

FP-100RA - ASTM V6 Reader

Telematics wireless' FP-100RA Reader is a modern, reliable unit that serves as the roadside component of a vehicle identification system. The unit serves in free flow, electronic toll collection systems, border crossing, access control, weigh stations and other applications.

The unit performs two-way communications between host computers and in-vehicle located transponders using ASTM v6 Slotted-Aloha Time Division Multiple Access (TDMA) protocol. The reader's large memory enables autonomous operation without host, keeping data records of up to 2 million vehicles. (Up to 0.5 million may be saved in a nonvolatile memory).

It communicates with transponders that enter the reader's communication zone; at 500 Kbps, using ASK modulation and operating in the 902-928 MHz ISM band ⁽¹⁾.

The FP-100RA has a very low power drain of less than 5Watts and needs no blowers for heat evacuation.

The unit has an integrated antenna-switching unit for lane discrimination of up to 4 lanes.

The unit may be battery operated and because of its small size and weight it may be used for law enforcement.



Reader Characteristics:

- Slotted Aloha protocol –compatible with ASTM v6 for lane based and free flow.
- Physical Layer compatible with ASTM PS111-98 requirements.
- Synthesized transmit frequency within the ISM band 902–928 MHz.
- Fixed receiver frequency within the ISM band 902–928 MHz (915 MHz default).
- Receiver with high selectivity (better than 60 dB @ ± 3 MHz).
- Transmit and receive data rate of 500 Kbps Manchester encoded.
- RF Output Power: Software controllable up to 0.5 Watt (+27 dBm).
- Very low spurious and harmonics radiation.
- Receiver Sensitivity: better than -65 dBm @BER= 10^{-6}
- Software controllable squelch level.
- Power Consumption: 3 Watts typical.
- Two RS-232 and one RS-232/422 ports to communicate with Host, Weigh in motion (WIM) and maintenance.
- Digital I/Os (8 in and 7 out) for loops, sensors and signaling.
- Synchronization of multiple Readers at the same site.
- Antenna switching unit: 5 Transmit / Receive coaxial connectors.
- Small Size: 100x128x28 (LxWxD) mm.
- Light Weight: less than 350 gr. (depending on configuration).
- Operating temperature: -40°C to $+85^{\circ}\text{C}$

(1) The transmit frequency is software selectable.