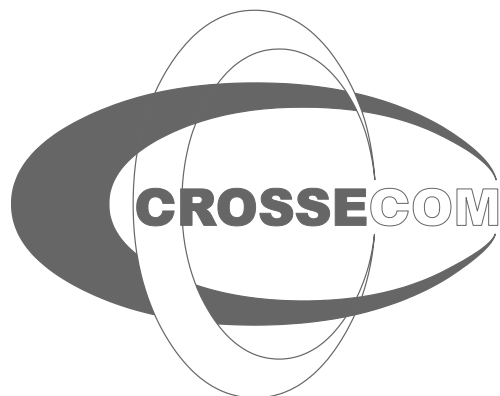


# MobiFill

**Electronic Mobile Fuel Delivery & Fleet Usage System**



RETAIL FUEL SOLUTIONS  
CARD PAYMENT SYSTEMS  
RFID APPLICATIONS

## MobiFill—RFID Mobile Fuelling



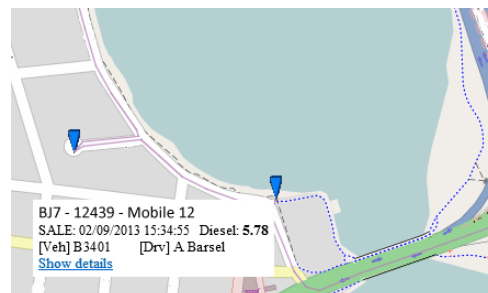
- ◇ uses RFID contactless technology to eliminate fraud
- ◇ is an innovative automatic vehicle identification and fuel monitoring system
- ◇ speeds up fuelling by automating pre-fuel checks
- ◇ eliminates fuelling paperwork completely
- ◇ uses passive batteryless tag requiring no connection to the vehicle electrical system
- ◇ GPS tracking of vehicle and events (sales, exceptions)
- ◇ Easy, simple, quick and inexpensive to fit—little downtime
- ◇ has virtually unlimited life for batteryless vehicle tag
- ◇ tags are rendered inoperative if removed from vehicle

- ◇ Optional pinpad odometer reading entry for fuel usage reporting
- ◇ Virtual tank leveling (when used with Crossecom FASTFILL site system)



Usage Colour Scale (Gallons) 0 < 55 < 110 < 165 < 210 < 274

Site	Terminal	Date	Pump	Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Day Total
KCT	10002 m	Thu	01/08/2013	1/1							238	175	281	62	116		104	135	6	229	44								1693
		Fri	02/08/2013	1/1							199	258	194	66	291	118													1533
		Sat	03/08/2013	1/1							186	294	289	61	281	128	37												1970
		Sun	04/08/2013	1/1							158	243	287	56	198	234	38												1157
		Mon	05/08/2013	1/1							103	216	261	112	101	128	262	71	14	124									1343
		Tue	06/08/2013	1/1							248	261	184	152	244	253		189	238	102	13								1876
		Wed	07/08/2013	1/1							218	262	218		92	187	125	259	155	124									1651
		Thu	08/08/2013	1/1								67	209		181	45	175		101	73	146								1886
		Grand Total (Gallons)									1340	1777	1805	800	1496	1592	702	941	668	847	495	146							12609
		Grand Total (%)									10.6%	14.1%	14.3%	6.3%	11.9%	12.6%	5.6%	7.5%	5.3%	6.7%	3.9%	1.2%							100.0%



- ◇ minimises filling attendant intervention
- ◇ reduces fuel shrinkage
- ◇ optimises control over fuel sales
- ◇ reduces filling process time
- ◇ improves fleet fuelling security
- ◇ ensures only authorised vehicles are fuelled
- ◇ allows budgeting of fuel usage for individual vehicles or groups
- ◇ eliminates need for logbook documentation
- ◇ provides full audit trail
- ◇ allows emergency fillings of non-authorised vehicles when necessary — with full audit trail

## System Components

### 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 authorised tags to ensure the correct fuel is pumped into the authorised vehicle.

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



VT01-1



### NOZZLE 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 authorise fuel deliveries if the additional security offered by the vehicle mounted tag is not required.

### CONTROLLER

The System Controller stores information on all authorised vehicles and their respective owners as well as the fuelling requirements for each vehicle.

This information is continually updated and shared between all devices on the network using the cellular network.

The Site Controller checks the data obtained from the tag against available information on that particular vehicle to determine if fuelling is permitted. In the case where the vehicle is not authorised for fuelling or if it has been reported stolen or missing, a suitable alert can be raised.

This system enables vehicles to be fuelled even if communication with the Head Office system is temporarily unavailable by keeping a local copy of the database, but will be updated as soon as communications is restored.

Sales and other events are transferred to Head Office for reporting and analysis



### HEAD OFFICE

The Head Office System comprises a number of different applications that control the overall operation. These

RECORD-GULFT 03/09/2013 [NT] Logout		Terminal Activity Report	
Time	Event	Vehicle	Details
KCT-10002 m	03/07/2013 21:15:35	Exception	
KCT-10002 m	03/07/2013 21:16:13	Exception	
KCT-10002 m	03/07/2013 21:16:43	Exception	
KCT-10002 m	03/07/2013 21:16:44	Exception	
KCT-10002 m	03/07/2013 21:17:22	Exception	
KCT-10002 m	03/07/2013 21:17:43	Sale	Vehicle RTG KC02 Diesel 102.00
KCT-10002 m	03/07/2013 21:17:53	Exception	
KCT-10002 m	03/07/2013 21:18:31	Exception	

applications are responsible for the tag information database & authorisation process as well as the production of various management reports for sales, vehicle usage, GPS mapping of events etc. Exports to third party systems are supported

## Benefits of MobiFill to Fleet managers / owners

- ◇ ensures fuel actually pumped into correct machine
- ◇ better monitoring of fleet fuel consumption
- ◇ improved data collection
- ◇ reduced errors due to minimised human intervention
- ◇ elimination of plastic cards or paper coupons
- ◇ minimisation of fuelling to non-authorised vehicles
- ◇ elimination of stolen cards problem
- ◇ reduced disputes on unauthorised fuel transactions
- ◇ reduction of manpower requirements
- ◇ 24x7 operation
- ◇ auditable "Super tags" allow filling of un-tagged vehicles
- ◇ full auditing of every litre of fuel dispensed
- ◇ online GPS tracking of vehicles and events
- ◇ allows vehicle performance analysis
- ◇ **EVERY LITRE PUMPED IS AUTOMATICALLY RECORDED TO AN AUTHORISED TAG OR SUPER TAG**

## to drivers / machine operators

- ◇ reduced process time
- ◇ elimination of paperwork and logbooks
- ◇ elimination of signed chits or plastic cards
- ◇ no disputes over fuel allowances
- ◇ automatic vehicle/machine identification

### 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.

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

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



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