

**DRAWING SUBMITTAL**

JOB NAME: SQ. Alexandra Park  
38 Cameron Street Block 2  
Toronto Ontario

JOB NUMBER:

ENGINEER: Nova Trend Engineering

CONTRACTOR: Jay Electric

MIRCOM/  
GARDIA REP: Elio Abbondandolo

DATE.: Feb 20, 2015

**NOVATREND ENGINEERING GROUP LTD.**

THIS REVIEW IS MADE ONLY TO VERIFY CONFORMITY WITH THE GENERAL DESIGN CONCEPT AND DOES NOT IMPLY APPROVAL OF THE DETAIL DESIGN INHERENT IN THE SHOP DRAWINGS, RESPONSIBILITY FOR WHICH REMAINS WITH THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR ERRORS & OMISSIONS ON THE SHOP DRAWINGS, FOR INFORMATION RELATING SOLELY TO FABRICATION PROCESSES & CONSTRUCTION TECHNIQUES AND FOR MEETING ALL CONTRACTUAL REQUIREMENTS INCLUDING CO-ORDINATION OF FIELD DIMENSIONS & CO-ORDINATION OF THE WORK OF ALL HIS SUB-TRADES.

REVIEWED                       REVIEWED AS NOTED  
 REVISE & RESUBMIT             REJECTED

Kevin Chen                      2015-03-26  
 REVIEWED BY                      DATE

**SYSTEMS**

- Garage CO System

Sequence of Operation to be provided.

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<input checked="" type="checkbox"/> Reviewed <input checked="" type="checkbox"/> Reviewed as noted <input type="checkbox"/> Resubmit	
DATE	REVIEWED BY
Mar. 09, 2015	<i>Sary R Beer</i>



# GAS DETECTION SYSTEM

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<input checked="" type="checkbox"/> Reviewed	
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DATE	REVIEWED BY
Mar. 09, 2015	<i>Gary R Beer</i>

## AMC-1 DBx Series Digital Monitor

The AMC-1DBx Digital Monitor provides a versatile monitoring package for mixed vehicle applications. Incorporating digital communication with Armstrong's addressable AMC-400 Series transmitters, the 1DBx can offer huge savings in both installation and operations.

Available analog outputs can provide average or worst case signals for a group of sensors directly to a VFD, resulting in drastic improvements in the efficiency of the garage ventilation system. The standard Modbus and BACNET output allows the AMC-1DBx to communicate directly with most building automation systems.

### SPECIFICATIONS

**Enclosure:** CSA Approved Steel Enclosure

**Supply Voltage:** 110 VAC or 24V AC/DC

**Relay Contacts:** Up to 16 x DPDT 10A, 120 VAC  
Up to 255 w/ External Relay Modules

**Dimensions:** 12" x 12" x 6"

**Weight:** 7.18 kg (15.8 lbs)

**Operating Temperature:** -20°C to 50°C

**Operating Humidity:** 0-90%RH Non-Condensing

**Sensor Types:** AMC-400 Series Sensors

**Sensor Capacity:** Supports up to 988 Sensors  
Supports up to 128 Sensor Zones  
4 x RS-485 Interfaces to Transmitters

**Outputs:** 1x Ethernet (10/100 UTP) supporting;  
BACNet/IP  
1x RS-485 supporting;  
MODBUS RTU  
4 Analog Outputs Standard  
Audible Alarm

