



ORILINK® MONITORING SYSTEM

MESSAGING SERVICE, 23 481

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1. Introduction

The OriLink® Messaging Service can be used to send messages through mail and SMS (SMS not available yet). Typical application is to send messages when current stock of tanks reaches the reorder volume or stop volume.

2. Demands

To be able to run the messaging service there are some system demands that has to be for filled.

1. The monitoring system must be OriLink®.
2. The PC software must be Professional version R8 or later.
3. BetaAll 080311 update or later must be installed.
4. The OriLink® Messaging Service (part number 23481) must be bought and validated in the License.dat file.
5. The PC running OriLink® is in some way connected to the Internet.
6. The PC running OriLink® has access to a SMTP server and a functional E-mail account if E-mail should be used for messaging.
7. The PC running OriLink® has access to a SMS service if SMS should be used for messaging. (Not available yet)

It is recommended but not necessary

- That all hardware modules are equipped with flash chips (yellow label and showing V-Flag in “Update PNP array”.
- That all hardware modules are flashed with the chip software in the installed BetaAll pack.

3. Installation

The messaging service is included in the OriLink® R10RC5 installer so no installation is needed. Updates may however exist.

For older OriLink® versions the Messaging Service is distributed either as a set of files or as a “Messaging_vXXX.Zip” file containing the set of files. The files in the set are,

Setup.bat	The installer.
Messagin.dll	The service file.
MessaginMail.dll	E-Mail support.
Messagin.ini	Configuration file.
Messagin.txt	Text file containing version history and simple installation manual.
OriLinkDB_O2K.mdb	New OriLink® database that supports the Messaging Service.
Lang.lan	Language file that supports the Messaging Service.
WinDBManager.exe	Database manager that supports the Messaging Service.

Installation is done by simply copying and pasting the needed files to the correct folders. It can be done in two different ways, by the installer “Setup.bat” or manually copy and paste.

3.1. Use the Setup.bat

The “Setup.bat” method is the recommended way when installing the service in a new system that has not been used before. Make sure that you are logged in with administrative rights and then run “Setup.bat”.

NOTE! -To use the “Setup.bat” method all parts of the OriLink® software must be installed in the default folders. (C:\Orilink and the WinDB Manager in C:\Orilink\WinDB Manager)

3.2. Manual Copy and Paste

Copy the following files to the OriLink® main folder (Default is C:\Orilink)

Messagin.dll	Mandatory
MessaginMail.dll	Mandatory
Messagin.ini	Mandatory
Messagin.txt	Not needed for the service but could be good to have.
OriLinkDB_O2K.mdb	Mandatory
Lang.lan	Mandatory

And copy the following file to the WinDB Manager folder (Default is C:\Orilink\WinDB Manager)

WinDBManager.exe Mandatory

3.3. Upgrading a used system

If you want to upgrade a system that has been used for a while both the “Setup.bat” method and the “Copy and Paste” method can be used but some important measures must be taken.

The OriLink® database (OriLinkDB_O2K.mdb) contains some system configurations such as “Users” and “Tanks” as well as historic data such as “Tank filling history” and “Made transactions”. To be able to use the Messaging service support for it must be added to this database so if the current data should remain the database must be updated instead of replaced.

NOTE ! -First step is as always to shut down all OriLink® software and then make a backup of the complete OriLink® folder, default is C:\Orilink.

NOTE ! -Make sure that you really are making a backup of the used database. The used database is maybe placed on some server and not the PC running OriLink®

3.3.1. Setup.bat (Upgrading)

After that you have made a backup run “Setup.bat”. Then copy the database (OriLinkDB_O2K.mdb) from the backup to the OriLink® folder (default is C:\Orilink).

Open the database in the OriLink® folder with for example Microsoft Access and the database in the Messaging file set.

Copy the following tables from the Messaging file set database to the database in the OriLink® folder.

AlertType

FluidContacts

MessageHistory

NotificationMethods

Then close both databases.

