

NuGBALL

A NEW GENERATION OF SENSORS NETWORK FOR REMOTE DOSE RATE MEASUREMENT & GAMMA SPECTROMETRY



The NuGBall sensor is designed to cover a wide range of applications related to radiological investigations. Shock-proof and waterproof, this sensor can be dropped at a distance to preserve operator safety. Once deployed, NuGBalls act as a network of sensors, to determine an area's condition and its evolution. NuGBalls can be applied to dose rate measurement and gamma spectrometry acquisition.

Benefits

- Sensor adaptable to your measuring needs
- Adjustable dropping height
- Real-time iterative measurement
- Autonomous and robust system
- Long battery life
- Easy and quick deployment
- Remote sensor deployment
- Parameters adjustable at a distance
- Measurement display on a PC through NuSYSOft
- Display on smartphones, tablets or connected glasses

Key Figures

CZT-Si-CsI (TI)

➔ Modular Sensor

IP68

➔ Ingress protection

10 m

➔ Dropping height

Measure: Modular Sensor

	Gamma spectrometry		Dose rate		
	S-60	S-500	DR-H	DR-M	DR-L
Sensor	CZT (60 mm ³)	CZT (500 mm ³)	Si	Si	Csl (TI)
Emitter	Gamma	Gamma	Gamma	Gamma	Gamma
Unit	Count / keV	Count / keV	Gy.h ⁻¹	Gy.h ⁻¹	Gy.h ⁻¹
Measure range	≤ 10 mGy.h ⁻¹	≤ 1 mGy.h ⁻¹	1 μGy.h ⁻¹ to 10 Gy.h ⁻¹	1 μGy.h ⁻¹ to 100 mGy.h ⁻¹	10 nGy.h ⁻¹ to 1 mGy.h ⁻¹
Energy range	59 keV to 3 MeV	59 keV to 3 MeV	59 keV to 2 MeV	59 keV to 2 MeV	59 keV to 2 MeV
Channels	1024	1024	-	-	-
Energy resolution	<2.5% at 662 keV	<3% at 662 keV	-	-	-

Applications

- *Remote deployment of a network of sensors, on-site, in classic to hostile areas*
- *Post-incident investigation*
- *Radioactive source searching*
- *Loaded pipe investigation*
- *Limited-access area monitoring*
- *Temporary beacons in harsh environments*

Related Material

- Soft dropping shells
- Transport case
- NuISYSOft
- Dropping drone
- Connected vision (Optional)

Electrical Data

Battery.....	Lithium Polymer
Voltage.....	3.7 V
Battery power.....	2 Ah
Autonomy.....	300 measures over approx. 6 months
Monthly discharge.....	~2%
Charging system.....	Qi inductive charger, 85–264 VAC @ 50/60 Hz

Mechanical Data

Ingress protection.....	IP68
Hard cover dimension.....	Ø 75 mm (PEHD)
Soft cover dimension.....	Ø 95 mm (Polyethylene)
Weight.....	200 g
Dropping height.....	10 m (soft cover Ø 95 mm), 100 m (soft cover Ø 180 mm) Adjustable dropping height; please contact us

Communication

Name.....	iCOM
Long-range communication.....	LoRa (868 MHz)
Short-range communication.....	Bluetooth, Wifi (820.11 b/g/n 2.4 GHz)
Outdoor localisation.....	GPS (+/- 3 m)
Indoor localisation.....	Pseudolites
Security.....	AES-256 / RSA-1024

Environment

Operational temperature.....	-20°C to +60°C
Storage temperature.....	-20°C to +60°C
Charging temperature.....	0°C to +45°C

Norms

Compliant with CE standards and RED Directive (2014 /UE)