



## **Variable-switching System Regulated DC Power Supplies PVS Series**

Constant-voltage/constant-current 1200 W and 2800 W types, 36 models in all  
Maximum rated output voltage of 600 V / maximum rated output current of 300 A

Low-profile design that improves mounting efficiency

Ideal for use as rack-mounted power supplies capable of handling burn-in,  
aging, and other applications



## *Full-Fledged Rack-Mounted Power Supplies*

# PVS series

### The features we pursued for rack-mounted power supplies

The PVS Series is a series of variable-output switching DC power supplies with excellent electrical performance and reliability and has a wide range of constant-voltage (CV) and constant-current (CC) output operation regions. It includes two types of models with output capacities of 1200 W and 2800 W, and each model in the series has a different maximum output voltage (7.5 V to 600 V). Moreover, the series has the capabilities required to form a system, such as external control, protection, and monitoring functions and a GPIB interface (for models with the GPIB feature). The series comprises 36 models in all.

Featuring a low-profile configuration suitable for rack mounting, the PVS Series power supplies can be installed in a limited space in a rack. This enables space-saving as well as efficient use of racks. The PVS Series power supplies may be used for aging tests of electronic devices such as chips, capacitors, and PDPs, and may also be used to power measurement and control systems.



\* The units installed in Rack-mounting.

### Performance and Features

#### ■ Low-profile design

1200 W type: about 44 mm high 2800 W type: about 88 mm high

#### ■ Voltage and current presetting

10-turn helical potentiometers are used for both voltage and current control knobs. (Voltage setting resolution: 0.02% of maximum V)

#### ■ Simultaneous voltage and current display

Digital display shows 3.5 digits using large red LEDs

#### ■ Remote control using external voltage

Output voltage and current can be controlled using an external voltage source (0 to 5 V DC or 0 to 10 V DC).

#### ■ Remote control using an external resistor

Output voltage and current can be controlled using an external resistor (0 to 5 k $\Omega$  or 0 to 10 k $\Omega$ ).

#### ■ Output ON/OFF control

ON/OFF of output can be controlled using an external 0/5 V signal.

*Thirty-six models,  
The PVS Series offers*



# 44/88<sub>mm</sub>

# 7.5 to 600

## Low-Profile Design

## Extensive Line-Up

### ■ PC-based Control

#### ● GPIB Control

You can control the power supplies using a PC through the GPIB interface (only for models with the GPIB feature). Since all commands required for power supply systems are provided, including setting of output voltage and current, you can configure a full-fledged power supply system with capabilities such as read-back of output voltage and current, and alarm outputs.

#### ● Power Controller-Based Control

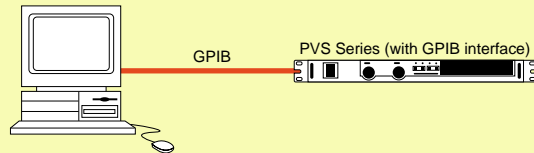
You can use a Kikusui PIA4800 Series power supply controller to control the power supplies. This configuration allows you to set the output voltage and current and read them back \*1.

Moreover, multi-channel control and remote control from up to 200 m are available, allowing you to configure a highly flexible power supply system.

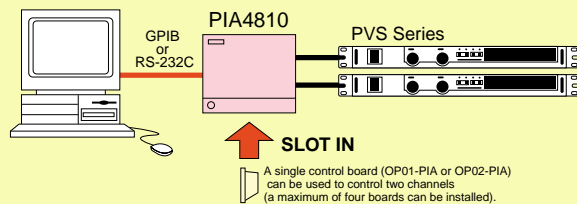
\*1 Possible when OP01-PLA control board is used

\* For more information, see the catalog for the PIA4800 Series power supply controller.

