Operation & Maintenance Manual
Alert-4 LCD Ethernet Master Alarm

Amico

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Contents

User Responsibility

The information contained in this Installation, Operation and Maintenance Manual pertains only to the Alert-4 microprocessor based digital LCD Alarm. This product will perform as described in this manual when assembled, operated, maintained and serviced in accordance with the installation instructions provided.

The alarm must be checked periodically. Parts that are broken, missing, worn, distorted, or contaminated must be replaced immediately. Should such repair or replacement become necessary, please contact Amico Corporation or their distributors.

All alarms should not be repaired or altered without prior written or verbal approval from Amico Corporation or its distributors. Failure to comply will void all warranty on the alarm.

Statements in this manual preceded by the words **WARNING**, **CAUTION**, **DANGER**, and **NOTE** are of special significance. Please read these sections carefully.

NOTE: Amico strongly recommends that alarms be checked annually by qualified staff.

⚠️ **WARNING:** Denotes steps which can prevent injury.

⚠️ **CAUTION:** Denotes steps which can prevent damage to equipment.

⚠️ **DANGER:** Denotes steps which can prevent electrical shock to equipment or to prevent serious injury and/or death.

Important Information

1. Do not use impact screw driver for installation.
2. When installation is completed, peel off the LCD screen protector.
3. To protect from static electricity, ensure to discharge body static before installing the Medical Gas Alarm.
4. Do not ground the shield drain wire inside the alarm panel Back Box.
5. Make sure power supply is turned off while wiring.

Features

• Microprocessor based digital LCD capable of connecting up to 30 channels.

• Ethernet capable for viewing an exact image of the alarm remotely or wireless anywhere in the building.

• Adjustable repeat alarm (1, 12, 24 hours or OFF).

• Maintenance mode available for on site repair.

• Self diagnostic circuitry with error display for problem identification.

• Dry contacts for remote monitoring from LCD for a generic alarm condition.

• Modules are factory mounted on a hinged frame assembly for ease of installation and maintenance.

• Alarm conditions can be selected as normally open or normally closed.

• The Amico Alert-4 Series Master Alarm supports Internet Explorer, Google Chrome, and Safari.

• Email and text notification with hyperlink to link back to the alarm panel.

• Easy access via Amico App.

• Web Audio Enabled: web audio will trigger when alert occurs via Ethernet.

• Unlimited records of history log to keep track of alert history for easy troubleshooting.

Introduction

The Amico Master LCD Alarm System (Alert-4) incorporates the latest microprocessor based technology for alarm and surveillance systems. The alarm has been designed to provide user flexibility and reliability. This manual shall enable the customer to install, use, and maintain the alarm appropriately.

There is one " MUTE" (◀×)or "PUSH TO TEST" button located on the front face of the LCD panel. The button has three functions to Test the panel, to view the channel terminal ID and to silence an alarm that has occurred. To Test the panel and to view the terminal where the wires are connected, press and hold the "MUTE" button for 20 seconds

Under normal operation, each group will illuminate in the "GREEN - OK" position. If an alarm condition occurs, the group and channel name will illuminate as "RED" and an audible alarm shall be continuous until silenced by pushing the "MUTE" button.

The LCD Alarm can be connected to a "Building Management System" for a general alarm.

Description of the Alarm

Shipment Details

When you receive an Alert-4 LCD Master Alarm from Amico Corporation, the package will consist of two main sections: the Alarm Back Box and the Frame/Module Assembly.

The Alarm Back Box

The Alarm Back Box contains the auto-switchable System Power Supply with an ON/OFF switch, a built-in fuse and terminal blocks (115 to 220 VAC - 50 to 60 Hz).

The Frame/Module Assembly

The Frame/Module Assembly consists of the frame and the LCD module. The hinged frame is designed to swing down from the Back Box to facilitate installation and servicing of the alarm. This design will reduce installation time and eliminate the risk of improper installation since all the modules are connected and tested at the factory.

Description of Modules

COMMON TO ALL ALARMS

System Power Supply

The System Power Supply has been pre-installed into the Back Box assembly. The System Power Supply converts the AC voltage supply to the alarm into two voltages: 5 VDC (regulated) required by the microprocessor hardware and 15 VDC (unregulated) required by the buzzer and the LCD. This unit also contains the main ON/OFF power switch, the transformer, the heat sink, the main fuse and fuse cover, the rectifying circuitry, the terminal blocks, and the low voltage DC power cable for connecting this unit to the module. The System Power Supply can be easily removed and reinstalled by unscrewing it from the Back Box.
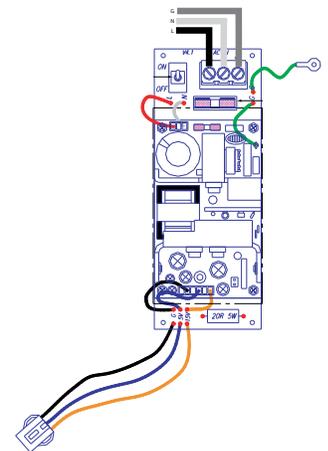
LCD Module

The LCD module contains the LCD screen, microprocessor, Ethernet capable for convenient viewing remotely or wirelessly, anywhere in the building. Email and Text notification enable, Monitor up to 30 channels. Alarm conditions can be selected as normally open or normally closed. Maintenance mode for easy troubleshooting, repeat alarm function, channels can be grouped together or separated using Amico Master Configuration software. Generic dry contact for remote monitoring, adjustable buzzer volume and brightness. "MUTE" button to silence an alarm, push and hold for 20 second and the display will show the terminal port for each channel. LCD Master Alarm is Ethernet ready for use with Internet Explorer, Google Chrome, and Safari.

For Annual Test

Hold the MUTE button for twenty (20) seconds to test the panel, channels ID will be displayed and buzzer will sound. If a signal is not present after performing the test, panel will display missing, or disconnected channel in RED.
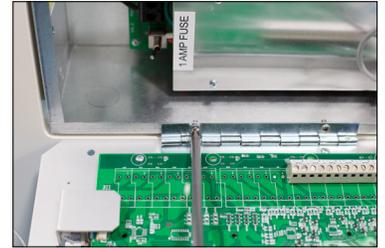
Installation Guide

Step 1: The Alarm Box

Install the back-box to the studs of the wall at the desired height. Ensure that the box is securely in place. The mounting brackets are adjustable to suit the thickness of the wall. MAKE SURE the box is parallel, squared, and flush with the finished wall surface to ensure that the frame assembly will fit properly.

Step 2: Frame Assembly

i.   Attach the LCD screen to the Back Box assembly by using flat head screws (provided with frame in a plastic bag).

ii. Attach the frame wire with 2 dome head screws (provided with frame in a plastic bag). This will allow the frame assembly and Back Box to the fastened securely together.

iii. Close the LCD screen with a Back Box by tightening two screws provided with divider plate.

iv. Loosen the screws from the sides frame section (2 screws provided).

v.   Cover the frame and tighten the side screws.

⚠ **CAUTION:** Do not use impact drill or screwdrivers when assembling new frame.

Installation Guide

⚠️ **CAUTION:**

1. The microprocessor circuitry on the Alert-4 Alarm contains sophisticated integrated semiconductors. DO NOT TOUCH any of the components on the board. Static discharge can cause the modules to malfunction or become damaged.

2. Keep the shield drain wires as short as possible and taped to prevent from grounding, so they can not touch the front panel circuit board when front panel is closed.

Step 3: System Power Supply

⚠️ **CAUTION:** TURN OFF THE POWER SWITCH before changing any modules and/or disconnecting any cables. Failure to do so can cause the fuse to blow, damaging the circuitry.

1. Ensure that the ON/OFF switch is in the OFF position.

2. Through the top left side of the Back Box, bring in the AC power wires. Knockouts are provided for making conduit connections to the box. All wiring is to be installed according to local and national codes.

3. Connect the AC power to the terminal blocks as shown in the wiring diagram **(Appendix B)**.

4. Verify that power has been switched OFF prior to working on the alarm.

5. Risk of electric shock! Disconnect power at circuit breaker before removing power supply shield.

Connecting

i. Connect a #22 gauge stranded, shielded twisted pair cable ONLY from the junction box to the Back Box assembly. Knockouts are provided throughout the alarm Back Box. Up to 10,000 ft [3,048 m] of #22 gauge stranded, shielded, and twisted pair cable should be used.

ii. Connect the RED wire from the cable to the terminal on the display module marked "+". Connect the black wire to terminal "-" as shown in the wiring diagram **(see Appendix A)**.

iii. Repeat the above procedures with the remaining point modules using the wiring diagram.

NOTE: #22 gauge stranded, shielded twisted pair cable ONLY must be used, up to a distance of 10,000 ft [3,048 m].

