Radiological and Chemical Detector

handheld and unmanned radiological and chemical monitoring

MS-RCD2 is a multifunctional detector combining continuous automatic chemical monitoring of the air — for chemical warfare agent groups G/V (sarin, soman, Vx) and H/L (mustard gas, lewisite) and toxic industrial chemicals such as ammonia and chlorine — with an emergency radiological detector for accidents at potentially hazardous facilities and terrorist attacks.

MS-RCD2 is designed as a handheld detector and for integration on board UGVs and UAVs. The device consists of two modules: the detector module and the navigation and data-transmission module. Alarms, alarm type and alarm coordinates are transmitted via radio channel at a distance of up to 1000 m; a shockproof laptop displays a map of the area and alarm signs, and stores the date, time, type and coordinates of each alarm in a database for subsequent viewing.

CONFIGURATION

- Detector module
- Navigation and data-transmission module
- Shockproof laptop (Panasonic class)

APPLICATIONS

- Handheld radiological and chemical monitoring
- Integration on board UGVs and UAVs
- Element of collective protection of special vehicles
- Emergency response and area survey

Specifications

Chemical detection	
CWA sensitivity — Sarin	2×10^{-1} mg/m³
CWA sensitivity — Soman	5×10^{-2} mg/m³
CWA sensitivity — Vx	2×10^{-2} mg/m³
CWA sensitivity — Mustard gas	2 mg/m³
CWA sensitivity — Lewisite	2×10^{-1} mg/m³
TIC sensitivity — Ammonia	20 mg/m³
TIC sensitivity — Chlorine	1 mg/m³
Response time at threshold — CWA / TIC	5 s / 15 s
After-action — CWA / TIC	30 s / 300 s

Radiological	
Radiological detector 1	CsI(Tl)
Average count rate range	1 – 50,000 cps
Energy range	0.06 – 2.0 MeV
Sensitivity by ^{137}Cs	at least 100 s^{-1}/(µSv/h)
Radiological detector 2	Geiger–Müller counter
DER range	0.1 µSv/h to 2 Sv/h

General	
Operating temperature	−40 to +60 °C
DC power supply voltage	12 – 24 V
MTBF	6000 h
Warm-up time	not more than 2 min
Interfaces	CAN
Decontamination	yes
Ingress protection	IP65
Dimensions	75×145×168 mm
Operation time, fully charged laptop battery	4 – 6 h
Alarm	light / sound
Weight — device / detector module	1075 g / 590 g

ime of alarm, alarm type and coordinates are stored in the database for subsequent viewing.

Integration on UAV and UGV platforms

Specifications are subject to change without notice.
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