

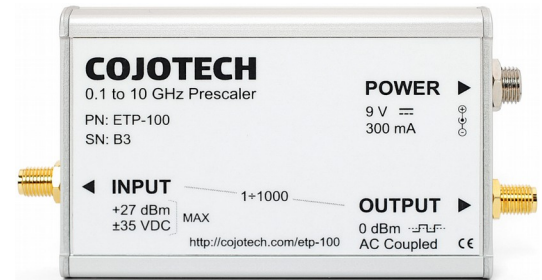
0.1 to 10 GHz external prescaler.

## PRELIMINARY DATASHEET

this is not the final version of the datasheet and the information presented here is bound to change.

### The Big Deal

- 0.1 to 10 GHz operation window.
- High sensitivity.
- Does not self-oscillate.
- Input protection (27 dBm max).
- Several variants, with different division ratios available.



### Description

The Cojotech ETP-100 is an external prescaler which allows you to extend the range of your existing frequency counter, without making any modifications to it.

The default variant, which comes with a 1:1000 division ratio, can be used to read the frequency directly, on any frequency counter, even if it doesn't have a math function (10 GHz becomes 10 MHz). Variants with lower division ratios are also available, for situations where ease of use can be sacrificed in favor of faster gate times.

It is designed for laboratory use, offering very good sensitivity and input protection, and its output is a 0 dBm, AC coupled square wave, which can be easily used by a frequency counter or experimental circuitry. Optionally, a DC coupled variant can be delivered.

### Warranty

This product benefits from a 2-year warranty against defects in materials and workmanship.

## Absolute Maximums

Parameter	Ratings
RF Input Power	+27 dBm
RF Input DC Voltage	±35 V
Supply Voltage	+9.5 V

## Electrical Specifications at 25°C

Parameter		Min.	Typ.	Max.	Unit
Frequency Range		0.1		10	GHz
Sensitivity <sup>1,2</sup>	0.1 GHz	-19	-22		dBm
	0.2 GHz	-28	-30		
	0.5 GHz	-33	-36		
	1 GHz	-38	-42		
	2 GHz	-41	-44		
	5 GHz	-32	-37		
	10 GHz	-23	-26		
Input Return Loss	0.1 GHz		29		dB
	1 GHz		20		
	2 GHz		10		
	5 GHz		10		
	7 GHz		7		
	10 GHz		10		
Output Power		-2	-0.5	0.5	dBm
Supply Voltage		8.5	9	9.5	V
Supply Current			230		mA

- 1) The required amplitude for a reading with an accuracy of 0.1 ppm.
- 2) Correct operation tested up to +14 dBm, limited by signal generator.

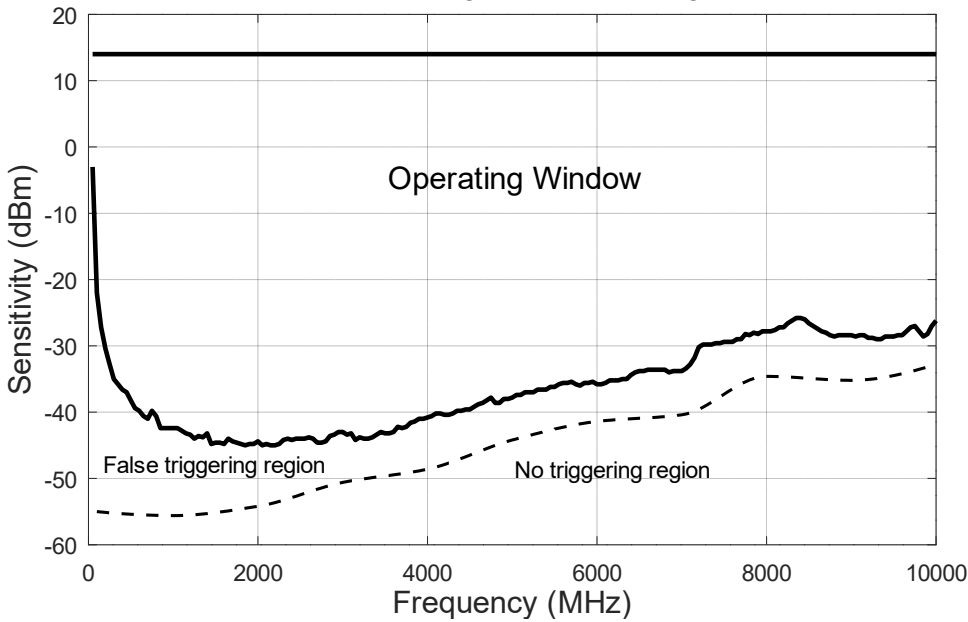
# Sensitivity

The required amplitude for a reading with an accuracy of 0.1 ppm.

