

# EDA100 SERIES

AC-DC ENCLOSED SWITCHING POWER SUPPLY



## FEATURES

- UNIVERSAL INPUT 88~264VAC
- SHORT CIRCUIT PROTECTION
- INTERNAL INPUT FILTER
- 3 YEARS WARRANTY
- HIGH EFFICIENCY UP TO 89%
- HIGH AVERAGE EFFICIENCY MEET ErP (except 5V model)
- LOW STANDBY POWER CONSUMPTION
- BUILT IN ACTIVE PFC



## MODEL LIST

MODEL NO.	INPUT VOLTAGE	OUTPUT WATTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. (min.)	EFF. (typ.)	EFF. (avg.)
<b>Single Output Models</b>							
EDA100-05	88~264 VAC	80 WATTS	+ 5 VDC	16000 mA	78%	80%	80%
EDA100-12	88~264 VAC	102 WATTS	+ 12 VDC	8500 mA	85%	87%	87%
EDA100-15	88~264 VAC	105 WATTS	+ 15 VDC	7000 mA	86%	88%	87%
EDA100-24	88~264 VAC	108 WATTS	+ 24 VDC	4500 mA	87%	89%	88%

## SPECIFICATION

All Specifications Typical At Nominal Line, Full Load, 25°C Unless Otherwise Noticed

GENERAL						
Characteristics	Conditions	min.	typ.	max.	unit	
Switching frequency	Vi nom, Io nom	60		75	KHz	
Isolation voltage	Input-Output	3,000 / 4,242			VAC / VDC	
	Input-FG	1,500 / 2,121			VAC / VDC	
	Output-FG	500 / 710			VAC / VDC	
Isolation resistance	Input-Output, @ 500VDC	100			MΩ	
Ambient temperature	Operating at Vi nom	-40		+ 71	°C	
Derating (see derating curve)	Vi nom, from 56°C to + 71°C			2.5	% / °C	
Storage temperature	Non operational	-40		+ 85	°C	
Relative humidity	Vi nom, Io nom	20		95	% RH	
Temperature coefficient	Vi nom, Io min			± 0.03	% / °C	
MTBF	Bellcore Issue 6 @40°C, GB	5V		470,000	Hours	
		12V & 15V		521,000	Hours	
		24V		545,000	Hours	
Altitude during operation	IEC 60068-2-13			4,850	m	
Cooling	Free air convection	L158 x W97 x H38				

## SPECIFICATION

All Specifications Typical At Nominal Line, Full Load, 25°C Unless Otherwise Noticed

### INPUT SPECIFICATIONS

Characteristics	Conditions	min.	typ.	max.	unit
Rated input voltage	Io nom	100		240	VAC
Absolute input max. range	AC in	88		264	VAC
	DC in	120		375	VDC
Input current	Vi : 115 / 230 VAC , Io nom		1,060 / 530		mA
Rated input current	Vi : 88 VAC, Io nom			1,500	mA
Line frequency	Vi nom, Io nom	47		63	Hz
Inrush current	Vi : 115 / 230 VAC , Io nom			35 / 60	A
Power dissipation	Vi : 230 VAC, Io nom	5V	20		W
		12V	15		W
		15V	12		W
		24V	10		W
Leakage current	Input-Output			0.25	mA
	Input-FG			3.5	mA
Standby power consumption	Vi nom, Io=0A			0.8	W
	5V 12V, 15V & 24V			0.5	W
Power factor (Active)	Vi : 115/230VAC, Io nom		0.99 / 0.96		

### OUTPUT SPECIFICATIONS

Characteristics	Conditions	min.	typ.	max.	unit
Output voltage accuracy (Adjusted before shipment)	Vi nom, Io max	0		+ 1	%
Minimum load	Vi nom	0			%
Line regulation	Io nom, Vi min ...Vi max			± 0.5	%
Load regulation	Vi nom, Io min ...Io nom			± 1	%
Voltage trim range	Vi nom, 0.8 Io nom	5V	4.75	5.5	VDC
		12V	10.8	13.2	VDC
		15V	13.5	16.5	VDC
		24V	21.6	27.6	VDC
Rated continuous loading	Vi nom	5V	16 A @ 5Vdc / 1.4 A @ 5.5 Vdc		
		12V	8.5 A @ 12Vdc / 7.6 A @ 13.2 Vdc		
		15V	7.0 A @ 15Vdc / 6.0 A @ 16.5 Vdc		
		24V	4.5 A @ 24Vdc / 3.6 A @ 27.6 Vdc		
Hold up time	Vi : 115 / 230 VAC , Io nom	10 / 70			ms
Turn on time	Vi nom, Io nom			1,500	ms
	Vi nom, Io nom → 5V, 12V & 15V models : with 7000 μF CAP 24V model : with 3500 μF CAP			2,000	ms
Rise time	Vi nom, Io nom			150	ms
	Vi nom, Io nom → 5V, 12V & 15V models : with 7000 μF CAP 24V model : with 3500 μF CAP			500	ms
Fall time	Vi nom, Io nom			150	ms
Transient recovery time	Vi nom, I ~ 0.5 Io nom			2	ms
Ripple & noise	Vi nom, Io nom, BW = 20MHz			100	mV
Power back immunity	Vi nom, Io nom 1 second	5V	7.5		VDC
		12V	18		VDC
		15V	22		VDC
		24V	35		VDC
Capacitor load	Vi nom, Io nom	5V, 12V & 15V		7,000	μF
		24V		3,500	μF
Efficiency	Vi nom, Io nom, Po / Pi	Up to 89%, See model list and typ efficiency curve			

