

# ADVANCED GLOBAL DETECTION SYSTEMS

- VEHICLE DETECTION
- JUNCTION CONTROL
- PEDESTRIAN DETECTION
- SPEED MEASUREMENT
- DATA COLLECTION
- IP & WIRELESS CONNECTIVITY
- ACCESS CONTROL

TECHNOLOGY SOLUTIONS



**TECHNOLOGY  
SOLUTIONS**

**AGD MISSION STATEMENT**

*"To be recognised as the supplier of choice for technologically superior detection equipment for transport"*

**200 SERIES**  
**300 SERIES**  
**600 SERIES**  
**JANUS**

**SMART RADARS**



**TECHNOLOGY SOLUTIONS**

Wireless technology solutions

**P2 FEATURES**  
**P3 SMART DETECTION TECHNOLOGY**  
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**P6-7 TRAFFIC DETECTION 2 WIRELESS CONNECTIVITY**  
**P8-9 RADARS FOR SIGNS**  
**P10-11 RADARS FOR SPEED ENFORCEMENT**

Advanced radar detection platforms

Detection system solution for ITS

**SMART RADAR TECHNOLOGY SOLUTIONS FROM AGD**

AGD offers the widest portfolio of radar detection products for traffic control gained from many years field proven radar expertise. Advanced detection platforms continue to evolve featuring powerful embedded processing. Innovative new radar products and bespoke solutions will be at the heart of future detection systems for ITS.

**STATE-OF-THE-ART RADARS FOR MARKET LEADING DETECTION SOLUTIONS**

- Advanced radar detection platforms
- Field proven radar expertise for traffic control
- Largest installed base of radar detection
- Widest available portfolio of radar detection
- Flexible designs for bespoke solutions
- Employment of the latest design processes
- Significant investment in Intellectual Property
- Elements of technology patent pending
- Production processes tailored to manufacture from few to many

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For technical and sales information visit **www.agd-systems.com**



- State-of-the-art detection solutions
- Powerful DSP embedded processing
- All products manufactured in UK by ISO9001 accredited company
- Fully field re-flashable on high end products
- Livewire/Bluetooth Livewire enabled options
- Ease of installation - Plug & Play
- Low maintenance costs



**CONTINUOUS DESIGN INNOVATION**

Winners of the Queen's Awards for Enterprise: Innovation, AGD continue to forge ahead with new and innovative traffic detection platforms. Delivering market leading performance and cost effective solutions to a global market audience is our constant goal.



# TRAFFIC

## ADVANCED GLOBAL DETECTION

The AGD range of Vehicle Detection products feature CW Doppler radar and digital vision technology for the detection of moving and stationary vehicles.

Compact modular designs are offered with rugged housings suitable for a roadside environment and for fixing to existing street furniture.

## AGD TRAFFIC DETECTION 1

4

NEW

CW DOPPLER RADAR TECHNOLOGY



AGD206

### TRAFFIC CONTROL

#### CW RADAR TRAFFIC DETECTOR

The AGD206 has been designed for the detection and monitoring of vehicles at signalised junctions and other applications where the detection of moving vehicles is required in a long zone extending from the detector.

The detector can be used for the detection of moving vehicles in one (or optionally both) directions up to eighty metres from its mounting position and can discriminate between approaching and receding traffic.

It can also be used for the call and/or extension of a signal phase on a single or two lane approach to a particular signal. Where detection in more than two lanes is required, more than one detector should be used. Other applications for this detector include all red extension at shuttle working as well as normal traffic installations or anywhere that detection of moving vehicles is required.

The detector features a custom designed X-band planar antenna coupled with advanced radar processing in a modular design. The unit is compact in size and lightweight for ease of installation in a robust die-cast aluminium housing. The detector is equipped with a set of user selectable settings accessed via a rear port in the housing. This facility allows optimum detection performance for site specific applications.



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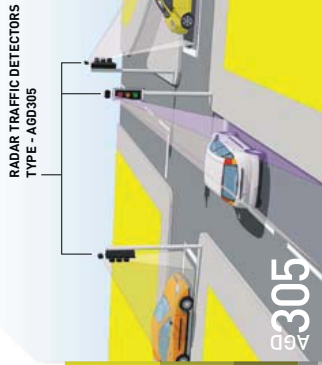
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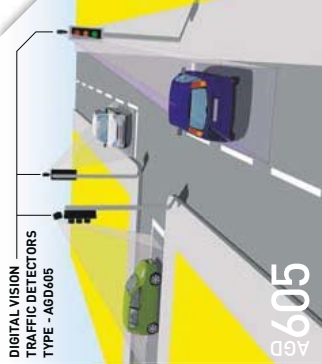
## TYPICAL APPLICATIONS



