

## TEN 50WI



50 Watt DC/DC converter in 1" x 2" x 0.4" package wide 4:1 input range.

Full datasheet: [www.tracopower.com/products/ten50wi.pdf](http://www.tracopower.com/products/ten50wi.pdf)

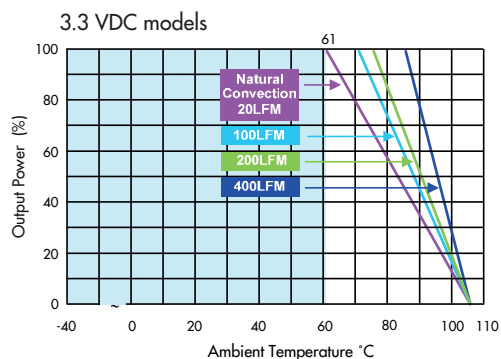
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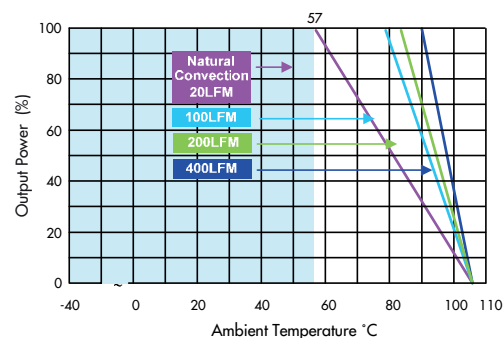
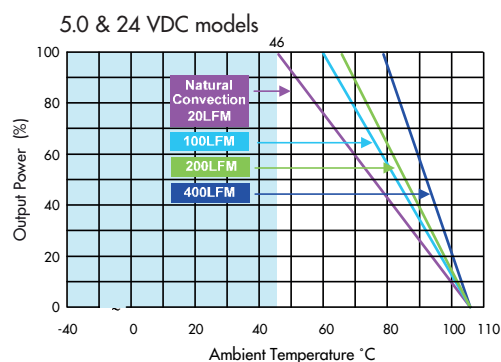
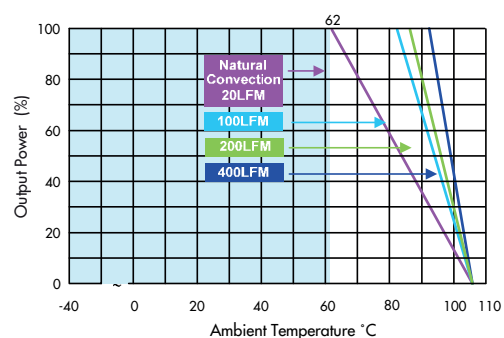
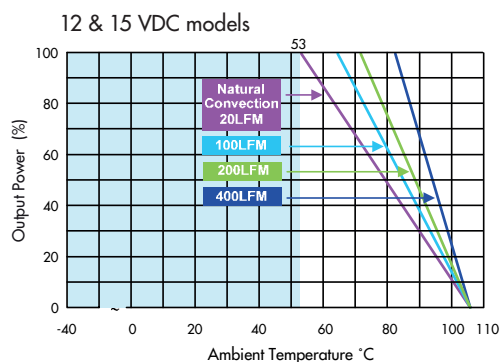
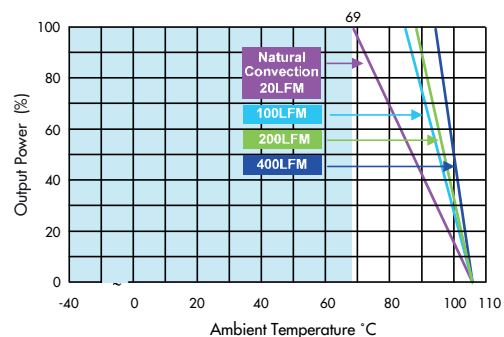
| Models        |                                 |                |                     |            |
|---------------|---------------------------------|----------------|---------------------|------------|
| Order code    | Input voltage range             | Output voltage | Output current max. | Efficiency |
| TEN 50-2410WI | 9 – 36 VDC<br>(nominal 24 VDC)  | 3.3 VDC        | 10'000 mA           | 90 %       |
| TEN 50-2411WI |                                 | 5.0 VDC        | 10'000 mA           | 91 %       |
| TEN 50-2412WI |                                 | 12 VDC         | 4'170 mA            | 92 %       |
| TEN 50-2413WI |                                 | 15 VDC         | 3'330 mA            | 92 %       |
| TEN 50-2415WI |                                 | 24 VDC         | 2'080 mA            | 91 %       |
| TEN 50-4810WI | 18 – 75 VDC<br>(nominal 48 VDC) | 3.3 VDC        | 10'000 mA           | 90 %       |
| TEN 50-4811WI |                                 | 5.0 VDC        | 10'000 mA           | 91 %       |
| TEN 50-4812WI |                                 | 12 VDC         | 4'170 mA            | 92 %       |
| TEN 50-4813WI |                                 | 15 VDC         | 3'330 mA            | 92 %       |
| TEN 50-4815WI |                                 | 24 VDC         | 2'080 mA            | 91 %       |

