

Features

- Universal Input 85~264V AC
- High-Efficiency Rating up to 93%
- Operating ambient temperature range: -40°C ~ +85
- Approved to UKCA, CE, CB, cURus, FCC, RoHS REACH
- EN/IEC/UL 62368-1 Safety Approved
- OCP, OVP, OTP, SCP
- Output Voltage 12~53V DC



Ideal Power's 43TAF300-USxy 300W Open Frame Chassis 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

Series Name	Input Voltage (V AC)	Output Quantity	Output Voltage (V DC)	Protection Type	Package Options	Application notes	Fan Options	Electrical Options
43TAF300	U	S	12	A	□	□	F3	□
	U: Universal 85 ~ 264	S: Single	12: 12 15: 15 24: 24 28: 28 36: 36 48: 48 53: 53	A: Class I B: Class II	□: Open type E1: Enclosed Type U2: Base plate type D1: Din rail type	□: AC Input C: OVC III (2000m) G: DC Input	F3: No external fan with fixed fan speed control F4: No external fan with variable fan speed control For E1/D1 Type Only F1: External fan with fixed fan speed control F2: External fan with variable fan speed control	□: Standby Power Remote control Power good signal N: None

Models

Model Number	Output Voltage V DC	Output current		Input Power @ No Load W	Efficiency %	Maximum Capacitor Load µF
		Natural Convection A	Forced Air Cooling 21 CFM External Fan A			
43TAF300US12A-MF3	12	15	25	0.3	91	20000
43TAF300US15A-MF3	15	12	20	0.3	92	12000
43TAF300US18A-MF3	18	10	16.66	0.3	93	9000
43TAF300US24A-MF3	24	7.5	12.5	0.3	93	2400
43TAF300US28A-MF3	28	6.42	10.71	0.3	93	2000
43TAF300US36A-MF3	36	5	8.33	0.3	93	1000
43TAF300US48A-MF3	48	3.75	6.25	0.3	93	650
43TAF300US53A-MF3	53	3.4	5.67	0.3	93	470

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	--	--	3.9	A
	240VAC and Full Load	--	--	1.6	
No load input power	230VAC	--	Option-F(with Fan) 0.3	--	
	Others		0.3	--	
Leakage current	264VAC	--	--	300	µA
Power Factor	230VAC and Full Load	0.9	--	--	
Startup time		--	--	2000	ms
Rise time		--	30	--	ms
Hold up time	115VAC and Full Load	10	--	--	ms
Input inrush current	230VAC	--	--	70	A
Input protection	Internal fuse in line and neutral			T5.0A/250V AC	

Output Specifications

Parameter	Conditions	Min	Typ	Max	Unit	
Output power	Forced air cooling	--	--	300	Watts	
	Natural convection	--	--	180		
Output peak power	Peak power	--	--	360	Watts	
	Peak power time	--	5	--	s	
	Peak power duty	--	20	--		
	Average operation power (% of Full Load)	--	50	--		
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	Maximum output deviation is inclusive of remote sense	-10	--	+10		
Minimum load		--	0	--		
Ripple and noise	Measured by 20MHz bandwidth					
	With a 1µF/100V 1206 X7R MLCC	12Vout	--	120	--	mVp-p
		15Vout	--	150	--	
		18Vout	--	180	--	
		24Vout	--	240	--	
		28Vout	--	280	--	
		36Vout	--	360	--	
		48Vout	--	480	--	
53Vout	--	530	--			
Temperature coefficient		-0.0-2		+0.02	%/°C	
Transient response	Load step from 50 ~ 75% change at 2.5A/µs Recovery within 1% Vout	Peak deviation	--	3	--	% Vout
		Recovery time	--	600	--	µs
Over voltage protection	% of Vout(nom); Latch mode	115	--	135	%	
Overload protection	% of Iout rated; Hiccup mode	--	150	--	%	
Short circuit protection		Continuous, automatic recovery				
Main output remote control	Positive Logic Referenced to "-Control" *Standby power always present	Main power ON	Open or 3 ~ 12 VDC Short			mA
		Main power OFF	or 0 ~ 1.2VDC			
		Input current of Control	-0.5	--	1	
Main output Power Good signal	Referenced to "GND"	Power good				Low
		Power off				Open collector
Standby power supply	Standby and fan power supply total power 8W	5Vout	--	--	1000	mA
Fan power supply		12Vout	--	--	500	mA

