

T1K SERIES

IMPEDANCE MATCHING TRANSFORMERS

Most of RF Power Sources are designed and optimized to best deliver power into an impedance of 50 Ohms. In a power delivering system where the source and load impedance differs by more than 2:1 a matching element can improve efficiency. T&C offers a range of LF Band matching transformers for high (and low) impedance load applications.

The table below presents some standard impedance ratios offers by T&C.

CASE OPTIONS:

1. W 5" x L 6" x H 4" (127mm x 153mm x 102mm)
Cabinet Steel Type CU-729 metallic gray, Air cooled
2. Custom sizes and configurations on request.
3. Connectors: "BNC" type Input and Banana Plug Test Terminals for outputs

T1K-5

STEP-DOWN/STEP-UP TRANSFORMER
AIR COOLED
SUT 1K LF-5 (previous revision)

STEP UP MATCHING

(Z in = 50 Ohms) Frequency Range 10 kHz to 300 kHz, 500 kHz max at reduced power.

Z IN RF Input	Z OUT RF Output	Impedance ratio	OUT #	Max P IN (Without cooling)
50 Ohms	50 (+/- 20%) Ohms	1 : 1	1	1000 W
50 Ohms	200 (+/- 10%) Ohms	4 : 1	2	1000 W
50 Ohms	450 (+/- 5%) Ohms	9 : 1	3	1000 W
50 Ohms	800 (+/- 5%) Ohms	16 : 1	4	800 W
50 Ohms	1250 (+/- 5%) Ohms	25 : 1	5	800 W

STEP DOWN MATCHING

Reversing the INPUT and OUTPUT terminals

(Z in = 50 Ohms) Frequency Range 10 kHz to 300 kHz, 500 kHz max at reduced power.

RF Input to Terminal #	Z OUT RF Output	Impedance ratio	OUT	Max P IN (Without cooling)
5 = 50 Ohms	2 (+/- 5%) Ohms	1: 25	On RF IN	800 W
4 = 450 Ohms	3.1 (+/- 5%) Ohms	1 : 16	On RF IN	800 W
3 = 50 Ohms	5.6 (+/- 10%) Ohms	1 : 9	On RF IN	1000 W
2 = 50 Ohms	12.5 (+/- 15%) Ohms	1 : 4	On RF IN	1000 W
1 = 50 Ohms	50 (+/- 20%) Ohms	1 : 1	On RF IN	1000 W

T1K-5

SUT 1K LF-5

IMPEDANCE MATCHING TRANSFORMER



T1K-7A

STEP-DOWN/STEP-UP TRANSFORMER
AIR COOLED
SUT 1K LF-7A (previous revision)

CASE

1. W 8.3" x L 10" x H 3.5" (211mm x 254mm x 89mm)
B style gray box from Lansing Instruments, 1 side vented.
2. Custom sizes and configurations on request.
3. Connectors: "N" type input and output

STEP DOWN MATCHING

($Z_{in} = 50$ Ohms) Frequency Range 0.01 MHz to 1 MHz; 3 MHz max with reduced power level.

Zp IN RF Input	Zs OUT RF Output	Impedance ratio	Max P IN (Without cooling)
IN 7 = 50 Ohms	1.3 (+/- 20%) Ohms	1 : 38	500 W
IN 6 = 50 Ohms	2 (+/- 20%) Ohms	1 : 25	750 W
IN 5 = 50 Ohms	3 (+/- 20%) Ohms	1 : 16.6	1000 W
IN 4 = 50 Ohms	5.5 (+/- 20%) Ohms	1 : 9	1000 W
IN 3 = 50 Ohms	8 (+/- 20%) Ohms	1 : 6.25	1000 W
IN 2 = 50 Ohms	12 (+/- 20%) Ohms	1 : 4.16	1000 W
IN 1 = 50 Ohms	20 (+/- 20%) Ohms	1 : 2.5	1000 W

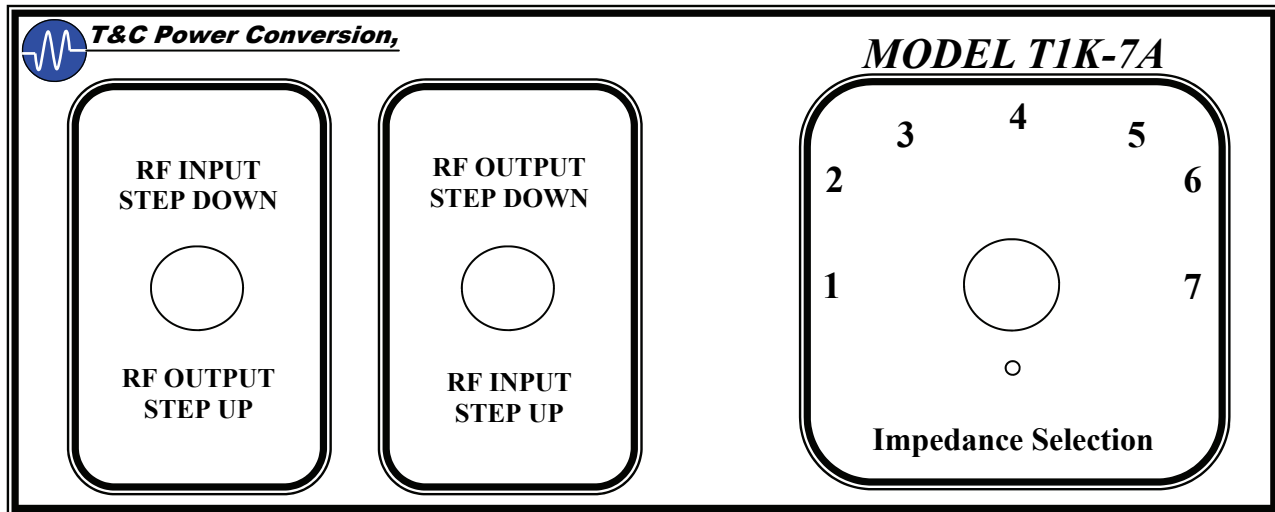
STEP UP MATCHING

($Z_{in} = 50$ Ohms) Frequency Range 0.01 MHz to 1 MHz, 3MHz max at reduced power.

