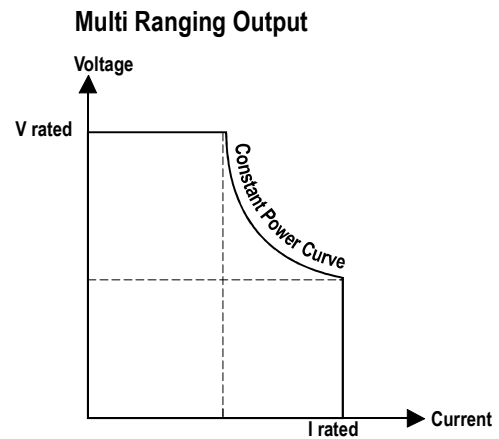


400W Programmable DC Power Supply



Technical Specifications

Model	DCAe20M40	DCAe60M14	DCAe160M5
Output Voltage (*1)	20V	60V	160V
Output Profile	Multi Ranging (Parabolic)		
Output Current (*2)	40A	14A	5A
Rated Power	400W		
Efficiency 230Vac @ full load	82%	83%	83%
Constant Voltage Mode			
Load Regulation (*3)	0.01% + 2mV		
Line Regulation (*4)	0.01% + 1mV		
Ripple RMS BW = 300kHz (*5)	5mV	8mV	15mV
Ripple & Noise P-P BW = 20MHz (*6)	40mV	50mV	60mV
Remote Sense Compensation/wire (*7)	1V	2V	2V
Constant Current Mode			
Load Regulation (*8)	0.01% + 5mA		
Line Regulation (*4)	0.01% + 2mA		
Ripple RMS BW = 20MHz (*9)	50mA	25mA	10mA
Ripple & Noise P-P BW = 20MHz	150mA	75mA	50mA

Model		DCAe20M40	DCAe60M14	DCAe160M5
Programming Speed (*10)				
Rise time (10% ~ 90%) into resistive load				
Time 100% Load		10V : 6.5ms 20V : 12ms	30V : 6ms 60V : 20ms	80V : 30ms 160V : 80ms
Time 10% Load		10V : 2.5ms 20V : 5ms	30V : 3ms 60V : 10ms	80V : 20ms 160V : 50ms
Fall time (90% ~ 10%) into resistive load				
Time 100% Load		10V : 6.5ms 20V : 16ms	30V : 6ms 60V : 25ms	80V : 30ms 160V : 150ms
Time 10% Load		10V : 60ms 20V : 120ms	30V : 60ms 60V : 200ms	80V : 250ms 160V : 800ms
Recovery Time (Transient Response Time) (*11)				
Recovery within		80mV		100mV
Time @ 50~100% load step		100μs		
Max deviation @ 230V mains		10V : 160ms 200V : 160ms	30V : 150ms 60V : 150ms	80V : 500ms 160V : 1500ms
Temperature Coefficients (CV & CC)		100ppm/°C of rated voltage & current after 30 min of warm up time and during 8 hrs.		
Output Stability (CV & CC)		100ppm 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 ~ 5V, Range : 0 ~ 100% Accuracy : 1% of Vout rated, Input Impedance : 1MΩ		
	Current	Voltage : 0 ~ 5V, Range : 0 ~ 100% Accuracy : 1% of Lout rated, Input Impedance : 1MΩ		
Monitoring Input	Voltage	Voltage : 0 ~ 5V, Accuracy : 1% of Vout rated, Output Impedance : < 2Ω/0.4mA max		
	Current	Current : 0 ~ 5V, Accuracy : 1% of Lout rated Output Impedance : 2Ω/0.4mA max		
V Reference		5.1V ± 10mV		
Status Outputs		Power Supply OK : PS OK = Logic High Any Fault : PS OK = Logic Low		
Remote shutdown		with + 5V or relay contacts		
Front Panel				
Front Panel controls		Mains ON/OFF; Digital Encoders for Voltage and Current setting; Switch setting : 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% + 2D)		
Scale	Voltage	0 ~ 20V	0 ~ 60V	0 ~ 160V
	Current	0 ~ 40A	0 ~ 14A	0 ~ 5A
Resolution	Voltage	0.01V		
	Current	0.01A		
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, EN60320/14 Standby Power : 13 Watts @ 230V (V & I zero) Internal Fuse L : 6A Fast, 5 x 20mm ceramic fuse		
Power Factor		0.99 @ full load / 0.98 @ 50% load		
Turn of Delay		600ms after mains switched ON		

Model		DCAe20M40	DCAe60M14	DCAe160M5
Inrush Current		<25A		
Hold up Time		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 condition at 40°C Max. 75% non condition at 50°C		
Safety		Insulation : Input to Output : 2000Vdc for 1min Input to case 2500Vdc, Output to case : 600Vdc Insulation Resistance : 100MΩ at 25°C, 70%RH, 500Vdc		
Dimension (W X D X H)		70 x 403 x 85mm		
Weight		2.9kg.		
Cooling		Forced, Temperature controlled variable fan speed		
Accessories	Standard	Standards : Mains Cable		
	Optional	• 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 • 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

Notes :

Unit warm up time is 30min.

Unless otherwise noted, specifications are warranted over the ambient temperature range of 0°C ~ 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 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 50 ~ 100%

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