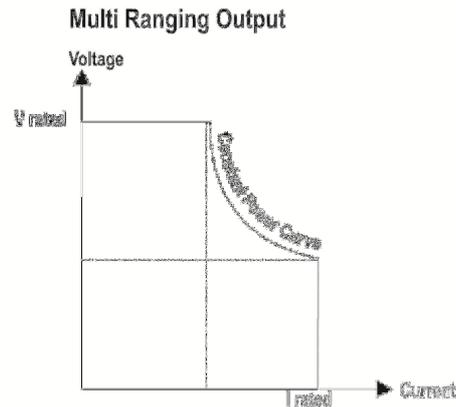


200W Programmable DC Power Supply



Technical Specifications

Model	DCAe	10M40	20M20	30M14	60M7	80M5	160M2.5
Output Voltage (*1)	V	10	20	30	60	80	160
Output Profile	Multi Ranging (Parabolic)						
Output Current (*2)	A	40	20	14	7	5	2.5
Rated Power	W	200/220W					
Efficiency 230Vac @ full load	%	78	80	81	81	82	82
Constant Voltage Mode							
Load regulation (*3)	mV	0.01%+2mV					
Line Regulation (*4)	mV	0.01%+2mV					
Ripple rms BW=300 kHz (*5)	mV	5	8	10	10	20	20
Ripple & Noise p-p BW=20 MHz (*6)	mV	40	40	50	50	80	80
Remote sense compensation/wire (*7)	V	1	2	2	2	2	2

Model	DCAe	10M40	20M20	30M14	60M7	80M5	160M2.5
Constant Current Mode							
Load regulation (*8)	mA	0.01% + 5mA					
Line Regulation (*4)	mA	0.01% + 2mA					
Ripple rms BW=20 MHz (*9)	mA	50	40	25	20	15	10
Ripple & Noise p-p BW=20 MHz	mA	150	120	75	60	50	30
Programming Speed (*10)							
Rise time (10% to 90%) into resistive load							
Time 100% load	ms	5V: 9 10V:18	10V:18 20V:35	15V:18 30V:40	30V:40 60V:80	40V:40 80V:90	80V: 90 160V:200
Time 10% load	ms	5V: 8 10V:15	10V:15 20V:30	15V:16 30V:35	30V:35 60V:75	40V:38 80V:80	80V: 80 160V:190
Fall time (90% to 10%) into resistive load							
Time 100% load	ms	5V: 5 10V: 10	10V:10 20V:30	15V:25 30V:30	30V:30 60V:90	40V:28 80V:50	80V: 50 160V:150
Time 10% load	ms	5V: 60 10V: 100	10V:100 20V:250	15V:120 30V:250	30V:250 60V:800	40V:265 80V:500	80V: 500 160V:1500
Recovery Time (Transient Response Time) (*11)							
Recovery within	mV	50	50	80	80	100	100
Time @ 50 – 100 % load step	µs	100	100	100	100	100	100
Max deviation @ 230 V mains	mV	5V:160 10V:160	10V:160 20V:160	15V:150 30V:150	30V:150 60V:150	40V:500 80V:500	80V:500 160V:500
Temperature Coefficients	CV & CC	ppm/° C	100 ppm/°C of rated voltage & current after 30 min of warm up time and during 8 hrs				
Output Stability	CV & CC	ppm	100 ppm of rated voltage & current after 30 min of warm up time and during 8 hrs				
Analog Programming (Rear panel 15 pin D connector)							
Programming Input	Voltage	-	Voltage: 0 ~ 5 V, Range: 0~100%, Accuracy: 1% of Vout rated, Input impedance: 1 MΩ				
	Current	-	Voltage: 0 ~ 5 V, Range: 0~100%, Accuracy: 1% of Iout rated, Input impedance: 1 MΩ				
Monitoring Output	Voltage	-	Voltage: 0 ~ 5 V, Accuracy: 1 % of Vout rated Output impedance: < 2 Ω / 0.4 mA max				
	Current	-	Current: 0 ~ 5 V, Accuracy: 1 % of Iout rated Output impedance: 2 Ω / 0.4 mA max				
V reference	V	5.1 ± 10 mV					
Status Outputs	-	Power Supply OK: PS OK = Logic High Any Fault: PS OK = Logic Low					

