



# Alpha Hand and Clothing Monitor

**Model: HSM-10AS**

Models **HSM-10AS**, Hand and Clothing Monitors are health physics instruments.

Designed to provide completely automatic detection and measurement of Alpha contamination on the palm and back of each hand and clothing.

Extremely simple operation allows the individual worker to perform this check without direct supervision of the health physicist.

## Features

- (4) Scintillation ZnS(Ag) detectors
- Detects Alpha
- Over Range Indicator
- Full Dynamic Background Subtract
- Color Monitor Read-Out
- Alarm Settings Near Background
- Positive Warning if Incomplete Check
- External Clothing Scintillation ZnS(Ag) Probe with Separate Circuit, Meter, and Speaker
- **Optional:** Table Top or Cart Mount
- Modular Electronics
- Built-In Computer
- Data Archive and Retrieval
- USB / Ethernet Ports
- **IP41**

## Description

The **HSM-10 Series** monitors feature large full color LCD display screen that enable the user to tell - in one look - whether he is contaminated, and where.

Numerical read-outs are provided along the bottom of the monitor panel, showing the total count on each hand.

An outstanding feature of the instrument is the low warning levels, permitting alarm settings as low as the background count.

A separate rate meter circuit is provided for the EXTERNAL CLOTHING PROBE, including a speaker for audible check and a meter for visual check.

All the detecting elements and sections exposed to contamination are designed for easy decontamination.



## TECHNICAL ASSOCIATES OVERHOFF TECHNOLOGY

7051 ETON AVENUE, CANOGA PARK, CALIFORNIA 91303

PHONE: 818-883-7043 | FAX: 818-883-6103

SALES@USNUCLEARCORP.COM | TECH-ASSOCIATES.COM | USNUCLEARCORP.COM

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**Model: HSM-10AS**

## Operations

No training or particular skill is required in the operation of **HSM-10 Series** monitors. The user inserts hands into the two waist-high probe openings.

The counting process is started and continued by pressure of the fingertips at the rear of the probe openings, and by the weight of the person on the shoe deck. As soon as the counting starts, the "Ready for Use" message is replaced by "Counter in Operation".

**Note:** If at any time during the counting cycle, the user removes either hand from the hand probe or steps off the shoe deck, the cycle will automatically stop and the orange message,

"Check Incomplete - Reset and Repeat" will light up. This positive warning prevents erroneous readings.

As soon as the preset time has elapsed, the "Counter in Operation" is replaced by either the green "Check O.K." panel or the bold red "Decontamination Required". Message is dependent upon whether the radioactivity present is above or below the alarm setting.

If decontamination is required, bold red panels marked "Left Hand", "Right Hand", or "Left or Right Shoes" will light up, indicating the location of contamination.

The degree of contamination is indicated on the digital readout. After the check is completed, the instrument is automatically ready for the next user.

**\*\*The CLOTHING PROBE**, is used to detect contamination on hair and clothing. The output of the clothing probe is read visually on its own count rate meter and audibly by the speaker.

The clothing Probe consists of the Alpha sensitive Scintillation Probe ZnS(Ag) with high sensitivity for fast checking of surfaces.

## Specifications: HSM-10AS

<b>Sensitivity:</b>	Less than .01 $\mu\text{C}$ of $>4.2$ MeV.
<b>Detectors:</b>	Four Scintillation Probes ZnS(Ag) (2) each hand. Clothing probe is an Alpha sensitive Scintillation (PAS-8) Probe ZnS(Ag) A with knurled handle.
<b>Counters:</b>	Three separate five-digit on-screen Counters for hands and clothing.
<b>Shielding:</b>	1/4" lead.
<b>Count Time:</b>	Resettable 10, 20 or 30 seconds.
<b>Count Range:</b>	0-99,999 counts Digital each hand; Clothing probe has four analog ranges: 0-500; 5,000; 50,000; 500,000 cpm. OVER RANGE INDICATOR
<b>Alarm:</b>	Continuously settable to 10,000 total counts, either hand or clothing.
<b>Readout:</b>	Ready for Use, Counter in Operation, Check Incomplete, Reset and Repeat, Check O.K., Decontamination Required, Left Hand, Right Hand. Clothing A 5" meter for clothing probe, plus audible signal.
<b>Environment:</b>	Temperature: $<45^{\circ}\text{C}$ ; RH: $<90\%$
<b>Power Requirements:</b>	105 to 125 volts, 60 cycle A.C., (220V A.C, 50/60Hz <b>optional</b> )
<b>Weight and Dimensions:</b>	
<b>Dimensions:</b>	<b>Cabinet:</b> 36" high x 27-1/2" wide x 24" deep. <b>Weight:</b> 200 lbs
<b>Optional:</b>	Cart



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HSM SERIES ~ HAND, SHOE & CLOTHING MONITOR COMPARISON			
MODEL	DETECTION	DETECTOR TYPE	EXTERNAL CLOTHING PROBE
HSM-10A	BETA / GAMMA	THIN SIDE WALL GM (4) GM T-1100 Per hand; (2) GM T-1200 Per foot  TOTAL (8) OPTIONAL (1) each additional GM T-1200 for each foot TOTAL (12)	YES  TA- 15; GM T-1190
HSM-10B	ALPHA, BETA, GAMMA	THIN WINDOW PANCAKE GM T-1190 (4) Per hand (2) Per foot TOTAL (12)	YES  TA-P15; GM T-1190
HSM-10ABS	SEPARATE & SIMULTANEOUS ALPHA & BETA	SCINTILLATION  Dual phosphor ZnS Alpha and plastic Beta/Gamma scintillation detectors. (2) Per hand; (2) Per foot. TOTAL (8)	YES  TA- P15; GM T-1190
HSM-10G	SEPARATE & SIMULTANEOUS ALPHA & BETA	GAS FLOW PROPORTIONAL  10-3/4" x 6-1/4" each side – (2) Per hand detectors. 16-1/4" x 6-1/4" each shoe – (1) Per shoe. TOTAL (6)	NO
HSM-10AS (HAND & CLOTHING ONLY)	ALPHA	ALPHA SCINTILLATION  ZnS(Ag) (2) Per hand. TOTAL (4)	YES  TA-PAS-8 – ZnS(Ag)
HSM-P-20 (Portable HAND, FOOT & CLOTHING)	BETA / GAMMA  OPTIONAL - ALPHA	THIN WINDOW PANCAKE GM T-1190 (2) Portable Hand / Clothing Detector (2) Portable Shoe Detector. TOTAL (4)	YES  TA-P-15 GM T-1190



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 OTCQB-UCLE