

Features

- Universal input 85-265VAC
- High Efficiency Rating up to 92.5%
- Operating ambient temperature range: -40°C to +85°C
- Approved to UKCA, CE, CB, cURs, FCC, RoHS & REACH
- EN/IEC/UL 62368-1 Safety Approved
- Output Voltage 05 - 53V DC



Ideal Power's 43TxD40-USxy 40W AC/DC Power Supply Module Series are certified to cURus, UKCA, CE, FCC, CB, RoHS, REACH & EN 62368-1/IEC 62368-1/UL 62368-1 Standards and comply with Efficiency Regulations. These are primarily used in ITE, Audio & Video Industries and customised solutions are available upon request.

Part Number Structure

43TxD40 - U S 12 C - □ □ □

Series Name	Input Voltage (V AC)	Output Quantity	Output Voltage (V DC)	Protection Type	Connector Options	Application Options	Conformal Coating Options
A: Open type U: U Chassis type E: Enclosed type D: Din Rail type	85 ~ 264	S: Single	05: 05 7P5: 7.5 09: 09 12: 12 121: 12 15: 15 151: 15 18: 18 24: 24 28: 28 36: 36 48: 48 53: 53	C: CLASS I D: CLASS II □:CLASS I (※NRND) B: CLASS II (※NRND) ※NRND: Not recommended for new designs	□ : JST M: Molex T: Terminal Block	□: None C: OVC III	□: None R: Conformal Coating

Models

Model Number	Input Range V AC	Output Voltage V DC	Output Current Natural Convection A	Max. Output Power W	Input Power @ No Load W	Efficiency %	Maximum Capacitor Load µF
43T <u>A</u> D40US05C 43T <u>U</u> D40US05C 43T <u>E</u> D40US05C 43T <u>D</u> D40US05C	85 ~ 264	5	8	40	0.11	90	16000
43T <u>A</u> D40US7P5C 43T <u>U</u> D40US7P5C 43T <u>E</u> D40US7P5C 43T <u>D</u> D40US7P5C	85 ~ 264	7.5	5.34	40	0.11	90	7120
43T <u>A</u> D40US09C 43T <u>U</u> D40US09C 43T <u>E</u> D40US09C 43T <u>D</u> D40US09C	85 ~ 264	9	4.45	40	0.11	91	4945
43T <u>A</u> D40US12C 43T <u>U</u> D40US12C 43T <u>E</u> D40US12C 43T <u>D</u> D40US12C	85 ~ 264	12	3.34	40	0.11	92	2785
43T <u>A</u> D40US121C 43T <u>U</u> D40US121C 43T <u>E</u> D40US121C 43T <u>D</u> D40US121C	85 ~ 264	12	3.34	40	0.11	90	2785
43T <u>A</u> D40US15C 43T <u>U</u> D40US15C 43T <u>E</u> D40US15C 43T <u>D</u> D40US15C	85 ~ 264	15	2.67	40	0.11	92	1780
43T <u>A</u> D40US151C 43T <u>U</u> D40US151C 43T <u>E</u> D40US151C 43T <u>D</u> D40US151C	85 ~ 264	15	2.67	40	0.11	90	1780
43T <u>A</u> D40US18C 43T <u>U</u> D40US18C 43T <u>E</u> D40US18C 43T <u>D</u> D40US18C	85 ~ 264	18	2.23	40	0.11	91	1250
43T <u>A</u> D40US24C 43T <u>U</u> D40US24C 43T <u>E</u> D40US24C 43T <u>D</u> D40US24C	85 ~ 264	24	1.67	40	0.11	92	700
43T <u>A</u> D40US28C 43T <u>U</u> D40US28C 43T <u>E</u> D40US28C 43T <u>D</u> D40US28C	85 ~ 264	28	1.43	40	0.11	91	510
43T <u>A</u> D40US36C 43T <u>U</u> D40US36C 43T <u>E</u> D40US36C 43T <u>D</u> D40US36C	85 ~ 264	36	1.12	40	0.11	92	310
43T <u>A</u> D40US48C 43T <u>U</u> D40US48C 43T <u>E</u> D40US48C 43T <u>D</u> D40US48C	85 ~ 264	48	0.84	40	0.11	93	175
43T <u>A</u> D40US53C 43T <u>A</u> D40US53C 43T <u>A</u> D40US53C 43T <u>A</u> D40US53C	85 ~ 264	53	0.77	40	0.11	92.5	140

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	--	--	1.0	A
	240VAC and Full Load			0.5	
No load input power	230VAC	--	0.11	--	W
Leakage current	264VAC	--	75	--	µA
Start-up time		--	--	1000	ms
Rise time		--	20	--	ms
Hold up time	115VAC and Full Load	--	25	--	ms
Input inrush current	230VAC	--	60	--	A
Input protection	Internal fuse			T3.15A/250VAC	

