

KAD30 SERIES

OPEN FRAME

AC - DC POWER MODULE

20 ~ 30W UL / cUL / TUV / CE



FEATURES

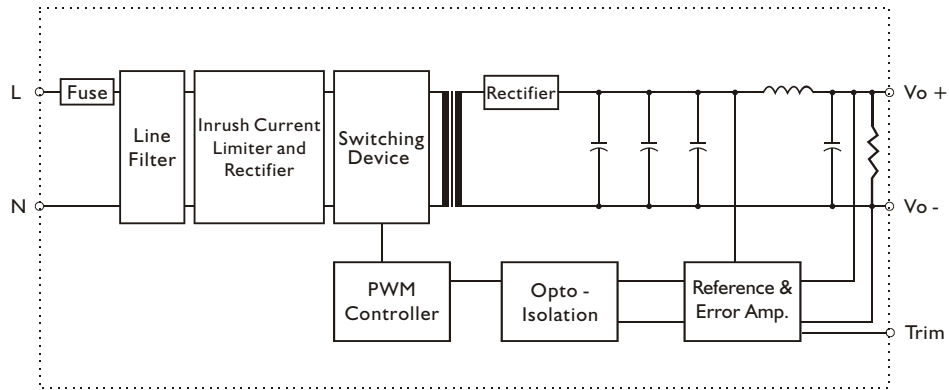
- AC/DC POWER MODULE
- UNIVERSAL INPUT 85 ~ 265 VAC
- HIGH EFFICIENCY UP TO 84%
- SHORT CIRCUIT PROTECTION
- INTERNAL INPUT FILTER
- 2 YEARS WARRANTY
- OPEN FRAME

MODEL LIST

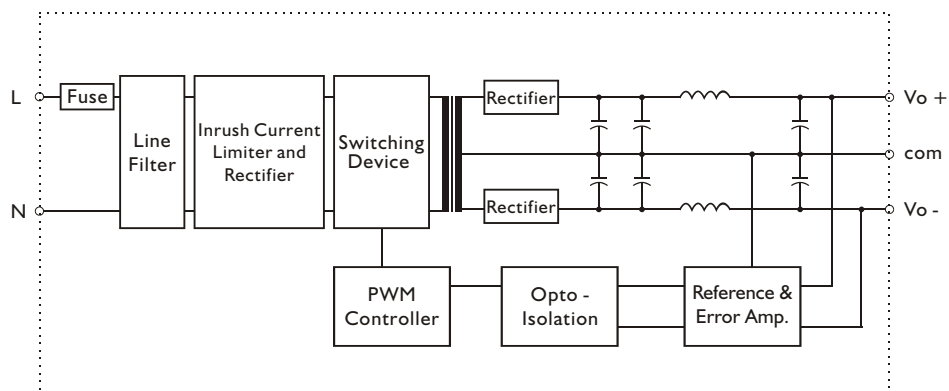
MODEL NO.	INPUT VOLTAGE	OUTPUT WATTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. (typ.)	EFF. (min.)
Single Output Models						
KAD3003	85~265 VAC	25 WATTS	+3.3 VDC	7500 mA	76%	74%
KAD3005	85~265 VAC	30 WATTS	+ 5 VDC	6000 mA	79%	77%
KAD3012	85~265 VAC	30 WATTS	+ 12 VDC	2500 mA	80%	78%
KAD3015	85~265 VAC	30 WATTS	+ 15 VDC	2000 mA	84%	82%
KAD3024	85~265 VAC	30 WATTS	+ 24 VDC	1250 mA	84%	82%
Dual Output Models						
KAD3012D	85~265 VAC	30 WATTS	± 12 VDC	± 1250 mA	83%	81%
KAD3015D	85~265 VAC	30 WATTS	± 15 VDC	± 1000 mA	84%	82%
KAD30503D	85~265 VAC	20 WATTS	+ 5 /+ 3.3 VDC	+3A / +1.5 A	71%	68%
KAD30512D	85~265 VAC	30 WATTS	+ 5 /+ 12 VDC	+ 3A / + 1.25A	81%	79%

