

Advanced Visual Docking Guidance System



**Safer and smarter docking,
optimising airport gate capacity**

Honeywell

The All-Weather Advantage

Increases in passenger traffic demands higher gate efficiency and greater throughput. Honeywell's Advanced Visual Docking Guidance System (A-VDGS) docks planes efficiently and optimizes airport gate capacity.

About A-VDGS

Honeywell's A-VDGS represents the latest, state-of-the-art docking guidance system — enabling automatic and precise docking guidance.

Using video technology, a dynamic-range video sensor detects incoming aircraft with its high-capacity image processing unit, which is compared to the system's comprehensive 3D aircraft model database. The docking controller then converts the processed data into precise guidance information and displays it on the Pilot Display Unit (PDU), so pilots can dock the aircraft safely into the gate.

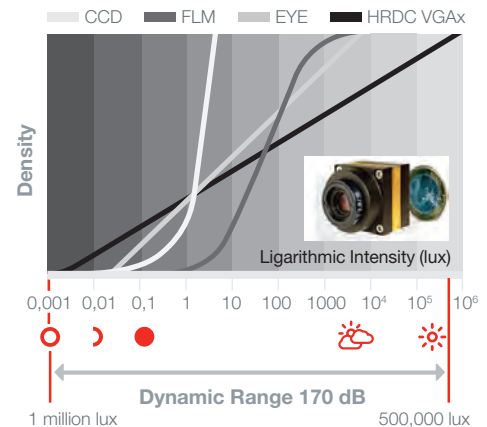
All A-VDGS units installed can be controlled and monitored by a central computer, which processes the individual docking

positions and communicates to other airport systems. Additionally, video cameras provide situational awareness capability and allow recording, archiving and playback of docking sequences on the apron.

Honeywell's A-VDGS is fully compliant with International Civil Aviation Organization (ICAO) requirements, ICAO annex 14 sections 5.3.24 and 5.3.25 [5th Edition July 2009], and Aerodrome Design Manual Document (Doc 9157-AN/901), Part 4, Visual Aids.

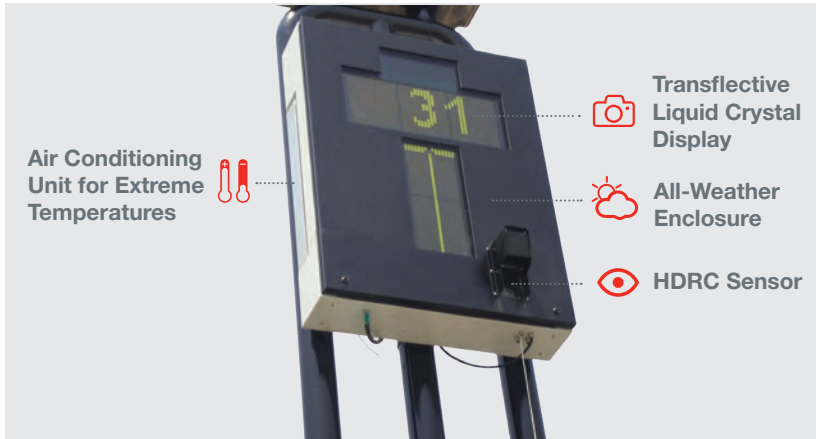
HDRC® — The New Electronic Vision

Honeywell A-VDGS is based on electronic imaging technology — the eye-like High Dynamic Range CMOS (HDRC) camera. The power of human visual perception lies in its high dynamic range and robust object detection due to high and constant contrast resolution in both bright and dark regions of a scene. HDRC, with its high dynamic range (up to 170db), high resolution (768x496 pixels), high speed (80ns per pixel) and logarithmic compression per pixel, captures MAXimum ImaGe Information Contents (MAGIC) with the most effective use of bits per pixel.



From bright spots to dark shades, HDRC not only provides high-contrast resolution but also high-speed image acquisition, regardless of the brightness of the scene — resulting in no loss of image information, making it the most reliable sensor for operation in rainy, foggy, snowy or extremely sunny weather conditions.

