

## H<sub>2</sub> Zero™

### VRLA BATTERY ROOM HYDROGEN VENTILATION SYSTEM

#### FEATURES

- Reliable, easy to install system that provides air exchange and monitoring for VRLA energy storage locations
- Integrated, fire-code compliant VRLA battery room ventilation system
- Remote sensor modules include hydrogen and temperature measurement (*system supports up to four remote sensor modules*)
- Wall mount housing with interface flange for standard 6–8” round HVAC ducting
- Internal fan tray allows reversal for either intake or exhaust operational selection
- 1,500 CFM N+1 redundant, and 2,000 CFM non-redundant air flow
- -48VDC input (*dual redundant A/B DC inputs with integrated input fuses*)
- Wall mount supervisory control panel with LCD display indicates operational status, alarms, and programming of operation
- Form C dry alarm contacts
- Major and minor alarm contacts for remote alarm indication of hydrogen detection and/or system fault
- Ethernet port with integrated webserver and SNMP trap output for remote monitoring
- User replaceable fans
- Programmable operation for timer run, remote temperature sensor run, and hydrogen sensor run
- Programable room air exchange: simply enter room dimensions in supervisory controller and unit calculates operation time for number of exchanges per hour
- Integrated motor operated output damper (*opens when fans operate*)
- Fire suppression interlock input (*closes damper if fire suppression system active*)

#### Overview

CSI introduces an innovative “drop-in” solution for NFPA fire code compliance for venting and hydrogen detection for Valve Regulated Lead Acid (VRLA) battery rooms in Communications facilities. The H<sub>2</sub> Zero unit provides hydrogen sensing, temperature sensing (multiple sensor locations available—up to 4) and -48VDC powered fan air movement for air exchange of battery rooms.

The unit can be configured to either exhaust or source airflow with either a hydrogen or temperature threshold temperature trigger or via programmable timer to provide code compliant venting. Alarm contacts provide hydrogen detection and/or over temperature alarm for remote XOC monitoring interface. Ethernet port provides remote IP based webserver for status and alarms, SNMP output provided for enterprise network monitoring options. Wall mount control panel includes LCD alphanumeric display with operational status, alarms, detection data etc. Control panel supports up to four remote hydrogen/temperature sensors for either multiple sensors in one battery room or for multiple room sensor locations. Input provided for fire suppression system release interlock to hold the motorized damper closed. Remote sensors connected via standard CAT5 cable jumpers. Dual redundant -48VDC fused inputs to allow reliable input power from dual DC powerplants and/or distribution feeders. User replaceable fan modules. N+1 fan configuration provides 1,500CFM redundant, 2,000CFM non-redundant.

The CSI H<sub>2</sub> Zero is an integrated, complete solution for high reliability battery room venting and hydrogen outgassing detection and remote alarm.

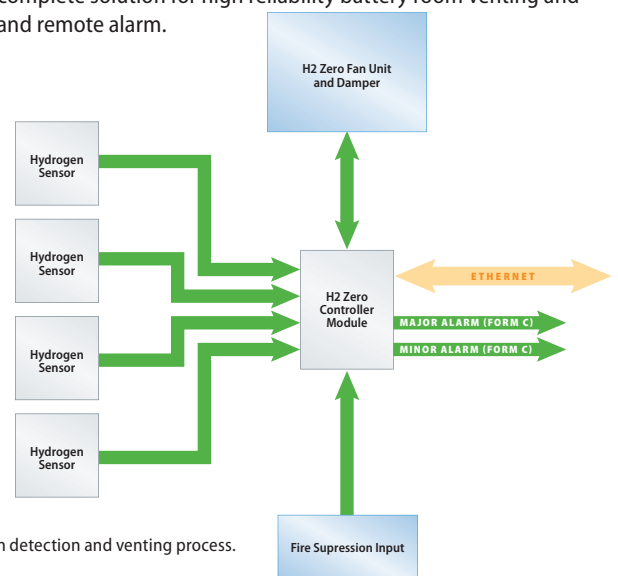


Figure 1. Diagram showing the hydrogen detection and venting process.

**Common Specifications**

- **Fan unit dimensions:** 18" high x 24" wide x 15" deep
- **Weight:** 40.0 lbs
- **Wall mount:** with keyhole flanges (24" on center)
- **8" round output duct interface** for standard HVAC ducting
- ASA 61 gray powder coated enclosure
- Removable fan access cover
- Four internal 500CFM DC powered fans
- Reversible airflow
- **Inputs**
  - -48VDC A
  - -48VDC B
  - Remote H2 and temperature sensors (4 inputs)
  - Fire suppression damper interlock
  - Chassis ground stud

- **Outputs**
  - Major alarm and Minor alarm Form C relays
  - Ethernet port CAT 5
- **Input electrical specifications:** -42VDC to -60VDC dual A/B inputs (20A maximum)

**H2 ZERO COMPONENTS**

PART #	DESCRIPTION
016-551-10	H2 Zero, Main Unit
016-552-10	H2 Zero, Remote Hydrogen/Temperature Sensor
016-553-10	H2 Zero, Control Module
016-554-10	H2 Zero, Replacement Fan Module



Figure 2. Comm/net Systems H<sub>2</sub> Zero control module.

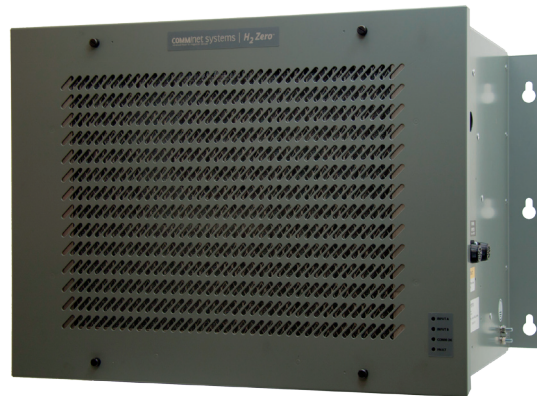


Figure 3. H<sub>2</sub> Zero fan unit.

**About Comm/net Systems**

Comm/net Systems, Inc. (CSI) is the leader in high power density communications power systems. Comm/net offers comprehensive power and communications site systems integration and deployment services via a national footprint of regional branch offices. Additional information can be found at [www.commnetsystems.com](http://www.commnetsystems.com).

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**Order Information**

Shipping box is packaged for UPS or FedEx shipment and includes an instruction manual and accessories.

