HIGH RANGE UNDERWATER MONITOR - SIEVERTS

Model # CP-MU /-1000 /-7
HIGH RANGE PROBE Model # DMU-1
MID RANGE PROBE Model # DMU-1000

FEATURES:

•FOUR LINEAR RANGES UP TO 10,000 S*v*/h with DMU-1
•COVERS 1 mS*v*/h to 10 S*v*/h with DMU-1000
•WATERPROOFED DETECTOR SYSTEM
•STABLE AND DEPENDABLE - ALL SOLID STATE
•FAST RESPONSE
•LIGHTWEIGHT AND PORTABLE
•SINGLE D CELL
•FULL PROTECTION FOR MOSFET WHEN COUPLING OR DECOUPLINC
•CP-MU-7 READS UP TO 10^5 S*v*/h

•**APPLICATION:** Because of the extremely high range capability of this instr construction of the ion chamber detection system, underwater monitoring (ar Reactor Spent Fuel Elements, Reactor components and doserate measurem now be make easily and at the ranges called for at moderate cost.

GENERAL DESCRIPTION: The Underwater Monitor consists of a lightweight single D-cell operated, solid state and MOSFET driven electronic package (Model **CP-5-MU**) coupled to a High Range DMU-1 or Mid Range DMU-1000 Detector System consisting of 60 feet of special low noise cable with a waterproof coupling to a 8" long x 1/2" diameter aluminum tube containing an ion chamber (in Model DMU-1) or 7-1/2" long x 5-3/4" diameter aluminum ion chamber (in Model DMU-1000). A ``handle" consisting of 8 foot sections of free draining 5/8" stainless steel tubing is available as an option. Up to 16 feet may be used with DMU-1 in any position. Twenty-four feet or over may be used vertically with DMU-1 or DMU-1000 chamber downward.

Four linear ranges on the electronic package provide readings up to 10,000 S*v*/h. DMU-1000 and DMU-1 probes, when used with **CP-MU** readout, extend the sensitivity of instrument so that levels of 1 mS*v*/h to 10,000 S*v*/h can be read. Both the high range and low range probe can be used with the same readout. The scale multiplier for the low range probe is 10 mS*v*/hr and for the high range probe is 10 S*v*/h. A ``set" position on the Range Switch permits the meter to be adjusted to read zero by the zero adjust knob on any of the radiation ranges. calibration on each range is individually adjustable.

The instrument case is made of chrome-plated aluminum with engraved lettering for easy decontamination. Case openings are sealed by gasket or screw closure for protection of electronics. The case contains the range selector switch, the zeroing control, and a large face meter (calibrated to read kilo-roentgens per hour) with 50 scale divisions. The meter is mounted at a 45-degree angle for excellent visibility. A reliable MOSFET electrometer circuit and improved solid state electronics assure long uninterrupted service. Mechanical switching of the high impedance circuit has been eliminated and is replaced by magnetically operated reed switches. Protection against influence by magnetic fields up to 60 gauss has been built into the instrument. A top handle and four rubber feet achieve a more stable base with no loss of meter visibility.

SPECIFICATIONS: Ranges

DMU-1000	**0 to 10 mS*v*/h**	**0 to 100 mS*v*/h**	**0 to 1 S*v*/hr**	**0 to 10 S*v*/h**
DMU-1	0 to 10 S*v*/h	0 to 100 S*v*/h	0 to 1,000 S*v*/h	0 to 10,000 S*v*/h

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HIGH RANGE PROBE Model # DMU-1
MID RANGE PROBE Model # DMU-1000

SPECIFICATIONS: Ranges:CP-MU-7 Ranges:

DMU-1000	0 to 0.1	0 to 1	0 to 10	0 to 100S*v*/h
DMU-1	0 to 10^2	0 to 10^3	0 to 10^4	0 to 10^5 R/hr

•**Model Numbers:**
CP-MU: CP-5MU electronic package plus DMU-1 Probe with 60-foot cable.
CP-MU-1000: Same electronics with DMU-1000 Probe and 60-foot cable.
For full 100 mR/hr to 10^6 R/hr coverage,specify CP-MU plus DMU-1000 probe
•**Accuracy:** ± 15% F.S.
•**Calibration:** Cs-137 Gamma (Co-60 Optional)
•**Time Constant:** 2 seconds
•**Temperature Range:** -30℃ to +57℃
•**Drift:** At room temperature - less than 0.5% per ℃
•**Battery:** 1 D cell, carbon-zinc, alkaline, mercury, or nickel-cadmium type batteries can be interchanged without instrument adjustments. Use alkaline batteries below 0℃
•**Battery Life:**
Carbon Zinc: 100 hrs.
Mercury: 300 hrs.
Nicad: 100 hrs.
•**Battery Check:** Pushbutton switch with meter readout
•**Range Adjusts:** 4 external screwdriver adjusts
•**Zero Adjust:** Knob
•**MOSFET Protection Circuit:** Prevents damage to MOSFET when coupling or decoupling detector system.
•**Case:** Hard chrome plated aluminum, gasket sealed, all lettering engraved 4 small feet and overhead handle.
•**Dimensions:** (of readout package) - 8" long x 5-1/2" x 4" wide excluding handle.
•**Weight:** 4 lbs.
•**Detector System: DMU-1000** - Low noise cable with water resistant coupling to weighted aluminum ion chamber. Welded construction.
•**Detector System: DMU-1** - Low noise cable with water resistant coupling to 8" long welded aluminum tube with ion chamber inserted into tip.
•**Cable:** 60 feet length - special low noise rating, 100-foot cable or other lengths **Optional**.
•**Ion Chamber:**
DMU-1000: 7-1/2" tall x 5-3/4" diameter anodized aluminum.
DMU-1: 1" long x 1/4" diameter aluminum.
•**Options:**
4 consecutive decades other than standard range High range ion chambers of other dimensins or configurations (as for in-cell use).
Extension handle for probe 1/2" D x 8 ft.. sections. One or two sections may be used in any attitude; three or more sections vertically only, detector down.
Set of High range calibrators (chamber substitution method).

DMU-1000

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