

## AC-DC CONVERTER

### UNIVERSAL INPUT, 7 WATTS

#### SINGLE AND DUAL OUTPUT

#### UIL7 SERIES



#### FEATURES

- Universal Input 90-264Vac
- High Efficiency (up to 82%)
- Fully Encapsulated Plastic Case
- Dimensions: 2.1" × 1.63" × 0.8"
- Protection: Short Circuit/ Overload/ Over Voltage
- Internal Input Filter
- 2 Year Warranty
- RoHS Compliant

#### SELECTION GUIDE All specifications are typical at 230Vac input, full load and 25°C, unless otherwise noted.

| Output Wattage<br>W | Output Voltage<br>Vdc | Output Current<br>mA | Ripple & Noise <sup>(1)</sup><br>mV (Max.) | Efficiency<br>% | Model Number |
|---------------------|-----------------------|----------------------|--------------------------------------------|-----------------|--------------|
| 6.6                 | 3.3                   | 2000                 | 100                                        | 70              | UIL7-33S     |
| 7.5                 | 5                     | 1500                 | 100                                        | 75              | UIL7-5S      |
| 7.2                 | 6                     | 1200                 | 100                                        | 75              | UIL7-6S      |
| 7.0                 | 7                     | 1000                 | 100                                        | 75              | UIL7-7S      |
| 7.2                 | 8                     | 900                  | 100                                        | 75              | UIL7-8S      |
| 7.2                 | 9                     | 800                  | 100                                        | 75              | UIL7-9S      |
| 7.5                 | 10                    | 750                  | 100                                        | 75              | UIL7-10S     |
| 7.5                 | 12                    | 625                  | 150                                        | 80              | UIL7-12S     |
| 7.8                 | 13                    | 600                  | 150                                        | 80              | UIL7-13S     |
| 7.0                 | 14                    | 500                  | 150                                        | 80              | UIL7-14S     |
| 7.5                 | 15                    | 500                  | 150                                        | 80              | UIL7-15S     |
| 7.2                 | 16                    | 450                  | 150                                        | 80              | UIL7-16S     |
| 7.2                 | 18                    | 400                  | 150                                        | 80              | UIL7-18S     |
| 7.5                 | 24                    | 320                  | 240                                        | 80              | UIL7-24S     |
| 7.5                 | 27                    | 280                  | 270                                        | 82              | UIL7-27S     |
| 7.2                 | 36                    | 200                  | 360                                        | 85              | UIL7-36S     |
| 7.5                 | 48                    | 160                  | 480                                        | 85              | UIL7-48S     |
| 7.0                 | ±5                    | ±700                 | 100                                        | 72              | UIL7-05D     |
| 7.2                 | ±12                   | ±300                 | 150                                        | 78              | UIL7-12D     |
| 7.5                 | ±15                   | ±250                 | 150                                        | 80              | UIL7-15D     |
| 7.2                 | ±24                   | ±150                 | 240                                        | 80              | UIL7-24D     |
| 7.0                 | 5/12                  | 800/250              | 100/150                                    | 75              | UIL7-5S12S   |
| 7.0                 | 5/15                  | 800/200              | 100/150                                    | 75              | UIL7-5S15S   |
| 7.0                 | 5/24                  | 800/125              | 100/150                                    | 75              | UIL7-5S24S   |

