

K800 Fuel Control System

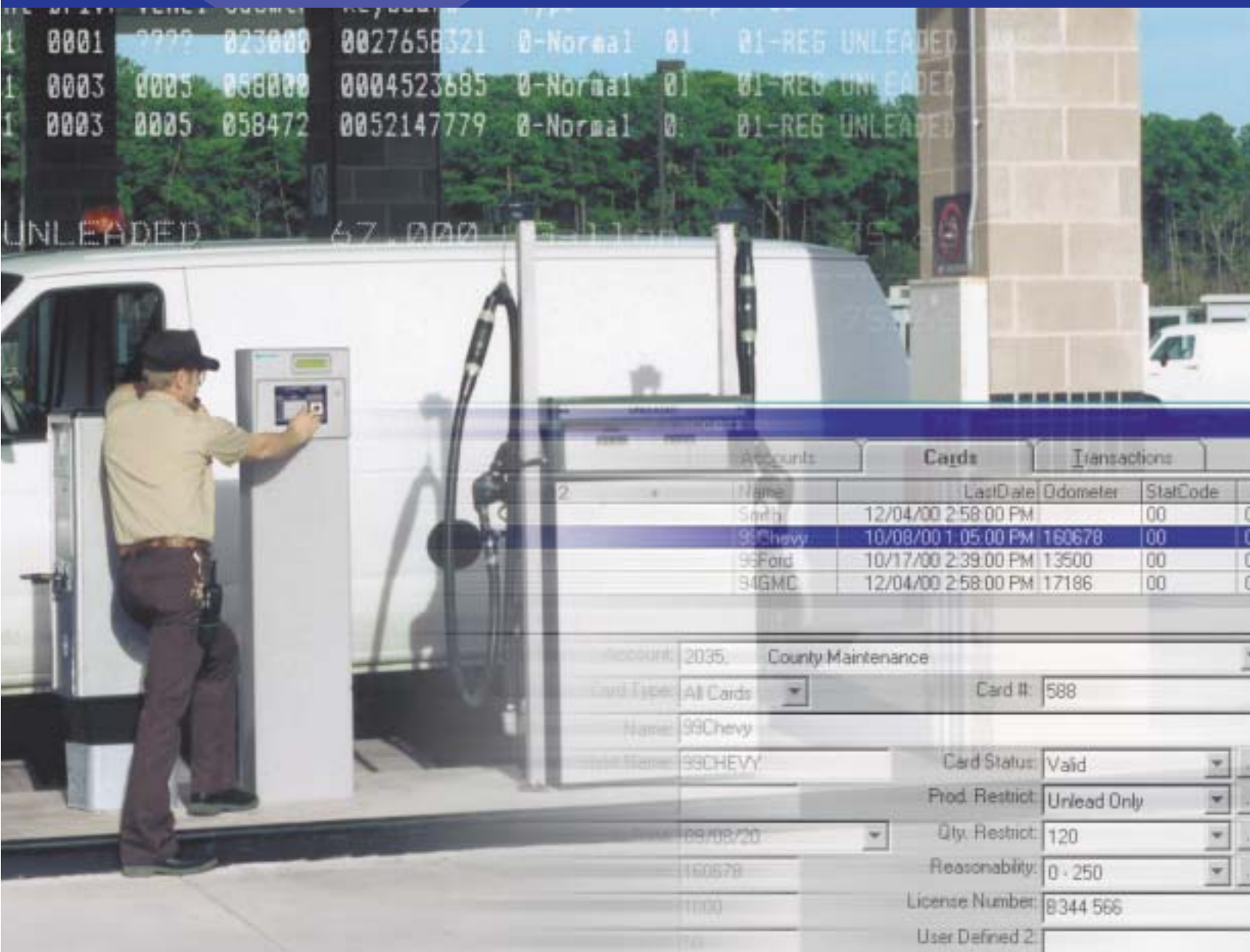


The Affordable,

Easy-To-Use System

for Fleet Fueling

Operations



Accounts	Cards	Transactions
2	Name	LastDate Odometer StatCode
	Smith	12/04/00 2:58:00 PM 00 0
	99Chevy	10/08/00 1:05:00 PM 160678 00 0
	99Ford	10/17/00 2:39:00 PM 13500 00 0
	94GMC	12/04/00 2:58:00 PM 17186 00 0