### Temperature Derating

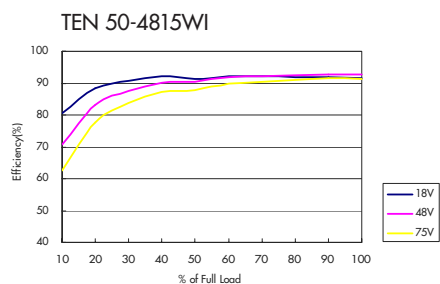
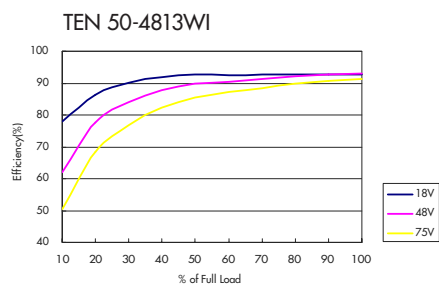
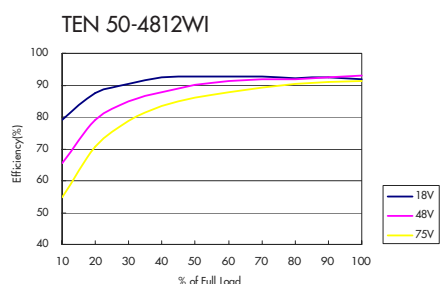
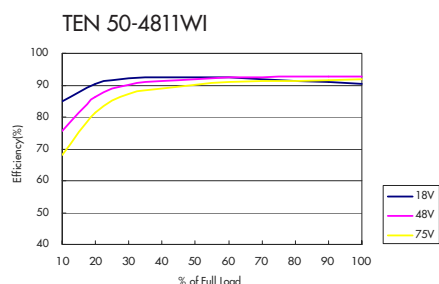
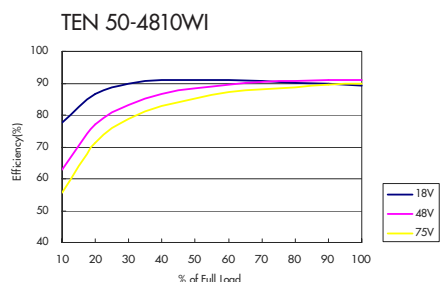
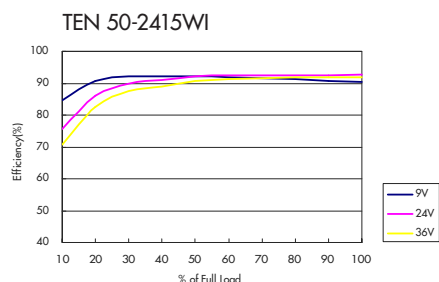
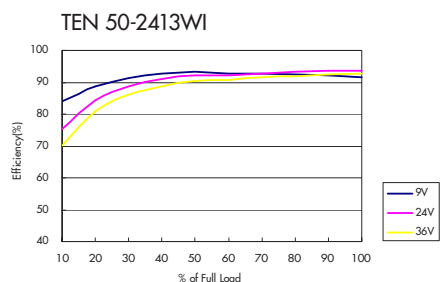
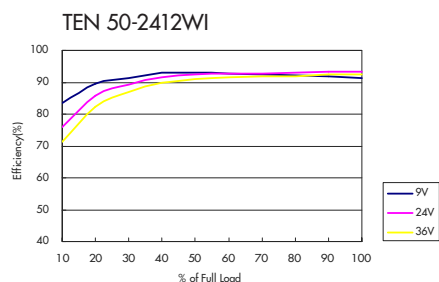
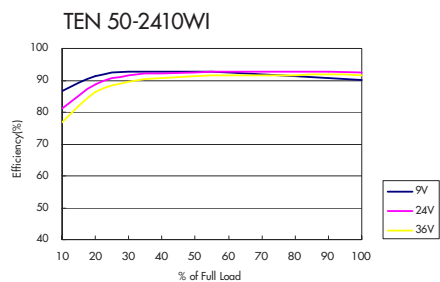
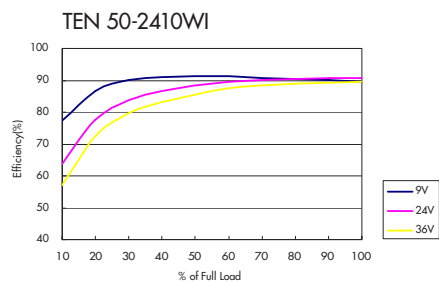
Derating without heatsink

