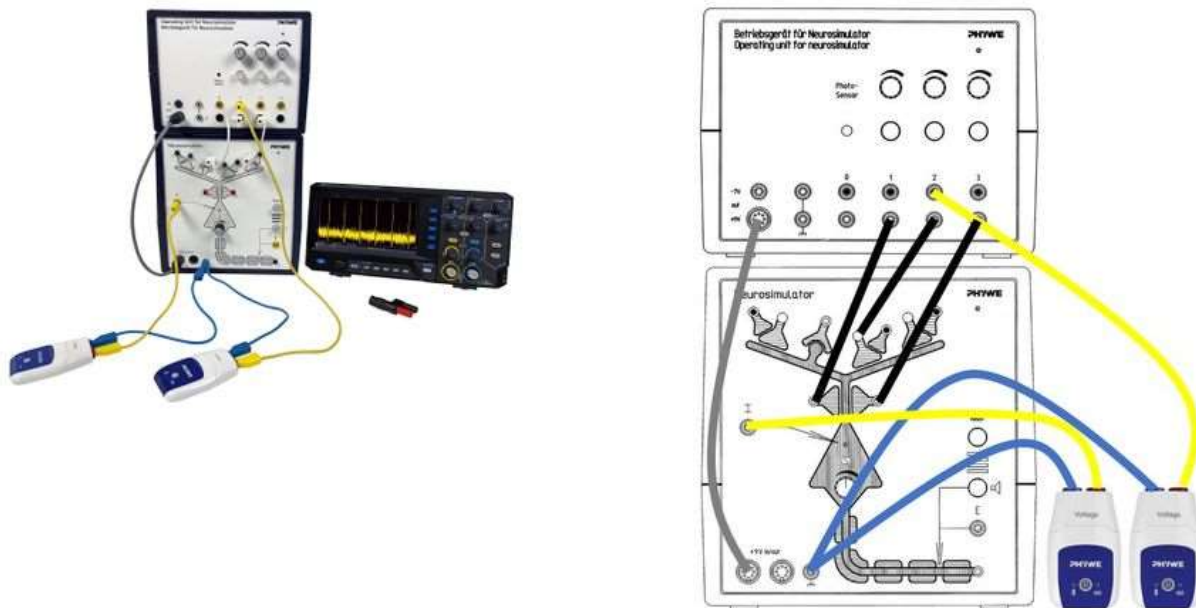


## The nerve cell with Cobra SMARTsense

Article no: P4010769



### Principle

Interactive learning and teaching system with one neurosimulator for experiments about the nerve cell.

### Benefits

- Experience processes in the nerve cell "hands-on"
- Make all properties of a nerve cell easy to understand - action potential, membrane potential, functions of synapses (e.g. synaptic learning and forgetting)
- Use as a demonstration system without a computer as well
- Ideal for projects at schools and for lab courses in the degree course Neurobiology

### Tasks

1. Use the nerve function model to study the following aspects of a nerve cell: membrane potential, action potential, the different types of synapses.

### Learning objectives

- Comparison between low and high threshold and stimulus levels
- Membrane time constant and low pass filtering
- Excitatory synapse: depolarisation, temporal summation, spatial summation, synaptic amplification by terminal branches, effect of decreasing stimulus
- Hebbian synapse: synaptic learning and forgetting
- Inhibitory synapse, hyperpolarization, spacial inhibitory-excitatory summation
- Veto synapse

Includes data acquisition system Cobra SMARTsense for mobile devices (iOS and Android) and for Windows. Includes oscilloscope for action potential measurements. Also includes neuron demonstration model (item no. MOD-NEURON).

## Scope of delivery

Set Neurobiology with one nerve cell with Cobra SMARTsense	65963-22	1
PHYWE Neuron model	MOD-NEURON	1

## Recommended accessories

Handbuch Lehrerversuche Neurosimulator, DEMO expert Biologie (NST), (in german)	01199-01
Demo expert Biology Manual Neurosimulator (NST)	01199-02