Account:	2035	County Maintenance
Card Type:	All Cards	Card #: 588
Name:	99Chevy	
Card Name:	99CHEVY	Card Status: Valid
		Prod. Restrict: Unlead Only
	09/08/20	Qty. Restrict: 120
	160678	Reasonability: 0 - 250
	1100	License Number: 8344 566
	170	User Defined 2:

K800 Fuel Control System

The K800 – Simple to Program and Operate

Whether you're operating a small fleet with a single fuel site or a large fleet with many sites, the Petro Vend K800™ Fuel Control System by OPW Fuel Management Systems can provide you with the tools you need to manage one of your biggest operating expenses – fuel. The K800 only allows authorized card, code or ChipKey holders to access fuel, tracking every fueling transaction and restricting vehicles to the type of fuel and quantities they need. The K800 provides you with the security, accountability and control your unattended fueling operation needs.

The Fueling Process Couldn't be Easier

The K800 is engineered to provide 24-hour unattended fueling and includes such popular features as one card, two card or cardless access as well as product and quantity restrictions.

Here's How it Works

Your drivers use the Fuel Island Terminal located next

to the pumps. It houses a reader for cards or ChipKeys, keypad, backlit display, and emergency stop button. Drivers are greeted with a message you program into the system. The driver inserts a card or key in the reader, keys in required PIN data (or other prompts you select) and fuels the vehicle. Driver, vehicle, and transaction data are recorded in the system for later retrieval.

Dual Card Accountability and Cardless/Keyless Access

With dual card access, the driver **and** vehicle information is stored on two separate cards or keys to track and report on drivers using multiple vehicles. Reports can be sorted by driver, vehicle or account (a combination of both). You can also allow drivers to select PINs, and cardless access lets them fuel with a quick keypad entry. Any of these methods of access may be combined giving you greater flexibility and control to tailor a system that suits your operation.

The Rugged ChipKey



The rugged, tamper-resistant ChipKey® is a popular alternative to cards. It fits easily onto your driver's key ring, so it's convenient and hard to lose. Every ChipKey contains a microchip that can be programmed and reprogrammed as many times as you like.

Programming is simple and can be done at the Fuel Island Terminal or with a ChipKey encoder connected to your PC. Change fuel type restrictions and quantity limits, mileage limits, validate or invalidate keys instantly. You can even flag vehicles for service and refuse fueling if service is not performed.

Odometer Reasonability Assures Accurate Mileage Entries

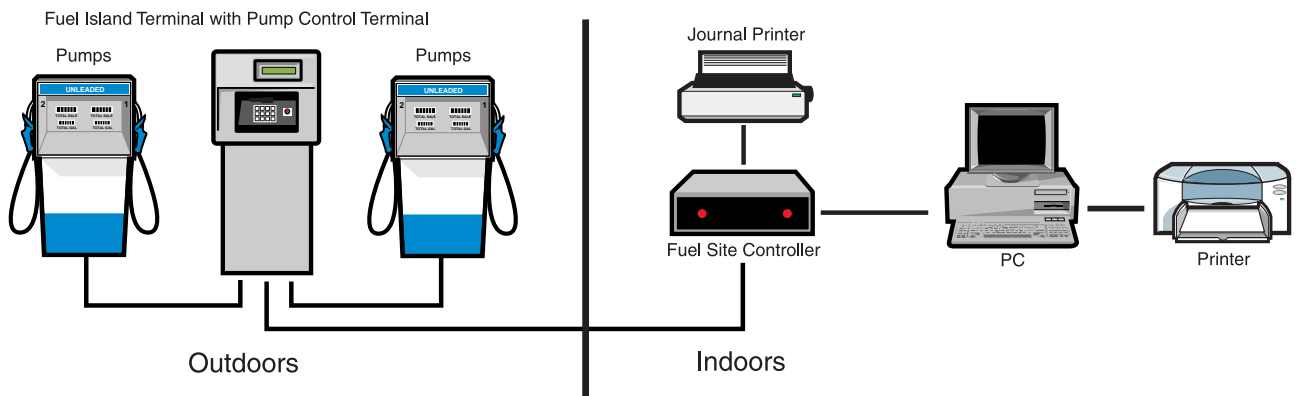
Managers of multi-site operations are taking advantage of the odometer reasonability option. The K800 records the current odometer number into the ChipKey, which travels with the vehicle from point to point. At the next fueling, the odometer entry is compared against minimum and maximum ranges to ensure the accuracy of odometer entries.

