

User Manual

ARA-pro

Version 5



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bv, Wateringen, NL

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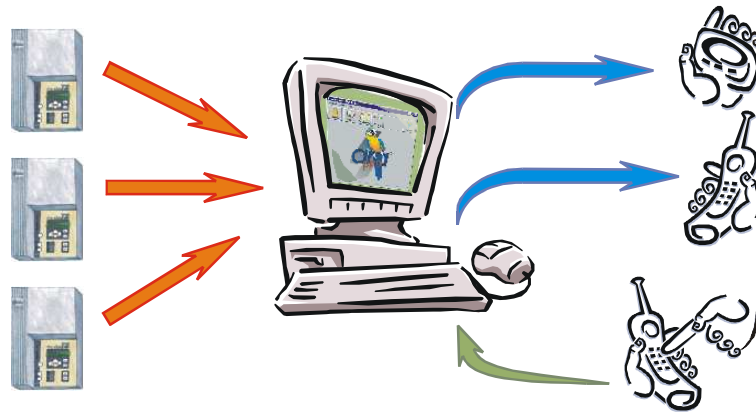


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2. The operation of ARA

ARA-pro, Adesys' Alarm Registration & Handling System, was developed to centrally register alarm information originating from various locations and forwarded by telephone. From there, one or more service personnel, available on the basis of a timetable established in advance, are called up by pager or mobile phone. The system also handles local alarms.

Actions can be defined for each alarm. The history of the alarm is recorded in an elaborate log.



2.1 Components

ARA-pro is a software package that runs on a computer operating under Windows® 2000 or higher. The software package comprises three modules. AraControl and AraReport and AraPort.

2.1.1 AraControl Module

All ARA settings are administered, and the log can be viewed, via AraControl. This module is only required for configuring ARA, for example, the timetable and for consulting the log. AraControl can be accessed from any PC within a network. Different AraControl users can of course be assigned specific authorities based on their own individual password.

2.1.2 AraReport Module

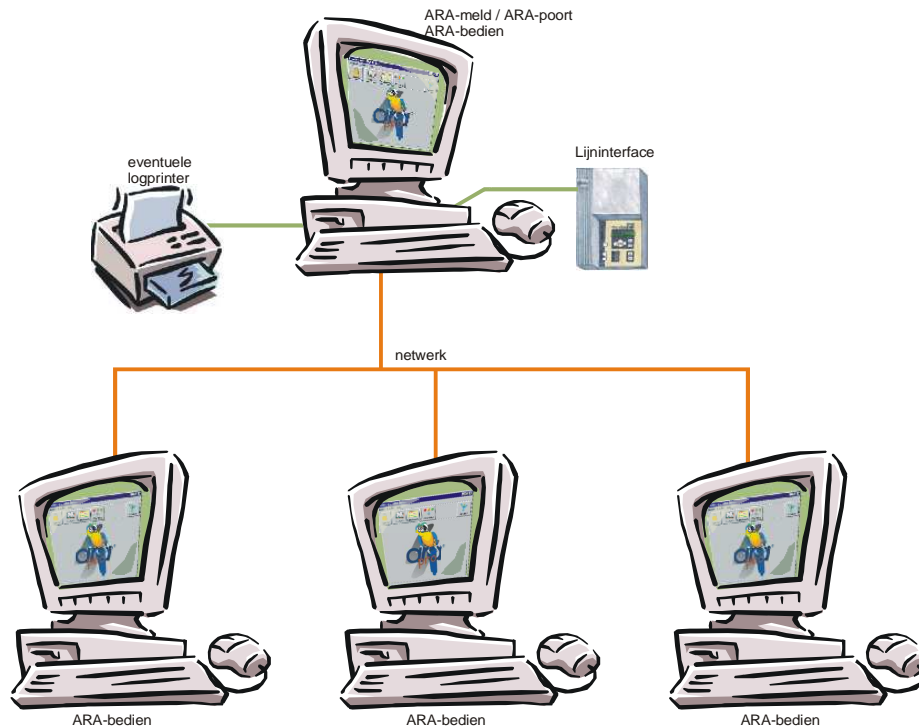
AraReport is ARA's active module and handles the alarms. When an alarm is received, it is entered into the log and the appropriate service personnel is called up in accordance with the pre-established timetable. Local alarming is also processed via this module.

Because it is necessary for AraReport to be always operational, it runs on a PC that can operate outside the network, if necessary. The line interfaces are also connected to this computer.

It is recommended that AraReport be allowed to start up automatically when the PC is started up.

2.1.3 AraPort Module

The AraPort module looks after communications with the line interface. This module is automatically started up with AraReport.



2.2 Concepts

The following concepts are used within ARA-pro.

Operator	The operators are the people operating ARA. Authorities that can be protected via a password, can be set for each operator. For example, it is possible to define operators who are only authorised to confirm alarms or who may only complete the timetable.
Location	Description of a location to be monitored and from which alarms are reported to ARA. Each location is given a unique code and its own name. One or more alarms can be set. The applicable actions are then defined for each alarm.
Service Group	A service group is a group of service personnel. Each alarm can be linked to a service group. The timetable is used to identify who is on duty within this service group and therefore must be called up. The service groups can be used to define a district subdivision, for example. It is also possible to incorporate specialisms within the service groups, for example a group for pump failures and a group for boiler failures. It is possible to assign the same service person to multiple service groups.
Service Person	The individual called up in the event of an alarm.
Timetable	The timetable identifies which service personnel is on duty. A service person can be off or can be on 1 st or 2 nd line duty.
1 st line duty	A service person on 1 st line duty is available full-time. ARA will always attempt to first report an alarm to a 1 st line service person. This includes non-urgent alarms.
2 nd line duty	A service person on 2 nd line duty is entered on a backup list. Only once the 1 st line service personnel does not respond to an alarm is the 2 nd line service personnel called up. Someone who is on 2 nd line duty will never be sent an alarm that is not urgent.
Log	All ARA actions are noted in the log. This way it is possible to trace back when an alarm occurred, who was called up when and confirmed the call, when the alarms were cancelled, etc.

2.3 Call-up Procedure

Reporting of alarms to and from ARA follows a fixed pattern. An alarm dialler that calls ARA will identify itself with a location number and the alarm. ARA accepts the alarm and enters it into the reported alarms database. The alarm dialler is then sent a confirmation so that it can stop calling in.

Based on the alarm's location number, the ARA determines the call-up procedure. The service person receiving the call-up will see the acceptance code and the location of the alarm, and the alarm itself on his/her pager or mobile telephone. The message is structured as follows:

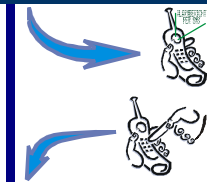
- **Pager/SMS text** (CCCC) location, alarm
 - ⇒ CCCC = acceptance code
 - ⇒ Location = location name
 - ⇒ Alarm = description of alarm
- **SemaDigit pager** CCCCLLLLAA
 - ⇒ CCCC = acceptance code
 - ⇒ LLLL = location number
 - ⇒ AA = alarm number

Following receipt, the service person must call back the ARA to accept the alarm by entering the received acceptance code via his/her telephone. ARA's built-in voice response system assists the service person in entering this code. Based on this code, ARA will determine who called back and in relation to which alarm.

The following examples illustrate the steps followed by this procedure.



