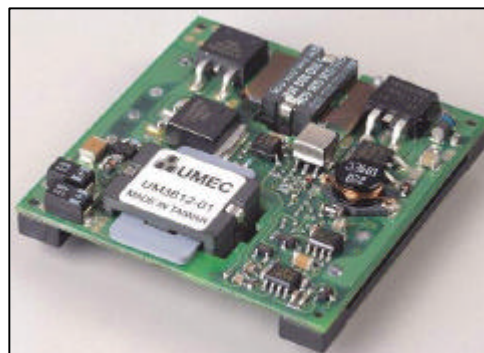


## 20 – 50 Watt DC/DC Converters

- ◆ 2:1 Input Range
- ◆ 20-50 W Isolated Output
- ◆ High-Density
- ◆ Standard “Half-Brick” Package
- ◆ Open-Frame
- ◆ Remote on/off Control
- ◆ Safety Approvals Pending(EN60950 and UL/cUL)



## SPECIFICATIONS

All specifications are typical at nominal line, full load and 25° C unless otherwise noted.

## INPUT SPECIFICATIONS

|                               |                 |
|-------------------------------|-----------------|
| Input Voltage Range,48V ..... | 36-75V          |
| Input Voltage peak/surge..... | 100V/100ms max. |
| Input Filter .....            | Pi Network      |

## OUTPUT SPECIFICATIONS

|                                                 |                |
|-------------------------------------------------|----------------|
| Voltage Accuracy <sup>1</sup> .....             | ±1.5%max.      |
| Transient Response <sup>2</sup>                 |                |
| Single,25% step Load Change .....               | <500u sec.     |
| External Trim Adj. Range .....                  | ±10%           |
| Short Circuit Protection .....                  | Continuous     |
| Line Regulation <sup>3</sup> .....              | ±0.5% max.     |
| Load Regulation <sup>4</sup> .....              | ±1% max.       |
| Ripple and Noise, 20MHz BW <sup>5</sup> , ..... | 100mV p-p max. |
| Overvoltage Protection                          |                |
| 2.0V .....                                      | 2.6V typ.      |
| 3.3V .....                                      | 4.3V typ.      |
| 5.0V .....                                      | 6.8V typ.      |

## GENERAL SPECIFICATIONS

|                                                    |                                                 |
|----------------------------------------------------|-------------------------------------------------|
| Efficiency .....                                   | See Table                                       |
| Isolation Voltage .....                            | 1500VDCmin                                      |
| Switch Frequency .....                             | 250KHZ                                          |
| Isolation Resistance <sup>6</sup> .....            | 10 <sup>8</sup> Ohms min.                       |
| Over temperature shutdown point <sup>7</sup> ..... | 125°C typ.                                      |
| Operation Temperature <sup>8</sup> .....           | -40°C to +120°C                                 |
| Storage Temperature Range .....                    | -55°C to +125°C                                 |
| EMI/RFI Conducted.....                             | EN55022 Level A                                 |
| Dimensions .....                                   | 2.40*2.28*0.43 inches<br>(60.96*57.91*10.90 mm) |
| Weight .....                                       | 50g                                             |

## NOTE

1. Defined at the static output regulation at 25°C, including initial setting accuracy, Line voltage within stated limits and load current within stated limits.
2.  $di/dt=100\text{mA}/1\mu\text{S}$ ,  $T_c=25^\circ\text{C}$ ; load change=0.5Io max. to 0.75 Io max. and 0.75 Io max. to 0.5 Io max.
3. Measured from high line to low line.
4. Measured from full load to 1/4 load.
5. Measured with 2.2 $\mu\text{F}$  ceramic Cap. Cross to output.
6. Measured with 500VDC
7. Non-latching shutdown protection
8. Defined as the highest temperature measured at any one of the specified temperature hotspot checkpoints.
9. Standard product is active high, active low remote on/off option is available, to order suffix a "N" to the model number e.g. UM3611N.

| REMOTE ON/OFF CONTROL    |                            |
|--------------------------|----------------------------|
| Logic Compatibility..... | CMOS or Open Collector TTL |
| Ec-ON .....              | > +2.5 VDC or Open Circuit |
| Ec-OFF .....             | < 0.8 VDC                  |
| Control Common .....     | Referenced to Input Minus  |

**EXTERNAL OUTPUT TRIMMING**

Output may optionally be externally trimmed with a fixed resistor or an external trimpot as shown.

The left diagram shows a trimpot with terminals 6, 7, and 8. Terminal 6 is connected to the top wiper, terminal 8 to the bottom wiper, and terminal 7 to the center wiper. The top wiper is labeled 'TRIM UP' and the bottom wiper is labeled 'TRIM DOWN'. The right diagram shows a 10K fixed resistor with terminals 6, 7, and 8. Terminal 6 is connected to the top end, terminal 8 to the bottom end, and terminal 7 to the center. An 'OR' symbol is between the two diagrams.



