

FP-100ES – TDMA Electronic Container Seal

Telematics Wireless' FP-100ES software programmable TDMA Electronic Seal, FP-100ES, serves as an in-container component that serves for, electronic identification and tampering indication of containers.

The FP-100ES is a read & write transponder with seal functions expansion. The FP-100ES is fully compatible to TDMA transponders that are widely used in trucks for WIM stations, which allow tracking the FP-100ES status at every installed WIM station. The FP-100ES expedites border crossing and port's gate operation.



The FP-100ES provides:

- Real time clock
- Integral magnetic door sensor
- Digital interface to external sensor
- 256 bits Read/Write Scratchpad
- 64 bytes of freight information readable by any reader write by seal reader
- Fast status report readable by any ASTM V6 reader
- Seal specific information readable by seal reader

The FP-100ES specific information:

- Current time
- Up to 8 sealing event records consisting of the following information: activation or deactivation of seal, user ID, mechanical seal number and time of event.
- Up to 24 tampering records that consist of tampered sensor, tampering start time and duration.

The FP-100ES specific information and setting is done using seal handheld reader that reads the FP-100ES information and sets the FP-100ES functions.

The FP-100ES settings are:

- Seal time
- Enable/Disable any sensor
- Set sensor's polarity
- Set freight information
- Activate / Deactivate
- Clear all or specific information

The FP-100ES is powered from an internal, long life, Lithium battery enabling more than 3 years of multi-use operation. The unit provides the roadside reader with battery status.

Architecture:

The FP-100ES architecture is based on a RISC and a proprietary **FastPassTM** ASIC. This architecture enables the flexibility and programmability of the FP-100ES for future applications and customer specific requirements.

Seal Characteristics:

- Slotted Aloha protocol –compatible with ASTM v6.
- Physical Layer compatible with ASTM PS111-98
- Transmit & Receive frequencies within the ISM band 902–928 MHz.
- Transmit and receive data rate of 500 Kb/sec
- Built-in antenna.
- Active Transmitter provides superior immunity to interference.
- Very low spurious and harmonics radiation.
- Long life Lithium battery together with a state of the art power supervision circuitry enable more than 3 years of operation.
- Software programmable
- Programmable Link Validation Sequence Generator.
- Programmable Agency Codes
- Connection to external sensors via RS-232 (option)
- Small Size: 88x62x12 (LxWxD) mm.
- Light weight: 55 grams
- Easy mounting/demounting on the inside of a container door.
- Performance resistant to vibration, shock, temperatures and humidity prevailing in a container atmosphere.

Applications:

- Container sealing.
- Container tampering indication.
- Border crossing

Installation:

- The TDMA Seal is easily attached to the inside of the left door of the container (as demonstrated in the picture).
- A magnet is attached on the inside of the right door, opposite to the TDMA Seal.

