iNFiNiPOWER
Powering Trust, Driving Innovation

CUT SHEET

# RPS-7000
# Regenerative Power System

AC Source · AC Load · Grid Simulator

Regenerative | Easy Use | Compliance | High Range | Constant Power | High Current

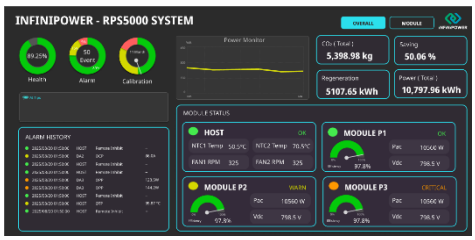
The RPS-7000 regenerative power system delivers 6 kVA – 18 kVA per unit, with up to three units paralleled for 54 kVA/kW, providing a versatile platform for high-performance testing. Featuring a full four-quadrant AC/DC source and load design, it enables regenerative operation to feed energy back to the grid, reducing power and cooling costs. With advanced waveform simulation and harmonic analysis, it ensures precise, efficient, and reliable testing for new energy systems, AI servers, electric vehicles (EVs), and power electronics, while enhancing flexibility and energy utilization across R&D and compliance validation.

## KEY FEATURES

- Power range: 6 kVA – 18 kVA
- Single-phase current: 48A / 144Arms
- AC source, load, and grid simulator in a single unit.
- Maximum current increased by 35%.
- Boosts efficiency to 90% from 80%.
- 50th order harmonic analysis for advanced testing.
- Scalability: Up to 54 kVA with 3 units in parallel.
- Flexible output: single, three, or split-phase.
- Trigger in & out enables seamless synchronization.
- Multiple communication interfaces.
- PowerVue remote management software.
- LIST, PULSE, STEP, TRANSIENT, and Arbitrary Waveform.
- Modular design with built-in DSP enables fast maintenance and calibration.
- Function Test: IEC 61000-3-2/-3-3/-3-11/-3-12/-4-11/-4-13/-4-14/-4-28/-4-34

### PowerVUE:

The remote control software supports PC-based operation, AIoT monitoring, configuration, waveform monitoring, and IEC 61000 compliance testing (e.g., 4-11, 4-13, 4-14, 4-17, 4-28, 4-29).




## About INFINIPOWER:

With 20+ years of R&D expertise in power testing, INFINIPOWER team delivers industry-leading solutions with trusted performance, precision, and stability. Backed by world-class manufacturing and TÜV certification, INFINIPOWER empowers customers—powering trust, driving innovation in the new energy era.