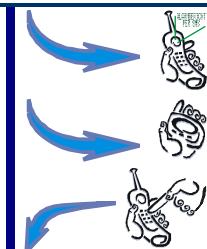
Location: Laakshoek, Alarm: Pump failure ⇒ urgent, priority 3, one person called up.
Assigned log sequence number 31.
1st line duty: Pete, John.
2nd line duty: -



Pete receives the message '(0231) Laakshoek, Pump failure' via SMS.
Pete calls back with acceptance code '0231'.
End of call-up procedure 31.



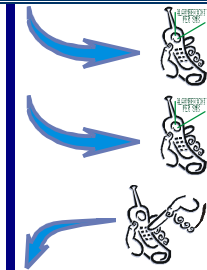
Location: Laakshoek, Alarm: Pump failure ⇒ urgent, priority 3, one person called up.
Assigned log sequence number 32.
1st line duty: Pete, John.
2nd line duty: -



Pete receives the message '(0232) Laakshoek, Pump failure' via SMS.
Pete did not call back within the specified time.
John receives the message '(0332) Laakshoek, Pump failure' on his pager.
John calls back with acceptance code '0332'.
End of call-up procedure 32.



Location: Laakshoek, Alarm: Pump failure ⇒ urgent, priority 3, one person called up.
Assigned log sequence number 33.
Location: Achterhut, Alarm: Defective valve ⇒ urgent, priority 1, one person called up.
Assigned log sequence number 34.
1st line duty: Pete, John.
2nd line duty: -



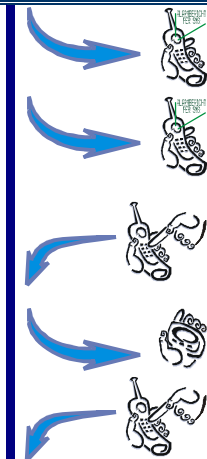
Pete receives the message '(0234) Achterhut, Defective valve' via SMS.
(This alarm has the highest priority and is therefore given priority).

Pete receives the message '(0233) Laakshoek, Pump failure' via SMS.

Pete calls back and confirms both calls with acceptance codes '0233' and '0234'.
End of call-up procedure 33 and 34.



Location: Laakshoek, Alarm: Pump failure ⇒ urgent, priority 3, one person called up.
Assigned log sequence number 35.
Location: Achterhut, Alarm: Defective valve ⇒ urgent, priority 1, one person called up.
Assigned log sequence number 36.
1st line duty: Pete, John.
2nd line duty: -



Pete receives the message '(0236) Achterhut, Defective valve' via SMS.
(This alarm has the highest priority and is therefore given priority).

Pete receives the message '(0235) Laakshoek, Pump failure' by SMS.

Pete decides to resolve the failure at the Achterhut location and wants to leave the alarm reported by Laakshoek to his colleague Jan.

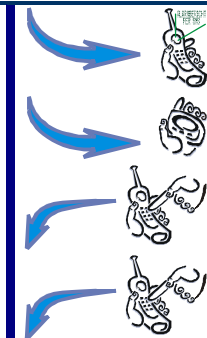
Pete calls back and confirms this call with acceptance code '0236'.
End of call-up procedure 36.

After the specified time for the message received by Pete expires, John receives the message '(0335) Laakshoek, Pump failure' on his pager.

John calls back and confirms this call with acceptance code '0335'.
End of call-up procedure 35.



Location: Balder, Alarm: Gas leak ⇒ urgent, priority 3, two persons called up.
Assigned log sequence number 37.
1st line duty: Pete.
2nd line duty: Kevin.



Pete receives the message '(0237) Balder, Gas leak' via SMS.

Kevin receives the message '(0437) Balder, Gas leak' on his pager.
(There is no longer anyone available on 1st line duty).

Kevin calls back with acceptance code '0437'.

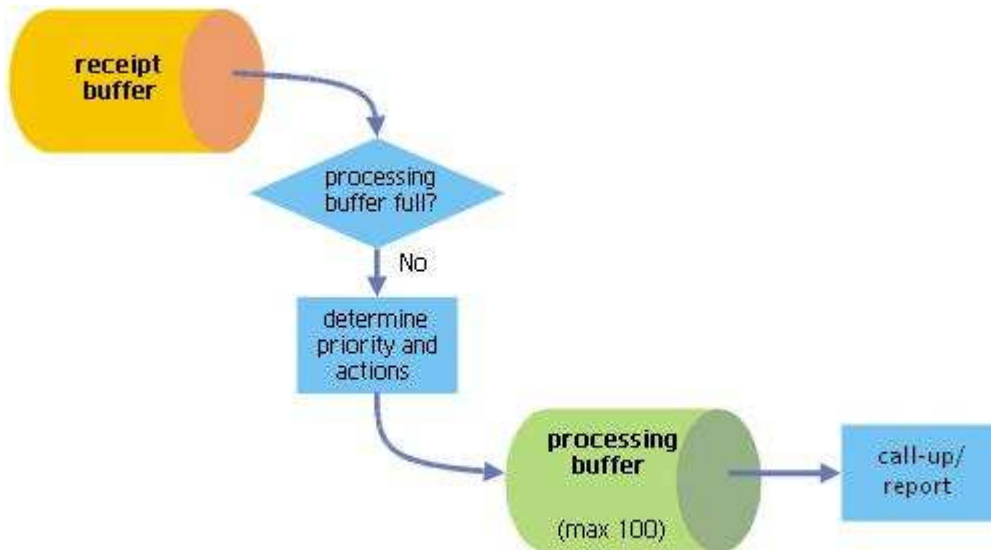
Pete calls back with acceptance code '0237'. End of call-up procedure 37.

2.4 Alarm handling in the event of large numbers of alarms

In order to be able to predict ARA's behaviour when a large number of alarms comes in at the same time, it is important to understand how ARA buffers and handles alarms.

An alarm received by ARA is first entered into a receipt buffer. This buffer operates on the basis of the 'first in, first out' principle. The alarm is then sent from the receipt buffer to the processing buffer. As soon as this happens, the type of alarm and the urgency and action are determined. The operator message is now issued as well therefore and the call-up procedure is initiated. When the call-up procedure terminates, the alarm is removed from the processing buffer.

The processing buffer can contain a maximum of 100 alarms. It is therefore possible for this buffer to become full when many alarms are quickly generated one after the other. All subsequent alarms then remain in the receipt buffer. This therefore does not provide any consideration to the urgency. Theoretically it is therefore possible for the processing buffer to be completely filled with non-urgent alarms, while the receipt buffer contains urgent alarms.





3. Installation

3.1 ARA-pro Software

Following the 15-day evaluation period, ARA-pro may only be used after it has been registered, in accordance with the license agreement indicated on the start-up window. The license is linked to the PC on which AraReport has been installed. AraControl may be installed without limitation.

ARA-pro was designed with the greatest possible care and was subjected to a very extensive testing procedure. By installing and registering ARA-pro, you declare that you are in agreement with the general terms and conditions of Adesys bv. Adesys bv herein cannot be held liable for any (consequential) damages due to the use of ARA-pro.

3.2 System Requirements

AraControl can be used on a PC that meets the following requirements:

Operating System (ARA-pro has been tested with the following systems):

- Windows 2000 SP3
- Windows XP Professional
- Windows Vista

Minimum Hardware (combined with Windows 2000):

- Pentium III 500 MHz
- 256 MB memory
- 500 MB free disk space
- Screen: 256 colours, 800x600

Recommended Hardware:

- Pentium IV 1000 MHz (or equivalent)
- 512 MB memory
- 1 GB free disk space, high-speed hard drive (SATA)
- Screen: 16 bit colour, 1024 x 768

Miscellaneous Hardware:

- Sufficient COM ports for the line interfaces to be connected (one port per line interface)
- Standard printer port for the log printer
- If the line interface comes with an external voice connection: sound card for speech and speech synthesis
- Mouse
- CD-ROM player

Note: It is recommended that you do NOT run any other software on the PC at the same time as ARA-pro. This could adversely affect the proper operation of ARA-pro!

