

Performance Characteristics

RF external BNC input

Frequency range	30..250 MHz
Level	300..600 mV RMS @ 50 Ohm

Optical input (fiber-coupled)

Wavelength range	450..1100 nm with Si detector 1000-1650 nm with InGaAs detector (50 μ m glass fiber)
Frequency range	30-150 MHz

Trigger external BNC input

Level	0.2..25 V, positive and negative, adjustable
Input coupling	DC and AC
Input impedance	100 kOhm / 50 Ohm
Input attenuation	1:1 / 1:10
Minimal pulse duration	10 ns
Slew rate, not less then	1 V/ μ s (1:1 mode) 10 V/ μ s (1:10 mode)

Delay channels

Number of delay channels	4
Delay range	30 ns..10 μ s (from 'Delay start' to delay output pulses)
Delay step	<20 ps
Delay instability	$2 \cdot 10^{-4} \times \text{Delay} + 0.3 \text{ ns}$ (After 10 minutes of operation)
Jitter	less than 60 ps + 10 ps / (every 1 μ s delay) RMS
Output pulse duration	30 ns..2 μ s
Frequency overrun protection	50Hz-50kHz (depends on HV keys type)
Delay start from:	External trigger, frequency dividers
Delay RF synchronization:	External RF, optical input, internal 100MHz crystal and without synchronization.

Pump start

Pulse width	160 ns..4 μ s
Fine delay	0..30 ns
Delay from 'Pump start' to delay channels start	20 ns..650 μ s in 10 ns steps or 2..65535 periods of RF signal (depends on operating mode)
Delay between pump optical pulse and 'Pump start'	-1.28 μ s..+1.27 μ s in 10 ns steps or -128..+127 periods of RF signal (depends on mode)

Frequency dividers

Divisor value	2..65535
Prescaler divisor value	1/16/256/4096
Input frequency range	0..180 MHz (without prescaler)/ 0..250 MHz (with prescaler)
Signal to divide:	External RF and trigger, optical input, internal 100MHz crystal, another divider output

Output pulses at ‘Out 1’ – ‘Out 4’ (front panel, BNC):

Amplitude	2.0..2.5 V @ 50 Ohm
Edge duration	<3 ns
Frequency range	0..100 MHz
Available signals:	All delay outputs, pump start, frequency divider outputs, delay start, phase-triggered oscillator, all external RF and trigger signals, optical inputs (digital)
Signal selection	Any signal from set, independent at any output.

Shutter drivers power supply

Voltage range	up to 550 V (depends on HV keys)
Maximal output current	up to 180 mA (depends on HV keys)
Overload protection	Yes
Power consumption	<200 W
Power circuit voltage	90-230 V AC
Dimensions	452x310x88 mm

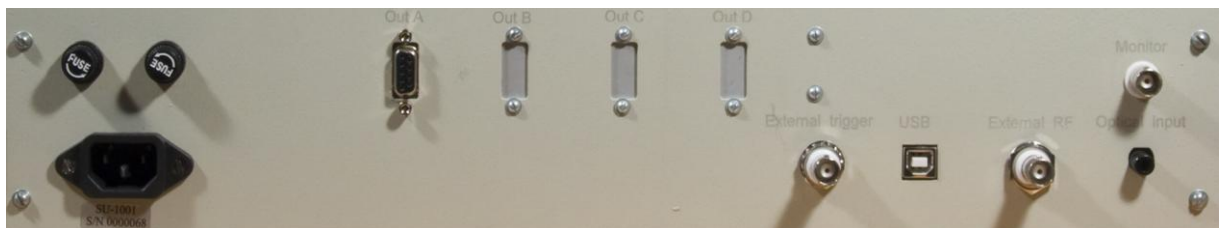
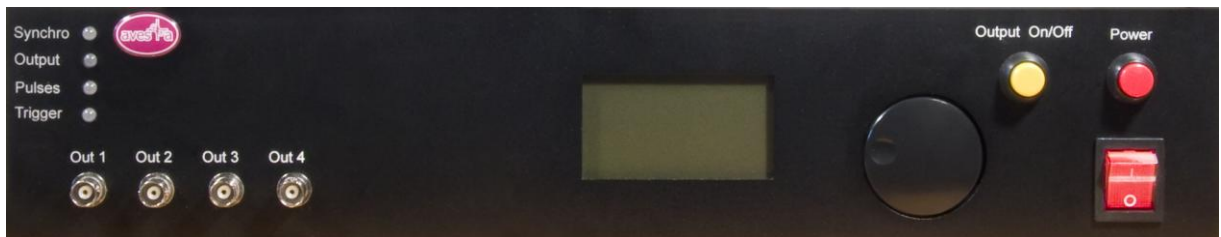


Photo of front and rear panels of control unit