Innovator In Spectroscopy Equipment

FOOD INSPECTION GAMMA ANALYZER
MODEL FIGA2316

Low Back Ground Lead Shield

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FOOD INSPECTION GAMMA ANALYZER
MODEL FIGA2316

Features:

- Connection for scintillator probes (NaI-std ver, CsI optional , BGO-optional, LaBr-optional)
- Graphical color display (800 x 480) with touch panel
- Spectrum presentation (4096 channels)
- Rs232 and USB interface for printer/PC
- One or two regions of interest (ROI)
- Weight entry and spillover correction
- Storage of spectra or ROI data
- 4 different energy ranges
- Half-life correction
- Real-time clock
- Nuclide library
- USB Host support
- LAN port support
- Calibrated with Cs-137

Description:

The FIGA2316 is a modern gamma spectroscopy system for activity measurements in laboratories. It is easy to operate and provides quick and reliable measurement results which are presented clearly arranged on a large graphical display with touch panel.

The instrument is ideally suited for nuclide-specific activity measurements in the radionuclide laboratory.

The measurement electronics FIGA2316 is a modular designed 1/2 19" system accommodated in a desktop housing comprising computer unit, graphical display with touch panel and power supply unit. For data acquisition the measurement electronics includes two additional plug-in cards, a high voltage unit with preamplifier and an ADC for the acquisition of spectra.The gamma spectrometer FIGA2316 has been designed for use in nuclear medicine, e.g. for in-vitro tests, radio-immunoassays or for the analysis of environmental samples, e.g. waste water, or for the detection of extremely low activities in food samples. Various scintillation probes are available, e.g. for Marnelli beakers, or as 2" well-type crystals.

The measurement electronics FIGA2316 is operated via soft keys (graphical buttons on the display) which are queried via a pressure-sensitive foil (touch panel). This allows very intuitive user guidance. Pulse height spectra can be depicted graphically and evaluated, for example, via "regions of interest". Several service functions are available: background measurement, energy calibration and spectrum recording.

For single sample measurements there is an interactive start and stop mode with corresponding protocol printouts. To facilitate measurement operation, a comprehensive nuclide library with one parameter set for each nuclide is available to the user. The FIGA2316 supports communication with an external PC via RS232 interface Thus, it is possible to query and set parameters on the PC. Also, stored measurement data can be queried from the PC and processed on the PC. New program versions can easily be downloaded from PC to the flash E2prom using a terminal program. Parameters and service functions are contained in a hierarchically structured, very clearly arranged and user-friendly menu.

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MODEL FIGA2316

Specifications:

- **Measurement/Spectrum**
  - ADC
    - Channels: 4096 (80Mhz)
    - Conversion time 200 nsec max.
  - Energy ranges
    - From 0 to 1024 keV
    - From 0 to 2048 keV
    - From 0 to 3072 keV
    - From 0 to 4096 keV
  - Energy calibration
    - non-linear empirical function or linear Calibration (polynomial fit)
  - Region of interest
    - max. 2 ROIs
- **Data Acquisition/Computer**
  - Processor: Arm9 32 bit 200MHz
  - Real-time clock
    - Integrated crystal Frequency tolerance: 50 ppm
    - Ageing: 5 ppm/year
  - Watchdog: Builted
  - Display/Touch panel
    - Graphical Color LCD display
    - Touch screen: 800 x 480 pixels 4-line touch screen
  - Memory Capacity: Max. 1000 spectra or 10000 ROI values
  - Memory Type
    - SD RAM: 64MB
    - Nand Flash: 128MB
    - Data Flash: Optional
    - SD card Support 4G SDIO mode Support hot-swappable
  - Communication
    - Serial port:
      - COM0: RS232/TTL 3-wire
      - COM1: RS232/TTL 5-wire
      - COM2: RS232/TTL / RS485 5-wire
    - Net: 10/100Mbps with status indicator
    - USB Host: 2-channel USB 2.0 HOST 12Mbps support USB Keyboard USB Mouse, USB storage
    - USB Device: 1-channel USB 2.0 device
    - Piezo signal generator, 83 dB in 10 cm distance
  - Serial interface: Asynchronous serial interface RS 232, Cable length max. 30 m, transfer rate 2400 to 38400 baud selectable Parameter: 8 data bits, 1 start bit, 1 stop bit, no parity, RTS/CTS handshake

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FOOD INSPECTION GAMMA ANALYZER MODEL FIGA2316

- Program: Can be downloaded via serial interface
- Languages: English
- Access protection: Password
- Ext bus: Sys bus interface A1-A22, D0-D15 with buffer for Ext drive
- High voltage supply: 0 – 2000 Volt , Polarity positive , Resolution 12 bit
- Temperature range & Relative humidity: -5 °C to +40 °C & 0 % – 90 %, no condensation

- **Shielding:** high performance copper/tin lined lead shield for NaI detectors.
  - Overall: Height 56.24 cm, Width 20 cm
  - Cavity: Diameter 14.8 cm, Depth 21.9 cm
  - Outer Jacket: 4 mm Aluminum
  - Shield: 13 mm thick lead
  - Graded Liner: 1 mm tin and 2 mm oxygen free copper
  - Weight: 35 Kg
  - Exterior Finish –Wrinkle black powder coating

Accessories:

- **Scintillation Probe with lab table shielding (STD):** NaI crystal 63mm x 63mm , with photomultiplier and voltage divider Resolution 7.5 % (FWHM) for 137Cs 661 keV, with complete cable set 2 m, Weight approx 35 kg
- **Scintillation probe:** BGO crystal 63mm x 63mm or 40mm x 40mm
- **Scintillation probe with lab table shielding:** NaI crystal 2" x 2" or 40mm x 40mm
- **Test source:** Need Cs-137 check source for Calibration (Not included)
- **Printer:** with serial or USB interface (optional)

Electrical and Mechanical Power Required:

- **Typical Power Requirements**
  - Power input: range (7-30V) to propose12V-2A DC power the system can provide USB with 500mA limited, and they can be protected by fuse
  - Power consumption: 12V-0.2A (with network cable, SD card, 1 U disk, MP3 play, 3.5'LCD)
- **Physical**
  - Weight: Net: 2 kg & Shipping:4 kg
  - Size: 220 mm x 145 mm x 50 mm (Lx W x H)
- **FIGA2316 Rev 1.0 160402**


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