The Fuel Site Controller

At the heart of every K800 system is the Fuel Site Controller. It stores transaction data and driver and vehicle records, including fueling restriction data critical to proper fleet management. For added security, the Fuel Site Controller is kept indoors, away from the hazards of a 24-hour fueling island. Unlike self-contained systems, if the Fuel Island Terminal is damaged, your valuable data is safe. The Fuel Site Controller controls up to 4 Fuel

Island Terminals and 16 hoses simultaneously. As many as 10,000 cards and 1,800 transactions can be stored in memory, allowing small operations to expand without having to purchase a new management system. All Fuel Site Controller programming is done right from your PC, either locally or over phone lines using a modem. Simple menu choices guide you through set-up and daily operations. No formal computer training is needed.

Typical Installation



K800 Fuel Island Terminal Benefits



- Backlit LCD for visibility in bright sunlight or at night
- Programmable prompts to guide drivers through the fueling process
- Durable alloy keypad, 16 gauge steel enclosure and thermostatically-controlled heater for reliable operation in the harshest environments
- High-impact plastic door overlay and powder coated enclosure and matching pedestal maintain their appearance for years to come
- Built in pulser power supply, pump control and pre-punched conduit access for easy installation
- Built-in diagnostics for simplified troubleshooting

K800 Fuel Site Controller Benefits



- Controls up to 4 Fuel Island Terminals and 16 hoses simultaneously to meet your needs today and tomorrow
- Up to 10,000 cards and 1,800 transactions can be stored in memory
- Menu-driven programming with on-screen help for ease of use
- Serial communication ports for printer, PC and modem
- Desktop controller can also be conveniently wall-mounted
- Easily interfaces to existing personal computers

Management Reports Produce Valuable Data

Fueling data can be processed using the management report package and easily transferred to another computer for processing or printed using the journal printer provided. The **standard report package** traces the activity of a particular card or groups of cards, based on driver, vehicle

or account number. These flexible reports can be formatted to produce summary information: cost per mile (CPM), miles per gallon (MPG) and distance traveled. They also include price extensions and total quantity dispensed. This information can also be printed in metric terms.

Report Package - Driver and/or Vehicle

```

Vehicle #0005

Date      Time  Tran  Acnt Drvr Vehcl Odomtr  Keyboard  Type  Pump Prod      Quantity  Price  Amount
JAN 02, 2002 16:29 0002 001 0003 0005 058000 0004523685 0-Normal 01 01-REG UNLEADED 00025.000 $1.129 $0028.23
JAN 04, 2002 09:39 0003 001 0003 0005 058472 0052147779 0-Normal 01 01-REG UNLEADED 00022.000 $1.129 $0024.84
JAN 06, 2002 12:17 0004 001 0003 0005 058942 0065239999 0-Normal 01 01-REG UNLEADED 00021.000 $1.129 $0023.71

Usage Total
Product 01 -- REG UNLEADED      68.000  Gallon $      76.78
                                     $      76.78

Mileage Total
Beginning 58000 Ending 58942 Traveled 942 MPG 21.90 CPM .0515

Vehicle #0006

Date      Time  Tran  Acnt Drvr Vehcl Odomtr K
    
```

Report Package - Account

```

Account #001
Account name : EAST GROVE POLICE DEPT.
Account address : 123 FRONT STREET
                EAST GROVE, IL 60606

Date      Time  Tran  Acnt Drvr Vehcl Odomtr  Keyboard  Type  Pump Prod      Quantity  Price  Amount
JAN 02, 2002 16:27 0001 001 0001 ??? 023000 0027658321 0-Normal 01 01-REG UNLEADED 00020.000 $1.129 $0022.58
JAN 02, 2002 16:29 0002 001 0003 0005 058000 0004523685 0-Normal 01 01-REG UNLEADED 00025.000 $1.129 $0028.23
JAN 04, 2002 09:39 0003 001 0003 0005 058472 0052147779 0-Normal 01 01-REG UNLEADED 00022.000 $1.129 $0024.84

Usage Total
Product 01 -- REG UNLEADED      67.000  Gallon $      75.65
                                     $      75.65

Account #002
Account name : EAST GROVE FIRE DEPT.
    
```

The K800 displays information about any card or key in memory. This report includes all of the data pertinent to that card or key. The example below shows all of these fields.