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	230VAC, Full load		140	--	kHz	
Safety approvals	IEC/ EN/ UL 62368-1				UL:E193009 CB:UL(Demko)	
Weight	Open type				210g (7.40oz)	
	Enclosed type				318g 1.21oz)	
	Base plate type				260g (9.17oz)	
	Din rail type				340g (11.99oz)	
MTBF	MIL-HDBK-217F Ta=25°C, Full load				1.056 x 10 ⁵ hrs	

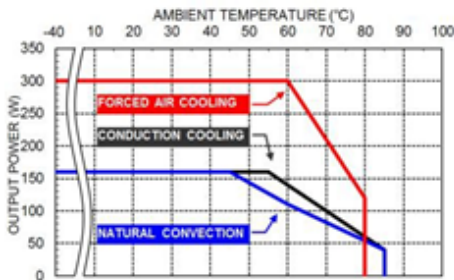
Environmental Specifications

Parameter	Conditions	Min	Typ	Max	Unit	
Operating ambient temperature	With derating	Option –F (With Fan)	-40	--	+80	°C
		Others	-40	--	+85	
Storage temperature range		Option –F (With Fan)	-40	--	+80	
		Others	-40	--	+85	
Over temperature protection	Internal thermistor; Latch mode	--	125	--		
Operating altitude		--	--	5000	m	
Shock					IEC60068-2-27	
Vibration					IEC60068-2-6	
Relative humidity	Non-condensing				5% to 95% RH	

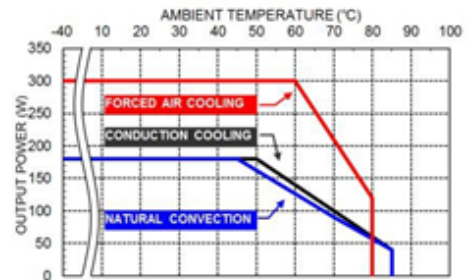
EMC Specifications

Parameter	Conditions	Level	
EMI	EN55032 and FCC Part 15	Conducted	Class B
		Radiated	Class A
Harmonic currents	EN61000-3-2	Full Load	Class A
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	30 A/m	Perf. Criteria A
Dip and interruptions	EN61000-4-11		

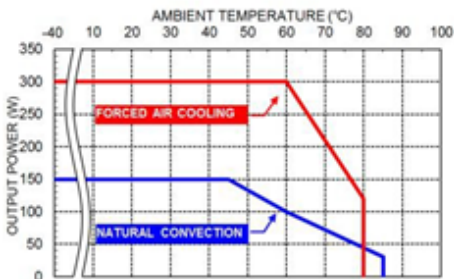
Characteristic Curve



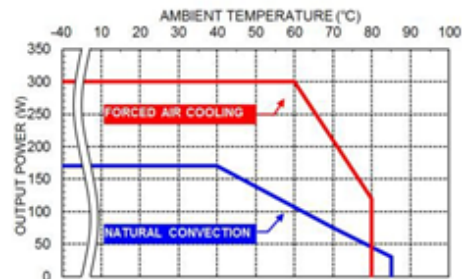
Derating Curve vs. Ambient Temperature
Vin=115VAC Open type



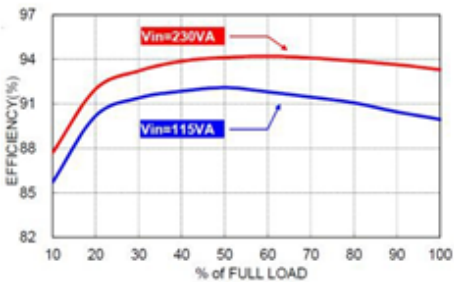
Derating Curve vs. Ambient Temperature
Vin=230VAC Open type



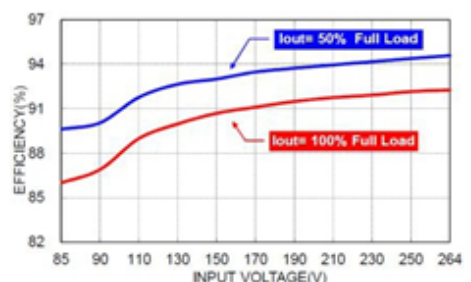
Derating Curve vs. Ambient Temperature
Vin=115VAC Enclosed type / Din rail type



