



Diagnostics



## AA-20DD Scanning Autocorrelator

- 20-6000 fs pulse duration range (10 fs optional)
- Scanning rate: 0.1-20 Hz
- Linear distortion: <1%
- USB connection and software
- All-reflective optics
- Position measurement
- Fringe-resolved autocorrelation function
- Frictionless movement
- Optional fiber input



AA-20DD



AA-20DDM

### Product overview

The AA-20DD real-time autocorrelator offers smooth and fast measurement of femtosecond and picosecond pulse duration. Different models of the autocorrelator cover several wavelength ranges, with the AA-20DDM model combining the ranges by using 3 interchangeable photodetectors and optics. Two separate ranges can also be covered upon request. Input pulse duration ranges from 20 fs to 30 ps for easy monitoring of different laser systems, especially femtosecond and picosecond oscillators (for amplifier monitoring please see our ASF-20 single-shot autocorrelator).

The device features USB interface and can be easily hooked up to a PC with Windows OS. The software is supplied with the device and comprises several useful tools. The acquired pulse duration data can be visualized, stored or exported to a .txt or .dat file. Autocorrelation function and final FWHM pulse duration in femtoseconds are calculated and displayed in real-time. Moreover, Gaussian or sech<sup>2</sup> fitting options are enabled, intensity function may also be observed. The statistical viewer feature allows the comparison of data acquired from several separate pulse measurements.

The tiny body of the AA-20DD (132x123x118 mm) flawlessly fits any experimental setup with strict space requirements.

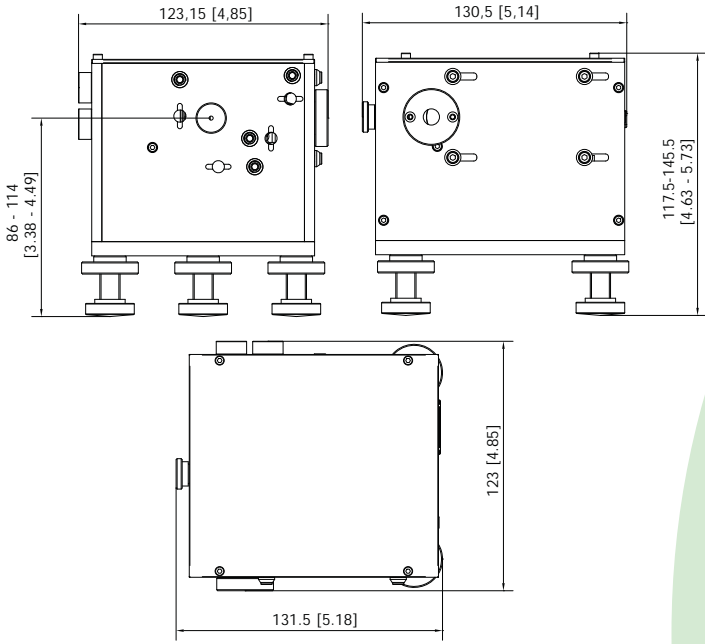
We also offer an optional fiber input for fast and reliable pulse duration measurement in various optical fibers. Moreover, the autocorrelator in this case still maintains the free-space measurement capability.

### AA-20DD technical specifications

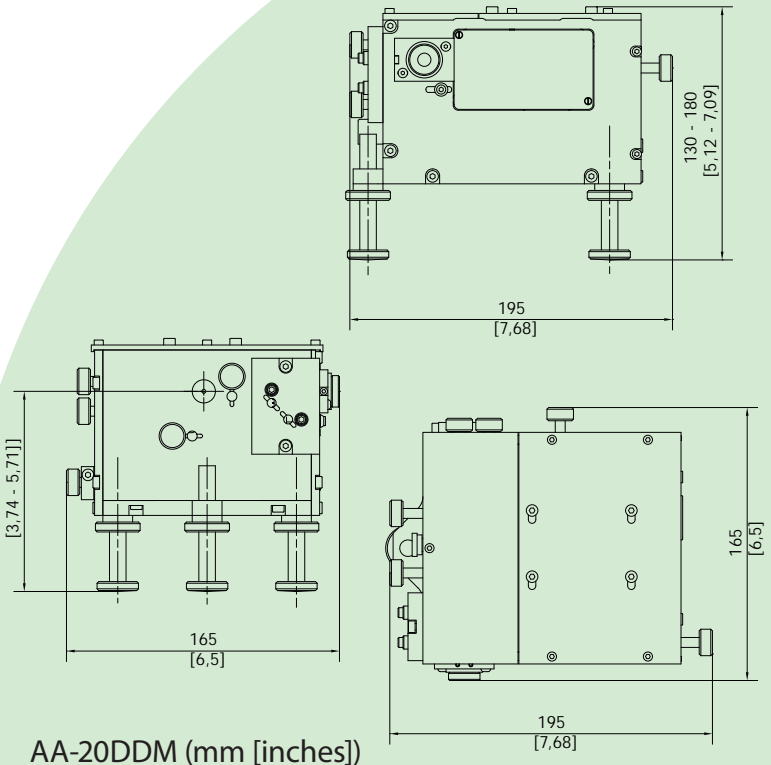
|   |  |
|---|--|
| Wavelength range, nm                                      | 450-700 (AA-20DDV)<br>700-1300 (AA-20DD)<br>1300-2000 (AA-20DDR)<br>450-2000* (AA-20DDM) |
| Pulse duration range, fs                                  | 20-6000** (default); 20-30000** (-30PS option)   |
| Input repetition rate                                     | >10 kHz (default); >10 Hz (-S option)  |
| Sensitivity   | 100 mW <sup>2</sup>  |
| Input polarization, linear                                | horizontal (vertical upon request)   |
| Scanning rate, Hz   | 0.1-20   |
| Linear distortion, %                                      | <1%  |
| Collinear (interferometric and intensity) autocorrelation | yes  |
| PC connection   | USB  |
| Necessary equipment                                       | PC with Windows OS or oscilloscope   |
| Fiber input (optional)                                    | FC/PC or FC/APC (other types available upon request)                                     |
| Signal source and detector                                | two-photon conductivity in semiconductor   |
| Dimensions, mm  | 132x123x118 (AA-20DD)<br>195x166x130 (AA-20DDM)<br>225x190x45 (electronic unit)          |

