

DSP-HP Series

Programmable DC Power Supply



DC power supply >> Programmable DC Power Supply



Features

- Up to 60 models, 80V~1000V / 40A~2000A / 40kW~160kW, are available for selection.
- Up to 5 units in parallel (800kW) and 2 units in series.
- Max. current 10000A in parallel.
- Constant voltage / constant current with automatic crossover.
- Optional constant power function.
- IDRC DSP Series Programmable DC power supply uses digitalized design :
 - High resolution of D/A (16 bits) setting output voltage & current,
 - High resolution of A/D (24 bits H.W.) measurement output voltage & current.
- True Watt and True RMS current measurement.
- Complete Protection : OVP, OCP, OTP, Reversed polarity protection.
- Definable output voltage ramp up and down with adjustable time.
- DSP-HP Series can store 20 sets of memories, can be recalled manually in front panel.
- 4500 sets of sequence memories: it can store parameters of Voltage, current and time in every set and operate in order.
- Last Panel Set.
- KEY LOCK setting.
- Embedded 3 RISC micro-controllers.
- Built-in remote sensing with max. 5V compensation.
- Digital Encoder Knobs, Pushbutton Settings.
- Standard GPIB and Isolation RS-485 Interface.
- RS-485 baud rate up to 57600 bps.
- GPIB are compatible with SCPI.
- Analog Programming and monitoring, isolated type is available for optional selection.
- Modularized design to shorten lead time and improve reliability.
- Speed-Controlled Fan
- DC output ON / OFF switch.
- Emergency stop switch.

Markets and Applications

- Aerospace and satellite Test
- Telecom and IT industry
- Automated test equipment
- Factory automation
- QC testing
- Burn-in
- Solar application
- Water purification
- Heat processing
- Chemical processing
- Semiconductor manufacturing
- Battery charging and testing
- Electroplating , sputtering and coating
- New energy R&D

Detail Information

specification :

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Output		Model	Capacity (W)	Ripple		Weight Approx. kg	Size	AC Input (3Ø 380V 50/60Hz)
CV	CC			CV	CC			Power
V	A			mVrms	mArms			VA
80	750	DSP-080-750HP	60k	96	750	580	35UE	75kVA
	1500	DSP-080-1500HP	120k	96	1500	680	35UE	150kVA
	2000	DSP-080-2000HP	160k	96	2000	768	43UE	200kVA
160	375	DSP-160-375HP	60k	180	375	580	35UE	75kVA
	750	DSP-160-750HP	120k	180	750	680	35UE	150kVA
	1000	DSP-160-1000HP	160k	180	1000	768	43UE	200kVA
250	240	DSP-250-240HP	60k	270	240	580	35UE	75kVA
	480	DSP-250-480HP	120k	270	480	680	35UE	150kVA
	640	DSP-250-640HP	160k	270	640	768	43UE	200kVA
350	171	DSP-350-171HP	60k	400	160	580	35UE	75kVA
	343	DSP-350-343HP	120k	400	320	680	35UE	150kVA
	457	DSP-350-457HP	160k	400	427	768	43UE	200kVA
500	120	DSP-500-120HP	60k	520	120	580	35UE	75kVA
	240	DSP-500-240HP	120k	520	240	680	35UE	150kVA
	320	DSP-500-320HP	160k	520	320	768	43UE	200kVA
600	100	DSP-600-100HP	60k	630	100	580	35UE	75kVA
	200	DSP-600-200HP	120k	630	200	680	35UE	150kVA
	267	DSP-600-267HP	160k	630	267	768	43UE	200kVA
800	75	DSP-800-075HP	60k	840	75	580	35UE	75kVA
	150	DSP-800-150HP	120k	840	150	680	35UE	150kVA
	200	DSP-800-200HP	160k	840	200	768	43UE	200kVA
1000	60	DSP-1000-060HP	60k	1050	60	580	35UE	75kVA
	120	DSP-1000-120HP	120k	1050	120	680	35UE	150kVA
	160	DSP-1000-160HP	160k	1050	160	768	43UE	200kVA

note1:The total voltage should be lower than 600V when connect 2 units in series.

note2:All parameters are specified base on power on after 30 minutes, Ambient temperature 23±5 °C / Humidity : Under 80% RH, AC Voltage : ±5%, Frequency : ±5%.

note3:Ripple Bandwidth=5 ~ 1MHz , Noise Bandwidth : <20MHz(P-P)

note4:Special requests on demand.

note5:All specifications are subject to change without notice.