3.3.2. Copy and Paste (Upgrading)

Copy the following files to the OriLink® main folder (Default is C:\Orilink)

Messagin.dll	Mandatory
MessaginMail.dll	Mandatory
Messagin.ini	Mandatory
Messagin.txt	Not needed for the service but could be good to have.
Lang.lan	Mandatory

And copy the following file to the WinDB Manager folder (Default is C:\Orilink\WinDB Manager)

WinDBManager.exe Mandatory

Open the database in the OriLink® folder with for example Microsoft Access and the database in the Messaging file set.

Copy the following tables from the Messaging file set database to the database in the OriLink® folder.

AlertType

FluidContacts

MessageHistory

NotificationMethods

Then close both databases.

3.4. Updating Windows

The messaging service uses Windows DotNet 4 and Visual Studio C++2010 RunTime so these must be installed.

Older versions of the Messaging service also needs Visual Studio C++2005 SP1 RunTime.

All three can be found at Microsoft download page and also on the OriLink® CD in the \Extras folder.

4. Validation in License.dat

The permission to run Add-on services and DMS-drivers in OriLink® is validated by a license file called License.dat. This file should be present in the OriLink® main folder, default is C:\OriLink.

To obtain a License.dat that allows you to load the OriLink® Messaging Service run the Software Licenser.exe that should be present in the OriLink® main folder.

Fill in your info and select “Save on disk”.

Mail the created “License.lic” file to Alentec & Orion AB to the following address orilink@alentec.se

Together with information about the things you want to have validation for and some reference of how you have bought the things. A good reference is the purchase order if possible.

5. Configuration

The message Service main configuration is done in the Messagin.ini file. This file also contains a simple manual describing what the different parameters do. There are two ways that can be used to do the main configuration, Graphical or manually by a text editor. Graphical is the preferred method and Manual is mostly if you want to set it up more in details.

5.1. Graphical configuration

The graphical method is the recommended way. To use it the Message Service must be loaded in the OriLink® Engine, see chapter xxx, and the Messaging Service main window must be open.

Move the mouse pointer to the Messaging Service main window and right-Click and a menu will be shown. Select Properties from the menu.

A Password input request will be shown. Input the password and left-click OK button.

If the correct password has been used the properties window will be shown.

The properties window is divided in five areas. Older versions have less areas and settings.

5.1.1. Site

This area is used to set a signature at the bottom of messages sent.

- | | |
|-----------------|--|
| Name: | Here you type in the Company name of the company that has the monitoring system. |
| Address: | Here you type in the delivery address of the company that has the monitoring system. |
| Area: | Here you type in the area code of the company that has the monitoring system. |

5.1.2. Email

This area is used to setup essential parameters service.

SMTP Server:	Here you type in the Smtplib server name you want to use. It should look something like this "smtp.phonecompany.domain".
SMTP Port:	25 is the standard. 465 is sometimes used, often with SSL. 587 is used by some ISP's often for unencrypted or TLS.
Email Account:	Here you type in the E-mail account you want to use as sender account. It should look something like this orilink@company.domain .
Network Credentials:	Some smtp servers demands smtp authentication before sending a Email. If this is the case select "ESMTP" otherwise select "SMTP".
User Name:	If "ESMTP" is selected this box is enabled and should be used to input the "User name" for the Email account typed in.
Password:	If "ESMTP" is selected this box is enabled and should be used to input the "Password" for the Email account typed in.
Subject:	Here you should type in what you want to use as the subject line in messages sent by the server. Default is "OriLink® tank level alert."
Check Interval:	This defines how often the tanks should be checked and reminders on not attended messages will pop-up on the PC screen. The value is in minutes.

5.1.3. Tank Probe MySQL

This can be used to send continuous tank status messages to a MySQL server. Included in the installation is the MySQL client, Libmysql.dll, used for this.

5.1.4. Tank Probe MsSQL

This can be used to send continuous tank status messages to a Microsoft SQL server. This feature is for example used by the Scania VMI Chemicals TankProbe.

5.1.5. Test

This area is described in chapter "6. Testing" on.