Dry Contacts

If the dry contacts for a generic alarm are to be used for remote monitoring, connect the wires to the appropriate terminals: COM (Common), NO (Normally Open), or NC (Normally Closed), using the diagram in Appendix A **(see Appendix D for contact rating)**.

Installation Guide

Step 4: LCD Display Setup

   i.   Press the Setup button (B1) and press the Select button (B4).

   ii.   Select the language (B1) and press Select (B4) to choose the language.

   iii. Select the volume level: 90, 80, 70, 60 – press CHANGE UP/DOWN to change level.

   iv. Select the LCD brightness - press CHANGE UP/DOWN to change brightness.

   v.   Select Maintenance (Enable or Disable) -press CHANGE UP/DOWN to change *for trouble shooting purpose only*.

   vi. Select Repeat Alarm (l ,12 ,24 hours or disable) - press CHANGE UP/DOWN to change.

   vii. Select DST (Daylight Saving) (ON/OFF) - press CHANGE UP/DOWN to change.

   viii. Select the DATE (YEAR/MONTH/DAY) - press CHANGE UP/DOWN to change.

   ix. Select Time (HR/MlN) - press CHANGE UP/DOWN to change.

   x.   Press the Select button (B4) to complete Setup.
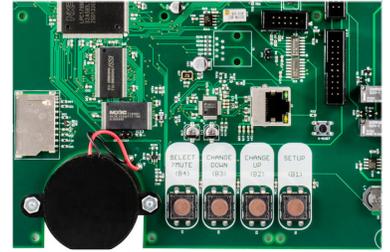
**NOTE:** Hold the "MUTE" button for twenty (20) seconds to display Channel ID.

NOTE: Press the Setup button (B1) in order to make corrections/go back.
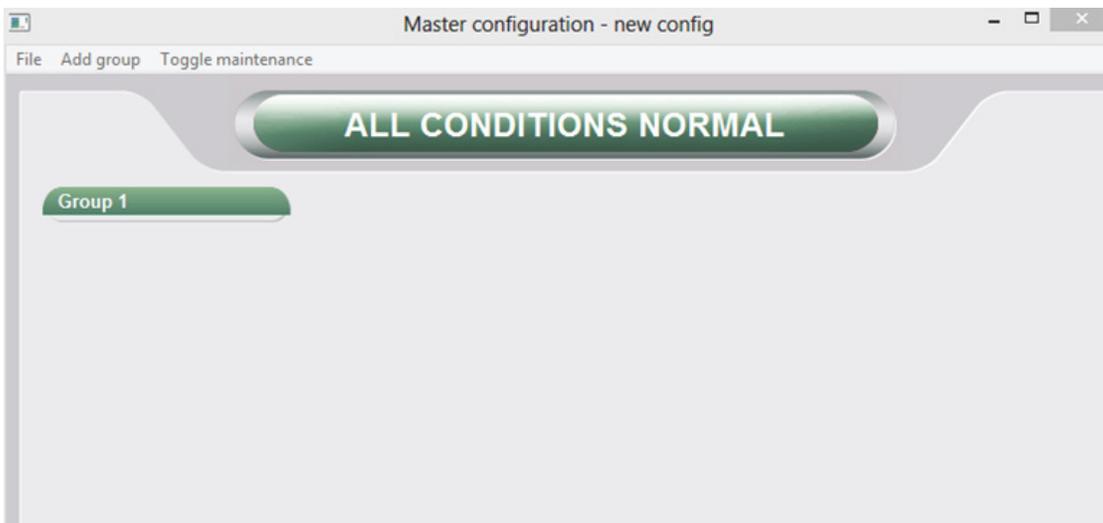
Configuration Guide

Amico LCD Alert-4: Master Alarm Configuration

The module allows up to 16 characters per line. To configure the alarm channels, perform the following steps:

1. Open the Master Configuration program provided by Amico Corporation on the SD Card.
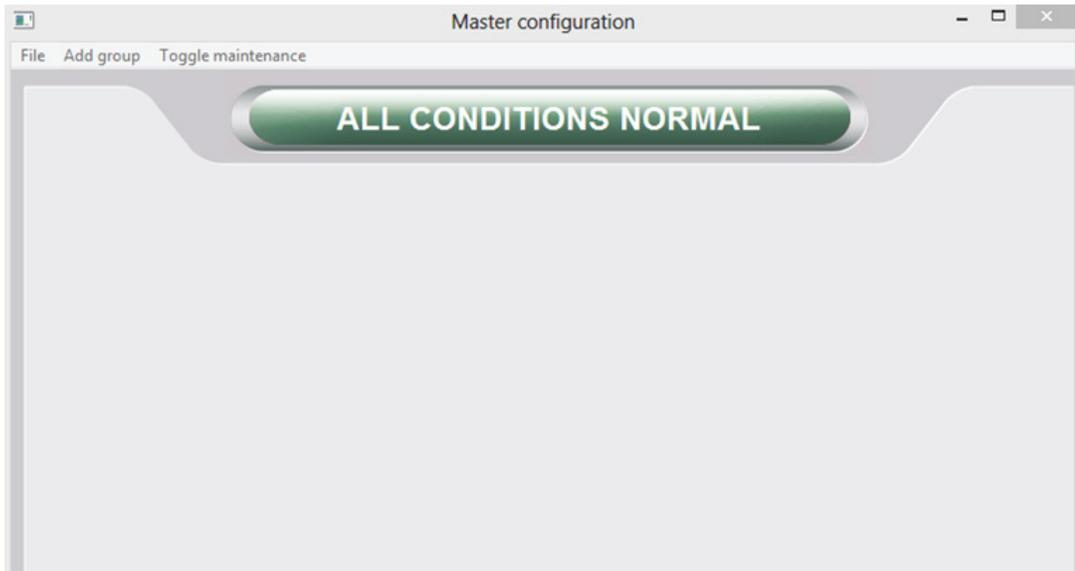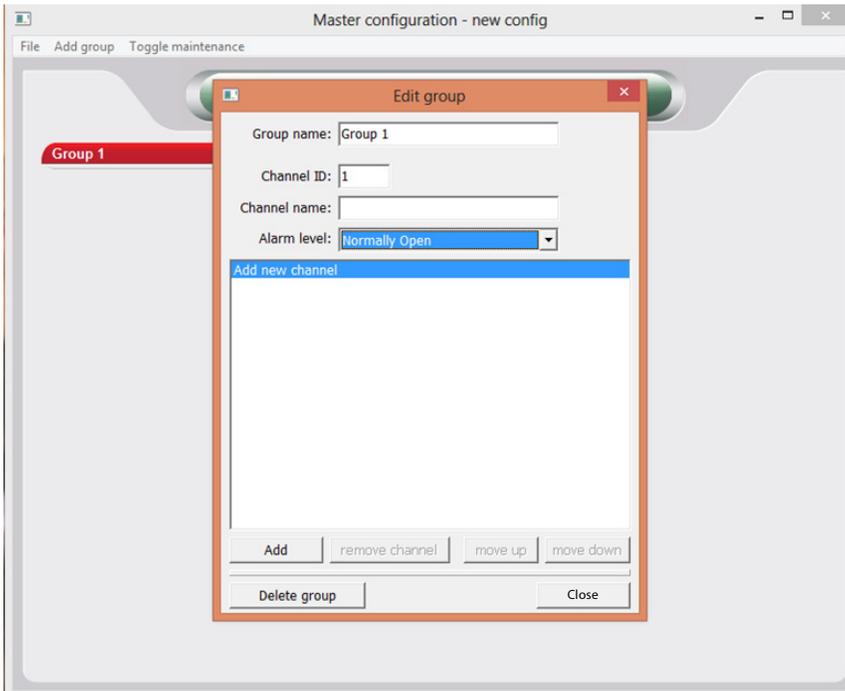

2. Click "File" located at the top left corner. Then click "Start New Config". Then click "Add Group".
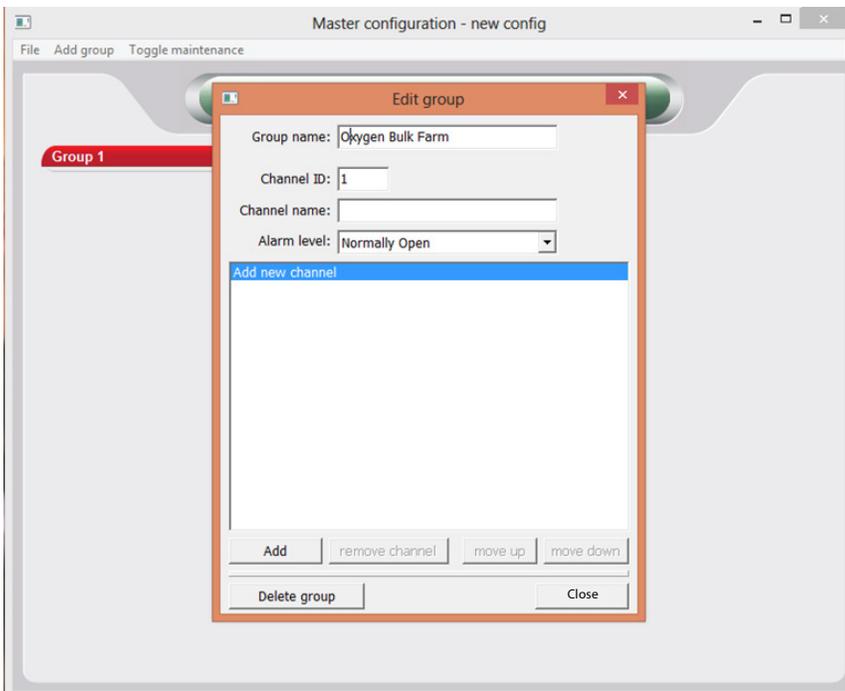
Configuration Guide

