

INTRODUCTION

The TrolMaster Carbon-X system is designed to protect customers and workers near commercial indoor growing areas that use supplemental CO₂, satisfying all local and state regulations. The system has a modular structure, allowing you to customize the system to fit your unique requirements, being able to monitor up to 13 zones.

The Carbon-X system offers both high level alerts, as well as low level alerts. The sensors will constantly monitor the CO₂ level of the areas. If unsafe levels of CO₂ are detected, the system can shut down CO₂ flow, vent the area, turn on visual and audible alarms and even send signals to a fire alarm panel.

The system can control up to 40 outputs total. Each output can be linked to an individual sensor or all sensors for a customized programming. There are five types of outputs that can be connected to the system.

The AS-1 and AS-2 CO₂ Alarm Stations are audio-visual alarm modules.

The DSE-1 CO₂ Emergency Stop Station controls the main CO₂ solenoid. It will automatically shut it off if any fault or high CO₂ level is detected

The DSC-1 is a 120V controlled outlet that turns on devices like ventilation fans if any fault or high CO₂ level is detected.

The DSD-1 is a Dry Contact output. Both N/O and N/C connections are provided on the DSD-1 and it can interface to the fire alarm panel.

The Carbon-X system also provides internet connectivity to a cloud service that will send push alerts to Trolmaster's smart phone APP and send alert emails to email accounts.

NOTICES

Here are some important things to consider when using the Carbon-X Alarm System.

- Up to 13 MBS-K30 sensors can be connected to the system on each channels (AL-1 and AL-2). All sensors need to be connection to a powered splitter hub SPH-1 before connected to the system.
- Up to 40 device stations can be connected to the system. All Alarm Stations need to be connected to a powered splitter hub SPH-1 before connected to the system.
- The sensors and device stations are connected to the Carbon-X system by using standard RJ12 cable and RJ12 splitters. The modules are “daisy-chained” together using the RJ-12 cables allowing for flexible installation, and future expansion.
- If the user chooses to install the units using non - Trolmaster RJ12 cables, and / or if a third-party installs RJ12 cables other than Trolmaster cables, they must ensure that all cables are made to the same specs and are “straight-through” RJ12 cable configuration. (pin1 to pin 1, pin 6 to pin 6 etc)
- Reverse cable configuration or improper cable assembly or installation of the cables will permanently damage the units and / or the modules connected to the unit, and will void the manufacturers warranty.
- Follow all local and national electrical codes for installation requirements

