HGD Specifications

1. Summary

This document describes the requirements for a hydrogen gas detection system (HGD). Standard functions and features should include:

- Unattended gas detection
- External fan activation
- Remote alarming
- Audible alarming
- LED lit alarming
- Optional: Smoke detection
- Optional: Temperature activated external fan
- Optional: Loss of power alarm
- Optional: Silent intrusion alarm
- Optional: Hydrogen gas ventilation system
- Optional: Control or breakout box

2. Hydrogen Gas Detector Capabilities

The hydrogen gas detector should have the following capabilities:

2.1 User specified AC or DC power options with standard ranges of 85 – 265 VAC 50/60Hz or 17 – 60 VDC.
2.2 10A relay for activation of external fan ventilations system at 1% LEL.
2.3 1A relay for remote alarm activation at 2% LEL
2.4 Operating temperature of -10 – 40 °C (14 – 104 °F)
2.5 5-year lifespan replaceable hydrogen sensor

3. System Compliance

The hydrogen gas detection system should comply to the following standards:

- IEEE Standard 450
- National Fire Protection Agency (NFPA) Article 64; NFPA 2
- Hydrogen Technologies Code
- Uniform Building Code (UBC) Section 6400
- National Electric Code (NEC) Section 480.9 (A)
- National Electric Code (NEC) Section 501.125 (B)
- National Electric Code (NEC) Section 501.105 (1)-3 – use in Class 1 Division 2 Group B

4. Technical Specifications

Target Applications	Utilities, power plants, UPS, fuel cell test stations, nuclear waste reforming, hydrogen refueling stations, fire departments, battery suppliers, battery charging rooms, motive power, golf carts
Key Characteristics	Continuous detection, dry contact relays for remote alarming, external fan activation, audible and visual alarms
Alarms	Remote relay, audible, LED for power, 1%, 2%
Relay Connections	(2) form C contacts provided, user-configurable connections

5. Warranty

12 Months.