

Alignment Free Pulse Monitor

Femtosecond Autocorrelator

HAC-200

Key Features

- Alignment-free
- Polarization independent
- High measurement sensitivity
- Fast, real-time measurement
- Simple "Plug-and-Measure" operation
- Pulse measurement software included
- Easy USB interface
- Compact, lightweight, low-power



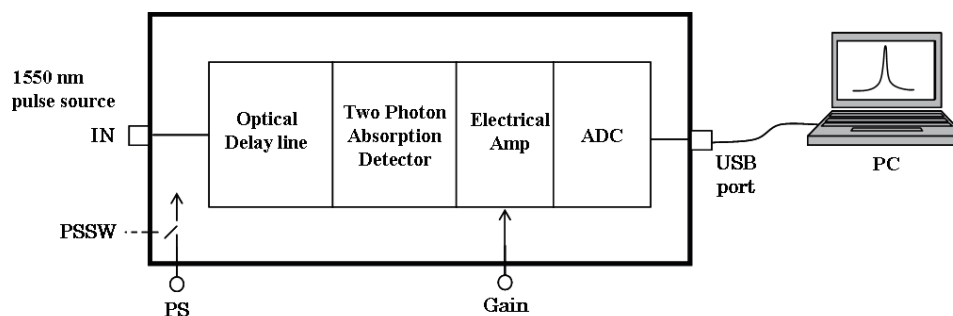
HAC-200 is a picosecond and sub-picosecond optical pulse characterization system based on the autocorrelation function of the optical pulse. Unlike the conventional autocorrelator that uses SHG crystals, the HAC-200 employs a proprietary two-photon absorption (TPA) method that is polarization independent and provides a high measurement sensitivity. Furthermore, it is completely alignment-free for easy plug-and-measure operation. The autocorrelation traces and the key parameters of the measured optical pulses are instantaneously displayed in real-time mode with a user-friendly graphical interface.

The unit is compact, lightweight and low-power which is suitable for applications from laboratory to field environment.

Applications

- Picosecond & femtosecond pulse characterization
- Repetition rate measurement (>40GHz)
- Dynamic pulse waveform monitor
- Real-time pulsed laser characterization

Functional Diagram



Specifications

Category	Parameter	Specification			Unit
		Min.	Typ.	Max.	
Optical	Wavelength range	1400		1650	nm
	Optical sensitivity ¹	1x10 ⁻⁵		1x10 ⁻³	W ²
	Measureable pulse width	0.3		15	ps
	Polarization sensitivity			10	%
Temporal	Scan range (50ps Type)	50			ps
	(100ps Type)	100			ps
	Resolution	25			fs
Connector	Optical input		FC or SC, APC or SPC		
Electrical	PC Interface	USB 1.1/2.0			
	Power supply	AC 85-260V, 50/60Hz			
Ambient	Operating Temperature	+15 to +35			
	Humidity (non-condensing)	< 80% RH			
Physical	Dimensions (W x H x D)	236 x 88 x 405 mm			
	Weight	< 5 kg			

Note: The specifications are subjected to change without prior notice. Please contact Alnair Labs for more details.

1. Optical sensitivity is defined as the product of input signal average power (Pavg) and peak power (Ppeak), at a minimum detectable input signal level. [Pavg x Ppeak] in unit of W².

Software Interface & Measurement Example

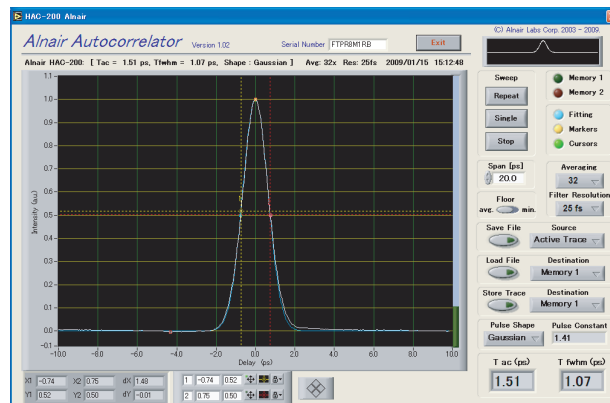


Fig. 1 Measuring a 1ps optical pulse.

Application Examples

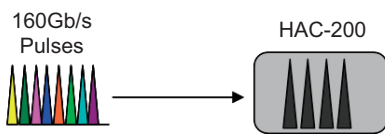


Fig. 2 Pulse repetition rate measurement.

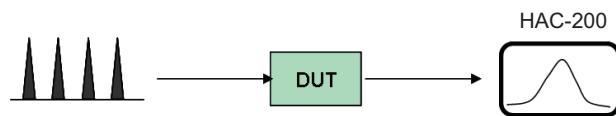


Fig. 3 Characterization of broadened pulse due to dispersion/nonlinear effect of

Ordering Information

HAC-200---

Scanrange Type		Connector Type		Option Code	
05	50ps	FS	FC/SPC	01	Without PC
10	100ps	FA	FC/APC	02	With notebook PC
		SS	SC/SPC		
		SA	SC/APC		