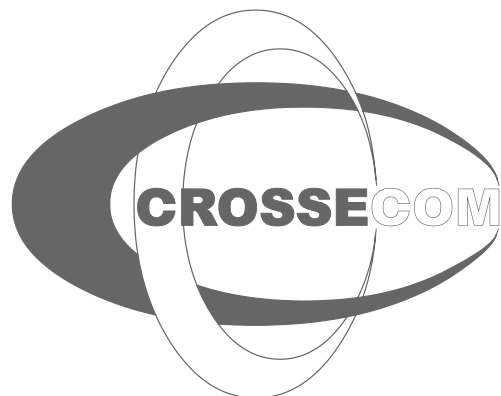


# VeriFill

Stand-alone RFID based fuelling authorization and recording system



RETAIL FUEL SOLUTIONS  
CARD PAYMENT SYSTEMS  
RFID APPLICATIONS

The VeriFill system has been developed by Crossecom to enable commercial clients using their own bulk tanks a means of controlling and accounting for fuel delivered to their vehicles. It has been specifically designed to cater for installation in locations where office infrastructure and communications is limited or non-existent.

The system operates independently but it can be accessed remotely using wireless, GPRS, etc to maintain the database. Creation of new vehicles, changing fuel price, activating or de-activating tags is easily performed.

Fuelling restrictions can be applied against individual vehicles such as:

- ◇ Maximum volume per filling
- ◇ Maximum number of fillings per day
- ◇ Maximum volume per week

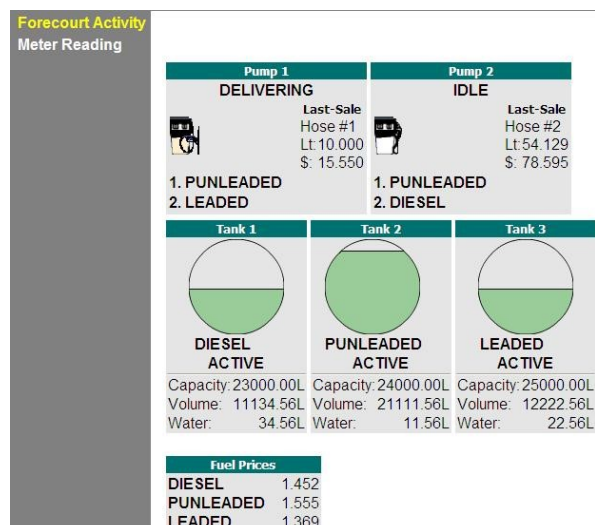
VeriFill uses RFID technology and FastFill batteryless, RFID tags to identify vehicles. The dispenser will only allow fuel to be dispensed to an authorized vehicle and each “sale” transaction records the following information:

- ◇ Date and time of fuelling
- ◇ Type of fuel and volume dispensed
- ◇ Sale amount (if charging)
- ◇ Vehicle make, model, registration
- ◇ Options for separate driver identification and odometer readings

The system provides a real-time view of what is happening at the dispenser showing current status, last “sale”, tank volume and current prices set.

Alerts can be initiated for low tank volume or attempts to use de-activated tags.

Analysing data is simple. Either view on-line or download the data for importing to Excel or your financial or ERP system.



## System Components

### VERIFILL CONTROLLER

The VeriFill Controller is housed inside the electronic pump / dispenser head and stores information on all authorized vehicles as well as the fuelling requirements for each vehicle.

This information can be easily updated and shared between multiple dispensers if required. The VeriFill controller interfaces with the dispenser manufacturer's electronics as well as the nozzle antenna, tag reader, tank gauge, etc.

The VeriFill Controller verifies the data obtained from the tag and where authorized turns the pump on in order to commence fuelling.

In the case where the vehicle is not authorized for fuelling or if it has been reported stolen or missing, fuelling is prevented and a suitable alert can be raised.

All "sale" transactions are stored locally and can be viewed online or downloaded for further analysis.

This system is completely stand-alone and does not require communication to any other system.

Stand-alone

### VEHICLE TAG

This is a small batteryless electronic data storage unit (20-50mm in diameter) epoxied to the vehicle near the fill pipe. It can contain information such as vehicle details, owner identification, driver identification, fuel type etc. The tag uses RFID contactless communication techniques to release its details to the authorising reader. This technique employs two-way authentication allowing only genuine authorized tags to ensure the correct fuel is pumped into the authorized vehicle.

To prevent fraud, a high security challenge and response crypto-algorithm is used.

Browser based

### ANTENNA / READER

The antenna, mounted conveniently on the dispensing nozzle spout, comprises a small loop antenna with its low power electronic components. It is connected to the reader (mounted inside the pump housing) via a special petroleum resistant cable.

An optional panel reader (with or without pinpad for odometer entry if required) can be mounted on the pump itself for driver identification purposes. It can also be used to authorize fuel deliveries if the additional security offered by the vehicle mounted tag is not required.

Secure

## Benefits of VeriFill

- ◇ stand-alone system, fits into pump / dispenser head
- ◇ ensures paying only for fuel actually pumped into vehicle
- ◇ remote access from anywhere in the world
- ◇ quick and easy to configure
- ◇ simple to install
- ◇ real-time view of fuel stock
- ◇ real-time view of sales
- ◇ pump brand independent
- ◇ better monitoring of fleet fuel consumption
- ◇ export sales to finance systems
- ◇ improved data collection
- ◇ reduced errors due to minimized human intervention
- ◇ elimination of plastic cards or paper coupons
- ◇ minimisation of fuelling to non-authorized vehicles
- ◇ pre-set price changes
- ◇ elimination of stolen cards problem
- ◇ 24x7 operation if required
- ◇ auditable "Super tags" allow filling of un-tagged vehicles
- ◇ **EVERY LITRE PUMPED IS AUTOMATICALLY RECORDED TO AN AUTHORIZED TAG**

Stand-alone RFID based fuelling authorization and recording system

### SOME OTHER PRODUCTS AVAILABLE FROM CROSSECOM

**ISSAS**— Integrated Service Station Accounting System comprising a comprehensive suite of applications covering the full range of retail automation requirements.

**CrossESEAL** — Sealed Parcel Delivery System. Protects and tracks bulk fuel delivery.

**FastFill** — Electronic Fuel Delivery and Fleet Usage System. Utilizes state of the art RFID technology. Intrinsically Safe.

**CheckFill** — System to check inspection date before allowing filling of CNG/NGV cylinders on vehicles. Utilizes state of the art RFID technology. Intrinsically Safe components.

**RECARD** — Fleet Fuel Accounting System. Issues cards, statements and reports.

**Custom Hardware** — design and production of unique and specialized components for the forecourt.



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