**Display:** Graphics Color QVGA 320x240

**Alarms:** Up to 4 Alarm Levels per sensor

**Activation Delay:** Up to 5 mins (in secs.)

**Minimum Run Time:** Up to 60 mins (in mins.)

### JAY ELECTRIC LIMITED

- Reviewed  
 Reviewed as noted  
 Resubmit

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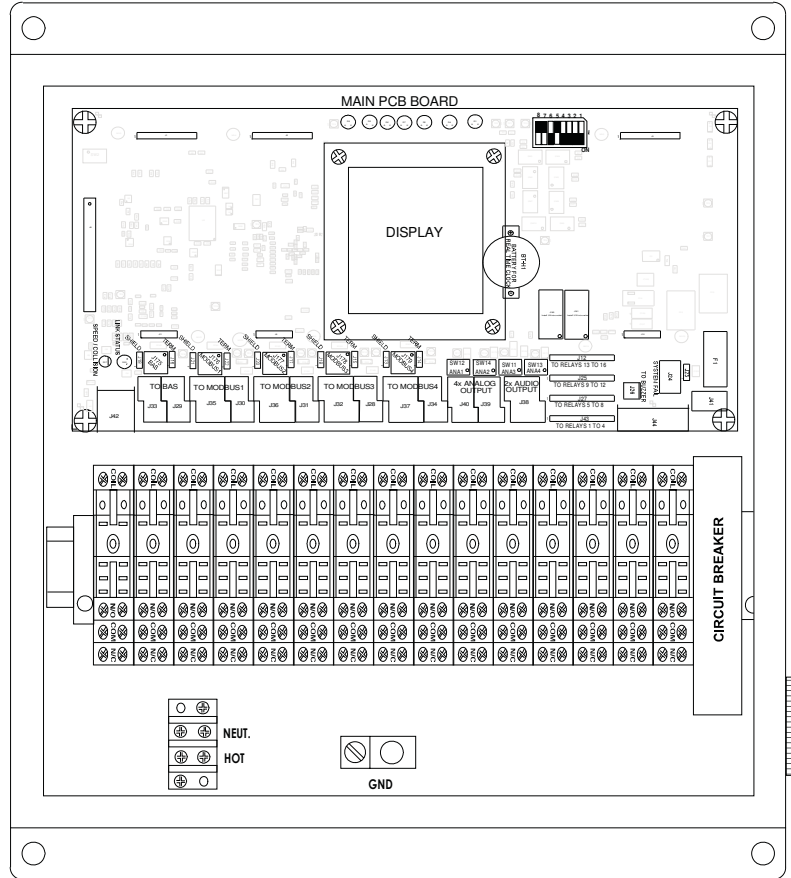
### FEATURES

- Digital Concentration Display
- Rugged Steel Enclosure
- Available Zoned 4-20 mA Outputs can be tied back to variable drives and fan motors for significant energy savings over traditional "all or nothing" ventilation strategies
- Standard MODBUS and BACNet outputs can interface with most BAS systems
- Internal Programming Keys
- Serial Communication Port
- USB Flash Drive for Configuration, Data logging, and Back-Up
- Integral Power Supply Standard
- 85db Audio Alarm with Silence Switch
- Dedicated System Fail and Audio Relays
- RoHS Compliant



**AMC-1DBx Series Internal View**

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**AMC-1DBx Series Order Codes**

Part Number	Description	Part Number	Description
AMC-1DB1-1000B	Gas Monitor, Nema 1, 120VAC 4 Integral DPDT Relays	AMC-1DB1-2000B	Gas Monitor, Nema 1, 24V 4 Integral DPDT Relays
AMC-1DB1-1000D	Gas Monitor, Nema 1, 120VAC 8 Integral DPDT Relays	AMC-1DB1-2000D	Gas Monitor, Nema 1, 24V 8 Integral DPDT Relays
AMC-1DB1-1000F	Gas Monitor, Nema 1, 120VAC 12 Integral DPDT Relays	AMC-1DB1-2000F	Gas Monitor, Nema 1, 24V 12 Integral DPDT Relays
AMC-1DB1-1000H	Gas Monitor, Nema 1, 120VAC 16 Integral DPDT Relays	AMC-1DB1-2000H	Gas Monitor, Nema 1, 24V 16 Integral DPDT Relays



## AMC-400 Series Digital Sensor Modules

Armstrong Monitoring's AMC-400 Series digital sensor modules provide a fully addressable solution to work with our new digital monitors.