Output Specifications

Parameter	Conditions	Min.	Typ.	Max.	Unit	
Output power		--	--	40	Watts	
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	5Vout	-0.7	--	+0.7	%
		Others	-0.5	--	+0.5	
	10% Load to 90% Load	5Vout	-0.6	--	+0.6	
		Others	-0.4	--	+0.4	
Voltage adjustability	Single output	53Vout	-20	--	+10	
		Others	-10	--	+10	
Minimum load	Measured by 20MHz bandwidth	--	--	--		
	With a 10µF/25V 1206 X7R MLCC	5Vout, 7.5Vout, 9Vout	--	75	--	mVp-p
		12Vout, 15Vout, 18Vout	--	75	--	
	With a 1µF/50V 1206 X7R MLCC	24Vout, 28Vout, 36Vout	--	75	--	
	With a 0.1µF/100V 1206 X7R MLCC	48Vout, 53Vout	--	150	--	
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	--	600	--	µs
Over voltage protection	% of Vout(nom); Latch mode	125	--	140	%	
Overload protection	% of Iout rated; Hiccup mode	--	145	--		
Short circuit protection					Continuous, automatic recovery	

General Specifications

Parameter	Conditions		Min	Typ	Max	Unit
Isolation voltage	1 minute (Reinforced insulation)	Input to Output	3000			V AC
		Input (Output) to F.G	1500			
Isolation resistance	500V DC		0.1			GΩ
Switching frequency	230VAC	5Vout		60		kHz
		Others				
Safety approvals	IEC/ EN/ UL 62368-1					UL:E193009 CB:UL(Demko)
Weight	43TAD					114g (4.02oz)
	43TUD					154g (5.43oz)
	43TED					169g (5.96oz)
	43TDD					190g (6.70oz)
MTBF	MIL-HDBK-217F Ta=25°C, Full load					3.010 x 10 ⁵ hrs

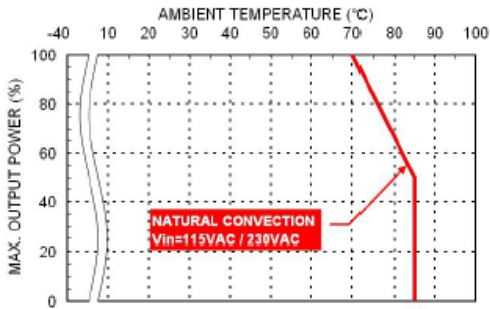
Environmental Specifications

Parameter	Conditions	Min	Typ	Max	
Operating ambient temperature	Natural convection (with derating)	-40	--	+85	°C
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

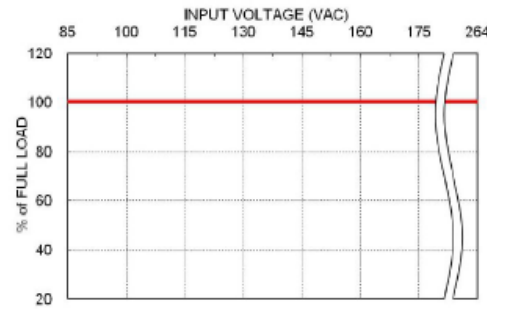
EMC Specifications

Parameter	Conditions		Level	
EMI	EN55032 and FCC Part 15		Conducted	Class B
			Radiated	Class B
Harmonic currents	EN61000-3-2	Full Load		Class A
Voltage flicker	EN61000-3-3			
EMS	EN55024	and Complies with EN61850-3		
ESD	EN61000-4-2			Perf. Criteria A
Radiated immunity	EN61000-4-3	20 V/m		Perf. Criteria A
Fast transient	EN61000-4-4	± 4kV		Perf. Criteria A
Surge	EN61000-4-5	DM ± 2kV and CM ± 4kV		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			
Damped oscillatory wave	EN61000-4-18	DM ± 1kV and CM ± 2.5kV		Perf. Criteria A

