

# UFEC15W SERIES

DC / DC Single & Dual Output: 15 Watts



Option- Heatsink

## Features

- 4:1 wide Input range: 9~36V & 18~75V
- High quality Panel mount assembly
- Single & Dual outputs
- High efficiency up to 87%
- Regulated output & Short circuit protection
- 1600V isolation
- High operating temperature up to +85°C
- Zero load operation
- Designed to EN60950, UL1950
- EMC Compliant
- Input In-rush current limit circuit
- Transient protection
- Optional DIN Rail mounting - "DR" to model
- Optional Heatsink - "H" to model

## Specifications:

<b>Input Voltage</b>	<b>24VDC</b> ( 9.5 ~ 36 ) <b>48VDC</b> ( 18 ~ 75 )
<b>Input Filter</b>	Pi type
<b>Input Surge Voltage.</b>	24V: 50VDC. 48V: 100VDC ( 100ms )
<b>Input Fuse</b>	24V 6A , 48V 4A ( fast acting )
<b>Input Reflected Ripple</b>	10mA p-p
<b>Start Up time</b>	100ms typ, constant resistive load
<b>Start-up Voltage</b>	24V 9.5 vdc 48V: 18vdc
<b>Shutdown Voltage</b>	24V 7.5vdc 48V: 15vdc
<b>Remote ON/OFF</b> ( Positive logic ) ( Negative logic ) ( Option )	DC-DC ON Open or $3.0V < V_r < 12V$ DC-DC OFF Short or $0V < V_r < 1.2V$ DC-DC ON Short or $0V < V_r < 1.2V$ DC-DC OFF Open or $3.0V < V_r < 12V$ Input current of remote control pin: .5mA Remote off state input current: 2.5mA
<b>Output power</b>	15 watts
<b>Voltage Accuracy</b>	$\pm 1.0\%$ ( $\pm 1.5\%$ 3.3Vo )
<b>Minim Load</b>	Zero
<b>Line Regulation</b>	Single $\pm 0.2\%$ Dual $\pm 0.5\%$
<b>Load Regulation</b>	Single $\pm 0.5\%$ , Dual $\pm 1\%$ ( 0% -100% load )
<b>Cross Regulation</b>	$\pm 5\%$ Asymmetrical load: 25-100% load )
<b>Ripple &amp; noise</b>	See table. 20MHZ bandwidth
<b>Temp. Coefficient</b>	$\pm 0.02\%$ / °C
<b>Transient Response</b>	250uS ( 25% load step change )
<b>Over Voltage Protection</b>	3.3V: 3.9V 5.0V: 6.2V 12V: 15V 15V: 18V

<b>Overload Protection</b>	Typically 150% of load
<b>Short Circuit protection</b>	Continuous hiccup mode
<b>Efficiency</b>	Model dependant 86 ~ 87%
<b>Isolation</b>	1600VDC
<b>Isolation Cap.</b>	4000pF
<b>Case Grounding</b>	Connect case to -Vin with decoupling Y cap.
<b>Switching Freq.</b>	Standard 400KHz
<b>Safety</b>	Designed to meet EN60950-1, UL60950-1
<b>Case Material</b>	Aluminium
<b>Dimensions</b>	102 x 58 x 19mm
<b>Weight</b>	89g
<b>MTBF</b>	$9.200 \times 10^6$ Hrs
<b>Operating Temp</b>	-40°C to +76°C ( without derating ) -40°C to +85°C ( with derating )
<b>Case Temp</b>	+100°C maximum case temperature
<b>Thermal shock</b>	MIL-STD-810F
<b>Vibration</b>	10-55Hz, 10G, 30min along X, Y,Z
<b>Humidity</b>	5-95% RH
<b>EMC</b>	EN55022 Class B
<b>ESD</b>	EN61000-4-2 $\pm 8KV$
<b>Radiated Immunity</b>	EN61000-4-3
<b>Fast Transients</b>	EN61000-4-4 $\pm 2KV$
<b>Surge</b>	EN61000-4-5 $\pm 0.5KV$
<b>Conducted Immunity</b>	EN61000-4-6 10V r.m.s.

