

Application examples of NIM High Voltage Supply NHQ series

iseg's NIM based high voltage power supplies of the NHQ series are available with one or two channels in three different versions (low cost, standard, high precision) with voltages from 2kV to 10kV.

For many years now, NHQs have been used worldwide as power supplies for radiation detection systems such as Germanium-detectors, Silicon-detectors, Neutron-detectors, or Time-of-Flight mass spectrometry systems, Channeltrons, Microchannel-plates, Photomultiplier-tubes, Avalanche-photodiodes, Microstrip gas counters (MSGCs), Gaseous electron multipliers (GEMs), Micromegas-detectors and many others.

Most important benefits of the NHQ units are the very low ripple and noise (lower than 5mVpp up to 6kV in standard and high precision versions), the very good resolution for measurement of voltage and current (down to 100pA resolution in the high precision series, option 2MA_0n1 required) and a switchable output voltage polarity. Because of the popularity of NIM Crates all over the world, NHQ units are also very easy to deploy; they need only be put into a NIM-Crate and can be controlled via front panel or interface immediately.

iseg NHQs have, for example, been used for almost ten years for Micropattern detectors, such as Microstrip gas counters (MSGCs) or Gaseous electron multipliers (GEMs), by Science and Technology Facilities Council (STFC) engineers at the Rutherford Appleton Laboratory and Daresbury Laboratory in the UK. These types of detectors typically require at least two separate bias high voltages, each of which only requires small currents in the range of a few microamps. To protect the detector from damage, the units must trip in the event of an over current. Some detectors also require multiple supplies to be stacked while sharing a common control. Special units have been developed based on iseg standard units of the NHQ series in very close cooperation with STFC scientists to meet their exact requirements. The precise control and measurement capabilities of these NHQ units enable the scientists and engineers to use them as low-maintenance diagnostic tools and system health monitors.



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