

# KDD40 SERIES



## DC - DC CONVERTER

33 ~ 48W SINGLE & DUAL & TRIPLE OUTPUT

## FEATURES

- 2:1 INPUT RANGE
- ISOLATION INPUT AND OUTPUT 1.5KV DC
- HIGH PERFORMANCE UP TO 84%
- SHORT CIRCUIT PROTECTION
- 2 YEARS WARRANTY

## MODEL LIST

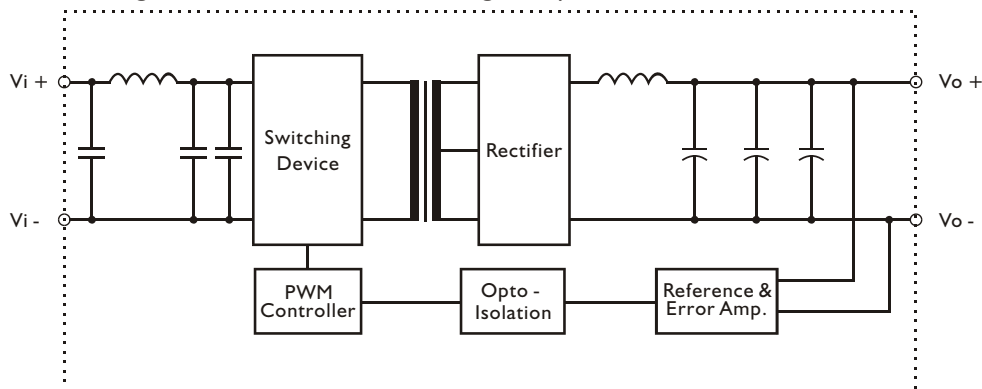
MODEL NO.	INPUT VOLTAGE	OUTPUT WATTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. (min.)
<b>Single Output Models</b>					
KDD40 - 12S01	9~18 VDC	40 WATTS	+ 5 VDC	8000 mA	75%
KDD40 - 12S02	9~18 VDC	42 WATTS	+ 12 VDC	3500 mA	78%
KDD40 - 12S03	9~18 VDC	45 WATTS	+ 15 VDC	3000 mA	79%
KDD40 - 12S04	9~18 VDC	48 WATTS	+ 24 VDC	2000 mA	80%
KDD40 - 12S05	9~18 VDC	33 WATTS	+3.3 VDC	10000 mA	73%
KDD40 - 24S01	18~36 VDC	40 WATTS	+ 5 VDC	8000 mA	79%
KDD40 - 24S02	18~36 VDC	42 WATTS	+ 12 VDC	3500 mA	81%
KDD40 - 24S03	18~36 VDC	45 WATTS	+ 15 VDC	3000 mA	81%
KDD40 - 24S04	18~36 VDC	48 WATTS	+ 24 VDC	2000 mA	81%
KDD40 - 24S05	18~36 VDC	33 WATTS	+3.3 VDC	10000 mA	77%
KDD40 - 48S01	36~72 VDC	40 WATTS	+ 5 VDC	8000 mA	79%
KDD40 - 48S02	36~72 VDC	42 WATTS	+ 12 VDC	3500 mA	81%
KDD40 - 48S03	36~72 VDC	45 WATTS	+ 15 VDC	3000 mA	82%
KDD40 - 48S04	36~72 VDC	48 WATTS	+ 24 VDC	2000 mA	84%
KDD40 - 48S05	36~72 VDC	33 WATTS	+3.3 VDC	10000 mA	77%
<b>Dual Output Models</b>					
KDD40 - 12D01	9~18 VDC	37.5 WATTS	± 5 VDC	+7000 / -500 mA	75%
KDD40 - 12D02	9~18 VDC	42 WATTS	± 12 VDC	+3000 / -500 mA	78%
KDD40 - 12D03	9~18 VDC	37.5 WATTS	± 15 VDC	+2000 / -500 mA	79%
KDD40 - 24D01	18~36 VDC	42.5 WATTS	± 5 VDC	+8000 / -500 mA	77%
KDD40 - 24D02	18~36 VDC	42 WATTS	± 12 VDC	+3000 / -500 mA	78%
KDD40 - 24D03	18~36 VDC	37.5 WATTS	± 15 VDC	+2000 / -500 mA	80%
KDD40 - 48D01	36~72 VDC	42.5 WATTS	± 5 VDC	+8000 / -500 mA	79%
KDD40 - 48D02	36~72 VDC	42 WATTS	± 12 VDC	+3000 / -500 mA	81%
KDD40 - 48D03	36~72 VDC	37.5 WATTS	± 15 VDC	+2000 / -500 mA	82%

