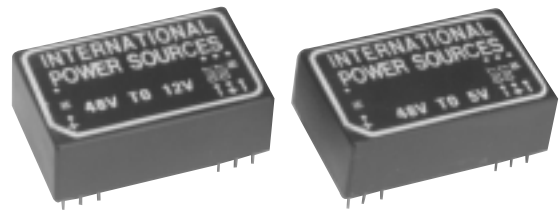


## International Power Sources, Inc.

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Holliston, Massachusetts 01746  
Tel. (508) 429-4440 Fax (800) 226-2100  
<http://www.intlpower.com>

## DC/DC Converters



### WA Series: 3 Watt Wide Input Range

### FEATURES

- 2:1 Input Range
- Isolated Outputs
- Efficiency to 74%
- Optional 4:1 Input Range
- Input  $\pi$  Filter
- Fully Regulated Outputs
- Industry Standard Pinouts
- Optional 3K VDC Isolation

### MODELS CHART

| MODEL | INPUT VOLTAGE | OUTPUT VOLTAGE | OUTPUT CURRENT | INPUT CURRENT |           | % EFF |
|-------|---------------|----------------|----------------|---------------|-----------|-------|
|       |               |                |                | NO LOAD       | FULL LOAD |       |
| WA101 | 4.5-6.0VDC    | 5VDC           | 500mA          | 75mA          | 730mA     | 69    |
| WA102 | 4.5-6.0VDC    | 12VDC          | 250mA          | 75mA          | 874mA     | 69    |
| WA103 | 4.5-6.0VDC    | 15VDC          | 200mA          | 75mA          | 869mA     | 69    |
| WA104 | 4.5-6.0VDC    | $\pm 5$ VDC    | $\pm 250$ mA   | 75mA          | 715mA     | 70    |
| WA105 | 4.5-6.0VDC    | $\pm 12$ VDC   | $\pm 125$ mA   | 75mA          | 855mA     | 70    |
| WA106 | 4.5-6.0VDC    | $\pm 15$ VDC   | $\pm 100$ mA   | 75mA          | 855mA     | 70    |
| WA201 | 9-18VDC       | 5VDC           | 500mA          | 25mA          | 310mA     | 67    |
| WA202 | 9-18VDC       | 12VDC          | 250mA          | 25mA          | 345mA     | 73    |
| WA203 | 9-18VDC       | 15VDC          | 200mA          | 25mA          | 357mA     | 70    |
| WA204 | 9-18VDC       | $\pm 5$ VDC    | $\pm 250$ mA   | 25mA          | 320mA     | 65    |
| WA205 | 9-18VDC       | $\pm 12$ VDC   | $\pm 125$ mA   | 25mA          | 370mA     | 68    |
| WA206 | 9-18VDC       | $\pm 15$ VDC   | $\pm 100$ mA   | 25mA          | 370mA     | 68    |
| WA301 | 18-36VDC      | 5VDC           | 500mA          | 15mA          | 150mA     | 70    |
| WA302 | 18-36VDC      | 12VDC          | 250mA          | 15mA          | 170mA     | 74    |
| WA303 | 18-36VDC      | 15VDC          | 200mA          | 15mA          | 174mA     | 72    |
| WA304 | 18-36VDC      | $\pm 5$ VDC    | $\pm 250$ mA   | 15mA          | 170mA     | 61    |
| WA305 | 18-36VDC      | $\pm 12$ VDC   | $\pm 125$ mA   | 15mA          | 186mA     | 67    |
| WA306 | 18-36VDC      | $\pm 15$ VDC   | $\pm 100$ mA   | 15mA          | 182mA     | 69    |
| WA401 | 36-72VDC      | 5VDC           | 500mA          | 15mA          | 73mA      | 71    |
| WA402 | 36-72VDC      | 12VDC          | 250mA          | 15mA          | 94mA      | 66    |
| WA403 | 36-72VDC      | 15VDC          | 200mA          | 15mA          | 92mA      | 68    |
| WA404 | 36-72VDC      | $\pm 5$ VDC    | $\pm 250$ mA   | 15mA          | 85mA      | 61    |
| WA405 | 36-72VDC      | $\pm 12$ VDC   | $\pm 125$ mA   | 15mA          | 94mA      | 67    |
| WA406 | 36-72VDC      | $\pm 15$ VDC   | $\pm 100$ mA   | 15mA          | 94mA      | 67    |

