

## Trim Tables

### Output Voltage Trimming:

Some converters from our Powerline offer the feature of trimming the output voltage in a certain range around the nominal value by using external trim resistors. Because different series use different circuits for trimming, no general equation can be given for calculating the trim resistors.

The following trimtables give values for choosing these trimming resistors. If voltages between the given trim points are required, extrapolate between the two nearest given values to work out the resistor required or use a variable resistor to set the voltage.

### Single Output Voltage Trim Tables

#### RP15-, RP20-, RP30-, RP40-, RP60- xx3.3S

(For RP15-SA/SAW and RP15-SO/SOW see next page)

|                    |       |       |       |       |       |       |       |       |       |      |       |
|--------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| Trim up            | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10   | %     |
| V <sub>out</sub> = | 3,333 | 3,366 | 3,399 | 3,432 | 3,465 | 3,498 | 3,531 | 3,564 | 3,597 | 3,63 | Volts |
| R <sub>U</sub> =   | 57.93 | 26.16 | 15.58 | 10.28 | 7.11  | 4.99  | 3.48  | 2.34  | 1.46  | 0.75 | KOhms |
|                    |       |       |       |       |       |       |       |       |       |      |       |
| Trim down          | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10   | %     |
| V <sub>out</sub> = | 3,267 | 3,234 | 3,201 | 3,168 | 3,135 | 3,102 | 3,069 | 3,036 | 3,003 | 2,97 | Volts |
| R <sub>D</sub> =   | 69.47 | 31.23 | 18.49 | 12.12 | 8.29  | 5.74  | 3.92  | 2.56  | 1.50  | 0.65 | KOhms |

#### RP15-, RP20-, RP30-, RP40-, RP60- xx05S

(For RP15-SA/SAW and RP15-SO/SOW see next page)

|                    |       |       |       |      |      |      |      |      |      |      |       |
|--------------------|-------|-------|-------|------|------|------|------|------|------|------|-------|
| Trim up            | 1     | 2     | 3     | 4    | 5    | 6    | 7    | 8    | 9    | 10   | %     |
| V <sub>out</sub> = | 5,05  | 5,1   | 5,15  | 5,2  | 5,25 | 5,3  | 5,35 | 5,4  | 5,45 | 5,5  | Volts |
| R <sub>U</sub> =   | 36.57 | 16.58 | 9.92  | 6.58 | 4.59 | 3.25 | 2.30 | 1.59 | 1.03 | 0.59 | KOhms |
|                    |       |       |       |      |      |      |      |      |      |      |       |
| Trim down          | 1     | 2     | 3     | 4    | 5    | 6    | 7    | 8    | 9    | 10   | %     |
| V <sub>out</sub> = | 4,95  | 4,9   | 4,85  | 4,8  | 4,75 | 4,7  | 4,65 | 4,6  | 4,55 | 4,5  | Volts |
| R <sub>D</sub> =   | 45.53 | 20.61 | 12.31 | 8.15 | 5.66 | 4.00 | 2.81 | 1.92 | 1.23 | 0.68 | KOhms |

#### RP15-, RP20-, RP30-, RP40-, RP60-xx12S

(For RP15-SA/SAW and RP15-SO/SOW see next page)

|                    |        |        |        |       |       |       |       |       |       |      |       |
|--------------------|--------|--------|--------|-------|-------|-------|-------|-------|-------|------|-------|
| Trim up            | 1      | 2      | 3      | 4     | 5     | 6     | 7     | 8     | 9     | 10   | %     |
| V <sub>out</sub> = | 12,12  | 12,24  | 12,36  | 12,48 | 12,6  | 12,72 | 12,84 | 12,96 | 13,08 | 13,2 | Volts |
| R <sub>U</sub> =   | 367.91 | 165.95 | 98.64  | 64.98 | 44.78 | 31.32 | 21.70 | 14.49 | 8.88  | 4.39 | KOhms |
|                    |        |        |        |       |       |       |       |       |       |      |       |
| Trim down          | 1      | 2      | 3      | 4     | 5     | 6     | 7     | 8     | 9     | 10   | %     |
| V <sub>out</sub> = | 11,88  | 11,76  | 11,64  | 11,52 | 11,4  | 11,28 | 11,16 | 11,04 | 10,92 | 10,8 | Volts |
| R <sub>D</sub> =   | 460.99 | 207.95 | 123.60 | 81.42 | 56.12 | 39.25 | 27.20 | 18.16 | 11.13 | 5.51 | KOhms |

