

# UFED20W SERIES

DC / DC Single & Dual Output: 20 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
- In-rush current limit circuit & Transient protection
- LED Indicator, Voltage Trim
- 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>Overload Protection</b>	Typically 150% of load
<b>Input Filter</b>	Pi type	<b>Short Circuit protection</b>	Continuous hiccup mode
<b>Input Surge Voltage.</b>	24V: 50VDC. 48V: 100VDC ( 100ms )	<b>Efficiency</b>	Model dependant 86 ~ 87%
<b>Input Fuse</b>	24V 6A , 48V 4A ( fast acting )	<b>Isolation</b>	1600VDC
<b>Input Reflected Ripple</b>	10mA p-p	<b>Isolation Cap.</b>	4000pF
<b>Start Up time</b>	100ms typ, constant resistive load	<b>Case Grounding</b>	Connect case to -Vin with decoupling Y cap.
<b>Start-up Voltage</b>	24V 9.5 vdc 48V: 18vdc	<b>Switching Freq.</b>	Standard 400KHz
<b>Shutdown Voltage</b>	24V 7.5vdc 48V: 15vdc	<b>Safety</b>	Designed to meet EN60950-1, UL60950-1
<b>Remote ON/OFF</b>	DC-DC ON Open or $3.0V < V_r < 12V$ DC-DC OFF Short or $0V < V_r < 1.2V$	<b>Case Material</b>	Aluminium
Positive logic standard		<b>Dimensions</b>	102 x 58 x 19mm
Negative logic-Option	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: 0.5mA Remote off state input current: 2.5mA	<b>Weight</b>	89g
<b>Output power</b>	20 watts	<b>MTBF</b>	$6.588 \times 10^6$ Hrs
<b>Voltage Accuracy</b>	$\pm 1.0\%$ ( $\pm 1.5\%$ 3.3Vo )	<b>Operating Temp</b>	-40°C to +66°C ( without derating ) -40°C to +85°C ( with derating )
<b>Minim Load</b>	Zero	<b>Case Temp</b>	+100°C maximum case temperature
<b>Output voltage trim</b>	$\pm 10\%$ single outputs	<b>Thermal shock</b>	MIL-STD-810F
<b>Line Regulation</b>	Single $\pm 0.2\%$ Dual $\pm 0.5\%$	<b>Vibration</b>	10-55Hz, 10G, 30min along X, Y,Z
<b>Load Regulation</b>	Single $\pm 0.5\%$ , Dual $\pm 1\%$ ( 0% -100% load )	<b>Humidity</b>	5-95% RH
<b>Cross Regulation</b>	$\pm 5\%$ Asymmetrical load: 25-100% load )	<b>EMC</b>	EN55022 Class B
<b>Ripple &amp; noise</b>	See table. 20MHZ bandwidth	<b>ESD</b>	EN61000-4-2 $\pm 8KV$
<b>Temp. Coefficient</b>	$\pm 0.02\%$ / °C	<b>Radiated Immunity</b>	EN61000-4-3
<b>Transient Response</b>	250uS ( 25% load step change )	<b>Fast Transients</b>	EN61000-4-4 $\pm 2KV$
<b>Over Voltage Protection</b>	3.3V: 3.9V 5.0V: 6.2V 12V: 15V 15V: 18V	<b>Surge</b>	EN61000-4-5 $\pm 0.5KV$
		<b>Conducted Immunity</b>	EN61000-4-6 10V r.m.s.