### ● Conceptual diagram of GPIB connection

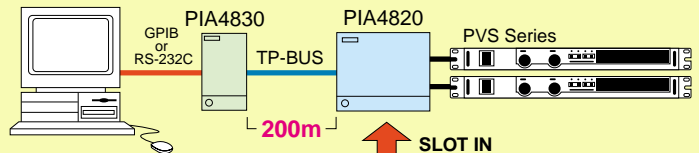


### ● Conceptual diagram of connection using a power supply controller (basic system)



A single control board (OP01-PIA or OP02-PIA) can be used to control two channels (a maximum of four boards can be installed).

### ● Conceptual diagram of connection using a power supply controller (remote control system)



A single control board (OP01-PIA or OP02-PIA) can be used to control two channels (a maximum of four boards can be installed).

## all featuring space-saving construction a wide range of specifications.



# 600V 1200/2800W

## High Power with a Margin

### ■ Parallel operation (simple parallel)

The same models can be connected in parallel to increase the current capacity.

### ■ Series operation (simple series)

The same models can be connected in series to increase the output voltage.

\* When the power supplies are connected in series, the total output voltage must be 600 V or less.

### ■ Remote sensing

This feature prevents voltage drop resulting from the load-wire resistance or deterioration of stability caused by contact resistance. Remote sensing compensates a voltage drop of about 5 V for go and return when the voltage at the rear output terminals is within the rated range. Remote sensing is also available during parallel operations.

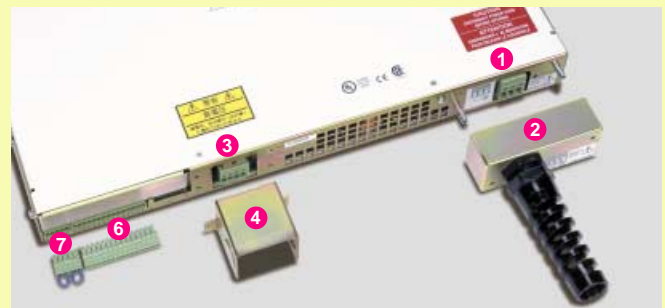
\* Supply voltage to the actual load is the value obtained by subtracting the line voltage drop from the output voltage at the DC output terminals.

### ■ Monitor output

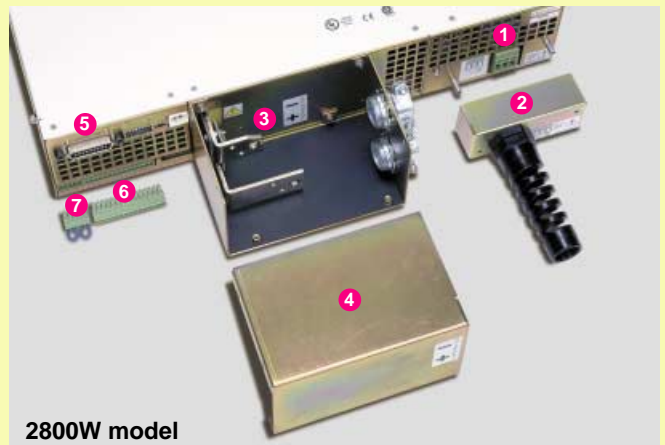
A monitoring output of 0 to 10 V is output relative to an output voltage of 0 V to rating and an output current of 0 A to rating. (Accuracy: 1%)

*and high power.*

### Rear Panel



1200W model



2800W model

- ① AC input terminals (wire clamping connector)
- ② Power cable strain relief
- ③ DC output bus bar  
(Wire clamping connector for the 60-600 V output model of 1,200 W type and the 150-600 V output model of 2,800 V type)
- ④ Bus bar shield
- ⑤ GPIB interface (only for models with GPIB feature)
- ⑥ External analog control and monitor output terminals
- ⑦ Sensing terminals



### Full-size photo 1200W type

\* The bracket for rack mounting is equipped with the unit of 1200W type as standard (both "inch size" and "millimeter size")  
The bracket for rack mounting comes with the unit of 2800W type for "inch size". ("millimeter size" is optional)