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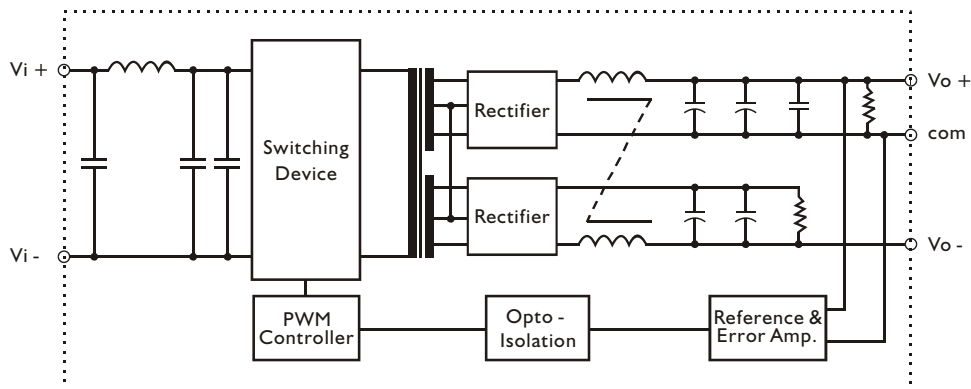
MODEL NO.	INPUT VOLTAGE	OUTPUT WATTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. (min.)
<b>Triple Output Models</b>					
KDD40 - 12T01	9~18 VDC	42 WATTS	+5V / $\pm$ 12V	+6000 / $\pm$ 500 mA	76%
KDD40 - 12T02	9~18 VDC	45 WATTS	+5V / $\pm$ 15V	+6000 / $\pm$ 500 mA	77%
KDD40 - 24T01	18~36 VDC	42 WATTS	+5V / $\pm$ 12V	+6000 / $\pm$ 500 mA	77%
KDD40 - 24T02	18~36 VDC	45 WATTS	+5V / $\pm$ 15V	+6000 / $\pm$ 500 mA	78%
KDD40 - 24T03	18~36 VDC	38.5 WATTS	+5V / +12V / -5V	+6A / +0.5A / -0.5A	78%
KDD40 - 48T01	36~72 VDC	42 WATTS	+5V / $\pm$ 12V	+6000 / $\pm$ 500 mA	78%
KDD40 - 48T02	36~72 VDC	45 WATTS	+5V / $\pm$ 15V	+6000 / $\pm$ 500 mA	79%
KDD40 - 48T03	36~72 VDC	38.5 WATTS	+5V / +12V / -5V	+6A / +0.5A / -0.5A	79%

### CIRCUIT SCHEMATIC

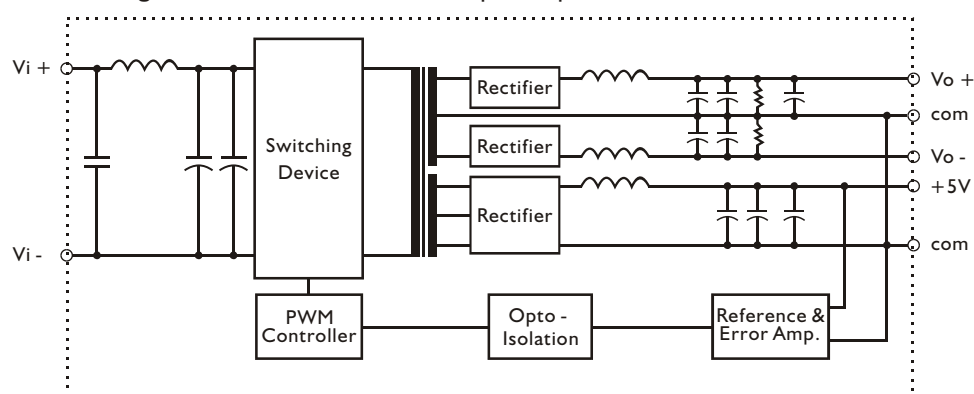
• Block diagram for KDD40 series with single output



• Block diagram for KDD40 series with dual output



• Block diagram for KDD40 series with triple output



### 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		80		KHz
Isolation voltage	Input / Output	1,500			VDC
Isolation resistance	Input / Output, @ 500VDC	1G			Ω
Ambient temperature	Operating at Vi nom, Io nom	-25		+ 71	°C
Case temperature	Operating at Vi nom, Io nom			+ 90	°C
Derating	Vi nom	See derating curve			% / °C
Storage temperature	Non operational	-40		+ 90	°C
Dimension	L70 x W100 x H23				mm
Cooling	Free air convection				
Case material	Metal				