## UIL7 SERIES

| Input Specifications     |                                        |                      | Output Specifications                 |                                                                                          |                                                   |
|--------------------------|----------------------------------------|----------------------|---------------------------------------|------------------------------------------------------------------------------------------|---------------------------------------------------|
| Voltage range            | 90Vac Min., 264Vac Max.                | Vo, lo nom, AC input | Output voltage accuracy, %            | ±3 Max.                                                                                  | Vi nom, lo nom, Single output, 3.3V, 5V models    |
|                          | 120Vdc Min., 370Vdc Max.               | Vo, lo nom, DC input |                                       | ±2 Max.                                                                                  | Vi nom, lo nom, Single output, 12V-48V models     |
|                          |                                        |                      |                                       | ±5 Max.                                                                                  | Dual output                                       |
| Rated input voltage, Vac | 100 - 240 Typ.                         | Vo, lo nom           | Minimum load, %                       | 0 Min.                                                                                   | Vi nom, Single output models                      |
|                          |                                        |                      |                                       | 20 Min.                                                                                  | Vi nom, Dual output models (each output)          |
| Line frequency, Hz       | 47 Min., 50/60 Typ., 63 Max.           | Vi nom, lo nom       | Line regulation, %                    | ±1 Typ.                                                                                  | lo nom, Vi min...Vi max                           |
|                          |                                        |                      | Load regulation, %                    | ±2 Typ.                                                                                  | Lo min- lo nom, Single output models              |
| Inrush current, A        | 10 Max.                                | lo nom, Vi: 115Vac   | Transient recovery time, uS           | ±5 Typ.                                                                                  | Lo min- lo nom, Dual output models                |
|                          | 20 Max.                                | lo nom, Vi: 230Vac   |                                       | 1,000 Typ.                                                                               | Vi nom, lo nom = $\longleftrightarrow$ 0.5 lo nom |
| Input fuse               | VDE/UL/CCC, Fuse 2.5A/250V (Slow blow) |                      | Overload protection                   | Above 110% rated output power<br>Recovers automatically after fault condition is removed |                                                   |
|                          |                                        |                      | Short circuit protection              | Recovers automatically after fault condition is removed                                  |                                                   |
|                          |                                        |                      | Over voltage protection (Main output) | 120%-150% rated output voltage<br>Zener diode clamp                                      |                                                   |

| General Specifications   |                |                 |                   |
|--------------------------|----------------|-----------------|-------------------|
| Isolation voltage, Vac   |                | Input to Output | 3KVac/ 5mA/ 5Secs |
| Isolation resistance, MΩ | 500Vdc         | Input to Output | 100 Min.          |
| Switching frequency, kHz | Vi nom, lo nom |                 | 65 Typ.           |

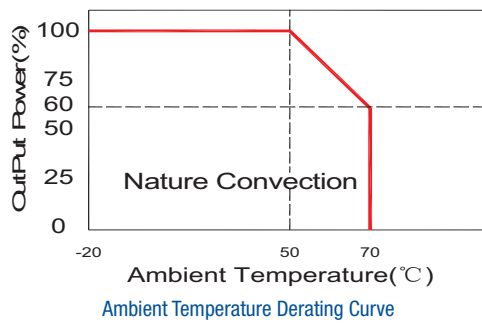
| Environmental Specifications |                             |          |         |
|------------------------------|-----------------------------|----------|---------|
| Operating temperature, °C    | Operating at Vi nom, lo nom | -20 Min. | 70 Max. |
| Derating, %/°C               | Vi nom, lo nom 51 to 71°C   |          | 2 Max.  |
| Storage temperature, °C      | Non-operational             | -40 Min. | 85 Max. |
| Cooling                      | Free air convection         |          |         |

| Physical Specifications     |                                             | EMC Specifications           |                       |
|-----------------------------|---------------------------------------------|------------------------------|-----------------------|
| Design meet safety standard | UL60950-1, IEC60950-1                       | EMI conduction and radiation | Compliance to EN55022 |
| Dimensions, inches (mm)     | 2.1 × 1.63 × 0.8<br>(53.34 × 48.28 × 20.32) | EMS immunity                 | Compliance to EN55024 |

