

Features

- Universal input 85~264VAC or 120~370VDC
- Open Frame Power Supply (PSU)
- Approved to cURus, UKCA, CE, FCC, CB
- Safety standards to IEC/EN/UL 62368-1, ANSI/AAMI ES 60601-1
- Efficiency up to 92%
- EMC EN60601-1-2, EN55011, EN55032 & FCC Class A & B Certified
- Single Output 12 – 48V DC



Ideal Power's 43MxD100USxy 100W Series DC/DC Converters are certified to cURus, UKCA, CE, FCC, CB, RoHS, REACH & IEC/EN/ANSI/AAMI ES 60601-1, IEC/EN/UL 62368-1 Standards and comply with Efficiency Regulations. These are primarily used in ITE, Video & Audio, Medical Industries and customised solutions are available upon request.

Models

Model Number	Input Range VAC	Output Voltage VDC	Output Current Natural Convection A	Input Power No Load W	Efficiency %	Maximum Capacitor Load μF
43MxD100US12B*	85 ~ 264	12	8.34	0.3	91	6950
43MxD100US15B*	85 ~ 264	15	6.67	0.3	92	4450
43MxD100US18B*	85 ~ 264	18	5.56	0.3	92	3100
43MxD100US24B*	85 ~ 264	24	4.17	0.3	92	1750
43MxD100US28B*	85 ~ 264	28	3.58	0.3	92	1280
43MxD100US36B*	85 ~ 264	36	2.78	0.3	91	770
43MxD100US48B*	85 ~ 264	48	2.09	0.3	91	430

Note* Use 43MAD for Open Type – 43MUD for Chassis Type – 43MED for Enclosed Type – 43MDD for Din Rail Type

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	115VAC and Full Load	--	--	1.15	A
	230VAC and Full Load	--	--	0.55	
No load input power	230VAC	--	--	0.3	Watts
Leakage current	264VAC	--	--	75	μA
Power Factor		0.95	--	--	
Start-up time		--	--	1000	ms
Rise time		--	20	--	ms
Hold up time	115VAC and Full Load	16	--	--	ms
Input inrush current	230VAC	--	--	60	A
Input protection	Internal fuse in line and neutral		T3.15A/250VAC		

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Output Specifications

Parameter	Conditions	Min	Typ	Max	Unit
Output power		--	--	100	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	-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 10 μ F/25V 1206 X7R MLCC	12Vout	120	mVp-p	
		15Vout	150		
		18Vout	160		
	With a 1 μ F/50V 1206 X7R MLCC	24Vout	160		
		28Vout	180		
		36Vout	190		
	With a 0.1 μ F/100V 1206 X7R MLCC	48Vout	340		
Temperature coefficient		-0.02	--	+0.02	%/°C
Transient response	Load step from 50 ~ 75% change at 2.5A/ μ s	Peak deviation	--	3	% Vout
		Recovery time	--	500	μ s
Over voltage protection	% of Vout(nom); Latch mode	115	--	135	%
Overload protection	% of Iout rated; Hiccup mode	115	--	150	%
Short circuit protection		Continuous, automatic recovery			

General Specifications

Parameter	Conditions		Min	Typ	Max	Unit
Isolation voltage	1 minute (2MOPP insulation)	Input to Output	4000	--	--	VDC
		Input (Output) to F.G.	1500	--	--	
Isolation resistance	500VDC		0.1	--	--	GΩ
Switching frequency			--	60	--	kHz
Safety approvals	IEC/ EN/ ANSI/AAMI ES 60601-1 IEC/ EN/ UL 62368-1				UL:E360199 UL:E193009 CB:UL(Demko)	
Weight	43MAD		156g (5.50oz)			
	43MUD		194g (6.84oz)			
	43MED		210g (7.41oz)			
	43MDD		232g (8.18oz)			
MTBF	MIL-HDBK-217F Ta=25°C, Full load				1.245 x 10 ⁶ hrs	

Environmental Specifications

Parameter	Conditions	Min	Typ	Max	Unit
Operating ambient temperature	Natural convection	-25	--	+85	°C
Storage temperature range	With derating	-40	--	+85	°C
Operating altitude				5000	
Shock				IEC60068-2-27	
Vibration				IEC60068-2-6	
Relative humidity	Non-condensing			5% to 95% RH	

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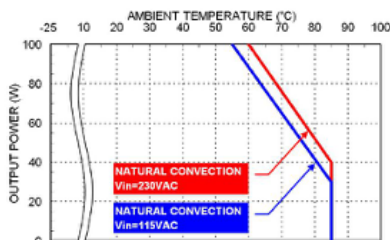
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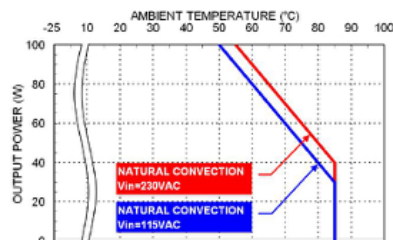
EMC Specifications

Parameter	Conditions		Level	
EMI	EN55011, EN55032, EN60601-1-2 and FCC Part 18 / 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 and EN60601-1-2			
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	30A/m	Perf. Criteria A	
Dip and interruptions	EN61000-4-11			

