KAM10 SERIES

AC - DC POWER MODULE

10W UL / cUL / TUV / CE

FEATURES

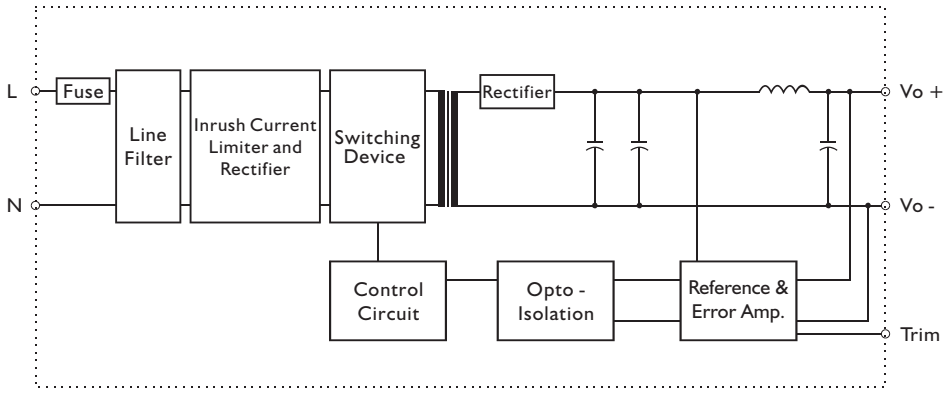
- AC/DC POWER MODULE
- UNIVERSAL INPUT 85 ~ 265 VAC
- HIGH EFFICIENCY UP TO 78%
- SHORT CIRCUIT PROTECTION
- INTERNAL INPUT FILTER
- 2 YEARS WARRANTY

MODEL LIST

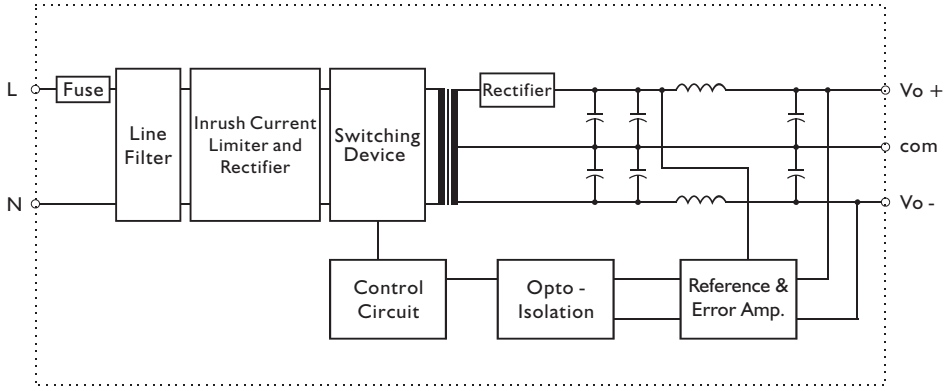
MODEL NO.	INPUT VOLTAGE	OUTPUT WATTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. (typ.)	EFF. (min.)
Single Output Models						
KAM1003	85~265 VAC	10 WATTS	+3.3 VDC	3000 mA	70%	67%
KAM1005	85~265 VAC	10 WATTS	+ 5 VDC	2000 mA	72%	70%
KAM1012	85~265 VAC	10 WATTS	+ 12 VDC	840 mA	77%	75%
KAM1015	85~265 VAC	10 WATTS	+ 15 VDC	670 mA	77%	75%
KAM1024	85~265 VAC	10 WATTS	+ 24 VDC	420 mA	78%	76%
Dual Output Models						
KAM1012D	85~265 VAC	10 WATTS	± 12 VDC	± 420 mA	77%	75%
KAM1015D	85~265 VAC	10 WATTS	± 15 VDC	± 335 mA	77%	74%
KAM10503D	85~265 VAC	10 WATTS	+ 5 /+ 3.3 VDC	+0.8 / +2A	74%	72%

CIRCUIT SCHEMATIC

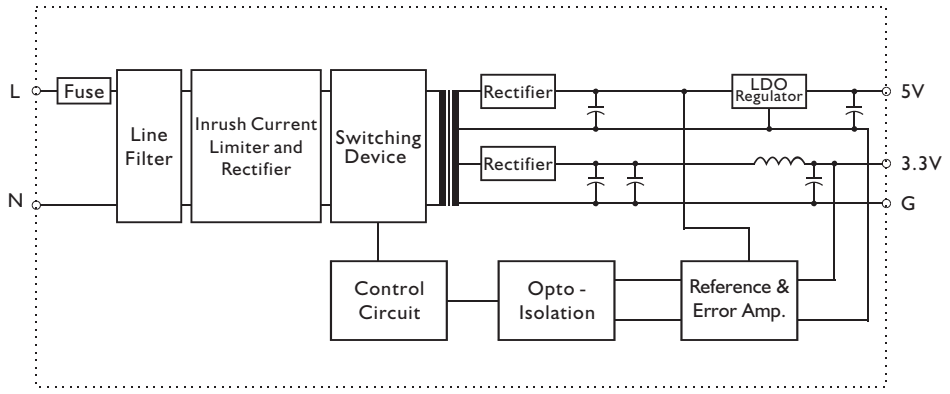
・Block diagram for KAM10 series with single output