5.2. Manually by text editor

Open the Messaging Service configuration file (Messagin.ini) with a text file editor. Use a simple one like Notepad, **NOT** Wordpad or some other word processor.

Inside the messagin.ini file there are a simple manual at the bottom. This manual describes each parameter. Edit the parameters at the top part of the file (Lines without ";" in front) according to your preferences.

Then save and close the file.

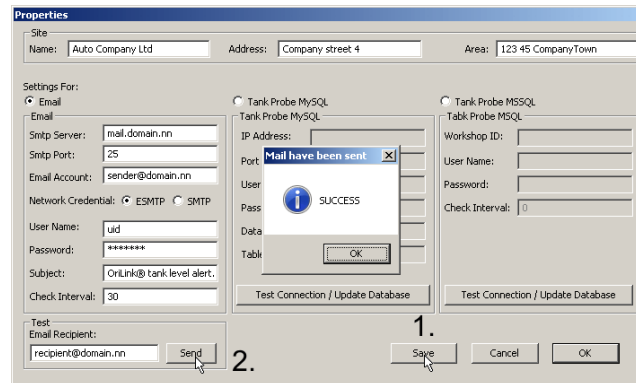
After changing something it is a good practice to restart the OriLink® Engine or reload the Messaging service..

6. Testing

Before any messages are defined in WinDB Manager it is recommended that the E-mail setup is working as it should. This can be done from the Messaging Service properties window, see chapter “5.1 Graphical configuration”.

In the Test area type in a valid E-mail address that you have access to, in this sample some@domain.test, and click (1.) <Save>. Then click (2.) <Send>.

If everything is OK this will be the result



and a E-mail that looks like this should appear at the set address.



The greeting (Hi) and the message body (Test mail from OriLink® Messaging Service.) can be modified by editing the configuration file “Messagin.ini” under header [Test].

[Test]

-

Greeting=Hi

Body=Test mail sent by OriLink® Messaging Service.

-

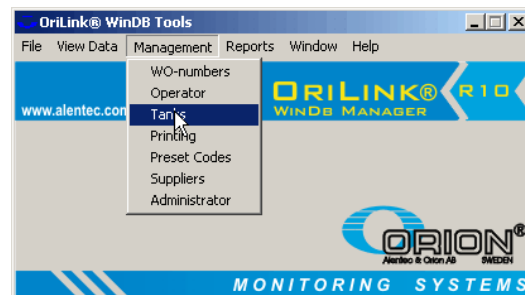
7. Defining messages

Messages are defined per tank in OriLink® WinDb Manager.

From management menu select Tanks.

Browse to the tank for which messages should be set.

Click on <Modify tank> and then click on <Recipient list>.



Note! The individual reminder field is not supported yet. For now reminders are globally enabled or disabled in the Messagin.ini file

When fields have been set as wanted, click <Ok>. If more messages should be sent for this tank choose <Add recipient>.

When all is done click <Close> and then <Ok> or continue with another tank.

The signing of all mails is set in Messagin.ini file that can be edited by Notepad or graphically from messaging properties form.

7.1. REORDER tank level mailing

This mode is used for sending alert messages when a tank reaches the set reorder level.

WinDb Manager Tank recipient setting

The dialog box 'Recipient' contains the following fields and values:

- Contact no.: 24
- TankNo: 1
- Message reason: REORDER (selected from dropdown)
- Time schedule: (empty)
- Reminder: 0
- Name: Also Starling (selected from dropdown)
- Company: Lubricants Ltd.
- Message method: EMAIL (selected from dropdown)
- Message "address": some@someomain.test
- Message text: Tank 1 is almost empty and needs filling
- Information: Oil supplier

Buttons at the bottom: OK, Cancel, and a tab labeled 'Edit record'.

The resulting alert mail

The email content is as follows:

From: OrLink
To: some@domain.test
Cc: OrLink@ tank level alert.
Subject: OrLink@ tank level alert.

