

## Features

- Universal input 85-265VAC
- High Efficiency Rating up to 92%
- Operating ambient temperature range:  
-40°C to +85°C
- Approved to UKCA, CE, CB, cURus,  
FCC, RoHS & REACH
- EN/IEC/UL 62368-1 Safety Approved
- Output Voltage 12 - 48V DC



Image for Illustration Purpose  
Models may vary

Ideal Power's 43TxD125-USxy 125W AC/DC Power Supply Module Series are certified to UKCA, CE, cURus, FCC, CB, RoHS, REACH & EN 62368-1/IEC 62368-1/UL 62368-1 Standards and comply with the relevant Efficiency Regulations. These are primarily used in ITE, Audio & Video Industries and customised solutions are available upon request.

### Part Number Structure

TxD125	-	U	S	12	B	-	□	□	□
Series Name		Input Voltage (V AC)	Output Quantity	Output Voltage (V DC)	Protection Type	Connector Options	Application Options	Conformal Coating Options	
<b>A:</b> Open type		85 ~ 264	<b>S:</b> Single	<b>12:</b> 12	□ : CLASS I B: CLASS II	□ : JST <b>M:</b> Molex <b>T:</b> Terminal Block	□: None <b>C:</b> OVC III	□: None <b>R:</b> Conformal Coating	
<b>U:</b> U Chassis type				<b>15:</b> 15					
<b>E:</b> Enclosed type				<b>18:</b> 18					
<b>D:</b> Din Rail type				<b>24:</b> 24					
				<b>28:</b> 28					
				<b>36:</b> 36					
				<b>48:</b> 48					

**Models**

Model Number	Input Range	Output Voltage	Output Current Natural Convection		Input Power @ No Load	Efficiency	Maximum Capacitor Load
	V AC	V DC	A		W	%	µF
43TAD125US12B 43TUD125US12B 43TED125US12B 43TDD125US12B	85 ~ 264	12	8.34	10.42	0.3	91	8700
43TAD125US15B 43TUD125US15B 43TED125US15B 43TDD125US15B	85 ~ 264	15	6.67	8.34	0.3	92	5600
43TAD125US18B 43TUD125US18B 43TED125US18B 43TDD125US18B	85 ~ 264	18	5.56	6.95	0.3	92	3900
43TAD125US24B 43TUD125US24B 43TED125US24B 43TDD125US24B	85 ~ 264	24	4.17	5.21	0.3	92	2200
43TAD125US28B 43TUD125US28B 43TED125US28B 43TDD125US28B	85 ~ 264	28	3.58	4.47	0.3	92	1600
43TAD125US36B 43TUD125US36B 43TED125US36B 43TDD125US36B	85 ~ 264	36	2.78	3.48	0.3	91	1000
43TAD125US48B 43TUD125US48B 43TED125US48B 43TDD125US48B	85 ~ 264	48	2.09	2.61	0.3	91	550

**Input Specifications**

Parameter	Conditions	Min	Typ	Max	Unit
Operating input voltage range	AC input	85	--	264	VAC
	DC input	120	--	370	VDC
Input frequency	AC input	47	--	63	Hz
Input current	100VAC and Full Load	--	--	1.8	A
	240VAC and Full Load	--	--	0.7	A
No load input power	230VAC	--	--	0.3	W
Leakage current	264VAC	--	--	300	µA
Power factor		0.95	--	--	
Start up time		--	--	1000	ms
Rise time		--	20	--	ms
Hold up time	115VAC and Full Load	18	--	--	ms
Input inrush current	230VAC	--	--	100	A
Input protection	Internal fuse	T3.15A/250VAC			