Zp IN RF Input	Zs OUT RF Output	Impedance ratio	Max P IN (Without cooling)
IN 7 = 50 Ohms	1900 (+/- 20%) Ohms	38 : 1	500 W
IN 6 = 50 Ohms	1250 (+/- 20%) Ohms	25 : 1	750 W
IN 5 = 50 Ohms	800 (+/- 20%) Ohms	16 : 1	1000 W
IN 4 = 50 Ohms	450 (+/- 20%) Ohms	9 : 1	1000 W
IN 3 = 50 Ohms	300 (+/- 20%) Ohms	6 : 1	1000 W
IN 2 = 50 Ohms	200 (+/- 20%) Ohms	4 : 1	1000 W
IN 1 = 50 Ohms	100 (+/- 20%) Ohms	2 : 1	1000 W

T1K-7A

IMPEDANCE MATCHING TRANSFORMER



CASE:

W 8.3" x L 10" x H 3.5" (211mm x 254mm x 89mm).

B style gray box from Lansing Instruments, 1 side vented

Air cooled

T1K-7B

STEP-DOWN/STEP-UP TRANSFORMER
AIR COOLED
SUT 1K LF-7B (previous revision)

STEP DOWN MATCHING

(Z_{in} = 50 Ohms) Frequency Range 10 kHz to 300 kHz; 500 kHz max with reduced power level.

Z _p IN RF Input	Z _s OUT RF Output	Impedance ratio	Switch Position	Max P IN (Without cooling)
IN 1 = 50 Ohms	5.5 (+/- 5%) Ohms	1 : 9	1	800 W
IN 2 = 50 Ohms	12 (+/- 10%) Ohms	1 : 4	2	800 W
IN 3 = 50 Ohms	16 (+/- 15%) Ohms	1 : 3.1	3	1000 W
IN 4 = 50 Ohms	25 (+/- 15%) Ohms	1 : 2	4	1000 W
IN 5 = 50 Ohms	30 (+/- 15%) Ohms	1 : 1.7	5	1000 W
IN 6 = 50 Ohms	35 (+/- 20%) Ohms	1 : 1.45	6	1000 W
IN 7 = 50 Ohms	50 (+/- 20%) Ohms	1 : 1	7	1000 W

STEP UP MATCHING

(Z_{in} = 50 Ohms) Frequency Range 10 kHz to 300 kHz; 500 kHz max with reduced power level.

Z _p IN RF Input	Z _s OUT RF Output	Impedance ratio	Switch Position	Max P IN (Without cooling)
IN 7 = 50 Ohms	50 (+/- 20%) Ohms	1 : 1	7	1000 W
IN 6 = 50 Ohms	72 (+/- 20%) Ohms	1.45 : 1	6	1000 W
IN 5 = 50 Ohms	85 (+/- 15%) Ohms	1.7 : 1	5	1000 W
IN 4 = 50 Ohms	100 (+/- 15%) Ohms	2 : 1	4	1000 W
IN 3 = 50 Ohms	156 (+/- 15%) Ohms	3.1 : 1	3	1000 W
IN 2 = 50 Ohms	200 (+/- 10%) Ohms	4 : 1	2	800 W
IN 1 = 50 Ohms	450 (+/- 5%) Ohms	9 : 1	1	800 W

T1K-7C

STEP-DOWN/STEP-UP TRANSFORMER
AIR COOLED
SUT 1K LF-7C (previous revision)

STEP UP MATCHING

(Z in = 50 Ohms) Frequency Range 10 kHz to 300 kHz; 500 kHz max with reduced power level.

Z IN RF Input	Z OUT RF Output	Impedance ratio	Switch Position	Max P IN (Without cooling)
50 Ohms	3.1 (+/- 5%) Ohms	16 : 1	7	800 W
50 Ohms	4.2 (+/- 10%) Ohms	12 : 1	6	800 W
50 Ohms	5.5 (+/- 15%) Ohms	9 : 1	5	1000 W
50 Ohms	8.4 (+/- 15%) Ohms	6 : 1	4	1000 W
50 Ohms	12.5 (+/- 15%) Ohms	4 : 1	3	1000 W
50 Ohms	20 (+/- 20%) Ohms	2.5 : 1	2	1000 W
50 Ohms	35 (+/- 20%) Ohms	1.4 : 1	1	1000 W

STEP DOWN MATCHING

(Z in = 50 Ohms) Frequency Range 10 kHz to 300 kHz; 500 kHz max with reduced power level.

Z IN RF Input	Z OUT RF Output	Impedance ratio	Switch Position	Max P IN (Without cooling)
50 Ohms	72 (+/- 20%) Ohms	1 : 1.4	1	1000 W
50 Ohms	128 (+/- 20%) Ohms	1 : 2.5	2	1000 W
50 Ohms	200 (+/- 15%) Ohms	1 : 4	3	1000 W
50 Ohms	300 (+/- 15%) Ohms	1 : 6	4	1000 W
50 Ohms	450 (+/- 15%) Ohms	1 : 9	5	1000 W
50 Ohms	600 (+/- 10%) Ohms	1 : 12	6	800 W
50 Ohms	800 (+/- 5%) Ohms	1 : 16	7	800 W