



3
YEARS
WARRANTY

ROHS
COMPLIANT

REACH
COMPLIANT



Automation



Datacom



IPC



Industry



Measurement



Telecom



Automobile



Boat



Charger



Medical



PV



Railway

CB CE UK
CA

1600
VDC
Isolation
Voltage

2 : 1
Input
Range

FUSE
Installed

INRUSH
CURRENT
LIMIT

Internal
EN55032
Class
Filter **B**

NO
Min. Load
Required

REMOTE
ON
OFF

REVERSE
POLARITY
PROTECTION

OCP

OVP

SCP

UVP

PART NUMBER STRUCTURE

UFEC30 -

48

S

05

-

R

EC

Series Name

Input
Voltage
(VDC)

Output
Quantity

Output
Voltage
(VDC)

Conformal Coating
Options

Assembly
Options

12:9.5~18
24:18~36
48:36~75

S:Single

3P3:3.3
05:5
12:12
15:15
24:24
28:28

: 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
	VDC	VDC	A	mA	%	µF
UFEC30-12S3P3	9.5 ~ 18	3.3	6	117	83	19500
UFEC30-12S05	9.5 ~ 18	5	6	98	85	10200
UFEC30-12S12	9.5 ~ 18	12	2.5	176	86	3240
UFEC30-12S15	9.5 ~ 18	15	2	218	86	1100
UFEC30-12S24	9.5 ~ 18	24	1.25	72	85	510
UFEC30-12S28	9.5 ~ 18	28	1	54	85	340
UFEC30-12D12	9.5 ~ 18	±12	±1.25	66	85	±1020
UFEC30-12D15	9.5 ~ 18	±15	±1	48	85	±675
UFEC30-24S3P3	18 ~ 36	3.3	6	51	85	19500
UFEC30-24S05	18 ~ 36	5	6	51	87	10200
UFEC30-24S12	18 ~ 36	12	2.5	83	88	3300
UFEC30-24S15	18 ~ 36	15	2	94	88	1100
UFEC30-24S24	18 ~ 36	24	1.25	37	87	510
UFEC30-24S28	18 ~ 36	28	1	38	87	340
UFEC30-24D12	18 ~ 36	±12	±1.25	33	87	±1020
UFEC30-24D15	18 ~ 36	±15	±1	34	87	±675
UFEC30-48S3P3	36 ~ 75	3.3	6	31	86	19500
UFEC30-48S05	36 ~ 75	5	6	36	88	10200
UFEC30-48S12	36 ~ 75	12	2.5	37	89	3300
UFEC30-48S15	36 ~ 75	15	2	57	89	1100
UFEC30-48S24	36 ~ 75	24	1.25	28	87	510
UFEC30-48S28	36 ~ 75	28	1	28	87	340
UFEC30-48D12	36 ~ 75	±12	±1.25	22	87	±1020
UFEC30-48D15	36 ~ 75	±15	±1	22	87	±675

INPUT SPECIFICATIONS								
Parameter	Conditions			Min.	Typ.	Max.	Unit	
Operating input voltage range	12Vin(nom)			9.5	12	18	VDC	
	24Vin(nom)			18	24	36		
	48Vin(nom)			36	48	75		
Input fuse	slow blow	12Vin(nom)			6		A	
		24Vin(nom)			6			
		48Vin(nom)			4			
In-rush current				15		A		
Start up voltage	12Vin(nom)					9.5	VDC	
	24Vin(nom)					18		
	48Vin(nom)					36		
Shutdown voltage	12Vin(nom)			7	8	9	VDC	
	24Vin(nom)			15	16	17.5		
	48Vin(nom)			32.5	34.5	35.5		
Start up time	Constant resistive load	Power up		100			ms	
		Remote ON/OFF		25				
Input surge voltage	100ms, max.	12Vin(nom)					36	VDC
		24Vin(nom)					50	
		48Vin(nom)					100	
Remote ON/OFF	Referred to -Vin pin	Positive logic	DC-DC ON	Open or 3 ~ 12VDC			mA	
			DC-DC OFF	Short or 0 ~ 1.2VDC				
		Input current of Ctrl pin		-0.5	0.5			
		Remote off input current		2.5				

