



Technical Data

Digital Contamination Monitor Type CM710N is

designed, manufactured and supplied by Nucleonix Systems is a state-of-art, ruggedized microcontroller based unit which essentially serves as a low level alarming survey meter cum Beta contamination monitor. It measures contamination in CPS or CPM mode and low level gamma dose rate in mR/h / μ Sv/h.

Pancake Configuration offered in Internal or either in External.

It has lot of unique features which include user interface, through a set of seven command buttons & the visual indication to the user is on 16x2 LCD dot matrix display module. This unit has preset alarm facility which can be set throughout the range of the instrument. Unit can store upto 1000 readings and stored data can be downloaded into PC using communication software, through built-in Micro USB port.

FEATURES :

- Microcontroller based design.
- Compact, Elegant and light weight.
- External probe with cover for Beta /Gamma.
- Measures dose rate in mR/h/Sv/h & count rate in CPS / CPM.
- Range changeover Automatic.
- Accuracy +/- 15% with Cs-137.
- Facilitates store & recall of readings and transfer of readings to PC.
- Unit WORKS ON 6V, dry cells (4x1.5V)
- RTC for time stamp of each reading
- IP rating is better than IP56 for unit & probe.
- EMI/EMC compliance as per IEC 61000-4-3.

SPECIFICATIONS

Detector:

Type : Pancake GM detector

Dimension : 50mm dia

Sensitivity (Approx) : 60 cps/mR/h

Units: a) CM710N(E)

Detector Probe: This consists of Pancake GM detector housed inside a cylindrical housing with handle. Probe is fixed into a side clamp on one side of the instrument. This housing is provided with cap for Beta/ Gamma selection.

b) CM710N(I)

Detector Probe: This consists of Single Pancake GM detector housed inside a cylindrical housing fitted on the bottom side of the instrument. This housing is provided with cap for Beta/Gamma selection.

Radiation detected: Beta & Gamma

Measurement Unit :

mR/h / μ Sv/h / CPS / CPM

Measuring ranges :

(a) Dose rate : 0 - 200 mR/h (or)
0 - 2000 Sv/h

(b) Count rate : 0 - 99999 cps (or)
0 - 99999 cpm

Preset alarm range: 0-200 mR/h (or) 0-2000 μ Sv/h (or) 0 - 99999 CPS (or) 0 - 99999 CPM.

Over range: Senses over range & shows on display.

Accuracy : +/- 15% with Cs-137.

Audio: Built-in piezo buzzer provides beeps for every detected pulse and alarm o/p for preset alarms.

Display Indication: 16x2 backlight LCD Display for showing dose rate / count rate apart from textual screens during configuration.

Response Time: <5sec.

Data Storage : Can store upto 1000 readings. Store data can be recalled back on to display or transmitted to PC through Micro USB Port.

Serial port / data communication: Built-in Micro USB port facilitates data downloading into PC. Data communication software with connecting cable can be provided at extra cost.

User Interface: START, STOP, PROG, STORE, INC, DEC & ON/OFF are the seven control buttons provided on the instrument. The above buttons allow the user to program and operate the instruments in appropriate manner.

RTC: Real time stamp recorded with each reading.

Fault Diagnostics: Low battery indication hv fault & detector failure are provided on the display.

Power: 6 Volts, DC, size AA, MN1500 LR6 (4 X 1.5 Volts), Alkaline cells.



a) CM710N(E)



b) CM710N(I)

Applications :

- Serves as a low level contamination measuring unit to check for β & γ contamination in CPS, CPM modes, in Nuclear & Radiological facilities, Radiotherapy & Nuclear medical depts., PET-CT centers, medicine cyclotrons etc. It can also measure low level gamma dose rates at these facilities.
- Contamination of hands, clothing, work areas, flooring, surface contamination of source housings, surface, ports of therapy machines, industrial sources etc., can be measured.

Type test compliance :

- a) IP rating is better than IP 56 for unit & probe with shutter closed.
- b) EMI/EMC compliance as per IEC 61000-4-3.

Dimensions :

- a) Unit : 106W x 196L x 100H in mm (Approx.)
- b) Probe dimensions:
- c) overall length : 25.4cm
- d) Dia of handle : 2.5cm X 3.3cm
- e) Dia of pancake detector enclosure : 65

Weight :

- a) External Type CM710N - 1.4Kg (Approx.)
- b) Internal Type CM710N - 1.3Kg (Approx.)