### Note:

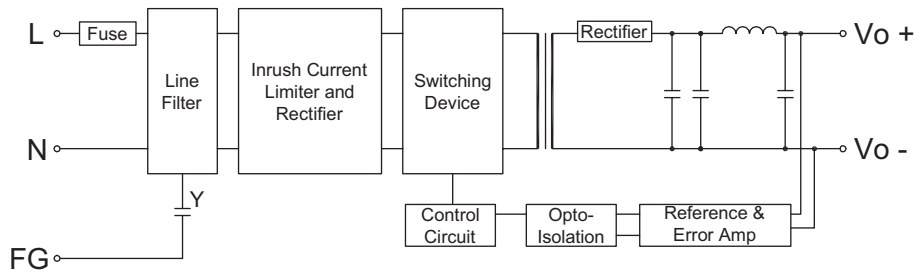
1. Ripple & noise is measured by using 20 MHz bandwidth, measured with a 47μF paralleled with a high-frequency 0.47μF capacitor across each output by full load.

## Characteristic Curve

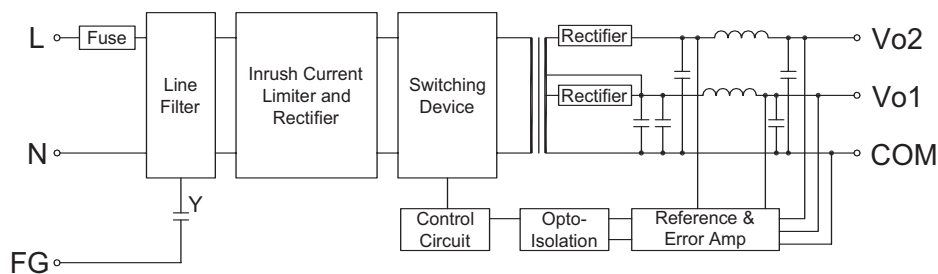
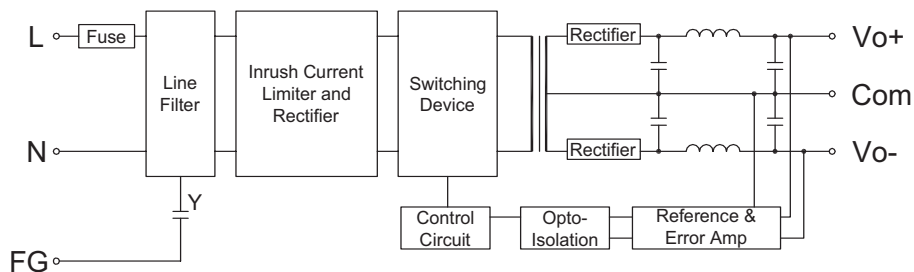


## Circuit Schematic

### Single Output

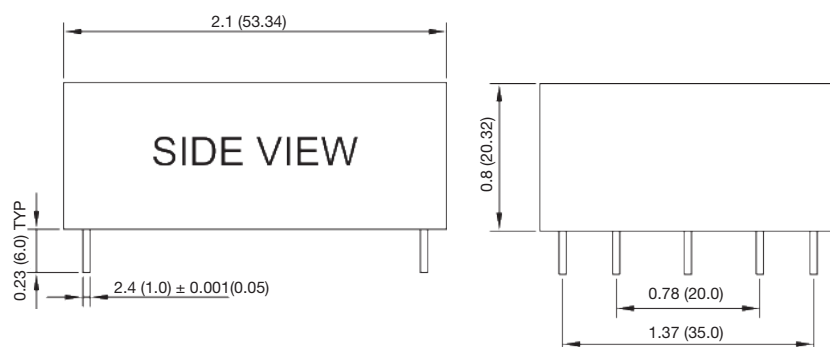


### Dual Output



## UIL7 SERIES

### Mechanical Drawing



#### PIN CONNECTION

| PIN | SINGLE | DUAL | DUAL |
|-----|--------|------|------|
| 1   | FG     | FG   | FG   |
| 2   | ACN    | ACN  | ACN  |
| 3   | ACL    | ACL  | ACL  |
| 4   | -Vo    | -Vo  | +Vo2 |
| 5   | NO PIN | Com  | Com  |
| 6   | +Vo    | +Vo  | +Vo1 |

1. All dimensions in inches (mm)
2. All tolerances are  $\pm 0.50$