RADAR TRAFFIC DETECTORS  
TYPE - AGD305

AGD305

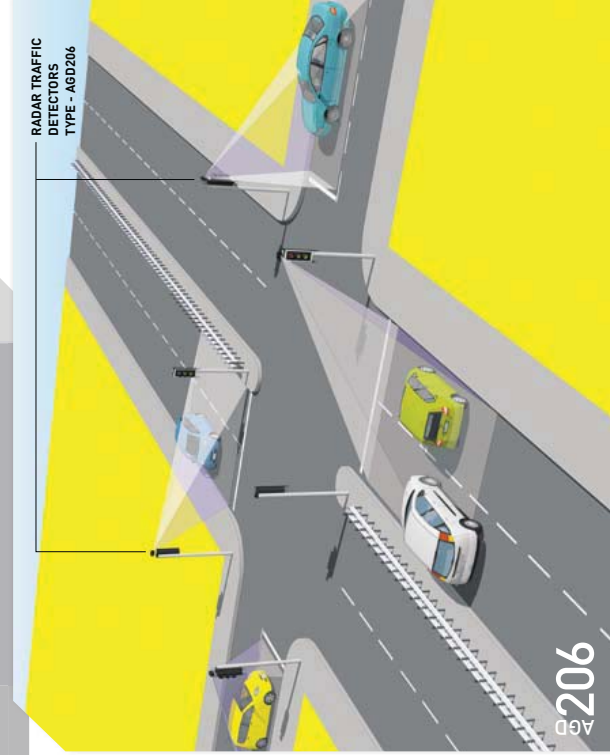
APPLICATION: JUNCTION CONTROL



DIGITAL VISION TRAFFIC DETECTORS  
TYPE - AGD605

AGD605

APPLICATION: PRESENCE/STOPLINE



RADAR TRAFFIC DETECTORS  
TYPE - AGD206

AGD206

APPLICATION: JUNCTION CONTROL

DIGITAL VISION TECHNOLOGY

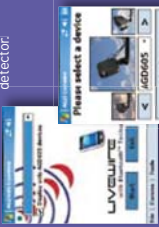


AGD605

### PRESENCE/STOPLINE

#### DIGITAL VISION TRAFFIC DETECTOR

The AGD605 digital vision detector features a colour CMOS sensor and a powerful 32-bit DSP processing platform that allows all image processing to be performed at the detector.



Offering the LiveWire

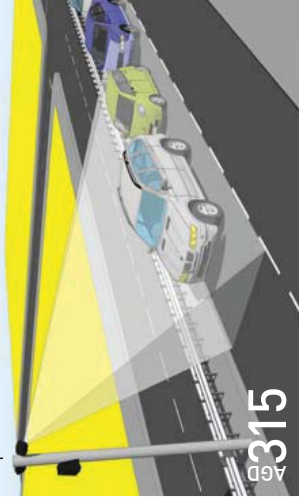
platform with Bluetooth option for zone set-up with PDA or laptop, the AGD605 can be used for the detection of stationary vehicles at a stop-line in a single lane within a user definable zone. The detector utilizes sophisticated tracking algorithms for optimum detection performance. Standard detection output to the signal controller is via a relay output.

**ADVANCED GLOBAL DETECTION**

The AGD315 is an advanced digital K-band (24GHz) radar offering considerable scope for the strategic detection of both moving and stationary targets in a single lane.

**AGD TRAFFIC DETECTION 2**

**RADAR TRAFFIC DETECTOR  
TYPE - AGD315**



**AGD315**

**APPLICATION: VEHICLE COUNT/SPEED/OCCUPANCY/QUEUE**



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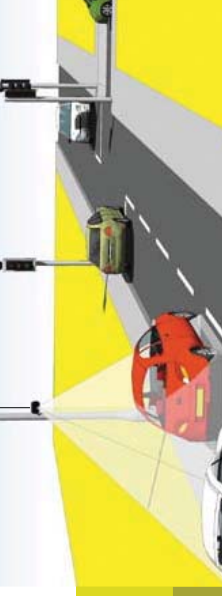
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**CONNECTIVITY**

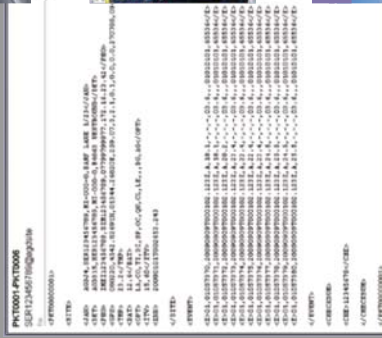


**RADAR TRAFFIC DETECTOR  
TYPE - AGD315**



**AGD315**

**APPLICATION: MOVA**



**SECURE DATA ACCESS VIA WEB BROWSER**  
World Wide Web

**EMAIL TRANSFER OF DETECTION DATA FROM JANUS 4**



**NEW GPRS COMMUNICATION LINK**

**AGD JANUS4**

**CONNECTIVITY**

**JANUS4 TRAFFIC DATA COLLECTION AND WIRELESS TRANSFER**

The Janus4 data outstation has been designed to connect to a detector (usually a radar) and store the detection events before transferring the data via the GPRS network to a remote server for rendering and analysis.