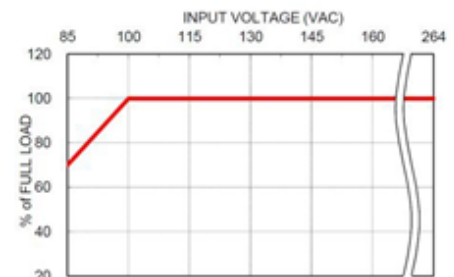
Derating Curve vs. Ambient Temperature
Vin=230VAC Enclosed type / Din rail type



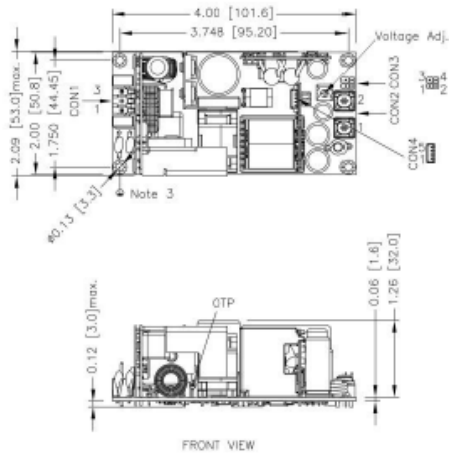
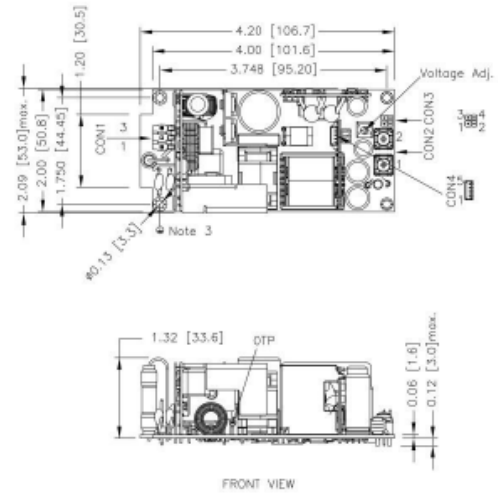
Efficiency vs. Output Load
43TAF300US24 with Forced air cooling



Efficiency vs. Input Voltage
43TAF300US24 with Forced air cooling



Derating Curve vs. Input Voltage
43TAF300

Mechanical Drawing
Open type- AC Input

Open type- DC Input


1.All dimensions in inch [mm]

 Tolerance : $x.xx \pm 0.02$ [$x.xx \pm 0.5$]

 $x.xxx \pm 0.01$ [$x.xxx \pm 0.25$]

2.The CON2 locked torque: MAX 16.8Kgf.cm/1.65N.m

3.The screws holes can be considered as PE connection for CLASS I application.

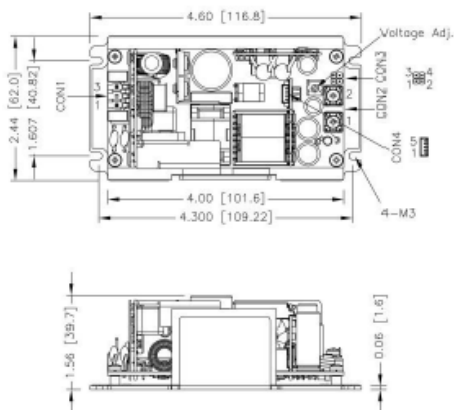
1.All dimensions in inch [mm]

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 $x.xxx \pm 0.01$ [$x.xxx \pm 0.25$]

2.The CON2 locked torque: MAX 16.8Kgf.cm/1.65N.m

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Base plate type


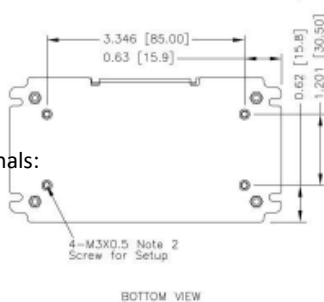
Mates with:

Molex housing:

09-50-8031

Molex crimp terminals:

