

Preliminary

KAMN30 SERIES



AC - DC POWER MODULE
20 ~ 30W UL / cUL / TUV / CE

FEATURES

- AC/DC POWER MODULE
- UNIVERSAL INPUT 85 ~ 265 VAC
- HIGH EFFICIENCY UP TO 86%
- SHORT CIRCUIT PROTECTION
- INTERNAL INPUT FILTER
- 2 YEARS WARRANTY

MODEL LIST

MODEL NO.	INPUT VOLTAGE	OUTPUT WATTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. (typ.)	EFF. (min.)
Single Output Models						
KAMN3003	85~265 VAC	25 WATTS	+3.3 VDC	7500 mA	77%	75%
KAMN3005	85~265 VAC	30 WATTS	+ 5 VDC	6000 mA	81%	79%
KAMN3012	85~265 VAC	30 WATTS	+ 12 VDC	2500 mA	85%	83%
KAMN3015	85~265 VAC	30 WATTS	+ 15 VDC	2000 mA	86%	84%
KAMN3024	85~265 VAC	30 WATTS	+ 24 VDC	1250 mA	86%	84%
Dual Output Models						
KAMN3012D	85~265 VAC	30 WATTS	± 12 VDC	± 1250 mA	84%	82%
KAMN3015D	85~265 VAC	30 WATTS	± 15 VDC	± 1000 mA	85%	83%
KAMN30503D	85~265 VAC	20 WATTS	+ 5 /+ 3.3 VDC	+3A / +1.5 A	81%	79%
KAMN30512D	85~265 VAC	30 WATTS	+ 5 /+ 12 VDC	+ 3A / + 1.25A	82%	80%

SPECIFICATION

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

CONTROL AND PROTECTION						
Characteristics	Conditions	min.	typ.	max.	unit	
Input fuse	T2A / 250VAC internal					
Output short circuit	Hiccup mode					
Rated over load protection		120		160	%	
APPROVALS AND STANDARDS						
UL / cUL	UL60950-1 Recognized					
TUV	EN60950-1					
CE	EN61000-6-3, EN55022 class B					
	EN61000-6-2, EN55024					
	EN61000-3-2, EN61000-3-3					
	EN61204-3					



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GENERAL

Characteristics	Conditions	min.	typ.	max.	unit
Switching frequency	Vi nom, Io nom		65		KHz
Isolation voltage	Input / Output	3,000			VAC
Isolation resistance	Input / Output, @ 500VDC	100			MΩ
Ambient temperature	Operating at Vi nom	-40		+ 71	°C
Derating	Vi nom, +61 to +71°C			3	% / °C
Storage temperature	Non operational	-40		+100	°C
Relative humidity	Vi nom, Io nom	20		95	% RH
Dimension	L 89 x W 63.5 x H 25				mm
	L 3.5 x W 2.5 x H 0.98				inches
Cooling	Free air convection				
Case material	Plastic				

INPUT SPECIFICATIONS

Characteristics	Conditions		min.	typ.	max.	unit
Rated input voltage	Io nom		100		240	VAC
Input voltage range	Io nom	AC in	85		265	VAC
		DC in	120		370	VDC
Line frequency	Vi nom, Io nom		47		63	Hz
Inrush current	Io nom	Vi : 115VAC			20	A
		Vi : 230VAC			40	A