3. Double click on the "Group 1" column. The "Edit Group" window will pop up.


4. Under "Group Name", identify the medical gas source supply (e.g. Oxygen Bulk Farm).
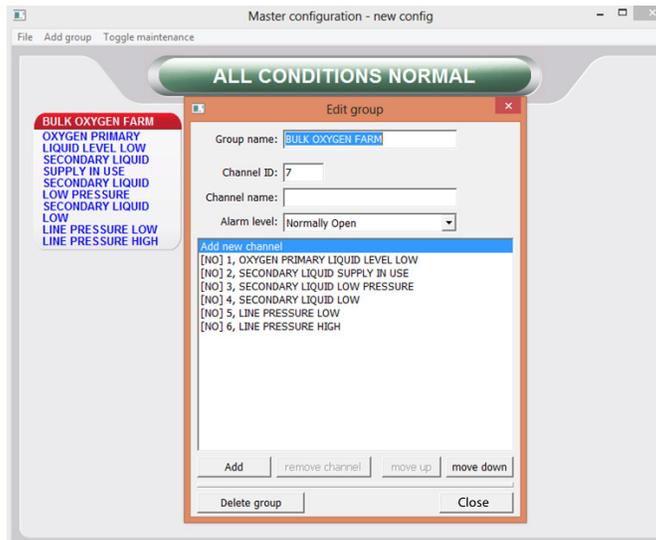
Configuration Guide

Channel Name and Alarm Conditions

1. Under the "Channel Name" column, identify the channel name and click the "Add" button to add channels (e.g. Oxygen Primary Liquid Level Low). To set alarm conditions for a normally open or closed circuit, click the drop down arrow to change alarm conditions.
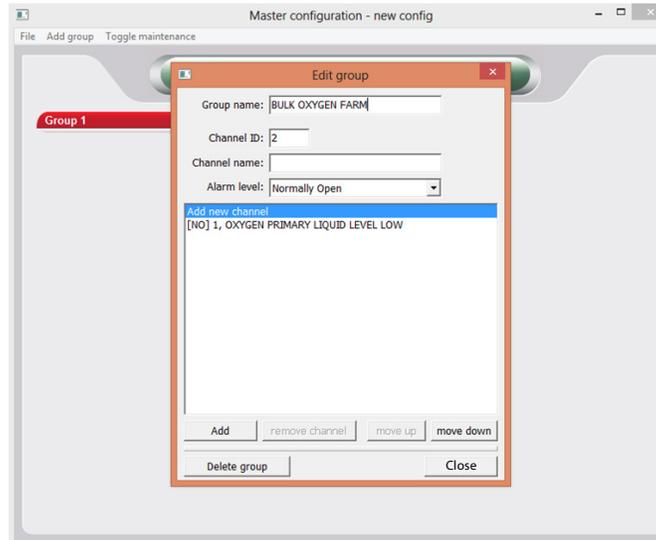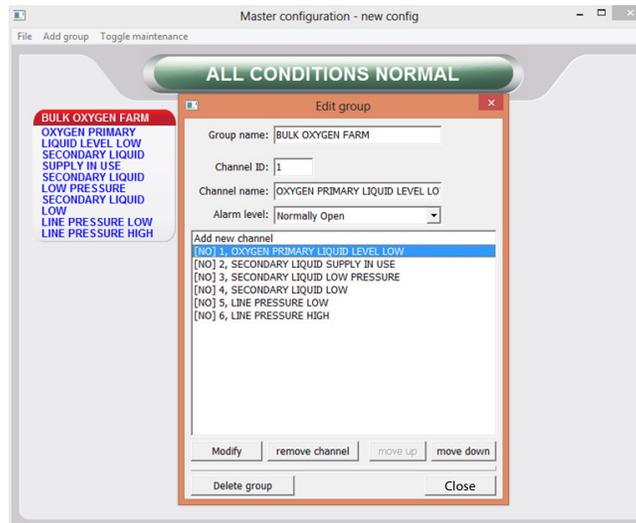

a. To modify the Group Name, double click to open the "Edit Group" window. Revise the group name then click "Close".

Configuration Guide

b. To modify the Channel Name, double click to open the "Edit Group" window. Click the channel you want to revise then revise the channel name. Click "Modify" then click "Close".

2. Click the "Close" button to complete each group.

3. Save the Configuration file to the SD Card. The file name must be saved as master.cfg in the "Master Configuration" file type.
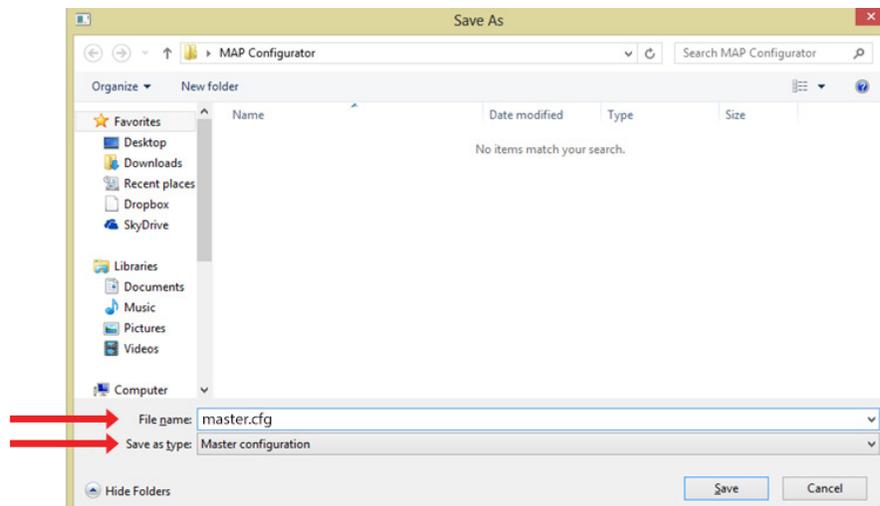
4. To load the configuration file into the master alarm, follow the instructions under "Installation Guide" on page 16 of this manual.

Configuration Guide

Network Setup

⚠️ **CAUTION:** Have the information systems personal set up the network interface. Before making any changes to the network setting notify information systems personals.

Equipment Needed To Setup The Network

• PC with Ethernet connection.

• PC with web browser, (Internet Explorer, Google Chrome, Safari).

• Cat5 Ethernet cable (Straight-through).

• SD Card (1GB preferable).

Setup

• Connect Alert-4 Master Alarm to an Ethernet switch using a Cat5 Ethernet cable.

• For direct connection to PC, connect the Master Alarm to PC using Cat-5 Ethernet cable.

NOTE: It is best to use a switch instead of a hub because the device communicates at 10 Mbps. A switch is better able to support this speed, improves network performance, and keeps unnecessary traffic from being routed to the alarm.

• Amico Alert-4 Master Alarm will be set to factory default setting. The IP Address, Subnet Mask and Gateway will be set as follows:

   IP Address: 192.168.1.100
    Gateway: 192.168.1.1
    Subnet Mask: 255.255.255.0

• Static IP configuration needs to used to connect to the Hospital Network.

• Upon power-up, the device will immediately begin using the static IP configuration.

• Each alarm requires a different IP Address to connect to the network.

