# SRS Detection Set

## Perfect match: SRS Lock-In Amplifier & Detector

### Unique Lock-In Amplifier & Detector Combination for Stimulated Raman Scattering Microscopy

- The SRS Detection Set consisting of a unique sensor and lock-in amplifier combination has been developed specifically for demanding SRS imaging applications.
- Very short integration times down to 100 ns are ideally suited for fast and accurate video rate imaging.
- Its works perfectly together with APE's picoEmerald SRS light source as well as home-built and third-party SRS setups.




- Ideal tool for video rate (down to 100 ns) SRS imaging applications
- Unique detector & lock-In amplifier combination
- Highly sensitive in the VIS / NIR range

# SRS Detection Set Specifications

## SRS lock-in amplifier in combination with detection sensor

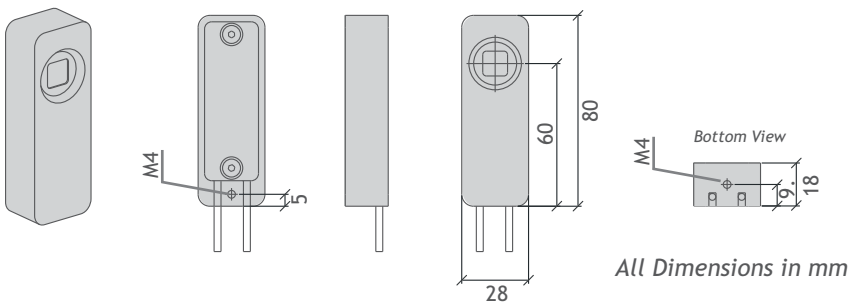
| | |
|---|---|
| Detection Sensor | Active Area: 10 mm x 10 mm<br>Spectral Response: 340 ... 1100 nm<br>Highest Peak Sensitivity: 960 nm*<br>Input Power up to 50 mW at 800 nm<br><br>*1064 nm enhanced detector optionally available |
| Frequency Range | 8 MHz ... 20 MHz |
| Time constants | 100 ns, 300 ns, 2 µs, 10 µs, 20 µs |
| Typ. Sensitivity | $\Delta I/I = 5 \times 10^{-7}$ for 20 µs integration time (at 50 mW / 800 nm shot noise limited laser radiation) |
| Amplification | 0 dB ... 58 dB (variable, optimized for SRS) |
| Synchonisation | 100 mV ... 1 V at 50 Ω |
| Phase | 0 ... 360° in steps of 10° |
| Offset | -150 mV ... 150 mV with 1 mV accuracy |
| Output Signal | - 1.5 V ... + 1.5 V |

## Interfaces (all included)

| | |
|---|---|
| PC Connection | USB |
| Software | yes, Windows operating system |
| Sync In | 1 x SM-B to BNC cable |
| Signal Out | 1 x SM-B to BNC cable |
| Power Supply | 12 V DC |

## Dimensions

| | |
|---|---|
| Sensor Housing (below) | 80 mm x 28 mm x 18 mm |
| Electronics | 115 mm x 110 mm x 35 mm |




*All Dimensions in mm*

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