3.2.1 Installing ARA Software

The following instructions should be followed step by step to install the new ARA software:

- If ARA was already installed previously, shut down the active ARA programs (both AraControl, as well as AraReport).
- Put the ARA CD in the CD-ROM player. The installation software will start up automatically. In the event that automatic start-up has been turned off, you can execute "D:\setup" via the Windows Start button. (Your CD-ROM generally will be assigned to the 'D' drive. Adjust this, if this is different on your PC).
- Go through the installation menus, accept the conditions and select the programs to be installed. AraControl and AraReport are installed by default. If you use the ARA speech synthesis or the AraLocal options, you need to check these off yourself. Select the proper file locations. The defaults are 'C:\Program Files\ARA' and 'C:\Program Files\ARA\data'. Use the tab function if you wish to use different file locations.
- Start the software installation. The new programs will be installed. If ARA was installed previously, the database is converted to run under Version 5. Your settings remain saved!
- After the installation is complete restart the PC.

3.2.2 Using a log printer

It is possible to configure ARA so that the log entries are also directed to the printer. Should you wish to make use of this option, you must have installed the printer's driver. If this has not yet been done, you must execute the following steps:

- Install a printer driver via Start, Settings, Printers.
- Click on 'Add Printer' (the precise text may differ depending on the Windows version).
- Install a local printer using the printer's driver. If you do not have this available, you can also use 'Standard, Text only', which comes supplied on any Windows CD.
- Select the local printer port (e.g., LPT1) to which your printer is connected.
- After AraReport is started up, your logging information will also be sent to the printer.

3.3 Connecting and programming the line interface

ARA-pro can only receive notifications and send messages if at least one line interface has been connected. The number of line interfaces is exclusively limited by the number of free COM ports on the PC. The function of each line interface can be specified. For example, depending on the number of alarms, ARA can be optimised for the receipt of alarms forwarded by the alarm diallers at the various locations, as well as for the acceptance of service personnel.

Position the line interface outside the influence of direct sunlight or other sources of heat. Select the mounting location such that it is impossible for moisture to penetrate the device. The line interface can be mounted on a table or attached to a wall. All connectors are located in the connector compartment under the ribbed cover. Remove the cover by pulling it up or to the side at the corners.

Connect the COM port of the line interface to the PC using the supplied cable. If you have a line interface with an external voice connection, you must also connect the supplied audio cable between your sound card and the line interface.

Note: The line interface must exclusively be connected to an earthed wall socket. A properly earthed connection provides maximum protection against overvoltages on the telephone network.

3.3.1 Table mounting

Remove the rearmost, removable partition of the connector compartment that allows the connecting cables to be fed through to the back. After making the connections, ensure there is no pull on the wires by attaching them to the bridges on the bottom plate with the aid of cable ties.

3.3.2 Wall mounting

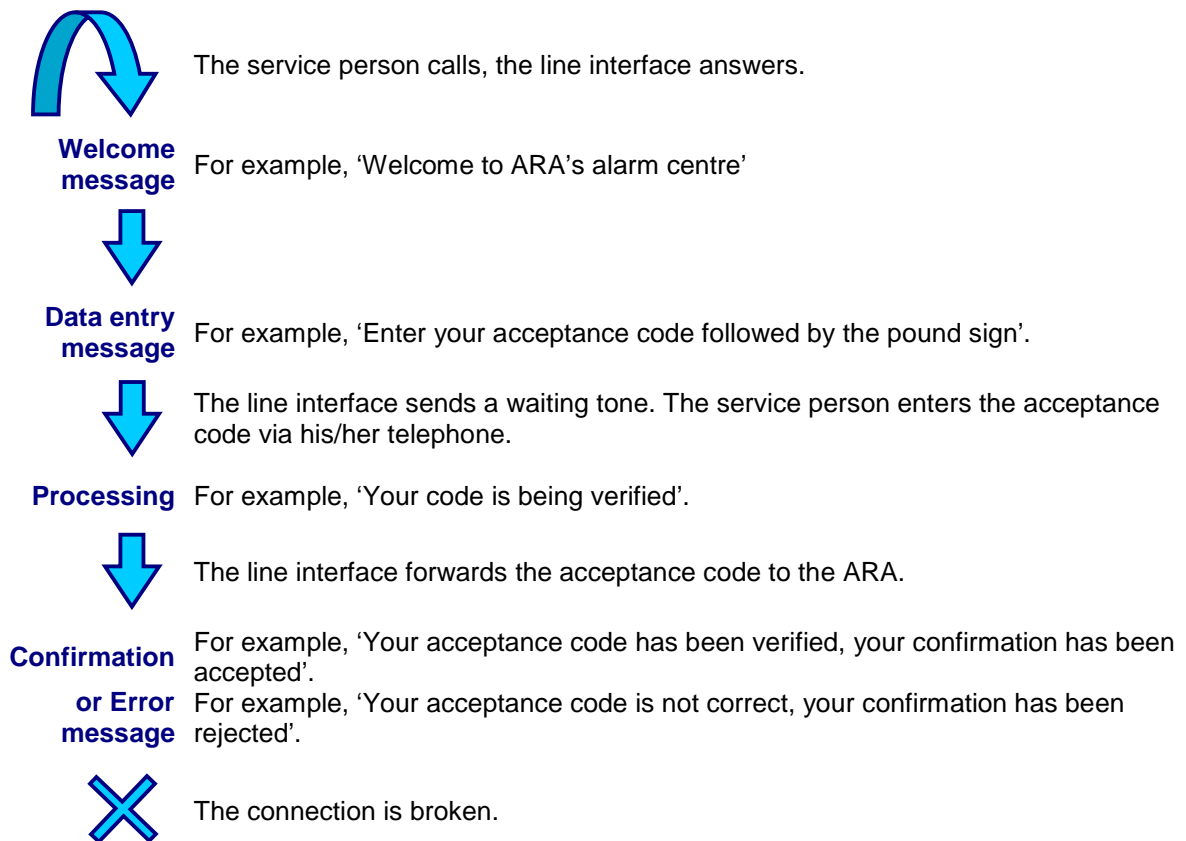
The line interface is equipped with two openings in the bottom plate for wall mountings. Suspend the line interface to a screw through the middle hole (only visible from the back), line up the device so it's straight and fasten it with a screw through the key-shaped hole in the connector compartment. Remove the bottom, removable partition of the connector compartment for feeding through the connecting cables. Preferably leave the upper partition intact so as to minimise the penetration of moisture. After making the connections, ensure there is no pull on the wires by attaching them to the bridges on the bottom plate with the aid of cable ties. Take the space required for removing the connector cover and the accessibility of the connectors into account when placing the equipment alongside other equipment.

Note: In particular, be sure to fasten the telephone cable to one of the pull relief bridges to prevent the cable from obliquely being pulled loose.

3.3.3 Recording messages in the voice response system

If the line interface is used to allow service personnel to call back to confirm the received alarm, the voice response system must be populated. This is done via ARA using a line interface with external voice input, linked to the PC's sound card. For line interfaces without an external voice input, the messages must be recorded into the device itself.

