



Safety Awareness Bulletin:

Switching from CMD-4M to *NEW* CMD5-M CO Alarms



CMD-4M vs. CMD5-M Conversion

In addition to all of the great new features with the new CMD5-M CO Alarm, including the battery-powered model, there is another major difference that we need to point out.

The CMD5-M fits in basically the same space as the CMD-4, uses the same mounting holes and draws significantly less power (4 vs. 30 mA).

The CMD-4M included a “Relay” model that was used for:

- Interconnecting multiple units
- Shutting down a generator
- Both of the above
- Sending a signal to a third party monitoring system

The new CMD5-M works differently. You can use a standard stand-alone version, or an interconnect (“I”) version if you are just connecting multiple units. This saves you the cost of the relay in every CO alarm.

If you are shutting down a generator, you also buy the interconnect (“I”) version AND an RCM-5 relay module. The advantage here is you only need one relay per boat, not one per CO Alarm – another cost savings.

If you are sending a closure signal to a third party alarm system, you also buy the interconnect (“I”) version AND one RCM-5 relay module per monitoring zone. The advantage here is you only need one relay per zone, not one per CO Alarm – additional cost savings.

NOTES:

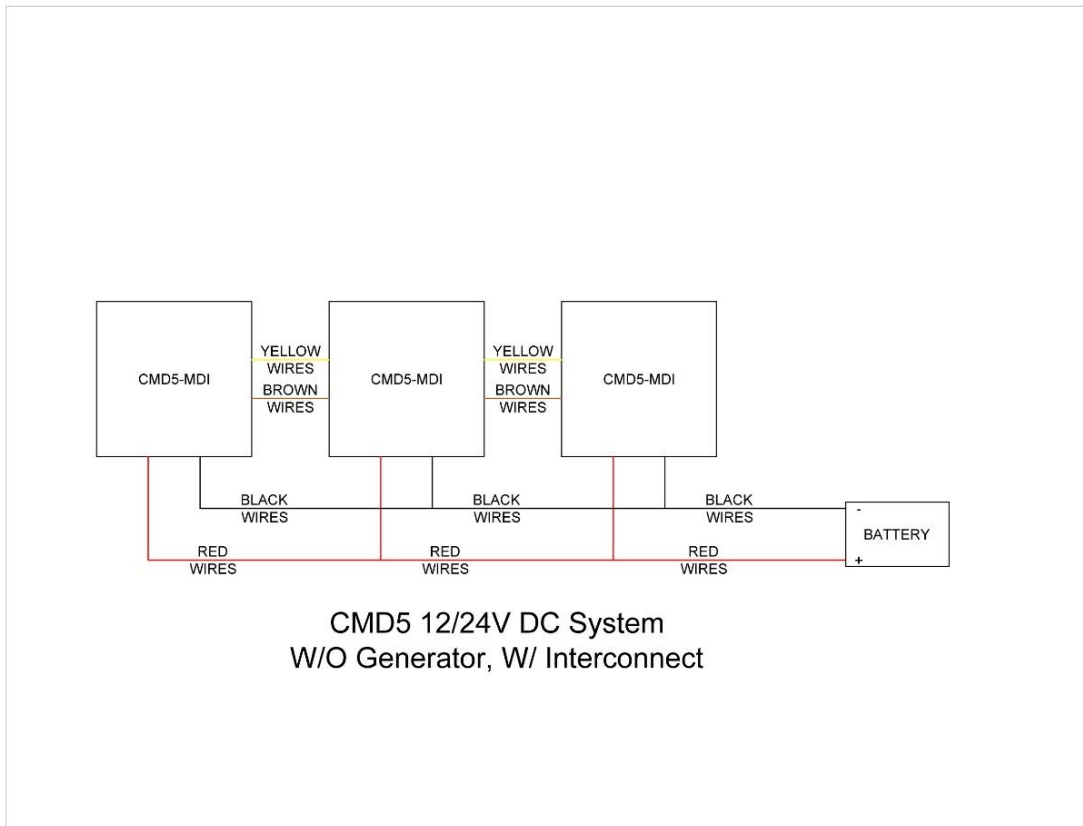
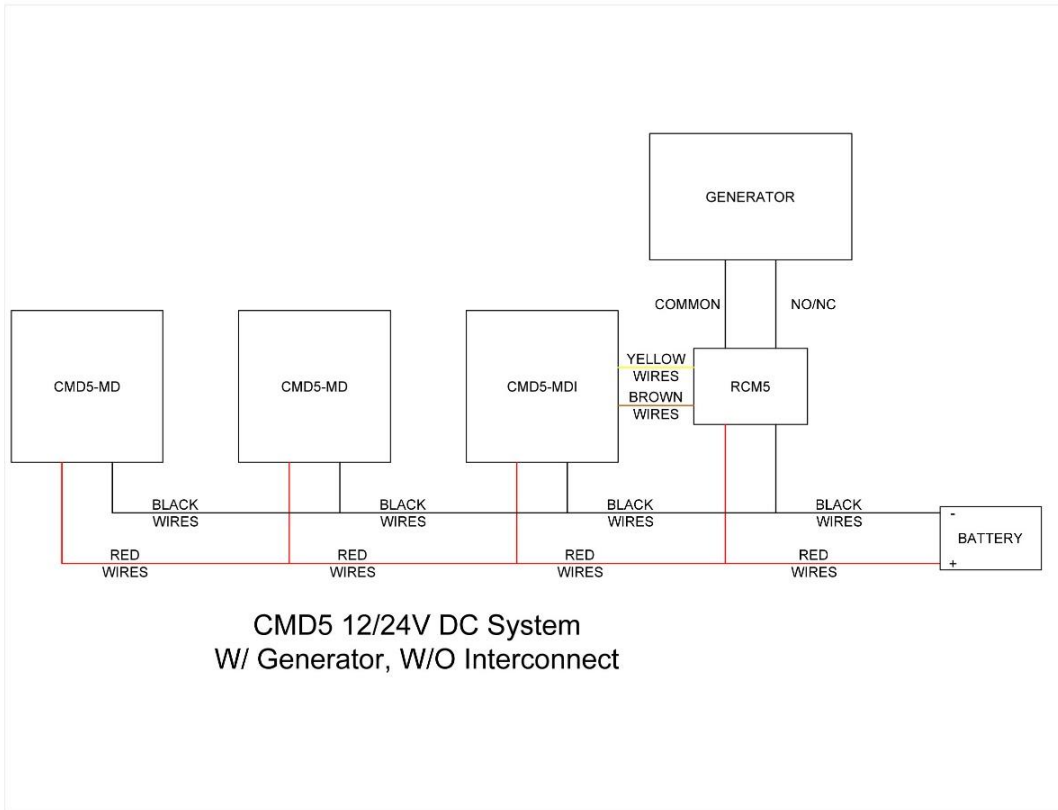
1. If CMD4-Ms are interconnected they all need to be replaced at the same time – you cannot mix and match CMD4-Ms and CMD5-Ms, unless they are independent stand-alone units.
2. If your CMD-4M is shutting down a generator, you need a CMD5-MxI interconnect version AND a RCM-5 relay module.

<u>Model</u>	<u>Stand-alone Alarms</u>	<u>Interconnected Alarms</u>	<u>Generator Shutdown</u>	<u>Third Party Alarm system</u>
		<u>Old Style for Reference</u>		
CMD-4M	X			
CMD-4M-RLY		X	X	X
		<u>New Style</u>		
CMD5-MD	X			
CMD5-MDI		X	X	X
CMD5-MB	X			
CMD5-MBI		X	X	X
RCM-5 (Dry contact closure only)			X (Requires add'l 12/24V DC power supply)	X (Requires add'l 12/24V DC power supply)

“I” - Interconnect version with two more wires than standard



Typical Circuits



REMINDER - NEW ABYC Standards for Carbon Monoxide Detectors

NEW 2015/2016 ABYC standards require that all boats (diesel *and* gas powered inboard, outboard and sailboats) manufactured after July 31, 2016 be equipped with CO detectors in all accommodation spaces on the craft.