**Output Specifications**

Parameter	Conditions	Min.	Typ.	Max.	Unit	
Output power	Forced air cooling with 400LFM	--	--	125	Watts	
	Natural convection	--	--	100		
Output peak power	Peak power	--	--	140	Watts	
	Peak power (130~264Vac)	--	--	150		
	Peak power time	--	10	--	s	
	Peak power duty	--	20	--	%	
	Average operation power ( % of Full Load)	--	55	--		
Initial set voltage accuracy	230VAC and Full Load	-1.0	--	+1.0		
Line regulation	Low Line to High Line at Full Load	-0.2	--	+0.2		
Load regulation	No Load to Full Load	-0.5	--	+0.5		
	10% Load to 90% Load	-0.4	--	+0.4		
Voltage adjustability	Trim down over than -10% with 0.25W dummy load	-20	--	+10	%	
Minimum load		--	0	--	%	
Ripple and noise	Measured by 20MHz bandwidth					
	With a 10µF/25V 1206 X7R MLCC	12V	--	140	--	mVp-p
		15V	--	150	--	
	With a 1µF/50V 1206 X7R MLCC	24V	--	160	--	
		28V	--	180	--	
		36V	--	190	--	
With a 0.1µF/100V 1206 X7R MLCC	48V	--	340	--		
Temperature coefficient		-0.02	--	+0.02	%/°C	
Transient response	Load step from 50 ~ 75% change at 2.5A/µs	Peak deviation	--	--	3	% Vout
		Recovery time	--	500	--	
Over voltage protection	% of Vout(nom); Latch mode	115	--	135	%	
Overload protection	% of Iout rated; Hiccup mode	120	--	160	%	
Short circuit protection		Continuous, automatic recovery				

**General Specifications**

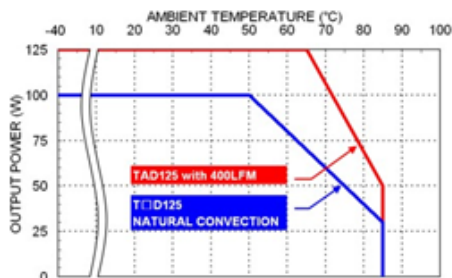
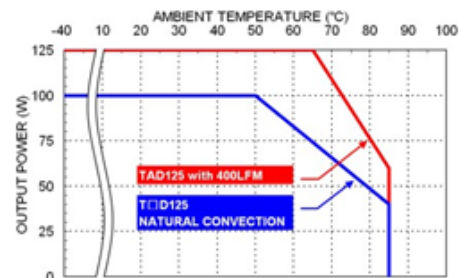
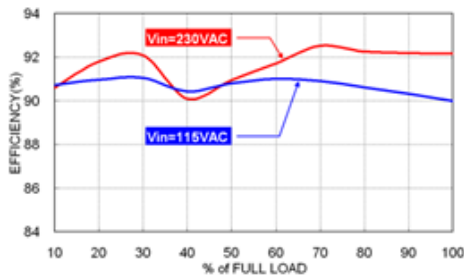
Parameter	Conditions	Min	Typ	Max	Unit
Isolation voltage	1 minute	4000	--	--	V AC
	(Reinforced insulation)				
		1500	--	--	
Isolation resistance	500V DC	0.1	--	--	GΩ
Switching frequency		--	60	--	kHz
Safety approvals	IEC/ EN/ UL 62368-1 (OVC III)				UL:E193009 CB:UL(Demko)
Weight	43TAD				156g (5.50oz)
	43TUD				195g (6.84oz)
	43TED				210g (7.41oz)
	43TDD				232g (8.18oz)
MTBF	MIL-HDBK-217F Ta=25°C, Full load				7.903 x 10 <sup>5</sup> hrs

**Environmental Specifications**

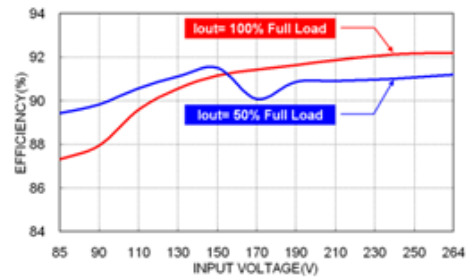
Parameter	Conditions	Min	Typ	Max	Unit
Operating case temperature	Natural convection and Full load (with derating)				
	-40°C start up: 80% Load, max. @ Vin > 125VAC	-40	--	+85	°C
	-40°C start up: 125% Load, max. @ Vin > 200VAC				
Storage temperature range		-40	--	+85	°C
Operating altitude				5000	m
Shock					IEC60068-2-27
Vibration					IEC60068-2-6
Relative humidity	Non-condensing				5% to 95% RH

