

## Features

- 2:1 Wide Input Range
- Operating Temperature Range: -40~100°C
- Approved to UKCA, CE, RoHS & REACH
- Approved to IEC/UL/EN62368-1
- Efficiency up to 88%
- EMC Class A
- Single & Dual 20W Output Models



Ideal Power's 43DFED20-xy 20W DIN Rail Mount DC/DC Power Supply Converter Series are certified to UKCA, CE, 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

DFED20	-	48	S	05	-	N
Series Name		Input Voltage (VDC)	Output Quantity	Output Voltage (VDC)		Remote Control Options
		<b>12:</b> 9.5 ~ 18 <b>24:</b> 9.5 ~ 36 <b>48:</b> 36 ~ 75	<b>S:</b> Single	<b>3P3:</b> 3.3 <b>05:</b> 5 <b>12:</b> 12 <b>15:</b> 15		<input type="checkbox"/> : Positive logic <b>N:</b> Negative logic
			<b>D:</b> Dual	<b>12:</b> ±12 <b>15:</b> ±15		

**Models**

Model Number	Input Range V DC	Output Voltage V DC	Output current @ Full Load A	Input Current @ No Load A	Efficiency %	Maximum Capacitor Load μF
43DFED20-12S3P3	9.5 ~ 18	3.3	5000	118	83	13000
43DFED20-12S05	9.5 ~ 18	5	4000	79	85	6800
43DFED20-12S12	9.5 ~ 18	12	1670	97	84	2200
43DFED20-12S15	9.5 ~ 18	15	1330	44	84	755
43DFED20-12D12	9.5 ~ 18	±12	±833	52	84	±680
43DFED20-12D15	9.5 ~ 18	±15	±667	59	84	±450
43DFED20-24S3P3	18 ~ 36	3.3	5000	32	84	13000
43DFED20-24S05	18 ~ 36	5	4000	37	87	6800
43DFED20-24S12	18 ~ 36	12	1670	59	85	2200
43DFED20-24S15	18 ~ 36	15	1330	45	86	755
43DFED20-24D12	18 ~ 36	±12	±833	34	85	±680
43DFED20-24D15	18 ~ 36	±15	±667	35	86	±450
43DFED20-48S3P3	36 ~ 75	3.3	5000	17	85	13000
43DFED20-48S05	36 ~ 75	5	4000	22	87	6800
43DFED20-48S12	36 ~ 75	12	1670	38	86	2200
43DFED20-48S15	36 ~ 75	15	1330	53	85	755
43DFED20-48D12	36 ~ 75	±12	±833	23	86	±680
43DFED20-48D15	36 ~ 75	±15	±667	23	86	±450

**Input Specifications**

Parameter	Conditions	Min	Typ	Max	Unit	
Operating input voltage range	12Vin(nom)	9.5	12	18	V DC	
	24Vin(nom)	18	24	36		
	48Vin(nom)	36	48	75		
Input fuse	slow blow				A	
	12Vin(nom)	--	6	--		
	24Vin(nom)	--	6	--		
	48Vin(nom)	--	4	--		
Inrush current		--	15	--	A	
Start-up time	Constant resistive load	Power up	--	100	--	ms
		Remote ON/OFF	--	10	--	
Input surge voltage	100ms, max	12Vin(nom)	--	--	36	V DC
		24Vin(nom)	--	--	50	
		48Vin(nom)	--	--	100	
Remote ON/OFF	Referred to -Vin pin	Positive logic	DC-DC ON	Open or 3 ~ 12VDC		mA
		(standard)	DC-DC OFF	Short or 0 ~ 1.2VDC		
		Negative logic	DC-DC ON	Short or 0 ~ 1.2VDC		
		(option)	DC-DC OFF	Open or 3 ~ 12VDC		
		Input current of Ctrl pin	0.5		0.5	
Remote off input current			2.5		mA	

**Output Specifications**

Parameter	Conditions		Min	Typ	Max	Unit
Voltage accuracy	3.3Vout		-1.5	--	+1.5	%
	Others		-1.0	--	+1.0	
Line regulation	Low Line to High Line at Full Load	Single	-0.2	--	+0.2	%
		Dual	-0.5	--	+0.5	
Load regulation	No Load to Full Load		-1.5	--	+1.5	%
Cross regulation	Asymmetrical load 25%/100% FL	Dual	-5.0	--	+5.0	%
Voltage adjustability	Single output		-10	--	+10	%
Ripple and noise	Measured by 20MHz bandwidth	Single 3.3Vout	--	60	--	mVp-p
		Dual 5Vout, 12Vout, 15Vout	--	75	--	
Temperature coefficient	All		-0.02	--	+0.02	%/°C
Transient response recovery time	25% Load step change		--	250	--	µs
Over voltage protection	Zener diode clamp	3.3Vout	--	3.9	--	V DC
		5Vout	--	6.2	--	
		12Vout	--	15	--	
		15Vout	--	18	--	
Output indicator	Green LED					
Overload protection	% of Iout rated		150			%
Short circuit protection	Continuous, automatic recovery					

