



Product sheet

Meterwin

Fuel Management Software



Features

Tracks fuel transfers

Prints Bills of lading

Generates reports based on driver, product, vehicle etc.

Schedules loads or deliveries

Reconciles fuel stocks

Interfaces to other software packages

Robust interface to field equipment

A software package for managing all fuel movements at petroleum depots, bulk fuel sites and at airports.

Meterwin is Windows based and incorporates a powerful communications controller to provide a reliable interface to field equipment.

Increasingly, fuel is becoming a major cost to both suppliers and consumers. It is important, therefore, to accurately manage and account for fuel movements through:

- Minimising handling costs
- Reducing fuel stocks
- Eliminating the misuse of fuel
- Producing timely Management Reports
- Accurately allocating costs.

When combined with field equipment, Meterwin plays a key role in achieving these goals, by accounting for fuel transfers and reconciling fuel stocks.



Meterwin is a fuel management package that provides total control and accountability over fuel movements

Overview

Meterwin is a fuel management package that provides total control over fuel movements by:

- Maintaining a record of all product transfers
- Printing Bills of Lading (or delivery receipts)
- Generating and printing a comprehensive range of reports based on vehicle, company, product, driver, etc.
- Pre-scheduling loads and deliveries
- Maintaining a record of vehicles or personnel entering and exiting the site.

Meterwin has a powerful communications front end providing an extremely reliable interface to measurement equipment in the field including:

- Model 1010 Load Computers
- Model 1030 Access Terminals

Communication interfaces are available for landline, modem and RF transceivers.

Versions

This datasheet describes **Meterwin for Petroleum Terminals.**

This is the main version of Meterwin intended for terminals where tanker trucks, railcars or barges are loaded with petroleum or chemical products.

Meterwin is an integrated package designed to run under Windows. It is primarily intended for medium to small terminals but can also find applications in larger terminals where complex recipe and allocation strategies are not required.

Other versions are available and include:

- Meterwin for Bulk Fuel Sites
- Meterwin for Aircraft Refuelling

Bill of Lading

The Bill of Lading (or delivery docket) provides a detailed receipt for each transaction.

Meterwin maintains an individual record of each transaction which can be viewed or printed.

If required, the Bill of Lading can be automatically printed at the end of each load to a dedicated printer, usually mounted at the dispatch office.

Load Schedule

Loads can be pre-scheduled and entered into the systems prior to the driver arriving at site.

With pre-scheduled loads, the quantity and product type for each compartment are entered into the system under a corresponding Load Number. When arriving at the loading bay, the driver enters the Load Number, together with the driver and/or truck identification into the 1010 Load Computer.

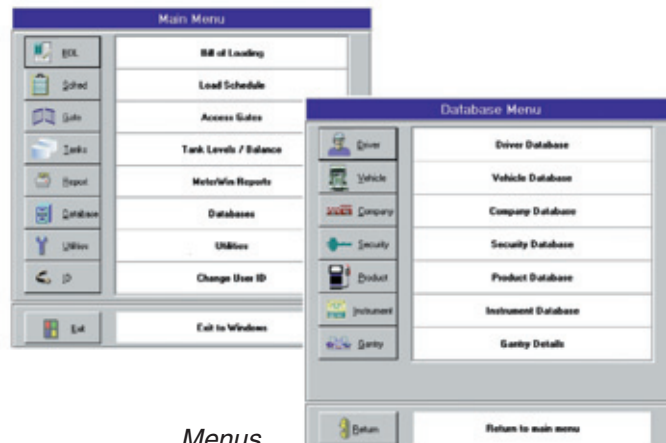
Meterwin then checks these values against the pre-scheduled loads and if they match, the load schedule is downloaded to the 1010 Load Computer to enable loading.

Load scheduling reduces the reliance on the driver to enter product quantities and types.

In addition, there is less likelihood of loading incorrect products or quantities into wrong compartments as each load is matched against the schedule.

Overfill incidents are also reduced as Meterwin will maintain a safe fill level for each compartment on each truck.

Alternatively, Meterwin can accept a *Rack Order* where the required quantity and type is entered by the driver at the gantry.