**EMC Specifications**

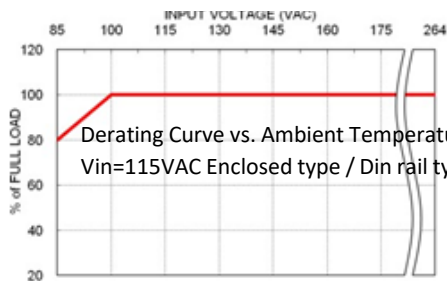
Parameter	Conditions	Level	
EMI	EN55032 and FCC Part 15	Conducted	Class B
	External components may be required for class I application	Radiated	Class A
Harmonic currents	EN61250-3-2 Full Load	Class A and D	
Voltage flicker	EN61250-3-3		
EMS	EN55035		
ESD	EN61000-4-2	Perf. Criteria A	
Radiated immunity	EN61000-4-3 20 V/m	Perf. Criteria A	
Fast transient	EN61000-4-4 $\pm 2$ kV	Perf. Criteria A	
Surge	EN61000-4-5 DM $\pm 1$ kV and CM $\pm 2$ kV	Perf. Criteria A	
Conducted immunity	EN61000-4-6 20 Vr.m.s	Perf. Criteria A	
Power frequency magnetic field	EN61000-4-8 10A/m	Perf. Criteria A	
Dip and interruptions	EN61000-4-11		

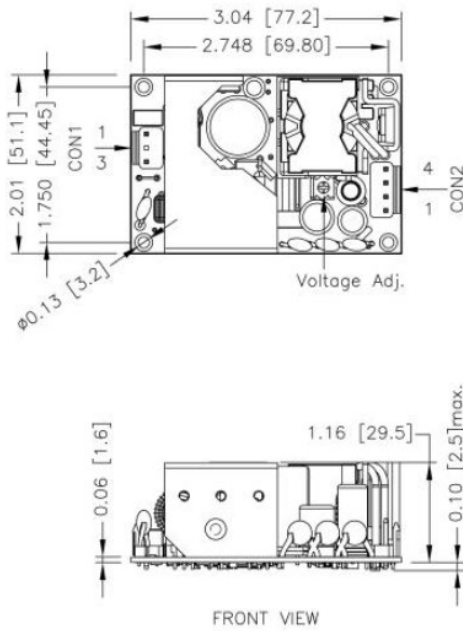
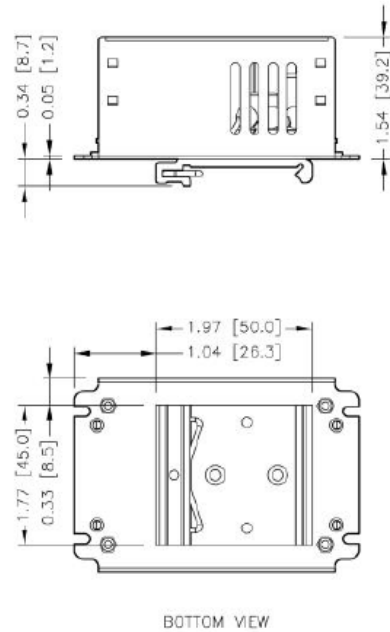
**Characteristic Curve**

 Derating Curve vs. Ambient Temperature  
 Vin=115VAC

 Derating Curve vs. Ambient Temperature  
 Vin=230VAC


43TxD125US24B Efficiency vs. Output Load



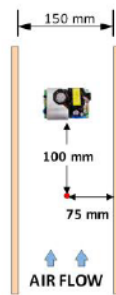
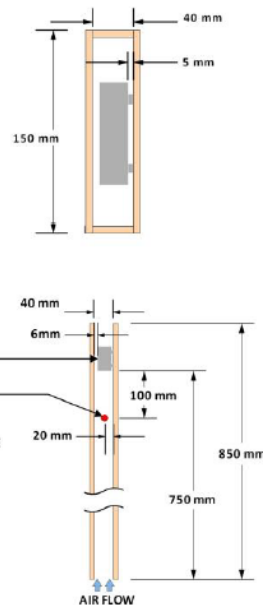
43TAD125US24C Efficiency VS Input Voltage