2478,6838,45570



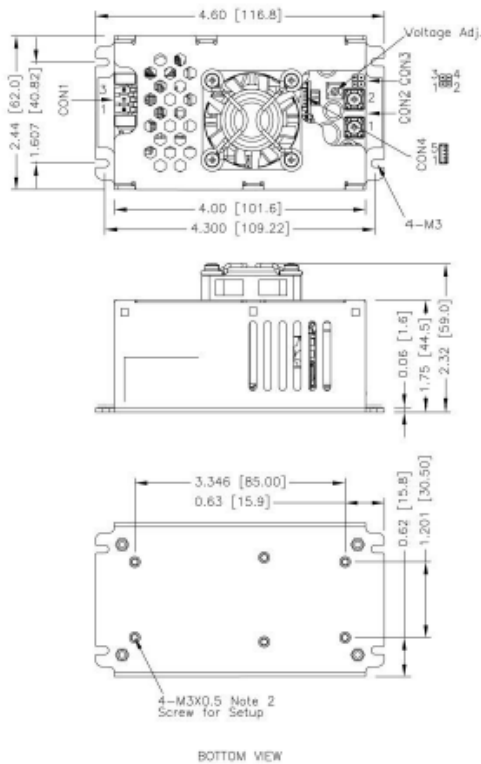
1.All dimensions in inch [mm]

 Tolerance : $x.xx \pm 0.02$ [$x.xx \pm 0.5$]

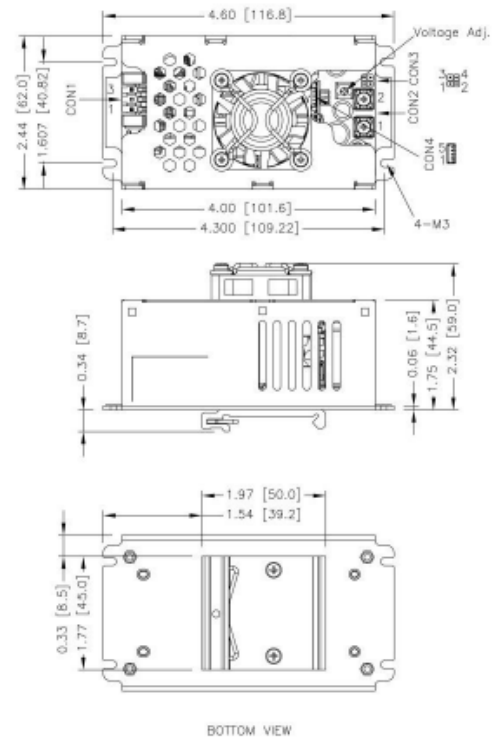
 $x.xxx \pm 0.01$ [$x.xxx \pm 0.25$]

2.The screw locked torque: MAX 5Kgf.cm/0.49N.m

3.The CON2 locked torque: MAX 16.8Kgf.cm/1.65N.m

Mechanical Drawing
Enclosed type with FAN


- All dimensions in inch [mm]
Tolerance : $x.xx \pm 0.02$ [$x.x \pm 0.5$]
 $x.xxx \pm 0.01$ [$x.xx \pm 0.25$]
- The screw locked torque: MAX 5Kgf.cm/0.49N.m
- The CON2 locked torque: MAX 16.8Kgf.cm/1.65N.m

Din rail type with FAN


- All dimensions in inch [mm]
Tolerance : $x.xx \pm 0.02$ [$x.x \pm 0.5$]
 $x.xxx \pm 0.01$ [$x.xx \pm 0.25$]
- The CON2 locked torque: MAX 16.8Kgf.cm/1.65N.m

Connector Connections
CON1 – Input Connector

Pin Number	AC Input	DC Input
Pin 3	Line	DC+
Pin 1	Neutral	DC-

Mates with:
Molex housing: **09-50-8031**
Molex crimp terminals: **2478,6838,45570**

CON2 – Output Connector

Pin 1	+Vout
Pin 2	-Vout

Mates with:
KST ring terminal: **RVS2-3.7**

CON3 – Aux Connector

Pin 1	+Fan
Pin 2	-Fan
Pin 3	+V Sense
Pin 4	-V Sense

Mates with:
Molex housing: **90143-0004**
Molex crimp terminals: **90119**

CON4 – Aux Connector

Pin 1	+Standby
Pin 2	-Standby
Pin 3	+PG
Pin 4	-Control
Pin 5	+Control

Mates with:
Molex housing: **51021-0500**
Molex crimp terminals: **50058,50079**