

# 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.



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 technology.

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.



Powerful edge computing in primary instrument.

Extraordinary storage capacity, and processing power.



System can be customized for specific sites and needs.

Alarm levels can be adjusted by chemical and field of view.

Comprehensive system with the provision of product hardware and including mapping, installation, commissioning, training, and lifetime maintenance services.

### TECHNICAL SPECIFICATIONS

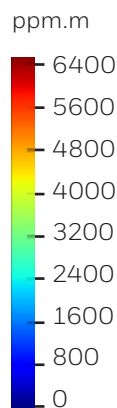
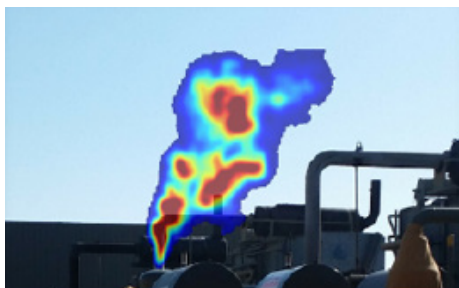
|                         |   |  |                               |  |
|-------------------------|---|--|-------------------------------|--|
| Detector Specifications | Sensor Type   | Snapshot Hyperspectral Infrared Imaging  |                               |  |
|                         | Target Gas (up to 7 analytics monitored simultaneously) | 1,1 - Difluoroethane, 1,2 - Dichloroethane, Acetic Acid, Ammonia, Benzene<br>Boron TriFluoride, Butadiene, 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, Methane, Methanol, m-Xylene, Naptha, N-Butane, N-Pentane, Propane, Proylene, p-Xylene, R22, Sulfure Dioxide, Toluene, 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]<br>Wide Field: up to 660 m [2,165 ft]   |                               |  |
|                         | Field of View   | Long Range: 5.0° x 5.0°<br>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)<br>Pan/Tilt: 48 VDC, 12A (peak), 6.4A (continuous), 0.5A (idle)<br>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<br>3 Multi-mode fibers, LC connectors - camera  |                               |  |
|                         | Analog Thresholds                                       | 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] |  |
| 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  |                               |  |
|                         |   | Pan/Tilt: 39.9 kg [88 lbs]   | Total: 113.8 kg [251 lbs]     |  |
|                         |   | Pole: 15.9 kg [35 lbs]   |                               |  |

# 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. **Software:** 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.



A release of hydrocarbon gas and its concentration is clearly shown with a CGI camera.

### POPULAR GAS SPECIES:

- Acetic acid
- Ammonia
- Benzene
- Butadiene
- Butane
- Ethane
- Ethanol
- Ethylene
- Iso-Butylene
- Iso-Pentane
- Methane
- Methanol
- N-Pentane
- Propane
- Propylene
- Toluene
- Vinyl Chloride
- p- or m-Xylene

Please consult with Sales Representative for a complete gas list.

### For more information

[www.safety.honeywell.com](http://www.safety.honeywell.com)

### Honeywell Gas Analysis and Safety

9680 Old Bailes Rd, Fort Mill, SC 29707  
(803) 835-8000

### Contact us

|                   |                   |
|-------------------|-------------------|
| US:               | Canada:           |
| Tel. 800.430.5490 | Tel. 888.212.7233 |
| Fax. 800.322.1330 | Fax. 888.667.8477 |

[informationsp@honeywell.com](mailto:informationsp@honeywell.com)

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FUTURE  
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