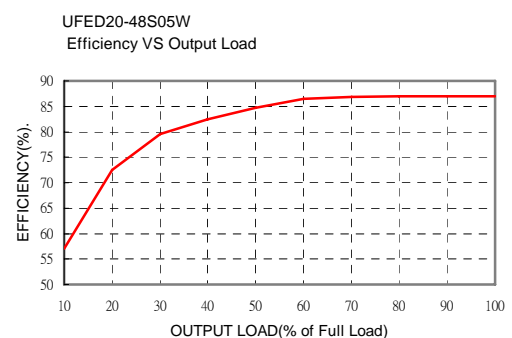
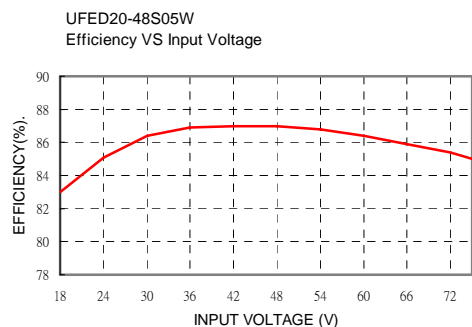
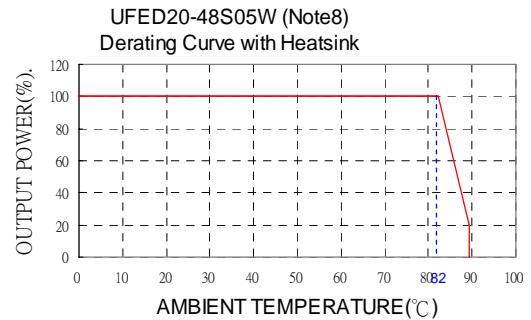
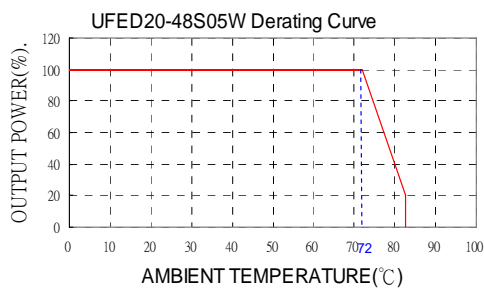
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Model Number	Input Range	Output Voltage	Output Current		Output <sup>(4)</sup> Ripple & Noise	Input Current		Eff <sup>(4)</sup> (%)	Capacitor <sup>(5)</sup> Load max
			Min. load	Full load		No load <sup>(3)</sup>	Full load <sup>(2)</sup>		
UFED20-24S3P3W	9.5 – 36 VDC	3.3 VDC	0mA	5500mA	60mVp-p	51mA	945mA	84	18000µF
UFED20-24S05W	9.5 – 36 VDC	5 VDC	0mA	4000mA	75mVp-p	66mA	1004mA	87	9600µF
UFED20-24S12W	9.5 – 36 VDC	12 VDC	0mA	1670mA	75mVp-p	25mA	1031mA	85	1650µF
UFED20-24S15W	9.5 – 36 VDC	15 VDC	0mA	1330mA	75mVp-p	26mA	1026mA	85	1050µF
UFED20-24D05W	9.5 – 36 VDC	±5 VDC	0mA	±2000mA	100mVp-p	58mA	1004mA	87	±4800µF
UFED20-24D12W	9.5 – 36 VDC	±12 VDC	0mA	±833mA	100mVp-p	33mA	1016mA	86	±825µF
UFED20-24D15W	9.5 – 36 VDC	±15 VDC	0mA	±667mA	100mVp-p	34mA	1017mA	86	±525µF
UFED20-48S3P3W	18 – 75 VDC	3.3 VDC	0mA	5500mA	60mVp-p	36mA	473mA	84	18000µF
UFED20-48S05W	18 – 75 VDC	5 VDC	0mA	4000mA	75mVp-p	36mA	502mA	87	9600µF
UFED20-48S12W	18 – 75 VDC	12 VDC	0mA	1670mA	75mVp-p	17mA	509mA	86	1650µF
UFED20-48S15W	18 – 75 VDC	15 VDC	0mA	1330mA	75mVp-p	17mA	507mA	86	1050µF
UFED20-48D05W	18 – 75 VDC	±5 VDC	0mA	±2000mA	100mVp-p	36mA	496mA	88	±4800µF
UFED20-48D12W	18 – 75 VDC	±12 VDC	0mA	±833mA	100mVp-p	19mA	502mA	87	±825µF
UFED20-48D15W	18 – 75 VDC	±15 VDC	0mA	±667mA	100mVp-p	19mA	502mA	87	±525µF