#### INPUT SPECIFICATIONS

Characteristics	Conditions	min.	typ.	max.	unit
Input voltage range	Ta min ... Ta max, Io nom	9	12	18	VDC
		18	24	36	VDC
		36	48	72	VDC
No load input current	Vi nom, Io=0	12V models		35	mA
		24V models		30	mA
		48V models		25	mA
Input voltage w/o damage	Io nom	12V models		21	VDC
		24V models		40	VDC
		48V models		75	VDC
Input filter	Pi type				

#### OUTPUT SPECIFICATIONS

Characteristics	Conditions	min.	typ.	max.	unit
Output voltage accuracy	Vi nom, Io nom	single output models		± 1	%
		dual & triple output models		± 2	%
		-5V of triple output		± 3	%
Minimum load	Vi nom	single output models	0		%
		dual & triple (each output)	20		%
Line regulation	Io nom, Vi min ... Vi max			± 1	%
Load regulation	Vi nom Io min ... Io max	single output models		± 2	%
		Vo+ of dual output models		± 2	%
		Vo- of dual output models		± 5	%
		+5V of triple output		± 2	%
		slave of triple output		± 5	%
Transient recovery time	25% load, step changed		500		μS
Temperature coefficient	Vi nom, Io nom			± 0.02	% / °C
Ripple & noise	Vi nom, Io nom, BW = 20MHz			Vout x ± 1%	mV
	-5V of triple output			150	mV
Efficiency	Vi nom, Io nom, Po / Pi	Up to 84%, See model list			

### SPECIFICATION

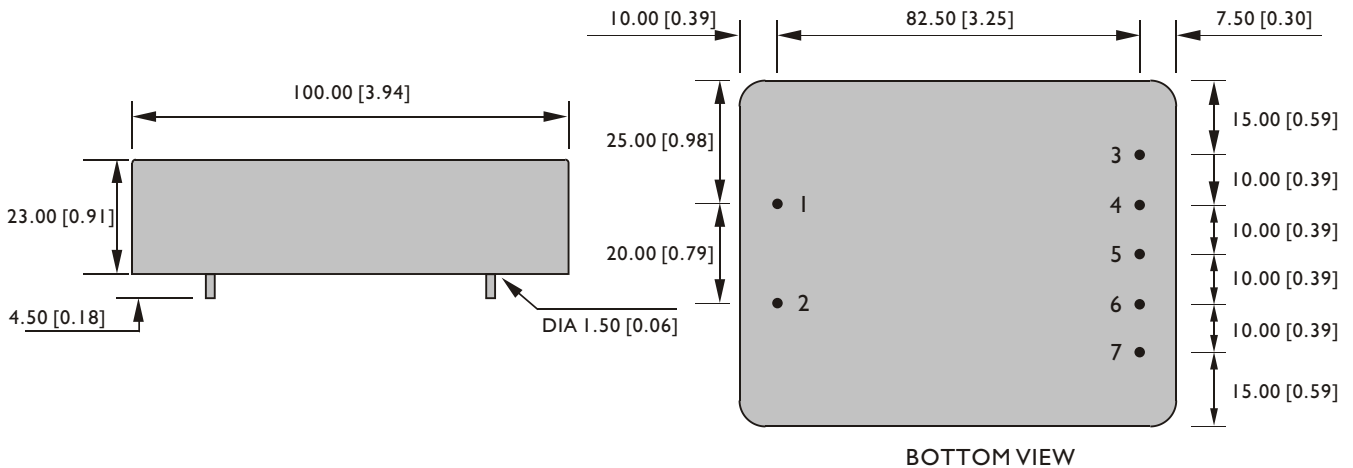
All Specifications Typical At Nominal Line, Full Load, 25°C Unless Otherwise Noticed

### CONTROL AND PROTECTION

Input reversed	Shunt diode built in, external fuse recommended
Output short circuit	Continuous

### MECHANISM & PIN CONFIGURATION

mm [inch]



### PHYSICAL CHARACTERISTICS

CASE SIZE	70 x 100 x 23 mm 2.76 x 3.94 x 0.91 inches
CASE MATERIAL	Metal
WEIGHT	270 g

### PIN ASSIGNMENT

#### GENERAL

PIN NO.	1	2	3	4	5	6	7
SINGLE	Vi+	Vi-	Vo+	Vo+	Vo-	Vo-	N. C.
DUAL	Vi+	Vi-	Vo+	Vo+	com	com	Vo-
TRIPLE	Vi+	Vi-	+5V OUT	com	Vo+	com	Vo-

### DERATING

