

## SPECIFICATIONS FOR PORTABLE RADON AND THORON MONITOR WITH SOLAR CHARGER

1. Quantities to be measured : Radon, Thoron, Gross Alpha
2. Detector type : Flow through ZnS:Ag scintillation detector
3. Scintillation volume : less than 0.2 L
4. Sensitivity : > 1 CPH/(Bq/m<sup>3</sup>) for Radon  
> 0.7 CPH/(Bq/m<sup>3</sup>) for Thoron
5. Sampling type : Diffusion mode and Flow mode sampling
6. Sampling pump : In-built (with 0.4 – 1.0 lpm flow rate)
7. Minimum detection limit : 15 Bq/m<sup>3</sup> at 1  $\sigma$  and 1 h cycle for radon / thoron
8. Upper detection limit : 10 MBq/m<sup>3</sup> for radon and thoron
9. Response time : 95% of radon value is to be attained within an hour  
95% of thoron value is to be attained within 5 minutes
10. Cross Interference : < 5% Thoron interference in Radon measurement in sniff mode
11. Additional In-built sensors : Temperature (-40 to 80 °C)  
Pressure (0.3 – 1.15 atm)  
RH (0 – 100 %)
12. Data storage : Memory capacity of 30,000 readings
13. Battery Backup : Internal Battery with 24 h backup
14. Input Power : + 12 V DC with adaptor for 110 - 240 V AC 50 Hz main supply
15. Solar Power : Portable Solar based charging unit
16. I/O interface : Touch screen display
17. Data communication : USB compatibility for data communication
18. Software : Windows based software for data transfer and visualization
19. Dimension and weight : < 40 cm x 20 cm x 20 cm, and weight < 5 Kg  
Solar Charger unit (< 40 cm x 30 cm x 10 cm, weight < 1 kg)
20. Carry case : Pelican or equivalent carry case for safe packing and transport