Correct operation tested up to +14 dBm, limited by signal generator.

Frequency (MHz)	Typical (dBm)	Worst (dBm)
100	-22	-19
200	-30	-28
500	-36	-33
1,000	-42	-39
2,000	-44	-41
3,000	-42	-39
4,000	-40	-38
5,000	-37	-34
6,000	-35	-33
7,000	-32	-30
8,000	-27	-24
9,000	-28	-26
10,000	-26	-23

**Sensitivity vs Frequency**



## Available Division Ratios

While the ETP-100 comes with a fixed division ratio, there are several ratios you can choose from at the time of purchase: 1:128, 1:256, 1:512, 1:1024, 1:1000.

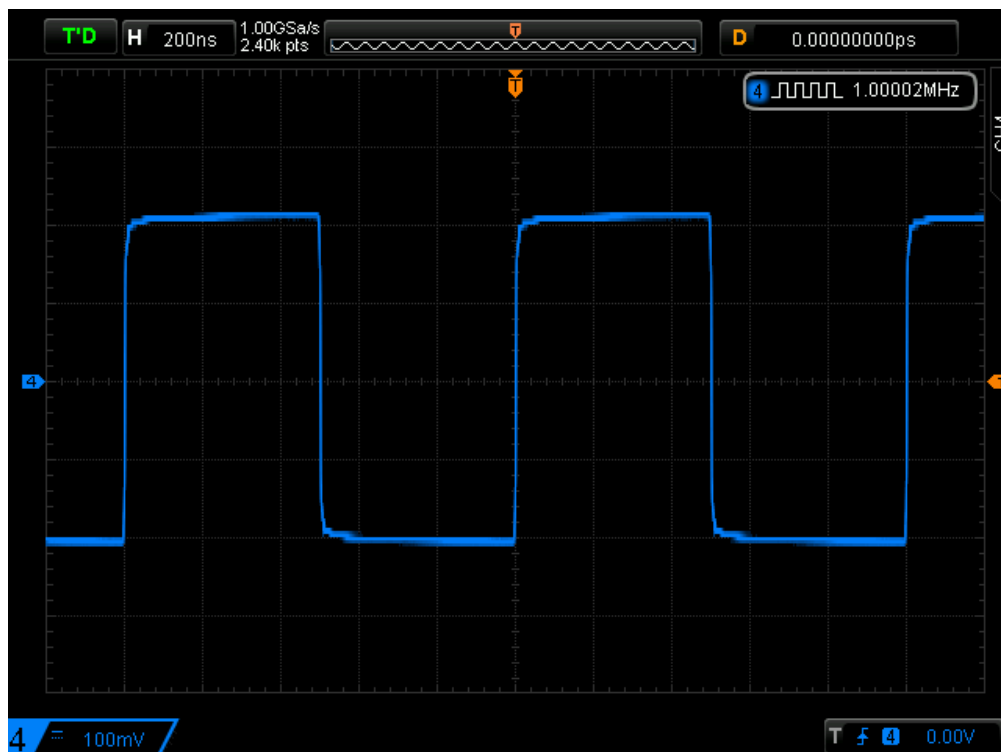
Other configurations might be available upon request.

## Power

Power is supplied via a 5.5/2.1 mm barrel jack. It requires 9 V @ 300 mA.

## Output

The output is an AC coupled square wave, with 50% duty cycle, 0 dBm nominal power and 50 Ohm impedance. Optionally, this output can be DC coupled and/or lowered (contact us before placing the order).



1 MHz output into 50 Ohm load

# Mechanical Properties

## SMA

Description	Material	Finish
Body	Brass	Gold plated
Contact	Beryllium copper	Gold plated
Dielectric	PTFE	

### Notes:

- 1). Unless otherwise stated, all specifications are nominal.
- 2). The information contained in this document is accurate to the best of our knowledge. We reserve the right to update it, with new information or corrections, without notice.