CIRCUIT SCHEMATIC

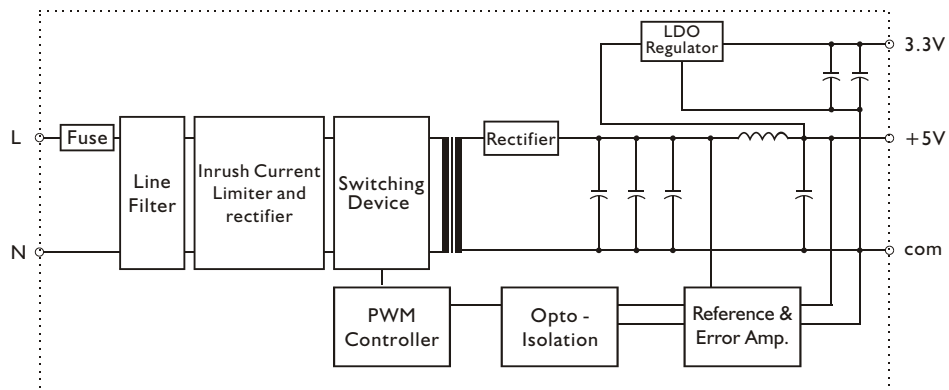
- Block diagram for KAD30 series with single output



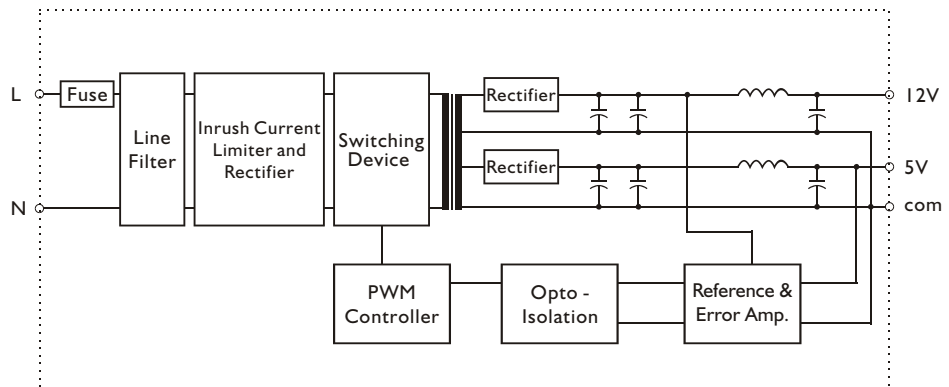
- Block diagram for KAD30 series with dual output



- Block diagram for KAD30503D



- Block diagram for KAD30512D



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		100		KHz
Isolation voltage	Input / Output	3,000			VAC
Isolation resistance	Input / Output, @ 500VDC	100			MΩ
Ambient temperature	Operating at Vi nom, Io nom	-20		+ 71	°C
Derating	Vi nom, Io nom + 5 l to + 71 °C			2	% / °C
Storage temperature	Non operational	-40		+ 100	°C
M.T.B.F.	According to MIL-HDBK-217F, G40		195,000		Hrs
Relative humidity	Vi nom, Io nom			95	% RH
Dimension	L89.2 x W63.8 x H32.3				mm
Cooling	Free air convection				
Case material	Plastic				

INPUT SPECIFICATIONS

Characteristics	Conditions	min.	typ.	max.	unit
Rated input voltage	Io nom	85		265	VAC
Input voltage range	Io nom	AC in		265	VAC
		DC in	120		370
Line frequency	Vi nom, Io nom	47		63	Hz
Inrush current	Io nom	Vi : 115VAC		12	A
		Vi : 230VAC		20	A

OUTPUT SPECIFICATIONS

Characteristics	Conditions	min.	typ.	max.	unit
Output voltage accuracy	Vi nom, Io nom			± 2	%
Minimum load	Vi nom	0			%
		single output models			%
		20			%
	dual output models (each output)				%
Line regulation	Io nom, Vi min ... Vi max			± 1	%
Load regulation	Vi nom, Io min ... Io nom	single output models		± 2	%
		dual output models		± 5	%
		5V at dual output model		± 2	%
Transient recovery time	Vi nom, Io nom = I ↔ 0.5 Io nom		500		μs
Temperature coefficient	Vi nom, Io nom			± 0.02	% / °C
Ripple & noise	Vi nom, Io nom, BW = 20MHz	3.3V models		100	mV
		5V ... 24V models	Vout x ± 1% p-p max.		mV
External trim ADJ. Range 1) (for single output only)	Io = 5% ... 100%	3.3V models	- 5	+ 5	%
		5V ... 24V models	-10	+ 10	%
Efficiency	Vi nom, Io nom, Po / Pi	Up to 84%, See model list			

NOTE 1 : Pls refer to Fig 1 & Table 1 for connection and resistance recommended.