## Line-Up/Main Specifications



Model	Output		CV (constant voltage) characteristics					CC (constant current) characteristics		
	CV	CC	Ripple	Line regulation	Load regulation	Transient response*1	Rise / fall time*2	Ripple	Line regulation	Load regulation
	V	A	mVrms	mV	mV	ms or less	ms(at full load)	A rms	mA	mA
PVS7.5-140	0 to 7.5	0 to 140	10	5.75	11	3	100/100	0.8	72	110
PVS7.5-140(with GPIB)										
PVS12-100	0 to 12	0 to 100	10	8	14	3	100/100	0.8	52	80
PVS12-100(with GPIB)										
PVS20-60	0 to 20	0 to 60	10	12	20	3	100/100	0.5	32	50
PVS20-60(with GPIB)										
PVS40-30	0 to 40	0 to 30	10	22	35	3	100/100	0.5	17	27.5
PVS40-30(with GPIB)										
PVS60-20	0 to 60	0 to 20	10	32	50	3	100/100	0.5	12	20
PVS60-20(with GPIB)										
PVS100-12	0 to 100	0 to 12	10	52	80	3	170/170	0.2	8	14
PVS100-12(with GPIB)										
PVS150-8	0 to 150	0 to 8	20	77	118	3	170/170	0.2	6	11
PVS150-8(with GPIB)										
PVS300-4	0 to 300	0 to 4	30	152	230	3	170/170	0.2	4	8
PVS300-4(with GPIB)										
PVS600-2	0 to 600	0 to 2	80	302	455	3	170/170	0.2	3	6.5
PVS600-2(with GPIB)										



Model	Output		CV (constant voltage) characteristics					CC (constant current) characteristics		
	CV	CC	Ripple	Line regulation	Load regulation	Transient response*1	Rise / fall time*2	Ripple	Line regulation	Load regulation
	V	A	mVrms	mV	mV	ms or less	ms(at full load)	A rms	mA	mA
PVS7.5-300	0 to 7.5	0 to 300	10	5.75	11	3	100/100	1.6	152	230
PVS7.5-300(with GPIB)										
PVS12-220	0 to 12	0 to 220	10	8	14	3	100/100	1.5	112	170
PVS12-220(with GPIB)										
PVS20-130	0 to 20	0 to 130	10	12	20	3	100/100	1.4	67	103
PVS20-130(with GPIB)										
PVS40-70	0 to 40	0 to 70	15	22	35	3	100/100	1	37	58
PVS40-70(with GPIB)										
PVS60-46	0 to 60	0 to 46	15	32	50	3	100/100	0.9	25	40
PVS60-46(with GPIB)										
PVS100-28	0 to 100	0 to 28	25	52	80	3	170/170	0.8	16	26
PVS100-28(with GPIB)										
PVS150-18	0 to 150	0 to 18	25	77	118	3	170/170	0.1	11	19
PVS150-18(with GPIB)										
PVS300-9	0 to 300	0 to 9	40	152	230	3	170/170	0.07	6.5	12
PVS300-9(with GPIB)										
PVS600-4	0 to 600	0 to 4	100	302	455	3	170/170	0.03	4	8
PVS600-4(with GPIB)										

\*1: Recovery time taken for the output voltage to settle within a variation range of 0.5% of the previous level after the occurrence of stepwise changes in the load current value covering 10% to 90% of the rated output. Note that the output voltage is between 50% and 100% of the rating.

\*2: When measured using a 0-10 V stepwise analog programming power supply and a resistive load



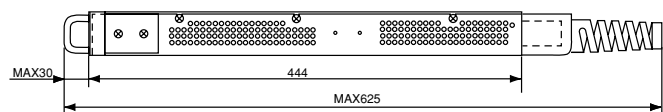
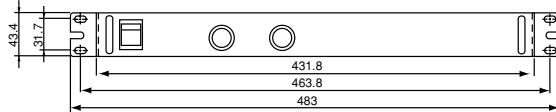
## Common Specifications

