

Houston Radar SS300 OEM Doppler Speed Sensor

Short Form Datasheet
Rev 1 Jan 2009

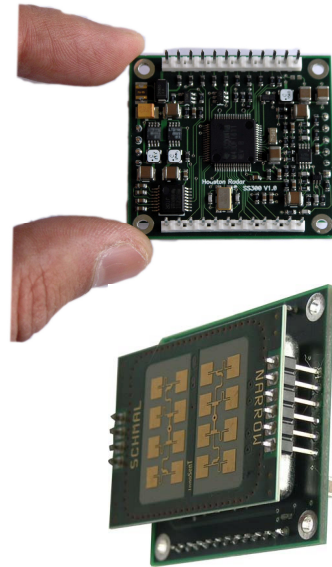
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Availability: Beta Testing

Houston Radar's SS300 Doppler sign activation/speed sensor is a state of the art **milli-power** Digital Signal Processing (DSP) based K-band OEM radar for the sign activation market.

It is the premier product in its class available in the world.

- World's smallest and lowest power usage OEM K-Band Doppler radar at 0.10 Watts, 6X lower than our DR500S radar and up to 25X lower than some other industry offerings
- 300 feet (90m) typical pickup range for a compact vehicle
- FCC pre-approved (planned, contact us for details)
- Fully configurable via RS232 serial port for all settings
- Simple rotary switch or thumbwheel input possible to set threshold
- Wide input operating range allows solar operation
- 1.75Wx1.65Lx0.5D in (44x42x12 mm) open frame ultra-thin profile
- Firmware "boot loader" allows for field upgrading of firmware
- Optionally supports "simple statistics" (avg/85th % speed etc.)—TBD.
- Two LED Lamp outputs to drive 1.8W LED lamps with dimming
- One photo sensor input to sense ambient light to dim LED lamps
- Custom cable output and enclosure requests entertained
- 100% self-test feature built-in including self power usage



The SS300 is designed to minimize total product BOM cost. It has two lamp outputs and one light sensor input.

The ultra-low power usage allows unprecedented small batteries and solar panels.

A 6V lantern battery will last 27+ days running 24/7!

Recommended Operating Conditions

| | | |
|--------------------|---------------------------------------|-------------------------|
| VCC | 6.5VDC min | 18VDC max (21V tol.) |
| ICC@12VDC | 9mA min | 11mA max (expected) |
| RF out | | 5mW |
| Freq out | 24.125GHz center | ±25MHz (24.2 available) |
| Operating °F/C | -40min | 185°F/85°C max |
| Lamp output I&II | | 150mA sink max each |
| Lamp dimming | | PWM@>100Hz |
| Baud Rate | 1200 to 115200 baud | configurable |
| Light Sensor input | LDR voltage input | 0 - 3.3V |
| 3.3V Output | max 30mA draw from radar | |
| 5.0V Output | max 2mA draw from radar (for pull up) | |
| Pickup Distance | 300 feet/90m typical for compact | |
| Beam Angle | 35°x45° | |
| Polarization | Linear | |
| FCCID | Planned | |

IO/PWR Connection Details

| Pin# | Function | Dir | Description |
|------|----------|-----|-------------------|
| 1 | GND | PWR | Ground |
| 2 | VCC | PWR | 6.5 to 18VDC |
| 3 | RS232TX | Out | TX from Radar |
| 4 | RS232RX | In | RX into Radar |
| 5 | Lamp 2 | Out | Open Drain O/P |
| 6 | Lamp 1 | Out | Open Drain O/P |
| 7 | Ext 0 | I/O | TTL Level I/O |
| 8 | Ext 1 | I/O | TTL Level I/O |
| 9 | Light In | In | Amb. light sensor |
| 10 | Reserved | DNC | Do not connect |
| 11 | Reserved | DNC | Do not connect |
| 12 | GND | PWR | Ground |

Note: Only 4 wires are needed to interface to the radar. Remaining connections are for additional functionality and debug.

Do not connect to the pins on the other row.