COMPONENTS



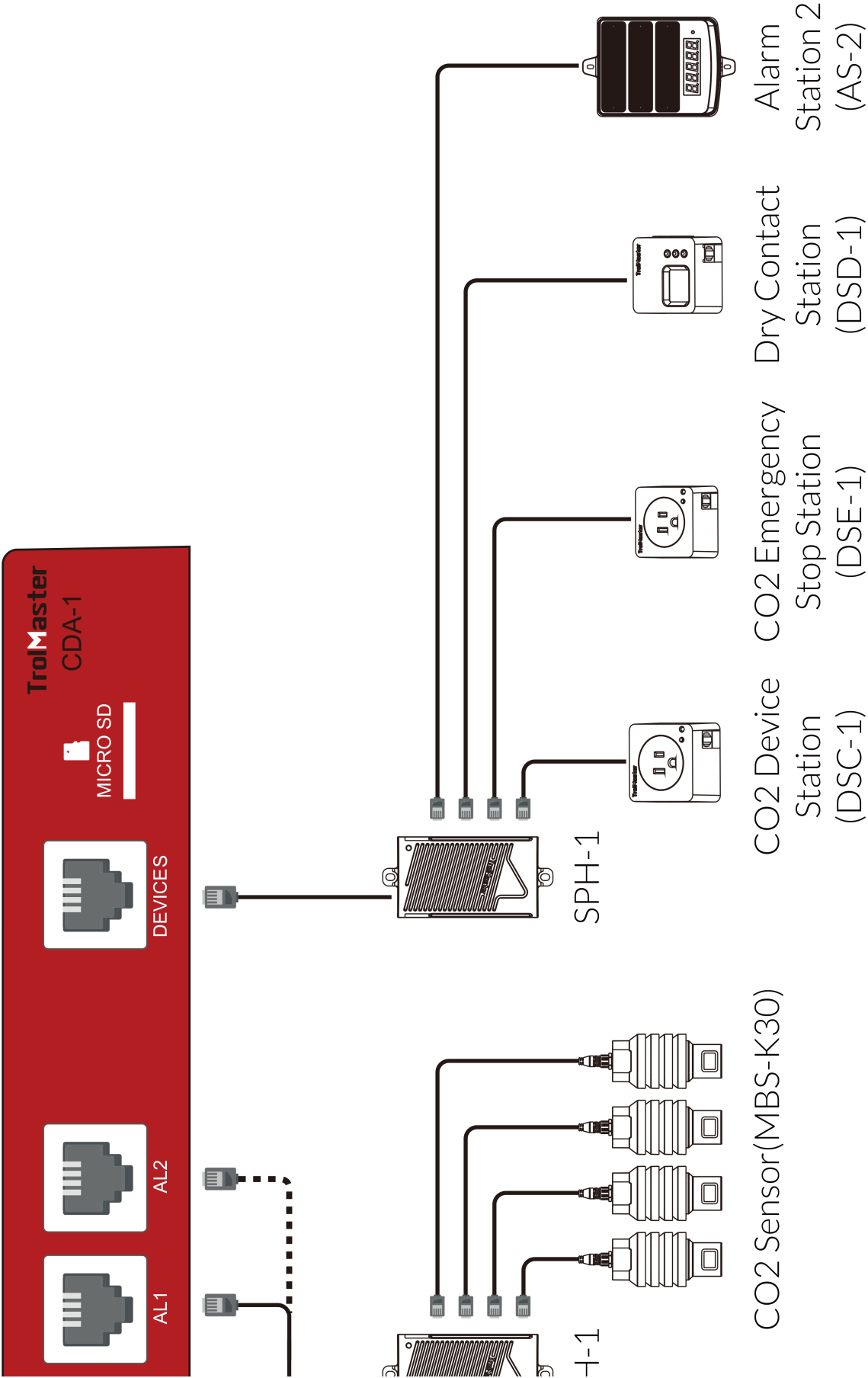
INSTALLATION

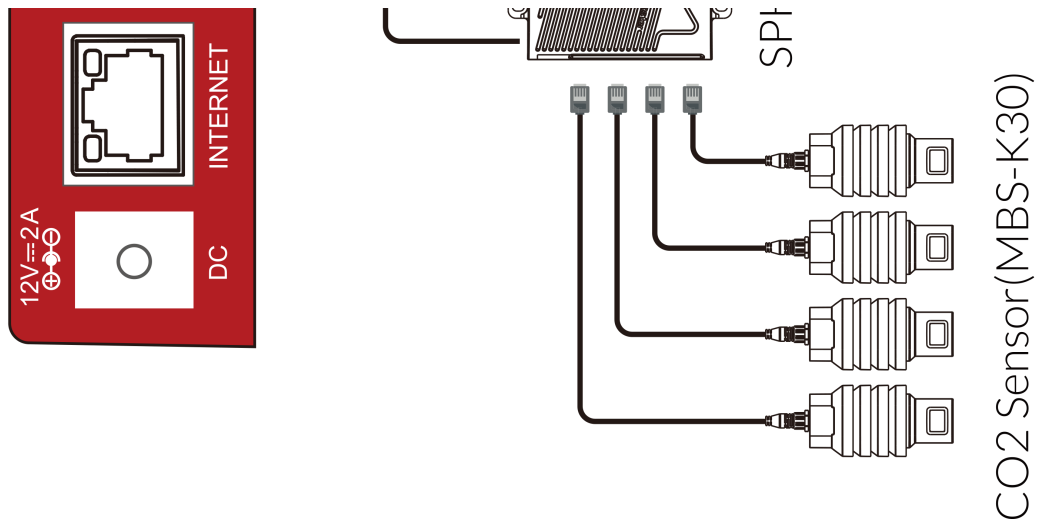


Determine where to locate the main controller. The controller comes with a simple to use DIN type bracket. Pull the 4 tabs outward to release the bracket from the unit, mount the bracket to a wall or surface, place the unit back on the bracket and press the 4 tabs back in to lock the unit in place.

CONNECTION DIAGRAM

CONNECTIONS





***NOTE :** All Sensors and Device Station need be addressed after connected to the system by pressing the addressing button on each sensors and stations.