• Verify the green "LINK" LED illuminates at the Ethernet Port.
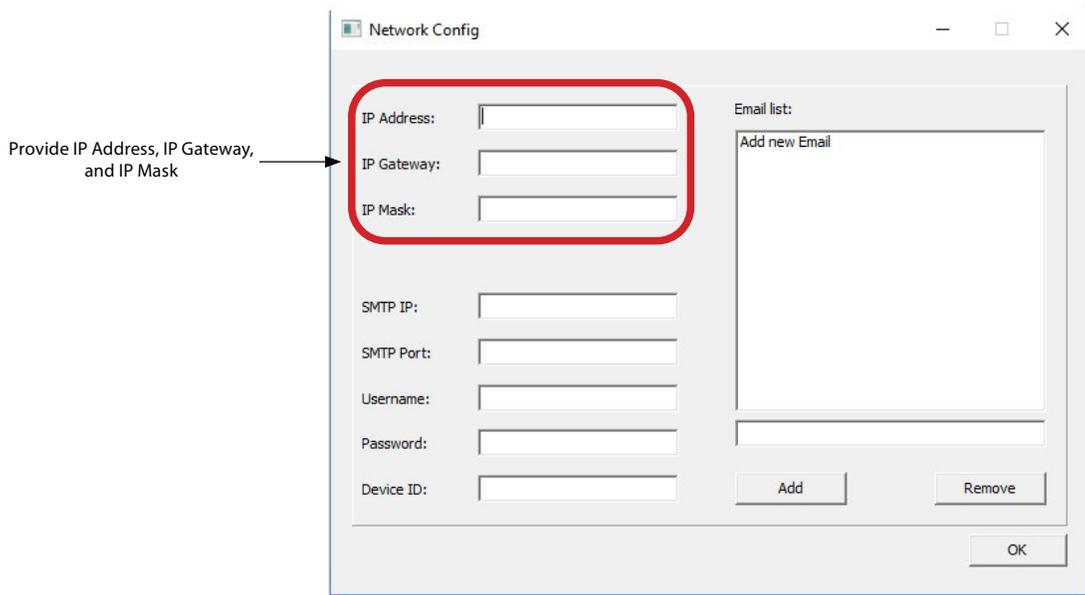
Configuration Guide

Assign An IP Address

Click the Network Config to assign network parameters and set up email and text notification using Master Configuration program provided by Amico Corporation on the SD Card.
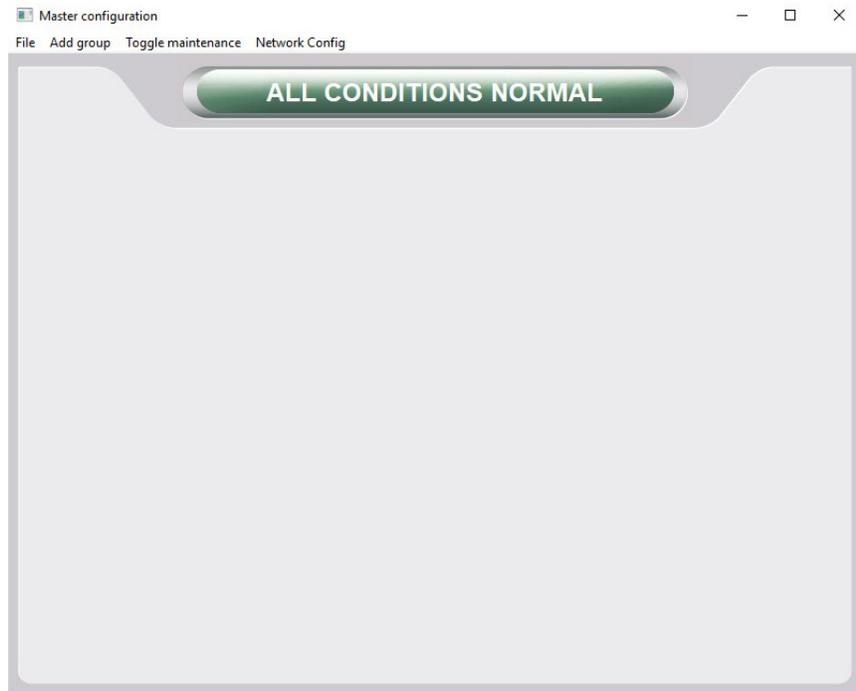
Provide network parameters and click OK to Save. Network file with provided network parameters will automatically generate in the SD Card.
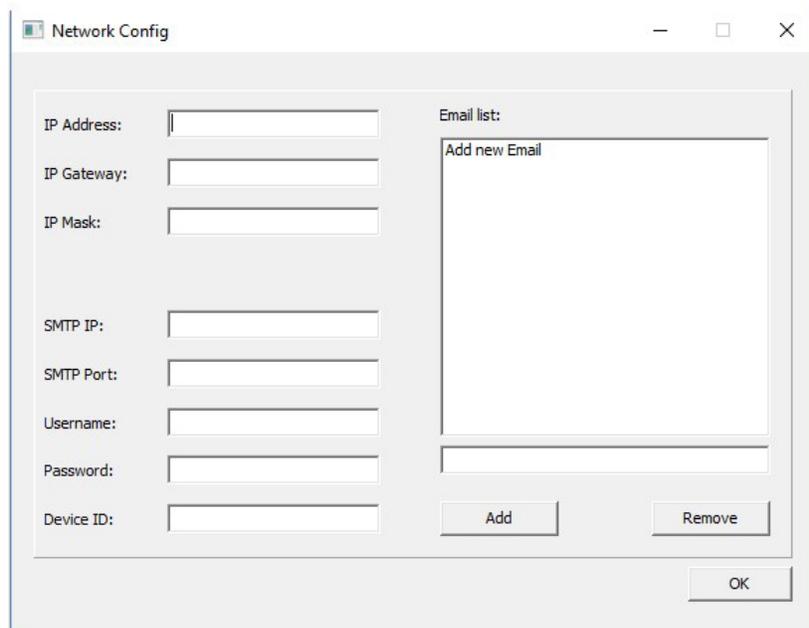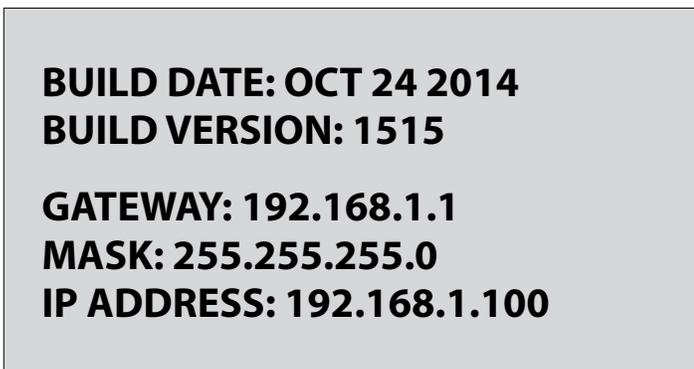
Configuration Guide

To upload network parameters to the alarm panel, insert the SD Card into the SD Card slot on the LCD Alarm board **(see Appendix A)**.

To load the channel name configuration file and the network configuration file, press and hold the Setup button and the Reset button at the same time for two seconds; then let go of the Reset button while still holding down the Setup button until the new channel name configuration file and network configuration file are uploaded to the Master Alarm.

When loading is completed, the screen will display the new channel name configuration and new network configuration, as shown below:

BUILD DATE: OCT 24 2014
BUILD VERSION: 1515

GATEWAY: 192.168.1.1
MASK: 255.255.255.0
IP ADDRESS: 192.168.1.100

If the configured information does not appear on the screen, repeat the steps above. If the problem persists, contact Amico Corporation for further assistance.

- Once the information is visible on the LCD Alarm screen, leave the SD Card in the slot for approximately 1 minute in order for the information to be completely uploaded onto the alarm, and then proceed to remove the card.
- Once the card has been removed, restart the LCD Alarm to ensure that the configured network settings have been saved onto the LCD Alarm.

Configuration Guide

Connecting To Alarm

- Start the web browser (Internet Explorer, Google Chrome, Safari).

- Enter the device IP Address eg: (http://192.168.1.1xx) in the browser's address bar*.

NOTE: To find Alarm IP Address, press reset button on the back of the Alert-4 Master Alarm. IP Address will be displayed on the screen.

Email Setup

⚠️ **CAUTION:** Have the information system personnel setup the email interface. Notify information systems personnel before making any changes to the network settings.

SMTP server is required for electronic mail service.

The following parameters are needed to activate email service. Information system personnel will be able to provide the necessary parameters.

Click the Network Config to set up email and text notification.

Configuration Guide
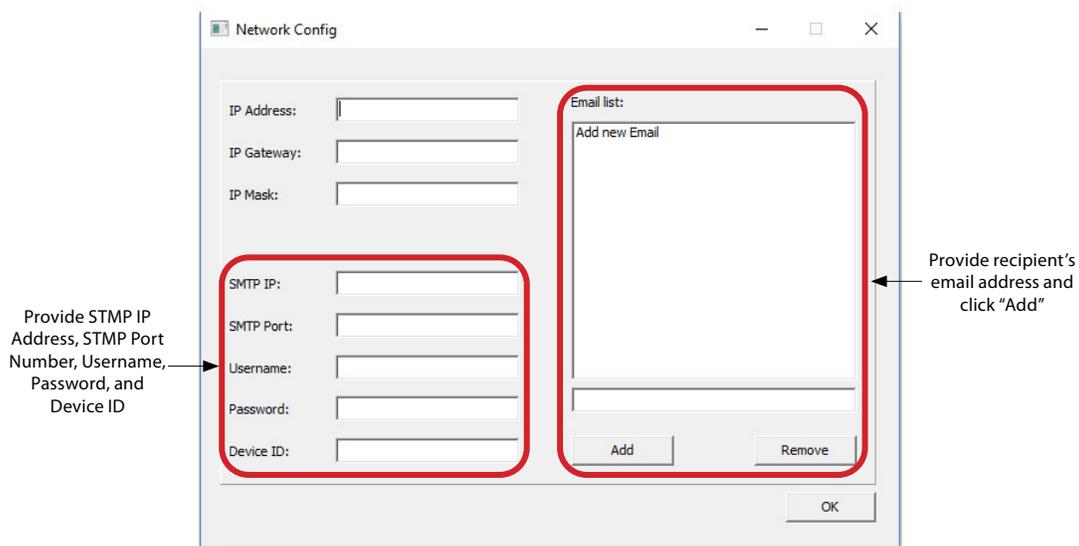
NOTE: Click OK to save, network file with STMP parameters will automatically generate in the SD Card.