The voice response system operates as follows:



The following steps should be followed to record the messages via the line interface:

- Keep the 'Prog' key on the line interface depressed until the window '<10> ADJUST CONTRAST DISPLAY' appears. You are now in the installation program.
- Use the arrow keys to select the Prog 59 'record messages' menu.
- Once again press the 'Prog' key.
- Follow the recording menu:

RECORD/TEST WELCOME

Press the 'Prog' key to record the welcome message for the ARA alarm centre.

START RECORDING/START REPRODUCTION

Use the keys ▲ or ▼ to select replay or record. If 'START RECORDING' is selected, recording starts immediately. Record the message clearly at a distance of approx 20 cm from the built-in microphone. This microphone is located at the bottom right in the bottom's rim, at the level of the 'Reset' key. A time bar is displayed during recording. If your message is shorter than the available time, press the 'Prog' key to halt recording.

The recorded message can be verified using the 'START REPLAY' option via the built-in speaker.

RECORD/TEST INPUT

etc.

Now successively record the message for input, processing and confirmation and the error message.

- Close the installation program by repeatedly pressing the Esc key until the display window is clear.

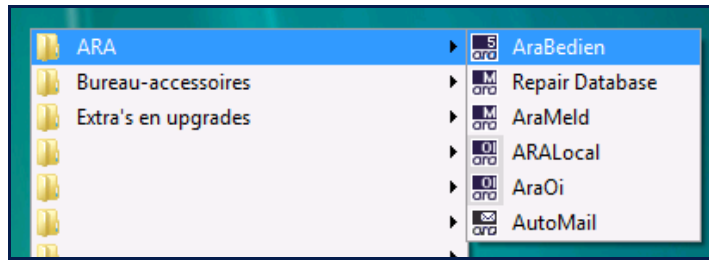
Once connected, an indication must be provided in the AraReport Set Options menu that the line interface has been connected.

3.4 Configuring ARA-pro

After ARA-pro has been installed a number of settings must be defined. It is recommended that this be done in a fixed sequence, since a number of settings refer to each other. Follow the sequence specified in this user manual for this purpose.

3.5 Start up ARA-pro

After installation is complete, you can start up AraControl via the Windows Start button > All Programs > ARA:



This is where you will also find the quick start for AraReport and all other installed programs. If during installation you indicated that the quick links should also be added to your desktop, you can also start up the program with:



3.6 Registration

Once you have installed ARA-pro you can use it for 15 days. Within that period of time you must register your ARA software via the attached registration form. Ensure that you have connected at least one line interface and that it is set to handle the required modem protocols (see Set Options). Upon notification Adesys will ensure that ARA is registered within 2 days.



4. Set Operators

The people who configure and use the ARA computer are referred to as 'operators'. When AraControl is started up the system always asks the operator logging in to identify him/herself. If this request is cancelled, the general operator is activated (designated by --).

It is recommended that you carefully think about the authorities to be assigned to the various operators. For example, shutting down AraReport, which shuts down the entire alarm centre, may only be performed by a limited group of people. ARA provides the option of activating/not activating authorities. This can be configured for each operator (each of whom has his/her own password).

Note that immediately after installation only one operator, the general operator, has been configured. All authorities are activated for this operator. It is therefore wise to first create an operator with a password yourself. The general operator can subsequently be given minimal authorities.

4.1 Example

The authorities of the general operator have been almost completely removed. The only thing this operator is still permitted to do is reset the audible signal associated with an operator message and view the alarm state window.

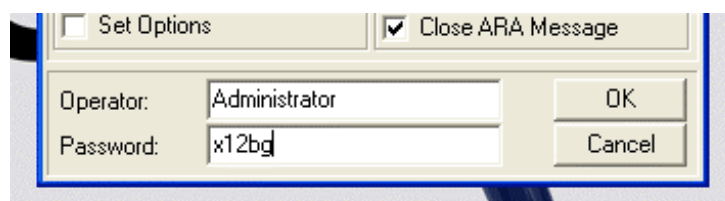


4.2 Configure Settings

Start up via 'Set Operators...'

4.2.1 Create new Operator

- Click on 'New'.
- The menu is expanded to include the option of entering the operator and password.

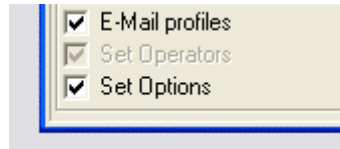


- Enter Operator and Password.
- Click on 'OK'.
- Set the authorities (see below for the meaning of authorities).

4.2.2 Change Operator

- Select the proper operator.
- If you want to change the name or the password click on change.
- Check off the authorities or remove the check mark.

Note: The logged-in operator cannot deactivate 'Set Operators' for him/herself. This is to prevent the situation in which there is no longer any operator at all, from occurring. If you nevertheless wish to deactivate this authority, you must first log in under another operator name.



4.2.3 Removing an operator

- Select the operator.
- Click on 'Remove'.

Note: If the operator who has been removed occurred in the log, the operator field in the relevant log entries will be blank.

4.2.4 Explanation of authorities

Authority	Explanation/assignment considerations
File	
View log	Could contain business-critical information.
Maintain log	This function could be used to remove information in the log.
Set	
Locations	Could affect the alarms.
Service groups	Could affect the alarms.
Operators	This menu can be used to assign any authority.
Timetable	Could affect the alarms.
Options	Could affect the entire operation of ARA.
Alarm state window	
View	Could contain business-critical information.
Reset state	Manually resetting alarms could result in a loss of information.
ARA-report	
Cancel alarms	An operator could use this authority to cancel an active alarm procedure. This is handy in testing situations. However, in the event of erroneous use, it can prevent alarms from being received.
System shutdown	The entire ARA system is put out of operation. There is no longer any logging or alarming.



5. Set Service Groups

An alarm that needs to be forwarded is linked to a service group in ARA. A service group comprises one or more service persons responsible for following up on the alarm. Service groups can be used to classify technicians on the basis of, for example, district or specialism (an electrical group and a boiler group). ARA always requires at least one service group with at least one service person.

If you wish to add multiple persons to a service group, you must give careful thought to the call-up sequence. ARA will always call up the service personnel in the sequence in which they appear on the list. Of course persons who according to the timetable are not on duty are skipped. Depending on your organisation, you need to indicate whether you always want to start with the top entry on the list in the event of a new alarm, or whether you want to continue to cycle through the list. In the first instance, the first service person on the list is always called up first for each new alarm. Only once this person does not respond or is not on duty, will the next person on the list be called up. In the second instance, ARA will equally distribute the received alarms across all service personnel on duty.

In addition to administrative address information, it is also possible to specify how each service person should be called up. This could occur via a pager or an SMS message, or if you have the special voice line interface, via a voice message. To be sure that a message reached its destination, it is recommended that you require the service person to accept this message. This can be effected by having the service person call back the line interface's voice response system. In that case you do need to consider the acceptance delay. If this delay is too short, service personnel does not have enough time to call back, causing the next person on the list to be called up. If the delay is too long it will take too long for ARA to call up alternative service personnel.