Hi Also Starling

Tank 1 is almost empty and needs filling

Fluid name: Motor oil
Part number: M06758

Maximum capacity: 5000.0 L
Reorder level: 500.0 L
Stop level: 250.0 L

Current stock: 440.0 L

Regards
Auto Company Ltd
Company street 4
123 45 CompanyTown

7.2. STOP tank level mailing

This mode is used for sending alert messages when a tank reaches the set stop level.

WinDb Manager Tank recipient setting

The dialog box 'Recipient' contains the following fields and values:

- Contact no.: 25
- TankNo: 1
- Message reason: STOP (selected from dropdown)
- Time schedule: (empty)
- Reminder: 0
- Name: Also Starling (selected from dropdown)
- Company: Oil Company Ltd.
- Message method: EMAIL (selected from dropdown)
- Message "address": some@someomain.test
- Message text: Tank 1 is empty and must be filled as soon as possible
- Information: Warehouse responsible

Buttons at the bottom: OK, Cancel, and a tab labeled 'Edit record'.

The resulting alert mail

The email content is as follows:

From: OrLink
To: some@domain.test
Cc: OrLink@ tank level alert.
Subject: OrLink@ tank level alert.

Hi Also Starling

Tank 1 is empty and must be filled as soon as possible !

Fluid name: Motor oil
Part number: M06758

Maximum capacity: 5000.0 L
Reorder level: 500.0 L
Stop level: 250.0 L

Current stock: 220.0 L

Regards
Auto Company Ltd
Company street 4
123 45 CompanyTown

7.3. FILLED status mailing

This mode can be used for sending a message when a tank has been filled.

WinDb Manager Tank recipient setting

The dialog box 'Recipient' contains the following fields and values:

- Contact no.: 16
- TankNo: 1
- Message reason: FILLED (selected from dropdown)
- Time schedule: (empty)
- Reminder: 0
- Name: Also Starling (selected from dropdown)
- Company: Lubricants Ltd.
- Message method: EMAIL (selected from dropdown)
- Message "address": some@someomain.test
- Message text: Tank 1 has been filled.
- Information: Oil supplier

Buttons at the bottom: OK, Cancel, and a tab labeled 'Edit record'.

The resulting alert mail

The email content is as follows:

From: OrLink
To: some@domain.test
Cc: OrLink@ tank level alert.
Subject: OrLink@ tank level alert.

Hi Also Starling

Tank 1 has been filled.

Fluid name: Motor oil
Part number: M06758

Maximum capacity: 5000.0 L
Reorder level: 500.0 L
Stop level: 250.0 L

Current stock: 5000.0 L

Regards
Auto Company Ltd
Company street 4
123 45 CompanyTown

7.4. CONT (INEOUS) status mailing

This mode can be used for sending scheduled tank status reports. The schedule is set as follows.

02:25:11:15 = 25th of February at 11:15

00:25:11:15 = 25th every month at 11:15

00:00:11:15 = Every day at 11:15

24:00:00:01 = Every hour, 02 = every second hour, etc up to 99
(24 is the “flag” that sets control to hour(s))

77:04:11:15 = Every Wednesday at 11:15

(77 is the “flag” that sets control to weekly. 04 = Wednesday)

01 = Sunday

02 = Monday

03 = Tuesday

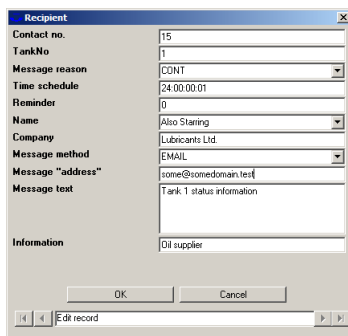
04 = Wednesday

05 = Thursday

06 = Friday

07 = Saturday

WinDb Manager Tank recipient setting

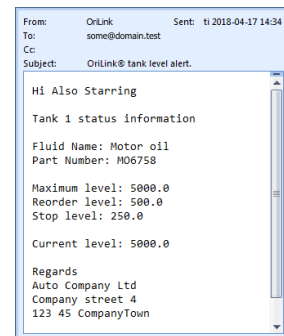


The dialog box 'Recipient' contains the following fields and values:

- Contact no.: 15
- TankNo: 1
- Message reason: CONT
- Time schedule: 24:00:00:01
- Reminder: 0
- Name: Aliso Starring
- Company: Lubricants Ltd.
- Message method: EMAIL
- Message "address": some@someDomain.test
- Message text: Tank 1 status information
- Information: Oil supplier

Buttons: OK, Cancel. At the bottom: Edit record.