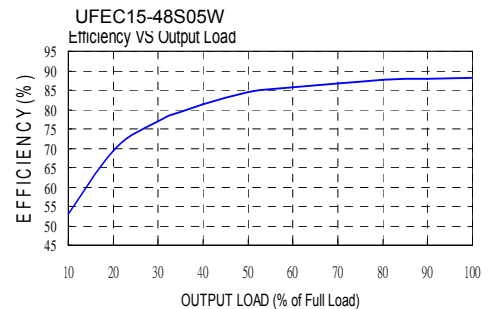
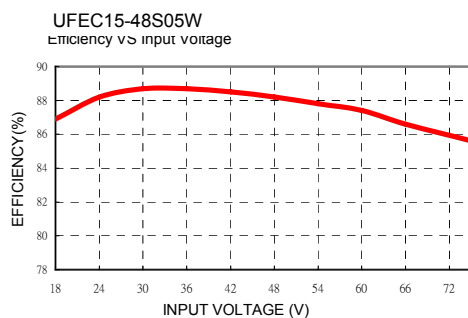
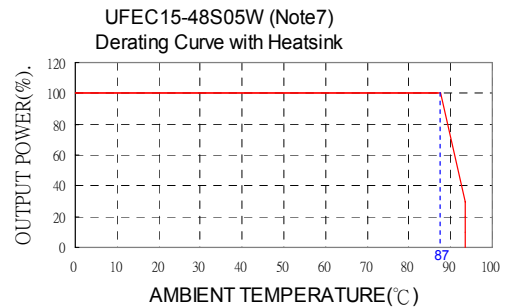
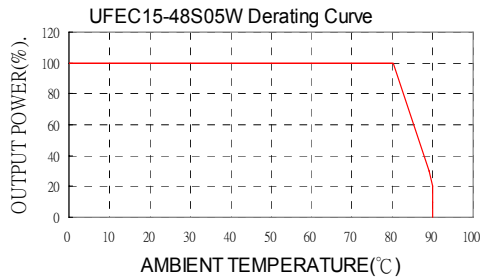
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Model Number	Input Range	Output Voltage	Output Current		Output (4) Ripple & Noise	Input Current		Eff (4) (%)	Capacitor (5) Load max
			Min. load	Full load		No Load (3)	Full Load (2)		
UFEC15-24S3P3W	9.5 – 36 VDC	3.3 VDC	0mA	450mA	50mVp-p	51mA	764mA	85	14700µF
UFEC15-24S05W	9.5– 36 VDC	5 VDC	0mA	3000mA	50mVp-p	66mA	762mA	86	7200µF
UFEC15-24S5P1W	9.5 – 36 VDC	5.1 VDC	0mA	3000mA	50mVp-p	66mA	777mA	86	7200µF
UFEC15-24S12W	9.5– 36 VDC	12 VDC	0mA	1250mA	75mVp-p	25mA	762mA	86	1250µF
UFEC15-24S15W	9.5– 36 VDC	15 VDC	0mA	1000mA	75mVp-p	26mA	762mA	86	800µF
UFEC15-24D05W	9.5– 36 VDC	± 5 VDC	0mA	± 1500mA	75mVp-p	56mA	762mA	86	± 3600µF
UFEC15-24D12W	9.5– 36 VDC	± 12 VDC	0mA	± 625mA	75mVp-p	33mA	753mA	87	± 625µF
UFEC15-24D15W	9.5– 36 VDC	± 15 VDC	0mA	± 500mA	75mVp-p	34mA	753mA	87	± 400µF
UFEC15-48S3P3W	18 – 75 VDC	3.3 VDC	0mA	4500mA	50mVp-p	36mA	382mA	85	14700µF
UFEC15-48S05W	18 – 75 VDC	5 VDC	0mA	3000mA	50mVp-p	36mA	377mA	87	7200µF
UFEC15-48S5P1W	18 – 75 VDC	5.1 VDC	0mA	3000mA	50mVp-p	36mA	384mA	87	7200µF
UFEC15-48S12W	18 – 75 VDC	12 VDC	0mA	1250mA	75mVp-p	17mA	381mA	86	1250µF
UFEC15-48S15W	18 – 75 VDC	15 VDC	0mA	1000mA	75mVp-p	17mA	381mA	86	800µF
UFEC15-48D05W	18 – 75 VDC	± 5 VDC	0mA	± 1500mA	75mVp-p	36mA	377mA	87	± 3600µF
UFEC15-48D12W	18 – 75 VDC	± 12 VDC	0mA	± 625mA	75mVp-p	19mA	377mA	87	± 625µF
UFEC15-48D15W	18 – 75 VDC	± 15 VDC	0mA	± 500mA	75mVp-p	19mA	377mA	87	± 400µF