The Janus4 is a compact data collection outstation specifically designed for the recording and transfer of traffic data. It is housed in a robust, sealed enclosure for pole mounting but alternatively can be supplied in a pcb mount format for inclusion in OEM products such as Vehicle Actuated Signs (VAS)

The streaming detection information from a radar (or other detection platform) is fed into the Janus4 via an RS485 connection. The data is then stored processed ready for transfer to a dedicated server. The data is typically transferred from the outstation once per hour to the data server but other increments can be selected. The outstation has sufficient storage for at least a days traffic data.

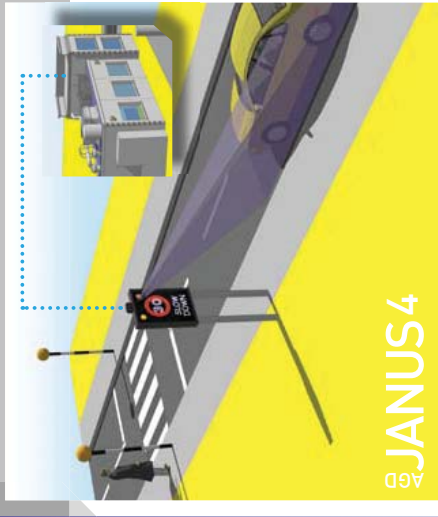
Following transfer, the data is rendered and processed for use by the customer where it is available via a secure web access. Data such as: event, volumetric count, speed profile, speed percentiles, occupancy, can be obtained dependent on the detection platform it is connected to. Accurate event time information is achieved by synchronising with the GPRS network.

The Janus4 can also simultaneously act as a 'trapdoor' to the radar for maintenance purposes.

**CONNECTIVITY AND SMART RADARS**

A range of flexible Janus outstations provide connectivity solutions to a host of detection platforms, typically radars. Detection event data is then transferred via the GPRS network.

**AGD WIRELESS CONNECTIVITY**



**AGD JANUS4**

**APPLICATION: TRAFFIC DATA COLLECTION AND TRANSFER VIA GPRS CONNECTION**



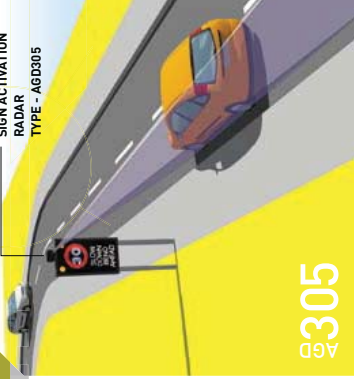
**ADVANCED GLOBAL DETECTION**

The AGD range of radars for signs feature state-of-the-art radar processing and compact designs for in-sign applications, external sign mounting and low-power radar for solar applications at remote sites.

All offer serial interface connections to host systems and the flexibility to connect to the Janus4 GPRS data outstation.

**AGD RADAR FOR SIGNS**

SIGN ACTIVATION RADAR  
TYPE - AGD305



AGD305

**APPLICATION: SIGN ACTIVATION**

AGD300 with AGD305 Livewire detector setup.



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CW DOPPLER RADAR TECHNOLOGY



AGD305  
LIVEWIRE

**SIGN ACTIVATION RADAR**

**CW RADAR TRAFFIC DETECTOR**

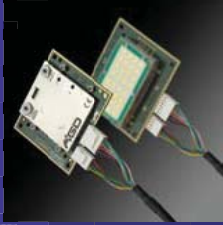
Featuring a custom designed 24GHz (K-band) planar radar antenna the AGD305 Livewire detector can detect moving vehicles up to a 100m range for a standard saloon car. It can discriminate between approaching and receding traffic and its narrow beam width is suited to single lane monitoring.

The detector has a Livewire access port on the rear of the housing, behind which is a five-way serial port connector which allows for adjustment of various detection parameters. These include low speed threshold, detection range, detection direction, hold time and serial speed output mode. Connection to the Livewire port is by means of a special interface cable from the detector to suitable laptop or PDA.