BUTTONS

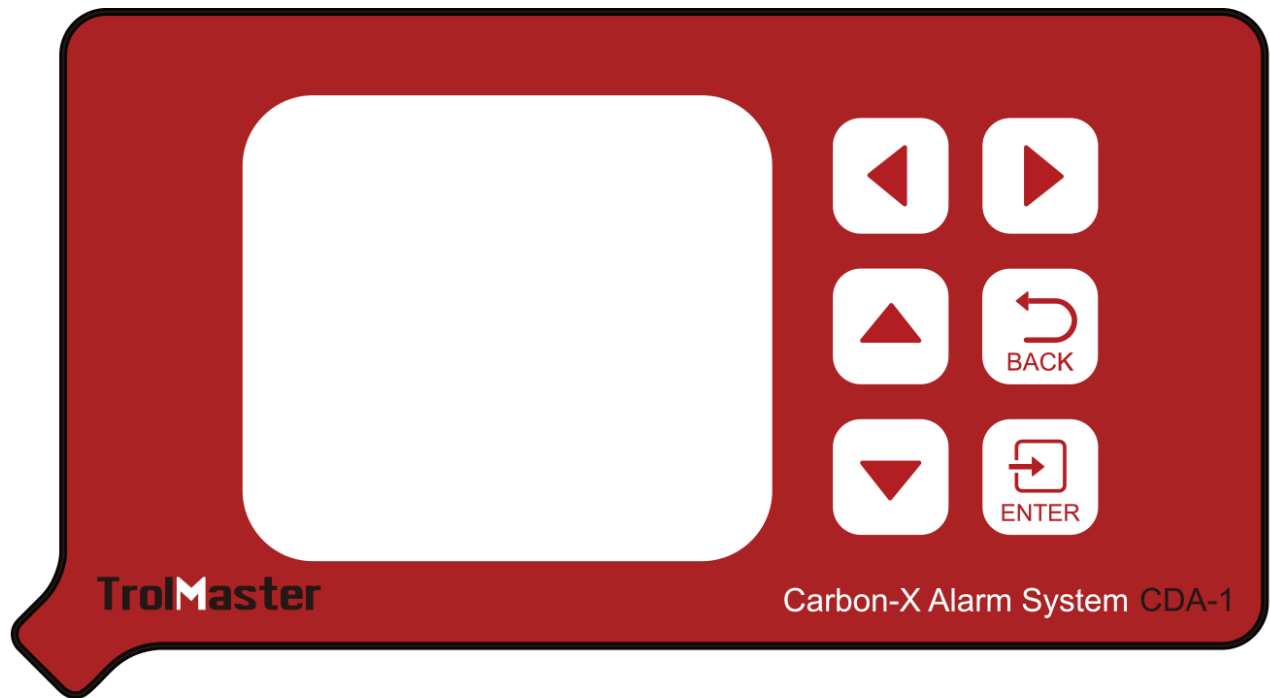
The Carbon-X System is extremely easy to use. The backlit 128x128 LCD display will provide the user with the current conditions and access all settings. All settings are accessed by using the 6 pushbuttons on the front of the unit. The button functions are described below.

UP / DOWN : The Up and Down buttons move the cursor up and down through the menu items.

LEFT / RIGHT : The LEFT and RIGHT buttons move the cursor to left or right.

BACK : The Back button goes backwards to exit the current menu item.

ENTER : The Enter button is used to open the menu item to be changed as well as to accept and “enter” the new setpoint into memory.



Familiarize yourself with the function of the 6 buttons on the front of the Carbon-X Alarm System in order to be able to access settings.

START SETTINGS

Once you have connected all sensors and device stations to the Carbon-X Alarm System, we can start using the unit.

Connect the plug-in power supply to the power connector on the bottom of the Carbon-X Alarm System, Carbon-X Alarm System will turn on and boot up.

