

# UFEC40W SERIES

DC / DC Single & Dual Output: 40 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
- 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:

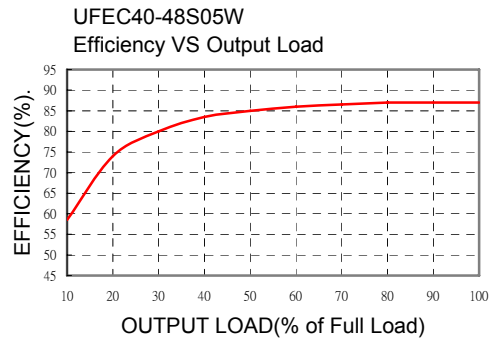
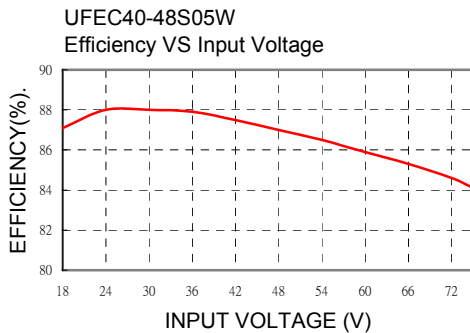
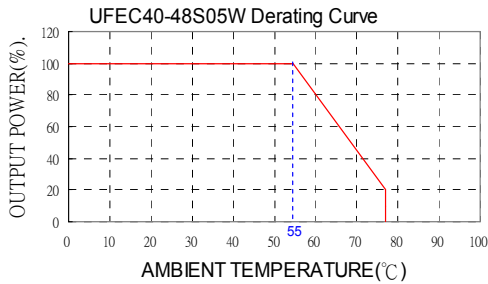
|                                |   |                                 |   |
|--------------------------------|---|---------------------------------|---|
| <b>Input Voltage</b>           | <b>24VDC</b> ( 9.5 ~ 36 )<br><b>48VDC</b> ( 18 ~ 75 )   | <b>Overload Protection</b>      | Typically 150% of load  |
| <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 8A , 48V 4A ( fast acting )   | <b>Isolation</b>                | 1600VDC   |
| <b>Input Reflected Ripple</b>  | 15mA p-p  | <b>Isolation Cap.</b>           | 4500pF  |
| <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 9.5vdc 48V: 18vdc   | <b>Switching Freq.</b>          | Standard 300KHz   |
| <b>Shutdown Voltage</b>        | 24V 8vdc 48V: 16vdc   | <b>Safety</b>                   | Designed to meet EN60950-1, UL60950-1                                   |
| <b>Remote ON/OFF</b>           | DC-DC ON Open or $3.0V < V_r < 12V$<br>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 $0V < V_r < 1.2V$<br>DC-DC OFF Open or $3.0V < V_r < 12V$<br>Input current of remote control pin: 0.5mA<br>Remote off state input current: 10mA | <b>Weight</b>                   | 122g  |
| <b>Output power</b>            | 40 watts  | <b>MTBF</b>                     | 1.511 x 10 <sup>5</sup> Hrs   |
| <b>Voltage Accuracy</b>        | ±1.0% ( ±1.5% 3.3Vo )   | <b>Operating Temp</b>           | -40°C to +50°C ( without derating )<br>-40°C to +85°C ( with derating ) |
| <b>Minim Load</b>              | See table   | <b>Case Temp</b>                | +100°C maximum case temperature   |
| <b>Output voltage trim</b>     | ±10% single outputs   | <b>Thermal shock</b>            | MIL-STD-810F  |
| <b>Line Regulation</b>         | Single ±0.5% Dual ±0.5%   | <b>Vibration</b>                | 10-55Hz, 10G, 30min along X, Y,Z  |
| <b>Load Regulation</b>         | Single ±1% , Dual ±1%<br>( 0% -100% load )  | <b>Humidity</b>                 | 5-95% RH  |
| <b>Cross Regulation</b>        | ±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 ±8KV  |
| <b>Temp. Coefficient</b>       | ±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 ±2KV  |
| <b>Over Voltage Protection</b> | 3.3V: 3.9V<br>5.0V: 6.2V<br>12V: 15V<br>15V: 18V  | <b>Surge</b>                    | EN61000-4-5 ±0.5KV  |
|                                |   | <b>Conducted Immunity</b>       | EN61000-4-6 10V r.m.s.  |

