



Power Mate Technology, Inc **UFEC40W** Series

Chassis-Mount DC-DC Converter
Up to 40 Watts

3
YEARS
WARRANTY

ROHS
COMPLIANT

REACH
COMPLIANT



Automation



Datacom



IPC



Industry



Measurement



Telecom



Automobile



Boat



Charger



Medical



PV



Railway

CE UK
CA

1600
VDC
Isolation
Voltage

4 : 1
Wide
Input
Range

FUSE
Installed

**INRUSH
CURRENT
LIMIT**

Internal
EN55032
Class **B**
Filter

**REMOTE
ON
OFF**

**REVERSE
POLARITY
PROTECTION**

OCP

OTP

OVP

SCP

UVP

PART NUMBER STRUCTURE

UFEC40 -	48	S	05	W -	N	R	EC
Series Name	Input Voltage (VDC)	Output Quantity	Output Voltage (VDC)	Input Range	Remote Control Options	Conformal Coating Options	Assembly Options
	24:9.5~36 48:18~75	S:Single	3P3:3.3 05:5 12:12 15:15 24:24 28:28	4:1	☐ :Positive logic N:Negative logic	☐ : None R: Conformal Coating	☐ : None EC: Enclosed Mounting Type DR: Din Rail Mounting Type ED: Enclosed & Din Rail Mounting Type
		D: Dual	12:±12 15:±15				

TECHNICAL SPECIFICATION All specifications are typical at nominal input, full load and 25°C unless otherwise noted

Model Number	Input Range	Output Voltage	Output Current @Full Load		Input Current @No Load	Efficiency	Maximum Capacitor Load
			Min. Load mA	Full Load A			
	VDC	VDC		A	mA	%	μF
UFEC40-24S3P3W	9.5 ~ 36	3.3	0	10	81	86	25750
UFEC40-24S05W	9.5 ~ 36	5	0	8	101	87	13600
UFEC40-24S12W	9.5 ~ 36	12	0	3.33	54	86	2360
UFEC40-24S15W	9.5 ~ 36	15	0	2.67	54	86	1510
UFEC40-24S24W	9.5 ~ 36	24	0	1.67	74	85	600
UFEC40-24S28W	9.5 ~ 36	28	0	1.33	80	85	375
UFEC40-24D12W	9.5 ~ 36	±12	±65	±1.67	63	85	±1200
UFEC40-24D15W	9.5 ~ 36	±15	±50	±1.33	74	85	±750
UFEC40-48S3P3W	18 ~ 75	3.3	0	10	61	86	25750
UFEC40-48S05W	18 ~ 75	5	0	8	66	88	13600
UFEC40-48S12W	18 ~ 75	12	0	3.33	32	86	2360
UFEC40-48S15W	18 ~ 75	15	0	2.67	32	87	1510
UFEC40-48S24W	18 ~ 75	24	0	1.67	39	86	600
UFEC40-48S28W	18 ~ 75	28	0	1.33	39	85	375
UFEC40-48D12W	18 ~ 75	±12	±65	±1.67	32	86	±1200
UFEC40-48D15W	18 ~ 75	±15	±60	±1.33	32	85	±750

INPUT SPECIFICATIONS						
Parameter	Conditions		Min.	Typ.	Max.	Unit
Operating input voltage range	24Vin(nom)		9.5	24	36	VDC
	48Vin(nom)		18	48	75	
Input fuse	slow blow	24Vin(nom)		8		A
		48Vin(nom)		4		
In-rush current				15		A
Start up voltage	24Vin(nom)				9.5	VDC
	48Vin(nom)				18	
Shutdown voltage	24Vin(nom)		7	8	9	VDC
	48Vin(nom)		15	16	17.5	
Start up time	Constant resistive load	Power up Remote ON/OFF		100 20		ms
Input surge voltage	100ms, max.	24Vin(nom)			50	VDC
		48Vin(nom)			100	
Remote ON/OFF	Referred to -Vin pin	Positive logic DC-DC ON (Standard) DC-DC OFF Negative logic DC-DC ON (Option) DC-DC OFF			Open or 3 ~ 12VDC Short or 0 ~ 1.2VDC Short or 0 ~ 1.2VDC Open or 3 ~ 12VDC	
		Input current of Ctrl pin	-0.5		0.5	mA
	Remote off input current	24Vin(nom) 48Vin(nom)		10 5		mA

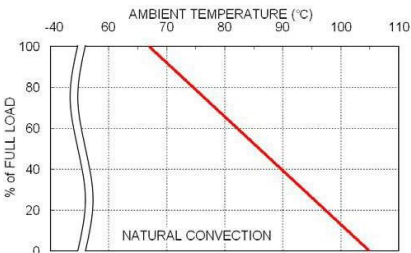
OUTPUT SPECIFICATIONS							
Parameter	Conditions			Min.	Typ.	Max.	Unit
Voltage accuracy	3.3Vout			-1.5		+1.5	%
	Others			-1.0		+1.0	
Line regulation	Low Line to High Line at Full Load			-0.5		+0.5	%
Load regulation	Min. Load to Full Load			-1.5		+1.5	%
	Others			-1.0		+1.0	
Cross regulation	Asymmetrical load 25%/100% FL			-5.0		+5.0	%
Voltage adjustability	Single output			-3		+17	%
	Others			-10		+10	
Ripple and noise	Measured by 20MHz bandwidth	Single	3.3Vout, 5Vout, 12Vout, 15Vout 24Vout, 28Vout		50 75 100 100		mVp-p
		Dual	All				
Temperature coefficient				-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		VDC
		5Vout			6.2		
		12Vout			15		
		15Vout			20		
		24Vout			30		
		28Vout			36		
Output indicator				Green LED			
Over load protection	% of Iout rated					150	%
Short circuit protection				Continuous, automatics recovery			

