

Fast and reliable radiation detection



Thermo Scientific ASM-IV Automatic Scrap
Monitoring System

Unparalleled sensitivity

The Thermo Scientific™ ASM-IV automatic scrap monitoring system is a configurable platform to prevent radioactive materials from entering scrap metal and metal processing workflow resulting in expensive plant decontamination and shutdown. Offering unparalleled sensitivity and reliability, the ASM-IV system provides the perfect solution for portal monitoring applications that require the lowest possible alarm thresholds.

- Monitor and prevent workflow contamination
- Prevent expensive costs of radiation cleanup
- Quickly identify orphaned sources
- Remote monitoring of system health to maximize uptime
- Daily scan event tracking and monthly reporting



System Control Unit (SCU)



Touch screen monitor

History banner

Indicator lamps and pushbuttons

History banner of recent events

Displays abbreviated results from the 10 most recent scan displays for rapid review. Tap the desired occupancy icon to display the detailed scan information.

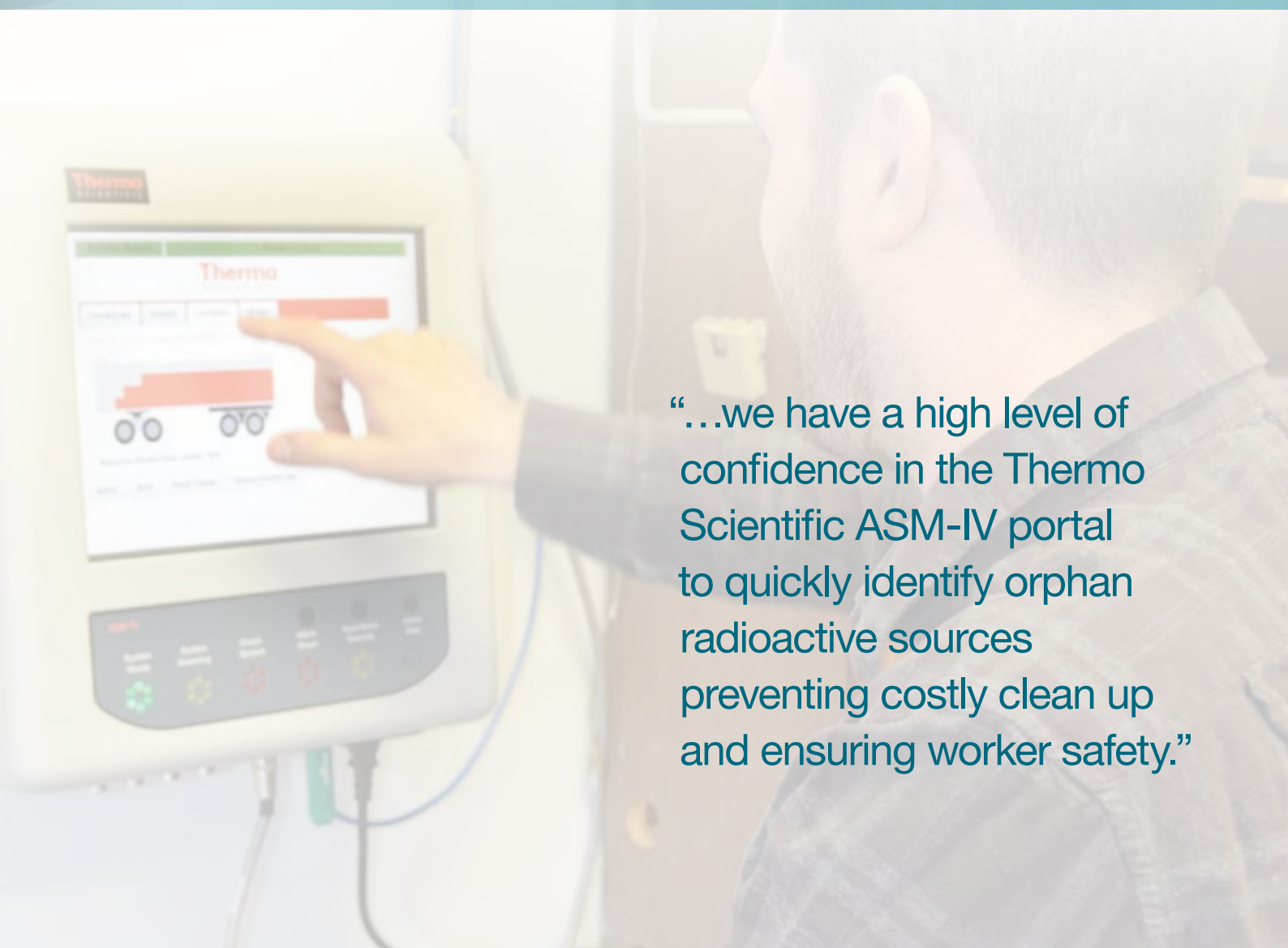
- Color coded banner indicator for rapid scan results
- Records and Identifies Time, Date and Event ID Number & Customer Name

