

## 1600 W Programmable DC Power Supply



### Technical Specifications

	PSA16-100	PSA20-80	PSA32-50	PSA40-40	PSA60-26	PSA80-20	PSA100-16	PSA120-13	PSA160-10	PSA300-5	PSA600-2.67	PSA800-2	PSA1000-1.6	
Output Voltage (V)	16	20	32	40	60	80	100	120	160	300	600V	800	1000	
Output Current (A)	100	80	50	40	26.67	20	16	13.3	10	5.33	2.67	2	1.6	
Rated Power (W)	1600													
Efficiency at 230V, full load (%)	80	80	83	83	85	85	85	85	85	85	87	87	87	
<b>Constant Voltage Mode</b>														
Load regulation 0 ~ 100% (mV)	2	2	4	4	4	4	4	4	6	6	10	10	10	
Line Regulation (mV)	1	1	1	1	1	1	1	2	2	3	3	3	3	
Ripple	BW=300 kHz (mVrms)	5	5	5	5	5	7	8	8	10	15	20	30	50
	BW= 5Hz~1MHz (mVrms)	8	8	8	8	8	10	12	12	15	18	25	40	60
	20 MHz (mVpp)	30	30	30	40	40	45	50	50	60	70	80	90	120

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<b>Constant Current Mode</b>														
Load regulation 0 ~ 100% (mA)		15	15	10	10	10	10	9	9	8	8	8	8	8
Line Regulation (mA)		2	2	2	2	2	2	2	2	2	2	2	2	2
Ripple (at full load)	BW=300 kHz (mArms)	35	35	35	30	28	25	22	20	20	12	5	5	4
	BW= 5Hz~1MHz (mArms)	50	50	50	40	35	30	27	25	20	15	8	6	5
	20 MHz (mApp)	130	120	120	100	90	80	70	60	60	50	30	25	22
Remote sense drop (V)		1	1	2	2	2	2	2	2	2	2	5	5	5
<b>Programming Speed (into resistive load)</b>														
<b>Rise time (10% to 90%)</b>	100% load (ms)	12	15	20	25	28	30	35	50	80	120	150	200	250
	10% load (ms)	8	10	18	20	25	25	30	40	70	110	130	180	220
<b>Fall time (90% to 10%)</b>	100% load (ms)	20	20	22	22	25	35	50	80	100	180	200	220	250
	10% load (ms)	200	210	225	240	250	350	400	600	800	850	1000	1200	1500
	No Load (s)	1.2	1.2	1.5	2.0	2.5	3.0	3.5	4.5	6	8	10	12	15
<b>Recovery Time</b>														
Recovery within (mV)		80	80	80	80	80	100	120	150	200	300	500	600	800
Time @ 50 – 100 % load step (μs)		100	100	100	100	100	100	100	100	100	100	100	100	100
Max deviation @ 230 V mains (V)		0.15	0.15	0.15	0.15	0.15	0.25	0.5	0.8	1.0	1.5	2.0	2.5	3.0
<b>Output Impedance (mΩ)</b>	CV, 0-1kHz	<1	<1	<2	<10	<10	<10	<10	<10	<10	<20	<20	<30	<40
	CV, 1-100kHz	<5	<5	<10	<30	<30	<30	<30	<30	<30	<60	<60	<80	<100
<b>Temperature Coefficients</b>	CV & CC	80 ppm/°C (after warm up of 30 min and during 8 Hrs)												
<b>Output Stability</b>	CV & CC	100 ppm (after warm up of 30 min and during 8 Hrs)												
<b>Analog Programing (Rear panel 25 pin D connector)</b>														
Programing	Voltage	0 ~ 5 V, Accuracy: ± 0.5 % of Vrated, Input Impedance: 1 MΩ												
	Current	0 ~ 5 V, Accuracy: ± 1 % of Irated, Input Impedance: 1 MΩ												

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Monitoring	Voltage	0 ~ 5 V, Accuracy: $\pm 1\%$ of Vrated, Output Impedance: $<150\ \Omega / 4\ \text{mA max}$												
	Current	0 ~ 5 V, Accuracy: $\pm 1\%$ of Irated, Output Impedance: $<150\ \Omega / 4\ \text{mA max}$												
V reference		5.1 V $\pm 15\ \text{mV}$												
Status outputs		Power Supply : OK = Logic 1 (High), AC Fail = Logic 0 (Low), DC Fail : Logic 0 (low) for DC fail by $\pm 5\%$ of set value, CV / CC Status : CV = Logic 0 / CC = Logic 1 Interlock : Short = Power Supply Enabled, Open = Power Supply Disabled DC ON Status : ON = Logic 1, OFF= Logic 0, OVP Status : Fault = Logic 0, OK = Logic 1, OTP Status : Fault = Logic 0, OK = Logic 1												
Remote shutdown		+5 V												
<b>Front Panel</b>														
Controls		Mains ON/ OFF, Voltage and Current setting with multi-turn potentiometer (Coarse and fine), OVP Setting												
Indicators		Voltage, Current, CV, CC, Output ON, OVP, ACF, OTP												
<b>Display</b>														
Accuracy		Voltage : $\pm (0.5\% + 2D)$ , Current : $\pm (0.5\% + 2D)$												
Scale	Voltage (V)	0-16.0	0-20.0	0-32.0	0-40.0	0-60.0	0-80.0	0-100	0-120	0-160	0-300	0-600	0-800	0-1000
	Current (A)	0-100	0-80.0	0-50.0	0-40.0	0-26.7	0-20.0	0-16.0	0-13.3	0-10.0	0-5.33	0-2.67	0-2.00	0-1.60
Resolution	Voltage (V)	0.1	0.1	0.1	0.1	0.1	0.1	1	1	1	1	1	1	1
	Current (A)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.01	0.01	0.01	0.01
Protections		Over voltage, Over current, Short Circuit, Over temperature												
Output Terminals		Bus bar with M5 bolts												
Mains Input		195 ~ 270V, 50 / 60Hz (47 ~ 63Hz)												
Power Factor		0.99 @ full load / 0.98 @ 50% load												
Turn On Delay		600 ms after mains switched ON												
Inrush current (A)		$<30$												
Hold up Time (ms)		20												

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<b>Environment Conditions</b>													
Operating Temperature	0 ~ +50°C; with 100% load; derated 75% at 60°C												
Storage	-40 ~ + 85°C												
Humidity	max. 95% non condensing at 40°C max. 75% non condensing at 50°C												
Safety	Insulation: Input to Output: 3750 V for 1 min Input to case: 2500 Vrms, Output to case: 600 V Insulation resistance: 100 MΩ at 25°C, 70% RH, 500 Vdc												
<b>General Specifications</b>													
Dimensions (mm)	W x D x H : 443 x 485 x 43.5 mm (1U, 19" Rack size) excluding connectors, terminals, switches, front and back panel controls, handles etc												
Weight (kg)	11kg (Approx)												
Cooling	Forced, variable fan speed												
Standard Interface	Analog Programing												
Standard Accessories	Mains Cable												

Subject to change without notice

#### Notes:

1. Unit warm up time is 30 min..
2. Sensing at the rear panel of the power supply unit at sense terminals
3. Minimum output voltage guaranteed to maximum of 0.2% rated.
4. Minimum output current guaranteed to maximum of 0.4% rated.
5. Please contact factory for units in master/slave parallel operation.

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