# SpeedLane® Pro

Houston Radar SpeedLane® Pro

The Houston Radar SpeedLane® Pro is state of the art **true dual beam, low power side-fire radar**. It is designed to accurately detect lane, speed and class of individual vehicles and compute per lane volume, occupancy, gap, average speed, 85th percentile and headway parameters.

## Features and Benefits

- Patented (US10317525) true dual beam "speed trap" technology inherently provides accurate measurements without the need for in situ calibration.
- 255 feet (78m) detection range allows flexible deployments.
- World's lowest power usage highly integrated multi-lane traffic measurement radar.
- FCC and CE approved for full 250MHz operation to suite variety of application requirements.
- Mounts on the side of the road for non-intrusive traffic data collection and works in all weather and lighting conditions.
- Simultaneously measures all vehicles in 16 user defined lanes.
- All traffic measurements are on per vehicle, per-lane basis, available in real-time and stored in device memory.
- Lane-by-lane vehicle counts, vehicle counts by user defined speed bins, length based class by user defined length bins, average and 85th percentile speeds, occupancy, headway and gap measurements.
- 1 Million individual vehicle memory allows un-interrupted data storage even in the event of communication outages.
- Companion Windows application provides intuitive GUI to set all configuration parameters, display real time plots of targets and view snapshots & streaming HD video.
- Android smartphone and tablet app for setup and camera view ease field setup and maintenance.

| Specifications & Recommended Operating Conditions | |
|---|---|
| **Specification** | **Recommended Condition** |
| Type | True dual beam side-fire FMCW traffic measurement radar |
| Vcc | 12 to 24VDC Nominal<br>9 to 28VDC Max |
| Icc@12VDC (typical) | Ethernet Off: 71mA (0.9 W)<br>Ethernet On: 97mA (1.2W)<br>Streaming HD video: 183mA (2.2W)<br>With GSM Modem Option:<br>On Line: 97 mA (1.2W)<br>Upload New Data: 108mA (1.3W) |
| Reverse Power | Protected w/ auto resettable fuse |
| RF Power | 5 mW maximum each radar |
| Occupied Band | 24.020 GHz to 24.230 GHz |
| Modulation Type | Frequency with linear ramp |
| Beam Angle | 7°x74° |
| Beam Polarization | Linear |
| Speed Accuracy | Average per lane: +/- 1%<br>Average per direction: +/- 1%<br>Per Vehicle: +/- 6% for 90% of vehicles |
| Volume Accuracy | Per Direction Typical: 98 to 99%<br>Per Direction Minimum: 95%<br>Per Lane Typical: 98 to 99%<br>Per Lane Minimum: 90% |
| Length Class Accuracy | +/-5.7ft (1.7m) or 15% whichever larger for 90% vehicles |
| User Defined Lanes | 16 max |
| User Defined Length Class | 8 max |
| Max Detection Range | 255 feet (78 m) |
| Minimum Setback | 6 feet (1.8m) |
| Sample rate | 500 Hz x 2 Radars |
| Certification | FCC, CE, IC |


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## Features and Benefits Continued…

- Electronic gyroscope for tilt and level measurements ease setup.
- Built-in long range Class I 2.1+EDR Bluetooth, RS232 ports.
- 512 Mbytes of on-board storage plus uSD card expansion slot.
- Built-in 1.3MP HD video camera for sighting makes setup a snap and allows convenient remote monitoring of traffic.
- Comprehensive Houston Radar protocol, C and C# SDK.
- Powerful SQL based query interface for historical data.
- Optional built-in RS485 serial and Ethernet ports.
- Optional cloud based Tetryon server to aggregate data from multiple devices provides quick and seamless dashboard view.
- Optional built-in UPS with rechargeable battery keeps unit running for over 24hrs on loss of external power.
- Optional MPPT solar charger for optimal winter and cloudy day charging.
- Optional built-in 96Whr LiFePO4 battery for temporary or solar installations. Support up to 45W panel.
- Optional penta-band 3G GSM cellular modem for remote access.
- Optional DVR records video for last 18 hours.

Image from Built-In HD Camera

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|---|---|
| Ethernet | Optional: 100 BaseT Half/Full Duplex auto polarity detect |
| Power Over Ethernet | Yes, optional<br>802.3af. Mode A/ Type 1 (power over data pairs) |
| Rechargeable Battery | Optional built-in 96WHr LiFePO4 |
| Solar Kit | MPPT charger, 30W or larger solar panel depending on location |
| Storage Capacity | Speed, lane and class for last 1,000,000 vehicles. Per lane counts in user defined speed bins, length based class in 8 user defined bins, average speed, 85$^{th}$ percentile speed, occupancy, gap, headway for 3 last months |
| Sighting Camera | 1.3MP HD video (Ethernet and 3G modem only) or HD snapshots. 60° field of view 1280x960, 800x600, 640x480, 320x240 (800x600 10fps video) |
| Bluetooth | Ultra low power 800+ feet Class I 2.1+ EDR 460KB baud rate for setup, download and camera |
| Smartphone/Tablet App | Android smartphone or tablet ver. 4.0.3 and higher.<br>Bluetooth and TCP/IP access. |
| Remote Access | Optional built-in ultra-low power worldwide penta band 3G GSM modem |
| GPS | Optional Built-in |
| Operating °F (°C) | Without battery:<br>-40F (-40C) to +185F (+85C)<br>With LiFePO4 battery:<br>-4F (-20C) to +130F (+55C) |
| Dimensions without mounting bracket | 26”length x 3”diameter<br>(670mm x 76mm Diameter) |
| Weight | Without battery: 4.6lb (2.1 Kg)<br>With battery: 6.4lb (2.9 Kg) |

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