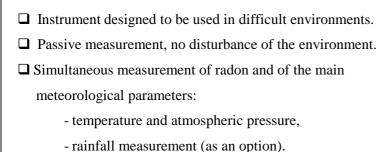
# BARASOL multi sensors BMC2

### O FOR THE CONTINUOUS MEASUREMENT OF THE VOLUMIC ACTIVITY OF RADON.

#### □ <u>APPLICATIONS</u>

- Measurements of radon in the ground:
  - geophysical studies,
  - earthquake predictions,
  - predictions of volcanic eruptions.
- Measurements of radon flux.
- Measurements of gas velocity in soils.
- Monitoring of the atmosphere in confined environments.



- $lue{}$  Acquisition rate parameters adjustable for 1 mn up to 240 mn.
- $\square$  1 year of independent operating time for power supply and memory capacity.
- ☐ Power supply from 2 x 1.5 Volt alkaline batteries.
- ☐ Sensor parameters set by *RnView2* PC software (see technical data sheet).
- ☐ Monitoring of battery voltage and shocks.

**Specifications** 



## BARASOL multi sensors BMC2

### SPECIFICATIONS

#### Quantities measured:

- internal: -<sup>222</sup>Rn,
  - temperature,
  - atmospheric pressure,
  - shocks, battery voltage.
- external with options:
  - two additional <sup>222</sup>Rn channels,
  - a rainfall measurement channel.

#### **Measurement of radon:**

The radon enters a detection volume through three cellulose filters which trap all the solid daughter products.

The sensor is an implanted silicon detector with a depleted depth of  $100~\mu m$  and  $400~mm^2$  of sensitive area. It authorises the counting by spectrometry of atoms of  $^{222}$ Rn and its daughter products created in the detection volume (window set at between 1.5 MeV and 6 MeV).

The calibration of the sensor enables the volumic activity of the <sup>222</sup>Rn to be calculated.

Radon: 50 Bq.m<sup>-3</sup> per imp.h<sup>-1</sup> (typically)

Range from 0 to 1 GBq.m<sup>-3</sup>

#### Others parameters:

Temperature: accuracy

0.05°C (relative) 0.1°C (absolute)

Atmospheric pressure:

0.1 hPa (relative)

1 hPa (absolute) from 500 to

1500 hPa

Shocks: binary detection,

the sensor is set for a sensitivity equivalent to that of the radon sensor ( the silicon detector generating spurious pulses in the

event of a shock)

Battery voltage: 0.1 V (resolution)

Rainfall measurement: 0.2 mm of water

(resolution)

#### **Measuring cycle:**

adjustable parameters: 1 to 240 minutes

#### Memory capacity:

1 MByte Flash memory (saves the data if there is no power supply).

Storage capacity of more than 1 year for a measuring cycle of 15 mn.

#### Power supply:

#### D type batteries

- 2 alkaline batteries ( 10 months operating time )
- 1 Lithium battery (10 months o.t.)

#### 2 D type batteries

• 1 Lithium (18 months o.t.)

#### **Operating temperature:**

-20°C to +70°C with alkaline batteries.

#### Casing:

Casing made of fibreglass and corrosion-resistant stainless steel.

Lining: 5 µm of copper + 3 µm of nickel.

2 Grab handles.

Protection index: IP 68.

#### **Dimensions:**

Height: 489 mm. Diameter: 62 mm.

**Weight:** 2 kg. (with 2 alkaline batteries).

#### Parameter setting and data retrieval:

RS232 connection (19200 Bauds).

Hyperterminal or,

PC software for Windows 2000, NT, XP, Vista,

Seven

#### The sensor is delivered complete with:

- a protective cover with shoulder strap for easy carrying on site,
- a certificate indicating the calibration coefficients of the radon.
- a user manual

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