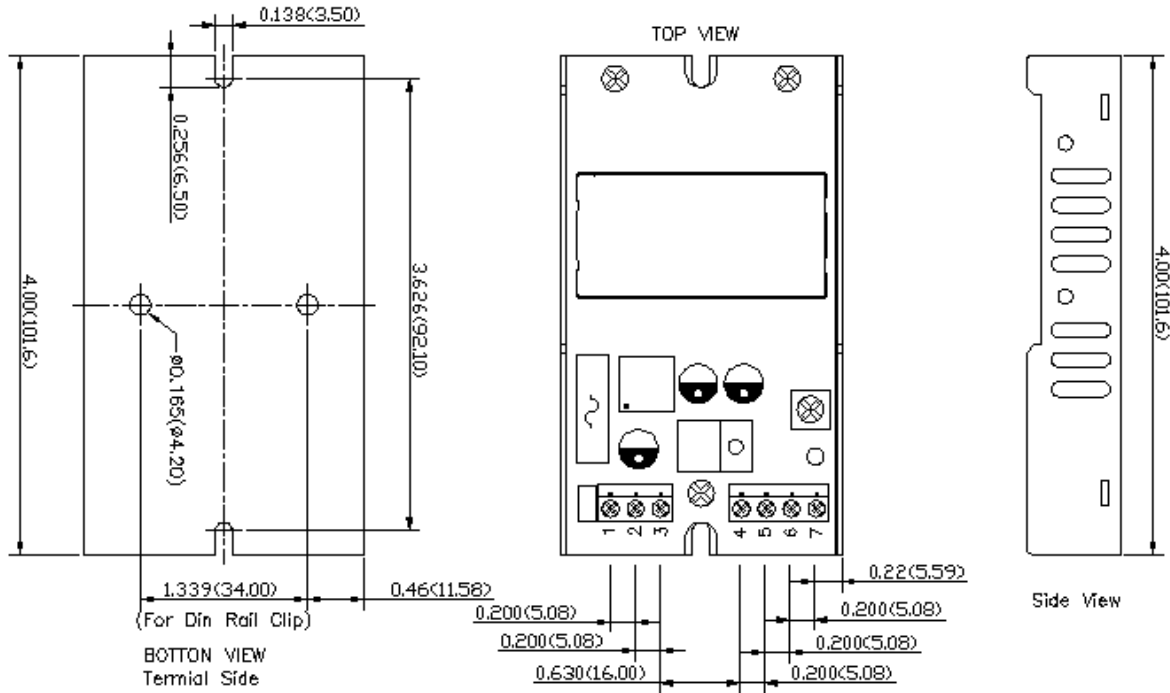
## Notes:

- 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 negative logic ON/OFF control add the suffix-N (Ex:UFED20-48S05W-N)
- Single output installs a potentiometer to adjust the output voltage.
- Heat sink is optional and P/N : 7B-CMD9N
- Screw terminals – wire range from 14 AWG to 18 AWG

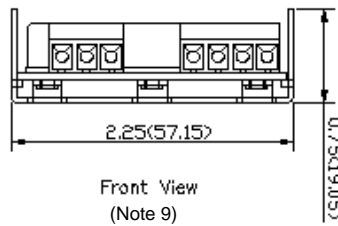


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ALL DIMENSIONS IN INCHES(mm)  
 PIN PITCH TOLERANCE  $\pm 0.014(0.35)$   
 PIN DIMENSIONS TOLERANCE :  $x.xx(\pm 0.1)$   
 Tolerance :  $x.xx \pm 0.02(x.x \pm 0.5)$   
 $x.xxx \pm 0.01(x.xx \pm 0.25)$



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
Negative remote ON/OFF logic	-N

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

※NC : No Connection