4W Wide Input AC-DC PCB-Mount Power Supplies

https://product.tdk.com/en/power/kas
www.emea.tdk-lambda.com/kas





The encapsulated KAS board mount power supplies are certified to IEC/CSA/UL/EN 62368-1, designed to meet IEC/EN 60335-1 and meet EN 55032 Class B for conducted and radiated emissions. With a wide input range of 90-305Vac requiring no earth ground (Class II), the KAS series is ideally suited for a wide range of applications including security systems, building automation, professional household appliances, portable equipment and products requiring a separate standby voltage.

Features	Benefits
• 90 - 305Vac Input	• Operates From 115V, 230V and 277Vac Nominal Inputs
• Wide Temperature Range (-40 to +70°C)	• Suitable For Industrial Applications
• Low No Load Power Consumption	• Energy Saving During System Standby
• Class II Double Insulated Input	• No Ground Connection Needed

Model Selector

Model	Output Voltage (V)	Maximum Current (A)	Maximum Power (W)	Ripple & Noise (mVpk-pk)	Line Regulation (mV)	Load Regulation (mV)	Efficiency (%)	Maximum Load Capacitance (uF)
KAS4-3P3	3.3	1.2	4	250	±16.5	±49.5	68	5,000
KAS4-5	5	0.8	4	250	±25	±75	72	4,200
KAS4-8	8	0.5	4	200	±40	±120	74	1,470
KAS4-9	9	0.444	4	200	±45	±135	75	1,330
KAS4-12	12	0.333	4	150	±24	±60	76	680
KAS4-14	14	0.286	4	150	±28	±70	76	470
KAS4-15	15	0.267	4	100	±30	±75	76	330
KAS4-24	24	0.167	4	100	±48	±120	77	120

Specifications

Model		KAS4
Input		
AC Input Voltage Range	Vac	90 - 305
Input Frequency	Hz	47 - 440*
DC Input Voltage Range	Vdc	120 - 430*
Input Current (115 / 230Vac)	mA	110 / 70
Inrush Current (115 / 230Vac)	A	15 / 25 (Cold start, 25°C, requires 10Ω 5A external NTC thermistor)
Touch Current (< 240Vac)	mA	<0.25
No Load Power Consumption	W	<0.3
Hold Up Time (typ) (115 / 230Vac)	ms	>15
Efficiency (1)	-	See model selector table
Conducted & Radiated EMI	-	EN55032-B
Immunity	-	EN55024 (With external varistor L-N rated at 350Vrms maximum, 920V clamp, 0.6W minimum)
Safety Certifications and Markings	-	UL/CSA/IEC/EN62368-1, IEC/EN60335-1 (Designed to meet), CE Mark and UKCA Mark

Immunity

Test	Standard	Test Level	Criteria	Notes
ESD	IEC61000-4-2	2	A	Contact Discharge: ±4kV, Air Discharge: ±8kV
Radiated Susceptibility	IEC61000-4-3	2	A	Test Level: 3V/m at 80-1,000MHz
Electrical Fast Transient Burst	IEC61000-4-4	2	A	Voltage Peak: 1kV at 5kHz
Surge	IEC61000-4-5	2	A	Test Level: 1kV, Max Peak Current: 500A
Conducted Susceptibility	IEC61000-4-6	2	A	Test Level: 3Vrms
Magnetic Fields	IEC61000-4-8	1	A	Test Level: 1A/m
Voltage Dips and Short Interruptions	IEC61000-4-11	<5% for 1/2 cycle	A	-
		70% for 25/30 cycles	A	-
		<5% for 250/300 cycles	C	-

Specifications

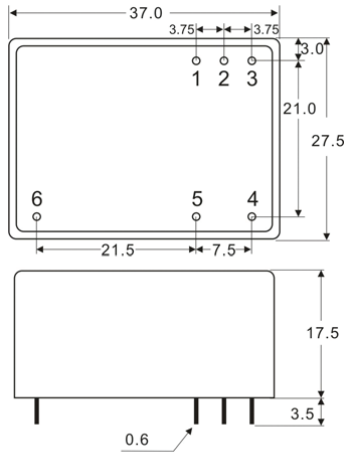
Model		KAS4
Output		
Output Voltage Set Accuracy	%	±2
Output Voltage Adjustment	-	None
Ripple and Noise	-	See model selector table
Switching Frequency	kHz	124 to 140
Temperature Coefficient	%/°C	±0.02
Minimum Load	-	None
Overcurrent Protection	%	>115 (Hiccup mode with auto-recovery)
Overvoltage Protection	-	None
Short Circuit Protection	-	None
Parallel Operation	-	Not possible