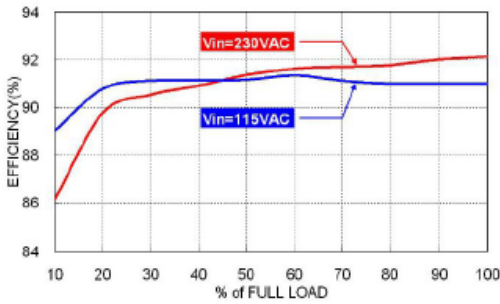
Characteristic Curve



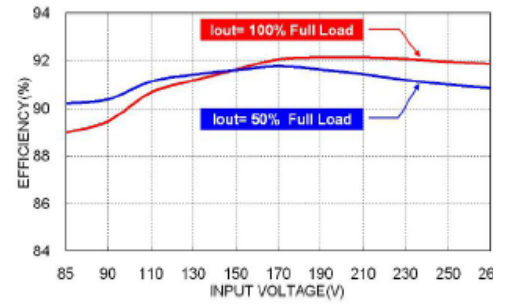
Derating Curve vs. Ambient Temperature



43TxD40 Derating Curve vs. Input Voltage



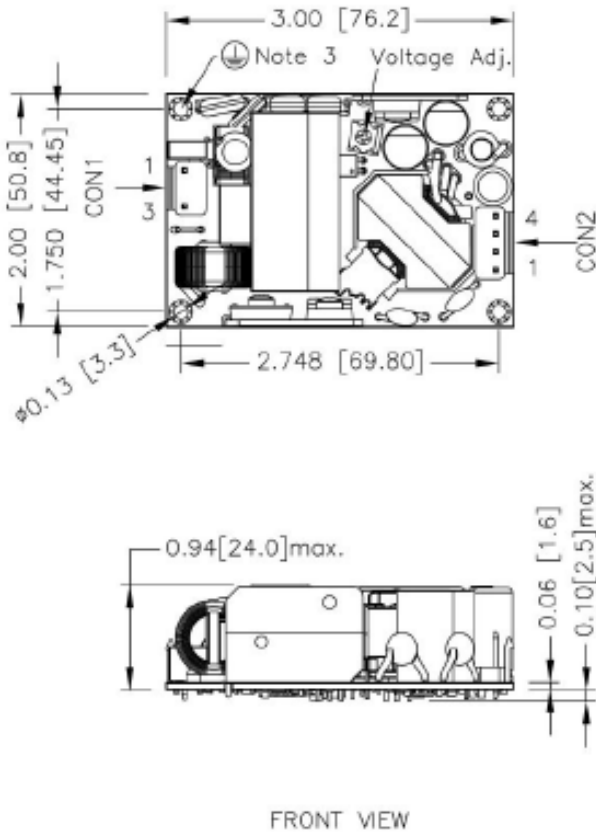
43TxD40US24B Efficiency vs. Output Load



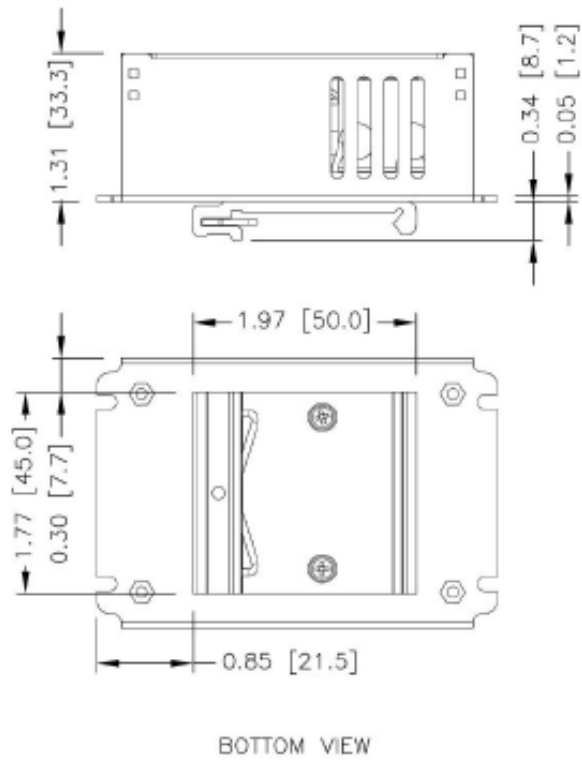
43TxD40US24B Efficiency vs. Input Voltage