Numbr	Type	Stat	Mile	Kybd	Quan	Prod	Time	Tran/Day	Issu	PIN	Inv	Acnt
0456	Drvr	Val	N	1	00	00	00	00-00	0	1234-3-0	001	
0457	Vehcl	Val	Y	N	00	00	00	00-00	0	1234-3-0	001	
0458	----	Inv	N	N	00	00	00	00-00	0	0000-0-0	000	
0459	Sngl	Val	Y	1	02	03	00	01-00	0	2345-3-0	001	
0460	Sngl	Val	Y	1	03	02	03	14-00	0	1234-1-0	001	
0461	----	Inv	N	N	00	00	00	00-00	0	0000-0-0	000	

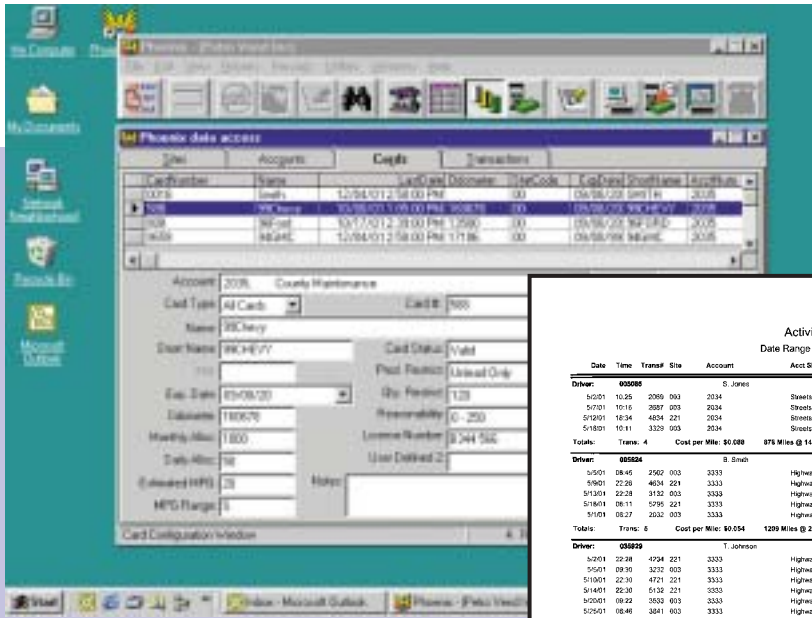
Card # Type Validation Status Mileage Flag Keyboard Message Quantity Restriction Product Restriction Shift Restriction Daily Transactions Card (Re) Issue # PIN Code Account #

Additional Reports Include: System Status Reports, Transaction Data Records, Transaction Summary, Pump Totals, Inventory Report, Product Assignments, Account Data Report

Phoenix for Windows Software for Advanced Management

Phoenix™ for Windows and Phoenix Plus™ for Windows® are powerful fuel management tools. The intuitive user interface lets you easily navigate between K800 site, account, card and transaction screens. Phoenix for Windows features back-up and restore, terminal emulation and on-demand transaction polling. Phoenix Plus for Windows is

a powerful data management and communications software package that gives you total, centralized control over your fueling operations. Most data can be exported to third-party database, spreadsheet and fleet maintenance programs for further processing.



(Note: Windows is a registered trademark of Microsoft Corp.)