The resulting mail



The email content is as follows:

From: OrLink Sent: ti 2018-04-17 14:34
To: some@domain.test
Cc:
Subject: OrLink® tank level alert.

Hi Also Starring

Tank 1 status information

Fluid Name: Motor oil
Part Number: M06758

Maximum level: 5000.0
Reorder level: 500.0
Stop level: 250.0

Current level: 5000.0

Regards
Auto Company Ltd
Company street 4
123 45 CompanyTown

8. Operation

8.1. How to load the Messaging service in OriLink®.

The Messaging service (Messagin.dll) is loaded in the OriLink® Engine in the same way as any other service.

It can be added manually in the Orilink.ini file under header [Services].

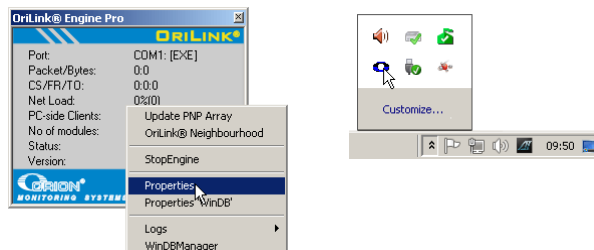
[SERVICE]

Service=Clock.dll;WinDB.dll;Messagin.dll

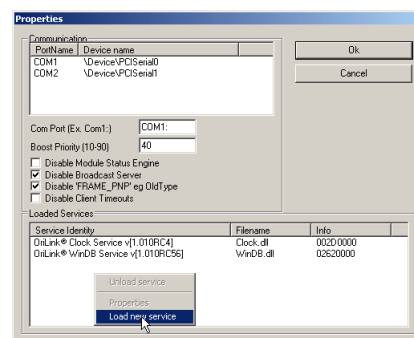
Or it can be loaded graphically from the Engine menu.

Right-click the Engine window or the small blue “O” in the systray in the bottom right corner of the desktop.

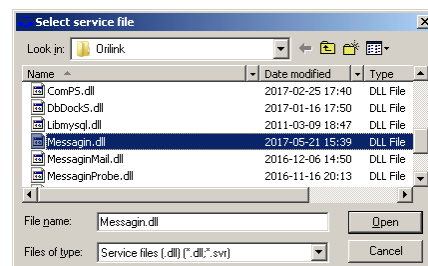
Select menu item Properties.



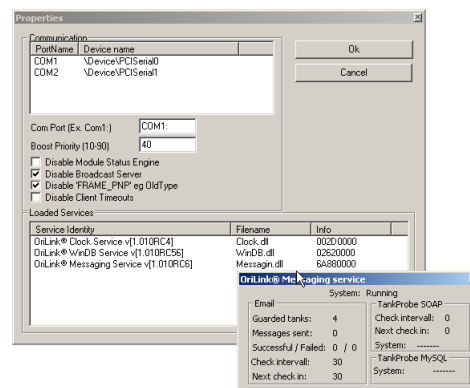
Right-click in the white area under “Loaded services” and select “Load new service”



Then select Messagin.dll.



The result should be something like this if it is successfully loaded.



Confirm by clicking <Ok> and the result will be this.



8.2. Messaging service cannot be loaded

If the Messaging service fails to load the cause can be one or more of the following.

- The existing license file Licens.dat is not valid for the Messaging service
- Microsoft dot NET 4, is missing.
- Microsoft visual studio C++ 2010 runtime is missing.
- Microsoft visual studio C++ 2005 SP1 runtime is missing. (Only older messaging service versions)

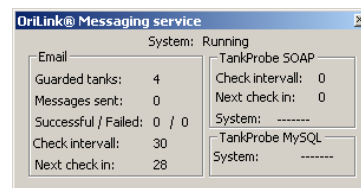
To get a license for the messaging service part number 23481 must be purchased and then a license request can be mailed to orilink@alentec.se.

