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1. Production Description:

The leading cause of accidental poisoning deaths in Earth, Carbon Monoxide (CO) is odorless, tasteless and invisible – it's a silent killer. The only safe way to know if carbon monoxide is present is to install carbon monoxide detectors (alarms) on every level of your home and in sleeping areas.

The Production is an DC wire-in carbon monoxide alarm that warns you and your family of dangerous carbon monoxide levels. It includes multiple contractor friendly features to ensure easy installation and minimal troubleshooting. This CO alarms and heat alarms on one wiring network. Includes 3* 1.5V AA battery backup along with a 1 year limited warranty.

The production is easy to installation and maintenance, Sensor fault self-test system, keep good working performance. Electrochemistry sensor and easy use.



2.1 Product View :



Case Material: ABS

2.2 Product Dimenstion:





3.1 Features:

·LCD displayer with a blue back ground light.

·Loud 85 decibel alarm.

·Permanent carbon monoxide sensor.

•Compliance with EN50291 standard.

•Powered by 3×1.5V AA size batteries.

- •The alarm sound pattern is three short alarm beeps. The red LED will flash while in alarm mode.
- •Red LED flashes once every minute together with beep alarm sound is an indication that the battery is low (need replacement).
- •Test/Reset button to test the unit electronics and verifies
 proper unit operation and reset the unit during CO alarm.
 •Alarm memory feature: If the unit ever alarms, pressing the
 button, green LED will flashes once every second for one
 minute and the peak alarm level will be indicated on the LCD.
 •Green and red LED lights that indicate normal operation and
 alarm status.



•The unit will sound 'chirp' and red LED flashes once as power up.

·3 digits LCD displayer is optional. 'Lo' on the LCD indicates low battery (need replacement) and 'OU' on the LCD to indicate
CO level over 999ppm. In normal condition, LCD is be lit for a long time with "0PPM" on the LCD. If the CO leakage is less than 20PPM, it should show "0PPM" on the LCD Displayer.
In 4 minutes after the batteries are installed, the unit starts to detect CO.

Green LED: The green LED flashes every 30 seconds to indicate the unit is operating properly.

Red LED: When a dangerous level of carbon monoxide is detected the red LED will flashes and the alarm pattern will sound.

The CARBON MONOXIDE (CO) alarm monitors the air for the presence of CO. The alarm will sound and be accompanied by the flashing red LED light when there are high levels of CO presence.







3.3 S3F8S28 Features

This reference design is using Samsung S3F8S28 as main microcontroller.

S3F8S28 is a 24-pin microcontroller, with 8-K bytes flash ROM, and 272 Bytes RAM. It has an 8-bit timer, a 16-bit timer, 12-bit resolution ADC with 13 channels, and two channel 8-bit/12-bit/14-bit PWM.

All these features makes S3F8S28 very suitable for battery charger application: 12-bit ADC for voltage and current measurement; 8/12/14-bit PWM for charging current and voltage control , 8-bit and 16-bit timer for system time control. Internal RC OSC is help for the application (like battery charger) that do not need high system frequency.



4. Hardware Block Diagram





5. Working Condition Indicating





6. Testing the Alarm:

CAUTION: Due to the loudness (85 decibels) of the alarm, always stand an arms length away from the unit when testing.

The test/reset button has two purposes. It tests the unit's electronics and reset the unit during CO alarm. After installation, TEST THE UNITS ELECTRONICS by pressing the test button for five seconds. A series of beeps will sound.

The unit needs to be tested weekly! If at anytime it does not perform as described, verify power is connected correctly and that the battery doesn't need replacing. Clean dust and other buildup off the unit. If it still doesn't operate properly call our agent.