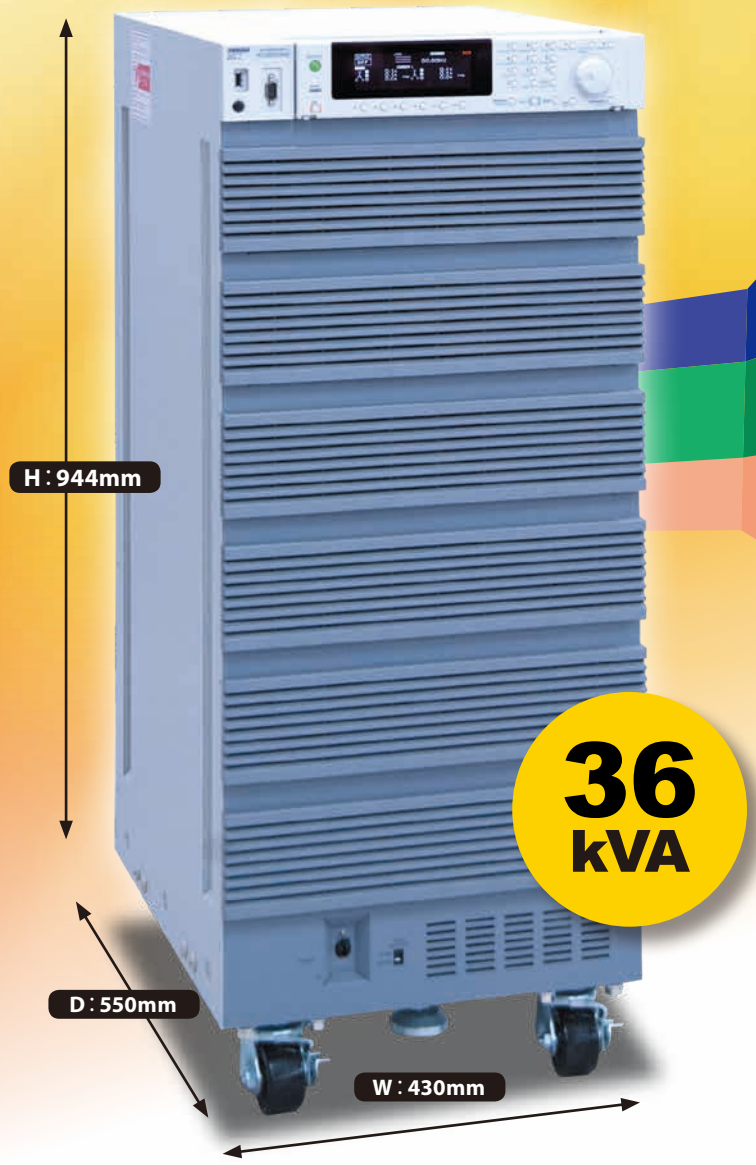
Low-noise High-power AC Power Supply
PCR36000M2

KIKUSUI

# Bringing high power to your test environment at an affordable cost!




The PCR36000M2 is a single cabinet 36kVA stabilized AC power supply. Utilizing state-of-the-art switching technology, the PCR36000M2 provides stable, high power output in an ultra-compact chassis. The user-friendly interface combined with low-noise, high-quality waveform output provides a power environment unrivaled by any power supply on the market.

**High Power 36kVA–144kVA**

**Ultra-Compact & Light Weight**

**Low Noise & Stable Output**

## Low-noise High-power AC Power Supply

### PCR36000M2 NEW

### Features

- Compact and lightweight
- High power - 36 kVA in a single, compact chassis
- AC 310 V output available
- Frequency: 10 Hz to 500 Hz
- Parallel operation up to 144 kVA

**Best for**

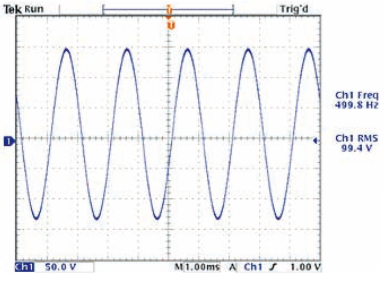
- Highly stable CVCF for the production line
- Low noise CVCF for EMC testing labs
- Stabilization of ATE system power line
- High quality 400 Hz GPU for Aircraft etc.

