

Features

- Universal input 85-264VAC
- 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 12 - 48V DC
- External Fan option available on 43TEF & 43TDF



Ideal Power's 43TxF150-USxy 150W 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

T	A	F	150	U	S	12	B	-	□	□	□	□
Application	Package Code	Dimension Code	Output Power (W)	Input Voltage (V AC)	Output Quantity	Output Voltage (V DC)	Protection Type	Connector Options	Application Options	Fan Options	Conformal Coating options	
Industry Application	A:Open type U:U chassis type E:Enclosed type D:Din rail type			U:Universal 85 ~ 264	S:Single	12:12 15:15 24:24 28:28 36:36 48:48	B:CLASS II □:CLASS I	□: JST M: Molex T: Terminal Block	□: None C: OVC III	□: None F: External fan (for TEF/TDF)	□: None R: Conformal coating	

Models

Model Number	Input Range	Output Voltage	Output Current		Efficiency	Maximum Capacitor Load
			Natural Convection Max Output Power	Forced air cooling With 10CFM / Option with fan		
			V AC	V DC		
43TAF150US12B 43TUF150US12B 43TEF150US12B 43TDF150US12B	85 ~ 264	12	8.34 8.34 10.84 10.84	12.5	91	10400
43TAF150US15B 43TUF150US15B 43TEF150US15B 43TDF150US15B	85 ~ 264	15	7.34 7.34 9 9	10	92	6600
43TAF150US24B 43TUF150US24B 43TEF150US24B 43TDF150US24B	85 ~ 264	24	4.59 4.59 5.63 5.63	6.25	92	2600
43TAF150US28B 43TUF150US28B 43TEF150US28B 43TDF150US28B	85 ~ 264	28	3.93 3.93 4.83 4.83	5.36	92	1900
43TAF150US36B 43TUF150US36B 43TEF150US36B 43TDF150US36B	85 ~ 264	36	3.06 3.06 3.75 3.75	4.17	92	1150
43TAF150US48B 43TUF150US48B 43TEF150US48B 43TDF150US48B	85 ~ 264	48	2.09 2.09 2.71 2.71	3.13	92	650

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	100V AC and Full Load	--	--	1.7	A
	240V AC and Full Load	--	--	0.8	
No load input power	230V AC	--	0.6	--	W
	230V AC	--	--	0.3	
Leakage current	264V AC	--	--	300	μA
Power factor		0.95	--	--	
Start-up time		--	--	1000	ms
Rise time		--	20	--	ms
Hold up time	115V AC and Full Load	16	--	--	ms
Input inrush current	230V AC	--	--	100	A
Input protection	Internal fuse	T4.0A/250VAC			

Output Specifications

Parameter	Conditions	Min	Typ	Max	Unit	
Output power	Forced air cooling with 10CF or option -F	--	--	150	W	
	Natural convection for 15Vout, 24Vout, 28Vout, 36Vout	--	--	110		
	Natural convection for 12Vout, 48Vout	--	--	100		
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		-10	--	+10		
Minimum load		--	0	--		
Ripple and noise	Measured by 20MHz bandwidth					
	With a 1µF/25V 1206 X7R MLCC	12Vout	--	120	--	mVp-p
		15Vout	--	150	--	
	With a 1µF/50V 1206 X7R MLCC	24Vout	--	220	--	
		28Vout	--	220	--	
		36Vout	--	250	--	
With a 0.1µF/100V 1206 X7R MLCC	48Vout	--	250	--		
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	--	µs
Over voltage protection	% Of Vout(nom); Latch mode	115	--	135	%	
Overload protection	% Of maximum Iout rated; Hiccup mode	115	--	150		
Short circuit protection		Continuous, automatic recovery				
Fan power supply		12V at 500mA				

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	2000		
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	43TAF				187g (6.60oz)
	43TUF				235g (8.29oz)
	43TEF				256g (9.03oz)
	43TDF				278g (9.81oz)
MTBF	MIL-HDBK-217F Ta=25°C, Full load				7.861 x 10 ⁵ hrs

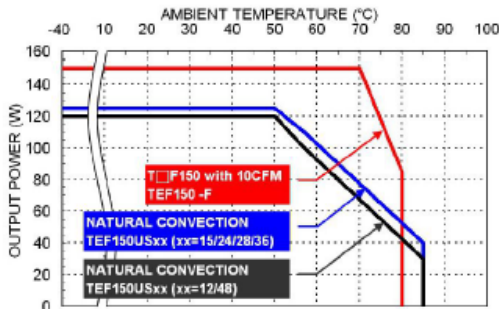
Environmental Specifications

Parameter	Conditions		Min	Typ	Max	
Operating ambient temperature	With derating	Option -F (With Fan)	-40	--	+80	°C
		Others	-40	--	+85	
	-40°C start up : 80% Load, max. @ Vin > 100VAC					
	-40°C start up : 100% Load, max. @ Vin > 200VAC					
Storage temperature range	Option -F (With Fan)		-40	--	+75	°C
	Others		-40	--	+85	
Operating altitude					5000	m
Shock					IEC60068-2-27	
Vibration					IEC60068-2-6	
Relative humidity	Non-condensing				5% to 95% RH	