	1200 W type	2800 W type
Input power	Single phase, 85 to 130 V AC or 190 to 264 V AC (automatic switching), 47 to 63 Hz	Single phase, 190 to 264 V AC, 47 to 63 Hz
Input current	24 A max. (100 V AC), 14 A max. (200 V AC)	25 A max. (200 V AC)
Voltage to ground	±600 V DC	Same as left
Power factor	0.65 minimum (at maximum load and 100 V AC), 0.55 minimum (at maximum load and 200 V AC)	0.65 minimum (at maximum load and 200 V AC)
Efficiency	0.78(PVS7.5-140) / 0.81(PVS712-100,PVS20-60) / 0.83(PVS40-30) / 0.85(PVS600-2) / 0.84 (models other than that noted)	0.80(PVS7.5-300) / 0.82(PVS12-220) / 0.85(PVS20-130) / 0.87(PVS40-70) / 0.90(PVS60-46,PVS100-28,PVS150-18) / 0.91(PVS300-9),(PVS600-4)
Switching frequency	Normally 78 kHz (7.5-100 V models); normally 62.5 kHz (150-600 V models)	Normally 31 kHz (for all models)
Meter indication	Voltmeter error:1% of max. V + 1 digit, ammeter error:1% of max. I + 1 digit	Same as left
Cooling system	Forced air cooling using fans, exhaust from the rear	Same as left
Terminal configuration	AC input: three-terminal wire clamping connector DC output: Steel bus bar (7.5-40 V models) Four-terminal wire clamping connector (60-600 V models) Sensing: Five-terminal wire clamping connector External analog control: 15-terminal wire clamping connector	AC input: three-terminal wire clamping connector DC output: Steel bus bar (7.5-100 V models) Four-terminal wire clamping connector (150-600 V models) Sensing: Five-terminal wire clamping connector External analog control: 15-terminal wire clamping connector
Environmental conditions	Operating ambient temperature range: 0° to +50°C Storage ambient temperature range: -20° to +70°C Humidity range: 30% to 90% R.H, no condensation allowed	Same as left
Insulation resistance	Chassis to input power: 500 V DC, 30 MΩ or more (when measured at an ambient humidity of 70% or less) Chassis to output power: 1,000 V DC, 20 MΩ or more (when measured at an ambient humidity of 70% or less)	Same as left
Dielectric strength	Input power to output terminals and input power to chassis: There must be no abnormality at 1,500 V AC for 1 minute.	Same as left
Dimensions	431.8 (483) W × 43.4 H × 444 (625) D mm*	431.8 (483) W × 87.63 H × 444 (625) D mm*
Weight	Approx. 8.2 kg	Approx. 15 kg

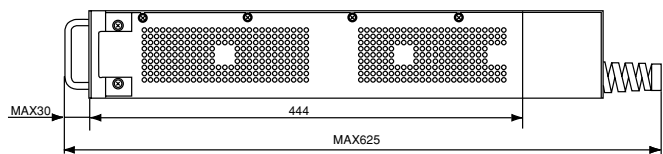
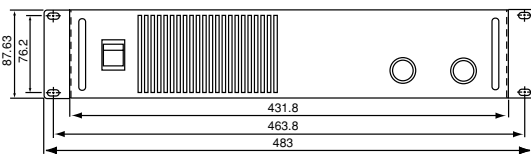
\* Values in parentheses indicate the maximum dimensions including protrusions such as brackets.

## Dimensions and Options

### 1200W type



### 2800W type



Item Name	Model	Remarks
Bracket	KRB100-PVS	For 2,800 W type and mm size (JIS compatible)
Support angle	KRB1-PVS	For rack mounting of the PVS Series (applicable to Kikusui RC322/KRO Series)
Blank panel	BP1H	Blind panel with a standard rack width of 19" and mm-size height (50 mm)
	BP191-M	Blind panel with a standard rack width of 19" and inch-size height (44.45 mm)

\*To mount the PVS1200W type in an EIA standard rack, a maximum of 2 units can be stacked, keeping space for 1 unit above and below.(Note:No keeping space for the PVS2800W type.)

●These products are manufactured by XANTREX (Canada).



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