### High-Quality Waveform Output!

Precise Waveform Output
THD as low as 1 % at 400 Hz output

### Ultra-Fine Output accuracy and stability

The voltage regulation function allows for extremely stable waveform generation even in high frequencies




**Output Wave form**
100 V, 500 Hz, with Voltage regulation function

## Related Product

### Ultra-Compact AC/DC Programmable Power Supply PCR-WE/WE2 series

For more testing functions and wide range of applications

- Lineup range: 1 kVA to 36 kVA (9 power ranges)
- Single & 3 phase variable output from 3 kVA and up
- AC 310 V and DC ±438 V output available
- Wide band output frequency: 1Hz to 5kHz
- Easy rack mount integration: 6 kVA/6U compact size
- Built-in Power Line Disturbance Simulation features
- LAN(LXI)/USB/RS232C digital interface

# ■Specifications

## Input

| | |
|---|---|
| Voltage (nominal) | 380 Vrms to 480 Vrms (3 phase line voltage) |
| Voltage (allowable variation range) | 323 Vrms to 519 Vrms (3 phase line voltage) |
| Frequency (nominal) | 50 Hz to 60 Hz |
| Frequency (allowable variation range) | 45 Hz to 65 Hz |
| Apparent power | 46.8 kVA or less |
| Power factor *1 | 0.95 (TYP) |
| Maximum current *2 | 84 A |
| Hold-up time for power interruption *1 | 10 ms |
| Protective conductor current *3 | 3.5 mA or less |

*1. At output voltage 100 V/200 V, rated output current, sine wave, load power factor 1, output frequency 40 Hz to 500 Hz
*2. Current at the minimum voltage (within the allowable variation range)
*3. At output voltage 100 V/200 V, rated output current, sine wave, load power factor 1, output frequency 45 Hz to 65 Hz

## Output

| | | |
|---|---|---|
| AC voltage *1 | Rating *2 | 155 V / 310 V |
| | Setting range | 0 V to 157.5 V, 0 V to 315.0 V |
| | Resolution | 0.1 V |
| | Setting accuracy *3 *4 *5 | Phase voltage: ±(0.3 % of setting + 0.3 V), ±(0.3 % of setting + 0.6 V)<br>Line voltage: ±(0.3 % of setting + 0.3 V), ±(0.3 % of setting + 0.6 V) |
| Maximum current *1 *6 | Single-phase output | 360 A / 180 A |
| | Single-phase three-wire output<br>Three-phase output | 120 A / 60 A |
| Maximum peak current *7 | | 4 times the maximum output current |
| Inrush current capacity *8 | | Current at 1.4 times the maximum output current for 0.5 s |
| Phase | | 1P2W, 1P3W, 3P4W switchable |
| Power capacity | Single-phase output | 36 kVA |
| | 3P output | 36 kVA |
| | Single-phase three-wire output | 24 kVA |
| Load power factor | | 0 to 1 (leading or lagging) |
| Frequency | Setting range | 10 Hz to 500 Hz |
| | Resolution | 0.01 Hz (10.00 Hz to 99.99 Hz), 0.1 Hz (100.0 Hz to 500.0 Hz) |
| | Setting accuracy *3 | ±0.01 % |
| Phase | Resolution | 0.1° |
| | Setting accuracy *3 *9 | Within 120° ± (0.4°+2.5 μs)<br>Within (120° ± (0.4° + fo×0.9×10-3°)) fo: frequency [kHz] |
| Efficiency *10 | | 85 % (TYP) |

*1. Output L range, H range
*2. The spec guaranteed voltage range is 1 V to 155 V and 2 V to 310 V.
*3. At an ambient temperature of 23 °C±5 °C.
*4. At no load, output frequency 45 Hz to 65 Hz
*5. At the phase angle of 120° of each phase
*6. When the output voltage is between 100 Vac and 155 Vac or 200 Vac and 310 Vac,the output current is reduced by the output voltage.
When the output frequency is between 10 Hz and 40 Hz, the output current is reduced by the output frequency. The output current is 77 % at 10 Hz.
*7. Repeated output is possible when the crest factor is 4.
*8. At an ambient temperature of 23 °C±5 °C.
*9. Example in which angle conversion is performed at a given frequency, with in 120° ± 0.5° (at 60 Hz output), with in 120° ± 0.8° (at 400 Hz output)
*10. At output voltage 100 V/200 V, rated output current, sine wave, load power factor 1, output frequency 40 Hz to 500 Hz

## Output voltage stability (phase voltage)

At an ambient temperature of 23 °C±5 °C

| | |
|---|---|
| Line regulation *1 | Within ±0.1 % |
| Load regulation *2 | Within ±0.2 V/±0.4 V (10 Hz to 100 Hz)<br>Within ±0.3 V/±0.6 V (100.1 Hz to 500 Hz) |
| Variation according to output frequency *3 | within ±1 % |
| Temperature coefficient *4 | 100ppm/°C (TYP) |
| Total harmonic distortion *5 | 0.3 % or less (at 50 Hz or 60 Hz)<br>0.5 % or less (10 Hz to 100 Hz)<br>1.5 % or less (100.1 Hz to 500 Hz) |

*1. For input voltage changes within the rated range
*2. For output current changes within 0 to 100 % of the rating Output L range, H range When the output phase voltage is between 80 V and 155 V or 160 V and 310 V, and the load power factor is 1 At the output terminal block. When the compensation function is not used
*3. Voltage variation over 40 Hz to 500 Hz in AC mode with 55 Hz as the reference When the output phase voltage is between 80 V and 155 V or 160 V and 310 V, and the load power factor is 1 At the output terminal block.
*4. For changes within the operating temperature range At output phase voltage 100 V/200 V, no load
*5. When the output phase voltage is between 80 V and 155 V or 160 V and 310 V, and the load power factor is 1 At the output terminal block.