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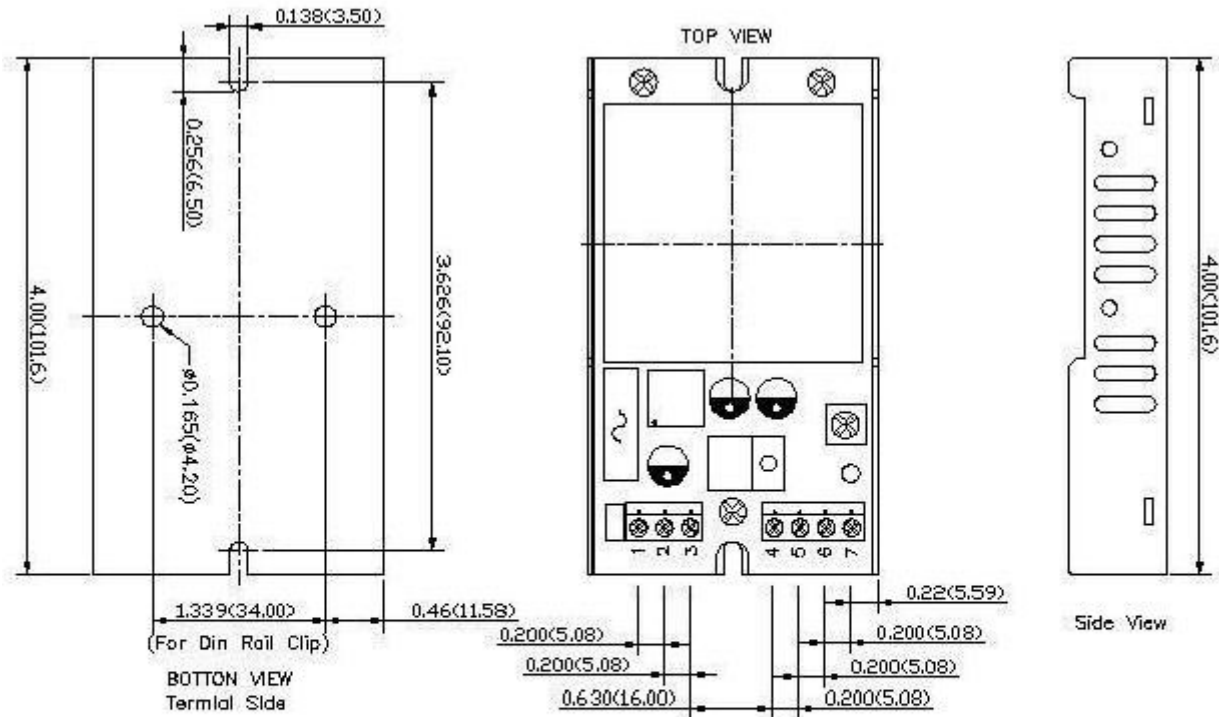
| Model Number   | Input Range  | Output Voltage | Output Current |           | Output <sup>(4)</sup><br>Ripple & Noise | Input Current          |                          | Eff <sup>(4)</sup><br>(%) | Capacitor <sup>(5)</sup><br>Load max |
|----------------|--------------|----------------|----------------|-----------|---|------------------------|--------------------------|---------------------------|--------------------------------------|
|                |              |                | Min. load      | Full load |   | No load <sup>(3)</sup> | Full load <sup>(2)</sup> |                           |                                      |
| UFEC40-24S3P3W | 9.5 – 36 VDC | 3.3 VDC        | 0mA            | 10000mA   | 50mVp-p                                 | 81mA                   | 1719mA                   | 84                        | 25750µF                              |
| UFEC40-24S05W  | 9.5 – 36 VDC | 5 VDC          | 0mA            | 8000mA    | 50mVp-p                                 | 101mA                  | 2058mA                   | 85                        | 13600µF                              |
| UFEC40-24S12W  | 9.5 – 36 VDC | 12 VDC         | 50mA           | 3333mA    | 75mVp-p                                 | 53mA                   | 2058mA                   | 85                        | 2360µF                               |
| UFEC40-24S15W  | 9.5 – 36 VDC | 15 VDC         | 50mA           | 2666mA    | 75mVp-p                                 | 54mA                   | 2058mA                   | 85                        | 1510µF                               |
| UFEC40-24D12W  | 9.5 – 36 VDC | ± 12 VDC       | ±65 mA         | ± 1667mA  | 120mVp-p                                | 63mA                   | 2084mA                   | 84                        | ± 1200µF                             |
| UFEC40-24D15W  | 9.5 – 36 VDC | ± 15 VDC       | ±50 mA         | ± 1333mA  | 150mVp-p                                | 74mA                   | 2084mA                   | 84                        | ± 750µF                              |
| UFEC40-48S3P3W | 18 – 75 VDC  | 3.3 VDC        | 0mA            | 10000mA   | 50mVp-p                                 | 61mA                   | 848mA                    | 85                        | 25750µF                              |
| UFEC40-48S05W  | 18 – 75 VDC  | 5 VDC          | 0mA            | 8000mA    | 50mVp-p                                 | 66mA                   | 1004mA                   | 87                        | 13600µF                              |
| UFEC40-48S12W  | 18 – 75 VDC  | 12 VDC         | 50mA           | 3333mA    | 75mVp-p                                 | 32mA                   | 1016mA                   | 86                        | 2360µF                               |
| UFEC40-48S15W  | 18 – 75 VDC  | 15 VDC         | 50mA           | 2666mA    | 75mVp-p                                 | 32mA                   | 1016mA                   | 86                        | 1510µF                               |
| UFEC40-48D12W  | 18 – 75 VDC  | ± 12 VDC       | ±65 mA         | ± 1667mA  | 120mVp-p                                | 32mA                   | 1029mA                   | 85                        | ± 1200µF                             |
| UFEC40-48D15W  | 18 – 75 VDC  | ± 15 VDC       | ±60 mA         | ± 1333mA  | 150mVp-p                                | 32mA                   | 1029mA                   | 85                        | ± 750µF                              |