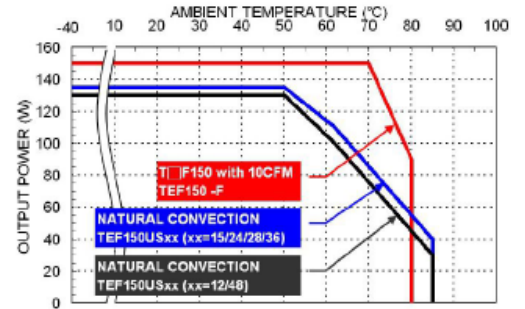
EMC Specifications

Parameter	Conditions		Level	
EMI	EN55032 and FCC Part 15		Conducted	Class B
			Radiated	Class A
External components may be required for class I application				
Harmonic currents	EN61000-3-2	Full Load	Class A and D	
Voltage flicker	EN61000-3-3			
EMS	EN55024			
ESD	EN61000-4-2		Perf. Criteria A	
Radiated immunity	EN61000-4-3	20 V/m	Perf. Criteria A	
Fast transient	EN61000-4-4	± 2kV	Perf. Criteria A	
Surge	EN61000-4-5	DM ± 1kV and CM ± 2kV	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			

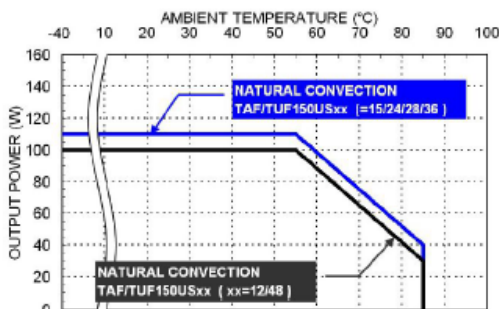
Characteristic Curve



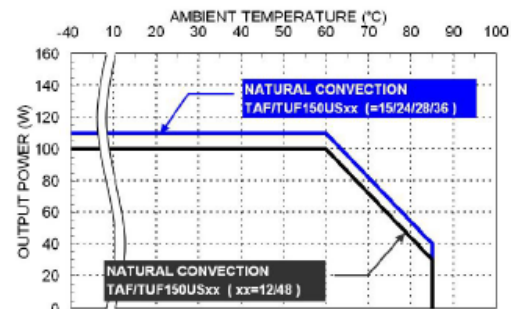
Derating Curve vs. Ambient Temperature
Vin=115VAC



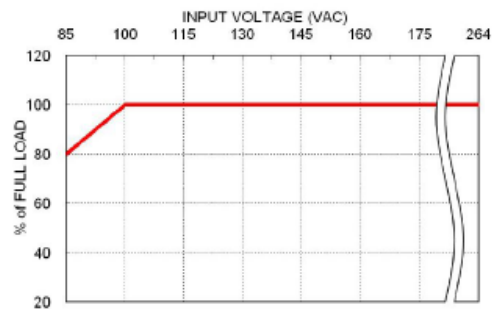
Derating Curve vs. Ambient Temperature
Vin=230VAC



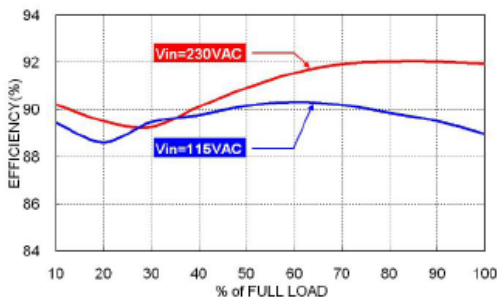
Derating Curve vs. Ambient Temperature
Vin=115VAC



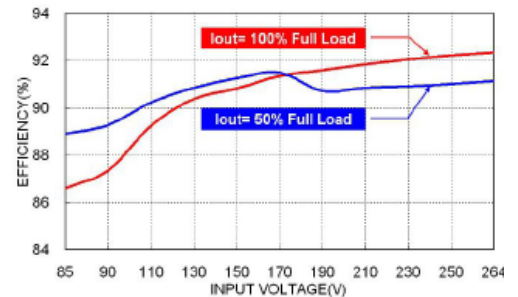
Derating Curve vs. Ambient Temperature
Vin=230VAC



