Radiological and Chemical Monitoring Module

for unmanned platforms, special transport and handheld use

The MS-RCM module is designed for emergency preparedness and remote environmental survey: detection of radioactive materials as well as chemical warfare agents (CWA) and toxic industrial chemicals (TIC). The module can be installed on board different robotic platforms — land, water and air — and, equipped with a protective cover with direct air pumping, can also be mounted on special transport. The module consists of a gamma radiation detector, a CWA detector (mustard gas, lewisite, sarin, soman, Vx) and a TIC detector (chlorine, ammonia).

The MS-RCM model is powered from the onboard supply of the unmanned vehicle, with module control and data transfer via the vehicle data-transmission channel. MS-RCM-01M is additionally equipped with a protective cover for installation on special transport and a Geiger–Müller counter for radiation hazard assessment. MS-RCM-02 is designed for autonomous use with visual and audible alarm; it can be operated as a hand-held instrument or installed on board unmanned vehicles and motor transport, and comprises the MS-RCM with an autonomous power-supply module equipped with GPS, a data-transfer radio channel, receiving antenna and software for Windows. A protected tablet PC is supplied optionally.

APPLICATIONS

- Monitoring and mapping of contaminated territories
- Search and localization of gamma radiation sources
- Automatic determination of CWA and TIC in the environment
- Component of collective protection systems of special transport

SOFTWARE

- Downloading and storage of location maps
- Indication of the operating state of the detectors
- Event recording with date, time and coordinates
- Per-detector display of event sites on the map
- Switching sound alarm on/off

Specifications

Models	
MS-RCM	65×155×103 mm, 590 g; vehicle socket 9–24 VDC; CAN-bus
MS-RCM-01M	310×140×140 mm, 7250 g; vehicle socket 12–24 VDC; CAN-bus
MS-RCM-02	75×145×168 mm (+190 mm antenna), 1075 g; battery lifetime 4 h; radio channel up to 1.5 km

Gamma radiation detector	
Detector	CsI(Tl)
Average count rate range	1 – 65,000 cps
DER range (MS-RCM-01M)	0.1 µSv/h – 1 Sv/h
Energy range	0.06 – 1.5 MeV
Sensitivity ^{137}Cs — MS-RCM / -02	at least 260 s^{-1}/(µSv/h)
Sensitivity ^{60}Co — MS-RCM / -02	at least 120 s^{-1}/(µSv/h)
Sensitivity ^{137}Cs / ^{60}Co — MS-RCM-01M	at least 300 / 150 s^{-1}/(µSv/h)
Minimum detectable activity at 0.2 m, 0.5 m/s, background ≤ 0.25 µSv/h	^{133}Ba 55 kBq; ^{137}Cs 100 kBq; ^{60}Co 50 kBq

CWA and TIC detectors	
CWA detector	ionizing chamber with ^{63}Ni beta source, 33 MBq (radioisotope instrument of the 1st group; source activity below 1 MSA)
TIC detector	electrochemical sensor
Sensitivity — Sarin	0.05 mg/m³
Sensitivity — Soman	0.02 mg/m³
Sensitivity — Vx	0.005 mg/m³
Sensitivity — Mustard gas, Lewisite	0.1 mg/m³
Sensitivity — Ammonia	60–100 mg/m³
Sensitivity — Chlorine	4–6 mg/m³
Response time — CWA / TIC	5 s / 15 s
After-action — CWA / TIC	30 s / 300 s
Warm-up time	not more than 2 min

Compliance	
The instrument complies with	ITRAP/IAEA, ANSI N42.32, IEC 62401

Special software: detector state indication, event mapping and alarm management

Specifications are subject to change without notice.
Copyright © 2026 Mission Support. All rights reserved.

Mission Support · Alexanderveld 5, 2585 DB The Hague, Netherlands
E: info@cbrn-missionsupport.com · cbrn-missionsupport.com