

Phocuscan

The effortless focus on scanning photocurrent microscope (SPCM)



- A compact, lightweight, stand-alone instrument
- Dedicated to photocurrent measurement and mapping
- Automated measurement mode switch
- Featuring NANOBASE's high-performance micro-positioners
- Source/drain, gate dependence measurement capabilities





● System power button

● **NANOBASE** multi-axis micro-positioners (up to four units available)

● Sample stage with a vacuum chuck for stable sample positioning (vacuum pump available separately)

● X-Y-Z linear translation stage for multi-axis positioning



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Key Capabilities

Enhanced for user convenience

- Solid system design for SPCM
- Automated switching between vision mode and measurement mode

Utmost versatility

- Superapochromatic (SAPO) optic set for aberration-free photocurrent imaging in the entire VIS-NIR laser wavelength (400 ~ 730, 780 ~ 1000 nm)
- Standard RMS threaded objective turret
- Three slots for optional accessories (polarizer, ND filter, waveplate)
- Interchangeable chopper box
- NanoPhotocurrent software suite

Slots for optional accessories

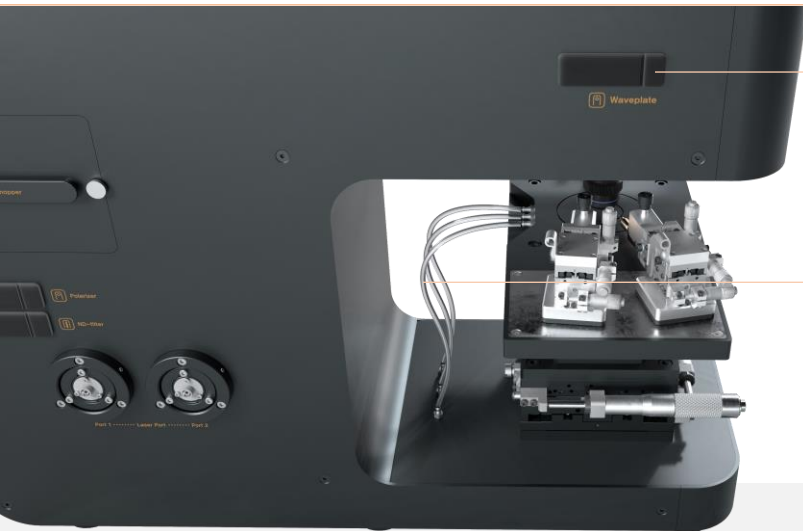
- Optical chopper
- Polarizer
- ND filter

Ports for fiber coupled photocurrent lasers



Slot for optional waveplates

Optional vacuum pump and hoses



High performance

- Vision subsystem
 - High-speed, high-resolution sensor for brightfield imaging
 - 60 FPS at 6 MP
- Photocurrent mapping subsystem
 - Laser scanning
 - Sub-micron resolution (< 100 nm)
- **NANOBASE** Micro-positioners
 - Compact design with a long travel range (8 mm)
 - Ultra-smooth motion based on crossed roller bearing stages and micrometer drive
 - Magnet base with adjustable strength

System Components

System platform	<ul style="list-style-type: none">- Motorized reflected LED illuminator for bright field- Motorized vision-laser mirror box- USB 3.0 superspeed, 6.0 MP Sony vision camera- Two fiber optic ports for VIS-NIR laser input (VIS : 400 ~ 730 nm, NIR : 780 ~ 1000 nm)- Three slots for optional accessories (polarizer, laser neutral density filter, waveplate)
Sample stage	<ul style="list-style-type: none">- Mechanical X-Y-Z stage with right-hand control- Vacuum chuck (for use with optional vacuum pump and hoses)
Objective	<ul style="list-style-type: none">- Low magnification objective for vision (5X, WD : 20 mm, NA : 0.15)- Long working distance, high magnification objective (40X, WD : 2.7 mm, NA : 0.6)
Magnet based micro-positioner	<ul style="list-style-type: none">- Resolution : 1 μm- Travel range (X / Y / Z) : 8 / 8 / 8 mm- BNC or triaxial cable available- Three positioners required for source/drain, gate dependence measurement
Laser scanning module	<ul style="list-style-type: none">- Apochromatic range : 400 ~ 1000 nm- Scanning mode : raster scan- Resolution : < 100 nm at 40X- Maximum scanning area : 200 x 200 μm at 40X
Computer system with a monitor screen	<ul style="list-style-type: none">- Featuring system specifications optimized for Phocuscan
NanoPhotocurrent software suite	<ul style="list-style-type: none">- Photocurrent data acquisition- Multi-area photocurrent mapping- Mapping data export format : .csv

Required components (Available separately)

Laser

- Fiber coupled laser type

Sourcemeater Unit

- Keithley 2400 series or Keithley 2600 series

Optional modules (Available separately)

- Polarizer (420 ~ 700 nm)
- ND filter (OD range : 0.01 ~ 4.0)
- Waveplate ($\lambda/4$ or $\lambda/2$)
- Interchangeable chopper box (20 Hz ~ 1000 Hz, 200 Hz ~ 10 kHz)
- Vacuum pump and hoses

The above specs are subject to change without prior notice for product enhancement.