OUTPUT SPECIFICATIONS

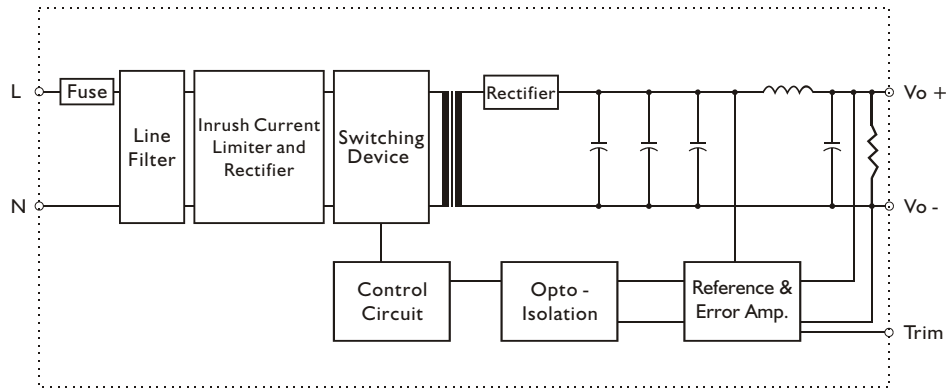
Characteristics	Conditions		min.	typ.	max.	unit
Output voltage accuracy	Vi nom, Io nom				± 2	%
Minimum load	Vi nom	single output models	0			%
		dual output models (each output)	20			%
Line regulation	Io nom, Vi min ... Vi max				± 1	%
Load regulation	Vi nom, Io min ... Io nom	single output models			± 1	%
		dual output models			± 2	%
Hold up time			15			ms
Transient recovery time	Vi nom, Io nom = I ↔ 0.5 Io nom			1000		μS
Temperature coefficient	Vi nom, Io nom				± 0.02	% / °C
Ripple & noise	Vi nom, Io nom, BW = 20MHz	3.3V, 5V models			100	mV
		12V ... 24V models			200	mV
External trim ADJ. Range I) (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 86%, See model list			

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

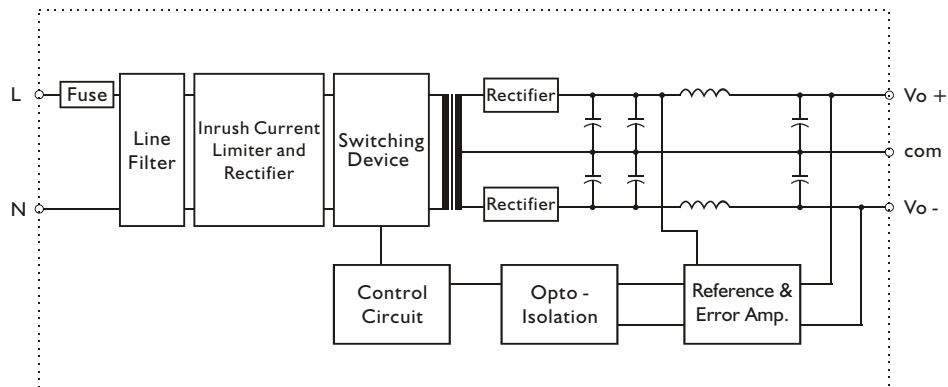


CIRCUIT SCHEMATIC

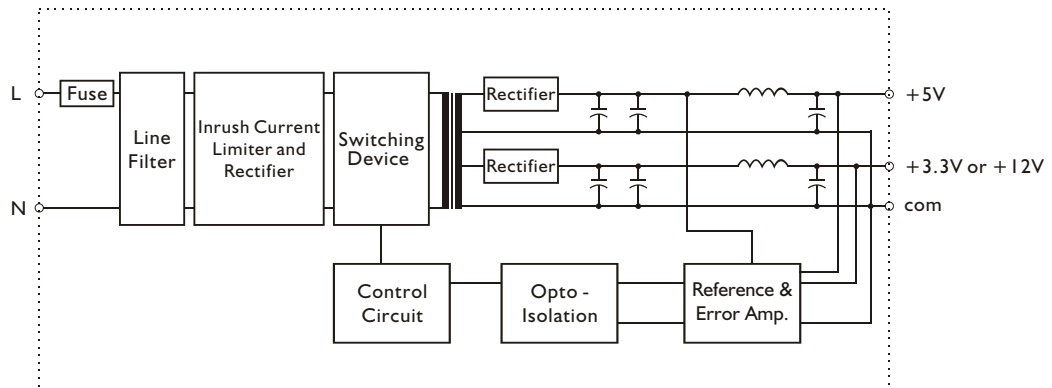
- Block diagram for KAMN30 series with single output



