

RADIATION DETECTION MEASUREMENT AND CONTROL UNIT (RADMAC)

PRODUCT BRIEF: The RADMAC, developed by Defence Research and Development Organisation (DRDO) is capable of detecting nuclear detonation and measurement of fallout radiation (gamma) in the nuclear contaminated zone. It generates necessary signals for activation of NBC protection system of the vehicles / tracked vehicles / installations. The RADMAC type RM101 is a battery operated electronic unit designed to be fitted into tracked vehicles as part of the NBC protection system. It has sensors for detecting Initial Nuclear Radiation (INR) and measurement of Residual Nuclear Radiations (RNR). The RADMAC is microcontroller based equipment with user friendly interface, RS-485 networking capability and gives direct display of information like; Current Dose Rate, Total Dose, Temperature, Date and Time, situation based help messages etc. on front panel VFD, Bar Graph and 7-segment displays. The N. Exp., CWA, High Dose (HD)/High Dose Rate (HDR) and ERR are indicated through status LEDs. The equipment has built-in diagnosis to identify bugs/failures in hardware and calculation of future dose rate and stay time for the user.

Salient Features:

- a) Covers the wide range of gamma radiation measurement (1mR/h – 1000R/h).
- b) Temperature sensor for compensation against temperature variations of the INR stage.
- c) RS485 serial port for PC communication.
- d) Audio as well as Visual indications for various alarms.
- e) Relay activation control outputs for prompt INR pulse and high dose rate for activation of
- f) Protection system
- g) Extensive help to the user depending upon the current background radiation status.
- h) Self-check on Power ON and option to initiate hardware check of various stages.
- i) Interface to auxiliary input (CWA detector)
- j) EMI/EMC compliance as per MIL STD 461C/462
- k) Environmental specifications as per JSS55555 standards.

Applications: The equipment has been developed for fitment into tracked vehicles as part of NBC protection system. It can also be installed in shelters, Emergency response centers etc.

Status: Developed and productionised. ONE TOT done with industry. The equipment has potential for export.