The Autoscope Duo sensor is a hybrid radar and video vehicle detection system. It merges the robust capabilities of radar and video detection technologies for the highest levels of detection accuracy in all traffic, lighting, weather and road conditions, with the lowest cost of ownership. The Autoscope Duo sensor provides a consistent vehicle detections solution, and inspires ITS applications of continuous data collection and traffic monitoring.

The Duo Detection Module (DDM) is a detector card that slides easily into a standard VME chassis. It performs the decision logic process to combine radar and video information for optimal detector performance.

The Duo Interface Panel in the cabinet protects other cabinet equipment from outside surges and noise. Terminal blocks connect up to four (4) Duo sensors. A pigtail cable assembly provides simple connection to the Duo sensor for power, radar, video, and zoom controls.

Integrated together, the radar and video detection algorithms expand the benefits of a non-intrusive detector. This guarantees years of low-maintenance service and significant return on investment, especially when compared to the recurring expense of common inductive loop detectors.

**APPLICATIONS**
- Adaptive, Traffic Responsive Signalized Junction Control
- Work-zone safety and traffic control
- Bicycle Detection
- Remote video surveillance

**FEATURES**
- Provides vehicle detection for junction stop line and advance extension applications
- EasyLink connectivity for broadband communications
- Streaming digital MPEG-4 video
- User-definable password protection
- 10x remote controlled zoom lens & color imager
- IP addressable for Autoscope network management
- No streaking or blooming from bright light sources such as headlights
- High-sensitivity for accurate detection at low light levels
- Rugged, environmentally-sealed enclosure and sunshield designed to withstand all weather extremes
- Low power consumption
- Local language support

**BENEFITS**
- Unprecedented high performance for above ground detection
- Easy to install and configure
- Exceptional value when compared to in-ground detection systems
- Reliable performance
- Minimal maintenance
- Cost-effective ITS solutions for traffic management
## Autoscope Duo Sensor

### Power
- 11 to 32 VDC, 8W maximum
- Consumption, current
  - 300 mA @24VDC, 8 Watts

### Video Sensor
- Lens: 10x zoom, 5° to 46° horizontal, 4° to 35° vertical
- ¼ in color CCD, NTSC format
- Resolution > 470 TVL horizontal
- Sensitivity at lens, full video, no AGC, 3.0 Lux (typical)
- S/N > 50 dB

### Radar
- Max range (passenger car from typical mast arm mount location) 90 m (290 ft)
- Total field of view: ±35° AZ; ±8° EL
- Max transmit power (EIRP) 20 dBm
- Frequency Band: 24.0—24.25 GHz
- Bandwidth < 100 MHz

### Video Output
- NTCS Composite 750 1 Vpp, BNC connector

### Single Integrated Duo Sensor Cable
- 3-wire Power
- Coaxial cable: video transmission
- Two-wire RS-485 (x2) for lens zoom control & for radar data, command, and control

### Housing & Sunshield
- Lightweight, durable polycarbonate construction
- Thermostatically controlled faceplate heater
- Adjustable weather and sunshield with drip guard
- Weatherproof rear connector

### Environmental
- -40°C to +60°C (-40°F to +140°F)
- Video and radar sensors sealed in waterproof and dust tight housing which meet NEMA 4 and IP67 standards

### Overall Dimensions & Weight
- H x W x L
  - 330mm x 127mm x 279mm
  - (13in x 5in x 11in)
  - 2.0 Kg (4.5 lb)

### Regulatory
- FCC Part 15, Class A
- FCC Part 15.245, EN300440 compliant

## Autoscope Duo Detection Module

### Power
- 12 to 24 VDC, 11W maximum
- Consumption, current
  - @12VDC: 11W, 900mA
  - @24VDC: 11W, 500mA

### Video
- Input
  - PAL, CCIR, NTSC or RS170
  - 75Vpp, SMA connector on back
- Output
  - 1 Vpp, BNC connector on front
  - 1 Vpp, SMA connector on back
  - PAL or NTSC
  - MPEG-4 digital streaming video via EasyLink

### Radar I/O
- USB cable Type A to Interface Panel

### Communications
- EasyLink Ethernet 10/100 Mb/s communication via RJ-45 connector on front
- Detector I/O
  - Outputs (open collector, selectable active low or high)
  - 32 (86-pin DIN version)
  - Inputs
  - 16 (86-pin DIN version)
  - Status output (open collector, active low) to indicate card is processing and detector I/O valid
  - Serial I/O via EasyLink

### Environmental
- -34° C to +74° C (-29° F to +165° F)
- 0 to 95% relative humidity

### Overall Dimensions & Weight
- H x W x L (3U x 160 mm)
  - 130 mm x 20 mm x 191 mm
  - (5.10 in x 0.80 in x 7.5 in)
  - 0.16 kg (0.35 lb) basic unit

### Regulatory
- CE EN 55022, EN 61000-6-1
- RoHS

### Warranty
- Three-year warranty
- Extended warranty package to six years