Key Features



Eye-Like Electronic Vision

- HDRC video camera and image processing software for flawless and non-contact based aircraft detection
- Wide horizontal field, high resolution and optional lenses for long range applications
- One camera setting for operation in rainy, foggy, snowy or extremely sunny conditions

Pre-Calibrated System

- Factory calibrated system for minimal calibration on-site, enabling quick commissioning

True 3D Image Processing

- Innovative three-dimensional aircraft detection technology — True 3D for Aircraft Type (A320 or B737) or Sub-Type (B737-300 or B737-900)
- Reliable aircraft outline detection, not affected by objects such as boarding bridges or tugs partially covering an aircraft
- Comprehensive database of 3D aircraft models

Clear Pilot Display Unit

- Clear guidance information for pilot and co-pilot indicated on large, parallax-free and all-weather transfective LCD display with automatic brightness control (option: configurable)
- Visible up to 150+ m with a 170° visibility angle
- Actionable information maximized with simultaneous display of numerical and indicator-based distance
- Ramp Information Display System (RIDS) to display text messages to pilots and ramp personnel
- Energy efficient and optimized for longevity

Remote and Manual Docking Control

- Manual control board with emergency stop button for stand-alone control
- Secured operation with physical

lock/key and system username/password with configurable permissions for each type of user

Integral Gate Surveillance

- Video Inspection Computer to simultaneously view up to nine gates
- Network support option — gate video can be made available for ATC, airline, etc.
- Webcam to provide live video feed of gates (optional)

All-Weather Unit

- Wide operating temperature range
- -40° to +55°C (optional dedicated cooling/heating)
- Operational humidity range 0–95% RH

Real-Time View

- Central monitoring and control system, providing real-time gate status for all installed VDGS units at an airport
- Smart features: FlightPlan editor as well as alarm, video and maintenance management

VDGS Communication

- Flexible communication to central computer (VDGS Ethernet TCP/IP LAN or serial interface), multi-strand cable and/or operational video sensor to PDU (fiber optic cable)

Seamless Interface With Ramp Equipment — Maximizing Safety

- Passenger boarding bridge interlock ensures that dockings only start when the bridge is properly positioned (optional)
- Auto-control for apron lead-in lights

All-in-One Enclosure

- All-in-one housing for video sensor, image processing unit and other electronics
- Onboard storage capability of docking images up to 30 days

Key Benefits

Safe and Reliable Docking – Operates in all weather conditions. Unlike systems that only scan a narrow angle and need a clear line of sight, the Honeywell A-VDGS sensors continuously scan the complete gate area for maximum safety.

Performance – Delivers stop position and azimuth accuracy, enabling aircrafts to stop on or near designated stop points.

Flexibility – Can be installed on a terminal facade, pole or mast at heights of 4–22 m. Video sensor is independent of guidance line according to apron requirements.

Pre-Calibrated System – Reduced end-to-end installation and commissioning time (<2 hours per unit).

Low Power Consumption – LCD display and electronics consume less power (< 200W*).

Minimal Maintenance – Video sensor works without any lifetime limitation or mechanical aging. No moving parts or motors to maximize reliability and minimize maintenance.

Reliability – Extremely long life. MTBF: A-VDGS (45,000 hours*), LCD display (2,000,000 hours).

Reduced Total Cost of Ownership – Fewer systems required for gates with multiple centerlines due to wide-angle LCD display and use of video sensors for parallel, angled or curved guidance lines.

*Normal Variant

Honeywell A-VDGS truly optimizes your daily gate operations.

About Honeywell Airports Business

Honeywell is a leading, international supplier of airport products, solutions and services. Our intelligent approach to airports focuses on the convergence of airside, terminal-side and landside solutions. Our end-to-end solutions empower airports to address the tough challenges faced around safety, security, efficiency and productivity to inspire better airports.

Having outfitted over 500 airports worldwide, Honeywell is known throughout the international aviation business for innovation, reliability and integrity.

2013 — Celebrating 100 years of technology and innovation for airfield solutions.



Find Out More

To learn more about Honeywell Airports Business and the Advanced Visual Docking Guidance System, email AirportSolutions@Honeywell.com.

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