

The ASM IV radiation detection system is designed to monitor a variety of vehicles and/or scan for undesirable sources of radiation commonly found in scrap metal and reject them before they can cause harm to people, property or product.

Thermo Scientific ASM IV

Models 6KE, 9KEO, 12KV, & 18KV/18KVO

Vehicle Monitoring Systems



Thermo Scientific
ASM IV System
Control Unit (SCU)



Features and Benefits

- Flexible, optimized radiation detector modules—most appropriate size and shape in the best configuration for your facility and vehicles
- Specifically designed for industrial environments
- Simple to operate and maintain
- Rugged System Control Unit's (SCU) large color touch screen provides clear communication of system status, detector data and alarm history
- SCU needs no cooling fans and features solid-state components for increased reliability
- Fully networkable system
- Lead shielding and industrial anti-vibration shock mounts standard for all detector configurations

The ASM IV vehicle monitoring systems offer unparalleled sensitivity and reliability. Designed to utilize industry-proven detector designs, state-of-the-art radiation detection algorithms, and advanced, low-noise electronics technology, these particular models provide the perfect solution for scrap metal roll-off truck, tri-axle dump truck, semi dump truck and semi box trailer vehicle monitoring applications, which require the lowest possible alarm thresholds.

Since 1987, the cornerstone of ASM detector designs has been to provide both vertical coverage of the vehicle (detector height) as well as dwell-time (detector width), while maintaining maximum signal-to-noise ratio (optimized vertical resolution). The large-area plastic scintillation detectors are shock-mounted and housed in lead-lined, NEMA rated stainless steel detector

enclosures, and are proven to withstand the rigors of industrial vehicle monitoring applications in the harshest environments.

Data analysis and management is processed by the ASM IV System Control Unit (SCU). The unit is wall-mountable, incorporating an industrial-grade ETX 3.0 controller and touch-screen graphic display. Unit can be set on a desktop with an optional stand. Designed to be operated with little or no operator intervention, the ASM IV SCU features simple, one-button response to alarm conditions, while providing detailed scan and alarm data at the request of the operator. A color graphic display allows the viewing of detector data, alarm history and location of the detected source in the vehicle.

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Detector Assemblies

ASM IV 6KE	Two (2) detector modules: 103 liters (6336 in ³); system shipping weight: 949 kg (2092 lb)
ASM IV 9KEO	Three (3) detector modules: 156 liters (9540 in ³); system shipping weight: 1404 kg (3097 lb)
ASM IV 12KV	Four (4) detector modules: 208 liters (12672 in ³); system shipping weight: 1861 kg (4102 lb)
ASM IV 18KV	Six (6) detector modules: 311 liters (19008 in ³); system shipping weight: 2772 kg (6112 lb)
ASM IV 18KVO	Six (6) detector modules: 311 liters (19008 in ³); system shipping weight: 2772 kg (6112 lb)
Detector Interface Cable	53 m (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 control/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 Temperature	0°C to +40°C (+32°F to +104°F)
Storage Temperature	-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 & Immunity both Radiated and Conducted: EN 61326, EN 55011: 2007 +A2:2007; FCC Subpart B (Class A); 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; optional USB thermal ticket printer
CPU and Memory	ETX 3.0 processor board; X-Channel mother and daughter (interface) boards; Linux Operating System; Vented back cover provides passive cooling for CPU and other electronics; 16-GB internal solid state hard drive (data files); 8-GB compact flash (program files)
Reality-Based Algorithms	Dynamic vehicle profiling and 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	Single: 1981 mm x 457 mm x 254 mm (78 in x 18 in x 10 in), 154 kg (340 lb) Double/enhanced: 1981 mm x 914 mm x 254 mm (78 in x 36 in x 10 in), 340 kg (750 lb)
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

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