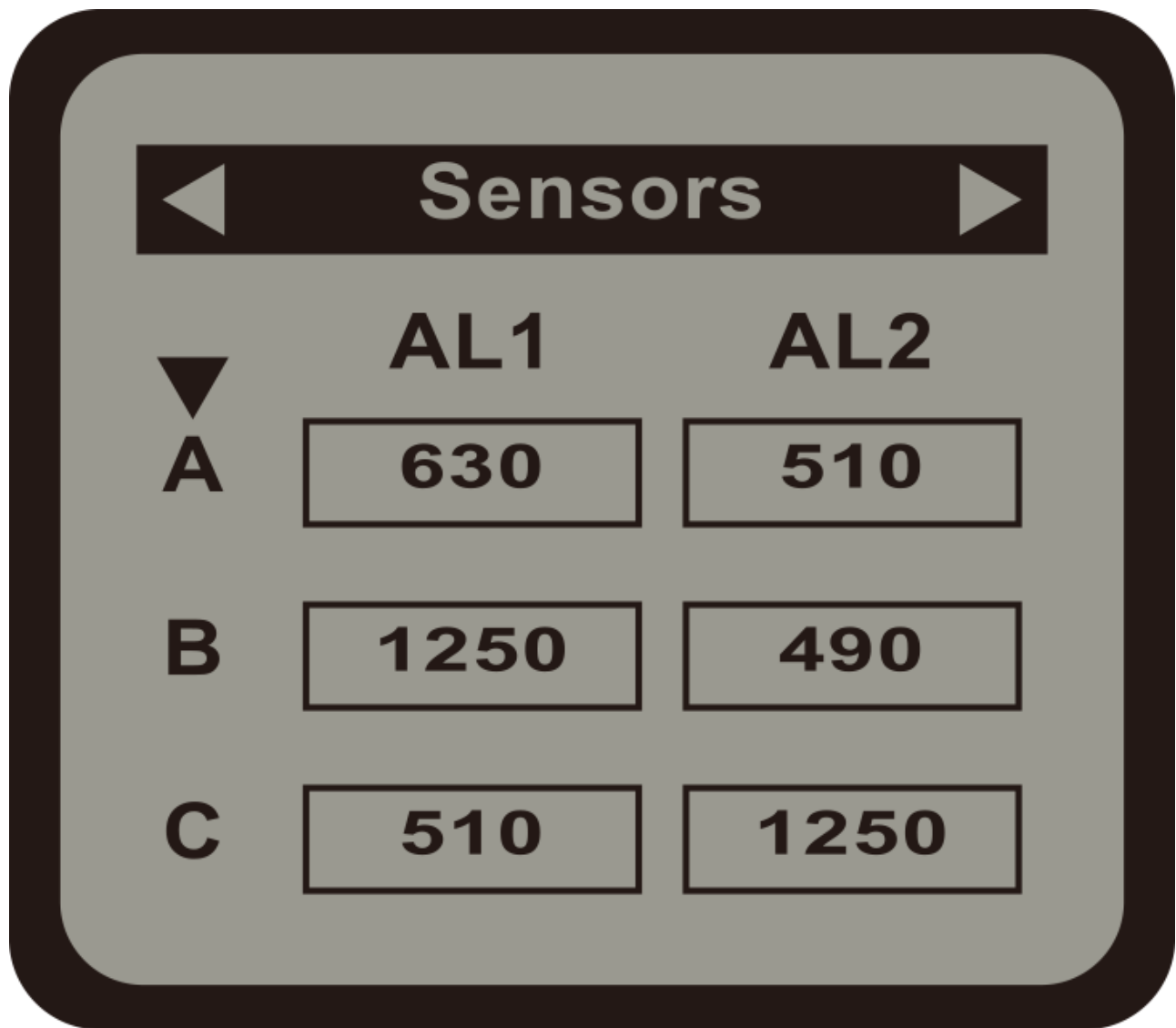
Press addressing buttons on each sensor and station to address them into the system.