## Technical Specifications

| Item | | | | RPS-7012 | RPS-7015 | RPS-7018 |
|---|---|---|---|---|---|---|
| AC INPUT | Phase | | | 3Ø3W | | |
| | Voltage | | | 200 - 240 $V_{L-L}$ ± 10%, 380 - 480 $V_{L-L}$ ± 10% | | |
| | Frequency | | | 47 - 63Hz | | |
| | Max. Current | | | 47A/phase (200 - 240 VL-L ± 10%) 25A/phase (380 - 480 VL-L ± 10%) | 58A/phase (200 - 240 VL-L ± 10%) 31A/phase (380 - 480 VL-L ± 10%) | 62A/phase (200 - 240 VL-L ± 10%) 38A/phase (380 - 480 VL-L ± 10%) |
| | Power Factor(*1) | | | 0.99(Typical) | | |
| AC OUTPUT | Phase Modes | | | 3Ø, 1Ø or Split phase selectable | | |
| | Max. Power | | | 12kVA/8kVA(Split phase) | 15kVA/10kVA(Split phase) | 18kVA/12kVA(Split phase) |
| | Per Phase/Channel | | | 4kVA | 5kVA | 6kVA |
| AC VOLTAGE | Range | | | 0 - 350$V_{L-N}$, 0 - 606$V_{L-L}$, 0-700$V_{L-L}$(Split phase) Option : 0 - 400$V_{L-N}$, 0 - 692$V_{L-L}$, 0-800$V_{L-L}$(Split phase) | | |
| | Resolution | | | 0.1V | | |
| | Setting Accuracy | | | ± (0.1% of setting + 0.2% F.S.) | | |
| | Total Harmonic Distortion (*2) | | | <0.3% @ 50/60Hz , <1% @ 30-1000Hz, <1.5% @1001-1500Hz | | |
| | Line Regulation (*3) | | | ± 0.1% | | |
| | Load Regulation (*4) | | | ± 0.2% | | |
| | Phase Angle | Range | | 0 - 359.9˚ | | |
| | | Resolution | | 0.1˚ | | |
| MAX. AC CURRENT | RMS(*5) | | | 105A(1Ø)/35A(3Ø/Split) | 120A(1Ø)/40A(3Ø/Split) | 144A(1Ø)/48A(3Ø/Split) |
| | Peak | | | 315A(1Ø)/105A(3Ø/Split) | 360A(1Ø)/120A(3Ø/Split) | 432A(1Ø)/144A(3Ø/Split) |
| | Crest Factor | | | 3 | 3 | 3 |
| FREQUENCY | Range | | | DC, 30.00 – 150.0 Hz, Option : DC, 30.00 - 1500.0 Hz | | |
| | Resolution / Accuracy(*6) | | | 0.01Hz / ± 0.01% of settimg at voltage > 10v | | |
| DC OUTPUT | Max. Power | | | 12kW/8kW (Split phase) | 15kW/10kW(Split phase) | 18kW/12kW(Split phase) |
| | Per Phase/Channel | | | 4kW | 5kW | 6kW |
| DC VOLTAGE | Range | | | ±495VDC, ±990VDC(Split phase), Option : ±565VDC, ±1130VDC(Split phase) | | |
| | Resolution / Setting Accuracy | | | 0.1V / ± (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 iTHD(*7) | | | <6%(Typical) | <5%(Typical) | <5%(Typical) |
| | Power Factor(*8) | | | 0.97(Typical) | | |
| CURRENT LIMIT FUNCTION | Setting | Range | 1Ø | 0.1 - 105A | 0.1 - 120.0A | 0.1 - 144.0A |
| | | | 3Ø/Split phase | 0.1 - 35A | 0.1 - 40.0A | 0.1 - 48.0A |
| | | Resolution | | 0.1A | | |
| | | Accuracy | | ± (2.0% of setting + 0.5% F.S.) | | |
| | Response Time | | | < 0.5s | | |
| MEASUREMENT | Voltage (AC) | Range | | 0 - 350$V_{L-N}$, 0 - 606$V_{L-L}$, 0 – 700$V_{L-L}$(Split) Option : 0 - 400$V_{L-N}$, 0 - 692$V_{L-L}$, 0 – 800$V_{L-L}$(Split) | | |
| | | Resolution / Accuracy | | 0.01V / ± (0.1% of reading + 0.2% F.S.) at Voltage > 5V | | |
| GENERAL | Interface | | | USB, Ethernet, External I/O(DB25), Option: GPIB, CAN Bus | | |
| | Display | | | Full Color, Touch LCD Display, 5” Diagonal size, 800 x 400 Pixels resolution | | |
| | Protection | | | OCP, OVP, OPP, OTP, SHORT, FAN | | |
| | V Sense / Efficiency (*9) | | | Yes / > 90% (Typical) | | |
| | Dimension(H x W x D) / Weight | | | 132.8 x 432 x 718 mm / 60kg | | |
| ENVIRONMENTAL | Cooling | | | Variable speed fan cooled, front intake, rear exhaust | | |
| | Operating / Storage Temperature | | | 0 to 40°C / -40 to 85°C | | |
| | Altitude / Operating Humidity(*10) | | | 2000m (6500 feet) /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. | | |

For items 1–10(*), please consult the datasheet; all information is subject to change without notice.