Multi Range DC Power Supply
PWR Series

3 types supporting rated output voltages of L (80 V), M (320 V), and H (650 V).
3 types supporting maximum output powers of 400 W, 800 W, and 1600 W. 9 models in the series in total.
Power supply with quintuple variable voltage/current range (3.25-times for the H type)
Capable of outputting up to 160 % of the rated current (extended operation areas) (L type)
With a single PWR series power supply alone, you can cover an extensive output range equivalent to what is provided by three to six conventional single range DC power supplies.

PWR series

Multi Range DC Power Supply

Provides a seamless, wide, variable range of voltages and currents.

The PWR series offers DC power supplies that enable you to combine a multi range of voltages and currents within the output power rating. The series has a lineup of 9 models in total, 3 types supporting rated output voltages of L, M, and H and 3 types supporting different maximum output powers. The L and M types offer a quintuple variable range of voltages and currents. The L type is capable of outputting up to 80 V, and the M type up to 320 V. In addition, the L type is capable of outputting up to 160% of the rated output current. (See Operation Area.) The H type offers a 3.25-times variable range of voltages and current, and is capable of outputting up to 650 V.

Operation Area

[Extended operation areas]
The L type offers extended operation areas equivalent to up to 160% of the output current rating. Some of the specifications may not be satisfied in the extended operation areas.
- Continuous extended operation area (up to 120% of the output current rating): Continuous current output is enabled. However, derating occurs at an ambient temperature 30°C or higher.
- Intermittent extended operation area (120% to 160% of the output current rating): Continuous current output is enabled for 10 minutes or less. However, a nonoperating period more than twice the output period must be taken.
**Very Convenient and Economical Power Supplies That Serve Multiple Purposes.**

The PWR series contributes to applications in which the environment greatly changes, such as tests with varying voltages and currents and research and development experiments with the voltage and current ranges varying widely depending on the item under development.

### Applications

- **Car electronics components** ............... EPS motor, Radiator, Fan motor, DD converter, Vehicular harness, ECU, Door lock, Power window, HID lamp, etc.
- **Electronic components** ............... TFT back light, Photovoltaic inverter, DD converter, etc.
- **Batteries** ............... Lead battery, sealed battery, etc.
- **Communication equipment** ............... Switches, communication servers, etc.
- **Tests** ............... Suitable for applications for which a test voltage or current is not determined

### Parallel Operation Possible

Parallel operation enables multiple power supplies of the same model to operate in parallel, offering a large capacity of up to 8 kW (when five 1600-watt models are connected in parallel).

### Front Output Terminals Included as Standard.

The power supplies have front output terminals (up to 30 A) for desktop use.

#### Panel Description (400-Watt Type)

- **SHIFT**
  - Pressing a switch lit in blue while holding down this switch enables the function corresponding to that blue-lit switch.
- **CONFIG**
  - Turning on the power while holding down this switch starts the power supply in the CONFIG state, in which you can configure the settings related to the system operation.
- **LOCK**
  - Pressing this switch disables all the switches other than the output on/off switch.
- **ADDRESS**
  - Press this switch to set a node address in the range of 05 to 36 for external control.
- **POWER**
  - This is the power switch.

#### DC OUTPUT

- **SENSING terminal**
- **Air vent**
- **J1 connector**
  - Use this connector to select the analog remote control, serial/parallel operation, and other functions.
- **TP-BUS connector**
  - Use this connector to connect the power supply to Kikusui’s PIA4800 series controller using a twisted pair wire for digital remote control.
- **AC INPUT**
  - Note: This will be a terminal board for the 1600-watt type.

### Digital Communication Function (TP-BUS) Included as Standard.

In addition to an analog external control, a digital communication function (TP-BUS) is included as standard. When used with a power supply controller (PIA4830), which is an option to be purchased separately, the function enables up to 32 PWR series power supplies to be controlled using the GPIB or RS232C interface. In addition, the sequence generation software (Wavy for PWR+PIA4830), allows users to exert output control over a single PWR series power supply with sequence patterns of their choice and to read result data. (If controlling more than one power supply with Wavy, contact us for consultation.)

#### Power supply controller PIA4830

GPIB/RS232C interface unit.

Up to 32 PWR series power supplies can be controlled with one PIA4830 controller.

#### Sequence generation software Wavy for PWR+PIA4830

**Features/functions**

- Waveform images can be generated easily using the mouse.
- Sequences can be developed and edited with ease.
- Voltages and currents can be monitored and saved in files.
- Text files can be read freely.

*OS: Windows Vista, XP, 2000*

#### Options

- **Analog remote control connector kit: OP01-PAS**
  - Connect the provided connector to the J1 connector on the rear side for external control.
- **Content**
  - 26-pin connector, semi-cover, pin (× 10), and ground cable
- **Carrying handle (for PWR400L): CH01-PWR**

- **Rack mount adapter (for 400 W/800 W MODEL)**
  - KRA3 (EIA-compatible inch rack)
  - KRA150 (JIS-compatible millimeter rack)
- **Rack mount bracket (for 1600 W MODEL)**
  - KRB3-TOS (EIA-compatible inch rack)
  - KRB150-TOS (JIS-compatible millimeter rack)
**Specification**

<table>
<thead>
<tr>
<th>Model</th>
<th>Output Constant (CV) characteristics</th>
<th>Constant current (CC) characteristics</th>
<th>Power input/Miscellaneous</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CV</td>
<td>CC</td>
<td>Rated power</td>
</tr>
<tr>
<td></td>
<td>V</td>
<td>A</td>
<td>W</td>
</tr>
<tr>
<td>L type</td>
<td>0 to 80</td>
<td>0 to 25</td>
<td>MAX 40</td>
</tr>
<tr>
<td></td>
<td>0 to 50</td>
<td>MAX 80</td>
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<td></td>
<td>0 to 100</td>
<td>MAX 160</td>
<td>1600</td>
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<tr>
<td>M type</td>
<td>0 to 320</td>
<td>0 to 6.25</td>
<td>440</td>
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<tr>
<td></td>
<td>0 to 12.5</td>
<td>800</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>0 to 25</td>
<td>1600</td>
<td>25</td>
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<tr>
<td>H type</td>
<td>0 to 650</td>
<td>0 to 2</td>
<td>440</td>
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<tr>
<td></td>
<td>0 to 4</td>
<td>800</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>0 to 8</td>
<td>1600</td>
<td>40</td>
</tr>
</tbody>
</table>

**NOTE:** For the PWR series, the low leakage current type (LLC model) is also available. For more information, please contact us. Please note that the Low Leakage Current(LLC) type is not applied for the CE marked products.

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**Common specification**

- Input power: 100 to 240 VAC (85 to 250 VAC), single-phase
- Power factor: 0.98 standard
- Efficiency: 70 % or greater
- Temperature coefficient: 100 ppm/˚C for constant voltage output
- Measuring meters: Voltmeter (23 (C) ± 5 C)
  - Maximum display (fixed point): 9.999 (M and H types)
- Display error: ±(0.2 % of rdng) + 6 digits
- Ammeter (23 (C) ± 1 C)
  - Maximum display (fixed point)

**Protection function:**

- Over voltage protection (OVP)
  - Setting range (10 % to 110 % of the rated output power or greater)

**Parallel operation:**

- Up to 5 units including master (of same model)
- Serial operation:
  - Up to 2 units including master (of same model, for the L type only)

**Digital control:**

- TP-BUS (directly controllable from PIA4810/PIA4830)

**Dimensions drawing**

- **Units:** mm (inch)

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**Issue:**Oct 2019 201910PDFEC81a