Menus

Meterwin Database Information and Reports

Transaction Database

For each Vehicle
Load Number
Date
Time Started
Time Stopped
Bay/Gantry Number
Transaction Number
Reference Number
Driver Name
Company
Additive Company
Vehicle Number

For each Compartment Loaded

Arm Number
Product Type
Compartment Number
Gross Batch Quantity
Net Batch Quantity
Accumulated Before
Accumulated After
Average Temp. of Load
Base Density
Preset Quantity
Alarm Status
Additive Quantity
Tank Number

Pre Scheduled Loads

Load Number
Reference Number
Date Ordered
Driver Name
Vehicle Number
Additive Company (type)

For each Compartment

Compartment Number
Product Type
Volume

Driver Database

Driver Index
Driver Name
Company
Touch Key Number
PIN Number

Driver Database (con'd)

Telephone Number
Authorised
Remarks

Truck Database

Truck Index
Registration
Company
Touch Key Number
PIN Number
Authorised
Number of Compartments

For each Compartment

Maximum Gasoline
Capacity
Maximum Diesel Capacity

Company Database

Company Number
Company Name
Additives

Security Database

User Identification
User Name
Password
View Privileges
Operator Privileges
Supervisor Privileges

Instrument Database

All setup parameters for each field instrument

Product Database

Product Code
Description
Type (ie refined)
Weight (ie diesel)

Gantry Configuration

Gantry/Bay Number
Arm Number
Tank Number

Density Database

Tank Number
Product Code
Base Density

Access Database

Date
Time
Entry/Exit
Illegal Access
Driver Index
Driver Name

Tank Database (Optional)

Tank Number
Product Type
Corrected Volume
Capacity
% Capacity
Base Density
Average Temperature
Level
Uncorrected Volume
Strapping Table (unlimited no. of height & volume points)

Receipts

Receipt Time
Receipt Date
Reference Number
Product Type
Base Density
Temperature
Received Volume
Corrected
Received Volume
Uncorrected
Entered by
Password
Remarks

Adjustments

Adjustment Time
Adjustment Date
Reference Number
Product Type
Base Density
Temperature
Adjusted Volume
Corrected
Adjusted Volume
Uncorrected
Entered by
Password
Remarks

Balance Summary

Tank Number (balanced by tank)
Product Type (balanced by type)
Opening Value for Period
Opening Time
Opening Date
Total Receipts
Total Adjustments
Total Dispensed
Expected Volume
Closing Volume for Period
Closing Time
Closing Date
Variance

Activity Logs

Communications Log
User Log
Transaction Log
System Log
Communication Error Log
Database Error Log
Transaction Error Log

Reports

Bill of Lading
Product Totals by Company
Product Totals by Driver
Product Totals by Tank
Product Totals by Vehicle
Product Totals by Flowmeter
Site Access Report
Scheduled Loads
Balance Summary for Period
by Tank
by Product Type
Tank Summary
Drivers Details
Vehicles Details
Company Details
Product Details
Density Details
Instrument Setup Details
Gantry Configuration Details
Activity and Error Logs

Reports

Reports are generated by a dedicated reporting package that allows reports to be printed, filed or exported in various file formats.

Standard reports are included for product movements by driver, vehicle, company, tank and flowmeter. In addition, various other reports are provided for each database.

As well as the standard reports, custom reports can be easily formatted without the need to write special software code.

Databases

Meterwin maintains databases for:

- Transactions
- Pre-scheduled loads
- Drivers
- Vehicles
- Companies
- Products
- Site Access
- Gantry Configuration
- Product Densities
- Instrument Setup Parameters

Up to five users can be connected to Meterwin concurrently with record locking providing secure file protection.

Transaction Screens

BOL Summary

Transaction Date	Load Number	Company Name	Reference Number	Bay Number	Driver Name
02/05/2000	0	Company 4		2	Driver 8
02/05/2000	0	Company 1		2	Driver 2
01/05/2000	0	Company 1		2	Driver 1
01/05/2000	0	Company 4		2	Driver 7

BOL Details

Load Number **Reference Number**
Date **Driver Name**
Time Started **Company**
Time Stopped **Additive Company**
Bay Number **Vehicle Number**
Transaction Number

Arm Number	Product Code	Compartment Number	Gross Batch (liters)	Net Batch (liters)	Accumulated Before (liters)	Accumulated After (liters)	Average Temperature (°C)	Preset (liters)	Status	Released (liters)
3	ULP	1	2500	2467	26500	31000	19	2500	0	0
2	SUP	3	3000	2984	16500	19500	19	3000	0	0
1	ADF	4	2000	1994	13500	15500	19	2000	0	0
3	ULP	2	3000	2984	31000	34000	19	3000	0	0