Bluetooth Livewire enabled versions offer the added flexibility of detector set-up and adjustment from the safety of ground level.

The primary application is for the triggering of speed warning signs but the detector can also be used in conjunction with a Janus4 data outstation to provide rear profile data on count and speed.

CW DOPPLER RADAR TECHNOLOGY



AGD330

**SIGN ACTIVATION RADAR**

**CW RADAR TRAFFIC DETECTOR**

The AGD330 is a compact, speed measuring Doppler radar which is designed to be mounted internally on Vehicle Actuated Signs (VAS) to provide the main detection function and offers a detection range of up to 180m. Operating in the 24GHz K-band frequency it is able to measure the speed of vehicles and can discriminate between approaching and receding traffic.

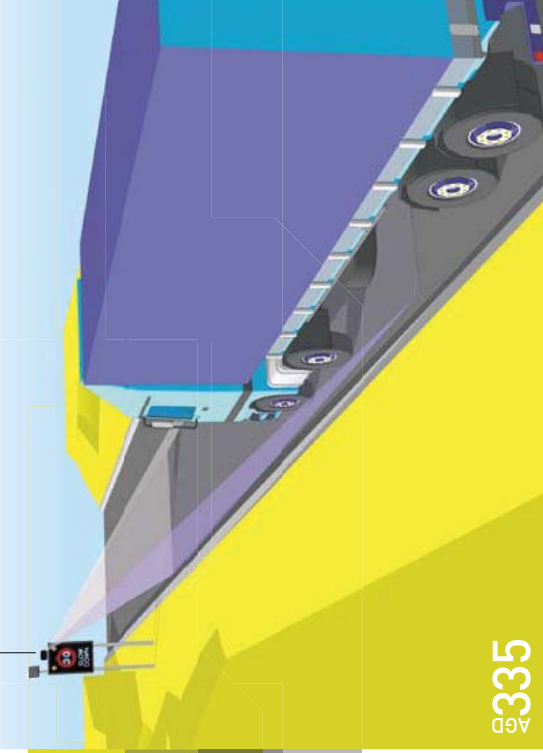
The radar has a simple four point mounting and is designed to operate through the plastic front screen of the sign. The special feature of this radar is that it has a user sensitivity adjustment provided by the unique advanced radar processing. This allows the attenuation losses of the sign's front screen to be compensated for and adjustment of the range of the radar at particular sites to achieve optimum detection performance. The beam-width of the radar has been selected such that radar performance is insensitive to sign alignment.

The radar has two modes. In the basic mode, a low speed threshold can be selected by a rotary switch and an opto-isolator provides a detect output for all events above the low speed threshold. In the serial comms mode, a high speed RS422 link is provided from which the speed of targets is provided.

The radar is supplied with a mating cable assembly making installation and maintenance very simple. A conformal coating ensures maximum environmental resistance and longevity within the sign.

**TYPICAL APPLICATIONS**

SIGN ACTIVATION RADAR  
TYPE - AGD335



AGD335

**APPLICATION: SIGN ACTIVATION - LOW POWER**

SIGN ACTIVATION RADAR  
TYPE - AGD330



AGD330

**APPLICATION: SIGN ACTIVATION - INTERNAL RADAR**

**NEW**

**DIGITAL RADAR TECHNOLOGY**



AGD335

**SIGN ACTIVATION RADAR**

**LOW POWER DIGITAL RADAR TRAFFIC DETECTOR**

The AGD335 is a compact low power digital radar which is designed to be mounted externally on vehicle actuated signs (VAS) to provide the main detection function at remote sites where solar power supply is typical. The radar operates from either 6v or 12v supplies.

The advanced radar technology and specialist processing consumes approximately 100mW whilst maintaining excellent detection range and update rate. The power can be reduced further by setting the event update rate accordingly between 12-26Hz.

The detector is configured via an RS232 serial interface accessed via a rear port in the detector housing. This allows adjustment of the detection range, low speed threshold and power consumption.

The detector has a custom designed planar K-band antenna and employs a unique frequency modulated radar processing technique. It offers a detection range of up to 100m and detect output is via relay contacts or optionally an opto-isolator output.

In the serial comms mode a high speed RS232 link allows vehicle speeds to be passed to host equipment. The AGD335 can also be used in conjunction with the Janus4 GPRS data capture outstation.



Janus4 GPRS data outstation



**SMART RADARS**

The AGD34x range of speed measurement radars feature state-of-the-art radar processing to provide accurate vehicle speed information for enforcement applications.

The radars can be used stand-alone or integrated into host OEM equipment and design features make them suitable for many national requirements.