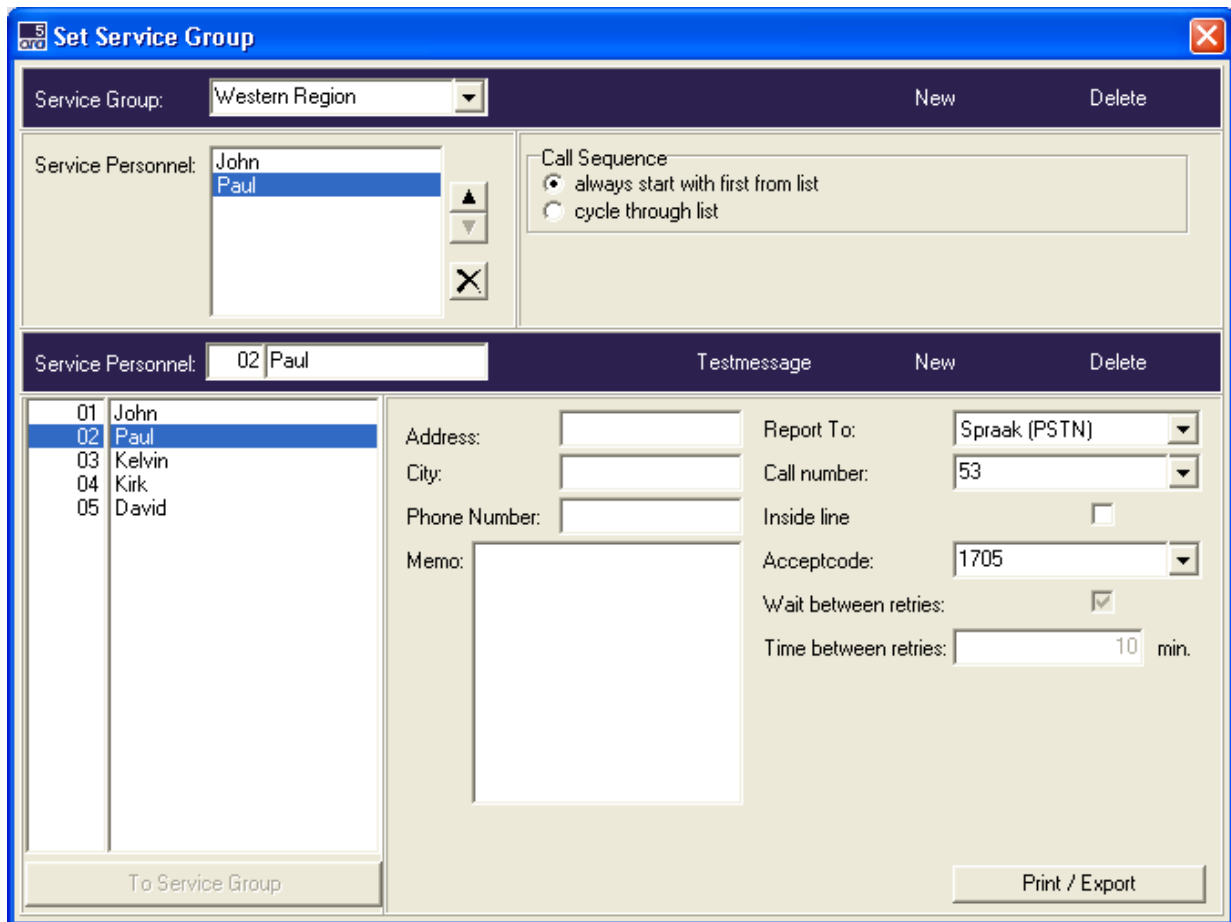
5.1 Example

The Eastern Region comprises the service personnel Kevin, Charles and Kirk. Because the 'cycle through list' option has been checked off, the alarms will be spread across these people. In other words, the first alarm will go to Kevin, the second to Charles, etc.

Service person John is called up via a TravelText text pager. He is required to confirm a received message within 5 minutes of the receipt of that message.

5.2 Configure Settings

Start up via 'Set Service Groups...'



5.2.1 Creating new service groups

- Click on 'New' in the upper part of the menu.
- Enter the name of the service group.
- Check off the proper 'Call Sequence' for the group.

5.2.2 Removing a service group

- Select the proper service group.
- Click on 'Remove' in the upper part of the menu.
- Confirm the warning.

Note: If the service group is linked to an alarm, it will not be possible to remove the group.

5.2.3 Creating a new service person

- Click on 'New' in the second part of the menu.
- ARA automatically generates a service person number; you must enter the name.
- If needed, fill in the service person's personal address details (administrative).
- Under 'Report to' enter how the person is to be called up.
- Enter the associated calling numbers. (Any required central numbers are available on the supplied yellow form).
- Indicate whether this is an internal (internal line) or external calling number.
- Indicate whether call-back to accept the alarm is required (this is the safest way of alarming).

Note: If, before clicking on 'New', you select a different service person, the 'Report to' details of this service person are copied.



5.2.4 Testing service person's settings

- Select the relevant service person at the bottom of the second part of the menu.
- Click on 'Test Call'.
- ARA will then send a 'Test call from alarm centre' to the specified telephone or pager.
- If the service person receives the test call, the settings are correct.

NOTE: In this case, ARA only sends a notification, the technician cannot call back to ARA to accept the test alarm.

5.2.5 Assigning a service person to a service group

- Select the proper service group.
- Click on the relevant service person at the bottom of the second part of the menu.
- Click on 'To Service Group'.
- The name of the service person appears in the list of the people in the service group. Using the arrow keys alongside the list, position the service person at the right location.

Note: A service person can be assigned to multiple service groups.

5.2.6 Removing a service person from a service group

- Select the proper service group.
- Click on the service person in the group list (first part of the window).
- Click on the cross alongside the group list.

5.2.7 Definitive removal of service person

- Select the relevant service person at the bottom of the second part of the menu.
- Click on 'Remove' in the second part of the menu.
- Confirm the warning.

Note: When you remove the service person, all associated settings, such as the entries in the timetable, will also be removed. In addition, the service person is removed from the log (also see 'View Log').

5.2.8 Configure print or export settings

- Click on 'Print/Export'.
- A print sample will appear.
- Click on the printer icon to start printing.
- Or click on the diskette icon to save the information as a text file, HTML file or CSV (Excel) file.

6. Set Locations

ARA can handle alarms in three different ways. An **operator message** on the screen, **call-up of service personnel** via a pager or telephone and an **alarm status summary** on the screen. An indication as to how the alarm is to be processed must be provided for all alarms reported to ARA by the locations. The 'Set Locations' menu is used for this purpose.

Each location has its own code. The code is a four-digit number. An alarm dialler that calls the ARA, identifies itself via this location code. If you wish to use your own numbering scheme, you can specify this code yourself. Otherwise let ARA generate the numbers automatically. The location name you are required to enter is used for calling up service personnel. This name appears in the SMS message or on the pager. The address and alarm dialler details are purely administrative.

ARA uses location code 9999 for reporting internal failures. This code is automatically created when ARA is installed. See page 52 for additional information.

You can create one or more alarms for each location. The alarm code must match the code sent by the alarm dialler. The alarm name is used for reporting to service personnel and for entry into the log. The settings for handling the three forms of alarms must also be specified for each alarm.

Operator Message

An alarm is forwarded to the operators via a message on the ARA alarm reporting system screen. Only operators with the appropriate authorisation can accept these messages. The messages appear at the moment that an alarm arrives or that the call-up of service personnel has failed. The PC could also be set to issue an audible signal to attract attention. The moment that the alarm appears on the screen and confirmation by the operator are entered into the log.

Service personnel call-up

Alarms can also initiate a call-up procedure to call up one or more service persons from a service group determined by you. The call-up can be designated as urgent or non-urgent. Urgent alarms are forwarded to service personnel on 1st as well as 2nd line duty (also see the timetable). Non-urgent alarms are only forwarded to 1st line service personnel. It is possible that no 1st line service personnel is scheduled for duty when an alarm arrives. In that case, ARA can hold the alarm until this service personnel come on duty. These alarms will therefore be reported in the morning when the service personnel comes on duty.

