

The Gamma Spectrum Probe, model GSP02/X, developed by Bitt Technology and manufactured by GIHMM

- **All in one:** NaI(Tl) or LaBr3(Ce) scintillator with digitally regulated HV, amplifier, 1k MCA, continuously automatic energy calibration in full temperature range, communication by RS232/485/, USB and Ethernet
- measuring radioactivity of the gamma radiation in the quantity of "ambient dose equivalent rate" [$\dot{H} * (10)$],
- Spectroscopic detection of gamma radiation with NaI or LaBr3
- In-situ isotope identification

This wide measuring range permits detecting minor changes in the ambient natural radioactivity as well as autonomous spectroscopic monitoring



MAIN APPLICATIONS

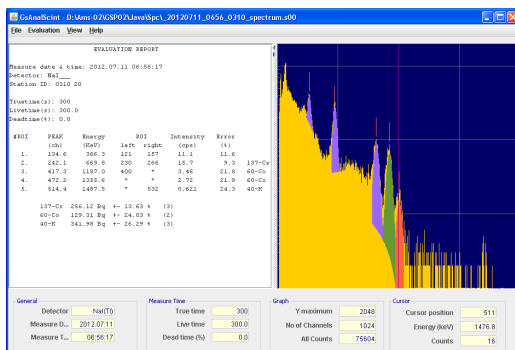
This robust and unique detector lends itself to an extensive range of possible utilizations:

- sensor in monitoring network for early warning system covering a wide area;
- hospital surveillance at radiation therapy wards,;
- measuring unit in scientific institutions and development centres,
- supervision unit at borders, airports, railway stations and in aircrafts, etc.,
- control unit in municipal sector mainly for the instant check of accidental radiation, generated by nuclear
- industry (nuclear power plants, storage of fusionable material and truck/train transportation of such materials),
- Underwater, diver measurement
- Food Contamination Monitor (FCM10)



Data Analysis

- Continuous evaluation of the gamma spectra
- Isotope identification from an isotope library
- Isotope-based alarm management



For best reliability the GSP02 uses continuously automatic energy and efficiency calibration by embedded ^{40}K source avoiding false data and alarm.



Online monitoring systems for surface water

- Diver detector
- flow-through measure chamber with lead shielding: gamma and beta measuring
- 50 channel water probe sampler
- Local evaluation and display
- corrosion-resistant capsule
- Max. deep = 20 m
- Issued Result: activity concentration in Bq/l
- 5 energy zones, separately displayed the activity concentration of the zones
- Light, simple (no shielding)
- Local alarm evaluation from irregular spectrum, low energy Iodine, Cs-137, Co-60
- LD ~1 Bq / l



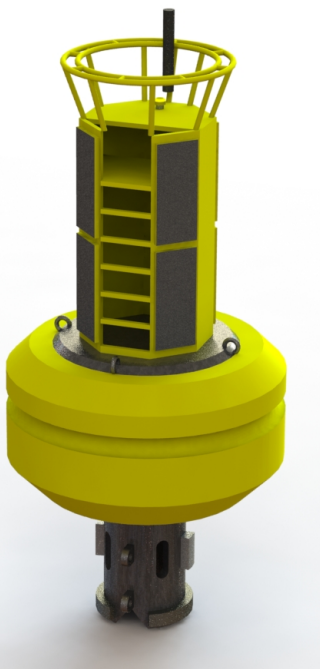
Significant parts of radioactive doses get into the human body by drinking water and indirectly by nutrition. The contamination of the surface water is affecting the population either through drinking water. Many international organizations as WHO, IAEA have issued recommendations about maximum activity concentration of several radionuclides in the water.

The GSP02 detector is fitted in a massive standard IP63 aluminium case. The probe is additionally fitted in a pressure- and seawater-resistant housing according to safety class IP68.

The values of the activity concentration of this areas and the total activity concentration are presented on the LC-display of the data-logger.

Exceeding one of the limits causes an alarm, indicated by a relay output of the data-logger; additionally an alarm-report is generated and transmitted via LAN.

The present concentration, the LD-s, and the spectra are visualized on the WEB server. The measured results are stored in the memory of the data-logger



Operating area: surface water (rivers, ponds, lakes), fountains, waterworks

Technical modifications are subject to change

V2P V45

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