	07/18/2017 16:12:56 180-1 Customer	07/18/2017 16:13:06 180-1 Alarm 1 Customer	07/18/2017 16:13:26 182-1 Customer	07/18/2017 16:13:39 183-1 Customer	07/18/2017 16:13:49 184-1 Customer	07/18/2017 16:13:49 184-2 Customer	07/18/2017 16:14:01 185-1 Speed Customer	07/18/2017 16:14:01 185-2 Speed Customer	07/18/2017 16:14:37 186-1 Customer	07/18/2017 16:14:51 187-1 Speed Customer	
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Optimized Detector Performance

Larger volume individual detectors decrease performance by having proportionally larger background values which directly impact signal to noise ratios. By providing more independent detector zones, users will benefit from significant increases in performance when compared to single large detectors. The ASM-IV's use of multiple, smaller volume configurable detectors provide vertical resolution over the coverage area allowing you to rapidly pinpoint the location of the source.

- Best in class vertical coverage and resolution
- Proven, unsurpassed Dynamic Background Suppression
- Optimized detector width and scan interval, provides best in class horizontal resolution
- Vehicle profiling algorithm



“...we have a high level of confidence in the Thermo Scientific ASM-IV portal to quickly identify orphan radioactive sources preventing costly clean up and ensuring worker safety.”

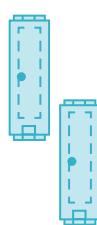
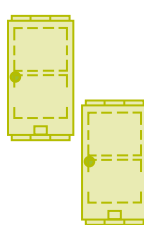
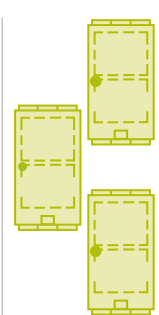
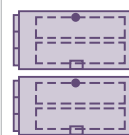
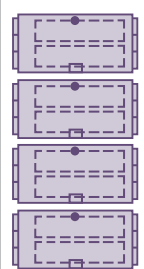
Applications

Many factors determine the most appropriate configuration for your use case, from material to be scanned, vehicle types, vertical coverage, sensitivity and cost. Use the information below to determine the correct configuration for your specific use case.

Use cases

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| <ul style="list-style-type: none">• Scrap processing – material in• Scrap processing – material out | <ul style="list-style-type: none">• Scrap processing – material out• Mill/Foundry – material in• Mill/Foundry – material out | <ul style="list-style-type: none">• Scrap processing – material out• Mill/Foundry – material in• Mill/Foundry – material out |
|--|--|--|

Radiation detector modules

Single		Enhanced			Dual			
								
ASM IV 3KE 48" (1219 mm) vertical coverage 15" (381 mm) detector dwell	ASM IV 6KV 96" (2438 mm) vertical coverage 15" (381 mm) detector dwell	ASM IV 6KE 51" (1295 mm) vertical coverage 33" (838 mm) detector dwell	ASM IV 12KV 102" (2591 mm) vertical coverage 33" (838 mm) detector dwell	ASM IV 18KV 153" (3886 mm) vertical coverage 33" (838 mm) detector dwell	ASM IV 6KD 33" (838 mm) vertical coverage 48" (1219 mm) detector dwell	ASM IV 12KD 69" (1753 mm) vertical coverage 48" (1219 mm) detector dwell	ASM IV 18KD 105" (2667 mm) vertical coverage 48" (1219 mm) detector dwell	ASM IV 24KD 141" (3581 mm) vertical coverage 48" (1219 mm) detector dwell