Typical Report

20/11/2000 16:38:34 **PRODUCT TOTALS BY VEHICLE** PTV
26/04/2000 To 03/05/2000

Date	Time	Bay No	Transaction Number	Product Code	Uncompensated (Gross)	Compensated (Net)
AAA-001						
27/04/2000	09:12:34	1	1	ACF	9000.0	8311.3
				SUP	4800.0	4475.6
				SUP	9000.0	8353.1
28/04/2000	10:12:34	3	1	SUP	4500.0	4475.9
				ULP	4800.0	4475.6
30/04/2000	10:44:12	1	2	ACF	9000.0	8311.3
				SUP	4500.0	4475.6
				SUP	9000.0	8353.1
01/05/2000	10:37:25	3	6	SUP	2500.0	2408.8
				ULP	5500.0	5471.4
02/05/2000	12:23:18	2	9	ACF	2000.0	1861.6
				SUP	2000.0	1861.2
				ULP	5500.0	5471.4

Bill of Lading

30/05/2001 11:10:12 **BILL OF LADING**

Load Number 21
 Date 05/12/2000 Driver Name Driver 1
 Time Started 11:06:54 Company Name Company 1
 Time Stopped 11:36:51 Additive Company
 Unit Address 1 Transaction No. 21 Vehicle Registration AAA-001

Product	Arm	Compartment	Uncompensated (Gross) litres	Compensated (Net) litres	Returns litres	Average Temperature Degree C	Status
ADF	3	3	4,015.0	3,970.0	0	25.0	0
Total ADF			4,015.0	3,970.0			
SUP	2	2	4,015.0	3,965.0	0	26.0	0
Total SUP			4,015.0	3,965.0			
ULP	1	1	4,002.0	4,005.0	0	23.0	0
Total ULP			4,002.0	4,005.0			

Converted volumes corrected to 15 °C

Density at 15 °C of arm 1 is 879 kg / cubic metre (Tank no. Tank01) (manual)
 Density at 15 °C of arm 2 is 894 kg / cubic metre (Tank no. Tank02) (manual)
 Density at 15 °C of arm 3 is 712 kg / cubic metre (Tank no. Tank03) (manual)
 Density at 15 °C of arm 4 is 0 kg / cubic metre (Tank no. -) (manual)

Meterwin can handle complete additive strategies and interface to SCADA packages

Additives

Complex additive strategies used in multi-company terminals can be easily managed by Meterwin, in conjunction with the Model 1010 Load Computer and the Model 1020 Intelligent Additive System. valve positions and tank contents is possible.

Meterwin allows an additive company to be defined as part of each load schedule.

When the load schedule is downloaded to the Model 1010, the additive company is also downloaded, instructing the 1010 to select the appropriate additive.

SCADA Interface

Meterwin will interface to Supervisory Control And Data Acquisition systems. Through a Scada package, a graphical representation of pipe layouts, valve positions and tank contents is possible.

Scada can be useful when piping and valve control is complex, although Scada software needs to be customised as each installation is usually different.

The Scada package can interface to PLC's or RTU's to provide control over pumps and valving. In this way Meterwin can be built up to control complex sites such as airports or chemical loading facilities.

Site Access

Meterwin will interface to the 1030 Access Terminal mounted at the Entry and Exit gates and can record either personnel or vehicles entering or leaving the site. The 1030 can also initiate the opening of a gate when a valid Touch Key or PIN number is recognised.

This allows sites to be unmanned and after hours access can be granted to authorised drivers.

Software Interface

Meterwin will output transaction data in a flat file format easily readable by other software programs. In addition, load schedules or orders can be read by Meterwin in a similar format.

Tank and balance Summary Windows

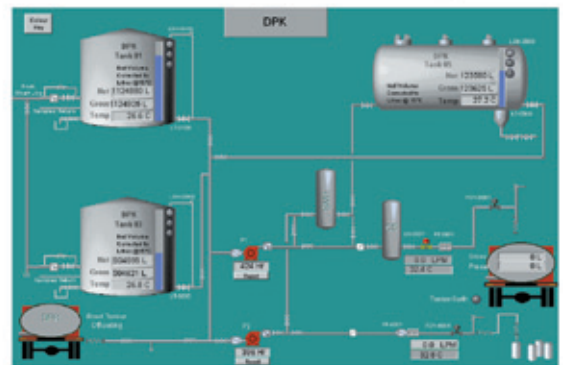
Product Balance Details

Product: ADF
 Tank: Tank01
 Opening Volume (L): 934511 at 02/05/2000 00:00:00
 Receipts (L): 0
 Dispense (L): 3967
 Adjustments (L): 0
 Expected Volume (L): 930524
 Closing Volume (L): 934511 at 01/12/2000 16:27:24
 Variance (L): 3967 100.0 % of Dispensing Throughput

