

AiM-100

Airborne Molecular Contamination Monitor

Real-time detection of trace level depositions of Airborne Molecular Contamination (AMC) on SiO₂ surfaces. AiM's surface acoustic wave technology quantifies the deposition of a range of AMC contaminants in ultra-clean environments.



FEATURES

- Monitors AMC deposition on SiO₂ surfaces
- Detects mass depositions of less than 0.2 ng/cm²
- Program to sample every 1 to 60 minutes
- RH compensation algorithm
- Small footprint, easy to mount
- Battery operated or mains powered
- Data download to Excel via HyperTerminal® software
- Real-time data collection, monitoring and alarms via Facility Net software

APPLICATIONS

- General Airborne Molecular Contamination (AMC) monitoring
- Measure FOUP and SMIF Pod outgassing
- Minienvironment monitoring
- Disk drive outgassing

BENEFITS

Improve Yield

- Real-time monitoring of damaging AMC depositions
- Silicon dioxide sensor chip emulates silicon wafer surface
- Sub-monolayer sensitivity allows AMC problems to be detected before they significantly damage product and process surfaces

Easy to Use

- Real-time data display and tracking via powerful facility monitoring software (Facility Net)
- Simple portable operation via HyperTerminal
- Easy to download data to Excel
- Battery both serves as backup and allows stand-alone use
- Onboard storage of up to 7,200 sample data sets (5 days at sample period of once per minute)
- Easy to remove and send sensor chip for TOF/SIMS lab testing to identify contaminating species
- Support services available for analysis of contaminants

Cost Effective

- Low capital investment
- Provides data on deposition mass, deposition rate, ambient temperature and relative humidity
- Use as either a stand-alone monitor, or as part of an integrated facility monitoring system
- RS-232 communications allows easy integration into Facility Net or other existing data management systems



SPECIFICATIONS

AiM-100

AMC collection surfaces:	SiO ₂ (other surfaces under development)
Nominal mass sensitivity:	Sub-monolayer, i.e., detects mass changes of less than 0.2 ng/cm ²
Sample period:	1 to 60 minutes
Software required for operation:	Facility Net (for real-time data recording in a facility management system), or HyperTerminal [®] (for stand-alone use)
Status indicators:	Power LED
Communications:	RS-232
Data storage:	Stores up to 7,200 samples
Temperature measurement:	±0.2°C accuracy from 15°C to 35°C
Relative humidity measurement:	±2.0 % RH accuracy and 0.5 % RH repeatability within 0-100% RH range
Relative humidity adjustment:	RH compensation algorithm
Dimensions (h,w,d):	5.3 x 3.1 x 1.1 inches / 13.3 x 7.8 x 2.9 cm
Weight:	14 oz / 0.4 kg
Power:	110-125 or 220-240 VAC power supply, or a 3.3V lithium battery
Battery:	3.3V nonrechargeable lithium battery allows a minimum of one week of stand-alone use (at a one minute sample interval)
Operating temperature:	15-35°C / 59-95°F
Operating relative humidity:	20-50% RH

The AiM is shipped with the following components:

Part number:

AiM monitor (in a special, non-outgassing plastic bag)	Domestic International	105010-1 105010-2
AiM sensor chip (in a Teflon tube inside a specially cleaned glass vial with a Teflon-lined cap)		1000001207
Combination data/power cable and transformer, 100-125 VAC		AE2201
Combination data/power cable and transformer, 220-240 VAC		AE2203
15' RS-232 data cable with 9-pin connectors		1000001209
3.3V lithium battery		SU174
Stainless steel wall hanger		MP10267
5/16" Allen wrench (for installing the battery or sensor chip)		1000001210
Hemostat (for installing and removing the sensor chip)		1000001211
Pair of tweezers (for removing the AiM sensor chip from the shipping vial)		1000001212
Pair of nitrile gloves (for installing or removing sensor chip)		1000001213

Particle Measuring Systems, Inc. reserves the right to change specifications without notice.
U.S. Patents and applications apply - 5,476,002 and 5,661,226.
HyperTerminal[®] is a registered trademark of Hilgraeve, Inc.

AUTHORIZED REPRESENTATIVE

CE



Registration applies to the Boulder, Colorado facility.



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