

Blood Sampling System Twilite 2



Product Information

Swisstrace have updated their successful high sensitivity blood sampler: the twilite. The system is ideal for use in conjunction with PET, PET/MR or beta-probes. It measures the time-course of radioactivity in whole blood with high temporal resolution in small and large experimental subjects.

The core of the twilite system is a very compact measuring head machined from medical grade tungsten, which shields the LYSO crystals from outside radiation and is fully MR compatible. The scintillations are conveyed to the photon detection unit via two flexible high efficiency light guides. This elegant design is without any electronics in the sensor head and thus avoids any potential problems due to electromagnetic interference with other devices. Furthermore, this design minimizes any potential risks for use in human research experiments.

Data acquisition is performed with the dedicated PMOD module PSAMPLE (www.pmod.com), which allows simultaneous recording of multiple Swisstrace devices (e.g. twilite sampler and twin beta probe system) via a TCP/IP interface. The PMOD software, with its modular structure, allows comprehensive off-line analysis of radiotracer data from both the twilite and imaging modalities. Transfer of data to the kinetic modeling software PKIN is literally a mouse-click away.

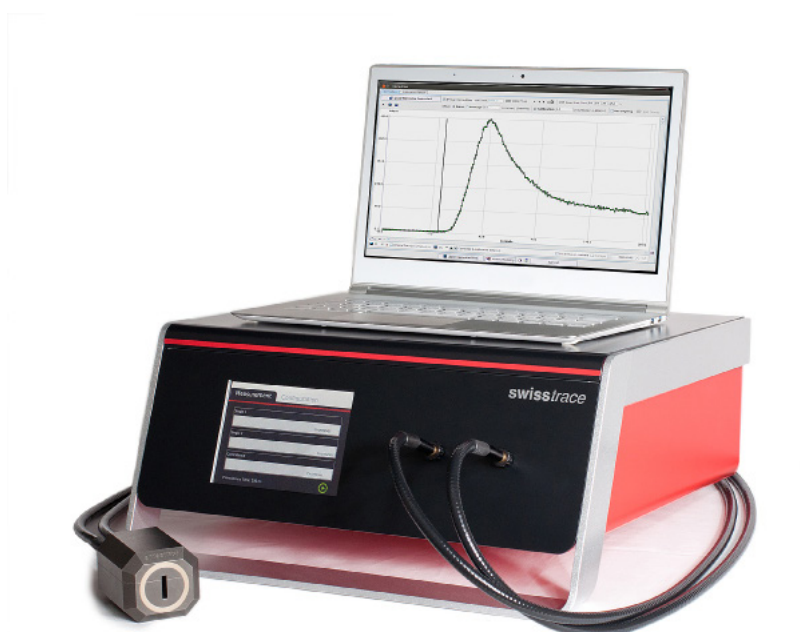
Data acquisition over a local area network is straightforward using built-in DHCP configuration, and remote firmware updates will be provided during ongoing support. Alternatively, the system can also be run as a standalone device. A large touch-screen on the front-panel serves as the user interface for configuration and also displays the current status and measured values. The design of the 19-inch housing is optimized for operating in either seated or standing position.

The twilite's performance is outstanding. The system shows excellent sensitivity, linearity and signal-to-noise, even in the presence of high external radiation.

The developers of Swisstrace have many years of experience in quantitative radiotracer experimentation. The design of the system was optimized for research using PET (small animal and human) as well as beta-probes. The compact sized sensor head is particularly suited to small animal applications. If used with an arterio-venous shunt, the twilite allows the measurement of the whole blood arterial input function without any blood loss. On site instruction and demonstration are provided with each installation.

Specifications

Sensor head	Dimensions	80 × 62 × 56 mm (L × W × H). Approx. 5 kg
	Material	Machined from solid Inermet (TM) tungsten
	Scintillator	LYSO
	Connection	Via two flexible light guides, standard length 2 m, up to 16 m upon request
Photon detection device	19-inch case containing photon counting device and acquisition electronics Stand-alone operation possible for system check, calibration etc. Touch screen with device status and current count values [cps]	
Data acquisition	Software	PMOD, PSAMPLE module
	System requirements	Windows 8, 7, XP, vista, MacOSX, Linux
	Interface	TCP/IP (including DHCP)



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