Tank Details - View

Tank Number: Tank01
 Product: ADF Diesel
 Volume (L) Corrected to 15°C: 934511
 Capacity (L): 1500000
 Density @ 15°C: 878 kg/1000 L
 Average Temperature °C: 19
 Level (mm): 6250
 Volume (L) Uncorrected: 937900
 Tank Updated By: Input Unconnected Volume Input Level

Height (mm)	Volume (L)
0.0	0.0
500.0	75000.0
1000.0	150000.0
1500.0	225000.0
2000.0	300000.0
2500.0	375000.0
3000.0	450000.0
3500.0	525000.0
4000.0	600000.0
4500.0	675000.0
5000.0	750000.0
5500.0	825000.0
6000.0	900000.0
6500.0	975000.0



Typical SCADA Screen

Other versions of Meterwin are available for Bulk Fuel Sites and Aircraft Refueling Sites

Meterwin For Bulk Fuel Sites

Meterwin For Bulk Fuel Sites is designed to interface to the Model 1050 Fuel Management System. This version is similar to the standard software package but records information about the vehicles being fuelled, such as engine hours and odometer readings.

The program converts all fuel to base temperatures of 15 °C or 60 °F, thereby allowing fuel stocks to be accurately reconciled against tank volumes.

Meterwin For Aircraft Refuelling

Meterwin For Aircraft Refuelling manages the refuelling of aircraft via an RF Transceiver. Meterwin continually polls the Avtrac units mounted in each refuelling truck and downloads refuelling transactions via the Transceiver.

In this way the truck does not need to return to the office or change memory cards. If a truck is out of range, the Avtrac will store up to 200 transactions until it comes back into range, whereupon all stored transactions are automatically downloaded to Meterwin.

While refuelling dockets are printed in the refuelling truck, Meterwin will print fuelling reports based on aircraft company and truck. Meterwin will also output the refuelling data to other software packages used to manage airport operations.

Meterwin For Aircraft Refuelling provides a convenient way to electronically transfer fuelling information directly from the flowmeter to accounting packages, without manually having to enter information.

Identification code

Pos 1, 2 Model							
M	W						
Meterwin Fuel management software							
Pos 5 Style							
T	Petroleum terminal version						
A	Aircraft refueling version						
B	Bulk fuel depot version						
Pos 4							
-							
Pos 5, 6 Tank input							
R	P						
Dispersing only no tank input							
P	L						
Meterwin plus with tank input							
Pos 7 Special feature							
A	Standard software						
S	Special software with modification						
M	W	T	-	R	P	A	Typical identification code
M	W		-				Your identification code

We at Enraf are committed to excellence.

Enraf B.V.
Röntgenweg 1, 2624 BD Delft
P.O. Box 812, 2600 AV Delft, The Netherlands
Tel.: +31 (0)15 269 86 00, Fax: +31 (0)15 261 95 74
Email: info@enraf.nl, http://www.enraf.com

China: Enraf B.V. (Shanghai Rep. Office)
18G, International Shipping & Finance Center
720 Pudong Avenue, Shanghai 200120
Tel.: +86 21 50367000, Fax: +86 21 50367111

France: ENRAF S.a.r.l.
ZAC Les Beaudottes, 15 rue Paul Langevin,
93270 SEVRAN
Tel.: +33 (0)1 49 36 20 80, Fax: +33 (0)1 43 85 26 48

Germany: Enraf GmbH
Obere Dammstrasse 10, 42653 Solingen
Postfach 101023, 42648 Solingen
Tel.: +49 (0)212 58 750, Fax: +49 (0)212 58 7549

Russia: Enraf B.V. (Moscow Rep. Office)
21, Dostoevskogo street
103030 Moscow
Tel./Fax: +7 (0)95 788 0713,
Tel./Fax: +7 (0)95 788 0691

Singapore: Enraf Singapore Pte Ltd
Lam Soon Industrial Building
63 Hillview Avenue, # 07 - 04, Singapore 669569
Tel.: +65 676 94 857, Fax: +65 683 67 496

United Kingdom: Enraf Ltd.
Unit D2, Melville Court, Spillsby Road
Harold Hill, Romford, Essex RM3 8SB
Tel.: +44 (0)1708 346 333, Fax: +44 (0)1708 370 670

USA: Enraf Inc.
4333 West Sam Houston Parkway North, Suite 190
Houston, TX 77043
Tel.: +1 832 467 3422, Fax: +1 832 467 3441



Made by Contrec Pty. Ltd., a Delft Instruments company.

Information in this publication is subject to change without notice.
© Enraf is a registered trademark © Enraf B.V. The Netherlands