    IP_SMTP= (provide SMTP server IP address)
    SMTP_PORT= (provide SMTP port number)
    SMTP_USER= (provide SMTP user name)
    SMTP_PASSWORD= (provide SMTP password)
    EMAIL= (provide recipient email address)
    DEVICE_ID= (location where device is installed)

To load the Network configuration, press and hold the Setup and Reset buttons at the same time for two seconds. Let go of the Reset button while still holding the Setup button until the new configuration is uploaded to the panel. When parameters are uploaded, the panel will display the new parameters in boot sequence.

⚠️ **CAUTION:** When wiring source equipment to the panel, make sure that the Cat5 cable is unplugged or turn OFF the panel before wiring. If the panel is connected to the mail server it will start sending email while wiring the terminals to the recipients.

NOTE: IP Address has to be routable if connecting to the alarm panel to the global network.
SMTP Security: Alert-4 panel will require Plain Text Authentication. It is required to have the transport layer security and basic authentication only after stating TLS and anonymous users.
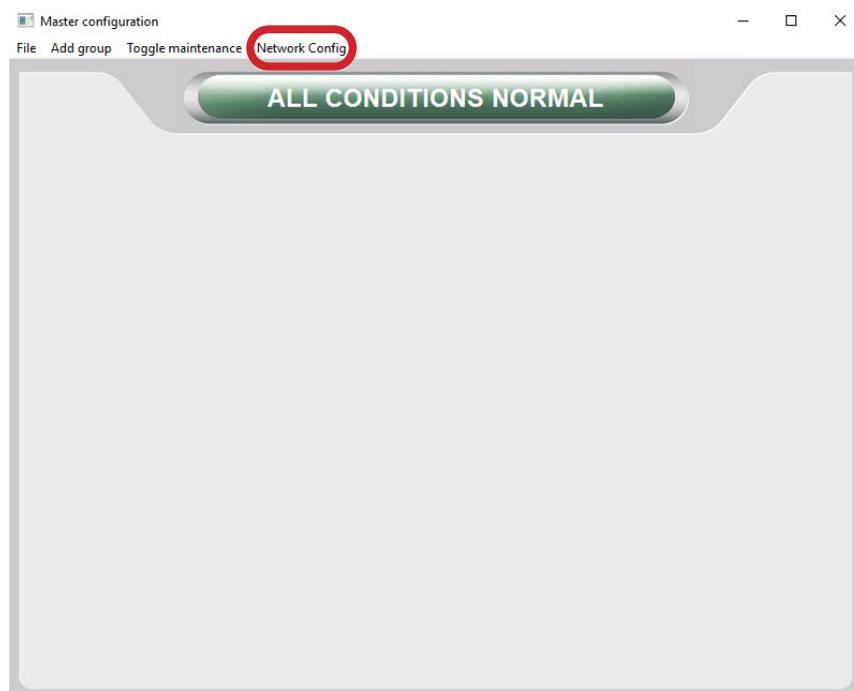
Configuration Guide

Text Setup

⚠️ **CAUTION:** Have the information system personnel setup the email interface. Notify information systems personnel before making any changes to the network setting.

SMTP server is required for electronic text service.

The following parameters are needed to activate the text service. Information systems personnel will be able to provide the necessary parameters.

> IP_SMTP= (provide SMTP server IP address)
> SMTP_PORT= (provide SMTP port number)
> SMTP_USER= (provide SMTP user name)
> SMTP_PASSWORD= (provide SMTP password)
> EMAIL= (provide recipient phone number and SMS gateway address, e.g., phonenumber@txt.bell.ca)
> DEVICE_ID= (location where device is installed)

⚠️ **CAUTION:** When wiring source equipment or gas sensors to the panel, make sure that the Cat5 cable is unplugged or turn off the panel before wiring. If the panel is connected to the mail server it will send email while wiring the terminals to the recipients.

NOTE: SMTP Security: Alert-4 panel will require Plain Text Authentication. It is required to have the transport layer security and basic authentication only after stating TLS and anonymous users.

Provide recipient's phone number and SMS gateway address e.g., phone number@txt.bell.ca and click "Add"

Amico Mobile Eco System App

Amico is pleased to introduce the latest technology for monitoring the Medical Gas System of a hospital on a mobile phone. This App allows facilities to monitor the pipeline equipment in real time on an iPhone or Android phones.

The App will provide an exact and instant visual representation of the equipment in alarm condition, thereby eliminating the need for nurses to call maintenance personnel in the event of a gas outage. The App will also help maintenance personnel to localize the outage for a quicker resolution.

AMICO MOBILE ECO SYSTEM APP
Download Now!

 Download on the App Store
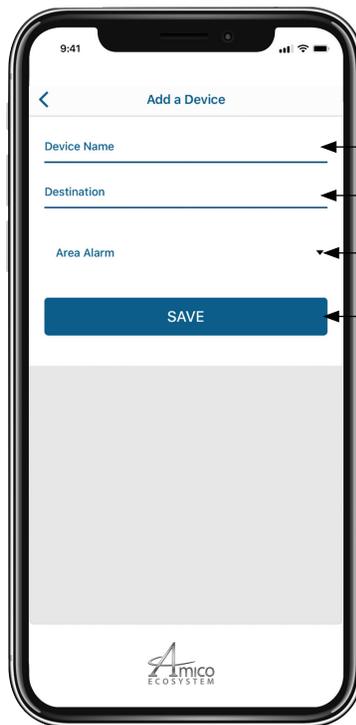
 GET IT ON Google Play

NOTE: If Alert-4 Alarms are given with local IP Address, the phone must be connected to local WiFi before connecting the app to the Alert-4 Alarm. If Alert-4 Alarm is given with global IP Address, connecting the phone to local WiFi is not needed.

Click and open Amico Mobile Eco System App on the phone.
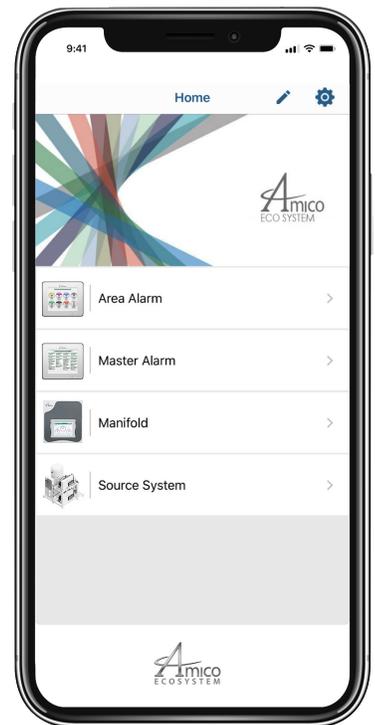

Home Screen
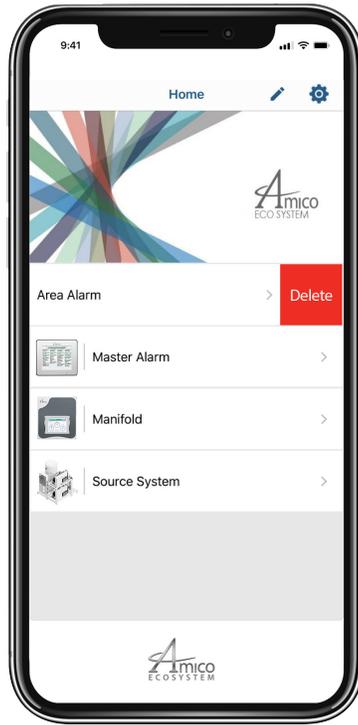
Add a Device Screen

Home Screen with Devices Added

Amico Mobile Eco System App

Display Exact Image of the Alarm

Slide Left to
Delete Device

Click to Open
Manuals
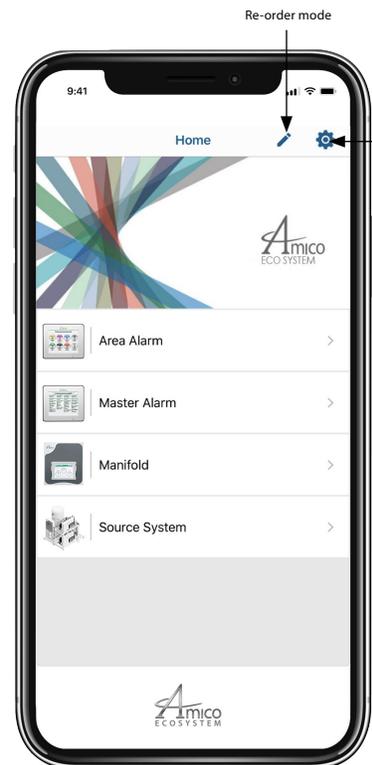
Click to Contact
Amico