43TxF150 Derating Curve vs. Input Voltage

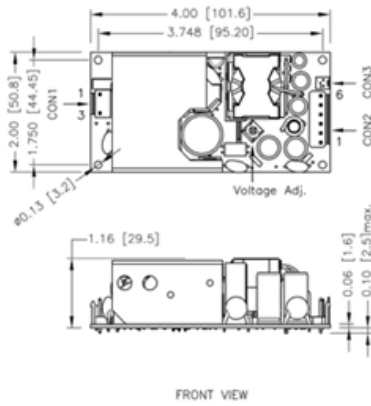
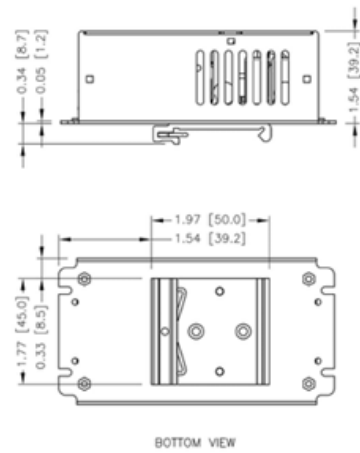


43TxF150US24B Efficiency vs. Output load



43TxF150US24B Efficiency vs. Input Voltage

AC - DC

Mechanical Drawing
43TAF Open Type

43TDF DIN Rail type


- All dimensions in inch [mm]
Tolerance : x.xx±0.02 [x.x±0.5] x.xxx±0.01 [x.xx±0.25]
- M3×0.5 screw locked torque MAX 5Kgf.cm/0.49N.m

CONNECTORS CONNECTIONS
CON1 – Input Connector

Pin 1	Line
Pin 3	Neutral

CON2 – Output Connector

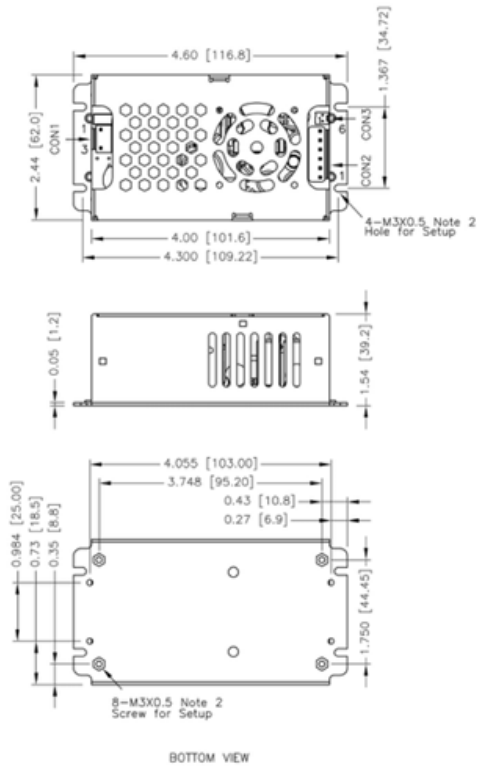
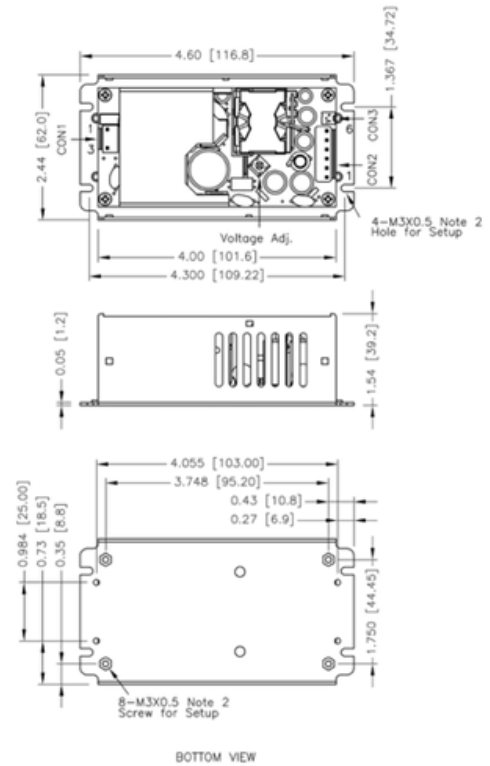
Pin 1,2,3	-Vout
Pin 4,5,6	+Vout

CON3 – Fan Connector

Pin 1	-Fan
Pin 2	+Fan

Mates with
 Molex housing : **22-01-1022**
 Molex crimp terminals : **2759**

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

Mechanical Drawing (continued)
43TEF Enclosed Type

43TUF Enclosed Type


- All dimensions in inch [mm]
Tolerance : x.xx±0.02 [x.x±0.5] x.xxx±0.01 [x.xx±0.25]
- M3×0.5 screw locked torque MAX 5Kgf.cm/0.49N.m