#### RP15-, RP20-, RP30-, RP40-, RP60- xx15S

(For RP15-SA/SAW and RP15-SO/SOW see next page)

|                    |        |        |        |       |       |       |       |       |       |       |       |
|--------------------|--------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|
| Trim up            | 1      | 2      | 3      | 4     | 5     | 6     | 7     | 8     | 9     | 10    | %     |
| V <sub>out</sub> = | 15,15  | 15,3   | 15,45  | 15,6  | 15,75 | 15,9  | 16,05 | 16,2  | 16,35 | 16,5  | Volts |
| R <sub>U</sub> =   | 404.18 | 180.59 | 106.06 | 68.80 | 46.44 | 31.53 | 20.88 | 12.90 | 6.69  | 1.72  | KOhms |
|                    |        |        |        |       |       |       |       |       |       |       |       |
| Trim down          | 1      | 2      | 3      | 4     | 5     | 6     | 7     | 8     | 9     | 10    | %     |
| V <sub>out</sub> = | 14,85  | 14,7   | 14,55  | 14,4  | 14,25 | 14,1  | 13,95 | 13,8  | 13,65 | 13,5  | Volts |
| R <sub>D</sub> =   | 499.82 | 223.41 | 131.27 | 85.20 | 57.56 | 39.14 | 25.97 | 16.10 | 8.42  | 2.282 | KOhms |

## Trim Tables

### RP15-S\_DA, RP15 S:DAW Output Voltage Trim Tables

#### RP15-xx3.3SA, RP15-xx3.3SAW, RP15-xx3.3S0, RP15-xx3.3S0W

|                    |        |        |        |       |       |       |       |       |       |       |       |
|--------------------|--------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|
| Trim up            | 1      | 2      | 3      | 4     | 5     | 6     | 7     | 8     | 9     | 10    | %     |
| V <sub>out</sub> = | 3,333  | 3,366  | 3,399  | 3,432 | 3,465 | 3,498 | 3,531 | 3,564 | 3,597 | 3,63  | Volts |
| R <sub>U</sub> =   | 385.07 | 191.51 | 126.99 | 94.73 | 75.37 | 62.47 | 53.25 | 46.34 | 40.96 | 36.66 | KOhms |
|                    |        |        |        |       |       |       |       |       |       |       |       |
| Trim down          | 1      | 2      | 3      | 4     | 5     | 6     | 7     | 8     | 9     | 10    | %     |
| V <sub>out</sub> = | 3,267  | 3,234  | 3,201  | 3,168 | 3,135 | 3,102 | 3,069 | 3,036 | 3,003 | 2,97  | Volts |
| R <sub>D</sub> =   | 116.72 | 54.78  | 34.13  | 23.81 | 17.62 | 13.49 | 10.54 | 8.32  | 6.60  | 5.23  | KOhms |

#### RP15-xx05SA, RP15-xx05SAW, RP15-xx05S0, RP15-xx05S0W

|                    |        |        |       |       |       |       |       |       |       |       |       |
|--------------------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Trim up            | 1      | 2      | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | %     |
| V <sub>out</sub> = | 5,05   | 5,1    | 5,15  | 5,2   | 5,25  | 5,3   | 5,35  | 5,4   | 5,45  | 5,5   | Volts |
| R <sub>U</sub> =   | 253.45 | 125.70 | 83.12 | 61.82 | 49.05 | 40.53 | 34.45 | 29.89 | 26.34 | 23.50 | KOhms |
|                    |        |        |       |       |       |       |       |       |       |       |       |
| Trim down          | 1      | 2      | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | %     |
| V <sub>out</sub> = | 4,95   | 4,9    | 4,85  | 4,8   | 4,75  | 4,7   | 4,65  | 4,6   | 4,55  | 4,5   | Volts |
| R <sub>D</sub> =   | 248.34 | 120.59 | 78.01 | 56.71 | 43.94 | 35.42 | 29.34 | 24.78 | 21.23 | 18.39 | KOhms |

#### RP15-xx12SA, RP15-xx12SAW, RP15-xx12S0, RP15-xx12S0W

|                    |        |        |        |        |        |        |       |       |       |       |       |
|--------------------|--------|--------|--------|--------|--------|--------|-------|-------|-------|-------|-------|
| Trim up            | 1      | 2      | 3      | 4      | 5      | 6      | 7     | 8     | 9     | 10    | %     |
| V <sub>out</sub> = | 12,12  | 12,24  | 12,36  | 12,48  | 12,6   | 12,72  | 12,84 | 12,96 | 13,08 | 13,2  | Volts |
| R <sub>U</sub> =   | 203.22 | 99.06  | 64.33  | 46.97  | 36.56  | 29.61  | 24.65 | 20.93 | 18.04 | 15.72 | KOhms |
|                    |        |        |        |        |        |        |       |       |       |       |       |
| Trim down          | 1      | 2      | 3      | 4      | 5      | 6      | 7     | 8     | 9     | 10    | %     |
| V <sub>out</sub> = | 11,88  | 11,76  | 11,64  | 11,52  | 11,4   | 11,28  | 11,16 | 11,04 | 10,92 | 10,8  | Volts |
| R <sub>D</sub> =   | 776.56 | 380.72 | 248.78 | 182.81 | 143.22 | 116.83 | 97.98 | 83.85 | 72.85 | 64.06 | KOhms |