You can also decide to cancel the alarm at that point in time. In that case, if the operator message in the event of a failed call-up option has been set, an operator message will be issued.

Optionally, ARA can also report an alarm via a voice message to a telephone. If you also purchased the speech synthesis expansion option, ARA will convert the texts you have input into speech. Without this speech synthesis feature you must record each location name and alarm via your sound card on the PC.

Alarm Status Summary

The alarm status summary in AraControl provides a current overview of all active alarms. The processing of the state window can depend on the alarm dialler that calls ARA. If the alarm dialler issues an idle report (such as the Adesys Modalarm-T, for example), then ARA knows whether an alarm has been cancelled. You then have the option of removing the alarm from the list, or to leave it there in a safe status (green).

These settings are also used to display alarms on the alarm floor plan.

E-mail

It is possible to send an e-mail message when an alarm is received and when a call-up procedure is terminated. A profile can be selected for each alarm that specifies exactly what should be put in the e-mail message and to whom it should be sent.

See Section 13 'E-mail reporting and receipt', for additional information.

Note: Internal ARA alarms can be processed in exactly the same way as any other alarm.



6.1 Example

Location number 0001 has the name 'Demo Location'. The address information has been entered. The green Play arrow indicates that a message has been recorded (only visible for the voice option).

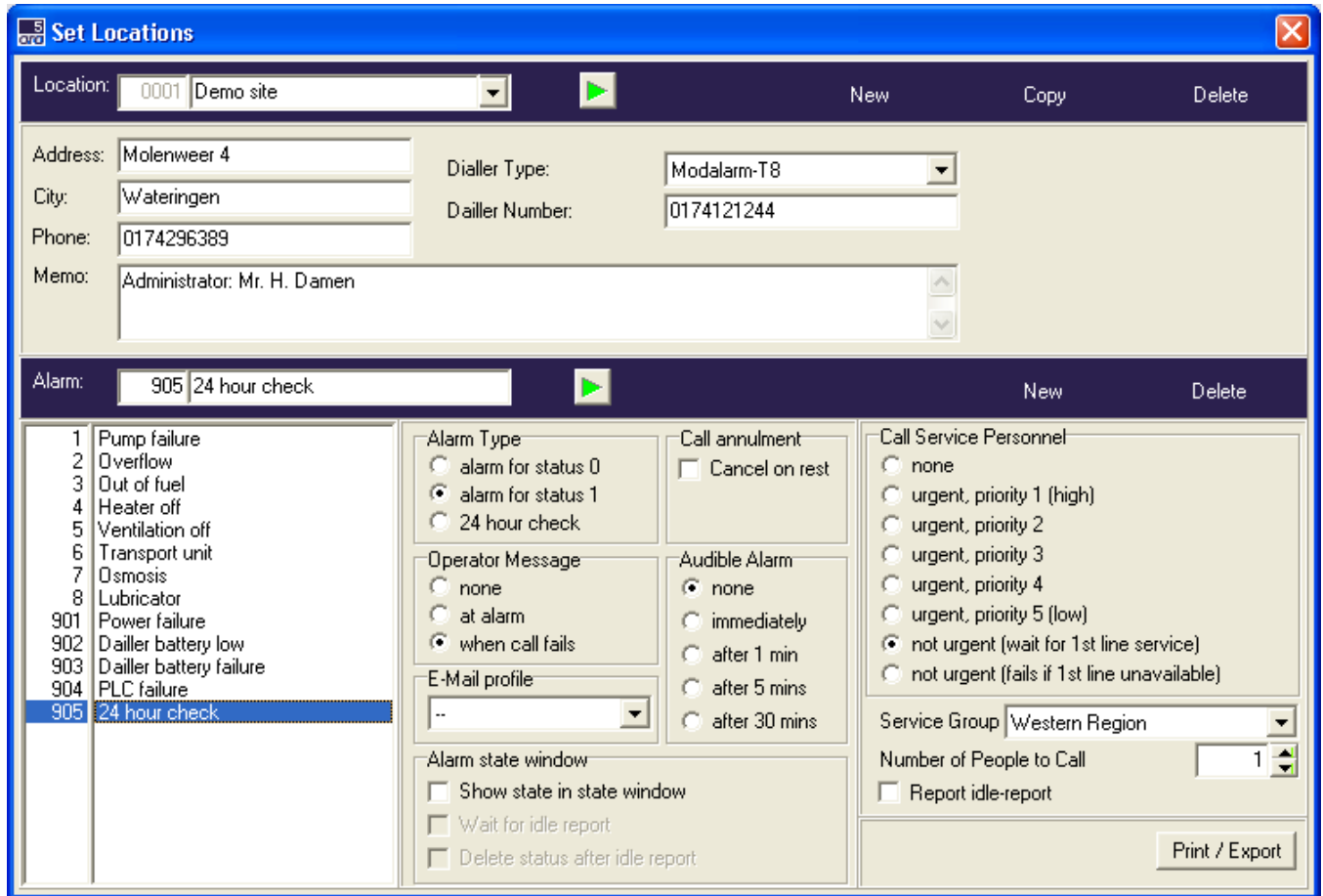
Alarm 1 is a pump failure at the location. An operator message is issued as soon as the alarm arrives. If this message is not immediately confirmed, an audible signal will sound after 1 minute. A service person from the 'Western Region' service group is called up. This call-up is assigned the highest possible priority. If an alarm is cancelled via an idle report, the service person who accepted the call-up will receive a message about this (only possible if the ARA idle report option has been activated). If 'Cancel on rest' has been checked off, then an active call-up is considered complete once the alarm reverts to an idle state. Such a call-up is therefore halted when it has been accepted or if the alarm went into idle mode.

The pump failure is added to the alarm state window. ARA expects an idle report for this failure as well. The result of this message is that the pump failure is set to safe on the alarm status list.

6.2 Configure Settings

Start up via 'Set Locations...'

Note: It is recommended that before you create the first location, you set the service groups.

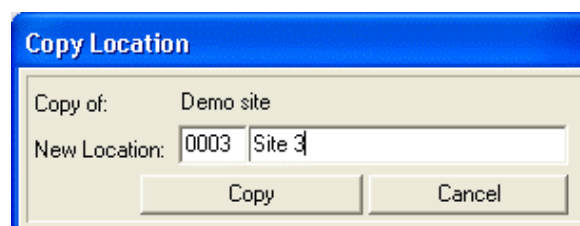


6.2.1 Creating a new location

- Click on 'New' in the upper part of the menu.
- Enter the location code.
- Enter the name of the location.
- Enter the administrative information.
- Create the alarms for that location.

6.2.2 Create a new location by copying an existing location

- Select the location to be copied.
- Click on 'Copy'. An additional menu appears.



- Enter the new location code.
- Enter the name of the new location.
- Click on 'Copy'.
- Adjust the settings of the copy location as necessary.



6.2.3 Removing a location

- Select the location to be removed.
- Click on 'Remove' in the upper part of the menu.
- Confirm the warning.

Note: If the location appears in the log, it is impossible to remove it. You can clean up the log via the menu 'File, Log Maintenance...', after which it once again becomes possible to remove the location.