TrolMaster

**Carbon-X
Multiple Zone
CO2 Alarm System**

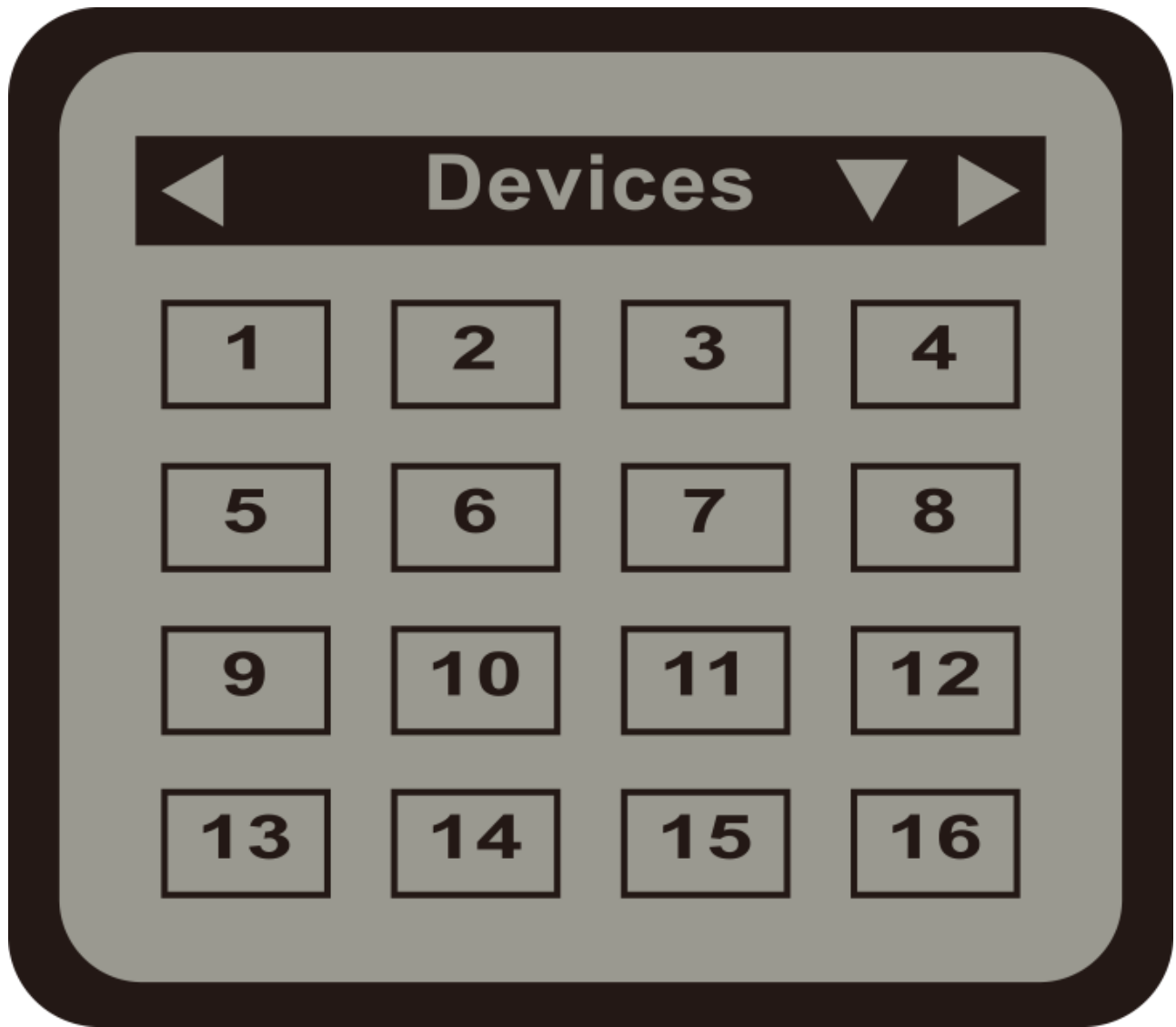
V_1.5

[MAIN MENU](#)



On main menu interface, the LCD screen will display the current reading of all sensors connected. If the Internet is connected, the network signal icon will be highlighted on the screen.

Press LEFT button to enter the Device List page.



Press RIGHT button to enter the Alarm Massage page.