### CONTROL AND PROTECTION

Characteristics	Conditions	min.	typ.	max.	unit
Input fuse		T3.15A / 250VAC internal			
Internal surge voltage protection	IEC 61000-4-5	Varistor			
Rated over load protection	Vi nom (see typ current limited curve)	130		160	%

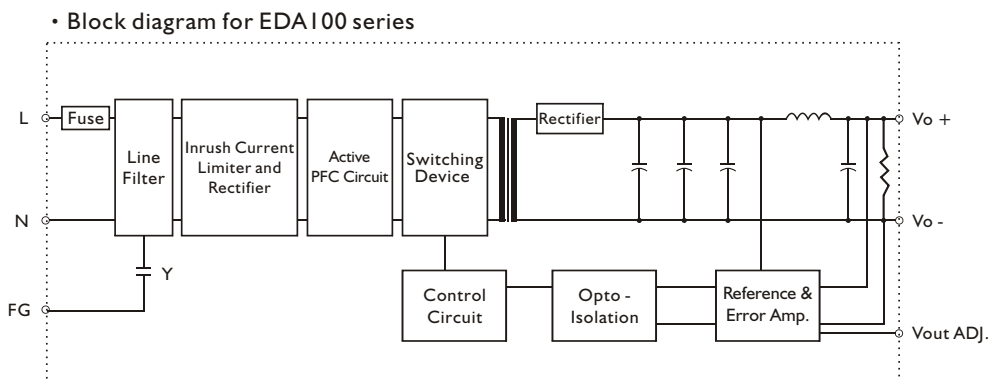


## PIN ASSIGNMENT

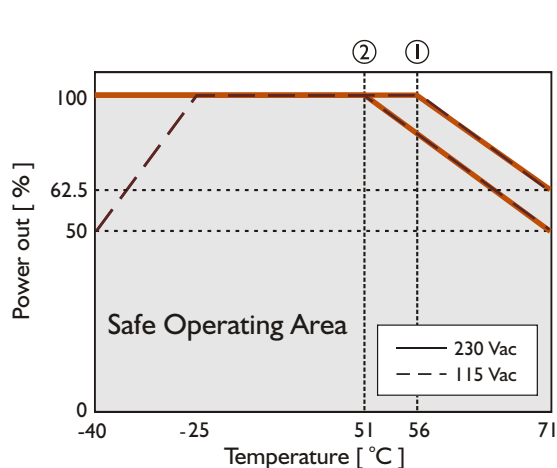
PIN NO.	Designation	Description
1	IN	L
2		N
3		⊕
4, 5	OTHER OUT	V -
6, 7		V +
		Vout ADJ.
		DC ON

Input terminals (phase conductor, no polarity at DC input)  
 Input terminals (neutral conductor, no polarity at DC input)  
 Ground this terminal to minimize high-frequency emissions  
 Negative output terminal  
 Positive output terminal  
 Trimmer-potentiometer for Vout adjustment  
 Operation indicator LED

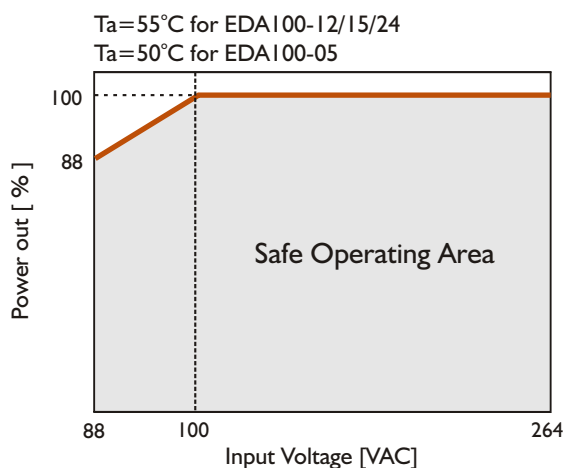
## CIRCUIT SCHEMATIC



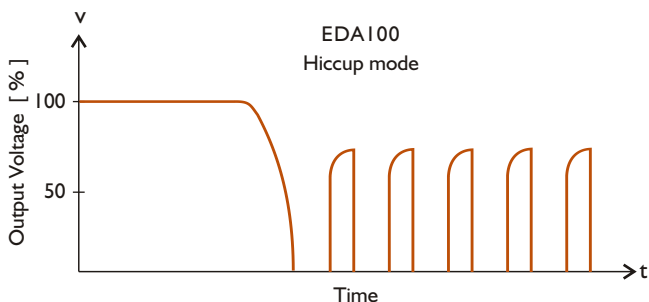
## DERATING CURVE



① For EDA100-12/15/24    ② For EDA100-05



## TYP. CURRENT LIMITED CURVE



## TYP. EFFICIENCY CURVE