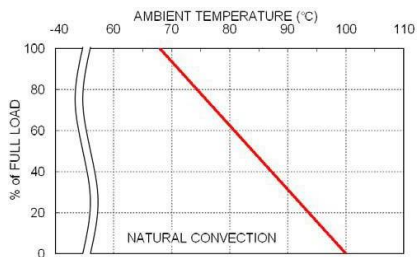
OUTPUT SPECIFICATIONS						
Parameter	Conditions			Min.	Typ.	Max. Unit
Voltage accuracy			3.3Vout Others	-1.5 -1.0		+1.5 +1.0 %
Line regulation	Low Line to High Line at Full Load			-0.5		+0.5 %
Load regulation	No Load to Full Load			-1.5 -1.0		+1.5 +1.0 %
Cross regulation	Asymmetrical load 25%/100% FL			-5.0		+5.0 %
Voltage adjustability	Single output			-3 -10		+17 +10 %
Ripple and noise	Measured by 20MHz bandwidth	Single	3.3Vout, 5Vout 12Vout, 15Vout 24Vout, 28Vout		50 75 100	mVp-p
		Dual	All		100	
Temperature coefficient				-0.02		+0.02 %/°C
Transient response recovery time	25% load step change				300	µs
Over voltage protection	Zener diode clamp				3.9 6.2 15 18 30 36	VDC
Output indicator				Green LED		
Over load 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 Input (Output) to Chassis	1600 1600		VDC
Isolation resistance	500VDC			1		GΩ
Isolation capacitance						4000 pF
Switching frequency				270	300	330 kHz
Safety approvals	IEC/ EN/ UL62368-1					UL:E193009 CB:UL(Demko)
Chassis material						Aluminum
Conformal coating						Impregnating varnish
Weight						110g (3.88oz)
MTBF	MIL-HDBK-217F, Full load					1.259 x 10 ⁶ hrs

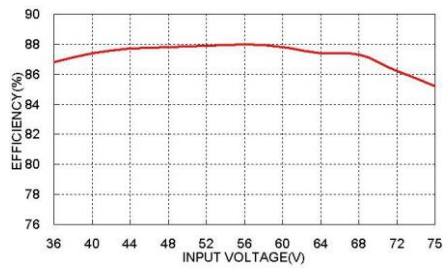
ENVIRONMENTAL SPECIFICATIONS						
Parameter	Conditions			Min.	Typ.	Max. Unit
Operating ambient temperature	With derating			-40		+100 °C
Maximum case temperature						100 °C
Over temperature protection	Case of DC/DC module				110	°C
Storage temperature range				-40		+105 °C
Thermal shock						MIL-STD-810F
Vibration	□□S□□					MIL-STD-810F
	□□S□□ -EC					MIL-STD-810F
	□□S□□ -DR					IEC60068-2-6
	□□S□□ -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 $\pm 8kV$ 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	$\pm 1kV$	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

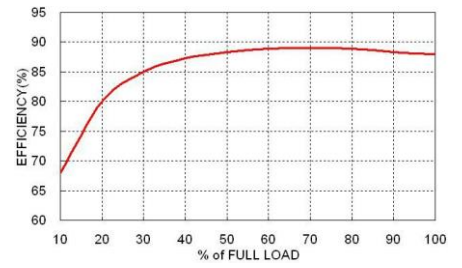
CHARACTERISTIC CURVE



UFEC30-48S05 Derating Curve



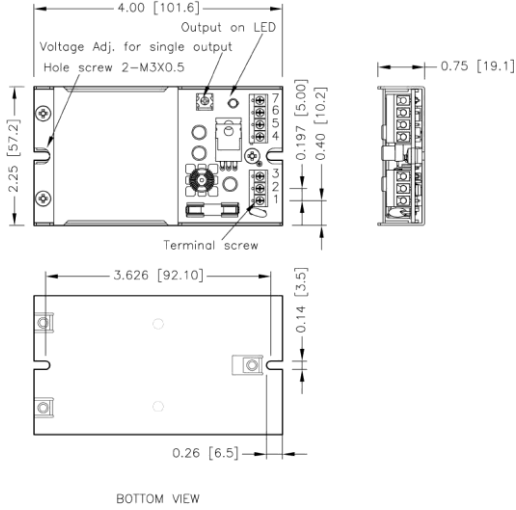
UFEC30-48S05 Efficiency vs. Input Voltage



UFEC30-48S05 Efficiency vs. Output Load

MECHANICAL DRAWING

CHASSIS MOUNTING TYPE



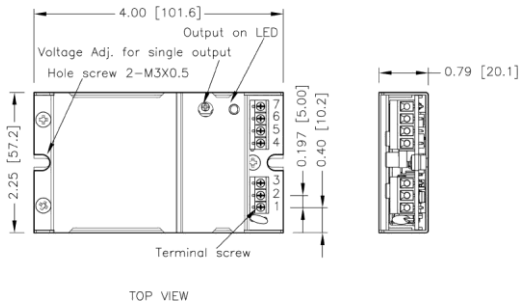
TERMINAL CONNECTION

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]
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

