

APPROVAL REPORT

STRATOS-MICRA 100 HIGH SENSITIVITY SMOKE DETECTION SYSTEM

Prepared for:

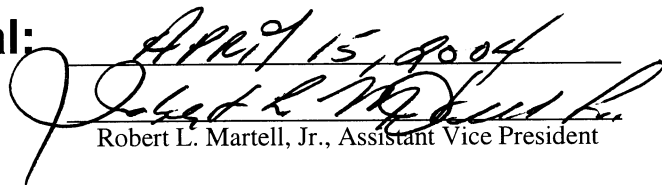
AirSense Technology Limited
71 Knowl Piece, Wilbury Way
Hitchin, Hertfordshire SG4 0TY
ENGLAND

Project ID: 3017268

Class: 3230

Date of Approval:

Authorized by:

April 15, 2004

Robert L. Martell, Jr., Assistant Vice President

**STRATOS-MICRA 100
HIGH SENSITIVITY SMOKE DETECTION SYSTEM**

from

**AIRSENSE TECHNOLOGY LIMITED
71 KNOWL PIECE, WILBURY WAY
HITCHIN, HERTFORDSHIRE SG4 0TY
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I INTRODUCTION

- 1.1 AirSense Technology Limited requested an Approval examination of their Stratos-Micra 100 high sensitivity smoke detection system for use with Approved fire alarm controls interfaced via the relay contacts on the detector.
- 1.2 This Report may be freely reproduced only in its entirety and without modification.

1.3 Standards

Title	Class Number	Date
National Fire Alarm Code	ANSI/NFPA 72	1999
Smoke Actuated Detectors for Automatic Fire Alarm Signaling	3230-3250	2/76

- 1.4 **Listing:** The product will appear in the *Approval Guide*, a publication of FM Approvals, as follows:

Stratos-Micra 100 aspirating type high sensitivity smoke detector. For use with compatible Approved fire alarm controls via the standard relay contacts on the terminal board of the detector. Each detector is equipped with two sampling pipe inlets. The firmware version is 1.8. The detector has a sensitivity range is 0.01%/ft (0.003 dB/m) to 4%/ft (1.2 dB). The Stratos-Micra 100 operates from 21.6 to 26.4 V dc supplied by the UPS-24 (Altronix AL300ULX) power supply (120 V ac). Secondary power is from two 12 V dc, 26 AH batteries for 24 hours. The Stratos-Micra 100 is suitable for indoor use only in ambient temperatures of 32°F to 120°F (0°C to 49°C). A balanced sampling piping network must be installed.

- 1.5 The Stratos-Micra, was previously Approved under 3014717. The UPS-24 power supply was also Approved under 3014717.
- 1.6 Except as described in this report, components and applications described in the manual and literature are not covered by this Approval.

II DESCRIPTION

- 2.1 This section briefly describes the features and functions of the Stratos-Micra 100 high sensitivity smoke detection system. A more detailed description is found in the Installer's Handbook, Document No. LM 80024, Issue 1.

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- 2.2 The Micra 100 is very similar to an earlier Approved version, Micra (3014717). The Micra 100 has a larger enclosure to house a larger fan and fan relay board.

III EXAMINATIONS AND TESTS

- 3.1 One sample Stratos-Micra 100, representative of production units, was examined and tested at FM Approvals in Norwood, MA. The sample was also compared to the manufacturer's drawings. All data is on file at FM Approvals along with other documents and correspondence applicable to this program.
- 3.2 **Normal Operation** – The Stratos-Micra 100 was energized and tested to verify proper operation under normal, standby conditions. Continuous operation was monitored for 30 days in clean air (working office type); there was no evidence of instability or false signals during that period.
- 3.3 **Environmental Tests** – The Stratos-Micra 100 sample was conditioned as follows:
- 3.3.1 24 hours at 32°F (0°C);
- 3.3.2 24 hours at 120°F (49°C);
- 3.3.3 24 hours at 100°F (38°C) and 90% relative humidity.
- 3.3.4 An environment which changed from 70°F (20°C) at 50% RH to 100°F (38°C) at 90% RH within a 15 minute period.
- 3.3.5 Proper operation was observed both during and after each of these environmental exposures.
- 3.4 **Voltage Variation Tests** – The sample of the Stratos-Micra 100 was operated at voltages of 20.4 to 26.4 V dc. The sample operated as intended over the entire voltage range, and this is satisfactory.
- 3.5 **Dielectric Test** – Since the sample is rated at 24 V dc, a test voltage of 500 V ac was applied for one minute between the 24 V dc power terminals and system ground. There was no dielectric breakdown observed during this test, and the result was satisfactory.
- 3.6 Because of satisfactory testing conducted previously with the Stratos-Micra (3014717), no further testing was necessary.

IV MARKING

- 4.1 The following information appears on the apparatus identified in Section 1.4 and meets Standard requirements:
- Manufacturer's name and manufacturing location.
 - Model number
 - Electrical ratings
 - The FM Approval Mark
- 4.2 The EPROM is labeled with the firmware revision level (1.8) on an adhesive paper label.

V REMARKS

Installations shall comply with the latest edition of the Installer's Handbook and the National Fire Alarm Code, ANSI/NFPA 72.

VI FACILITIES AND PROCEDURES AUDIT

The AirSense Technology Limited manufacturing site in Hitchin, Hertfordshire, England is currently included in the FM Approvals Facilities and Procedures Audit (F&PA) program. The facilities and quality control procedures in place were considered satisfactory to manufacture product identical to that examined and tested as described in this report.

VII MANUFACTURERS RESPONSIBILITIES

- 7.1 The manufacturer shall provide instructions for installation, operation, and maintenance with each unit.
- 7.2 Documentation considered critical to this Approval is on file at FM Approvals and listed in the Documentation File, Section VIII of this report. No changes of any nature shall be implemented unless notice of the proposed change has been given and written authorization obtained from FM Approvals. The Approved Product Revision Report, Form 797, shall be forwarded to FM Approvals as notice of proposed changes.

VIII DOCUMENTATION

The following drawings describe the Stratos-Micra 100 and are filed under Project 3017268:

Drawing No	Drawing Title	Revision
AC10340	Micra 100 Fan Board Schematic	02
AM10341	Micra 100 Body	01
AM10347	Micra 100 Cover	01
APC12710	Micra 100 Front Cover Label	01
ASS10340	Micra 100 Fan PCB Assembly	01
ASS10341	Micra 100 Body Assembly	01
ASS10350	Micra 100 General Assembly (2 pages)	02
ASS48029	Micra 100 Programmed EPROM	1.8
LM80024	Micra 100 Installer's Handbook	1
PL10314	Micra 100 Placements (6 pages)	13
PL10340	Micra 100 Placements	01

IX CONCLUSION

The apparatus described in 1.4 meets FM Approvals requirements. Since a duly signed Master Agreement is on file for this manufacturer, Approval is effective the date of this report.

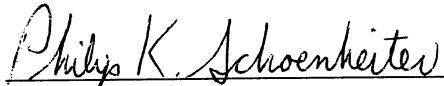
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EXAMINATION AND TESTING BY: P. K. Schoenheiter

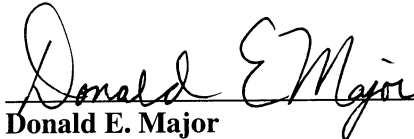
PROJECT DATA RECORD: 3017268

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