**AGD SMART RADARS FOR ENFORCEMENT**



**NEW**

**CW DOPPLER RADAR TECHNOLOGY**

**AGD340**

**TRAFFIC DETECTOR**

**CW DOPPLER SPEED ENFORCEMENT RADAR**

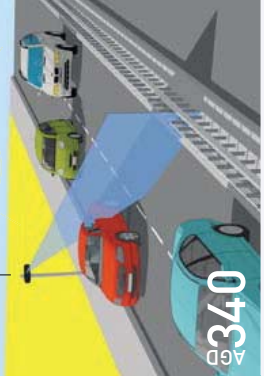
This product has been designed specifically to measure the speed of passing vehicles for enforcement purposes. The detector is a CW Doppler radar which operates in the K-band (24GHz). It is able to discriminate between approaching and receding traffic.

The AGD340 is a state-of-the-art speed measuring radar specifically designed for speed enforcement applications. A number of special features have been designed into the radar which make it suitable for many national requirements. The radar's antenna has been profiled for optimum performance when mounted in a roadside configuration.

The latest planar antenna and transceiver technology are used to give excellent signal to noise performance backed by a high speed 32 bit DSP processing platform to yield market leading speed measurement performance. The radar tracks and measures the speed of all passing targets and performs a precise measurement by way of Fast Fourier Transform processing which is then sent to the host system.

The radar has a high speed serial communications connection to the host equipment via which speeds of passing targets are passed. The detector also has built-in self-check features to ensure correct operation. The robust polycarbonate enclosure has been designed for stand-alone use or for integration into OEM equipment.

**SPEED ENFORCEMENT RADAR TYPE - AGD340**



**AGD340**

**APPLICATION: SPEED ENFORCEMENT**



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**TYPICAL APPLICATIONS**

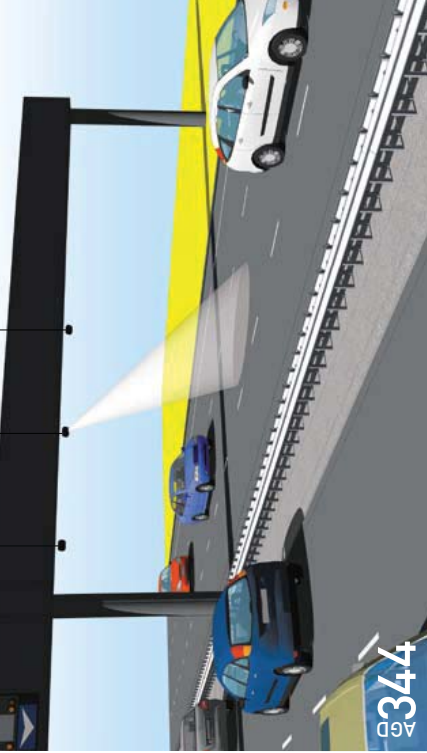
**SPEED MEASUREMENT RADAR TYPE - AGD341**



**AGD341**

**APPLICATION: SPEED MEASUREMENT**

**SPEED ENFORCEMENT RADARS TYPE - AGD344**



**AGD344**

**APPLICATION: GANTRY SPEED ENFORCEMENT**

**NEW**

**CW DOPPLER RADAR TECHNOLOGY**



**AGD344**

**TRAFFIC DETECTOR**

**CW DOPPLER SPEED ENFORCEMENT GANTRY RADAR**

The AGD344 has been designed to measure the speed of passing vehicles from overhead gantry positions for enforcement purposes in individual lanes.

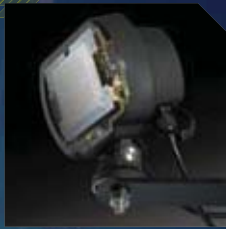
The detector is a CW Doppler radar which operates in the K-band (24GHz). It is able to discriminate between approaching and receding traffic.

The AGD344 is a state-of-the-art speed measuring radar specifically designed for speed enforcement applications. The radar's antenna has been profiled for optimum performance when mounted in a gantry position over a carriageway. A number of special features have been designed into the radar which make it suitable for many national requirements.

This gantry enforcement radar like the AGD340 employs the latest planar antenna and transceiver technology and a high speed DSP processing platform to yield market leading speed measurement performance. The radar tracks and measures the speed of all passing targets in the lane and performs a precise measurement by way of Fast Fourier Transform processing.

The speeds of passing targets are passed to the host system via a high speed serial communications connection. The detector also has built-in self-check features to ensure correct operation.

ADVANCED  
**GLOBAL**  
DETECTION  
SYSTEMS



**TECHNOLOGY  
SOLUTIONS**



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