

CPS4 Dual Channel Pulse Generator



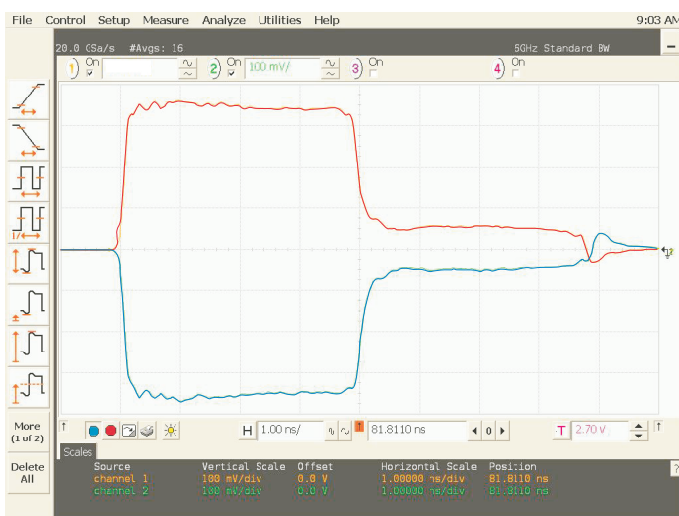
Summary

- Two equal but opposite polarity 3.5 kV square pulses.
- Pulse lengths independently adjustable with front panel pulse forming cables
- Single trigger input
- Outputs synchronous
- 110/240 V AC power

Applications

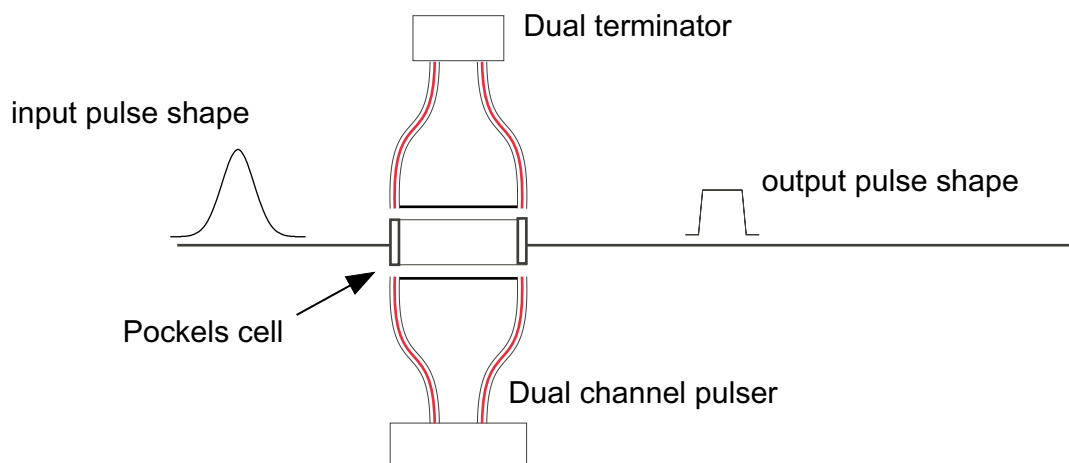
Laser pulse shaping

Wavelengths to 1 μ m



See www.kentech.co.uk

Simple laser pulse chopping with a single crystal device and a 3.5kV driver pair



**Single crystal pockels cells require ~7kV square pulses to chop a 1 μ m laser beam.
By using two 3.5kV pulsers driving opposite ends of the crystal half the power of a single pulser drive is required.
This is equivalent to using a single pulser driving a 100 Ω cable.**

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SPECIFICATIONS

General:

Outputs	2.
Output connectors	N type.
Output voltages	$\geq 3.2\text{kV}$ into $50\ \Omega$.
Output polarity	Channel 1 = positive, channel 2 = negative.
Pulse shape	Rectangular with fast rise and fall.
Pulse width	4ns FWHM with no external pulse forming cable. Cables supplied to give 6, 8 and 10ns.
Rise time	<150ps.
Fall time	The greater of 300 ps or 10% of pulse length (80 to 25%)
Trigger	$\geq 5\text{V}$ into $50\ \Omega$, <5ns rise.
Jitter	<20ps RMS.
Trigger delay	Approximately 23ns (from trigger input to outputs).
Repetition rate	Single shot to >10Hz.
Power supply	100-240V AC 50-60Hz Maximum power <20W.

Outputs:

Pulse outputs	N	2 channels of $>3.2\text{kV}$ into $50\ \Omega$.
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Inputs:

Trigger input	BNC	$\geq 5\text{V}$ into $50\ \Omega$, <5ns rise time.
Power:	IEC	Power input with 3.15A T 20mm fuse and switch, on rear panel.

Controls:

Pulse width	SHV	Special plug in pulse forming cables.
Power	IEC	Switches AC power in the pulser.

LED Indicators:

Power		Shows that AC power is applied and the unit is switched on.
Triggered		Illuminates while the unit is being triggered.

Terminator - Monitor units

Input voltage		Maximum $5\text{kV}/10\text{ns}/100\text{Hz}$ square pulse.
Input	N type	$50\ \Omega$.
Monitor output		100:1 attenuated input level.
Output	SMA	$50\ \Omega$.

Dimensions:

Pulser		H = 90mm, W = 450mm, D=410mm (excluding handles, feet and rack ears). Weight: 5.0kg approx.
Terminators:		H = 50mm, W = 83mm, D = 150mm. Weight: 0.4kg approx. each.

Environmental:

Ambient temperature		5 to 35 degrees C.
Humidity		< 95% non-condensing.
Altitude		< 3000m.

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