#### RP15-xx15SA, RP15-xx15SAW, RP15-xx15S0, RP15-xx15S0W

|                    |        |        |        |        |        |        |        |       |       |       |       |
|--------------------|--------|--------|--------|--------|--------|--------|--------|-------|-------|-------|-------|
| Trim up            | 1      | 2      | 3      | 4      | 5      | 6      | 7      | 8     | 9     | 10    | %     |
| V <sub>out</sub> = | 15,15  | 15,3   | 15,45  | 15,6   | 15,75  | 15,9   | 16,05  | 16,2  | 16,35 | 16,5  | Volts |
| R <sub>U</sub> =   | 161.56 | 78.22  | 50.45  | 36.56  | 28.22  | 22.67  | 18.70  | 15.72 | 13.41 | 11.56 | KOhms |
|                    |        |        |        |        |        |        |        |       |       |       |       |
| Trim down          | 1      | 2      | 3      | 4      | 5      | 6      | 7      | 8     | 9     | 10    | %     |
| V <sub>out</sub> = | 14,85  | 14,7   | 14,55  | 14,4   | 14,25  | 14,1   | 13,95  | 13,8  | 13,65 | 13,5  | Volts |
| R <sub>D</sub> =   | 818.22 | 401.56 | 262.67 | 193.22 | 151.56 | 123.78 | 103.94 | 89.06 | 77.48 | 68.22 | KOhms |

## Trim Tables

### Dual Output Voltage Trim Tables

#### RP15-, RP20- xx05D

|                    |       |       |       |       |       |      |      |      |      |      |       |
|--------------------|-------|-------|-------|-------|-------|------|------|------|------|------|-------|
| Trim up            | 1     | 2     | 3     | 4     | 5     | 6    | 7    | 8    | 9    | 10   | %     |
| V <sub>out</sub> = | 10,1  | 10,2  | 10,3  | 10,4  | 10,5  | 10,6 | 10,7 | 10,8 | 10,9 | 11   | Volts |
| R <sub>U</sub> =   | 90.30 | 40.60 | 24.03 | 15.75 | 10.78 | 7.47 | 5.1  | 3.32 | 1.94 | 0.84 | KOhms |
|                    |       |       |       |       |       |      |      |      |      |      |       |
| Trim down          | 1     | 2     | 3     | 4     | 5     | 6    | 7    | 8    | 9    | 10   | %     |
| V <sub>out</sub> = | 9,9   | 9,8   | 9,7   | 9,6   | 9,5   | 9,4  | 9,3  | 9,2  | 9,1  | 9    | Volts |
| R <sub>D</sub> =   | 109.3 | 49.00 | 28.90 | 18.85 | 12.82 | 8.80 | 5.93 | 3.77 | 2.10 | 0.76 | KOhms |

#### RP15-, RP20, RP30-, RP40- xx12D

|                    |        |        |       |       |       |       |       |       |       |      |       |
|--------------------|--------|--------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| Trim up            | 1      | 2      | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10   | %     |
| V <sub>out</sub> = | 24,24  | 24,48  | 24,72 | 24,96 | 25,2  | 25,44 | 25,68 | 25,92 | 26,16 | 26,4 | Volts |
| R <sub>U</sub> =   | 218.21 | 98.10  | 58.07 | 38.05 | 26.04 | 18.03 | 12.32 | 8.03  | 4.69  | 2.02 | KOhms |
|                    |        |        |       |       |       |       |       |       |       |      |       |
| Trim down          | 1      | 2      | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10   | %     |
| V <sub>out</sub> = | 23,76  | 23,52  | 23,28 | 23,04 | 22,8  | 22,56 | 22,32 | 22,08 | 21,84 | 21,6 | Volts |
| R <sub>D</sub> =   | 273.44 | 123.02 | 72.87 | 47.80 | 32.76 | 22.73 | 15.57 | 10.20 | 6.02  | 2.67 | KOhms |

#### RP15-, RP20-, RP30-, RP40- xx15D

|                    |        |        |       |       |       |       |       |       |      |      |       |
|--------------------|--------|--------|-------|-------|-------|-------|-------|-------|------|------|-------|
| Trim up            | 1      | 2      | 3     | 4     | 5     | 6     | 7     | 8     | 9    | 10   | %     |
| V <sub>out</sub> = | 30,3   | 30,6   | 30,9  | 31,2  | 31,5  | 31,8  | 32,1  | 32,4  | 32,7 | 33   | Volts |
| R <sub>U</sub> =   | 268.29 | 120.64 | 71.43 | 46.82 | 32.06 | 22.21 | 15.1  | 9.91  | 5.81 | 2.53 | KOhms |
|                    |        |        |       |       |       |       |       |       |      |      |       |
| Trim down          | 1      | 2      | 3     | 4     | 5     | 6     | 7     | 8     | 9    | 10   | %     |
| V <sub>out</sub> = | 29,7   | 29,4   | 29,1  | 28,8  | 28,5  | 28,2  | 27,9  | 27,6  | 27,3 | 27   | Volts |
| R <sub>D</sub> =   | 337.71 | 152.02 | 90.13 | 59.18 | 40.61 | 28.23 | 19.39 | 12.76 | 7.60 | 3.47 | KOhms |