

30W, Ultra Wide Input Range, Single & Dual Output DC/DC Converters

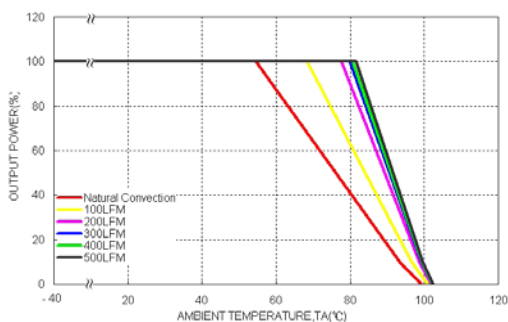
Features

- ◆ Highest power density 30W converter!
Ultra compact size: 1.0" x 1.0" x 0.4"
- ◆ Shielded metal case with isolated baseplate
- ◆ Ultrawide 4:1 input voltage range
- ◆ Very high efficiency across full load range up to 92%
- ◆ No minimum load required
- ◆ Remote On/Off control
- ◆ Operating temp. range -40°C to $+80^{\circ}\text{C}$ and up to 85°C with heat-sink
- ◆ Over temperature protection
- ◆ Output voltage adjustable
- ◆ I/O isolation voltage 1500 VDC

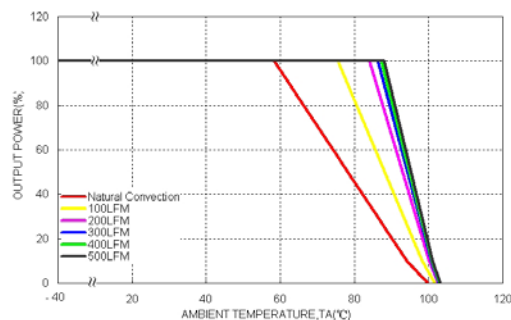


Temperature Derating

THN 30-4811WI Derating Curve

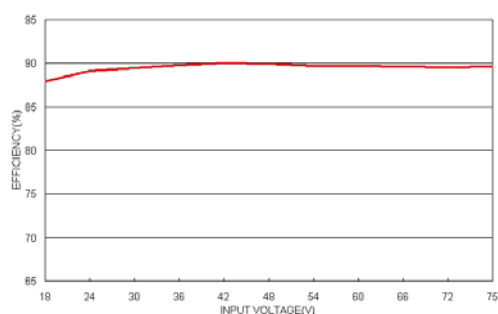


THN 30-4811WI Derating Curve With Heat-sink

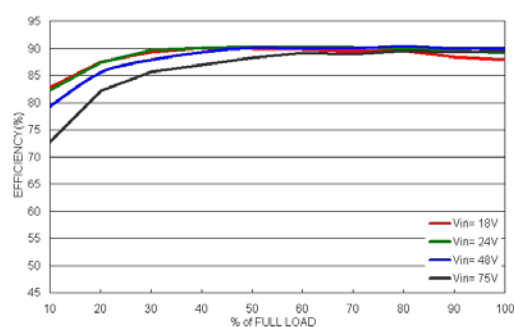


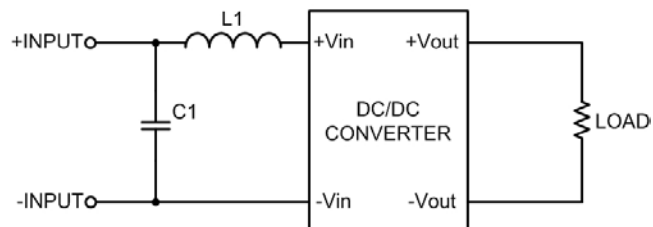
Efficiency

THN 30-4811WI Efficiency VS Input Voltage

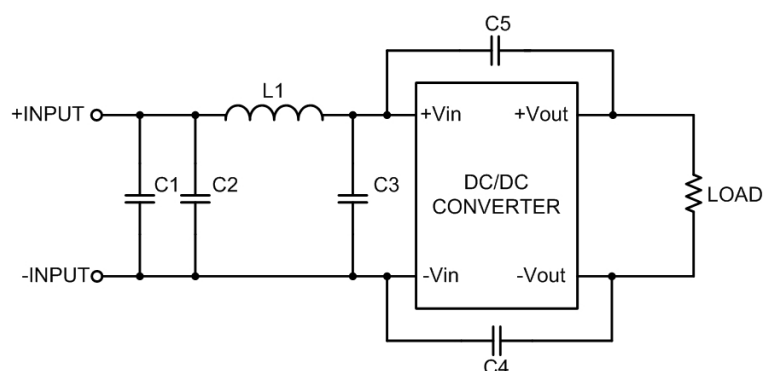


THN 30-4811WI Efficiency VS Output Current



Electromagnetic Emission
Conducted and radiated emissions EN55022 Class A


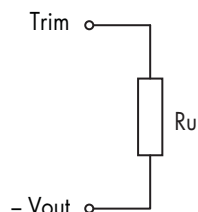
Input models	C1	L1 value	order code (SMD type)	datasheet
24 VDC	4.7 μ F / 50 V 1812 MLCC	2.2 μ H	TCK-059	www.tracopower.com/products/tck059.pdf
48 VDC	4.7 μ F / 100 V 1812 MLCC	10 μ H	TCK-047	www.tracopower.com/products/tck047.pdf

Conducted and radiated emissions EN55022 Class B


Input models	C1 & C2 & C3	C4 & C5	L1 value	order code (SMD type)	datasheet
24 VDC	4.7 μ F / 50 V 1812 MLCC	1000pF / 2 kV 1206 MLCC	2.2 μ H	TCK-059	www.tracopower.com/products/tck059.pdf
48 VDC	4.7 μ F / 100 V 1812 MLCC	2200pF / 2kV 1206 MLCC	10 μ H	TCK-047	www.tracopower.com/products/tck047.pdf

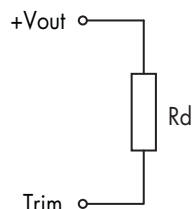
Output Voltage Adjustment (for single output models only)

Nominal output voltage at open Trim input

Trim up


R_u [kOhm]

Trim up %	1	2	3	4	5	6	7	8	9	10
3.3 VDC	385	192	127	94.5	75.5	62.5	53.5	46.5	41	36.5
5.0 VDC	253	126	83	62	49	40.5	34.5	30	26.5	23.5
12 VDC	203	99	64.5	47	36.5	29.5	24.5	21	18	15.5
15 VDC	162	78	50.5	36.5	28	22.5	18.5	15.5	13.5	11.5
24 VDC	570	278	181	133	114	84	70.5	60	52	45.5
Trim up %	11	12	13	14	15	16	17	18	19	20
15 VDC	10	8.8	7.7	6.8	6.0	5.3	4.7	4.1	3.7	3.2
24 VDC	40	35.5	32	28.5	26	23.5	21.5	19.5	17.5	16

Trim down


R_d [kOhm]

Trim down %	1	2	3	4	5	6	7	8	9	10
3.3 VDC	117	55	34	24	17.5	13.5	10.5	8.3	6.6	5.2
5.0 VDC	248	121	78	56.5	44	35.5	29.5	24.5	21.5	18.5
12 VDC	777	309	249	183	143	117	98	84	73	64
15 VDC	818	402	263	193	152	124	104	89	77.5	68
24 VDC	4950	2440	1600	1190	935	765	650	560	490	435

Specifications can be changed without notice! Make sure you are using the latest documentation, downloadable at www.tracopower.com