6.2.4 Creating a new alarm

- Click on 'New' in the lower part of the menu.
- Enter the alarm number (this is alarm dialler-dependent).
- Set the alarm actions.
-

Operator message:	
None	AraReport does not display a message on the screen upon receipt of an alarm.
On alarm	The alarm is displayed on the screen immediately upon receipt.
If the call-up failed	Only displayed on the screen if the call-up of service personnel fails.
Alarm state window	
Show state in state window	This alarm is displayed in the state window upon receipt.
Waiting for idle report	The alarm used issues an idle report when the failure has been resolved. ARA uses this information in the state window. If this option is turned off, then ARA assumes that it will not receive an idle report. After the alarm is reported, the status is set to orange.
Remove status after idle report	If ARA receives an idle report and this option has not been checked off, the alarm on the status list is set to green. If this option has been checked off, the alarm is removed from the list.
Call up service personnel:	
None	No service personnel is called up after receipt of the alarm.
Urgent, priority 1...5	The alarm received is reported to service personnel in the specified service group. Because it is an urgent alarm, ARA uses 1 st line as well as 2 nd line service personnel. The level of urgency determines which call-up is given priority in the event that ARA has to process multiple alarms at the same time.
Non-urgent (wait for 1 st line service personnel)	The alarm received is reported to 1 st line service personnel in the specified service group. If none are present (e.g., during night time), the system waits until service personnel becomes available.
Non-urgent (cancelled if 1 st line service personnel is not available)	The alarm received is reported to 1 st line service personnel in the specified service group. If these are not available the alarm is cancelled. If the setting is that an operator message must be issued if the alarm fails, then a message will appear on the screen instead of issuing a call-up.
Cancelling the call-up:	
Cancel on idle.	This option is normally not checked off. In that case a call-up is always completed, even if the alarm has already been restored. The call-up is only terminated once the relevant technician accepts the call-up. If this option is checked off, the call-up is in principle only stopped once the call-up is accepted. Only if the alarm has been restored in the interim will the call-up be halted.
E-mail:	
--	No e-mail is sent.
<profile>	Depending on the selected profile, e-mails will be sent on receipt and/or termination of the call-up procedure.

6.2.5 Changing alarm settings

- Select the proper alarm.
- Change the alarm name.
- Or set the new alarm actions.

Note: Once an alarm number has been selected it can no longer be changed.

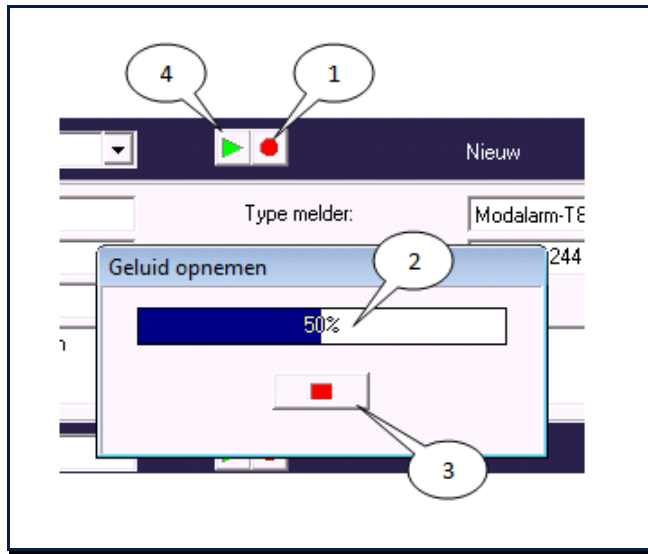
6.2.6 Remove new alarm

- Select the proper alarm.
- Click on the 'Remove' button in the lower part of the menu.
- Confirm the warning.

Note: If the alarm that was removed occurred in the log, the alarm field in the relevant log entries will be blank.

6.2.7 Record voice alarm messages

(Optional)



- Click on the record button (1).
- Record the text while the time bar is activated (2).
- Click on the stop button if you do not need all of the available time (3).
- Click on the replay button to verify the recording (4).

6.2.8 Configure print or export settings

- Click on 'Print/Export'.
- A print sample will appear.
- Click on the printer icon to start printing.
- Or click on the diskette icon to save the information as a text file, HTML file or CSV (Excel) file.



7. Set Timetable

The ARA timetable is used to determine which service personnel will action the incoming alarms. Using an electronic planning schedule you can schedule service personnel on the basis of day shifts that you determine yourself. Because alarms are often processed differently within and outside office hours, different shifts can be assigned. ARA handles these shifts as follows:

Service personnel on 1st line duty:

- is called up for urgent as well as non-urgent alarms;
- is the first to be assigned a new alarm;
- is displayed in the timetable using a dark red or dark green colour (adjustable in Options Menu).

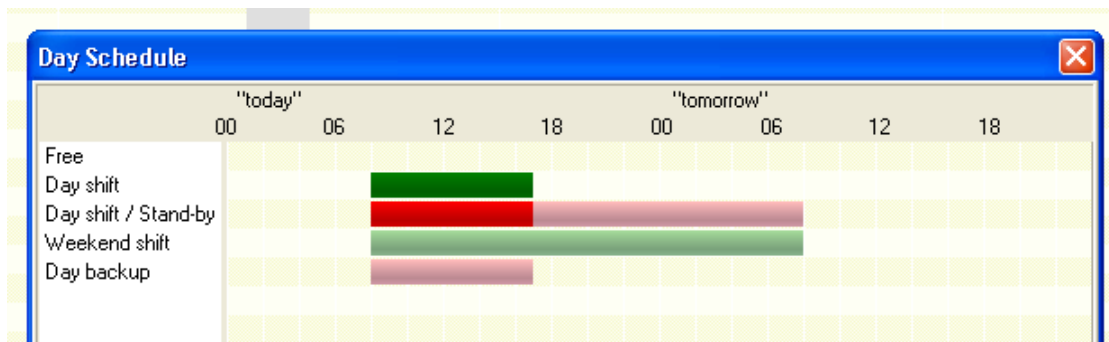
Service personnel on 2nd line duty:

- is only called up for urgent alarms;
- is only assigned an alarm in a second instance, when no 1st line service personnel accepts the alarm or is scheduled to be on duty in the timetable;
- is displayed in the timetable using a light red or light green colour (adjustable in Options Menu).

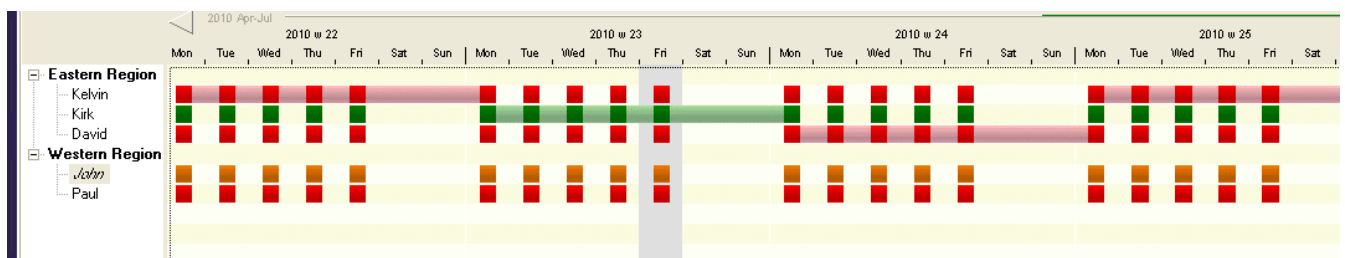
You can use these services to configure various day shifts. You determine the work schedules on the basis of your service organisation. For example, assigned to 1st line duty during the day and free during the night. Or available during the day and assigned to 2nd line duty for urgent alarms during the night. Or only on-call during the night, but not during the day, so that ARA only automatically generates call-ups during the night and alarms are manually processed by your scheduling department during the day.