Available in variants for CO and NO<sub>2</sub>, the AMC-400 Series is ideally suited for larger vehicle exhaust applications, like parking garages, municipal works facilities, and warehouses.

Standard features include a digital display of gas concentration, which can be disabled. The integral SmartSensor 2 system is compatible with our EZ Cal Sensor Exchange Program, for simplified maintenance.

### SPECIFICATIONS

**Detectable Gases:** CO or NO<sub>2</sub>

**Outputs:** Modbus RTU

**Wiring:** 4 Wire - 2 power +2 communication  
(shielded, twisted, 120Ω impedance)

**Connection:** RS-485

**Endosure:** PVC

**Supply Voltage:** 12-24 VDC, 8-24 VAC

**Dimensions:** 10.16cm W x 10.16cm H x 6cm D  
(4" x 4" x 2.25")

**Operating Temperature:** -20°C to 50°C (-4°F to 122°F)

**Warranty:** Two years (sensors excluded)

**Indicators:** LCD Gas Concentration  
LED for Sensor, Trx Operation, Fault

**Coverage Area:** Approx. 7500 sq. ft. (50' radius)

**Recommended Mounting Height:** 4-5' A.F.F.

### FEATURES

- Concentration Display
- Eligible for EZ Cal Sensor Exchange Program
- Automatic calibration reminder
- Sensor "End of Life" Warning

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### SENSORS

#### Carbon Monoxide (AMC 400 CO)

**Range:** 0-100 ppm  
**Sensor Type:** Electrochemical  
**Resolution:** 1 ppm  
**Response Time:** Better than 40 secs to 90%  
**Life Expectancy:** 6 years  
**Sensor Warranty:** 3 years  
**Operating Humidity:** 5-95%RH Non-Condensing