- 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:UFEC40-48S05W-N)
  - The output requires minimum loading on the output to maintain specified regulation. Operation in no-load condition will not damage these devices, however they may not meet all listed specification.
  - Single output installs a potentiometer to adjust the output voltage.
  - Load regulation for dual output: Min load to 100% load balanced on all outputs
  - Screw terminals – wire range from 14 AWG to 18 AWG

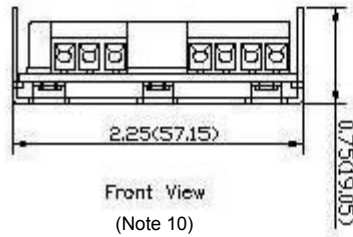


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ALL DIMENSIONS IN INCHES(mm)  
 PIN PITCH TOLERANCE  $\pm 0.014$  (0.35)  
 PIN DIMENSIONS TOLERANCE : x.xx ( $\pm 0.1$ )  
 Tolerance : x.xx  $\pm 0.02$  (x.x  $\pm 0.5$ )  
 x.xxx  $\pm 0.01$  (x.xx  $\pm 0.25$ )



| OPTIONS                      |        |
|------------------------------|--------|
| Option                       | Suffix |
| With Heat Sink(Standard)     |        |
| Din Rail Mounting Type       | -DR    |
| 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 |

※NC : No Connection