- Block diagram for KAMN30 series with dual output



- Block diagram for KAMN30503D & KAMN30512D

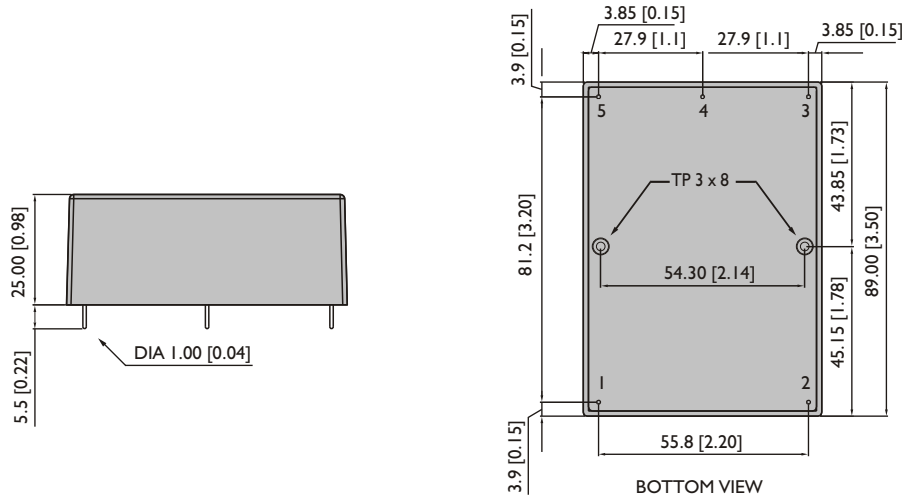


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MECHANISM & PIN CONFIGURATION

mm [inch]



PHYSICAL CHARACTERISTICS

CASE SIZE	L 89 x W 63.5 x H25mm (L 3.5 x W 2.5 x H 0.98 inches)
CASE MATERIAL	Plastic
WEIGHT	250g

PIN ASSIGNMENT

GENERAL

PIN NO.	1	2	3	4	5
SINGLE	N	L	Vo +	Vo -	Trim
DUAL	N	L	Vo + or +5V	com	Vo- or +3.3V or +12V

DERATING

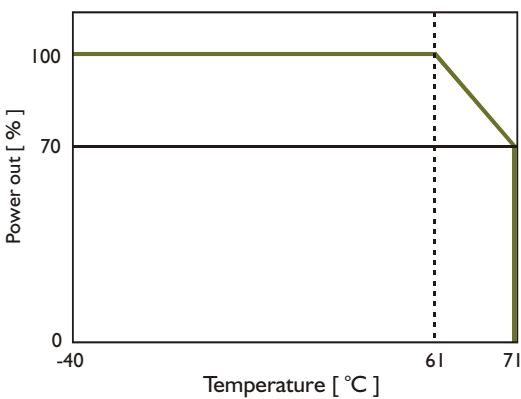


Fig. 1 Trim connection

(For single output only)

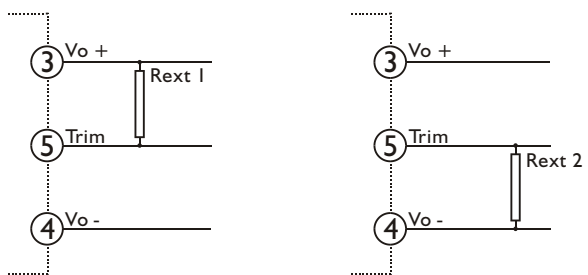


Table 1 Typical resistor values for various output voltage adjustment settings

Type	Rext 1		Rext 2	
	Uo nom -5%	Uo nom -10%	Uo nom +5%	Uo nom +10%
KAMN3003	100KΩ	N / A	12KΩ	N / A
KAMN3005	4.7KΩ	0KΩ	5.6KΩ	820Ω
KAMN3012	39KΩ	15KΩ	15KΩ	2.7KΩ
KAMN3015	120KΩ	51KΩ	22KΩ	2.7KΩ
KAMN3024	130KΩ	56KΩ	8.66KΩ	510Ω