#### Nitrogen Dioxide (AMC 400 NO<sub>2</sub>)

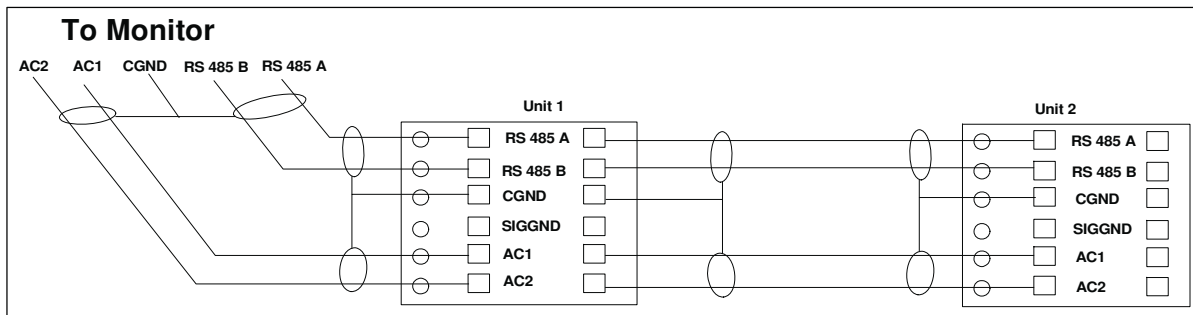
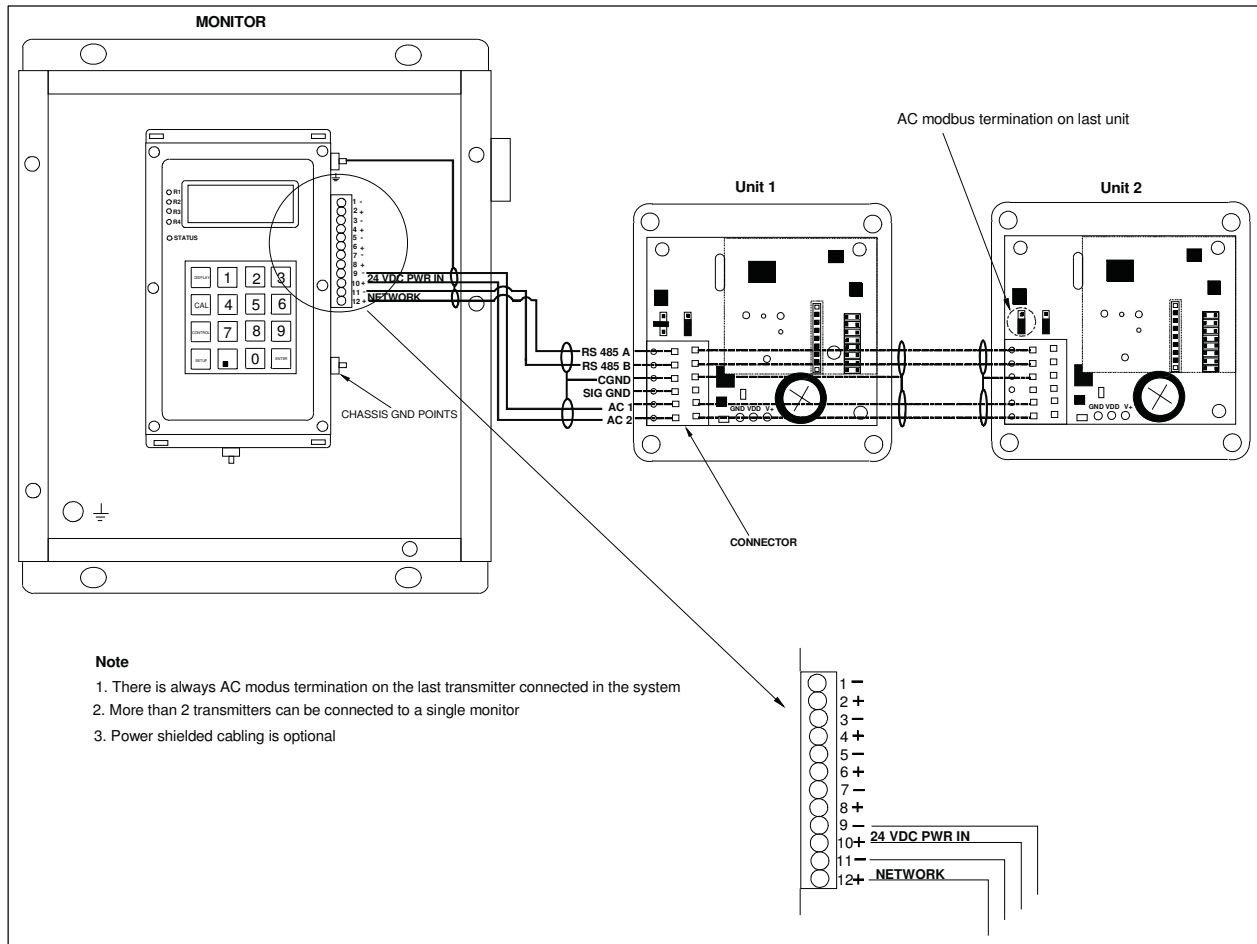
**Range:** 0-10 ppm  
**Sensor Type:** Electrochemical  
**Resolution:** 0.1 ppm  
**Response Time:** Better than 35 secs to 90%  
**Life Expectancy:** Better than 2 years  
**Sensor Warranty:** 1 year  
**Operating Humidity:** 15-90%RH Non-Condensing

