



Company Info

npi electronic GmbH Company Information:

npi electronic GmbH Bauhofring 16 D-71732 Tamm, Germany Phone +49-(0)7141-9730230 Fax +49-(0)7141-9730240 Email: sales(at)npielectronic.com	Managing Directors: Hannelore Polder Hans Reiner Polder (M.Sc.EE)
--	---

The company **npi electronic GmbH** develops and produces measurement equipment for use in the life sciences (especially physiological and pharmacological basic research). **npi electronic GmbH** is represented in Germany, Great Britain, Turkey, Singapore, China, Hong Kong, Korea, Japan, Canada and the United States of America.

The company **npi electronic GmbH** was founded in 1989. The beginnings can be dated in the early 80s. During the diploma thesis (Technical University München, 1984, made at the Max-Planck-Institute for Psychiatry) the founder of the company, Hans Reiner Polder developed a new compensating method for intracellular measurement amplifiers, which was used together with control theory approaches to increase the measuring range. On the basis of this process, existing intracellular measurement procedures (one and two microelectrode voltage clamp amplifiers, whole cell patch clamp amplifiers and iontophoresis systems) could be improved enormously.

By the years, a complete appliance portfolio for registration of bioelectrical signals was developed, expanded by systems for substance applications (superfusion), micromanipulators, recording chambers and supported by a comfortable software for data capture and complete experiment control.

Today the product and service offer grasps all sectors of modern research, including development of new measurement processes, planning and equipping of laboratories, custom specific equipping of measurement places as well as training and introduction of the employees.

Instruments from **npi electronic GmbH** combine modern electronics and control theory and make them available for researchers in the booming field of life sciences. These instruments offer speed and precision, with designs that can adapt and expand to the demanding requirements of tomorrow.

npi electronic GmbH is also an industry partner in the CMPB (Center for the Molecular Physiology of the Brain, Zentrum für die molekulare Physiologie des Gehirns, <http://www.cmpb.org>) in Göttingen, Germany, and of the Bernstein Center for Computational Neuroscience in Munich, Germany.

:

Polder, H. R., Swandulla, D., Konnerth, A., & Lux, H. D. (1984). An Improved High Current Single-Electrode Voltage/Current Clamp System. <i>Pflügers Arch.</i> 402, R35.
Richter, D. W., Pierrefiche, O., Lalley, P. M., & Polder, H. R. (1996). Voltage-clamp analysis of neurons within deep layers of the brain. <i>J.Neurosci.Meth.</i> 67, 121-131.
Draguhn, A., Pfeiffer, M., Heinemann, U., & Polder, H. R. (1997). A simple hardware model for the direct observation of voltage-clamp performance under realistic conditions, <i>J.Neurosci.Meth.</i> 78,105-113.
Müller, A., Lauven, M., Berkels, R., Dhein, S., Polder, H. R., & Klaus, W. (1999) Switched single electrode amplifiers allow precise measurement of gap junction conductance. <i>Am.J.Physiol. (Cell)</i> 276, C980-988.
Schoepfer, R., Buchholz, G., Planck, J. & Polder, H. R. (1999). CellWorks: A Control Software for the Entire Experimental Setup, in: <i>Virtual Instruments in Practice.</i> ed. Jamal, R., pp. 321-328, Hüthig, München.
Friedrich, E., Polder, H. R., & Weskamp, M. (2001). New Technique Enhances Microinjection on Oocytes. <i>BioForum International</i> , 06/2001, G.I.T. Publishing Ltd., Darmstadt.
Polder, H. R., & Swandulla, D. (2001). The use of control theory for the design of voltage clamp systems: A Simple and standardized procedure for evaluating system parameters. <i>J.Neurosci.Meth.</i> , 109, 97-109.

Stett, A., Knott, T., Polder, H. R., & Nisch, W. (2002). Automated Patch-Clamp Approach Providing High Content Screening. *Biophys. J.*, 82, 266a

Sutor, B., Grimm, Ch., & Polder, H. R. (2003). Voltage-Clamp controlled Current-Clamp Recordings From Neurons: An Electrophysiological Technique Enabling the Detection of Fast Potentials Changes at Preset Holding Potentials. *Pflügers Arch.*, 446, 133-141.

Polder, H.R., M. Weskamp, K. Linz and R. Meyer (2004) Voltage-Clamp and Patch-Clamp Techniques, Chapter 3.4, pp. 272-323 in: Dhein, Stefan; Mohr, Friedrich Wilhelm; Delmar, Mario (Eds.) *Practical Methods in Cardiovascular Research*, Springer, Berlin, Heidelberg and New York 2004.