

The News

USB Version

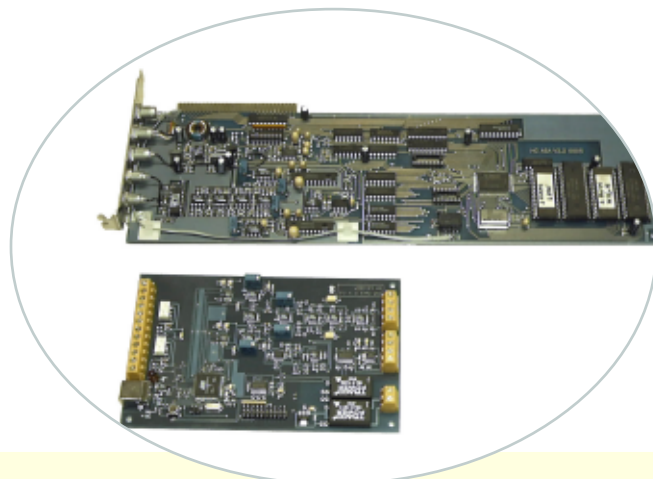
Control of the Start/Stop Triggerrelais via USB
Readout via USB during handling (ISA Bussystem)

Faster

Data-throughput 100.000 Impulses/sec (70.000 Impulses/sec)
Reduced electrical down time between two impulses = 10 µm

Smaller & More Flexible

Format: Eurocard 100 x 160 mm
Stand-Alone Version available



Your Advantage: State of the Art Technology

- ☛ Recent COMS-Standard replaces outdated TTL-Technique
- ☛ Reduced component height: MSOP-Housing
- ☛ Latest Microcontroller generation: ARM-processor - 32-Bit RISC-architecture
- ☛ Enormous Space Savings: integrated flash memory - no external memory
- ☛ Simultaneous measurement with up to 256 detectors (given the respective number of ASA-cards)
- ☛ Faster data throughput enabled by improved digitalisation
- ☛ RoHS-conform
- ☛ Input voltage area: min. +9V to max. +18V

Hardware Overview & Mode of Operation

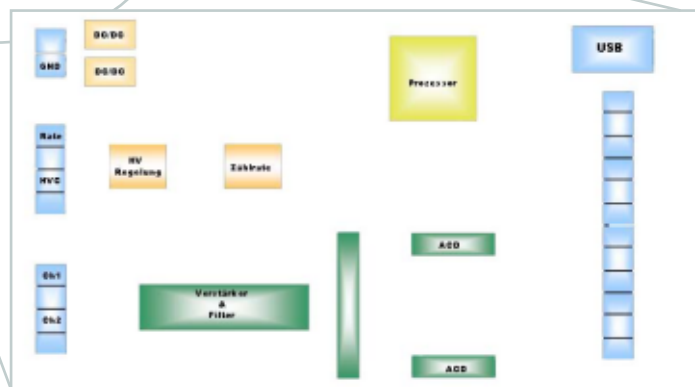


The two detector-exits CH1 and CH2 are connected directly to the ASA-card. After the two signals are amplified and filtered each channel is digitalised if the sum of both CH1 and CH2 exceeds a certain trigger-level. A processor calculates the energy sum of the two channels that equates to the energy of the detected photon. The photon's position is assigned by calculating the energy ratio of CH1 compared to the overall-energy. Only impulses within the defined energy range are used for this calculation.

During this process the sampling of the AD-Converter is discontinued in order to avoid interrupts during the calculation.

The energy as well as the position are saved in a flash until a new measurement is started or the device is switched off.

Energy- and position-spectra can be displayed simultaneously. The maximum area of both spectra is limited to a resolution of 4096 channels. A maximum of $2^{32}-1$ channels can be read in.



Functionalities of the ASA-Card

- ☛ Processing of the detector-impulses
- ☛ Creation of an energy spectrum (optional resolution of 512, 1024, 2048, 4096 channels)
- ☛ Energy discrimination for the creation of a position spectrum
- ☛ High voltage readjustment for one detector (intermittent of seconds; ability to switch on/off)
- ☛ Measurement-control:
 - Time: Lifetime / Realtime
 - Counts: Energy / Position
- ☛ Implemented Watchdog-Relais
- ☛ Implemented Start/Stop Triggerrelais - USB-controlled
- ☛ Readout via USB during handling
- ☛ Signal-output for external Ratemeter
- ☛ Detectorimpuls-Scan with 12bit-resolution, max. 100 samples at a impuls-length of 300 µm - reduced at shorter impuls-length. The AD-converter sample-rate is around 300 kHz.