CONTROL AND PROTECTION

Input fuse	T2A / 250VAC internal
Output short circuit	By current limited

APPROVALS AND STANDARDS

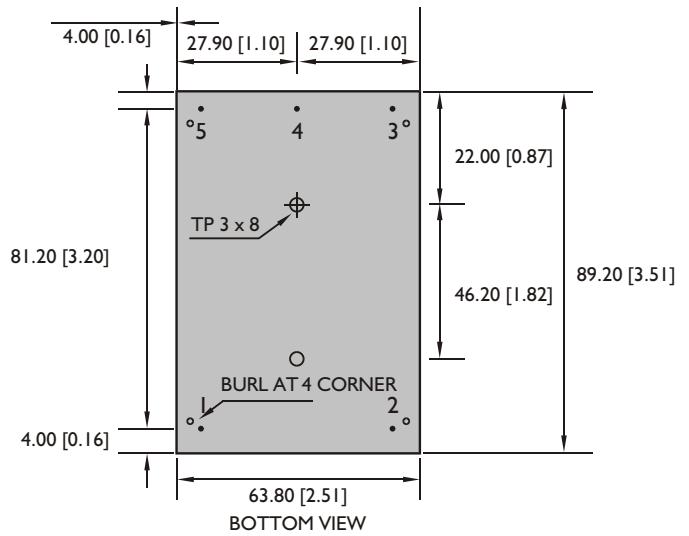
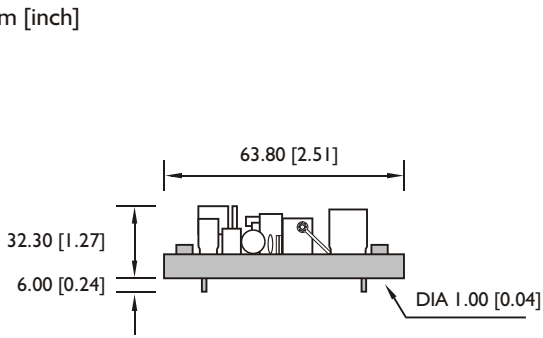
UL / cUL	UL1950
TUV	EN60950
CE	EN55022 class B for EMI
	EN50082-1 for EMS

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MECHANISM & PIN CONFIGURATION

mm [inch]



PHYSICAL CHARACTERISTICS

SIZE	89.2 x 63.8 x 32.3 mm 3.51 x 2.51 x 1.27 inches
BASE MATERIAL	Plastic
WEIGHT	135 g

PIN ASSIGNMENT

GENERAL

PIN NO.	1	2	3	4	5
SINGLE	AC IN	AC IN	Vo +	Vo -	Trim
DUAL	AC IN	AC IN	Vo+ or +5V	com	Vo- or +3.3V, +12V

DERATING

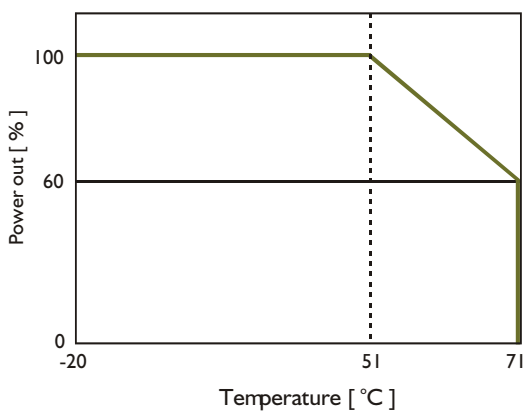


Fig. 1 Trim connection

(For single output only)

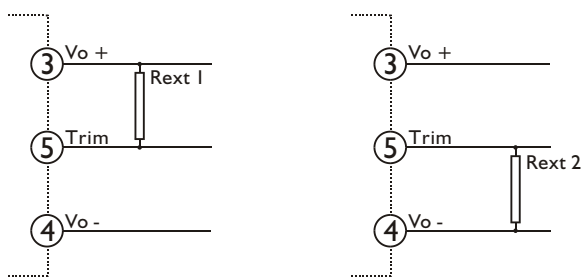


Table 1 Typical resistor values for various output voltage adjustment settings

Type	Rext 1		Rext 2	
	Uo nom -5%	Uo nom -10%	Uo nom +5%	Uo nom +10%
KAD3003	100KΩ	N / A	12KΩ	N / A
KAD3005	4.7KΩ	0KΩ	5.6KΩ	820Ω
KAD3012	39KΩ	15KΩ	15KΩ	2.7KΩ
KAD3015	120KΩ	51KΩ	22KΩ	2.7KΩ
KAD3024	130KΩ	56KΩ	8.66KΩ	510Ω