Mechanical Drawing

43TAD Open Type - AC Input



43TDD DIN Rail Type

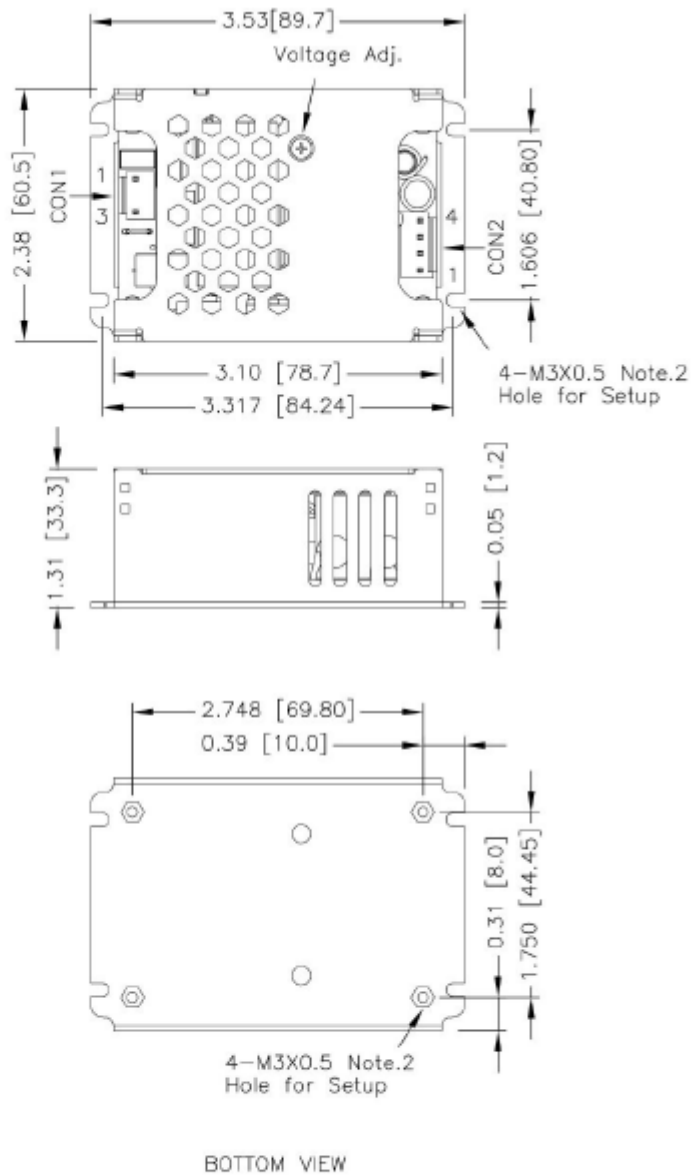


1. All dimensions in inch [mm]
Tolerance : x.xx±0.02 [x.x±0.5] x.xxx±0.010 [x.xx±0.25]
2. The screw locked torque: MAX 5.0kgf-cm/0.49N-m
3. The screws holes can be considered as PE connection for CLASS I application.

1. All dimensions in inch [mm]
Tolerance : x.xx±0.02 [x.x±0.5] x.xxx±0.010 [x.xx±0.25]

Mechanical Drawing (continued)

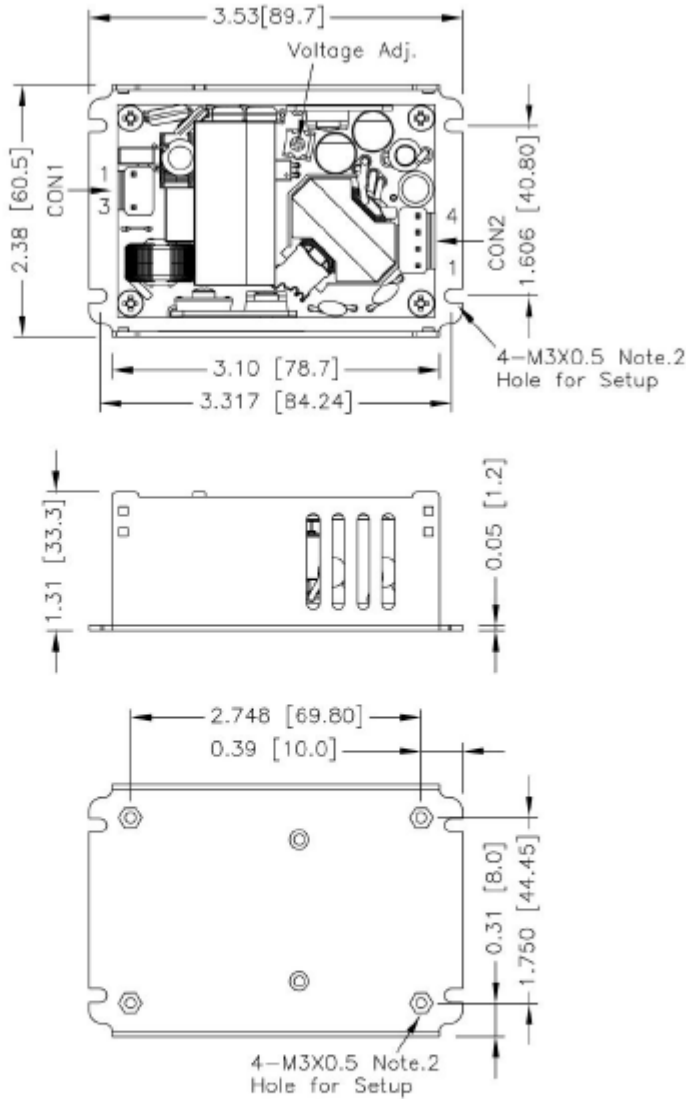
43TED Enclosed Type



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

Mechanical Drawing (continued)

43TDD Din Rail Type



BOTTOM VIEW

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

Connector Connections

CON1 – Input Connector

Pin Number	AC Input	DC Input
		T□D40USXXC · T□D40USXXD
Pin 1	Line	DC+
Pin 3	Neutral	DC-

CON2 – Output Connector

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

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

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