Setting Menu

Add a Device

Device Manual

Contact Amico
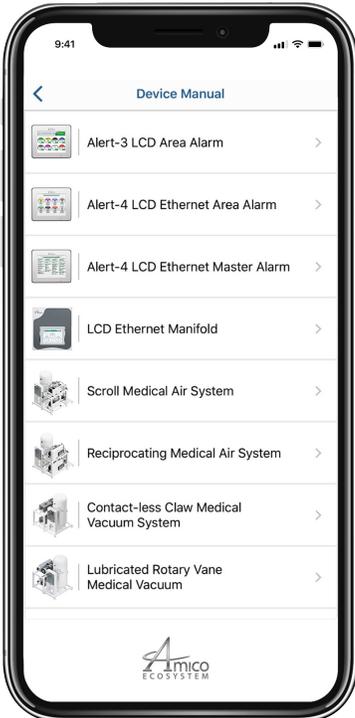
Device Manual

Re-order mode

Click to add
more devices

**Press and hold the device screen to
move the device**
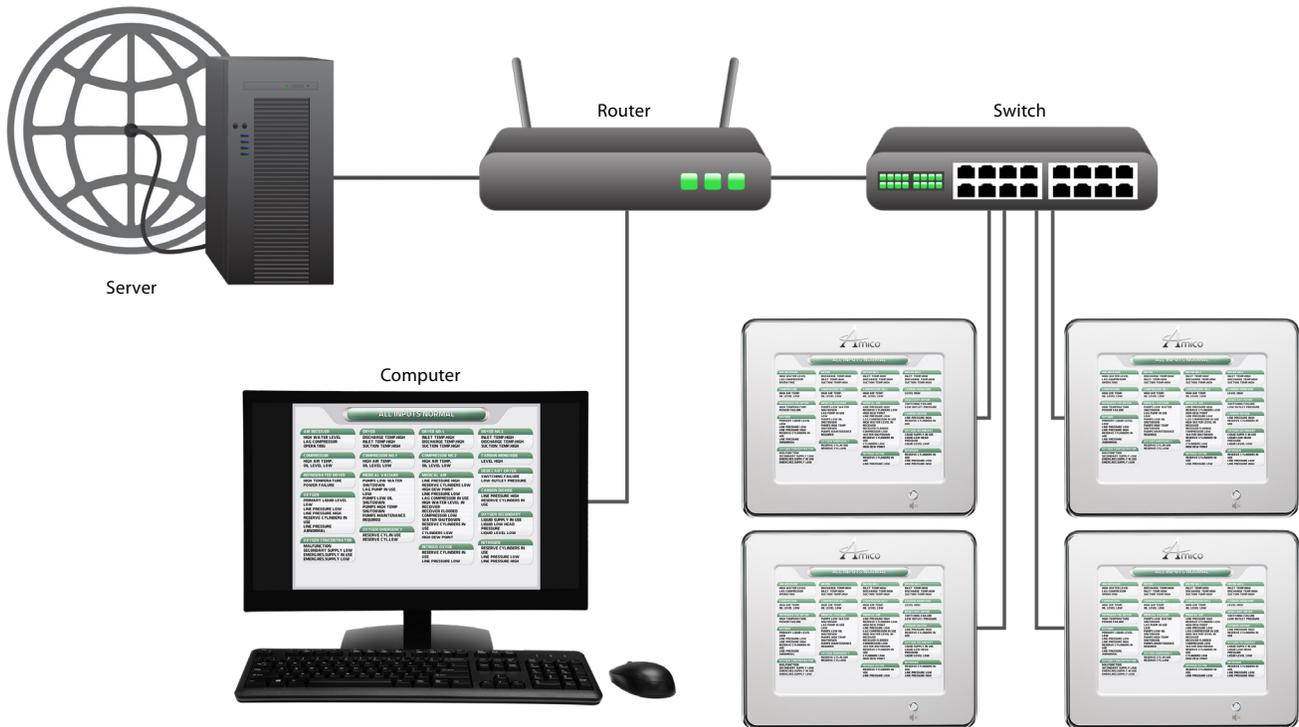
Network Diagrams

Direct Connection

Simple Unmanaged Network

Network Diagrams

Complex Managed Network

Recorded History Log

Must leave the SD Card in the SD Card slot to record the logs. Panel will automatically log the track of alerts with date and time provided.

1. To view the logs.

2. Remove the SD Card from the SD Card slot.

3. Plug the SD Card to a PC card reader and open the SD Card.

4. Open the file called "ERROR" by double clicking.

5. File will displays history logs.

```
Saved postmortem data:
[27/08/2019, 11:33:30] The device started
RESET CAUSED BY: Reset button, Lockup,
Saved postmortem data:
[27/08/2019, 11:34:02] Alarm condition TRIGGERED      Channel 1: OXYGEN: OXY LINE PRESSURE HIGH
[27/08/2019, 11:34:32] Alarm condition CLEARED        Channel 1: OXYGEN: OXY LINE PRESSURE HIGH
[27/08/2019, 11:35:01] Alarm condition TRIGGERED      Channel 2: OXYGEN: OXY LINE PRESSURE LOW
[27/08/2019, 11:35:36] Alarm condition CLEARED        Channel 2: OXYGEN: OXY LINE PRESSURE LOW
```

Web Audio

When an alert occurs, the PC audio that is monitoring will turn on automatically. To mute the audio, click the Mute button on the web page. If the PC audio doesn't turn on automatically, click mute and re-activate the alert to turn PC Audio ON.

NOTE: If muting the audio in the web page doesn't silence audio at the alarm panel, press Mute button at the panel.

Spare Part Numbers

Accessories/Miscellaneous

Model Number	Description
A2P-POWER-V2	Power Supply Module Alert-2
A3X-BOX-3LCD	Alarm Back Box Assembly 3-Station Alert-2
A4M-MASTER-FRAME	Master Alarm Frame Assembly for Alert-4 Ethernet
A3P-RIBBON-CABLE	Ribbon Cable 3" long
A3X-A-TERM-LAB30	Terminal Block Label 30 points
A3X-X-FRM-PLT-LCD	LCD Alarm Frame

Maintenance Mode

Factory Default – Disabled

The Maintenance Mode is used to allow hospital personnel to identify loose wiring or faulty source equipment. By enabling the Maintenance Mode any alarms received, even transient ones, will be latched-on so that the maintenance personnel can identify the source of the problem.

To Enable Or Disable Maintenance Mode:

- Press the Setup button and select the Maintenance Mode by pressing the B4 button.
- Use the Up and Down buttons to activate the Maintenance Mode to either Enable or Disable.
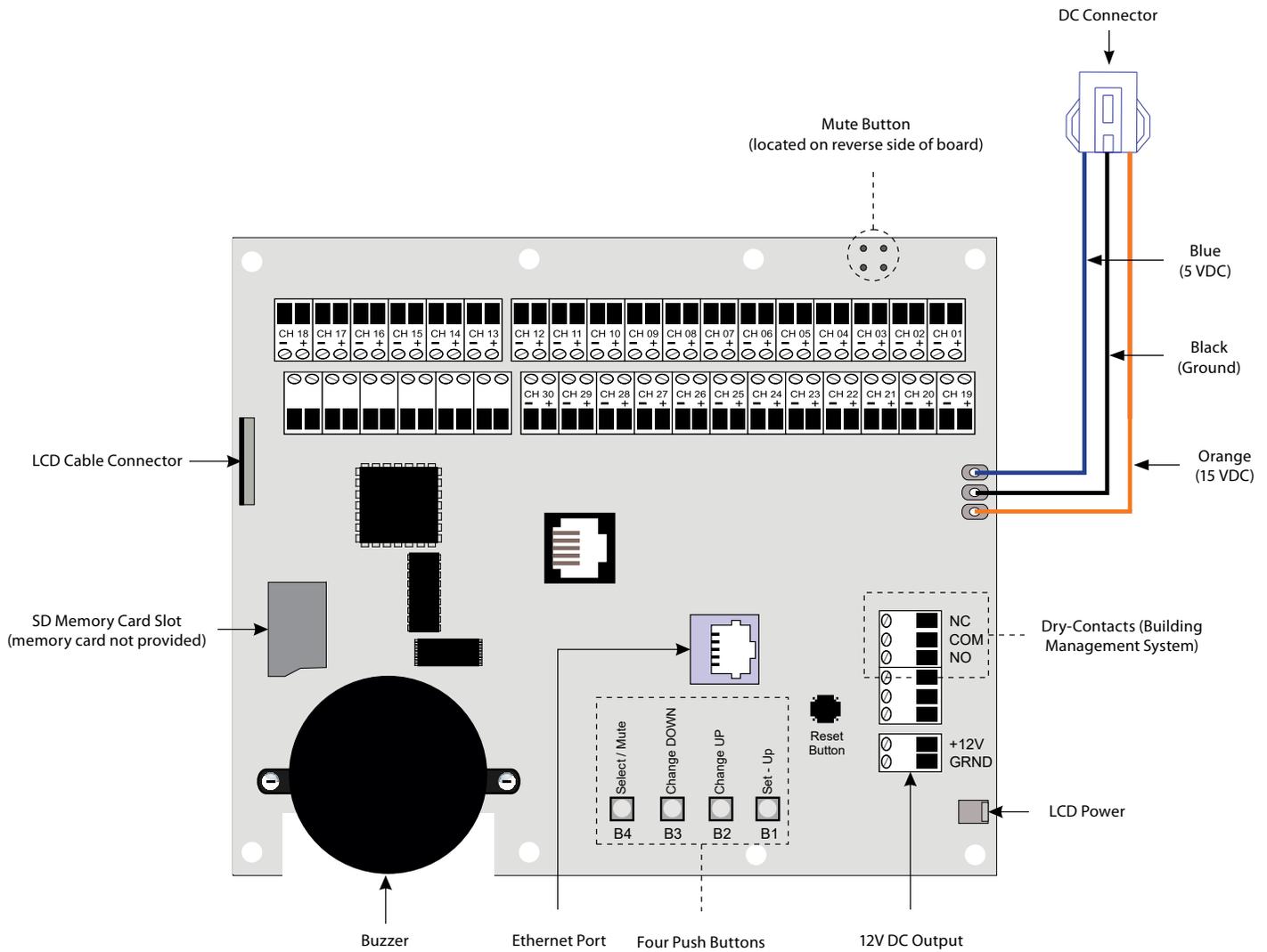
The display will show "Maintenance Mode Active" when Maintenance Mode is enabled.

Troubleshooting

Symptom	Cause	Corrective Action
No power on the alarm.	AC power not available.	1. Ensure that the ON/OFF switch on the power supply module is turned ON **(see Appendix B)**. 2. AC wiring not connected. 3. Check the building electrical breaker to ensure that the power is ON. 4. Check the voltage at the terminal block above the transformer. Ensure that 115 VAC to 220 VAC is being supplied.
	Fuse is blown.	Check the fuse. The fuse is located on the upper-right corner of the system power supply. Replace the fuse if it is defective **(see Appendix B and Appendix E)**.
	DC power plug not connected to the LCD module.	a. Ensure that the DC power plug is firmly in its socket on the LCD module. b. Replace the System Power Supply unit if all the above steps fail to resolve the problem.
Power light is ON, however there is no display on LCD screen.	Loose ribbon cable from LCD screen to board.	a. Ensure that the cable is firmly in its socket on the LCD screen and board. b. Replace the LCD module.
No audible alarm.	DC power cable is disconnected or loose, check ribbon cable.	a. Ensure that the DC power cable from the system power supply is firmly connected to the LCD module. b. Replace LCD module.
Audible signal will not silence.	Faulty display module.	Disconnect the ribbon cable from the back of the faulty display module and replace the LCD module.
	Connection of the DC power cable from system power supply to LCD module is loose.	Disconnect the DC power cable from the LCD module and then reconnect. If audible alarm still persists, replace the System Power Supply unit.
	Faulty push button.	Replace the LCD module.
Network connectivity lost.	Wrong network cable used.	a. Use Cat5 or 6 (Straight-through).
	Dynamic IP Address.	b. Static IP Address must be used to configure the network switch to the correct port number.
	Wrong port number assigned to the network switch.	c. To test connectivity, assign static IP Address to a PC as same subnet as panel. Connect the PC to the panel. Open a shell prompt (Microsoft Windows Command Prompt or MS-DOS prompt) on the start menu, type "ping" followed by a space and then the IP Address of the panel then hit Enter. When panel is responded with a ping, connection is successful.
Email or Text notification not sending.	SMTP email server parameters not assigned, authentication errors.	a. Contact Hospital IT administrator for SMTP parameters. b. Must use plain text authentication. c. TLS/SSL authentication not supported. d. Configure the exchange server to accept plain text authentication from the panel **Check the SMTP server logs for reported authentication errors from the panel.**
Alarm Logs not recorded.	Wrong memory card is used. Must use SD Card between 2GB – 32GB.	a. Must use SD Card between 2GB – 32GB. b. SD Card must be formatted to FAT32 system. **Must leave an SD Card to the SD Card slot to record alarm logs.**
	SD Card formatted incorrectly.	**Set the DATE & TIME appropriately.**

Appendix A

Wiring Diagram: Circuit Board

DC Connector

Mute Button
(located on reverse side of board)

Blue
(5 VDC)

Black
(Ground)

| CH 18 | CH 17 | CH 16 | CH 15 | CH 14 | CH 13 | CH 12 | CH 11 | CH 10 | CH 09 | CH 08 | CH 07 | CH 06 | CH 05 | CH 04 | CH 03 | CH 02 | CH 01 |

| CH 30 | CH 29 | CH 28 | CH 27 | CH 26 | CH 25 | CH 24 | CH 23 | CH 22 | CH 21 | CH 20 | CH 19 |

LCD Cable Connector

Orange
(15 VDC)

SD Memory Card Slot
(memory card not provided)

NC
COM
NO

Dry-Contacts (Building
Management System)

Select / Mute   Change DOWN   Change UP   Set - Up

B4   B3   B2   B1

Reset
Button

+12V
GRND

LCD Power

Buzzer   Ethernet Port   Four Push Buttons   12V DC Output

⚠️ **CAUTION:**

1. Keep the shield drain wires as short as possible and taped to prevent from grounding, so they cannot touch the front panel circuit board when front panel is closed.

2. To protect from static electricity, ensure to discharge body static before installing the Medical Gas Alarm.

Appendix B

Wiring Diagram: Auto-Switch Power Supply

AC Supply
115 to 220 VAC

G
N
L

G - Ground
N - Neutral
L - Live

V4.1

AC

ON/OFF Toggle Switch

ON

OFF

Ground

Fuse (1 AMP)

20R 5W

G
5V
15V

DC Power Cable:
Connect to the female
connector on the LCD
Module

Black (Ground)

Blue (5 VDC)