**NOTE:** NOMINAL INPUT VOLTAGE 5, 12, 24, OR 48 VDC

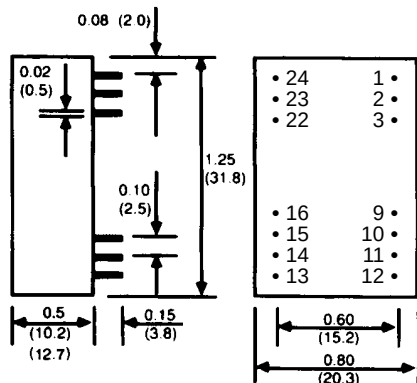
FOR OPTIONAL 4:1 INPUT RANGE:  
9-36VDC: ADD SUFFIX "A" TO WA200 SERIES  
20-72VDC: ADD SUFFIX "A" TO WA300 SERIES

# Electrical Specifications

All specifications typical at nominal line, full load and 25°C

| OUTPUT SPECIFICATIONS              |                                  |
|------------------------------------|----------------------------------|
| Voltage Accuracy                   | ±3% max.                         |
| Line Regulation (Full Input Range) | ±1% max.                         |
| Load Regulation (1/4-Full Load)    | ±2% max.                         |
| Ripple and Noise (DC-20MHz)        | 100 mV p-p max.                  |
| Temperature Coefficient            | ±0.05%/°C max.                   |
| Short Circuit Protection           | Indefinite                       |
| INPUT SPECIFICATIONS               |                                  |
| Input Voltage Range                | See Table                        |
| Input Filter                       | π Network                        |
| GENERAL SPECIFICATIONS             |                                  |
| Switching Frequency                | 25 kHz                           |
| Efficiency                         | See Table                        |
| Isolation (Input-Output)           | 500VDC/3000VDC* (1000 Mohm/80pF) |
| ENVIRONMENTAL SPECIFICATIONS       |                                  |
| Operating Temperature              | -25°C to +71°C                   |
| Storage Temperature                | -55°C to +105°C                  |

## Dimensions and Connections



(BOTTOM VIEW)

| PIN | SINGLE OUTPUT | DUAL OUTPUT |
|-----|---------------|-------------|
| 1   | + V Input     | + V Input   |
| 2   | No Connection | - V Output  |
| 3   | No Connection | Common      |
| 10  | - V Output    | Common      |
| 11  | + V Output    | + V Output  |
| 12  | - V Input     | - V Input   |
| 13  | - V Input     | - V Input   |
| 14  | + V Output    | + V Output  |
| 15  | - V Output    | Common      |
| 22  | No Connection | Common      |
| 23  | No Connection | - V Output  |
| 24  | + V Input     | + V Input   |

| PIN | SINGLE OUTPUT | DUAL OUTPUT   |
|-----|---------------|---------------|
| 1   | No Pin        | No Pin        |
| 2   | - V Input     | - V Input     |
| 3   | - V Input     | - V Input     |
| 9   | No Connection | Common        |
| 10  | No Connection | No Connection |
| 11  | No Connection | - V Output    |
| 12  | No Pin        | No Pin        |
| 13  | No Pin        | No Pin        |
| 14  | + V Output    | + V Output    |
| 15  | No Connection | No Connection |
| 16  | - V Output    | Common        |
| 22  | + V Input     | + V Input     |
| 23  | + V Input     | + V Input     |
| 24  | No Pin        | No Pin        |

ALTERNATE PIN OUT  
3000VDC ISOLATION  
Suffix "X"

Dimensions in inches (mm)  
Specifications subject to change.  
\* 3000VDC on "X" Package