・Block diagram for KAM10 series with dual output



・Block diagram for KAM10503D



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
Case temperature	Operating at Vinom, Io nom			+ 80	
Derating	Vi nom, Io nom +51 to +71°C			2	% / °C
Storage temperature	Non operational	-40		+100	°C
Relative humidity	Vi nom, Io nom			95	% RH
Dimension	L76.2 x W50.8 x H22.6				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	85		265	VAC
		DC in	120		370	VDC
Line frequency	Vi nom, Io nom		47		63	Hz
Inrush current	Io nom	Vi :115VAC			10	A
		Vi : 230VAC			18	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			±2	%
		dual output models			±2	%
Transient recovery time	Vi nom, Io nom = 1⟷0.5 Io nom			1,000		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%		-10		+10	%
Efficiency	Vi nom, Io nom, Po / Pi		Up to 78%, See model list			

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

CONTROL AND PROTECTION

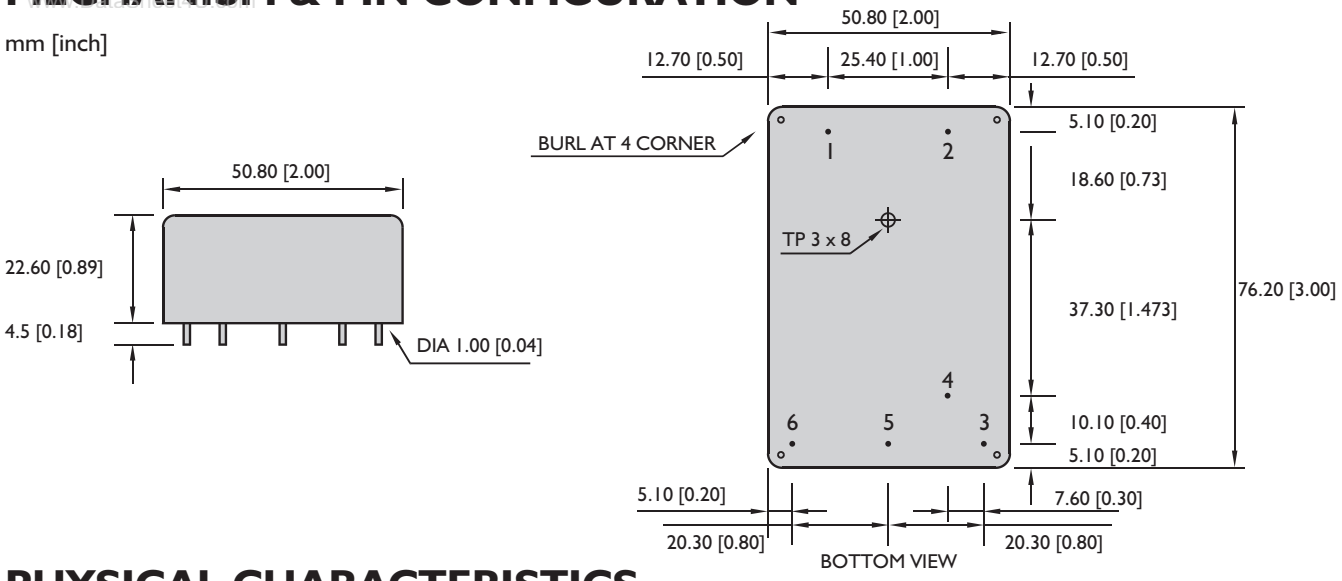
Input fuse	T2A / 250VAC internal
Output short circuit	By current limited

APPROVALS AND STANDARDS

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

MECHANISM & PIN CONFIGURATION

mm [inch]



PHYSICAL CHARACTERISTICS

CASE SIZE	76.2 x 50.8 x 22.6 mm 3 x 2 x 0.89 inches
CASE MATERIAL	Plastic
WEIGHT	160 g

PIN ASSIGNMENT

GENERAL

PIN NO.	1	2	3	4	5	6
SINGLE	AC IN	AC IN	Vo -	Trim	NO PIN	Vo +
DUAL	AC IN	AC IN	Vo - or +3.3V	NO PIN	com	Vo + or +5V

DERATING

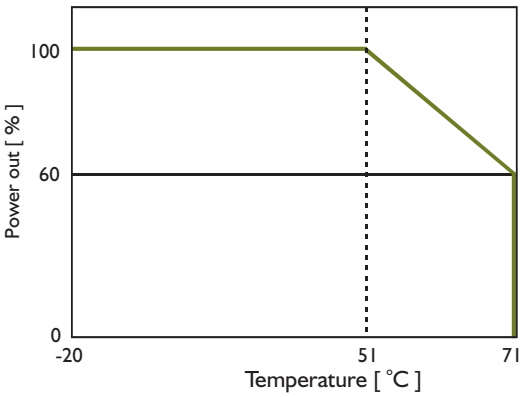


Fig. 1 Trim connection

(For single output only)

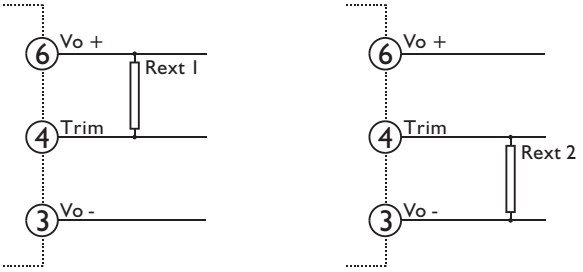


Table 1 Typical resistor values for various output voltage adjustment settings

Type	Rext 1		Rext 2	
	Uo nom -5%	Uo nom -10%	Uo nom +5%	Uo nom +10%
KAM 1003	180KΩ	56KΩ	100KΩ	20KΩ
KAM 1005	39KΩ	15KΩ	9.1KΩ	2.2KΩ
KAM 1012	51KΩ	20KΩ	10KΩ	2KΩ
KAM 1015	150KΩ	68KΩ	20KΩ	4.7KΩ
KAM 1024	130KΩ	56KΩ	12KΩ	2KΩ