Alarm Message ▶

•AL-E Err

09:20 10/15 2019

•AL1-C Err

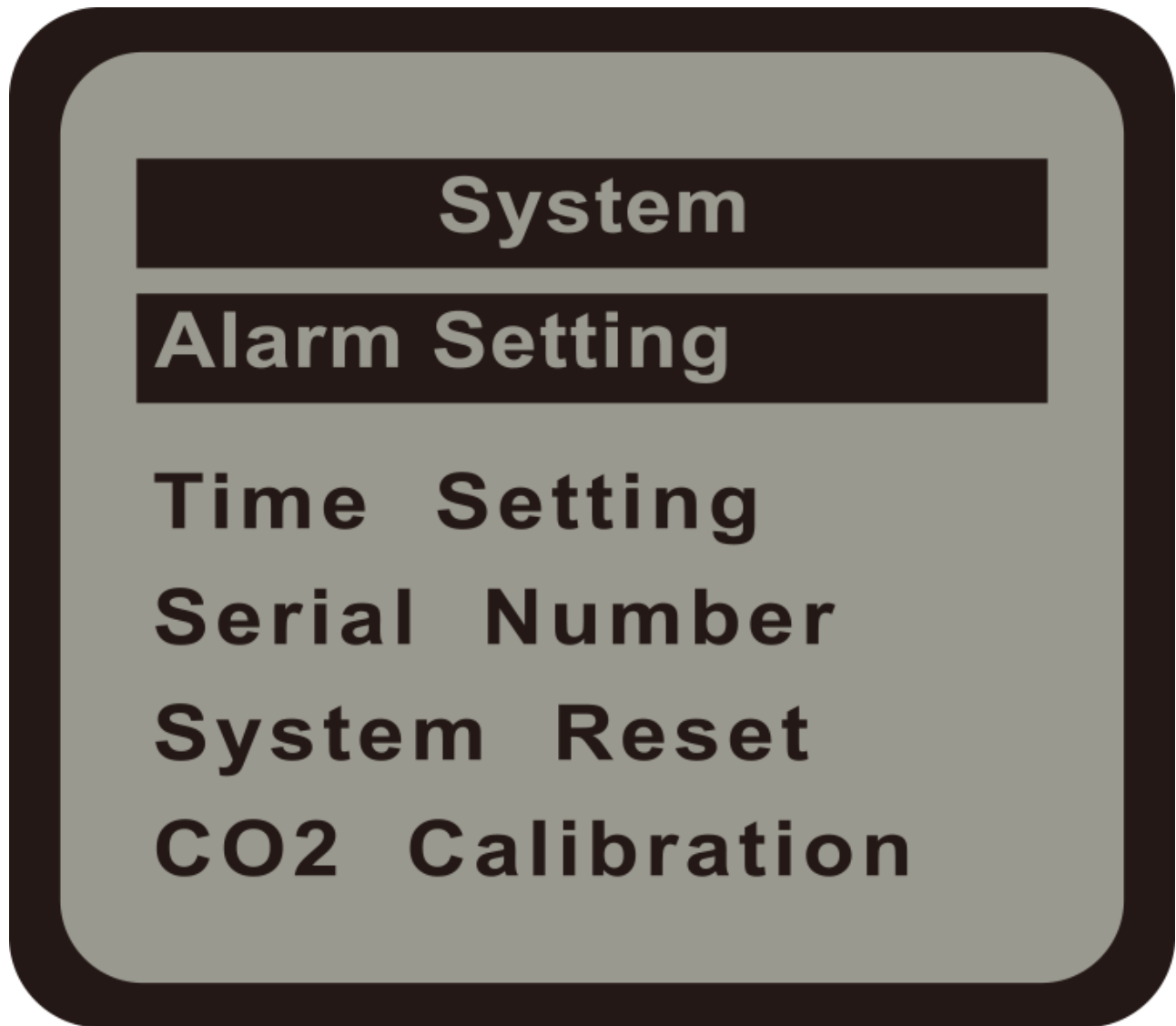
09:20 10/15 2019

•AL1-E Err

09:20 10/15 2019

SYSTEM SETTING PAGE