Some states, i.e. Minnesota, have already enacted, or are talking about enacting, a similar regulation.

The verbiage in the new standard is stated below:

ABYC A-24 CARBON MONOXIDE DETECTION SYSTEMS

Based on ABYC's assessment of the existing technology, and the problems associated with achieving the goals of this standard, ABYC recommends compliance with this standard for all boats, associated equipment, and systems manufactured after July 31, 2016.

The standard goes on to say:

24.4.5 Enclosed accommodation compartment – One contiguous space, surrounded by permanent structure that contains all the following:

- a. ***designated sleeping accommodations,***
- b. ***a galley area with sink, and***
- c. ***a head compartment.***
- d. 24.7.1 A carbon monoxide detection system shall be installed on all boats with an enclosed accommodation compartment(s).

NOTE: A cuddy intended for gear storage and open passenger cockpits, with or without canvas enclosures, is not considered to be an enclosed compartment.

And then:

24.7.1 A carbon monoxide detection system shall be installed on all boats with an enclosed accommodation compartment(s).

In the 2014/2015 standard, the CO detectors were only required on boats equipped with gasoline engines or generators – now that they are required on ALL boats with accommodation areas.

Installation

Installation of the detector should be at eye level for easy monitoring and service. The detector should not be mounted within one foot of corners or other “dead” air spaces and should not be located within five feet of any cooking appliance.

REMINDER

Carbon Monoxide – “The Silent Killer”

Carbon monoxide (CO) is generated wherever combustion occurs, including the operation of gasoline engines, as well as heating and cooking appliances. It is invisible, odorless, tasteless, and deadly. Faulty venting or even a wind shift can create a dangerous situation, particularly in confined areas like boat cabins. Typical symptoms of CO exposure can be mistaken for the flu or seasickness, making accurate on board CO detection a necessity.

200 PPM:	Slight headache within 2 to 3 hours.
400 PPM:	Frontal headache within 1 to 2 hours.
800 PPM:	Dizziness, nausea and convulsions within 45 minutes. Insensible within 2 hours.
1,600 PPM:	Headache, dizziness and nausea within 20 minutes. Death within 30 minutes.
3,200 PPM:	Headache, dizziness and nausea in 5 to 10 minutes. Death within 30 minutes.
6,400 PPM:	Headache and dizziness in 1 to 2 minutes.
12,800 PPM:	Death in less than 3 minutes.

Xintex CMD5-M CO Alarm Features

The **Xintex CMD5-M CO Alarm** is used when generator shutdown or multiple locations are not desired.

The **Xintex CMD5-MxI CO Alarm** is used when generator shutdown or multiple locations are desired.

Low Battery Current Draw

Extremely low current draw (<4 mA) permits direct battery connection.

Modern Design for Inconspicuous Protection

Takes up less wall space with its low profile design.

Generator Shutdown Protection

When dangerous CO levels are detected, the CMD5-MxI automatically shuts down the generator(s).

Multiple Location Warning

When one CMD5-M alarms, all connected CMD5-M alarms sound.

Contact Closure to Third Party Monitoring System

When the CMD5-M alarms, the relay contact can close a circuit to a third party system.

How the Xintex CO Alarm Works

The CO Alarm uses a microprocessor to measure and accumulate CO levels. Using the principle of “Time Weighted Averaging” (TWA), the CO Alarm monitors CO concentration, temperature, and time to calculate levels of Carboxyhemoglobin (COHb). COHb is the degree to which the oxygen carrying capacity of the blood is impeded by the union of carbon monoxide to the hemoglobin and is expressed as a percentage. In simpler terms, our bodies prefer absorbing CO to oxygen, and COHb is the ratio of absorbed carbon monoxide to oxygen in the bloodstream. The CO Alarm calculates this COHb as a function of time and determines the appropriate alarm time.

