



Width	Rise	Max	Measurements	Main Size
94.7557 ns	1.00725 ns	440.0V		20ns/div
				Main Pos
				336.2713ns



AVL-3A-C

- ◆ Amplitudes to 420 Volts (1.2 ns rise time)
- ◆ Rise times as low as 500 ps (150 Volts)

- ◆ PRF to 5 kHz
- ◆ PW variable from 5 to 100 ns

The AVL-3 series is similar to the AVL-2 series but features higher output amplitudes and shorter rise times.

The three members of the AVL-3 series provide peak output amplitudes of 420V with 1.2 ns rise time (Model AVL-3AH-C), 300 V with 750 ps rise time (Model AVL-3A-C), and 150 V with 600 ps rise time (Model AVL-3B-C). Output pulse widths for all models are variable using one-turn controls from 5 to 100 ns.

The pulse repetition frequency for all models is variable from 50 Hz to 5 kHz using the internal clock oscillator that is controlled by a front-panel one-turn control. A delay control and a sync output are provided for sampling scope triggering purposes. The units can also be triggered externally using a TTL-level pulse. The propagation delay in the externally triggered mode is typically 350 ns (however, a 100 ns propagation delay option is available). The output polarity is positive. To obtain negative outputs, use the AVX-1 (<http://www.avtechpulse.com/transformer>)

pulse transformer. An optional variable rise time control (ten-position switch) which varies the rise time (and fall time) from 1 to about 10 ns is available. A DC offset or bias insertion option is available. Units with this option include a circuit similar to Model AVX-TB at the output (see <http://www.avtechpulse.com/bias/avx-tb>). The required DC offset or bias is applied directly to rear panel solder terminals. AVL-3 units are also available with a monitor output option that provides an attenuated (-20 dB or +10) coincident replica of the main output pulse. Additional options include electronic control (0 to +10V) of output amplitude and pulse width (not available for AVL-3AH-C). All models require 100 - 240V, 50-60 Hz prime power.

The AVL-3 series may be combined with the AVX transformer series to obtain peak currents of up to 18 Amps (eg. laser diode loads) or peak voltages as high as 900 Volts to a 200 Ohm load.

Model:	AVL-3AH-C <sup>1</sup>	AVL-3A-C <sup>1</sup>	AVL-3B-C <sup>1</sup>
Amplitude <sup>2,3</sup> : (50 Ohm load)	0 to 420 Volts	0 to 300 Volts	0 to 150 Volts
Rise time <sup>4</sup> (20%-80%):	< 1.2 ns	< 750 ps	< 600 ps
Fall time (80%-20%):	< 4 ns		
Pulse width:	5 to 100 ns		
PRF:	0 to 5 kHz		
Polarity <sup>5</sup> :	Positive (For negative output see Note 5.)		
Propagation delay:	< 350 ns standard (100 ns optional <sup>6</sup> ). (Ext trig in to pulse out)		
Jitter:	± 100 ps (Ext trig in to pulse out)		
DC offset or bias insertion:	Option available. Apply required DC offset or bias in the range of ± 50 Volts, (250 mA max) to back panel solder terminal. See note 7.		
Trigger required:	Ext trig mode: + 5 Volt, 50 to 500 ns (TTL)		
Sync delay:	Sync out to pulse out: Variable 0 to 200 ns		
Sync output:	+2 Volts, 200 ns, will drive 50 Ohm loads		
Monitor output option <sup>8</sup> :	Provides a 20 dB attenuated coincident replica of main output		
Connectors:	Out: SMA,	Trig: BNC,	Sync: BNC, Monitor: SMA
Dimensions: (H x W x D)	100 x 430 x 375 mm (3.9" x 17" x 14.8")	100 mm x 215 mm x 375 mm (3.9" x 8.5" x 14.8")	
Power requirements:	-C units: 100 - 240 Volts, 50 - 60 Hz,		Modules: +24 Volts
Chassis material:	-C units: anodized aluminum, with blue plastic trim.		Modules: cast aluminum, blue enamel
Temperature range:	+5°C to +40°C		

1) -C suffix indicates stand-alone lab instrument with internal clock and line powering. (See <http://www.avtechpulse.com/formats> for details of the four basic instrument formats).  
 2) For electronic control (0 to +10V) of amplitude, suffix model number with -EA. Electronic control units also include the standard front-panel one-turn controls. Available for AVL-3B-C only.  
 3) For operation at amplitudes of less than 20% of full-scale, best results will be obtained by setting the amplitude near full-scale and using external attenuators on

the output.  
 4) For rise time variable up to 10 ns in ns increments via a ten-position switch suffix model number with -T. Not available for AVL-3A-C.  
 5) To obtain a negative output use Models AVX-1 or AVX-3 inverting transformer (see <http://www.avtechpulse.com/transformer>).  
 6) For 100 ns propagation delay option, add suffix -TN. Not available for AVL-3A-C.  
 7) For DC offset option suffix model number with -OS.  
 8) For monitor option add suffix -M.