HONEYWELL
REBELLION GAS CLOUD IMAGING (GCI) STANDARD CAMERA

Advanced Hyperspectral Infrared Imaging System

Reliable and durable gas cloud imaging system delivering safety, and emissions monitoring for large sites, and extended areas such as pipelines, ports, refineries, and tank farms.

The Honeywell Rebellion Gas Cloud Imaging (GCI) cameras use advanced proprietary hyperspectral imaging technology to capture both infrared spectrum, and visible video to monitor, quantify, and display explosive, and toxic harmful gas leaks as they occur. Our self-calibrating hardware operates 24/7 in all weather conditions delivering precise imaging of gas clouds, gas speciation and concentration. For safety systems, where the standard mix of gas leak protection layer devices (open path, point and ultrasonic) quickly, and reliably alarm to a gas leak, the immediate questions are then "is it real?", "where is it?" and "how big is it?". The Honeywell Rebellion GCI quickly, and clearly answers these with a visualization of the gas cloud.

The Honeywell Rebellion Gas Cloud Imaging (GCI) camera, with a range up to 1,700 m [5,577 ft] , is designed for large sites, and extended areas, and uses advanced snapshot hyperspectral imaging for real-time detection, identification, and quantification of gas leaks. Concentration, and leak size, and location are provided, and real-time alerts create actionable alarms, and display live videos of the leak while simultaneously issuing notifications via email or text. The clear visualization of the leak location, size, and wind drift verify the threat, and aid the fast, and effective first response.

By identifying smaller leaks early, Honeywell Rebellion GCI drives targeted maintenance to further address potential growing safety issues, and to deliver robust emissions control.

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System includes fully automated pan/tilt motors for full coverage of the facility. It is capable of detecting gas leaks as far as one mile (1.7 km) away.

HONEYWELL REBELLION GAS CLOUD IMAGING SYSTEM

Designed for large sites and extended areas such as:

• Pipelines

• Ports

• Refineries

• Tank Farms

Honeywell

Honeywell Rebellion Gas Cloud Imaging (GCI) Standard Camera
Technical Specifications

FEATURES AND BENEFITS

Automatically monitors, identifies, and quantifies gases, 24/7 in real-time

Patented hyperspectral imaging technolgy

Fast, accurate, and clear verification of gas safety system alarms with location, and size of the event enabling rapid, efficient mitigation

Early leak identification drives health based maintenance to reduce potential safety threats, and to drive emissions management thereby reducing product loss, and enabling operators to establish and achieve world-class green credentials the the financial benefits thereof

Powerful edge computing in primary instrument

Extraordinary storage capacity, and processing power

Cloud solutions enables data, and visualization sharing for rapid response, reporting, and post event analysis

System can be customized for specific sites and needs

Alarm levels can be adjusted by chemical and field of view

Flame detection add-on (Future)

Intrusion add-on (Future)

Turn-key system with the provision of product hardware and including mapping, installation, commissioning, training, and lifetime maintenance services

TECHNICAL SPECIFICATIONS		
Detector Specifications	Sensor Type	Snapshot Hyperspectral Infrared Imaging
	Target Gas (up to 7 analytics monitored simultaneously)	1,1 - Difluoroethane, 1,2 - Dichloroethane, Acetic Acid, Ammonia, Benzene Boron TriFluoride, Butadiene, Carbon Dioxide, Diluent, Ethane, Ethane/Ethylene/Propane Mix, Ethanol, Ethylene, Ethylene/Propane Mix, Gasoline, HVN, Hydrogen Chloride, Hydrogen Sulfide, Iso-Butane, Iso-Butylene, Iso-Pentane, Jet Fuel, LCN, LPG, LVN, Methane, Methanol, MoGas, m-Xylene, Naptha, N-Butane, N-Pentane, Propane, Proylene, p-Xylene, R22, Sulfure Dioxide, Toluene, Ultraformate, Unleaded Gasoline, Vinyl Chloride
	Range of Detection (optical)	Lowest Detectable Level (LDL) to FSD (100%) (LDL varies depending on target gas)
	Alert/Alarm	Fully automatic alarm with live visual display, audible alert, email, and/or text message
	Detector Range (area of coverage)	Long Range: up to 1,700 m [5,577 ft] Wide Field: up to 660 m [2,165 ft]
	Field of View	Long Range: 5.0° x 5.0° Wide Field: 22.6° x 22.6°
	Speed of Response	Less than 1 second (scan path and number of stops dependent)
	Position Control	Pan +/-180° (360° full rotation), tilt ±45°
	False Alarm Rate	≤ 1%
	Operating Temperature	-40°C to +55°C [-40°F to +131°F]
	Operating Humidity	0-99% (non condensing)
	Power Supply and Consumption	Camera: 24 VDC, 10A (peak), 7A (continuous) Pan/Tilt: 48 VDC, 12A (peak), 6.4A (continuous), 0.5A (idle) Analyzer: 120/240 VAC (< 600 W)
	Output Signal	Modbus TCP/IP to DCS System
	Video Output	200 pixels x 200 pixels (IR) / 600 pixels x 600 pixels (visible) at 15 Hz (7.5Hz for export)
	Network Connections	1 Serial RS-422 + 1 CAT 6 - pan/tilt 3 Multi-mode fibers, LC connectors - camera
	Analog Thesholds	N/A
	Hazardous Area/Performance Approvals	N/A
	SIL Certification	N/A
	Analyzer	Each system comes with it's own analyzer.
	Size	133 cm x 36.8 cm x 36.6 cm [44.5 in x 14.5 in x 14.4 in]
	Weight	Camera: 51.7 kg [70 lbs] PT Weights: 20.4 kg [45 lbs] Junction box: 5.9 kg [13 lbs] Pan/Tilt: 39.9 kg [88 lbs] Pole: 15.9 kg [35 lbs] Total: 113.8 kg [251 lbs]
Analyzer	Included Items	GCI camera, pan/tilt unit, umbilical post, and camera interface box
DVR	DVR (video storage)	Stores up to 5 million detection events with custom auto-erase settings

Honeywell Rebellion Gas Cloud Imaging (GCI) Standard Camera
Technical Specifications

NOTES/OPTIONS:

1. **Self calibration:** Yes

2. No regular maintenance (except exterior cleaning).

3. **Options include:** PTZ, short mount (PTZ-001), PTZ long mount (PTZ-002), generic control panel (requires further definition), generic work station (requires further definition).

4. Thermal plus visual monitoring.

5. **Optional software:** Honeywell Rebellion Standard GCI offers edge computing with large storage capacity, and processing power, as well as cloud solutions. Rebellion utilizes custom-built software to run the analytics, and to display the result through its own user interface. Fully automated, there is no need for the camera feeds to be continuously monitored by an operator as alert levels are programmed directly into the software. Alarm levels can be adjusted by chemical, and field of view, allowing the entire system to be specialized for your specific site, and needs.

For more information

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FUTURE
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