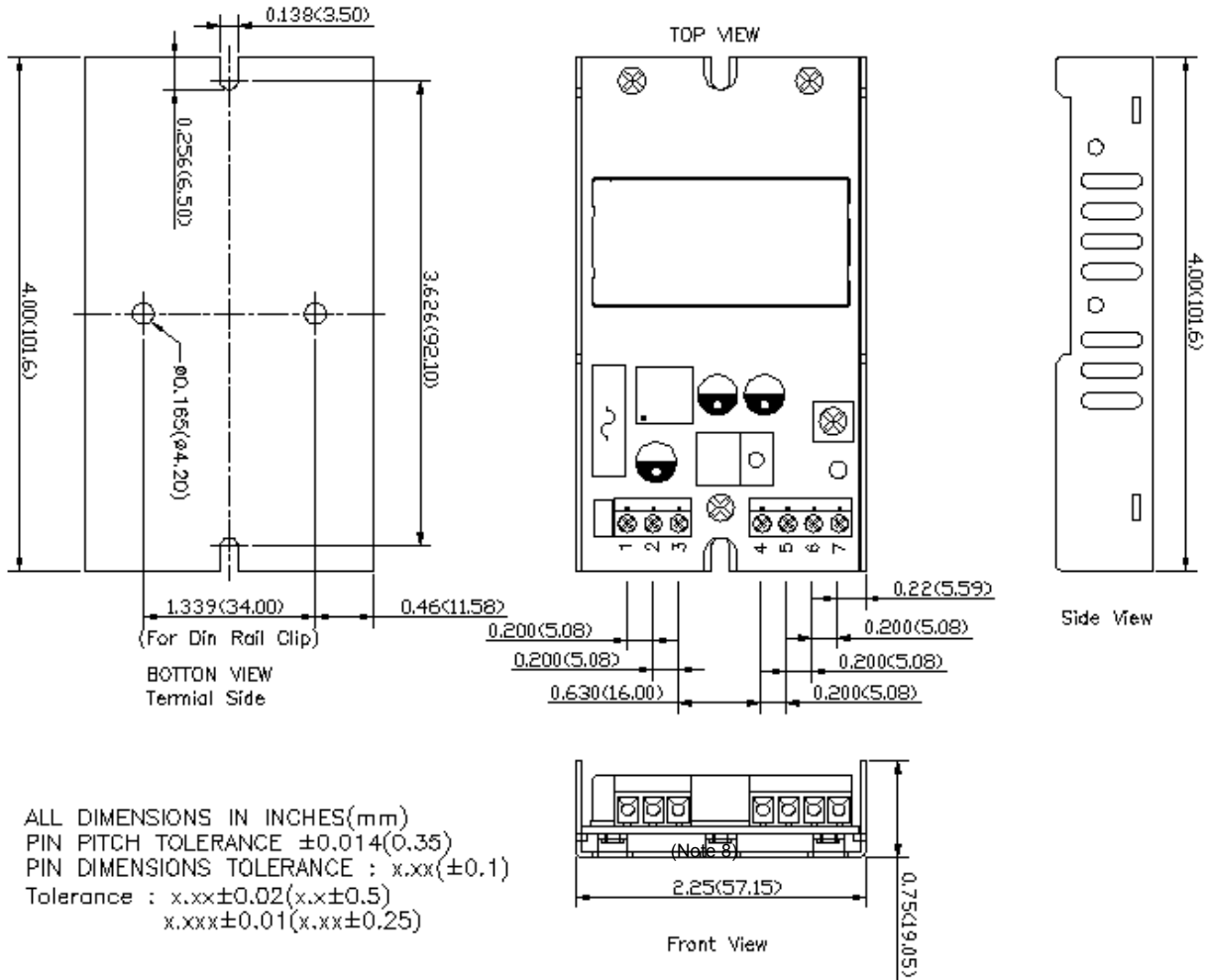
## Notes:

- BELLCORE TR-NWT-000332. Case I: 50% Stress, Temperature at 40°C.  
MIL-HDBK-217F Notice2 @Ta=25 °C, Full load(Ground, Benign, controlled environment).
- Maximum value at nominal input voltage and full load.
- Typical value at nominal input voltage and no load.
- Typical value at nominal input voltage and full load.
- Test by minimum Vin and constant resistive load.
- The ON/OFF control pin voltage is referenced to -Vin.  
To order Positive logic ON/OFF control add the suffix-P (Ex:UFEC15-48S05W-P)  
To order negative logic ON/OFF control add the suffix-N (Ex:UFEC15-48S05W-N)
- Heat sink is optional and P/N : 7B-CMD9N
- Screw terminals – wire range from 14 AWG to 18 AWG



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OPTIONS	
Option	Suffix
Without Heat Sink(Standard)	
With Heat Sink	-HS
Din Rail Mounting Type	-DR
With Heat Sink and Din Rail Mounting Type	-HD
Positive logic Remote ON/OFF	-P
Negative logic Remote ON/OFF	-N

PIN CONNECTION		
PIN	SINGLE	DUAL
1	+INPUT	+INPUT
2	-INPUT	-INPUT
3	CTRL	CTRL
4	NC	NC
5	-OUTPUT	-OUTPUT
6	+OUTPUT	COMMON
7	NC	+OUTPUT