

TERA Radon Program

Radon Monitor RADIM 3A
Technical Specifications



v.1 – 2017

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Users should be familiar with operation basis of used product. If you experience any problems with your product, please contact us at:

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1 Introduction

This document describes technical specifications of the Radon Monitor RADIM 3A.

Product was developed and manufactured in the Czech Republic. All rights reserved TESLA. Offer or delivery of products or services related to the product does not include transfer of ownership rights.

Before using the product, please read this manual carefully and understand all operating and safety precautions. Compliance with operational and safety precaution can prevent from damage to equipment or injuries to personnel. Operating and safety instructions in the document are marked as follows:

Attention! This formatted text indicates the operating and safety instructions.

The product may only be used in the specified manner and for its intended purpose. The product may be provided to third persons along with this documentation only.

2 Use of the Instrument

The Radim3A instrument is developed for monitoring indoor radon concentration, temperature, humidity and pressure.

3 Scope of Delivery

The Radim3A monitor is supplied as a complete unit consisting of the following components:

- the Radim3A instrument with an instruction manual,
- the program for storing and processing data in PC,
- the cable, the line adapter and the transport box.

4 Technical Specifications

Measured quantity:	air radon concentration
Functioning principle:	the radon diffuses into the chamber, covered by felt. The felt absorbs the air-borne radon decay products. The radon activity is determined by measuring the α -activity of ^{218}Po (RaA), collected by the electric field on the surface of the semiconductor detector.
Instrument response:	(0.8 counts/h)/(Bq/m ³)
Minimum concentration:	activity determined with a statistical error equal to $\pm 20\%$: 30 Bq/m ³ for 1- hour measurement
Maximum concentration:	150 kBq/m ³ for 1-hour measurement
Sampling time:	adjustable from 10 minutes to 24 hours
Effect of humidity:	the change in the relative humidity from 50% to 90% decreases the sensitivity for -6.5% . The results are automatically corrected for the effect of humidity
Electronics:	low power, protection of data
Power:	battery powered- LiOn batteries with capacity of 2.5 Ah
Current:	0.49mA during measurement, 6 μA during stand up
Operation time:	210 days from the battery, from main: limited by the memory capacity
Memory:	a maximum of 16096 measurements i.e. results of 5060 hours-210 days of monitoring can be stored in memory when 1- hour sampling time is adjusted.
Thermometer:	precision of $\pm 0.5\text{ C}$
Manometer:	range from 750 to 1150 hPa, reading differentiation 0.1hPa, precision $\pm 3\text{hPa}$, temperature coefficient $\leq 0.1\text{hPa}/^\circ\text{C}$
Hygrometer:	range from 10 to 95%, precision $\pm 3\%$, the computer determines the absolute humidity (g/m ³)
Display:	LCD, 2x 16-characters,
Communication:	RS232 standard port
Control:	3 buttons, remote control by PC
Dimensions and Weight:	230 x 170 x 90 mm, cca 2.5 kg
Climatic conditions:	temperature 5 to 40 C°, relative humidity 10-95%
Calibration:	carried out by manufacturer and attested by The State Metrological Institute of the Czech Republic

5 Repairs

Any repairs and non basic maintenance must be performed exclusively by TESLA manufacturer.

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6 Warranty

- This product is covered by warranty of 24 months from purchase date.
- In case of warranty claim, please contact our Service Department.
- Warranty covers any defects in materials or workmanship and excludes any damage resulting from or caused by transport or handling or by any misuse.
- Warranty ceases if product has been used improperly or its seal is broken.
- In case of warranty claim, warranty period is prolonged by number of days product was undergoing warranty repairs.
- After the end of its life, product must be handled as e-waste.

7 Revision History

Revision	Date	Comments
Rev.1:	31.1.2017	Initial release