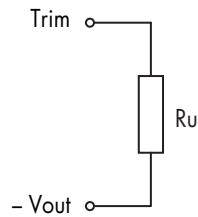
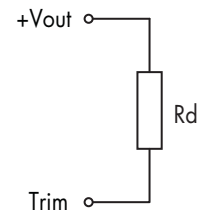


Derating with heatsink



**Efficiency vs Load**



**External Output Trimming**
**Trim up**

**Trim down**


Trim resistor values:

**3.3 VDC models**

|           |         |         |         |         |         |         |         |         |         |         |       |
|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-------|
| Trim down | 1       | 2       | 3       | 4       | 5       | 6       | 7       | 8       | 9       | 10      | %     |
| Vout=     | Vox0.99 | Vox0.98 | Vox0.97 | Vox0.96 | Vox0.95 | Vox0.94 | Vox0.93 | Vox0.92 | Vox0.91 | Vox0.90 | Volts |
| Rd=       | 63.59   | 30.28   | 18.19   | 11.95   | 8.13    | 5.56    | 3.70    | 2.31    | 1.21    | 0.34    | KOhms |
| Trim up   | 1       | 2       | 3       | 4       | 5       | 6       | 7       | 8       | 9       | 10      | %     |
| Vout=     | Vox1.01 | Vox1.02 | Vox1.03 | Vox1.04 | Vox1.05 | Vox1.06 | Vox1.07 | Vox1.08 | Vox1.09 | Vox1.10 | Volts |
| Ru=       | 70.50   | 29.28   | 16.87   | 10.90   | 7.38    | 5.06    | 3.42    | 2.20    | 1.25    | 0.49    | KOhms |

**5.0 VDC models**

|           |         |         |         |         |         |         |         |         |         |         |       |
|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-------|
| Trim down | 1       | 2       | 3       | 4       | 5       | 6       | 7       | 8       | 9       | 10      | %     |
| Vout=     | Vox0.99 | Vox0.98 | Vox0.97 | Vox0.96 | Vox0.95 | Vox0.94 | Vox0.93 | Vox0.92 | Vox0.91 | Vox0.90 | Volts |
| Rd=       | 45.53   | 20.61   | 12.31   | 8.15    | 5.66    | 4.00    | 2.81    | 1.92    | 1.23    | 0.68    | KOhms |
| Trim up   | 1       | 2       | 3       | 4       | 5       | 6       | 7       | 8       | 9       | 10      | %     |
| Vout=     | Vox1.01 | Vox1.02 | Vox1.03 | Vox1.04 | Vox1.05 | Vox1.06 | Vox1.07 | Vox1.08 | Vox1.09 | Vox1.10 | Volts |
| Ru=       | 36.57   | 16.58   | 9.92    | 6.59    | 4.59    | 3.25    | 2.30    | 1.59    | 1.03    | 0.59    | KOhms |

