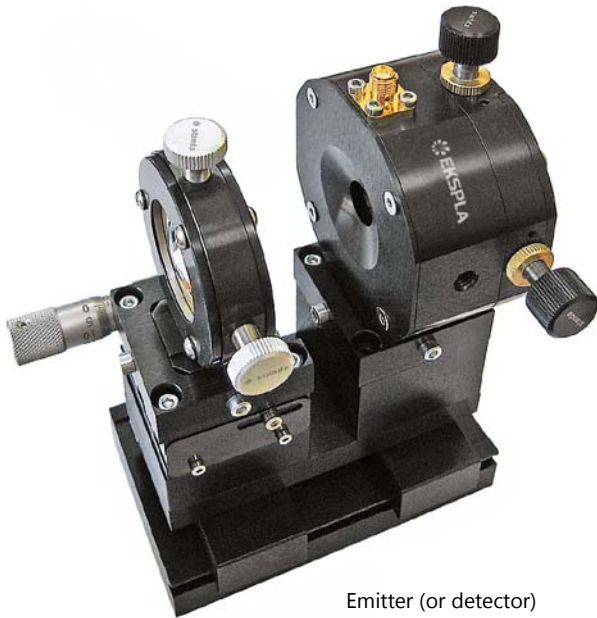


Accessories

THz EMITTER/DETECTOR MOUNTING STAGE



Emitter (or detector)
mounted on its stage

Separately from THz emitter and detector EKSPLA provides convenient mounting stage compatible with both devices. It contains lens, mounted on adjustable XY holder, compact stage for shifting lens along optical axis and rail, on which both: lens and emitter/detector are mounted. This helps with pump beam guiding to the gap between electrodes located on photoconductive antenna, as well as adjusting beam diameter on active surface. Convenient fixing screws allow fast mounting and removing each part of this simple setup.

SPECIFICATIONS

Beam height	105 mm
X, Y axis travel range	3 mm
Z axis travel range	13 mm
Lens diameter	25.4 mm
Lens focal diameter	50 mm
Lens anti-reflection coating	AR/AR at selected wavelength (standard: 800 / 1030 / 1064 nm)

BIAS POWER SUPPLY TMS-100 FOR THz EMITTER



Front view of TMS-100 power supply

FEATURES

- ▶ Low noise
- ▶ DC or square-wave output (needs external TTL input)
- ▶ Cable for connection to THz emitter included

SPECIFICATIONS

Square-wave modulation frequency	10 Hz – 100 kHz
Output voltage	30–70 V (adjustable)
Max current	1 mA
Output socket	BNC
Mains	100/220 V AC, 50/60 Hz
Dimensions (W×L×H)	130 × 190 × 39 mm

OPERATIONAL PREAMPLIFIER FOR THz DETECTOR



External view of preamplifier

SPECIFICATIONS

PREAMPLIFIER ¹⁾	
Preamplifier type	current-voltage converter
Conversion coefficient	> 10 ⁶
Preamplifier head dimensions	60 × 12 × 15 mm
POWER SUPPLY	
Preamplifier power supply dimensions	155 × 65 × 80 mm
Preamplifier power supply output voltage	+ 15 V, - 15 V
Preamplifier power supply line voltage	220 V or 110 V

¹⁾ Preamplifier head is equipped with SMA connector matched with EKSPLA THz detector.

THz Spectroscopy Kit

EKSPLA “THz spectroscopy kit” contains all the components necessary to build THz-TDS system. The standard kit consists of photoconductive antenna THz emitter and detector, pump laser beam guiding optics, motorized delay line with controller, bias power supply TMS-100, THz beam guiding optics, sample holder and lock-in amplifier. All components

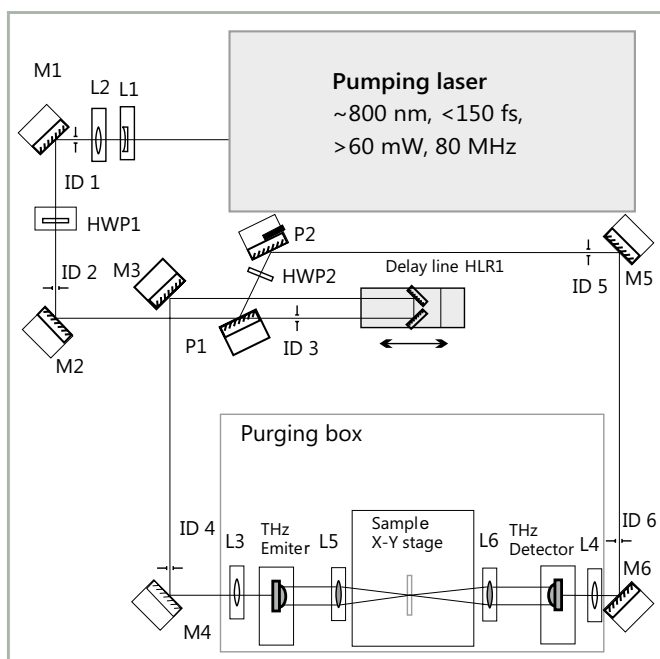
are assembled on the baseplate of 60×80 cm dimensions. Four standard configurations are available, optimized for transmission, reflection, imaging or pump-probe measurement. All can be easily interchanged and modified. Any other optional configuration can be ordered initially or as a future upgrade. THz spectroscopy kit is controlled by dedicated software.

BASIC THz SPECTROSCOPY KIT INCLUDES:

- ▶ THz emitter and detector
- ▶ Pump laser beam guiding optics
- ▶ Motorized slow delay line with controller
- ▶ THz beam guiding mirrors
- ▶ Sample holder
- ▶ Lock-in amplifier
- ▶ Labview based software for data acquisition

OPTIONAL ITEMS:

- ▶ Femtosecond laser
- ▶ Purging box, removes water absorption lines
- ▶ Motorized X,Y sample stage



Optical layout of THz spectroscopy kit in transmission configuration

OUR CUSTOM THz SYSTEMS EXAMPLES



LIDAR operating in terahertz range was used to scan remote objects at 7 m distance.

THz LIDAR installed in Lomonosov Moscow State University, Russia



Optical pump – terahertz probe spectroscopic technique allows investigation of carrier dynamics in semiconductors, nanocrystals, and other materials.

Optical pump-THz probe system installed in The Institute of Physics, Chinese Academy of Sciences, Beijing, China