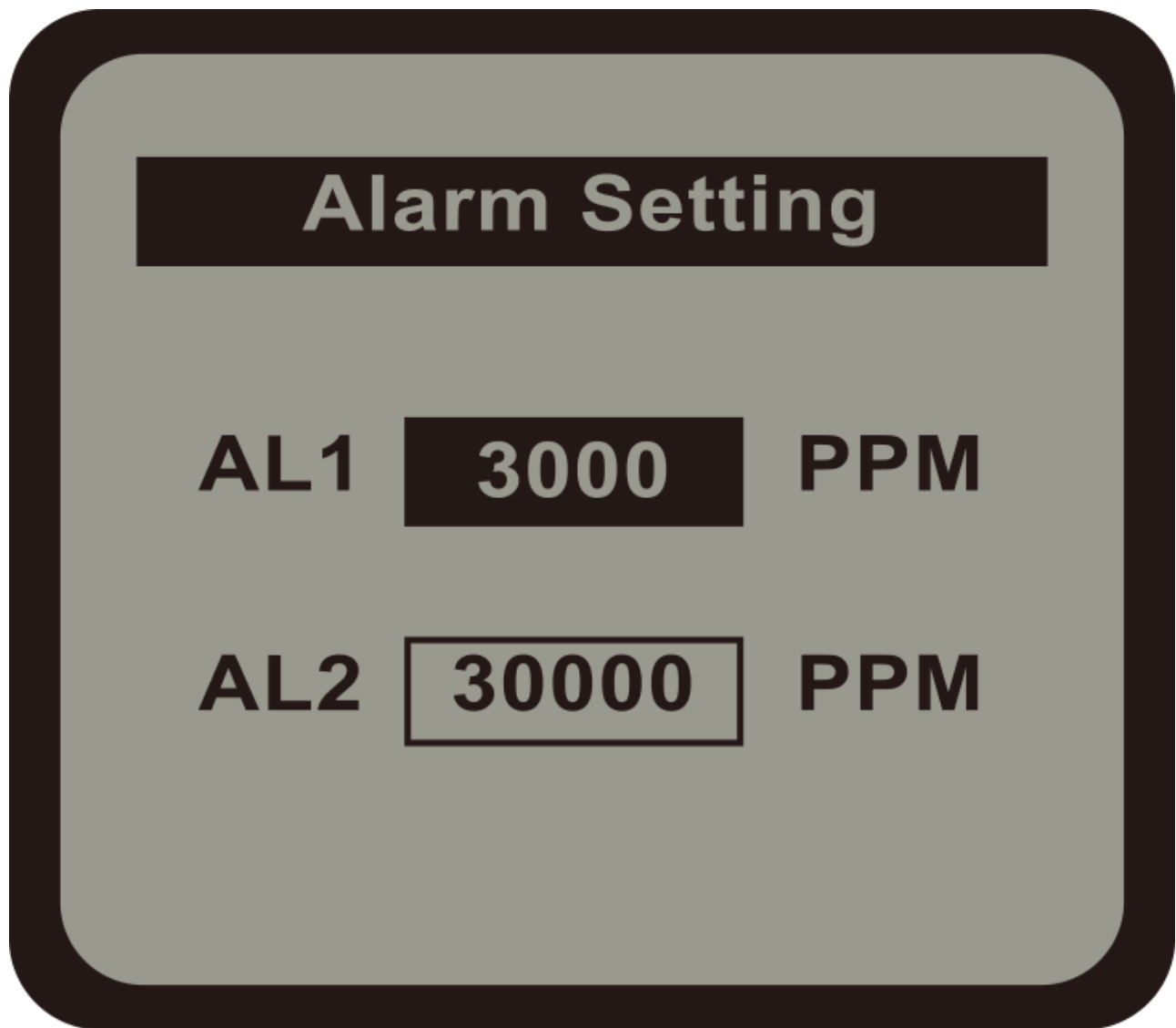
On the main page, press ENTER button to get access to the SETTING page as shown below. Press UP and DOWN buttons to select the setting and press ENTER to confirm.