**12 VDC models**

|           |         |         |         |         |         |         |         |         |         |         |       |
|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-------|
| Trim down | 1       | 2       | 3       | 4       | 5       | 6       | 7       | 8       | 9       | 10      | %     |
| Vout=     | Vox0.99 | Vox0.98 | Vox0.97 | Vox0.96 | Vox0.95 | Vox0.94 | Vox0.93 | Vox0.92 | Vox0.91 | Vox0.90 | Volts |
| Rd=       | 394.50  | 179.74  | 106.08  | 68.86   | 46.39   | 31.36   | 20.60   | 12.51   | 6.21    | 1.17    | KOhms |
| Trim up   | 1       | 2       | 3       | 4       | 5       | 6       | 7       | 8       | 9       | 10      | %     |
| Vout=     | Vox1.01 | Vox1.02 | Vox1.03 | Vox1.04 | Vox1.05 | Vox1.06 | Vox1.07 | Vox1.08 | Vox1.09 | Vox1.10 | Volts |
| Ru=       | 368.92  | 161.92  | 94.97   | 61.86   | 42.12   | 29.00   | 19.66   | 12.66   | 7.23    | 2.89    | KOhms |

**15 VDC models**

|           |         |         |         |         |         |         |         |         |         |         |       |
|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-------|
| Trim down | 1       | 2       | 3       | 4       | 5       | 6       | 7       | 8       | 9       | 10      | %     |
| Vout=     | Vox0.99 | Vox0.98 | Vox0.97 | Vox0.96 | Vox0.95 | Vox0.94 | Vox0.93 | Vox0.92 | Vox0.91 | Vox0.90 | Volts |
| Rd=       | 572.67  | 248.63  | 145.60  | 94.97   | 64.87   | 44.92   | 30.72   | 20.10   | 11.86   | 5.28    | KOhms |
| Trim up   | 1       | 2       | 3       | 4       | 5       | 6       | 7       | 8       | 9       | 10      | %     |
| Vout=     | Vox1.01 | Vox1.02 | Vox1.03 | Vox1.04 | Vox1.05 | Vox1.06 | Vox1.07 | Vox1.08 | Vox1.09 | Vox1.10 | Volts |
| Ru=       | 392.98  | 182.12  | 108.73  | 71.43   | 48.85   | 33.71   | 22.86   | 14.69   | 8.33    | 3.23    | KOhms |

**24 VDC models**

|           |         |         |         |         |         |         |         |         |         |         |       |
|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-------|
| Trim down | 1       | 2       | 3       | 4       | 5       | 6       | 7       | 8       | 9       | 10      | %     |
| Vout=     | Vox0.99 | Vox0.98 | Vox0.97 | Vox0.96 | Vox0.95 | Vox0.94 | Vox0.93 | Vox0.92 | Vox0.91 | Vox0.90 | Volts |
| Rd=       | 318.05  | 146.05  | 85.8    | 55.51   | 37.415  | 25.625  | 16.515  | 9.81    | 4.9785  | 0.9185  | KOhms |
| Trim up   | 2       | 4       | 6       | 8       | 10      | 12      | 14      | 16      | 18      | 20      | %     |
| Vout=     | Vox1.02 | Vox1.04 | Vox1.06 | Vox1.08 | Vox1.1  | Vox1.12 | Vox1.14 | Vox1.16 | Vox1.18 | Vox1.20 | Volts |
| Ru=       | 247.2   | 109.255 | 63.38   | 39.025  | 27.52   | 18.39   | 11.77   | 7.29    | 3.308   | 0.3658  | KOhms |

Specifications can be changed without notice! Make sure you are using the latest documentation, downloadable at [www.tracopower.com](http://www.tracopower.com)