### BUILT WITH 100% GREEN ELECTRICITY



### AMC-400 Series Wiring

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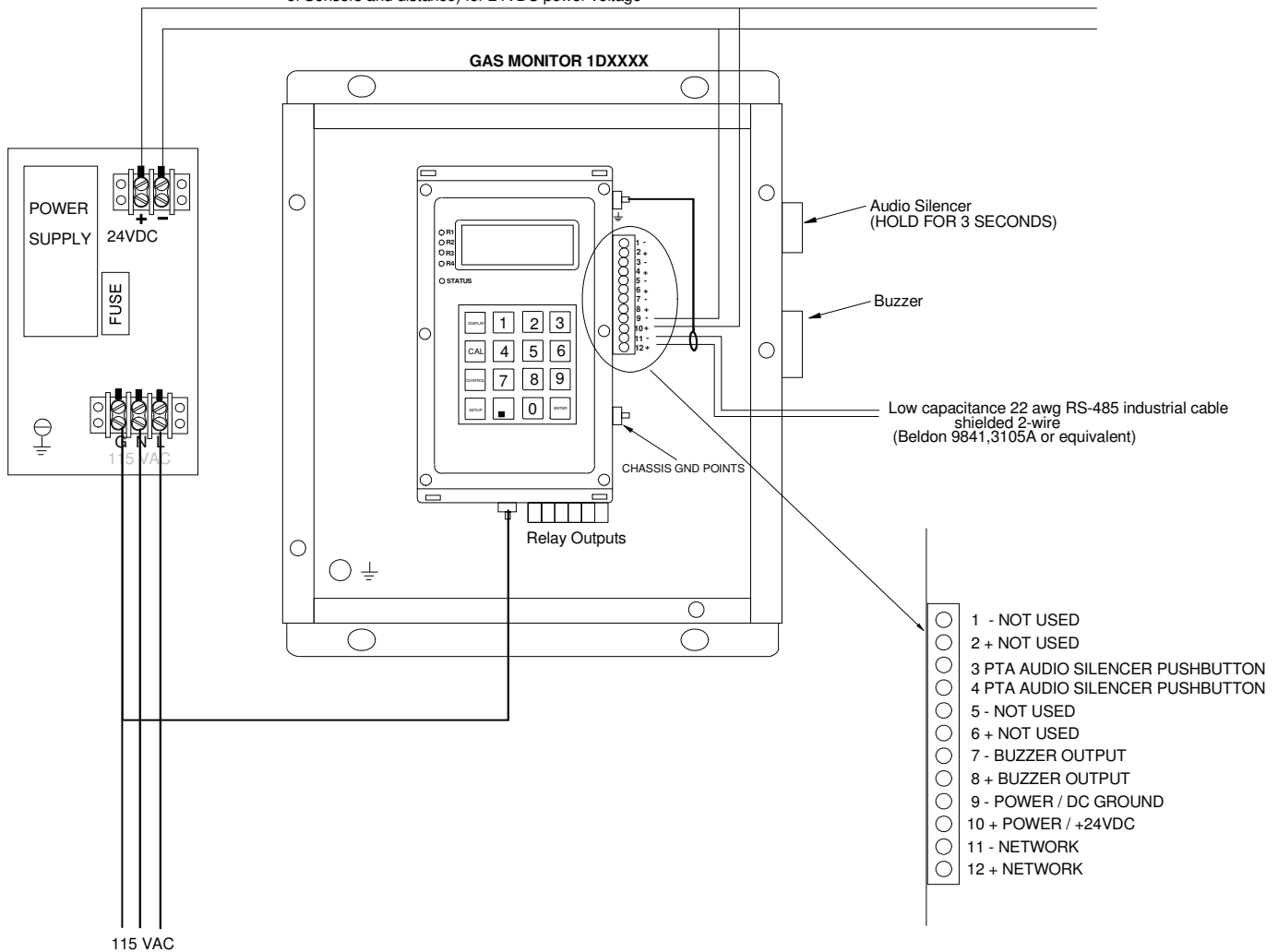


# AMC-1 DPS-7A

## External Power Supply for up to 80 Sensors

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2 Conductor 14-18 AWG (Optionally shielded) (AWG Depended on # of Sensors and distance) for 24VDC power voltage



# AMC-1 D-8R

## Remote Relay Module

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