



## APPLICATION NOTE

### BATTERY ROOM MONITORING

#### Application

Battery applications require periodic or continual charging of the battery pak. These batteries include the ones used in an industrial forklift or as a stand-alone battery for backup communications or computer servers.

With over \$1.5 billion spent on networking gear in the U.S. wireless industry alone, environmental and power protection for telecommunications infrastructure equipment has risen to the forefront as triple-play has become the benchmark delivery medium for data and communications. One of the most critical areas in meeting these service needs is through the protection and support of mission-critical telecommunications equipment that resides at customer premises, Cellular/PCS tower sites, access points, fiber nodes, fixed wireless radio sites, rooftops, utility poles and a multitude of other broadband site locations.



Figure 1: Battery Pak

#### Background

Why is there a danger of exploding batteries? The charging of lead-acid batteries can be hazardous. When batteries are being recharged, they generate hydrogen gas that is explosive in certain concentrations in air (the flammability or explosive limits are 4.1% to 72% hydrogen in air). The spark-retarding vents help slow the rate of release of hydrogen, but the escaping hydrogen may form an explosive atmosphere around the battery if ventilation is poor. The ventilation system should be designed to provide an adequate amount of fresh air for the number of batteries being charged. This is essential to prevent an explosion.



Figure 2: Fork Lift Battery Room

#### Advantages

H2scan's HY-ALERTA™ 600 Fixed Area Hydrogen Monitor provides hydrogen-specific leak detection and measurement for hydrogen concentrations as low as 4000 ppm and can be scaled to any concentration up to 5% hydrogen by volume, a range representing 10% to 125% of hydrogen's lower flammability limit.

#### Reference Users

L3 communications, Hershey Foods



The monitor is designed for either ceiling or wall mount and has an RS422 capability that extends the interface from the sensor to the controller to several hundred feet. H2scan's hydrogen-specific sensor technology has no cross sensitivity to other combustible gases, thus eliminating false positive alarms and ensuring safety system reliability.

Model HY-ALERTA™ 600

HYDROGEN SPECIFIC SENSING SYSTEMS



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