Orange (15 VDC)
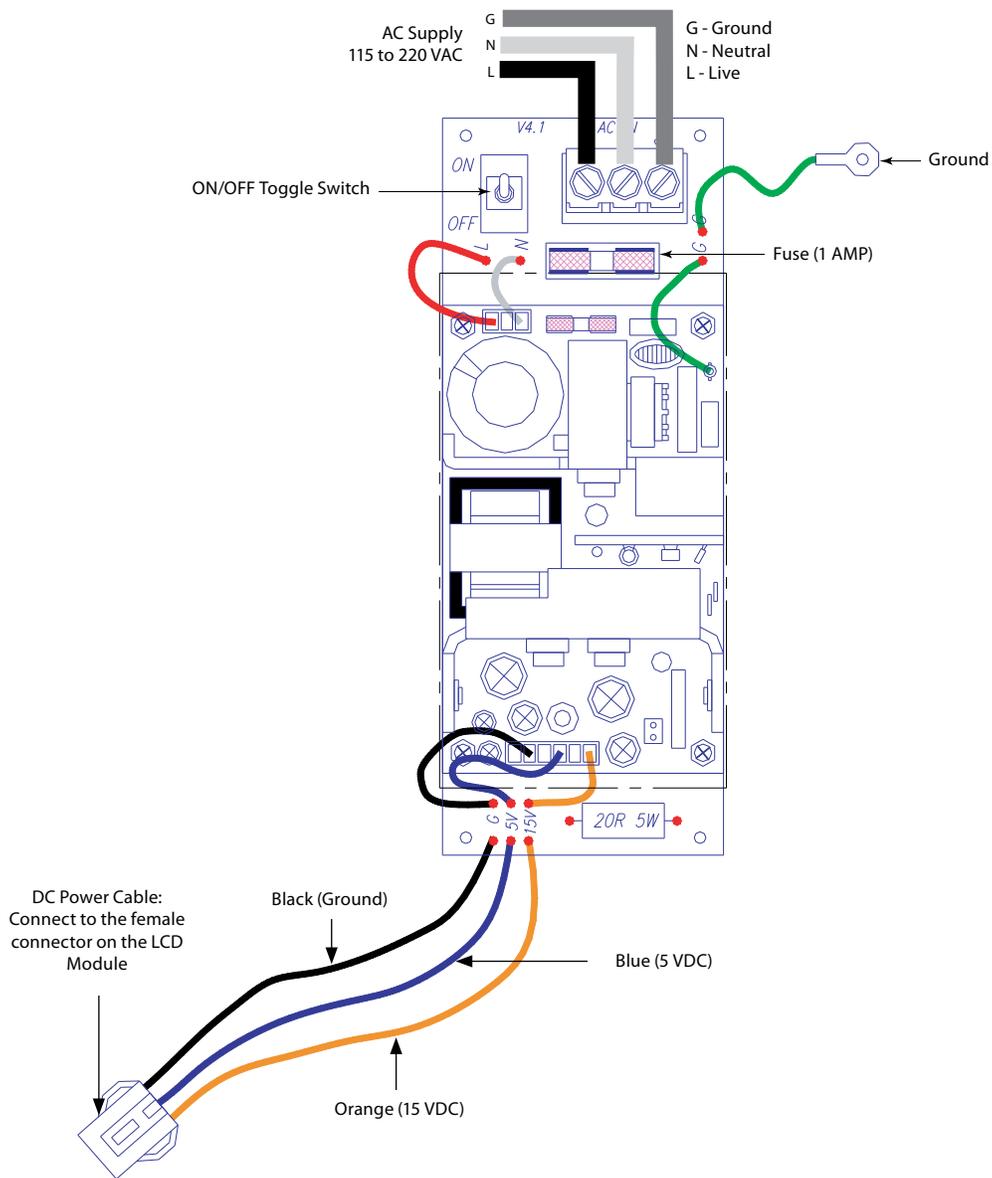
⚠️ **CAUTION:**

1. Verify that power has been switched OFF prior to working on the alarm.
2. Risk of electric shock, disconnect power at the circuit breaker before removing power supply shield.

Appendix C

Wiring Diagram: LCD Display Module - Alarm Buzzer

Optional: To Amico Manifold Universal Remote Buzzer

REMOTE BUZZER

+12V
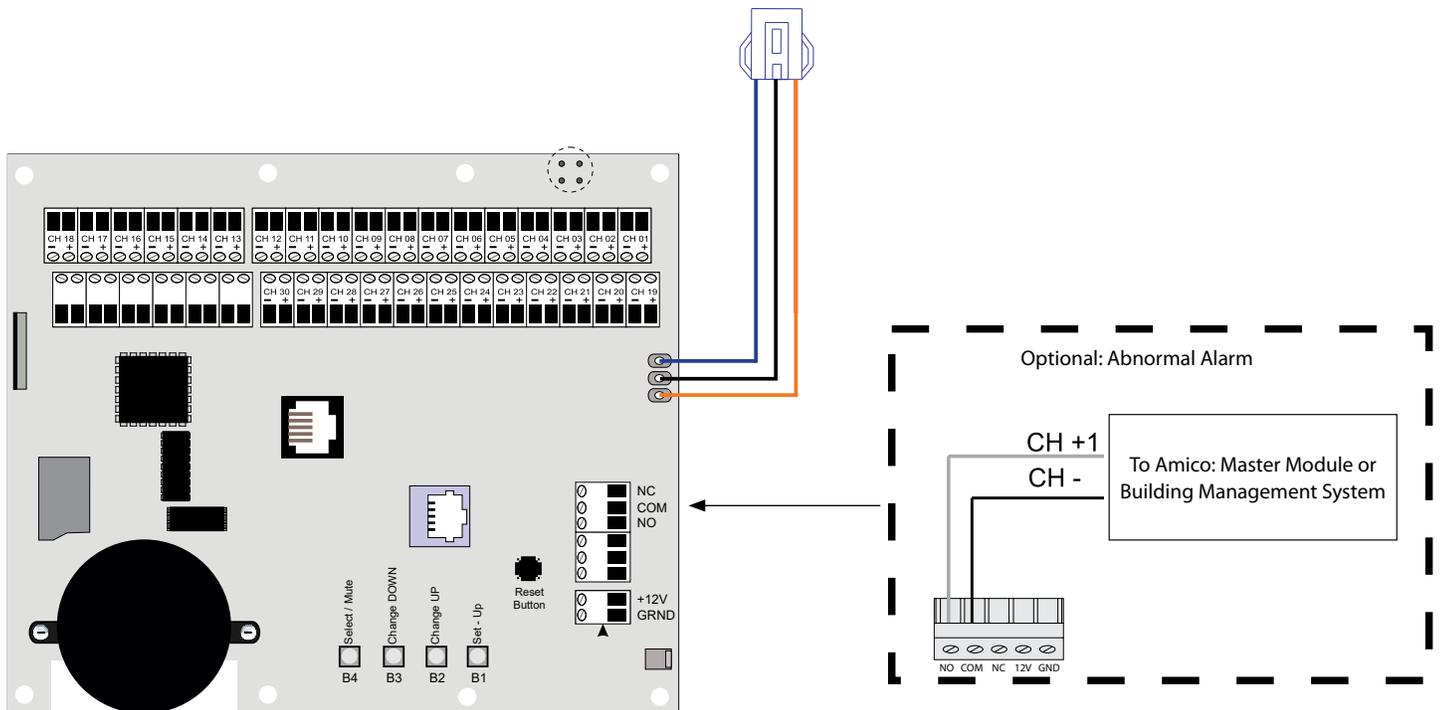
+
S
-

NC   COM   NO   12V   GND

REMOTE BUZZER

POWER   ALARM

PUSH TO TEST   ALARM SILENCE

CH 18 CH 17 CH 16 CH 15 CH 14 CH 13   CH 12 CH 11 CH 10 CH 09 CH 08 CH 07 CH 06 CH 05 CH 04 CH 03 CH 02 CH 01

CH 30 CH 29 CH 28 CH 27 CH 26 CH 25 CH 24 CH 23 CH 22 CH 21 CH 20 CH 19

NC
COM
NO

+12V
GRND

Select / Mute

Change DOWN

Change UP

Set - Up

Reset Button

B4   B3   B2   B1

Optional: Abnormal Alarm

CH +1
CH -

To Amico: Master Module or Building Management System

NO   COM   NC   12V   GND

Appendix D

Technical Specifications

Supply Voltage: 115 - 220 VAC, 50 - 60 Hz
Current Draw: 1 Amp. Max.
Fuse (¼* 1¼):   Fast Blow 1 Amp.

Cable Requirement:

   LCD Master Alarm to Source Equipment:

   Important:

   Cable: **ONLY a #22 gauge stranded, shielded twisted pair cable must be used. (Belden #8451 or equivalent.) In the presence of any electrical, magnetic, radio frequencies, wireless, or other interference, cable installation MUST be placed in metallic conduit.**

Master:

   Distance: Maximum 10,000 ft [3,000 m]
   Cable: Minimum #22 gauge stranded wire
   Signal: 5 VDC   -   < 5 μA

LCD Generic Alarm:

   Output: Dry Contacts NC, open on Alarm
   Rating: 30 VDC   -   1.0 Amps.
                      60 VDC   -   0.3 Amps.
                      125 VAC   -   0.5 Amps.

Appendix E

Wiring

A. General Requirements

1. All wiring shall be protected from physical damage by raceways, cable trays or conduit in accordance with NFPA 70, National Electric Code, or the Canadian Electrical Code.

2. All alarms are to be powered from the life safety branch of the emergency power system as required by applicable standards.

3. Alarm panel wires should be directly connected to switches or sensor as required by applicable standards.

4. All wire runs should be made with color coded wire. Record color, signal, and source of signal for each wire lead to aid in connection of alarm finish components.

5. The alarm panel should not be installed near radio transmitters, electrical motors, electrical control room, switch gear, CT scanners, MRI machines, or high voltage lines.

6. In the presence of any electrical, magnetic, radio frequencies, wireless, or other interference, cable installation MUST be placed in metallic conduits.

7. No solid wire should be used for connecting sensors or master alarms to source equipment.

8. To protect from static electricity, ensure to discharge body static before installing the Alarm.

9. Do not ground the shield drain wire at sensor or inside alarm panel Back Box.

B. Low Voltage Wire Type, Size, and Other Requirements

All low voltage wiring must meet the following criteria:

1. #22 AWG stranded, shielded twisted pair wire ONLY must be used, rated for 300 V and 60° C (140° F) minimum (Belden 8451 or equivalent).

The following rules along with references to this manual's schematics clarify wiring requirements. Two conductor cables (must be #22 gauge stranded, shielded, and twisted pair cable type) are required for each input.

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