GENERAL SPECIFICATIONS						
Parameter	Conditions		Min.	Typ.	Max.	Unit
Isolation voltage	1 minute	Input to Output	1600			VDC
		Input (Output) to Chassis	1600			
Isolation resistance	500VDC		1			GΩ
Isolation capacitance					4500	pF
Switching frequency			270	300	330	kHz
Safety meets					IEC/ EN/ UL62368-1	
Chassis material					Aluminum	
Conformal coating					Impregnating varnish	
Weight					122g (4.29oz)	
MTBF	MIL-HDBK-217F, Full load				6.080 x 10 ⁵ hrs	

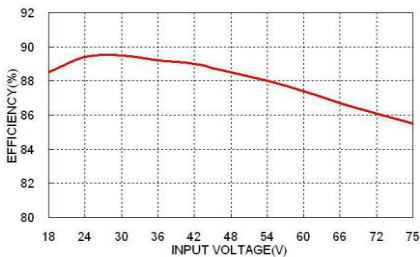
ENVIRONMENTAL SPECIFICATIONS						
Parameter	Conditions			Min.	Typ.	Max. Unit
Operating ambient temperature	With derating			-40		+105 °C
Over temperature protection	Case of DC/DC module				110	°C
Storage temperature range				-40		+105 °C
Thermal shock				MIL-STD-810F		
Vibration	□□□□W -□			MIL-STD-810F		
	□□□□W -□EC			MIL-STD-810F		
	□□□□W -□DR			IEC60068-2-6		
	□□□□W -□ED			IEC60068-2-6		
Relative humidity				5% to 95% RH		

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

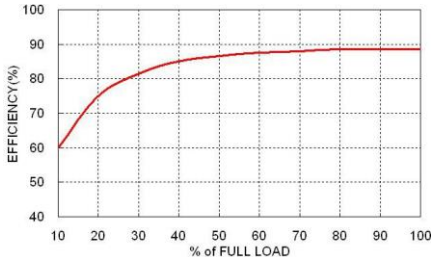
CHARACTERISTIC CURVE



UFEC40-48S05W Derating Curve



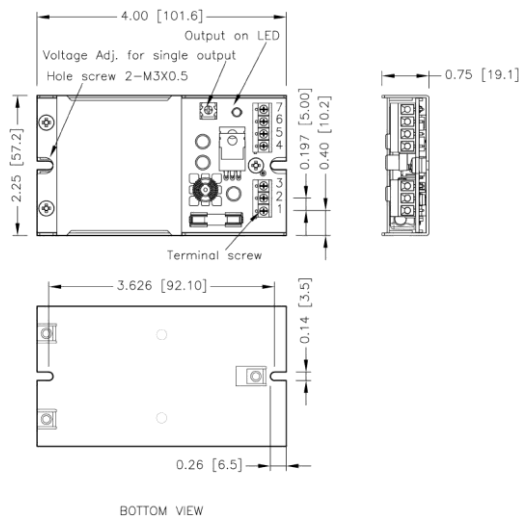
UFEC40-48S05W Efficiency vs. Input Voltage



UFEC40-48S05W Efficiency vs. Output Load

MECHANICAL DRAWING

CHASSIS MOUNTING TYPE



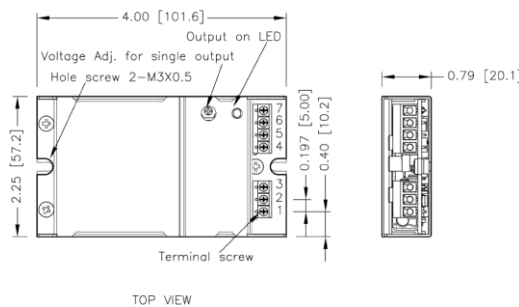
TERMINAL CONNECTION

NO.	SINGLE	DUAL
1	+Vin	+Vin
2	-Vin	-Vin
3	Ctrl	Ctrl
4	NC	NC
5	-Vout	-Vout
6	+Vout	Common
7	NC	+Vout

- ※ NC : No Connection
- ※ Screw terminals – wire range from 14 to 18 AWG

1. All dimensions in Inch [mm]
2. Tolerance : X.XX±0.02 [X.X±0.5]
2. Tolerance : X.XXX±0.01 [X.XX±0.25]
3. Hole screw locked torque :
MAX 5.0kgf - cm/0.49N - m
4. Terminal screw locked torque :
MAX 2.5kgf - cm/0.25N - m

ENCLOSED MOUNTING TYPE



DIN RAIL MOUNTING TYPE