Model		DCAe	10M40	20M20	30M14	60M7	80M5	160M2.5
Remote shutdown		-	With +5V or relay contacts.					
Front Panel								
Front Panel controls		-	Mains ON/ OFF; Digital Encoders for Voltage and Current setting; Switch settings: Voltage & Current Set, Over-voltage & Output ON/OFF					
Indicators		-	Voltage, Current, CV, CC, Output ON, Over-Voltage Fault					
Display		-	4 Digit, voltage and current separately					
Accuracy		-	± (0.5 % + 2 D)					
Scale	Voltage	V	0~10.00	0~20.00	0~30.00	0~60.00	0~80.00	0~160.0
	Current	A	0~40.00	0~20.00	0~14.00	0~7.00	0~5.00	0~2.50
Resolution	Voltage	V	0.01	0.01	0.01	0.01	0.01	0.1
	Current	A	0.01	0.01	0.01	0.01	0.01	0.01
Output Protections		-	Over voltage protection (OVP displayed & Output gets switched off), Over Current (CC Limit is active), Short Circuit, Over temperature (OTP displayed & Output gets switched off)					
Output Terminals		-	Bus bar and Remote sense Terminal					
Parallel operation		-	Up to 4 units of same model					
Series operation		-	2 units of same model					
Mains Input		-	Universal AC input, Single phase, 90 ~ 270V, 50 / 60 Hz (47 ~ 63Hz) Input connector: IEC320/C14, EN 60320/14 Standby Power: 13 Watts @ 230V (V & I zero) Internal Fuse L: 6 A Fast, 5 X 20 mm ceramic fuse.					
Power Factor		-	0.99 @ full load / 0.98 @ 50% load					
Turn on Delay		ms	600 ms after mains switched ON					
Inrush current		A	<25A					
Hold up Time		ms	20ms					
Environment Conditions								
Operating Temperature		-	0 ~ +50°C with 100% load; derated to 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: 2000 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					

Model	DCAe	10M40	20M20	30M14	60M7	80M5	160M2.5
Dimension	-	W x D x H: 70 x 403 x 85 mm (2U, 1/6 th 19" Rack size) excluding connectors, terminals, switches, front and back panel controls, handles etc.					
Weight	-	2.9 kg					
Cooling	-	Forced, temperature controlled variable Fan speed					
Accessories	Standard	-	Mains cable				
	Optional	-	<ul style="list-style-type: none"> Bus bars for series operation: BBS Bus bars for parallel operation: BBP Master Slave only for parallel operation, display on individual unit: MSA Increased output power (voltage by 10%): IOP10V Increased output power (current by 10%): IOP10I Output Cable: OC Input Cable (>2mtr): IC 	<ul style="list-style-type: none"> 19" Rack mount kit: RAK Rack & Integration: RAI Analog programming connector: CON Isolated Analog (External): IAE Polarity Reversal Switch Analog: PRA Battery Reversal Protection: BRP Cal. Report NABL Accredited: CAL-NA Cal. Report National Standard: CAL-NS 			

Subject to change without notice

NOTES:

Unit warm up time is 30 min.

Unless otherwise noted, specifications are warranted over the ambient temperature range of 0° to 50°C

- *1: Minimum output voltage guaranteed to maximum 0.2% of rated output voltage.
- *2: Minimum output current guaranteed to maximum 0.4% of rated output current.
- *3: Measured from 0 ~ 100% load at constant input voltage, at the sensing point in local sense.
- *4: Measured from 90~270Vac, at constant load.
- *5: Measured in DMM
- *6: Measured in DSO with JEITA RC-9131C (1:1) probe
- *7: The maximum voltage on the power supply terminals must not exceed the rated voltage.
- *8: Measured from 0 ~ 100% load voltage change of units rated voltage at constant input voltage.
- *9: Measured at rated output voltage and rated output current.
- *10: Measured at rated output voltage.
- *11: Measured at local sense, output set point 10-100%

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