 TAD125 Derating Curve vs. Input Voltage  
 Forced air cooling with 400LFM

**Mechanical Drawing**
**43TAD Open Type - AC Input**

**43TDD DIN Rail Type**


1. All dimensions in inch [mm]
2. Tolerance :  $x.xx \pm 0.02$  [ $x.x \pm 0.5$ ]  $x.xxx \pm 0.010$  [ $x.xx \pm 0.25$ ]
3. The screw locked torque: MAX 5.0Kgf-cm/0.49N-m

1. All dimensions in inch [mm]
2. Tolerance :  $x.xx \pm 0.02$  [ $x.x \pm 0.5$ ]  $x.xxx \pm 0.010$  [ $x.xx \pm 0.25$ ]

**43TED Enclosed Type**

**CONNECTORS CONNECTIONS**
**CON1 – Input Connector**

Pin 1	Line
Pin 3	Neutral

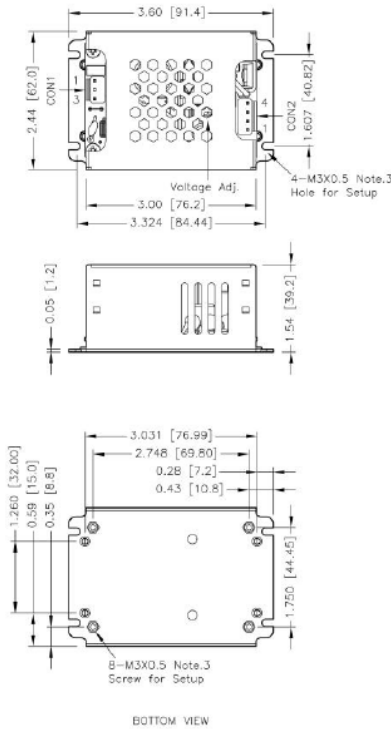
**CON2 – Output Connector**

Pin 1,2	-Vout
Pin 3,4	+Vout

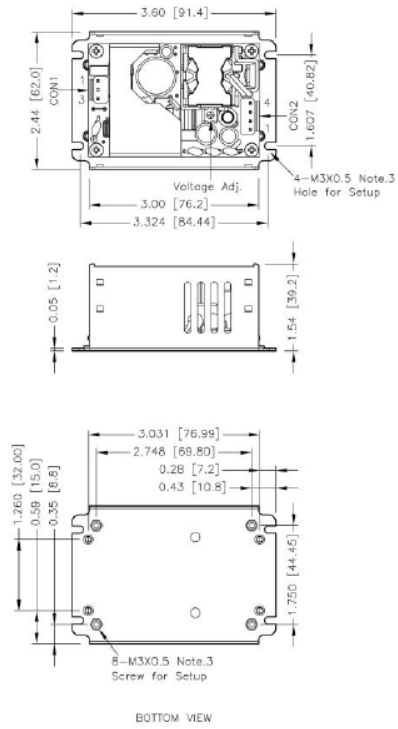
\*Either one of four screws holes of Open / Chassis type can be considered as PE connection for CLASS I application.

Mechanical Drawing (continued)

43TED Din Rail Type



43TUD Din Rail Type



- 1.All dimensions in inch [mm]
- 2.Tolerance : x.xx±0.02 [x.x±0.5] x.xxx±0.010 [x.xx±0.25]
- 3.The screw locked torque: MAX 5.0Kgf-cm/0.49N-m

- 1.All dimensions in inch [mm]
- 2.Tolerance : x.xx±0.02 [x.x±0.5] x.xxx±0.010 [x.xx±0.25]
- 3.The screw locked torque: MAX 5.0Kgf-cm/0.49N-m

CONNECTORS CONNECTIONS

CON1 – Input Connector	
Pin 1	Line
Pin 3	Neutral

CON2 – Output Connector	
Pin 1,2	-Vout
Pin 3,4	+Vout

AC – DC

Connector Options

Blank: JST Type  
Mates with housing  
CON1: VHR-3N  
CON2: VHR-4N  
  
Crimp terminals  
CON1: SVH-21T-P1.1  
CON2: SVH-21T-P1.1



-M Molex Type  
Mates with housing  
CON1: 09-50-8031  
CON2: 09-50-8041  
  
Crimp terminals  
CON1: SD-2478  
CON2: SD-2478



-T Terminal Block  
  
Screw locked torque  
MAX 2Kgf.cm/0.2N.m  
  
Wire dimension range  
26 ~ 16AWG