\* - model AA-20DDM may cover either all three ranges (450-2000 nm) or two separate ranges (i.e. 450-1300 or 700-2000) with interchangeable optics and photodetectors (3 or 2 sets included).

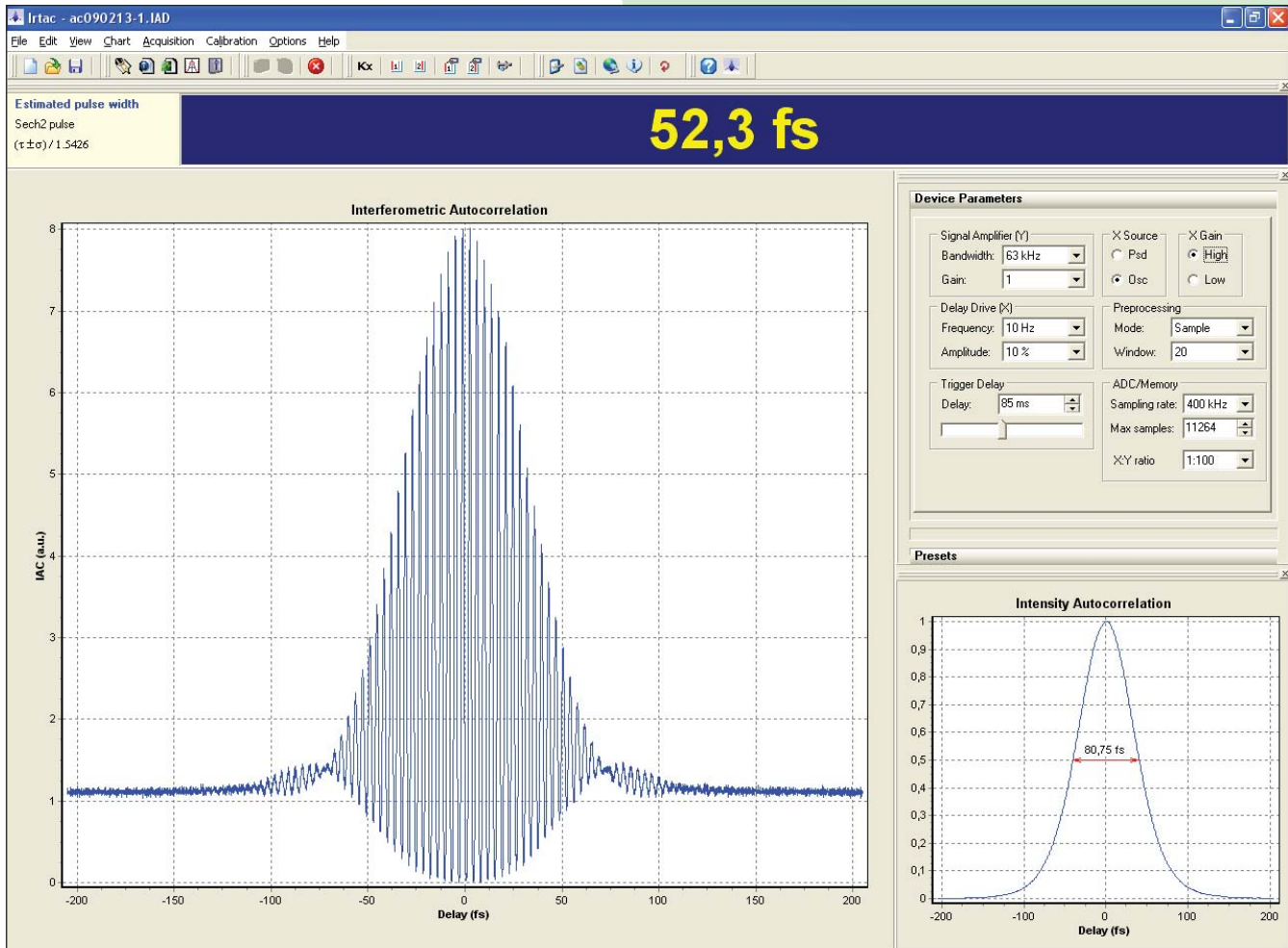
\*\* - pulse duration range from 10 fs is available upon request.



AA-20DD (mm [inches])



AA-20DDM (mm [inches])



AA-20DD acquisition software Irtac