Detector Assemblies

Model	Radiation Detection Module	Number of Detectors	Vertical Coverage	Detector Dwell	System Detector Volume
ASM IV 3KE	2	2	48" (1219mm)	15" (381mm)	47 Liters (2880 in ³)
ASM IV 6KV	4	4	96" (2438mm)	15" (381mm)	94 Liters (5760 in ³)
ASM IV 6KE	2	4	51" (1295mm)	33" (838mm)	103 Liters (6336 in ³)
ASM IV 12KV	4	8	102" (2591mm)	33" (838mm)	208 Liters (12672 in ³)
ASM IV 18KV	6	12	153" (3886mm)	33" (838mm)	311 Liters (19008 in ³)
ASM IV 6KD	2	4	33" (838mm)	48" (1219mm)	94 Liters (5760 in ³)
ASM IV 12KD	4	8	69" (1753mm)	48" (1219mm)	189 Liters (11520 in ³)
ASM IV 18KD	6	12	105" (2667mm)	48" (1219mm)	283 Liters (17280 in ³)
ASM IV 24KD	5	16	141" (3581mm)	48" (1219mm)	378 Liters (23040 in ³)

Specifications

Detector interface cable	53 mm (175 ft)
Proximity sensor kits	Two (2) sets: High-gain IR industrial occupancy sensors & mounting kits
Options	SCU bench-mounting stand; 200-g Lutetium test adapter; additional detector interface cable; USB ticket printer; USB to RJ11 analogue modem; USB cellular modem; additional traffic/interface devices upon request.
System Control Unit (SCU)	
Power requirements	100 to 264 VAC RMS, 47 to 63 Hz, 1.5A; internal switch-mode AC/DC power supply capable of providing 12 VDC and 5 VDC for components internal to the unit; isolated switch-mode AC/DC power supply capable of supplying 24 VDC to the detectors. Detector interface unit, and discrete I/O ports
Operating temperatures	0°C to +40°C (+32°F to +104°F)
Storage temperatures	-40°C to +70°C (-40°F to +158°F)
Humidity	10-93% relative humidity, non-condensing
Altitude	Sea level to 10,000 feet
Dimensions	406 mm x 356 mm x 108 mm (16 in x 14 in x 4.25 in), 8.7 kg (19.2 lbs)
Regulatory compliance	Safety: UL/CSA/EN/ 61010-1; Electromagnetic compatibility for emissions and immunity both radiated and conducted: EN61326, EN55011:2007 +A2:2007; FCC subpart B (ClassA); RoHS: RoHS compliant
I/O interfaces	Detector interfaces: Two twisted pair conductors for supplying power (24VDC) and communications (RS-485) to ASM IV detectors (RDMs) plus supplemental power interface for special applications; 10/100 Base-T ethernet jack (RJ45) for remote communication; Two powered USB v2.0 ports to accommodate external USB peripherals; Four user software configurable relay outputs (2A); Four optically isolated, general-purpose user configurable discrete inputs
User interface	12.1-in LCD display panel; touch screen interface; loud speaker; three membrane keypad pushbuttons with tactile feedback provided for system control and alarm acknowledgement; six LED indicators provided for system status; 8-GB compact flash (program files)
CPU and memory	Dynamic vehicle profiling and background suppression compensation with 1/16th sec resolution and sum/individual channel alarms
Reality-based algorithms	Dynamic vehicle profiling background suppression compensation with 1/16th sec resolution and sum/individual channel alarms
Radiation Detector Modules (RDM)	
Operating temperature	-30°C to +60°C (-22°F to +140°F)
RDM spacing	4.2 m (14 ft) or less for best performance
RDM sizes	Single: 23.60 liters (1440 in ³), Double: 47.19 liters (2880 in ³) and enhanced 51.91 liters (3168 in ³) active volume
RDM enclosure dimensions HxWxD	Single: 1829mm x 457mm x 254mm (72Hx18Wx10D), 204kg (450lbs) Double 1829mm x 914mm x 254mm (72Hx36Wx10D), 340kg (750lbs) Enhanced 914mm x 1829mm x 254mm (36Hx72Wx10D), 340kg (750lbs)
RDM enclosure assembly	Weatherproof, lead-lined stainless steel NEMA rated enclosures
RDM access	Gasketed aluminum door with 3-point latch
RDM integral shielding	1/8-in lead shielding

Find out more at thermofisher.com/radiationmeasurement

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