**General Specifications**

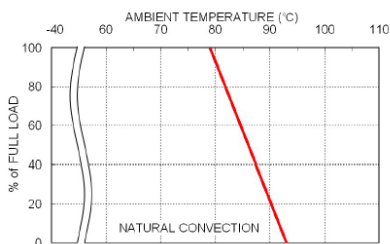
Parameter	Conditions		Min	Typ	Max	Unit
Isolation voltage	1 minute	Input to Output	1600	--	--	V DC
		Input (Output) to Chassis	1600	--	--	
Isolation resistance	500V DC		1	--	--	GΩ
Isolation capacitance			--	--	4000	pF
Switching frequency			450	500	550	kHz
Safety approvals	IEC/ EN/ UL 62368-1		UL:E193009 CB:UL(Demko)			
Chassis material	Aluminum					
Weight	147.5g (5.20oz)					
MTBF	MIL-HDBK-217F, Full load		1.682 x 10 <sup>6</sup>			hrs

**Environmental Specifications**

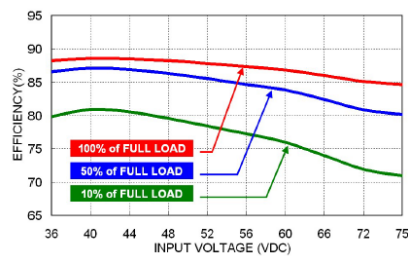
Parameter	Conditions		Min	Typ	Max	Unit
Operating ambient temperature	Without derating		-40		+73	°C
	With derating		+73		+92	
Storage temperature range			-40		+105	°C
Thermal Shock	MIL-STD-810F					
Vibration	MIL-STD-810F					
Relative humidity	5% to 95% RH					

**EMC Specifications**

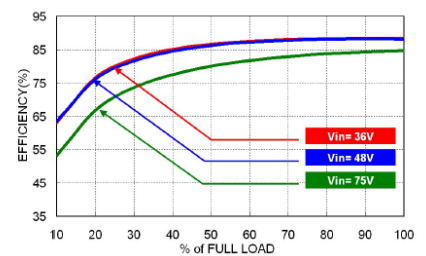
Parameter	Conditions		Level
EMI	EN55032		Class B
EMS	EN55024		
ESD	EN61000-4-2	Air $\pm$ 8kV and Contact $\pm$ 6kV	Perf. Criteria A
Radiated immunity	EN61000-4-3	10V/m	Perf. Criteria A
Fast transient	EN61000-4-4	$\pm$ 2kV	Perf. Criteria A
Surge	EN61000-4-5	$\pm$ 0.5kV	Perf. Criteria A
Conducted immunity	EN61000-4-6	10Vr.m.s	Perf. Criteria A
Power frequency magnetic field	EN61000-4-8	100A/m continuous; 1000A/m 1 second	Perf. Criteria A

**Characteristic Curve**


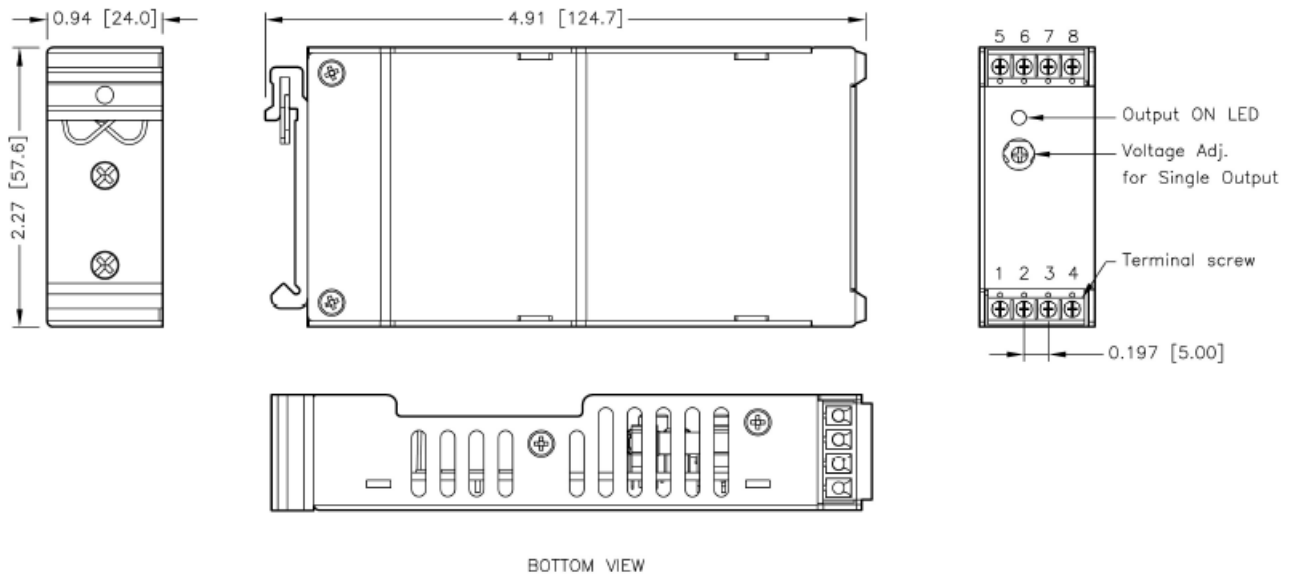
43DFED20-48S05 Derating Curve



43DFED20-48S05 Efficiency vs. Input Voltage



43DFED20-48S05 Efficiency vs. Output Load

**Mechanical Drawing**

**Terminal Connection**

No.	Single	Dual
1	Ctrl	Ctrl
2	-Vin	-Vin
3	-Vin	-Vin
4	+Vin	+Vin
5	NC	NC
6	-Vout	-Vout
7	+Vout	Common
8	NC	+Vout