

## EM-4310 | Spike Generator



### Description

The EM-4310 Spike Generator is a transient event generator designed to create high amplitude, narrow width pulses which are coupled onto AC or DC power lines as specified by Method CS06 and RS02 of MIL-STD-461 and MIL-STD-462.

A typical electrical transient rises quickly to a peak value and then decays exponentially to zero. After the spike voltage decays to zero, the waveforms exhibit a ringing characteristic that depends on the load connected to the spike generator.

The amplitude of the output spike is variable from 0 to 600 V peak. Three different pulse widths are available: 10.0 $\mu$ s, 5.0 $\mu$ s, and 0.15 $\mu$ s. Pulse width is defined as the time required for the output pulse (spike) to rise to a peak value and decay to zero.

The EM-4310 can inject spikes onto AC or DC power lines in variety of modes: asynchronous, synchronized, or single pulse.

### Specifications

#### Electrical

**Output:** Amplitude Adjustable 0-600 V peak minimum into 5-ohm non-inductive load at rates of 10 PPS or less.

**NOTE:** Maximum output voltage will decrease at rates greater than 10 PPS.

**Output Pulse Widths:** 10.0  $\mu$ s, 5.0  $\mu$ s, 0.15  $\mu$ s  $\pm$ 20% into 5-ohm non-inductive load.

**NOTE:** The polarity of the 0.15  $\mu$ s pulse is REVERSED with respect to the 10.0  $\mu$ s and 5.0  $\mu$ s pulses.

**Amplitude Display:** LED Display, accuracy  $\pm$ 5%. Indicates peak amplitude of output spike as measured into a 5-ohm non-inductive load.

#### Pulse Repetition Rate:

##### SYNC Mode:

**Internal/External:** 1-10 PPS

##### Free Run Mode:

**Internal:** 0.5-50 PPS

**External:** >0-50 PPS

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Specifications subject to change without notice. Unless otherwise specified, product is manufactured in Johnstown, NY USA.



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## Specifications

### Electrical

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#### Single Pulse Mode:

Manually generated, pushbutton.

**Pulse Positioning:** Positioning range of 1 to 10 PPS pulse is adjustable over 360° range of power frequencies from 50 to 800 Hz when in SYNC mode.

**Power Requirements:** 115/230 VAC, 50-60 Hz ( $\pm 10\%$ )  
(Factory selectable only)  
1.0 A at 115 VAC  
0.5 A at 230 VAC

#### Power Supply:

**NOTE:** The following voltage/fuse selections are factory selectable only.

#### Power Requirements:

##### AC Power Sources:

115 VAC, 50-60 Hz, 1.0 A  
230 VAC, 50-60 Hz, 0.5 A

#### Fuse Specifications:

**115 VAC operation:** 1.0 A Slow-Blow

**230 VAC operation:** 0.5 A Slow-Blow

### Mechanical

**Height:** 203 mm (8") with cover

**Width:** 229 mm (9")  
127 mm (5") without cover

**Depth:** 406 mm (16")

**Weight:** 7 kg (15.5 lbs.)