



## Nitrogen Dioxide Detector and Controller

Parking Garage

Warehouse

Maintenance Facility

Ice Skating Arena

Storage Facility



### ND-1

- \* Automatic Ventilation Controller
- \* Dual relays: Fan (SPDT) & Alarm (N.O.)
- \* Microcomputer Controlled
- \* Digital Display: 0 to 9 PPM NO<sub>2</sub>
- \* Highly Linear Electrochemical Sensor
- \* Selectable Set Points & Delay Time
- \* Diesel Exhaust Detection and Control

- Specific to Nitrogen Dioxide.
- Provides Nitrogen Dioxide detection, digital display of level in PPM, a relay to automatically control exhaust fans, a loud audible alarm, and an alarm relay.
- Meets the requirements of OSHA and the state of Wisconsin.
- Housed in Nema 1, UL listed, metal knockout case.
- Internally adjustable set points for fan and alarm relays.
- Adjustable switch for fan delay from 0.5 to 5 minutes.
- Bright LED's show relay status: amber fan LED flashes during delay period and is on steady when the relay closes. The red alarm LED flashes during the 5 minute delay period and is on steady to show the relay has closed.
- Replacement sensors and field calibration kit available. Sensor life is about 2 years.

### SPECIFICATIONS:

**POWER:** 1.2 Watts from 12 to 24 VAC or VDC

**SIZE:** 6 X 6 X 3 inches

**COLOR:** Gray

**SHIPPING WEIGHT:** 3 pounds

**FAN RELAY:** 5 amps, 240VAC, pilot duty, SPDT

**ALARM RELAY:** 0.5 amps, 200V, 10VA, N.O.

**FAN RELAY SET POINT:** 0.5 to 3.0 PPM

**ALARM RELAY SET POINT:** 1.0 to 5.0 PPM

**OPERATING ENVIR.:** 0 to 125° F, 10 to 90% RH

**LINEARITY:** Within 1%.

**SENSOR OUTPUT DROOP:** Less than 2% per month.

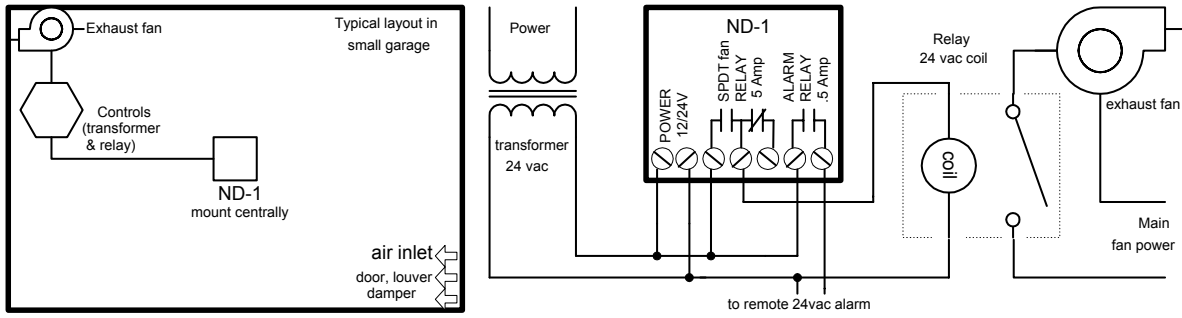
**ALL UNITS ARE FACTORY CALIBRATED**

**TYPICAL COVERAGE:** 5000 square feet per unit

**MANUFACTURED BY:**

**DISTRIBUTED BY:**

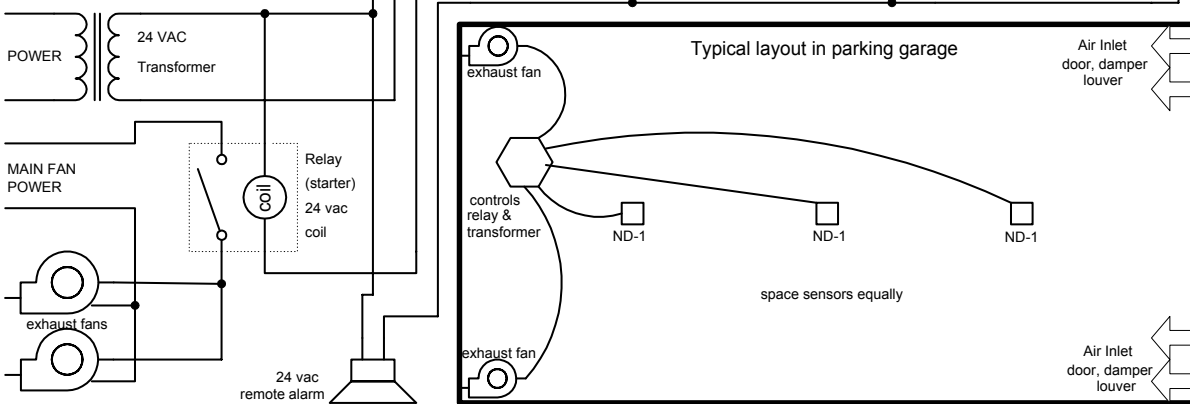
## Typical Installation in small garage



## Typical multiple ND-1 installation

### INSTALLATION NOTES

1. One sensor per 5000 square feet (approximately).
2. Mount ND-1 four to five feet above the floor (breathing height), as NO<sub>2</sub> is heavier than air.
3. See applicable building code for fan size vs air changes per periods of time.
4. Make sure there are air inlets to provide adequate air flow throughout the building.
5. ND-1 fan relays are dry contact & can switch up to 240V: see ratings, over.
6. Several fan relays (starters) may be used. Match the relays to the fan size.



## Typical Connection to Alarm Control Panel

1. ND-1 can be used with 12vdc or 24vdc N.O. (fire) panels.
2. Alarm panel provides battery backed up power to ND-1.
3. ND-1 dry contact fan relay can use panel power or fan power: check ratings.
4. Match fan relay contacts to fan size, and coil voltage to power source.
5. Alarm Control Panels are available with many features & can control other devices such as smoke detectors, fire detectors & burglar alarms.