Activity Detail Report By Single Cards
Date Range From: 05/01/01 00:00:00 To: 05/31/01 23:59:59

Date	Time	Trans	Site	Account	Acct Short Name	Prod	Pump	MPG	Odom	Stat	Misc Key/Id	Price	Qty	Amount
Driver: 002088 S. Jones														
5/01	10:25	2099	003	2034	Stevens	Dist	01-1	14.8	84233	234	11219	\$1.298	15.800	\$20.52
5/01	10:15	3097	003	2034	Stevens	Dist	01-1	16.1	84233	191	11219	\$1.298	13.800	\$17.84
5/12/01	18:34	4834	221	2034	Stevens	Dist	10-1	14.9	84647	224	11219	\$1.299	15.000	\$19.49
5/18/01	10:11	3329	003	2034	Stevens	Dist	01-1	14.7	84876	229	11219	\$1.296	15.500	\$20.13
Totals:	Trans:	4	Cost per Mile:	\$0.008	876 Miles @ 15.6 MPG	Avg MPG:	14.8	876	Avg Price:	\$1.299	\$9.000	\$17.58		
Driver: 002024 S. Smith														
5/01	08:45	2562	003	3333	Highway	Unit	05-1	26.4	10454	220	35335	\$1.356	8.342	\$11.34
5/01	22:28	4634	221	3333	Highway	Unit	05-1	25.9	10980	228	35335	\$1.359	8.600	\$11.42
5/13/01	22:28	3132	003	3333	Highway	Unit	06-1	26.1	11081	221	35335	\$1.359	8.563	\$11.64
5/18/01	08:11	5795	221	3333	Highway	Unit	06-1	25.5	11168	267	35335	\$1.356	11.700	\$15.98
5/19/01	08:27	2532	003	3333	Highway	Unit	06-1	26.2	10234	246	35335	\$1.358	11.600	\$15.76
Totals:	Trans:	5	Cost per Mile:	\$0.054	1239 Miles @ 25.4 MPG	Avg MPG:	26.4	1269	Avg Price:	\$1.359	48.000	\$65.24		
Driver: 038829 T. Johnson														
5/01	22:38	4734	221	3333	Highway	Prem	02-3	26.7	40211	225	98242	\$1.458	9.455	\$13.79
5/01	09:30	3275	003	3333	Highway	Prem	06-3	25.8	40238	227	98242	\$1.458	8.854	\$12.90
5/10/01	22:30	4721	221	3333	Highway	Unit	09-1	26.8	40869	245	98242	\$1.359	9.600	\$12.23
5/14/01	22:30	5132	221	3333	Highway	Unit	04-1	25.1	40909	225	98242	\$1.359	8.900	\$12.18
5/25/01	08:23	3032	003	3333	Highway	Prem	05-3	25.2	41147	242	98242	\$1.458	9.800	\$14.01
5/25/01	08:48	3841	603	3333	Highway	Unit	07-3	25.4	41395	249	98242	\$1.458	9.600	\$14.30
Totals:	Trans:	6	Cost per Mile:	\$0.096	1423 Miles @ 25.8 MPG	Avg MPG:	25.8	1423	Avg Price:	\$1.426	55.000	\$79.43		
Driver: 4589 Chief Mechanic														
5/1/01	08:53	2049	003	Maintenance Card	Unit	01-1	0.0	0	0	0	\$1.298	6.400	\$8.31	
5/3/01	10:01	2943	003	Maintenance Card	Unit	06-1	0.0	0	0	0	\$1.298	8.400	\$11.48	
5/14/01	09:43	3938	003	Maintenance Card	Prem	06-3	0.0	0	0	0	\$1.458	9.500	\$13.86	
5/14/01	17:24	0560	003	Maintenance Card	Unit	06-1	0.0	0	0	0	\$1.359	8.400	\$11.48	
Totals:	Trans:	4	Cost per Mile:	\$0.000	0 Miles @ 0.0 MPG	Avg MPG:	0.0	0	Avg Price:	\$1.369	\$2.800	\$45.14		

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Phoenix for Windows includes a new Autopoll Scheduler that lets you schedule activities to be automatically performed daily, weekly or monthly. These activities include: capturing transaction data and backing card and account records. There's also a built-in help feature to assist you with each option. You can store address, phone number, tank, site employee and fuel provider information for each site. Phoenix even lets you export your transactions in Excel 5.0, HTML, dBASE IV, FoxPro 2.5, Lotus 1-2-3 WK3, Paradox 4.x and two ASCII formats; CSV (comma separated variable width) and SDF (space delimited fixed width).

