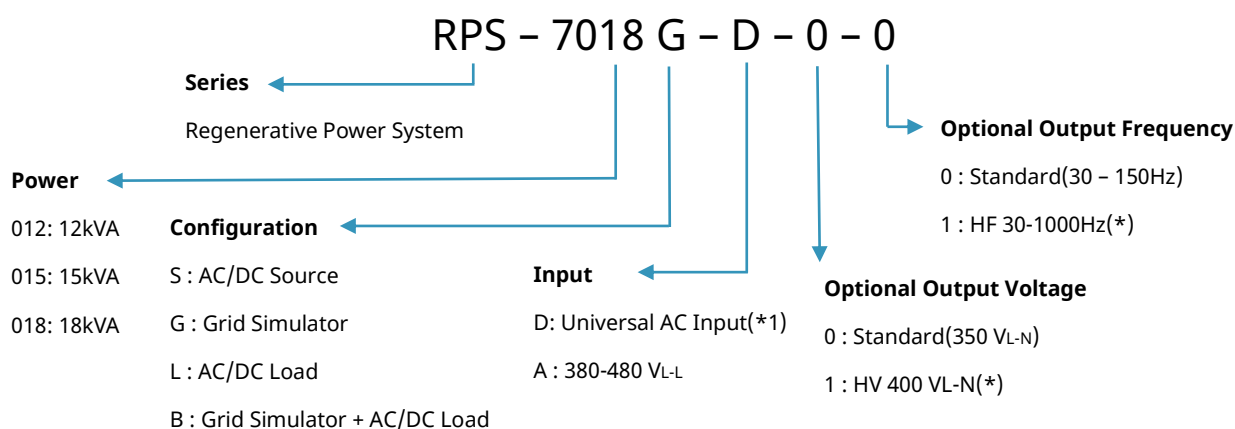
The above specifications are subject to change without prior notice.

## 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

\*1: 200-220 V L-L input available for RPS-7018 parallel up to 180 kVA.

## Accessories list

| Typical Delivery Items                                                                                                                                                                                                                                                                                                            | Optional accessories                                                                                                                                                                                                                                                                                                                    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>■ Regenerative Power System</li> <li>■ USB cable (Type A to Type B) (1.5m)</li> <li>■ LAN cable CAT5E(2m)</li> <li>■ DB25 adapter board (for I/O signal)</li> <li>■ Test Report</li> <li>■ Certificate of Compliance</li> <li>■ Output shorting adapter (for single phase mode)</li> </ul> | <ul style="list-style-type: none"> <li>■ Parallel cable (Display port) (1.2m)</li> <li>■ CAN Bus interface card / CAN Bus cable(1.5m)</li> <li>■ GPIB cable(1.5m)</li> <li>■ DB25 (male to male) adapter</li> <li>■ RPS-7000 series input power cable (3m)</li> <li>■ Output voltage calibration fixture(Remote sense cable)</li> </ul> |

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

## 工程為本，重新定義電力測試的新標準

英菲菱電源由資深電力電子工程師創立，結合超過 20 年的電力測試研發經驗與精密工程技術，專注於提供高精度、高可靠性的電力測試解決方案。從研發驗證到公用事業級能源測試，每套系統皆依循國際品質標準設計與製造，為客戶提供值得信賴的技術與穩定卓越的測試效能，實踐品牌承諾——Powering Trust, Driving Innovation (精準可靠，無限動力)。