

6D5A0.AX
(3610)

July 20, 1998

CERMAX I.S. PORTABLE
DEWPOINTMETER
FOR
HAZARDOUS (CLASSIFIED) LOCATIONS

from

MICHELL INSTRUMENTS LIMITED
NUFFIELD CLOSE
CAMBRIDGE
UNITED KINGDOM

1. INTRODUCTION

- 1.1 Michell Instruments Limited, have requested Approval of the apparatus listed in Section 1.2 to be in compliance with the applicable requirements of the following standards.

<u>Standard Title</u>	<u>Class No.</u>	<u>Issue Date</u>
Electrical Equipment for Use in Hazardous (Classified) Locations General Requirements	3600	March 1989
Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II, and III Division 1 Hazardous (Classified) Locations	3610	October 1988

Note: 1.5 Safety Factor applied to voltage or current rather than energy

Electrical and Electronic Test, Measuring and, and Process Control Equipment	3810	March 1989
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- 1.2 The following apparatus was evaluated intrinsically safe for Class I, Division 1, Groups A, B, C, and D, indoor Hazardous (Classified) Locations, and will appear in the Approval Guide as a Private Labeled product to Kahn, Weatherfield, CT. No listing will appear under Michell Instruments.

Cermax I.S. Portable Dewpointmeter
ISI / I/ ABCD/T3C

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2. DESCRIPTION

- 2.1 The apparatus described in this report is a portable battery powered dew point meter. The apparatus is located within a non metallic housing. Connections are made to the sample stream via ports located on the rear of the housing. The instrument has a front panel display and keyboard. The circuitry is mounted on a single circuit board.
- 2.2 The manufacturer has made available for examination all necessary component information, system specification and test procedures. Installation and operation instructions are available which adequately describe each major assembly, initial installation, testing and troubleshooting techniques.

3. EXAMINATIONS AND TESTS

- 3.1 General - Representative samples of the apparatus listed in Section 1.2 were examined and tested by EECS, under their Project Number 97(C)1123/1 to determine its acceptability for use in the specified hazardous locations. Examination and testing by EECS was conducted under the guidelines set forth in the FMRC/EECS Contract and Testing Reports Agreement. Test results compiled by EECS have been satisfactorily reviewed by FMRC and are attached to this report.

4. MARKING

- 4.1 The following information appears on the apparatus identified in Section 1.2 and meets Standard requirements:

- Manufacturer's name and manufacturing location
- Type number and date code
- The Factory Mutual Research Corporation mark of Approval

- 4.2 The following wording specific to hazardous locations, appears on the apparatus identified in Section 1.2 and meets Standard requirements:

Intrinsically safe Cl I, Div 1, Gp A, B, C, & D T3C

5. REMARKS

- 5.1 Tampering and replacement with nonfactory components may adversely affect the safe use of the system.

6. FACILITIES AND PROCEDURES AUDIT

Michell Instruments Limited design and manufacturing facilities in Cambridge, United Kingdom, are subject to follow-up audit inspections. The facilities and quality control procedures in place have been found satisfactory to manufacture product identical to that examined and tested as described herein.

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J.L. 6D5A0.AX

7. MANUFACTURER'S RESPONSIBILITIES

7.1 Documentation that is applicable to this approval is on file at Factory Mutual Research Corporation and listed in the Documentation File, Section 8 of this report. No changes of any nature shall be made unless notice of the proposed change has been given and written authorization obtained from Factory Mutual Research Corporation. The Approved Product Revision Report, FMRC Form 797, shall be forwarded to FMRC as notice of proposed changes.

8. DOCUMENTATION

Drawing number	Revision	Description
Ex90194	01	General assembly
Ex80342	01	Battery pack assembly parts list
Ex80340/C sheets 1 & 2	01	Circuit
Ex80340 sheets 1 to 5	01	Main PCB parts list
Ex61050T1 sheet 1	01	Main PCB track layout
Ex61050T2 sheet 2	01	Main PCB track layout
Ex80321/C	01	Switch PCB circuit
Ex80321	01	Switch PCB component layout
Ex80320	01	Sensor PCB circuit and layout

9. CONCLUSION

The apparatus listed in Section 1.2 meets Factory Mutual Research Corporation requirements. Approval is granted when the Approval Agreement is signed and received by Factory Mutual Research Corporation.

EXAMINATION AND TESTS BY: L R Pall - EECS
N.P. Ludlam - FMRC

ORIGINAL DATA: EECS Report No. 97(C) 1123/1

ATTACHMENTS: EECS Report No. 97(C) 1123/1
Label Drawing Ex 90194

WRITTEN BY:

REVIEWED BY:



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