With Phoenix Plus for Windows you get all of the above—plus the following features:

■ Centralized Card Database

This feature lets you maintain your card database in one central location for multiple sites. You can also manage the account records in the Fuel Site Controller. You can easily

reassign cards from one account to another. Cards and accounts are maintained manually on the Fuel Site controller using the Phoenix Terminal Emulation window.

■ Reporting

This feature lets you report on multiple sites at one time with the click of a button and schedule the printing of reports and export data. Phoenix allows you to choose from over 60 different types of reports. They include: Account, Card 1 and Card 2 Master File Listing, Site Sales, Product Sales, Account Sales, Transaction and Pump Total reports.

■ Enhanced Odometer Checking

This feature lets you easily find obvious, incorrect mileage entries such as single, sequential or repeated numbers. You can define an average MPG with a tolerance for each card, which is then used to verify the amount fueled against the odometer entry.

K800 Fuel Control System

K800 System Features

- System controls 1-4 hoses per Fuel Island Terminal simultaneously (maximum 16)
- Up to 4 Fuel Island Terminals can be connected per location
- Can be activated either by card (optical or magnetic-stripe) or ChipKey
- Can lock out any key or card
- Card storage up to 10,000 users and transaction storage up to 1,800 transactions
- Basic inventory tracking
- Personal Identification Number (PIN) entry with auto-lockout
- Manual bypass switch for each hose
- Four adjustable fueling timers per hose position
- System captures odometer entries and miscellaneous 10-digit numbers
- Provides 4 levels of authorized time access
- Restricts product and quantity for any key, card or account
- Restricts number of transactions per day for any key or card
- Adjustable pump time-outs
- Pump handle monitor and pulser sentry
- Diagnostic test programs for system start-up and troubleshooting
- Dot matrix journal printer uses plain paper
- Standard report package groups cards together by account and provides itemized reports including MPG, CPM and price extensions
- Inventory, pump and product total reports

Card File Memory

The system's standard memory stores up to 10,000 card records. Each record contains:

- Card Number (4 digits)
- Card Type - Single, Driver, Vehicle, or Unconfigured (S, D, V, U)
- Status - Valid or Invalid (V, I)
- Odometer Entry - Off/On
- Misc. Keyboard Entry - Off/On with display prompt number
- Quantity Restriction Level (up to 15 different levels)
- Product Restriction Level (up to 15 different combinations)
- Time Restriction Level (up to 4 different shifts)

- Number of Transactions Allowed per Day (0-15)
- Issue (or Reissue) Number (10 - 9)
- PIN number (4 digit)
- Number of Invalid PIN Entries before Automatic Lockout (0 - 9)
- Account Number (0 - 250)

Transaction Memory

The system has the capacity to store 1800 transactions in non-volatile RAM. Each transaction contains:

- Date and Time (MMM/DD/YYYY)
- Sequential Transaction Number (4 digit)
- Account Number (3 digits)
- Driver Card Number (4 digits)
- Vehicle Card Number (omitted for single card transactions) (4 digits)
- Odometer Entry (6 digits)
- Misc. Keyboard Number (10 digits)
- Transaction Type - Normal, Quantity Restriction, Emergency Stop, Pump Time-Out, Communication Failure (between the Fuel Site Controller and Fuel Island Terminal)
- Pump Number (2 digits)
- Product Number (2 digits) and Description (12 characters)
- Quantity Taken (8 digits with floating decimal)
- Unit Price (4 digits i.e., \$N.NNN)

Fuel Island Terminal Specifications

Enclosure Dimensions: 12" H x 13" W x 10" D
(30.5cm H x 33cm W x 25.5cm D)

Power Requirements: 120/230 VAC 50-60 Hz 100 Watts Max.

Operating Temperature: -40°F (-40°C) to 122°F (50°C)

Fuel Site Controller Specifications

Enclosure Dimensions: 2" H x 9" W x 11" D
(5cm H x 23cm W x 28cm D)

Power Requirements: 120/230 VAC 50-60 Hz 50 Watts Max.

Operating Temperature: 32°F (0°C) to 122°F (50°C)



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