ALARM LEVEL SETTING

There are two user-adjustable Alarm level in the system to meet different local regulations. The low level Alarm-1 limit is from 3000 to 15000 PPM. The high level Alarm-2 limit is from 15000 to 30000 PPM. Press ENTER to start adjustment.

Use UP and DOWN buttons to adjust and ENTER to confirm.



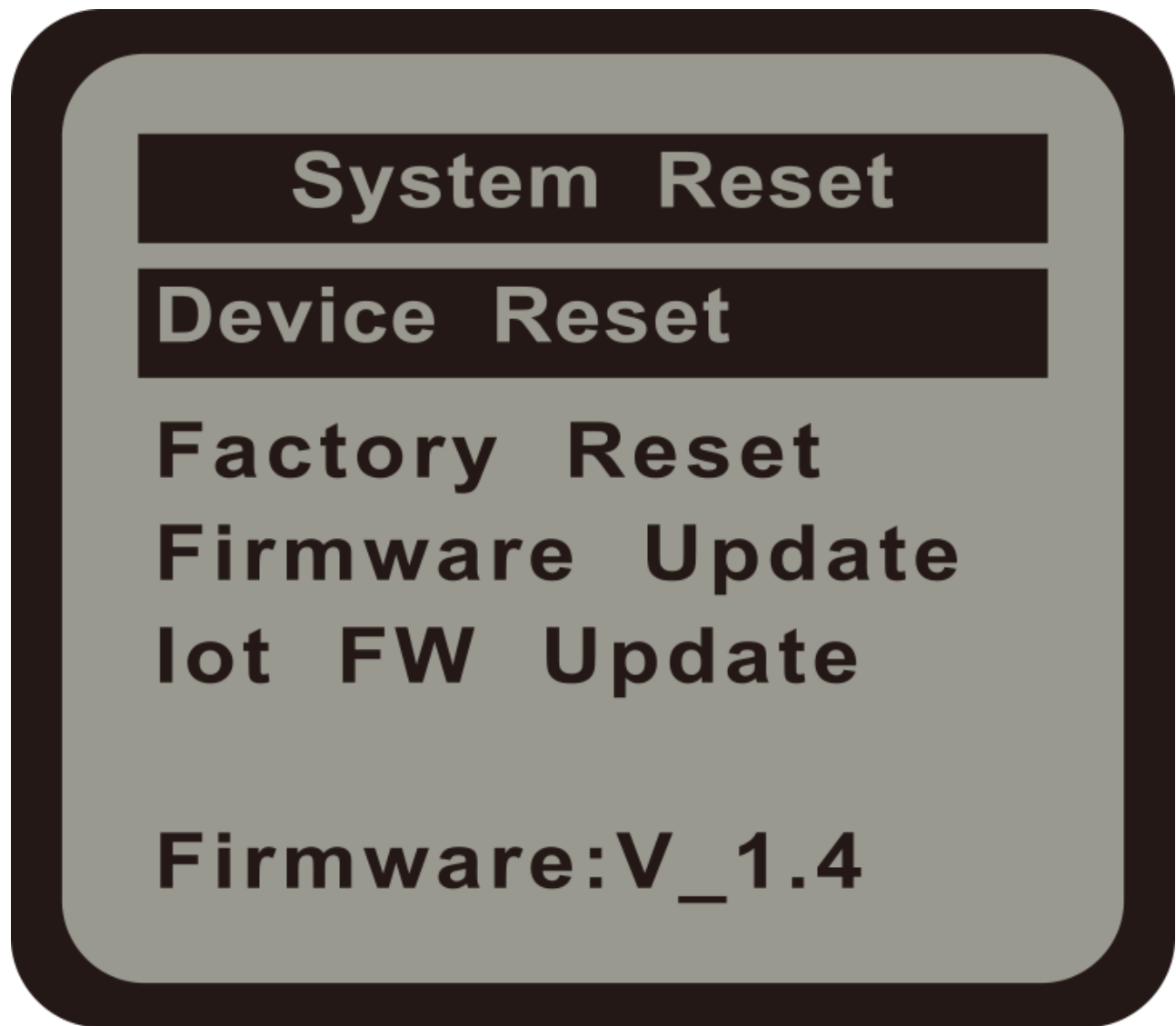
SYSTEM RESET

DEVICE RESET : he Device Reset allows the system to reset all sensors and device stations have been addressed to the system. User can re-address all sensors and device station by pressing addressing buttons.

FACTORY RESET : Restore the unit to factory default settings.

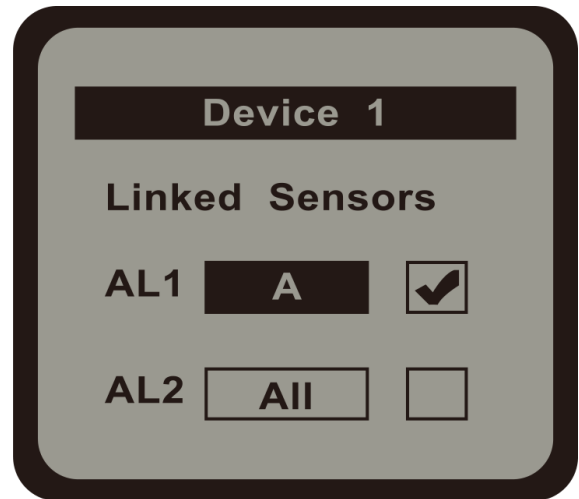
FIRMWARE UPATE : The TrolMaster systems allow users to receive a continual update through a Micro SD cart. Just simply download the updated firmware from TrolMaster website to a Micro SD card and insert it to the unit. Enter the

firmware update page, the unit will be automatically updated by pressing the confirm button.



DEVICE STATION ASSIGNMENT

The system can control up to 40 device stations. Each device stations can be linked to individual sensor or all sensors for a customized programming. On the device list page, use LEFT, RIGHT, UP and DOWN button to select the device sation need to be assigned. Press ENTER to enter the assignment page



Use LEFT, RIGHT, UP and DOWN button to adjust the setting and press ENTER to confirm. The device station will be activated when the linked sensor/sensors detected a CO2 level over the related limit setting.

General Information

WARRANTY

TrolMaster only uses high quality components. Under normal operating conditions, the mechanical and electronic components are covered by a three-year warranty from the original date of purchase. For service, return the Carbon-X Alarm System in the original packaging to your shop with the original sales receipt. Components that are excluded from warranty are components that have failed due to abnormal usage.

In the case of defects of the Carbon-X Alarm System, the Controller will either be replaced or repaired using new or reconditioned products or parts. If the Controller will be replaced this limited warranty shall apply to the replacement product for the remaining initial warranty period, i.e. (three) 3 years from the date of purchase of the original product.

RETURNS

All returns need to be done in the original packaging in order to avoid damages of the product during transport

SPECIFICATIONS :

Voltage / power supply	12vdc @ 2A
Certifications	ETL / FCC
Packaging Dimensions:	275mmx164mmx62mm
LCD Display	Backlit, 9 lines x 16 characters
Number of Alarm level	2, Low level and High level
Maximum number of Sensors	13 per each Alarm Channel
Maximum number of Device Stations	40
Environmental considerations	Use between 0-45°C, up to 95% rH non-condensing
External communications	Micro SD card (not included)
Memory	Non-volatile, retained
Timeclock	Battery backup >7 years CR

ENVIRONMENTAL AND DISPOSAL CONCERNS:

THIS PRODUCT CONTAINS A BATTERY AND OTHER COMPONENTS WHICH MUST BE DISPOSED OF PROPERLY

This symbol displayed on a product, its accessories, or its packaging indicates that this product may not be discarded as household waste. Dispose of the equipment through a recycling center that handles electronics and electrical appliances. By disposing of the equipment in the proper and lawful way you will be helping to prevent possible damage to the environment and risk to public health.