



DNV



DET NORSKE VERITAS

EC-TYPE EXAMINATION CERTIFICATE

- [2] EQUIPMENT OR PROTECTED SYSTEM INTENDED FOR USE IN POTENTIALLY EXPLOSIVE ATMOSPHERES DIRECTIVE 94/9/EC
- [3] EC-Type Examination Certificate Number: **DNV-2003-OSL-ATEX-0131X**
- [4] Equipment or Protective System: **Portable Leak Detector**
- [5] Applicant – Manufacturer or Authorized representative: **Physical Acoustics Corp.**
- [6] Address: **195 Clarksville rd. Princeton Jct. NJ
08550-5303 New Jersey
USA**
- [7] This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to
- [8] DNV, notified body number 0575 in accordance with Article 9 of Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.
- The examination and test results are recorded in confidential report no **2003-3266**
- [9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 50014: 1997 + A1: 1999 + A2: 1999, EN 50020: 2002 and EN 50284: 1999
- [10] If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.
- [11] This EC-TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protected system. If applicable, further requirements of this Directive apply to the manufacturer and supply of this equipment or protective system
- [12] The marking of the equipment or protective system shall include the following :

 **II 1 G EEx ia IIC T3 0°C ≤ T_a ≤ +45°C**

Høvik, 2003-09-01
for Det Norske Veritas Certification AS


Bjørn Spongsveen
Head of Section


Håkon S. Håkonsen
Senior Engineer

Notice: This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.



[13]

Schedule

[14] **EC-TYPE EXAMINATION CERTIFICATE No.:** DNV-2003-OSL-AIEX-0131X

[15] **Description of Equipment or Protective System**

Portable acoustic emission leak detector. The portable leak detector is a self contained, computer controlled single channel acoustic emission monitor, measuring the RMS value (dB) of leak associated emission signals. The portable leak detector has a simple keypad and a liquid crystal display, and is powered from a NiCad battery pack. A data logging feature allows the storage of up to 300 data points for uploading through a personal computer via the RS 232 data port located on the rear of the unit.

The sensors used to measure the acoustic signal are piezo electric types

Type: 5131AE

[16] **Report No.:** 2003-3266
Project No.: 42035199

Descriptive Documents

Number	Title	Rev	Date
5131-5015	IS Leak Detector System Assembly	3	2002-04-30
5131-2010	PCB, Analog Board 5 sheets	0	1993-08-19
5131-2011	Printed Wiring Board IS Analog 1 of 2 sheets	0	1993-08-20
5131-2011	Printed Wiring Board IS Analog 2 of 2 sheets	0	1993-07-21
5131-2014	Printed Wiring Assembly	0D	1996-02-09
5131-2020	Printed Wiring BD Artwork 4 sheets	1	1993-11-05
5131-2021	Leak Detector Front Panel BD. Drill DWG.	1	1993-11-05
5131-2024	Assy, Front Panel Board	1A	1994-11-05
5131-2030	Printed Wiring Board Silk Screen Artwork 3 sheets	1	1996-01-31
5131-2031	Printed Wiring Board IS Digital Drill Drawing	1	1996-01-31
5131-2034	Printed Wiring Assembly IS Digital	1C	2001-09-10
5131-2040	Printed Wiring Board Artwork 3 sheets	2	1996-01-30
5131-2041	Printed Wiring Board IS Battery Drill Drawing	2	1996-01-24
5131-2044	Printed Wiring Assembly IS Battery	2A	2002-08-11
5131-3010	Analog Board Schematic	0D	1996-01-31
5131-3020	Leak Detector Front Panel BD. Scematic Diagram	1	ECN IS008
5131-3030	Digital Board Schematic 2 sheets	1A	1996-06-28
5131-3040	I.S. Leak Detector Battery Board Schematic Diagram	2	1996-01-19
5131-4002	Assy. Sensor Cable (D9203-IS)	4	1996-06
5131-4003	Assy. Sensor Cable (D9241-IS)	4	1996-06
5131-4004	Assy. Cenelec RS232 Cable	1	1996-02
5131-5011	Silkscreen Master Front Panel	4	1994-09-27
5131-5012	Silkscreen Master Rear Panel	7	-
5131-5016	Mod Drawing From E950-0090 to E950-0091 Battery for IS use	0	1996-01-19
5131-5017	IS Fuse Modification	0	1996-01
5131-6005	Diagram Acceptable AE Sensors	0	1993-11-05

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.



DNV-2003-OSL-AIEX-0131X

Descriptive Documents

Number	Title	Rev	Date
200-100-140	Etch Pattern D9241-IS	1	2002-08-11
200-100-141	Etch Pattern D9203-IS	1	2002-08-11
300-100-125	Sensor Schematic	1	1996-08
5131-2014	Parts List PWB Assy, IS Analog page 3 and 4	0D	1996-02-07
5131-2034	Parts List PCBA, IS Digital page 2 and 3	1C	2001-08-28
5131-2044	Parts List PCBA, IS Battery Board	2A	2002-08-12
5131-4002	Parts List Assy, Sensor Cable (D9203IS) page 3	4	1996-06-24
5131-4003	Parts List Assy, Sensor Cable (D9241IS) page 4	4	1996-06-24
5131-4004	Parts List Assy, Cenelec RS232 Cable page 10	1	1996-02-07
5131-5015	Parts List Assy, Gen Sys, 5131 page 2	3	2002-04-26
E950-0091	Parts List Battery, Modified E930-0090	-	1996-02-07
F003-0016	Parts List Fuse, Mod To Fuse F002-0160 page 2	-	1996-02-07

[17] Special Conditions for Safe Use

1) Only AE Sensors marked with the certificate number DNV-2003-OSL-ATEX-0131X may be used with the 5131 AE leak detector.

2) The batteries shall not be recharged in the hazardous area

[18] Essential Health and Safety Requirements

See part 9 of this certificate

END OF CERTIFICATE



SUPPLEMENT 1 to EC-TYPE EXAMINATION CERTIFICATE

EC-TYPE EXAMINATION CERTIFICATE No.: DNV-2003-OSL-ATEX-0131X

This EC-Type Examination Certificate is extended to include two different types of rechargeable batteries for use in the 5131 Portable Leak Detector. Battery types: Energizer NH15 (E950-0092) and Sanyo KR-800AAE (E950-0093)

Report No.: 2003-3266 rev 02

Project No.: 42035199

Descriptive Documents

Number	Title	Rev.	Date
5131-2044	IS Leak Detector, Printed Wiring Assembly IS Battery	2B	2004-05-25
5131-2044	Custom BOM Report PCBA, IS Battery Board 2 pages	2B	2004-05-26



Høvik, 2004-07-20

for Det Norske Veritas Certification AS

Per Gangeskär
for Line Gangeskär
Head of Section

Håkon S. Håkonsen
Håkon S. Håkonsen
Senior Engineer

END OF SUPPLEMENT

Notice: This Supplement to Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Supplement to Certificate invalid.

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.