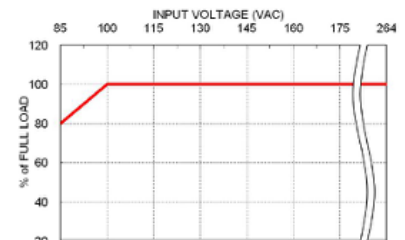
Characteristic Curve



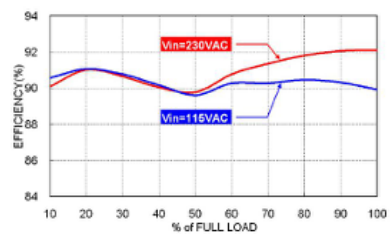
Derating Curve vs. Ambient Temperature
43MED100 & 43MDD100



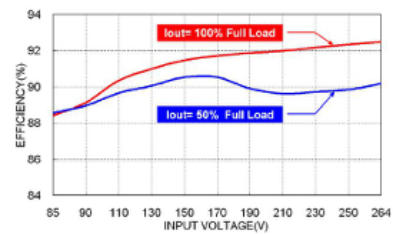
Derating Curve vs. Ambient Temperature
43MAD100 & 43MUD100



Derating Curve vs. Input Voltage
43M□D100



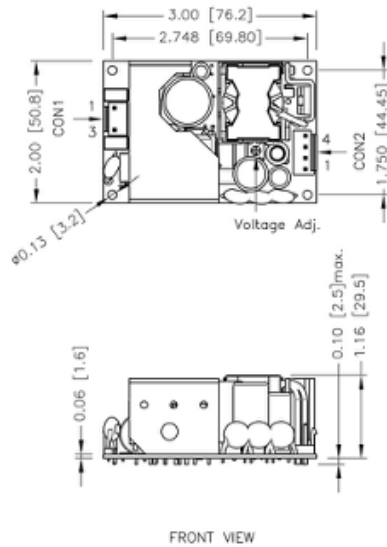
Efficiency vs. Output Load
43M□D100US24B



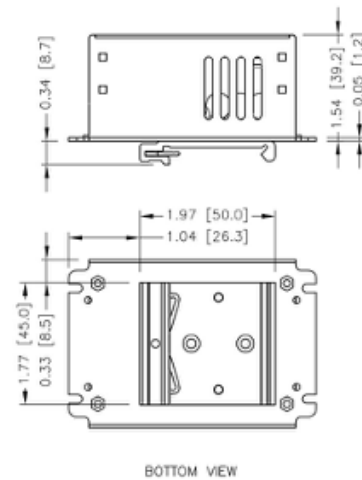
Efficiency vs. Input Voltage
43M□D100US24B

Mechanical Drawing

43MAD Open type



43MDD Din Rail type



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

CONNECTORS CONNECTIONS

CON1 – Input Connector

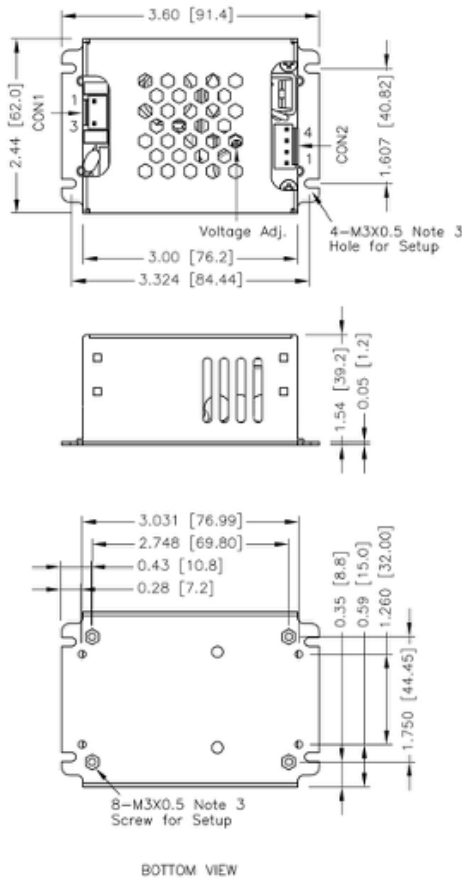
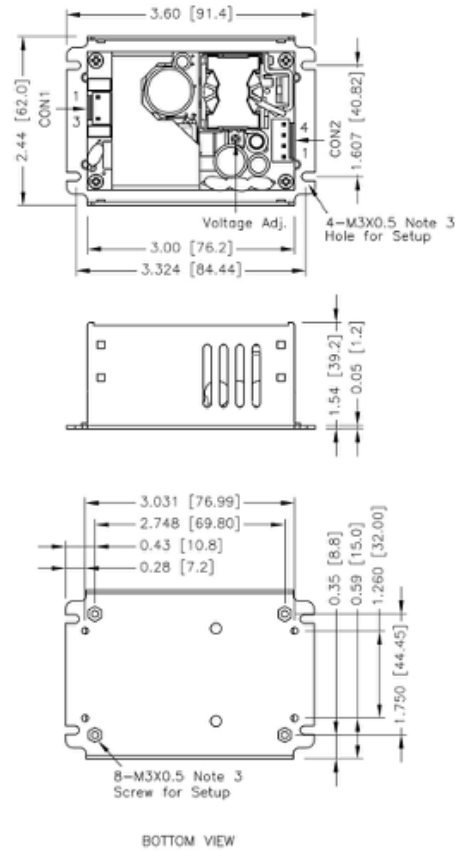
Pin 1	Line
Pin 3	Neutral

CON2 – Output Connector

Pin 1,2	-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

43MED Enclosed type

43MUD Chassis type


1. All dimensions in inch [mm]
2. Tolerance : x.xx±0.02 [x.x±0.5] x.xxx±0.01 [x.xx±0.25]
3. 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	-Vout
Pin 3,4	+Vout

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



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