CONNECTORS CONNECTIONS

CON1 – Input Connector	
Pin 1	Line
Pin 3	Neutral

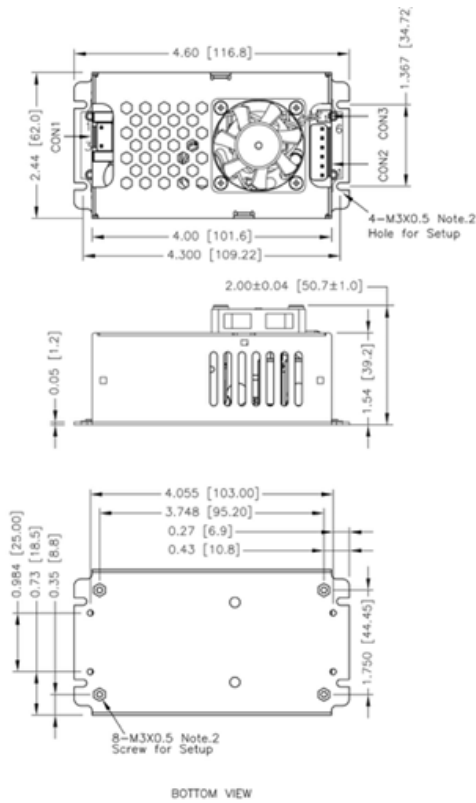
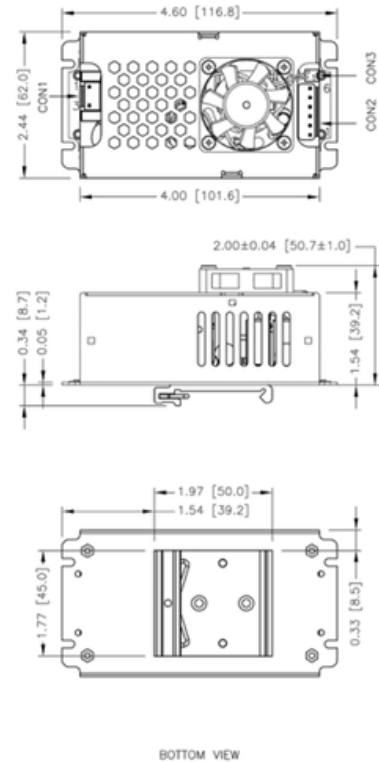
CON2 – Output Connector	
Pin 1,2,3	-Vout
Pin 4,5,6	+Vout

CON3 – Fan Connector	
Pin 1	-Fan
Pin 2	+Fan

Mates with
 Molex housing : **22-01-1022**
 Molex crimp terminals : **2759**

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

- All dimensions in inch [mm]
Tolerance : x.xx±0.02 [x.x±0.5]
x.xxx±0.01 [x.xx±0.25]
- The screw locked torque: MAX 5Kgf.cm/0.49N.m
- The CON2 locked torque: MAX 2.5Kgf.cm/0.25N.m

Mechanical Drawing (continued)
43TEF-F Enclosed type with FAN

43TDF-F Enclosed type with FAN


- All dimensions in inch [mm]
Tolerance : x.xx±0.02 [x.x±0.5] x.xxx±0.01 [x.xx±0.25]
- M3×0.5 screw locked torque MAX 5Kgf.cm/0.49N.m

CONNECTORS CONNECTIONS

CON1 – Input Connector	
Pin 1	Line
Pin 3	Neutral

CON2 – Output Connector	
Pin 1,2,3	-Vout
Pin 4,5,6	+Vout

CON3 – Fan Connector	
Pin 1	-Fan
Pin 2	+Fan

Mates with
 Molex housing : **22-01-1022**
 Molex crimp terminals : **2759**

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

- All dimensions in inch [mm]
Tolerance : x.xx±0.02 [x.x±0.5] x.xxx±0.01 [x.xx±0.25]
- M3×0.5 screw locked torque MAX 5Kgf.cm/0.49N.m

*Either one of four screws holes of Open / 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-6N**



Crimp terminals

CON1: **SVH-21T-P1.1**

CON2: **SVH-21T-P1.1**

-M

Molex Type

Mates with housing

CON1: **09-50-8031**

CON2: **09-50-8061**



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

External FAN Options

There is an external fan option for TEF and TDF. The fan's life is shorter than power supply and has only 2 years warranty. Here are specifications for replacement.

Fan dimensions	40 x 40 x 10 mm
Air flow	7 CFM