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General Specifications :

Panel setting resolution	5 digits
Panel display resolution	5 digits
Command setting resolution	±0.002% of full scale
Command reading resolution	±0.002% of full scale
Panel setting accuracy	Voltage : ±0.1% ± 3Count at rated voltage Current : ±0.5% ± 3Count at rated current
Panel display accuracy	Voltage : ±0.2% ± 3Count at rated voltage Current : ±0.5% ± 3Count at rated current
Command & DA setting accuracy	Voltage ±0.01% ± 3Count at rated voltage Current ±0.01% ± 3Count at rated current
Command & AD Measurement accuracy	Voltage : ±0.02% ± 2Count at rated voltage (Average Measurement) Current : ±0.05% ± 3Count at rated current (Average Measurement) Current : ±0.4% ± 3Count at rated current (AC+DC)offset=50mA (True RMS) Watt : ±0.5% ± 3Count at rated power
Analog setting accuracy(V)	Constant Voltagemode(CV) : Voltage ± 5% Constant Currentmode(CC) : Current ± 5%
Analog monitor accuracy(V)	Rate voltage output : 10.00V ± 0.25V; Zero voltage output : 0.00V ± 0.25V; Rate current output : 10.00V ± 0.25V; Zero current output : 0.00V ± 0.25V;
Line regulation	Voltage : ± 0.04% of full scale Current : ± 0.08% of full scale
Load regulation	Voltage : ± 0.05% of full scale Current : ± 0.1% of full scale
Command response time	≤20ms (After received) (note.2)
Sequence time	0.00~558060 sec
Ramp up / down time	0~99.9 sec
Over voltage / Over current setting range	0% ~ 110% of rated voltage ; 0% ~ 110% of rated rated current
Transient response time	Constant Voltage mode : 10~200ms(at Resistance load 10%~90%)(changes with different models)
Output Maximum	Voltage : 105% rated Current : 105% rated
Output slew rate	Output voltage 10 to 100% <1000mSec (changes with different models) Output current 10 to 100% <500mSec (changes with different models)
Efficiency	> 85% (Rate voltage , Rate current)
Protective functions	Programmable over voltage protection(POVP), Programmable over current protection(POCP), Over temperature protection(OTP), Fuse blown protection , Line input over/under voltage protection(±10%)
Withstand voltage	Primary - Chassis : No abnormalities AC 2000V for 1 minute Primary - Secondary : No abnormalities AC 2000V for 1 minute Secondary - Chassis : No abnormalities DC 1200V for 1 minute
Insulating Resistance	Primary - Chassis : DC 500V 20M ohm or more Secondary - Chassis : DC 500V 20M ohm or more
Operating Temperature	Temperature : 0~40°C ; Humidity : 30%~90% RH(no condensation)

Storage environment	Temperature : -20~70°C ; Humidity : 10%~90% RH (no condensation)
Cooling	Speed-Controlled Fan
Output terminal	Rear panel terminal or copper bus way

Note.1 : All parameters are specified base on power on after 30 minutes, Ambient temperature 23±5 °C / Humidity : Under 80% RH, AC Voltage : ±5%, Frequency : ±5%.

Note 2. Programming time = Command response time + Output response time. The output response time is differ according to different models, from 40mS ~ 3000mS

Model Number Definition :	
<u>DSP</u> - <u>016</u> - <u>2500</u> <u>HP</u>	(1)DSP : Series number. IDRC Programmable DC power Supply.
(1) (2) (3) (4)	(2)Output voltage , 016 means 16V
	(3)Output current , 2500 means 2500A
	(4)HP High power type.

Optional Items :

Model Number	Description
HP-OPT-RMS	True RMS Current & True Watt
HP-OPT-API	Analog Programming interface
HP-OPT-CP	Constant Power
HP-OPT-IS	Impedance Simulation
HP-OPT-PS	Parallel & Series Controller

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