Specifications

Model		KAS4
Environmental		
Operating Temperature (2)	°C	-40 to +70, see derating curves below
Maximum Case Temperature	°C	90 (83 for <115Vac)
Storage Temperature	°C	-40 to +85
Humidity (non condensing)	%RH	10 to 95
Cooling	-	Convection
Altitude	m	3,000
Construction Class	-	II
Withstand Voltage (For 1 minute)	Vac	Input to Output 3,000
Other		
Weight (Typ)	g	26
Size (LxWxH)	mm	37.0 x 27.5 x 17.5
Size (LxWxH)	Inches	1.46 x 1.08 x 0.69
Case Material	-	Plastic Resin Case (UL 94V-0)
MTBF (MIL-HDBK-217F, 25°C)	Hours	450,000
Warranty	Years	3

Notes:
See website for detailed specifications, test methods and installation manual
(1) Measured at 25%, 50%, 75% and 100% load conditions
(2) Model dependent, see installation manual for details
* Safety certified for AC input and 47-63Hz only

KAS4 Outline Drawing

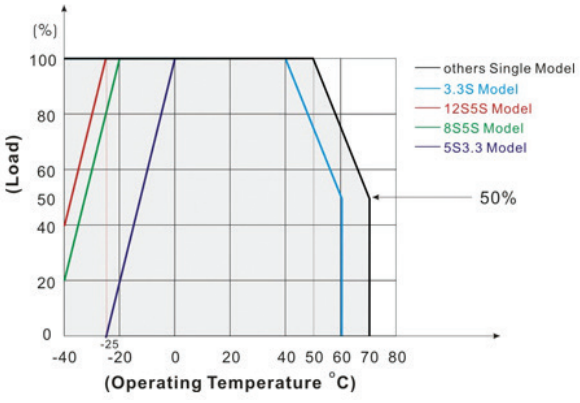


Tolerance ±0.5 mm

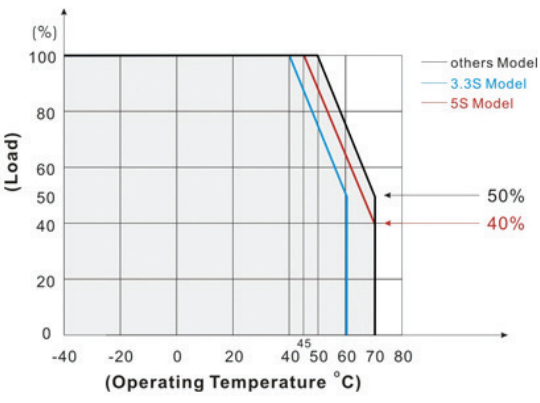
Pinout

Pin	Function
1	+Vout
2	-Vout
3	Not connected
4	AC (L)
5	AC (N)
6	Not connected

Derating 90 - 280Vac Input



Derating 305Vac Input





TDK-Lambda France SAS
Tel: +33 1 60 12 71 65
france@fr.tdk-lambda.com
www.emea.lambda.tdk.com/fr



Italy Sales Office
Tel: +39 02 61 29 38 63
info.italia@it.tdk-lambda.com
www.emea.lambda.tdk.com/it



Netherlands
info@nl.tdk-lambda.com
www.emea.lambda.tdk.com/nl



TDK-Lambda Germany GmbH
Tel: +49 7841 666 0
info@de.tdk-lambda.com
www.emea.lambda.tdk.com/de



Austria Sales Office
Tel: +43 2256 655 84
info@at.tdk-lambda.com
www.emea.lambda.tdk.com/at



Switzerland Sales Office
Tel: +41 44 850 53 53
info@ch.tdk-lambda.com
www.emea.lambda.tdk.com/ch



Nordic Sales Office
Tel: +45 8853 8086
info@dk.tdk-lambda.com
www.emea.lambda.tdk.com/dk



TDK-Lambda UK Ltd.
Tel: +44 (0) 12 71 85 66 66
info@uk.tdk-lambda.com
www.emea.lambda.tdk.com/uk



TDK-Lambda Ltd.
Tel: +9 723 902 4333
info@tdk-lambda.co.il
www.emea.lambda.tdk.com/il



C.I.S.
Commercial Support:
Tel: +7 (495) 665 2627
Technical Support:
Tel: +7 (812) 658 0463
info@tdk-lambda.ru
www.emea.lambda.tdk.com/ru



TDK-Lambda Americas
Tel: +1 800-LAMBDA-4 or 1-800-526-2324
powersolutions@us.tdk-lambda.com
www.us.lambda.tdk.com



TDK Electronics do Brasil Ltda
Tel: +55 11 3289-9599
sales.br@tdk-electronics.tdk.com
www.tdk-electronics.tdk.com/en



TDK-Lambda Corporation
Tel: +81-3-6778-1113
www.jp.lambda.tdk.com



TDK-Lambda (China) Electronics Co. Ltd.
Tel: +86 21 6485-0777
powersolutions@cn.tdk-lambda.com
www.lambda.tdk.com.cn



TDK-Lambda Singapore Pte Ltd.
Tel: +65 6251 7211
tls.mkt@sg.tdk-lambda.com
www.sg.lambda.tdk.com



TDK India Private Limited, Power Supply Division
Tel: +91 80 4039-0660
mathew.philip@in.tdk-lambda.com
www.sg.lambda.tdk.com

For additional information, please visit
https://product.tdk.com/en/power/