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UM3600

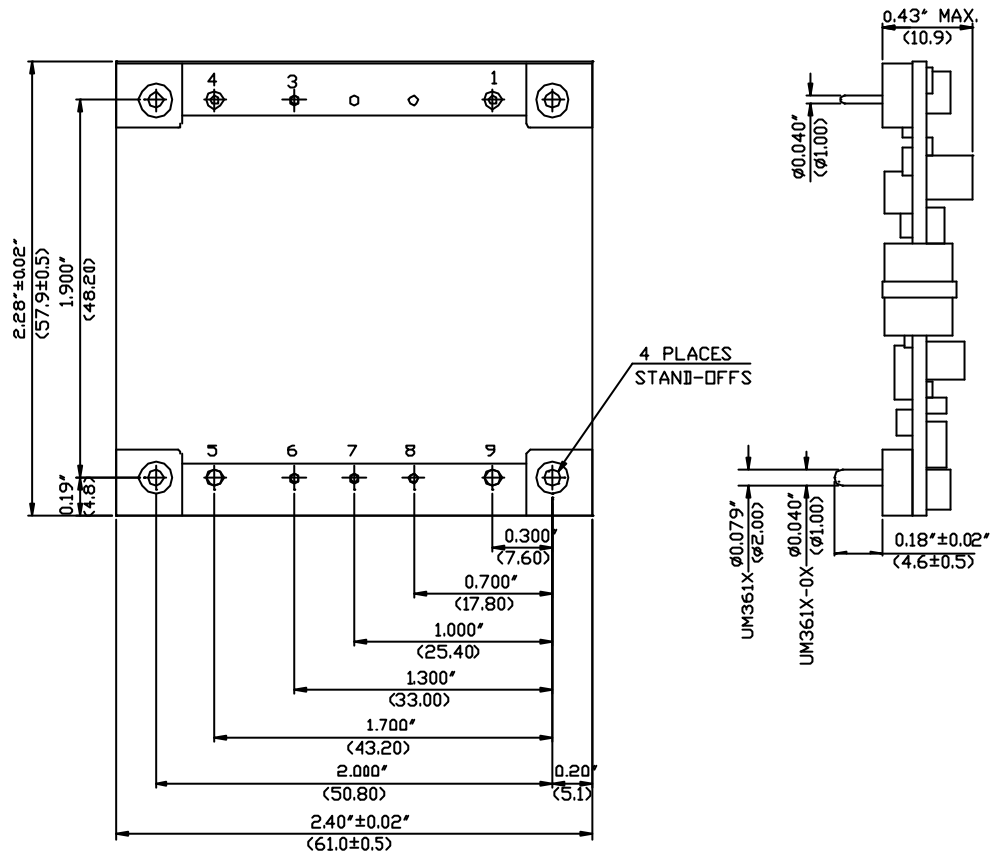
1 OF 2

3,27TH RD., TAICHUNG INDUSTRIAL PARK,  
TAICHUNG, TAIWAN, R.O.C.  
TEL: 886-4-23590096 FAX: 886-4-23590129

REV.2

| MODEL NUMBER        | INPUT VOLTAGE | OUTPUT VOLTAGE | OUTPUT CURRENT | INPUT CURRENT FULL LOAD | TYPICAL EFFICIENCY |
|---------------------|---------------|----------------|----------------|-------------------------|--------------------|
| UM3611<br>UM3611-01 | 48 VDC        | 2.0 VDC        | 10 A<br>8 A    | 478 mA<br>383 mA        | 87%<br>87%         |
| UM3612<br>UM3612-01 | 48 VDC        | 3.3 VDC        | 10 A<br>8 A    | 780 mA<br>618 mA        | 88%<br>89%         |
| UM3613<br>UM3613-01 | 48 VDC        | 5 VDC          | 10 A<br>8 A    | 1144 mA<br>906 mA       | 91%<br>92%         |

NOTE: Other output voltage can be supported upon request.



| Pin Connections |                       |
|-----------------|-----------------------|
| Pin             | Function              |
| 1               | -Vin                  |
| 2               | No Pin                |
| 3               | Remote On/Off Control |
| 4               | +Vin                  |
| 5               | +Vout                 |
| 6               | +Vsense               |
| 7               | Trim                  |
| 8               | -Vsense               |
| 9               | -Vout                 |

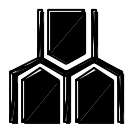
All dimensions in inches (mm)

Tolerance .xx = ±0.04

.xxx = ±0.010

NOTE:

If remote sensing not utilized, output sense pin must be jumpered to respective output power pins, for normal operation connect Pin NO.5 to Pin NO.6 and Pin NO.8 to Pin NO.9.



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