

# KAM15 SERIES

## AC-DC POWER MODULE

13 ~ 15W *UL / cUL / TUV / CE*



KAM15 12 D

WATTAGE \_\_\_\_\_

03 : 3.3V OUT

05 : 5V OUT

12 : 12V OUT

15 : 15V OUT

24 : 24V OUT

503 : 5V & 3.3V OUT

\* : SINGLE OUTPUT

D : DUAL OUTPUT

\* = BLANK

### MODEL LIST

MODEL NO.	INPUT VOLTAGE	OUTPUT WATTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. (TYP.)	EFF. (MIN.)	CASE
<b>Single Output Models</b>							
KAM1503	85~265 VAC	13 WATTS	+3.3 VDC	4000 mA	73%	70%	M1
KAM1505	85~265 VAC	15 WATTS	+ 5 VDC	3000 mA	76%	74%	M1
KAM1512	85~265 VAC	15 WATTS	+ 12 VDC	1250 mA	82%	80%	M1
KAM1515	85~265 VAC	15 WATTS	+ 15 VDC	1000 mA	82%	80%	M1
KAM1524	85~265 VAC	15 WATTS	+ 24 VDC	625 mA	82%	80%	M1
<b>Dual Output Models</b>							
KAM1512D	85~265 VAC	15 WATTS	± 12 VDC	± 625 mA	81%	79%	M1
KAM1515D	85~265 VAC	15 WATTS	± 15 VDC	± 500 mA	80%	78%	M1
KAM15503D	85~265 VAC	15 WATTS	+5/+3.3 VDC	+1A/+3A	74%	72%	M1

### FEATURES

- \* AC/DC POWER MODULE
- \* UNIVERSAL INPUT 85 ~ 265 VAC
- \* HIGH EFFICIENCY UP TO 82%
- \* SHORT CIRCUIT PROTECTION
- \* INTERNAL INPUT FILTER
- \* 2 YEARS WARRANTY

### SPECIFICATION

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

#### GENERAL SPECIFICATION

- \* Switching frequency: ..... 100KHz (typ.)
- \* Isolation voltage: ..... 3,000VAC (min.)
- \* Isolation resistance: ..... 100M Ω(min.)
- \* Operating ambient temperature: ..... -20 to +71°C
- \* Storage temperature: ..... -40 to +100°C
- \* Relative humidity: ..... 20% to 95%RH
- \* M.T.B.F.: ..... 245,000Hrs at @ GF40, according to MIL-HDBK-217F
- \* Cooling: ..... Free air convection
- \* Transient recovery time: ..... 1000μS, 50% load step change
- \* Temperature coefficient: ..... ±0.02% / °C
- \* Dimension: ..... 76.2 x 50.8 x 22.6mm

#### INPUT SPECIFICATIONS

- \* Input voltage range / frequency: ..... 85 ~ 265VAC / 47 ~ 63Hz
- \* Max. Input voltage: ..... 265VAC
- \* Inrush current: ..... < 10A at 110VAC  
< 18A at 230VAC

#### OUTPUT SPECIFICATIONS

- \* Output voltage accuracy: ..... ±2% at Vo\_nom(max.)
- \* Minimum load: ..... None at Vo\_nom for single output models  
20% FL each output at Vo\_nom for dual output models
- \* Line regulation: ..... ±1% at Vo\_nom
- \* Load regulation: ..... ±2% (NL ~ FL) at Vo\_nom for single output models  
±2% (20% ~ FL) at Vo\_nom for dual output models
- \* Ripple & noise: ..... Vout x ±1% mV p-p (max.)  
≤ 100mV for 3.3\_Vout
- \* Efficiency: ..... Up to 82%, see model list
- \* Derating: ..... +51 to +71°C, 2% / °C
- \* Case material: ..... Non-conductive black plastic
- \* External trim ADJ. Range: ..... ±10% for 5V ~ 24V\_out at 5% ~ 100% load  
(for single output only)  
±5% for 3.3V\_out at 5% ~ 100% load  
(see Fig. 1 & table 1 for trim connection)

#### CONTROL AND PROTECTION

- \* Input fuse: ..... T2A / 250VAC
- \* Output short circuit: ..... Current limited

#### APPROVALS AND STANDARD

- UL / cUL: ..... UL1950
- TUV: ..... IEC60950
- CE: ..... EN55022 for EMI  
EN50082-1 for EMS

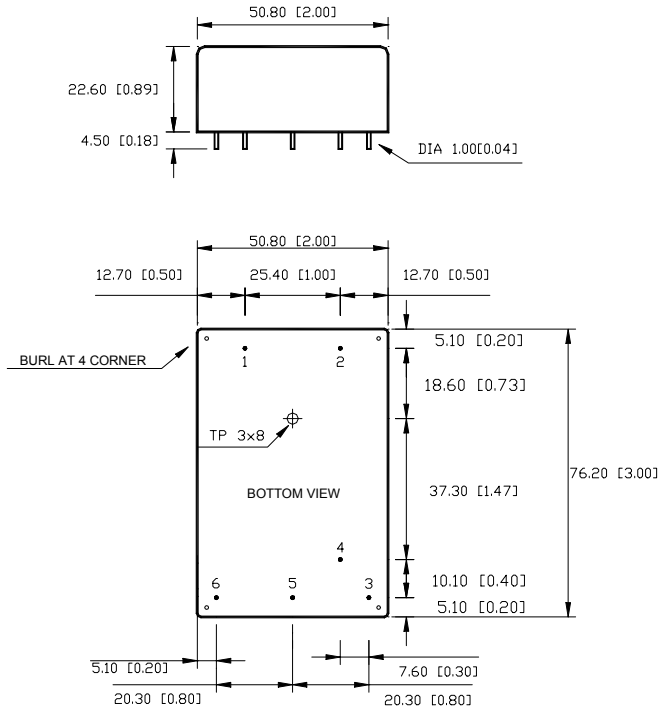
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### MECHANISM & PIN CONFIGURATION

mm [inch]



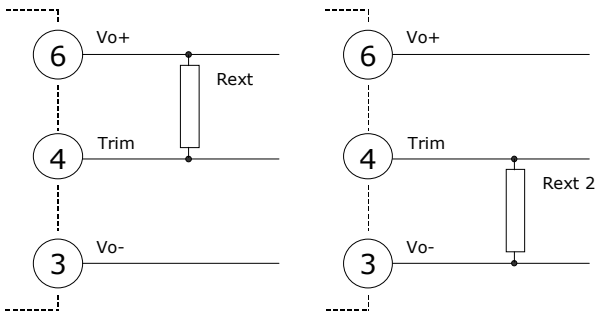
### PHYSICAL CHARACTERISTICS

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

### PIN ASSIGNMENT

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

**Fig. 1 Trim connection (For single output only)**



**Table 1 Typical resistor values for various output voltage adjustment settings**

Type	Rext 1		Rext 2	
	$U_o \text{ nom } -5\%$	$U_o \text{ nom } -10\%$	$U_o \text{ nom } +5\%$	$U_o \text{ nom } +10\%$
KAM1503	180K $\Omega$	56K $\Omega$	100K $\Omega$	20K $\Omega$
KAM1505	39K $\Omega$	15K $\Omega$	9.1K $\Omega$	2.2K $\Omega$
KAM1512	51K $\Omega$	20K $\Omega$	10K $\Omega$	2K $\Omega$
KAM1515	150K $\Omega$	68K $\Omega$	20K $\Omega$	4.7K $\Omega$
KAM1524	130K $\Omega$	56K $\Omega$	12K $\Omega$	2K $\Omega$

### Derating:

