Installation Manual
FAILSAFE Module Kit
for
Nuvair Pro Alarm Analyzers
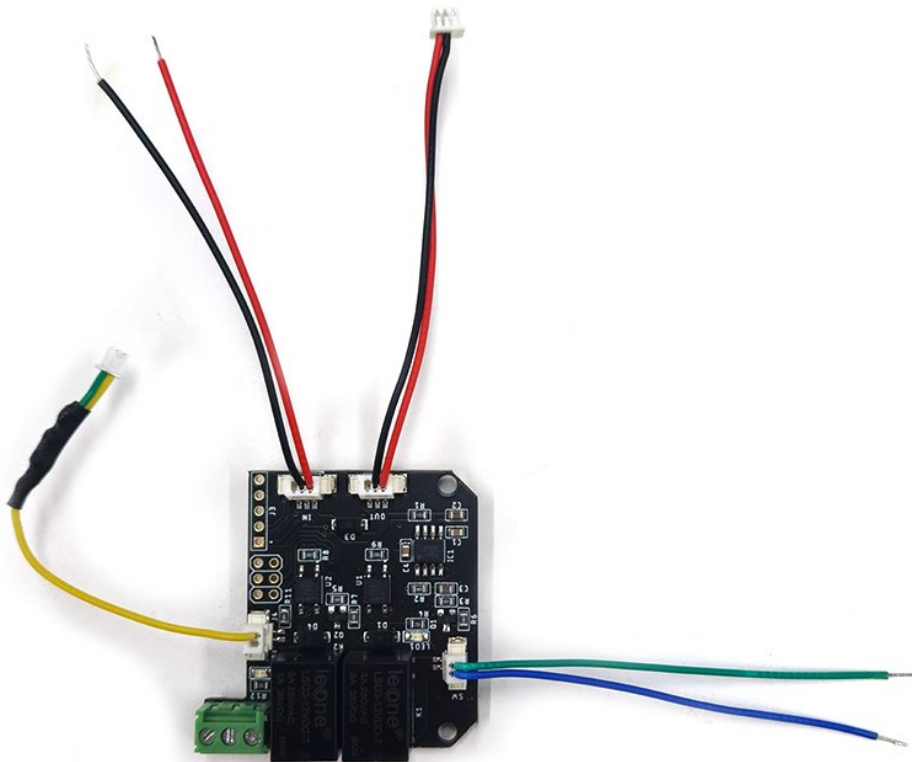
SKU SS-PCB-GEN2

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If you have any questions about this equipment, please contact Technical Support at:

Nuvair
1600 Beacon Place
Oxnard, CA 93033 USA

Phone:	+1.805.815.4044
Fax:	+1.805.486.0900
Email:	info@Nuvair.com
Hours:	Monday through Friday
	8:00 AM to 5:00 PM Pacific Time

WARNING
This Operation Manual contains important safety information and should always be available to those personnel operating this equipment. Read, understand, and retain all instructions before operating this equipment to prevent injury or equipment damage.

Every effort was made to ensure the accuracy of the information contained within. Nuvair, however, retains the right to modify its contents without notice.

Under Nuvair's system of continuous improvement, certain components may be updated or changed as higher quality or more efficient parts and assemblies become available.

Nuvair will make every effort to update manuals as parts and functional aspects change. However, the look or location of components on your product may differ from those in this manual if improvements have been made that do not affect functionality or operational procedures.

Units pictured may also be equipped with different options than those on your product. In this case, the basic operational and maintenance guidelines will still apply.

If you have problems or questions after reading the manual, stop and call Nuvair at +1.805.815.4044 for information.

1.0   Introduction

This manual will assist you in the installation of the FAILSAFE Module (SKU SS-PCB-GEN2) into existing handheld or panel mount Nuvair Pro Alarm analyzer powered externally. This manual will also help customers understand the function of Nuvair Pro Alarm analyzers equipped with a factory-installed FAILSAFE Module.

The Nuvair Pro Alarm analyzer series are gas analyzers with alarms (visual and/or audible) that activate when user-defined set points (low and/or high) are violated.

Be sure to read the entire manual.

1.1   Symbol Conventions

This manual uses certain words and symbols to call your attention to conditions, practices or techniques that may directly affect your safety. Pay particular attention to information introduced by the following symbols or words:

SYMBOL	MEANING	DESCRIPTION
	DANGER	Indicates an imminently hazardous situation, which if not avoided, will result in serious personal injury or death.
	CAUTION	Indicates a potentially hazardous situation, which if not avoided, could result in serious personal injury or death.
	WARNING	Indicates a potentially hazardous situation, which if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.
	NOTICE	Notifies people of installation, operation or maintenance information which is important but not hazard-related.

2.0   Module Description

As originally designed, most Nuvair Pro Alarm analyzers are:

(a) Manually controlled by an On/Off button on the front of the analyzer control panel.

(b) Equipped with a relay that can activate or disable external devices.

Some customers with a compressor-integrated analyzer want the compressor to shut down automatically if analyzer power is interrupted or the analyzer goes into alarm. In response to customer requests, Nuvair developed the FAILSAFE Module. Adding the FAILSAFE printed circuit board (PCB) to your existing Pro Alarm analyzer will automatically disable compressor power if:

(a) Analyzer power is interrupted, or

(b) Analyzer goes into alarm.

The FAILSAFE Module can be installed on the following on Nuvair Pro Alarm analyzers originally equipped with these power configurations:

- Wall plug-in

- DIN power

The FAILSAFE Module is <u>not compatible</u> with any battery-powered Pro Alarm analyzer.

By installing the FAILSAFE Module, the analyzer will automatically power on when compressor power is turned on.

The FAILSAFE Module can be purchased separately by existing Pro Alarm analyzer owners, or the analyzer can be returned by the customer to the Nuvair production facility in California (USA) for installation.

<u>WARNING</u>
This manual describes how a customer can install the FAILSAFE Module to existing Pro Alarm handheld or panel mount analyzers. To complete this installation, the customer must have a rudimentary knowledge of, access to, and the ability to use and understand:

- **Electronic components**

- **Small Phillips screwdriver**

- **Solder, and**

- **Soldering iron.**

DANGER
Failure to properly install the FAILSAFE Module will result in the Pro Alarm analyzer not functioning properly. An improperly operating analyzer will not alarm and will not alert users that dangerous gas conditions exist. Exposure to dangerous gases will result in significant injury or death.

2.1   Module Compatibility

The FAILSAFE Module is compatible with many Nuvair Pro Alarm analyzers power by wall plug-in or DIN power. This installation manual covers the installation of the FAILSAFE Module on the following analyzers:

- Pro CO_2 Alarm Handheld (9616)
- Pro CO_2 Alarm Panel Mount (9617)
- Pro CO Alarm Handheld (9625)
- Pro CO Alarm Panel Mount (9617)
- Pro He Alarm Handheld (9627)
- Pro He Alarm Panel Mount (9628)
- Pro H_2O Alarm Panel Mount (9607)
- Pro N_2 Alarm Handheld (9613)
- Pro N_2 Alarm Panel Mount (9614)
- Pro O_2 Alarm Handheld (9611)
- Pro O_2 Alarm Panel Mount (9462)
- Pro O_2 Alarm Panel Mount Remote (9460)

The FAILSAFE Module is also compatible with the following multigas and specialty container analyzers. Due to the complexity of these unique and specialized Pro Alarm analyzers, Nuvair does not offer written guidance to customers on how to install the FAILSAFE Module. Customers are advised to return the following analyzers to the Nuvair production facility in California (USA) for installation of FAILSAFE Module/s:

- Pro 4 Warn Alarm (9604)
- Pro Trio Multigas Alarm (9603)
- Pro CO Analyzer with Low Pressure Alarm (9621.5)
- Pro CO Analyzer with Low Pressure & High Temperature Alarms (9621)
- Pro Trimix Alarm (9609-LB)
- Pro Duo Alarm (DUO – all versions)

3.0   Installation of the FAILSAFE Module

WARNING
If you do not have rudimentary knowledge of electronics, which includes the ability to properly solder sensitive electronic connections, STOP! Package up all parts and contact Nuvair for assistance.

DANGER
Your failure to properly install the FAILSAFE Module will result in the Pro Alarm analyzer from functioning properly. An improperly operating analyzer will not alarm and will not alert users that dangerous compressor gas conditions exist. Exposure to dangerous gases will result in significant injury or death.
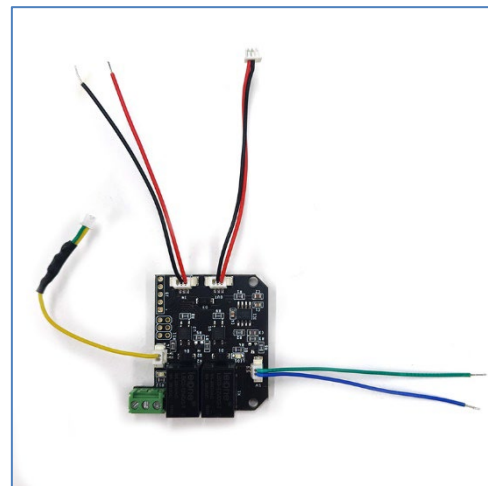

Step 1: Gain access to the Pro Analyzer enclosure and remove Pro Analyzer circuit board (pictured).

Step 2: Remove FAILSAFE parts from shipping bags.
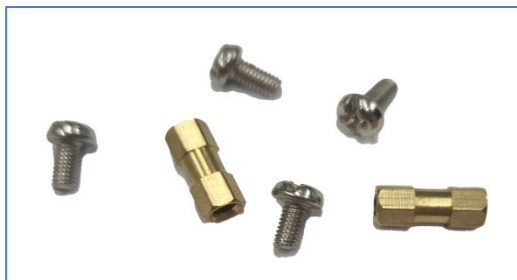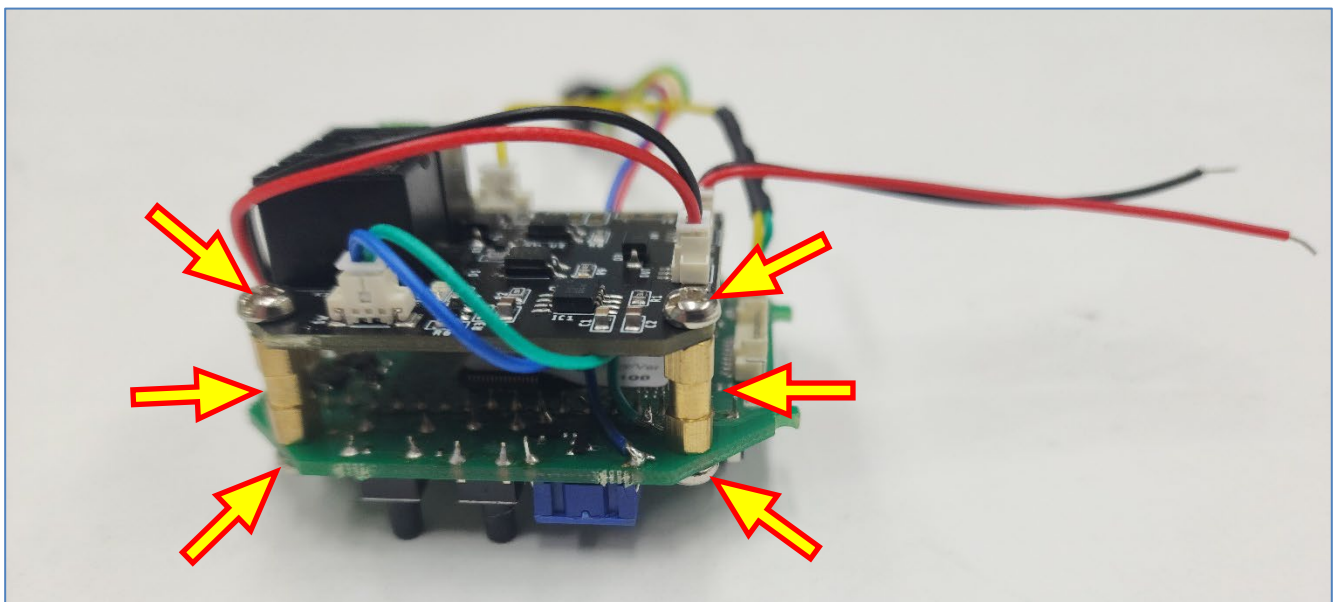

Supplied screws and spacers.
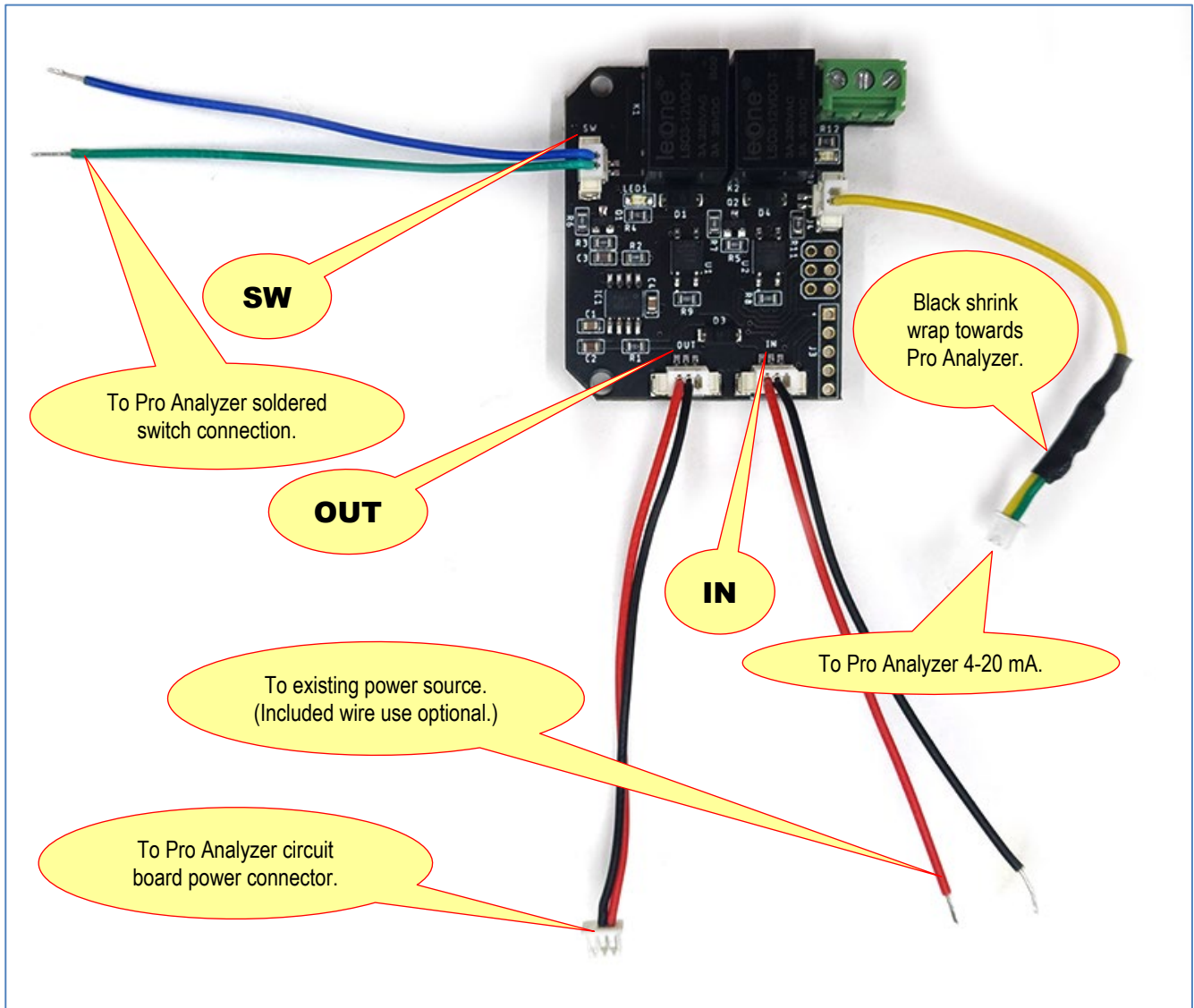

FAILSAFE circuit board.

Step 3: Solder green and blue "switch" (SW) wires onto Pro Analyzer circuit board.
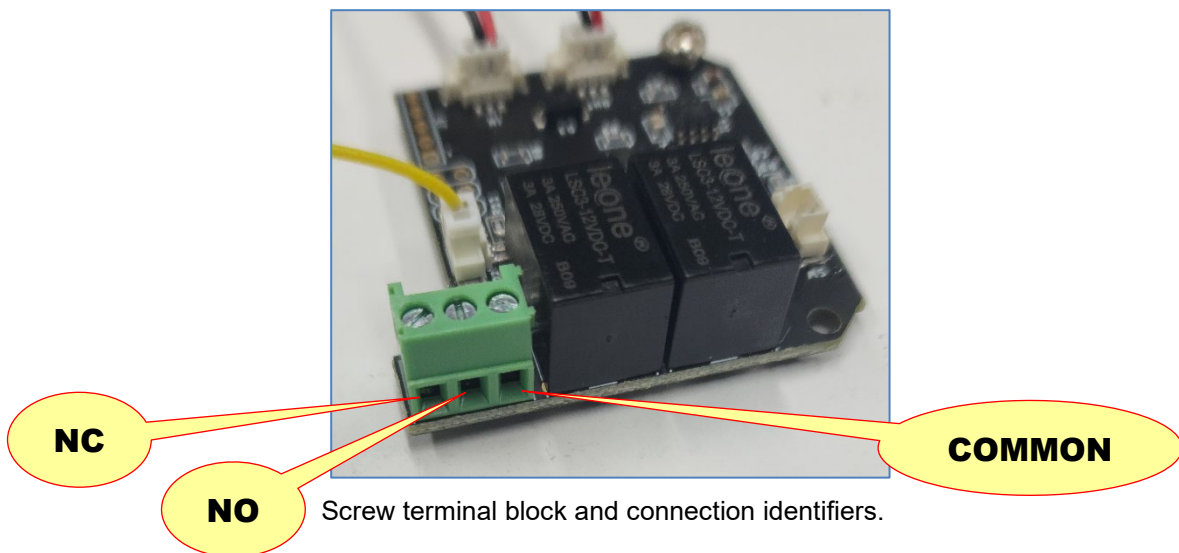

Step 4: Connect circuit boards together with provided screws and spacers (6 pieces total).

SW

To Pro Analyzer soldered switch connection.

OUT

Black shrink wrap towards Pro Analyzer.

IN

To Pro Analyzer 4-20 mA.

To existing power source. (Included wire use optional.)

To Pro Analyzer circuit board power connector.

Step 5: Connect wires to FAILSAFE Module as shown.

NC

NO

COMMON

Screw terminal block and connection identifiers.
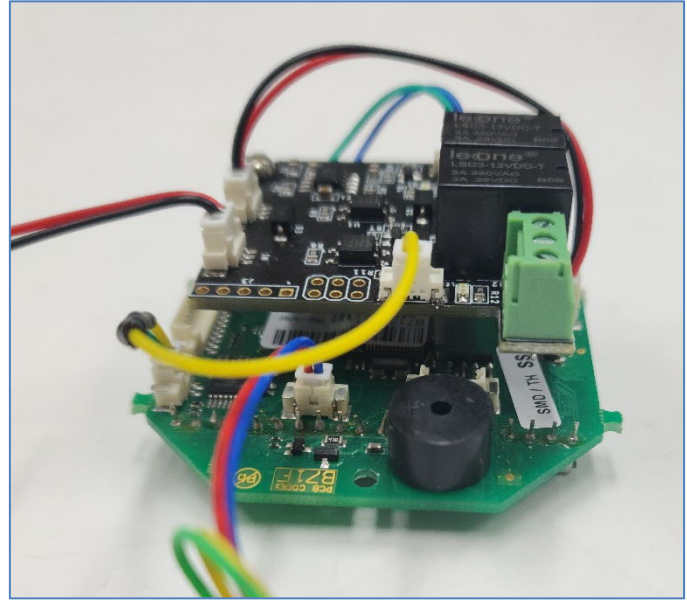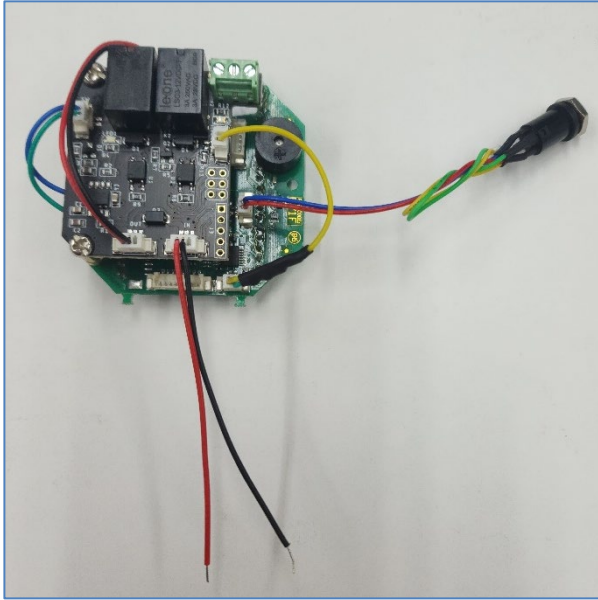
Assembled unit.

4.0   Additional Analyzer Parts

SKU	Identification
BPM6	Pro Analyzer Flow Adapter Cap
5463K369	Hose Barb Fitting for Pro Analyzer Flow Adapter Cap
51075K246	Tubing for Nuvair Pro Analyzer Flow Adapter Cap
PC	Wall Socket for SP-C2S3A Charger
120-052	12-volt Power Supply for Nuvair Pro Alarm Analyzers without Battery

5.0   Nuvair Standard Warranty

Unless otherwise specified, materials (parts and equipment) supplied by Nuvair are covered by a one (1) year warranty period from the date of delivery to customer. "Date of delivery" is determined by shipping or proof of receipt documentation.

Should the customer note any flaws and/or defects, it must be reported in writing to Nuvair within two (2) months of discovery or the warranty shall be rendered null and void.

Nuvair shall repair or replace materials it acknowledges to be faulty during the warranty period.

In replacing faulty material, Nuvair shall not be liable for any other expenses sustained by the dealer or its customer, such as presumed damage (present or future), lost earnings or fines.

Warranty only covers flaws and faults that occur where materials are used properly in compliance with the instructions contained in the User Manual and where periodic maintenance is carried out. The warranty does not cover faults caused by improper use of materials, exposure to atmospheric conditions (rain, etc.) or damage during transport.

Materials subject to wear and those subject to periodic maintenance are not covered by warranty and are to be paid for by the customer in full. Routine and unscheduled maintenance must be carried out in compliance with User Manual instructions. If required work is not covered by the User Manual or if technical assistance is required, please contact Nuvair directly by email or phone. Nuvair cannot be held liable for any delays or failure to execute work.

Use of genuine OEM (original equipment manufacturer) parts and lubricants (if applicable) are recommended to maintain a product warranty. If a product failure is deemed a result of using non-OEM part and/or lubricant, the warranty will be considered null and void.

Nuvair is not liable for any damage or malfunctions caused by work carried out on materials by unauthorized personnel.

Warranty is rendered null and void if materials are tampered with or if work (other than routine maintenance) is carried out by personnel who have not been authorized by Nuvair.

Faulty equipment due to flaws in design, workmanship, or materials used shall be repaired or replaced free of charge by Nuvair at its California production facility. Transportation costs, delivery of spare parts, and/or any materials subject to normal wear, are the responsibility of the customer.

Should on-site warranty work be required on the customer's premises, Nuvair repair personnel travel, accommodations, and per diem costs of shall be the responsibility of the customer.

Warranties are nontransferable.

Nuvair

Phone	+1.805.815.4044
Fax	+1.805.486.0900
Address	1600 Beacon Place
	Oxnard, CA 93033 USA
Email	info@nuvair.com
Website	www.Nuvair.com

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