The Microsoft libraries can be found on Microsoft's homepage and on the OriLink® CD under folder \Extras\

8.3. The Messaging service properties window

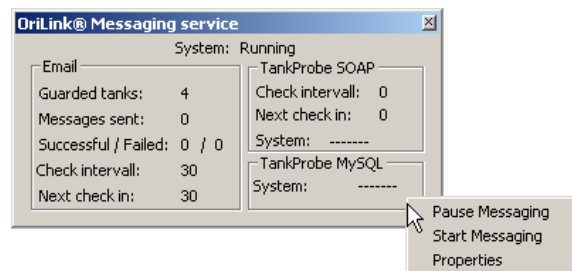
The Messaging Service properties window looks like this and it shows the messaging activities.

- System:** Shows if the service is Running or Paused.
- Guarded tanks:** Shows the number of PC tanks that are setup in the OriLink® database.
- Messages sent:** Shows the number of sent messages since the last restart of the service.
- Successful/Failed:** Shows how many of the sent messages that were successfully sent and how many that failed.
- Check Interval:** Shows the tank check interval set during configuration.
- Next check in:** Shows time remaining until next check up.



If the main window is right-clicked with the mouse a menu comes up.

Selecting "Pause Messaging" will pause the service and selecting "Start Messaging" will start it.



8.4. Messaging service logging

The service logs in three different ways.

8.4.1. Messagin.log

The messaging service creates a log file, default is C:\OriLink\Logs\Messagin.log. What is logged can be altered by using "Log flags". Possible "Log flags" can be found in the manual part of the C:\OriLink\Messagin.ini file.

Flags . (Information) and * (Errors) are always logged and cannot be switched off.

Here is an example where LogFlags=i

```
2017-06-16 21:13:48-.C:\OriLink\Messagin.dll is loaded at [0x67470000] v[1.010RC6] logflags[i] maxlines[500]
2017-06-16 21:13:48-.OS: NT Platform os[WIN7] ver[6.01.7601] sp[Service Pack 1]
2017-06-16 21:13:48-.Service: Guard tank number [1]
2017-06-16 21:13:48-.Service: Guard tank number [2]
2017-06-16 21:13:48-.Service: Guard tank number [4]
2017-06-16 21:13:48-.Service: Guard tank number [5]
2017-06-16 21:13:48-.Service: Total number of tanks to guard [4]
2017-06-16 22:14:49-i-Mail: Send [Continuos] message for TankNo[1] c[0] m[OK] -> SUCCESS
2017-06-16 22:14:50-i-Mail: Send [Continuos] message for TankNo[4] c[0] m[OK] -> SUCCESS
2017-06-16 23:14:52-i-Mail: Send [Continuos] message for TankNo[5] c[0] m[OK] -> SUCCESS
2017-06-16 23:58:09-i-Mail: Send [Test] message for TankNo[ ] c[0] m[OK] -> SUCCESS
```

In a working system it is a good practice to remove all log flags so it only log errors.

8.4.2. SmtperError.txt

Since the messaging service uses dot Net returned errors can be very bulky so for some errors the C:\OriLink\Logs\SmtperError.txt is created.

OBSERVE ! This file is overwritten every time a new error of this type happens.

