

# SmartRAY2

## High Range Dose Rate Meter

### Probe

- use of a suitable according to its gamma sensitivity selected gamma ionisation chamber for the measurement of gamma dose rate and dose
- 10 decades measuring range for the gamma dose rate
- stainless steel housing for the gamma ionisation chamber, suitable for an underwater use down to 40m depth
- pluggable waterproof cable connection on the stainless steel housing, mono-cable connection between stainless steel housing and cable drum
- possible use of ionisation chambers with different gamma sensitivities for the shift of the 10-decades measuring range

### Electronics

- in operation proven SMC 2100 measuring technique with current-to-frequency converter, integrated in the SmartRAY2 housing
- SmartRAY2 with serial interface RS485 for a PC connection
- 7" colour display with touch functions, resolution 800x480 pixels integrated in the SmartRAY2 housing
- storage of the measured values on MicroSD card
- readout of the measured values via USB connection
- connections for relays, signal lights and external start signal
- output of the measured value as analog 0-20mA current signal
- mains or battery pack operation, accumulator charging at mains operation, energy management for battery pack control
- cable drum for probe connection on long cables up to 40m



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### Firmware and Software

- firmware in SmartRAY2
  - single measurement, measurement series and continuous measurements with pulse or time pre-selection as well as rate meter indication
  - indication of the results as „gauges“ or „table“ and as analog pointer instrument
  - alarm signaling if exceeding the adjusted limit
  - determination of the total dose gamma sensitivity via password as parameter free editable



### Technical Data

- current-frequency converter
  - current range: 0,1 pA bis 1,0 mA
  - sensitivity: MB1: 0,25 Hz / pA
  - MB2: 100 Hz /  $\mu$ A
- ion chamber type 52111
  - gamma sensitivity:  $\sim 1,2 \times 10^{-8}$  A / Sv/h (für  $^{137}\text{Cs}$ )
  - dose rate range: typically 50  $\mu$ Sv/h up to 85.000 Sv/h
- interfaces
  - SmartRAY2 with RS485, MicroSD with USB
- power supply
  - mains connection 85-265 VAC / 47-440 Hz
  - accumulators 3x R20 NiMH, approx. 35 Wh
  - operating time approx. 16 hours in battery pack mode
- construction
  - ion chamber housing: pluggable waterproof stainless steel housing 32 mm x 345 mm ( $\varnothing$  x L)
  - probe mono cable: length 60 m,  $\varnothing$  12 mm, for chamber signal and high voltage, rolled up on a cable drum
  - SmartRAY2-housing: 170 mm x 210 mm x 75 mm (L x W x H)