

# TV couplers

## TYPES

**3dBC4-C100**  
**3dBC4-C1K0**  
**3dBC4-C5K0**  
**3dBC4-C30K**  
**3dBC4-C40K**  
**3dBC4-P100**  
**3dBC4-P1K0**  
**3dBC4-P5K0**  
**3dBC4-P30K**  
**3dBC4-P40K**

The 3 dB couplers can be used as power-splitters or as power combiners, and their most common application is as components in the design of combiners. They are also used to combine power amplifiers to the transmitters and translators.

They consist of two identical parallel transmission lines coupled over a length equal to  $1/4$  and mounted in a common exterior conductor.

The couplers are designed to achieve coupling differences in the operating frequency range at the output ports. The phase-shift between the two outputs is always  $90^\circ$  and is independent of frequency. The isolation between the two ports depends heavily on the VSWR of the port loads.



**3dBC4-C30K**



**3dBC4-C5K0**



**3dBC4-C1K0**

## TYPE DESCRIPTION

**x y - z p p p**

x - type of coupler

**3dBC** - 3 dB coupler

**6dBC** - 6 dB coupler

**10dBC** - 10 dB coupler

y - frequency range:

**4** - UHF band IV and V (470 - 862 MHz)

z - type of transmission lines:

**C** - crossing

**P** - parallel

ppp - output power:

**100** - up to 100 W

**5K0** - up to 5 kW

**30K** - up to 30 kW

## Specification

	<b>3dBC4-C100</b> <b>3dBC4-P100</b>	<b>3dBC4-C1K0</b> <b>3dBC4-P1K0</b>	<b>3dBC4-C5K0</b> <b>3dBC4-P5K0</b>
Frequency range	470 - 862 MHz		
Impedance	50 $\Omega$		
Return loss	$\geq 23$ dB	$\geq 28$ dB	
Coupling	3 $\pm$ 0,2dB		
Maximum output power	100 W	1 kW	5 kW
Directivity	$\geq 30$ dB		
Input and output connectors *	4 x N female	4 x EIA 7/8" or 7/16	4 x EIA 1 5/8"
Weight	0,4 kg	1,2 kg	4 kg
Dimensions (mm)	81 x 28 x 25	200 x 120 x 55	270 x 204 x 90
Material	aluminium, silver plated brass		

\* for special requests indicate type of the input/output connector

## Specification

	<b>3dBC4-C30K</b> <b>3dBC4-P30K</b>	<b>3dBC4-C40K</b> <b>3dBC4-P40K</b>
Frequency range	470 - 862 MHz	
Impedance	50 $\Omega$	
Return loss	$\geq 28$ dB	
Coupling	3 $\pm$ 0,2 dB	
Maximum output power	30 kW	40 kW
Directivity	$\geq 30$ dB	
Input and output connectors *	4 x EIA 3 1/8"	4 x EIA 4 1/2"
Weight	14,2 kg	39 kg
Dimensions (mm)	430 x 300 x 130	510 x 385 x 170
Material	aluminium, silver plated brass	

\* for special requests indicate type of the input/output connector

## circuit diagram

