

Datasheet

KAMN30 SERIES



AC-DC POWER MODULE
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 year warranty

Model list

RS STOCK NO.	MODEL NO.	OUTPUT WATTAGE	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. (TYP.)
751-1415	KAMN3005	30 watts	85-265 Vac	+ 5 Vdc	6000 mA	81%
751-1419	KAMN3012	30 watts	85-265 Vac	+12 Vdc	2500 mA	85%
751-1428	KAMN3015	30 watts	85-265 Vac	+15 Vdc	2000 mA	86%
751-1421	KAMN3024	30 watts	85-265 Vac	+24 Vdc	1250 mA	86%

Specification

All specifications typical at nominal line, full load, 25° C unless otherwise stated

GENERAL						
CHARACTERISTICS	CONDITIONS	MIN.	TYP.	MAX.	UNIT	
Switching frequency	Vi nom, Io nom		65		kHz	
Isolation voltage	Input- output	4236/6000			Vac/Vdc	
Isolation Resistance	Input- output @ 500 Vdc	100			MΩ	
Ambient temperature	Operating at Vi nom, Io nom	-40		+71	°C	
Case temperature	Operating at Vi nom, Io nom			+85	°C	
Derating	Vi nom, +61 to +71 °C			2.5	% / °C	
Storage temperature	Non operational	-40		+100	°C	
Relative humidity	Vi nom, Io nom	20		95	% RH	
Temperature coefficient	Vi nom, Io nom			± 0.03	% / °C	
Altitude during operation				3000	m	
Dimensions		L 89 x W 63.5 x H 25			mm	
Cooling	Free air convection					

RELIABILITY						
CHARACTERISTICS	CONDITIONS	MIN.	TYP.	MAX.	UNIT	
MTBF	Bellcore issue 6 @ 40°C, GB	5V	703000		Hours	
		12V	722000		Hours	
		15V & 24V	740000		Hours	

INPUT SPECIFICATIONS						
CHARACTERISTICS	CONDITIONS	MIN.	TYP.	MAX.	UNIT	
Rated input voltage	Io nom	100		240	Vac	
Input voltage range	Ta min ... Ta max, Io nom	ac in	85	265	Vac	
		dc in	120	375	Vdc	
Rated input current	Vi : 115 / 230 Vac, Io nom		0.57 - 0.34	0.8 - 0.4	A	
Line frequency	Vi nom, Io nom	47		63	Hz	
Inrush current	Vi : 115 / 230 Vac, Io nom			20 / 40	A	
Leakage current	Normal condition			100	μA	

Specification

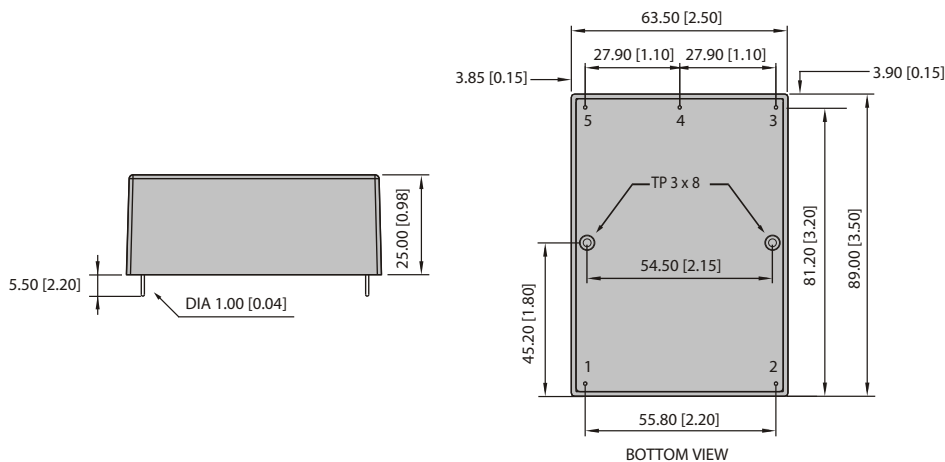
OUTPUT SPECIFICATIONS					
CHARACTERISTICS	CONDITIONS	MIN.	TYP.	MAX.	UNIT
Output voltage accuracy	Vi nom, Io nom			± 1	%
Minimum load	Vi nom	0			%
Line regulation	Io nom, Vi min ... Vi max			± 1	%
Load regulation	Vi nom, Io min ... Io nom			± 1	%
Hold up time	Vi : 115 / 230 Vac, Io nom	15 / 75			ms
Turn on time	Vi nom, Io nom			1000	ms
Rise time	Vi nom, Io nom			150	ms
Fall time	Vi nom, Io nom			150	ms
Transient recovery time	Vi nom, 1 - 0.5 Io nom			1	ms
Ripple & noise	Vi nom, Io nom BW = 20 MHz			50	mV
External trim ADJ. Range	Io = 5% ... 100%	-10		+10	%
Efficiency	Vi nom, Io nom, Po / Pi	up to 86%, see model list & typ efficiency curve			