## Options

- Input power cable : AC22-1P3M-M5C-5S
- Parallel operation cable : PC01-PCR-WE (length 1m)
- Cable for synchronizing the power switches : LC01-PCR-LE

## Measurement

| | | |
|---|---|---|
| Voltage Rms value | Resolution | 0.1 V |
| | Accuracy *1 | ±(0.3 % of reading +1 V) (40 Hz to 500 Hz) |
| Current Rms value | Resolution | 0.1 A |
| | Accuracy *1 *2 | 45 Hz to 65 Hz: ±(0.3 % of reading + 0.3 % of f.s.)<br>40 Hz to 500 Hz: ±(0.6 % of reading + 0.6 % of f.s.) |
| Current Peak value | Resolution | 1 A |
| | Accuracy *1 *3 | 4 % of f.s |
| Active power | Resolution | 10 W |
| | Accuracy *1 *2* 4 | 45 Hz to 65 Hz: ±(0.3 % of reading + 0.3 % of f.s.) |
| Apparent power | Resolution | 10 VA |
| Power factor | Resolution | 0.01 |
| Phase difference | Resolution | 0.1° |
| Recommended calibration period | | 1 year |

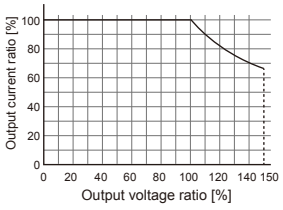
*1. At an ambient temperature of 23 °C±5 °C.
*2. At 10 % to 100 % of maximum rated current, sine wave
*3. Pulse height of sine wave
*4. At a power factor of 1

## General

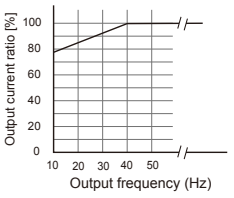
| | | |
|---|---|---|
| Insulation resistance | Between input and chassis, output and chassis, and input and output | 500 Vdc, 10 MΩ or more |
| Withstanding voltage | Between input and chassis, output and chassis, and input and output | 1.5 kVac, 2.15 kVdc for 1 minute |
| Isolation voltage | | 315 Vrms/ 445 Vdc |
| Electromagnetic compatibility (EMC) *1 *2 | | Complies with the requirements of the following directive and standards.<br>EMC Directive 2014/30/EU<br>EN 61326-1 (Class A*3 )<br>EN 55011 (Class A*3, Group 1 *4 )<br>Applicable under the following conditions<br>The maximum length of all cabling and wiring connected to the product must be less than 3 m. |
| Safety *1 | | Complies with the requirements of the following directive and standards.<br>Low Voltage Directive 2014/35/EU *2<br>EN 61010-1 (Class I *5 , Pollution Degree 2 *6 ) |
| Environmental conditions | Operating environment | Indoor use, overvoltage category II |
| | Operating temperature range | 0 °C to +40 °C (32 °F to +104 °F) |
| | Storage temperature range | -10 °C to +60 °C (14 °F to +140 °F) |
| | Operating humidity range | 20 %rh to 80 %rh (no condensation). |
| | Storage humidity range | 90 %rh or less (no condensation). |
| | Altitude | Up to 2000 m |
| Dimensions (Max)/Weight | | 430(445)W × 944(1040) H× 550(660) D mm/170 kg (374.8 lb) |
| Input terminal | | M5 |
| Output terminals | | M8 |

*1. Does not apply to specially ordered or modified products.
*2. Only on models that have the CE marking on the panel.
*3. This is a Class A instrument. This product is intended for use in an industrial environment. This product may cause interference if used in residential areas. Such use must be avoided unless the user takes special measures to reduce electromagnetic emissions to prevent interference to the reception of radio and television broadcasts.
*4. This is a Group 1 instrument. This product does not generate and/or use intentionally radio-frequency energy, in the form of electromagnetic radiation, inductive and/or capacitive coupling, for the treatment of material or inspection/analysis purpose.
*5. This product confirms to Class I. Be sure to ground the protective conductor terminal of this product. If not grounded properly, safety is not guaranteed.
*6. Pollution is addition of foreign matter (solid, liquid or gaseous) that may produce a reduction of dielectric strength or surface resistivity. Pollution Degree 2 assumes that only non-conductive pollution will occur except for an occasional temporary conductivity caused by condensation.

## Rated output current characteristics (derating)




Output voltage ratio vs. output current ratio




Output frequency vs. output current ratio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