Here is an example of a typical content. The most interesting here is marked red. First the reason and then the target IP address.

```
Error:
System.Net.Mail.SmtpException: Failure sending mail. ---> System.Net.WebException: Unable to connect to the remote server --->
System.Net.Sockets.SocketException: A connection attempt failed because the connected party did not properly respond after a
period of time, or established connection failed because connected host has failed to respond nnn.nnn.nnn.nnn:nn
at System.Net.Sockets.Socket.DoConnect(EndPoint endPointSnapshot, SocketAddress socketAddress)
at System.Net.ServicePoint.ConnectSocketInternal(Boolean connectFailure, Socket s4, Socket s6, Socket& socket, IPAddress&
address, ConnectSocketState state, IAsyncResult asyncResult, Exception& exception)
--- End of inner exception stack trace ---
at System.Net.ServicePoint.GetConnection(PooledStream PooledStream, Object owner, Boolean async, IPAddress& address,
Socket& abortSocket, Socket& abortSocket6)
```

```

at System.Net.PooledStream.Activate(Object owningObject, Boolean async, GeneralAsyncDelegate asyncCallback)
at System.Net.PooledStream.Activate(Object owningObject, GeneralAsyncDelegate asyncCallback)
at System.Net.ConnectionPool.GetConnection(Object owningObject, GeneralAsyncDelegate asyncCallback, Int32
creationTimeout)
at System.Net.Mail.SmtpConnection.GetConnection(ServicePoint servicePoint)
at System.Net.Mail.SmtpTransport.GetConnection(ServicePoint servicePoint)
at System.Net.Mail.SmtpClient.GetConnection()
at System.Net.Mail.SmtpClient.Send(MailMessage message)
--- End of inner exception stack trace ---
at System.Net.Mail.SmtpClient.Send(MailMessage message)
at mailIt(SByte* i_from, SByte* i_to, SByte* i_subject, SByte* i_message, Int32 i_credential, SByte* i_SMTPserver, Int32
i_SMTPport, SByte* i_user, SByte* i_password)

```

8.5. Send reminders

Automatic reminder mailing is always difficult because if you are not careful it can easily result in spamming and that your domain is blocked due to that.

8.5.1. Global reminders

Global reminders are set in the Messagin.ini file as parameter “Reminder”.

```

[System]
Password=2222
DBCCheckInterval=2
Reminder=0

```

How to use it is specified in the manual part of the .ini file. If it is set to send reminders a reminder window will pop-up at the end of every DBCheckInterval asking you to confirm sending the reminder mail.

8.5.2. By tank and recipient reminders

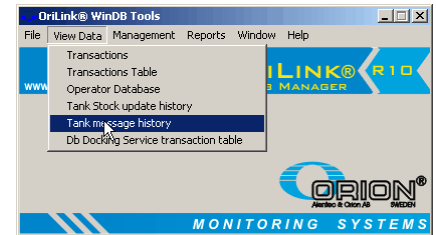
This reminder feature is not supported yet so the setting has no impact on the functionality.

8.5.3. Manually forced reminders

When a tank alert message mail is sent a status for that is set in the database. In example below the tank is in Status REORDER and reorder mails have been sent. If you want to manually send a reminder click <Modify tank>. Then click <Reset status>. To save the change press <Ok> and the result is as in the third picture

9. Messaging history

The service also keeps a track of sent mails in the OriLink® database.



To look at this use
OriLink® WinDb Manager
Menu “View Data”, item
“Tank message history”.

Tank message history						
Message history by date						
No.	Tank Number	Date	Cause	Method	*Address*	Status
49	4	2017-06-16 23:14:51	CONT	EMAIL	SomeName@domain.nn	Success
50	5	2017-06-16 23:14:51	CONT	EMAIL	SomeName@domain.nn	Success
48	1	2017-06-16 23:14:50	CONT	EMAIL	SomeName@domain.nn	Success
47	4	2017-06-16 22:14:50	CONT	EMAIL	SomeName@domain.nn	Success
46	1	2017-06-16 22:14:49	TEST	EMAIL	SomeName@domain.nn	Success
45	4	2017-05-21 18:41:18	STOP	EMAIL	SomeName@domain.nn	Success
44	1	2017-05-21 18:41:18	REORDER	EMAIL	SomeName@domain.nn	Success
43	5	2017-05-21 17:41:18	REORDER	EMAIL	SomeName@domain.nn	Success
42	4	2017-05-21 17:41:17	CONT	EMAIL	SomeName@domain.nn	Success
41	1	2017-05-21 17:41:17	TEST	EMAIL	SomeName@domain.nn	Success