CONTROL AND PROTECTION					
CHARACTERISTICS	CONDITIONS	MIN.	TYP.	MAX.	UNIT
Input fuse		T2A / 250Vac internal			
Internal surge voltage protection	IEC 61000-4-5	Varistor			
Output short circuit		Hiccup mode			
Rated over load protection	Vi nom (see typ current limited curve)	120		160	%

APPROVALS AND STANDARDS	
UL / cUL	UL 60950-1, UL 60601-1 Recognised
TUV	EN 60950-1, EN 60601-1
CE	EN 60601-1-2, EN 55011, EN 61000-6-3, EN 55022 Class B, EN 61000-3-2, EN 61000-3-3 EN 61000-6-2, EN 55024, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5 EN 61000-4-6, EN 61000-4-8, EN 61000-4-11, EN 61204-3
Vibration resistance	meet IEC 60068-2-6 (10-500 Hz, 2G, along X, Y, Z each Axis, 60 min for each Axis)
Shock resistance	meet IEC 60068-2-27 (15G, 11ms, 3 axes, 6 Faces, 3 times for each Face)

PHYSICAL CHARACTERISTICS	
Case size	89 x 63.5 x 25mm (3.5 x 2.5 x 0.98 inches)
Case material	Plastic
Weight	250g
Potting material	Epoxy

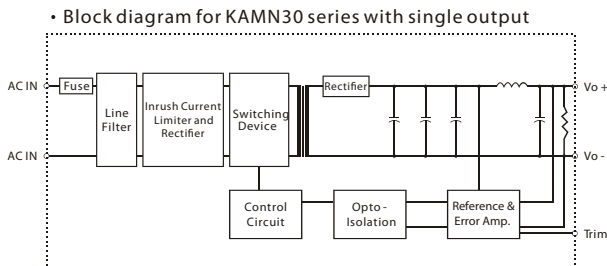
Mechanism & pin configuration



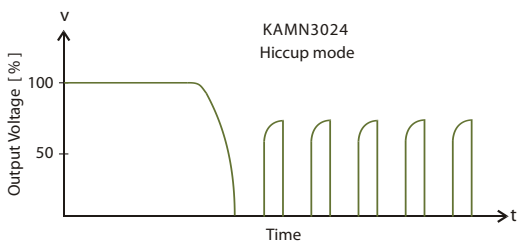
Pin assignment

GENERAL					
Pin no.	1	2	3	4	5
Single	ac in	ac in	Vo +	Vo -	Trim

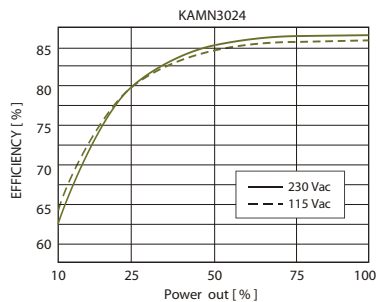
Circuit schematic



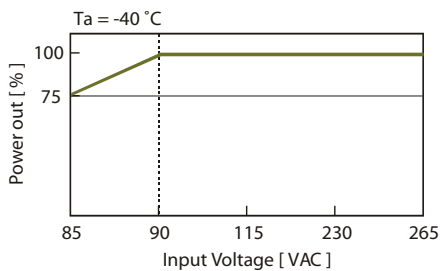
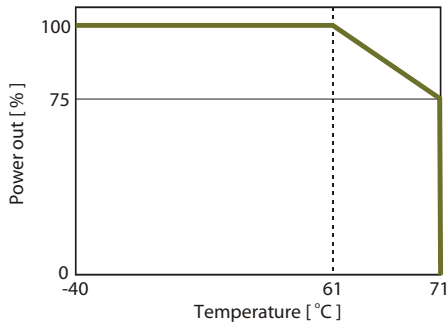
Typ. current limited curve



Typ. efficiency curve



Derating curve



Typical resistor values for various output voltage adjustment settings and max continuous power

TYPE	REXT 1		REXT 2		MAX CONTINUOUS POWER
	Vo nom -5%	Vo nom -10%	Vo nom +5%	Vo nom +5%	
KAMN3005	5.1KΩ	1KΩ	6.8KΩ	2KΩ	30W
KAMN3012	39KΩ	20KΩ	10KΩ	0Ω	30W
KAMN3015	180KΩ	56KΩ	30KΩ	5.1KΩ	30W
KAMN3024	150KΩ	51KΩ	8.2KΩ	0Ω	30W

Trim connection