Day shifts are defined by specifying the start and stop times of the 1st line and/or 2nd line shifts. If the stop time for a shift is less than the start time, the day shift runs into the next day. A day shift can cover a maximum of 24 hours. Because the day shifts are placed consecutively in the day schedule, they must be contiguous. If the working day starts at 8:00, for example, you must set all start and stop times to between 8:00 of the relevant day and 8:00 the next morning.

7.1 Example



- Day shift: 1st line only, from 8:00 - 17:00.
- Day shift/Standby: 1st line from 8:00 - 17:00, 2nd line from 17:00 - 8:00 the next morning.
- Weekend shift: 2nd line only, 24 hours from 8:00 - 8:00.
- Day shift backup: 2nd line only, from 8:00 - 17:00.



Western Region:

No alarms are forwarded during the night and on weekends in this region. During office hours, alarms are forwarded to John who is on day shift. If John does not respond, the call goes to Pete who is on standby.

Easter Region:

Kevin, Charles and Kirk are all on duty during office hours. Alarms are distributed across service personnel. During nights and weekends each service person in turn has 2nd line duty for a week. Only the urgent alarms are then forwarded.

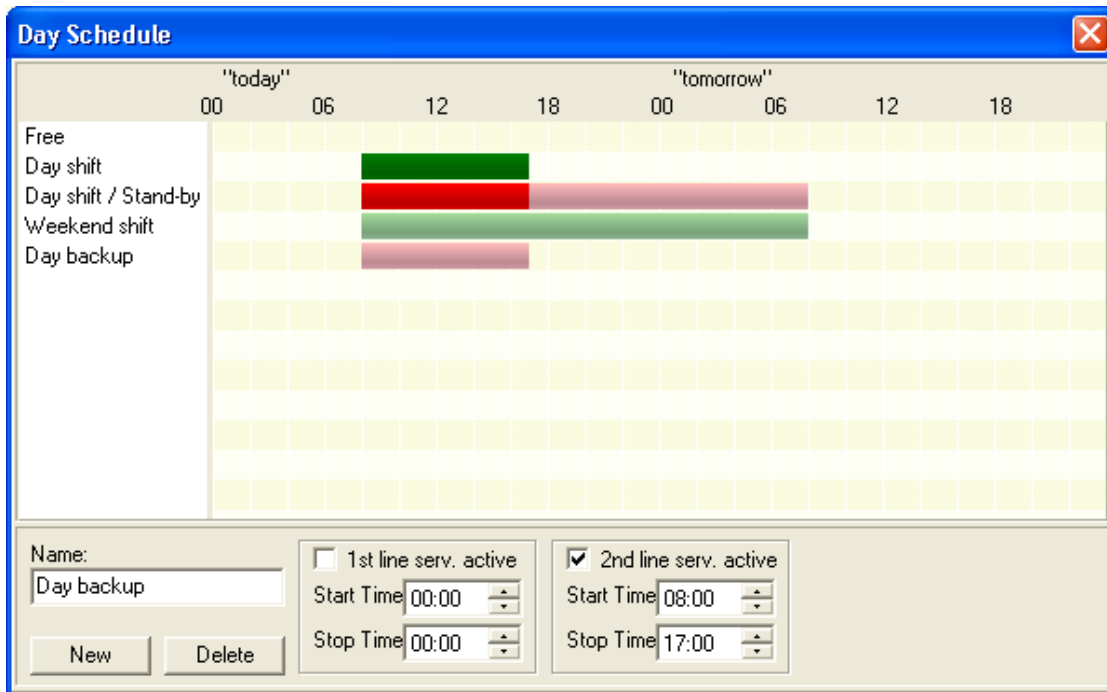
7.2 Configure Settings

Start up via 'Set Timetable...' or via the Timetable quick start icon.

If there are no day shifts these must be created first.

7.2.1 Creating day shifts

- Click on 'Day Schedules'.



The screenshot shows the 'Day Schedule' window with a timetable grid. The grid has columns for 'today' (00, 06, 12, 18) and 'tomorrow' (00, 06, 12, 18). The rows are labeled: Free, Day shift, Day shift / Stand-by, Weekend shift, and Day backup. The 'Day shift' row has a green bar from 06:00 to 12:00. The 'Day shift / Stand-by' row has a red bar from 06:00 to 12:00 and a pink bar from 12:00 to 18:00. The 'Weekend shift' row has a green bar from 06:00 to 18:00. The 'Day backup' row has a pink bar from 06:00 to 12:00. Below the grid, there are configuration options: Name (Day backup), 1st line serv. active (unchecked), 2nd line serv. active (checked), Start Time (00:00), Stop Time (00:00), Start Time (08:00), and Stop Time (17:00). There are 'New' and 'Delete' buttons.

7.2.2 Creating new day schedule

- Click on 'New'.
- Enter the 'Name' (duplicate names are not allowed).
- Enter the start and stop times of the 1st line and 2nd line shifts.

7.2.3 Change day schedule

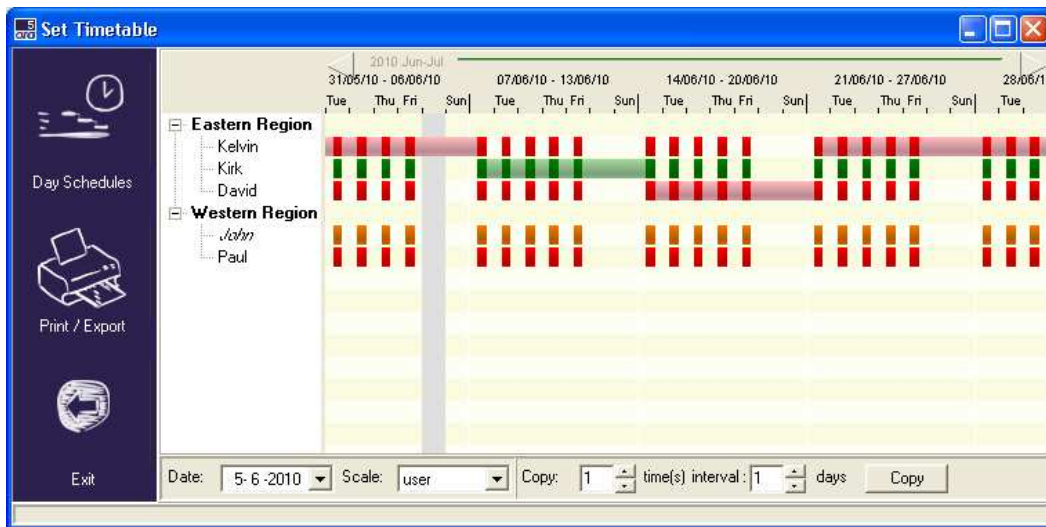
- Click on the day shift.
- Change the 'Name' or the start and stop times of the 1st line and 2nd line shifts.

7.2.4 Removing a day shift

- Click on the day shift.
- Click on 'Remove'.

Note: If the day shift is still in use in the timetable, it cannot be removed.

When you leave the 'Day Schedule' menu you will be returned to the timetable:



7.2.5 Showing a different date

- Enter the date in the Date field (also selects the date).
- Or click on the arrows above the timetable.
- Or click on the line above the timetable and drag it.

7.2.6 Selecting the date

- Click on the timetable with the mouse (and drag to select multiple days).
- Clicking a second time while keeping the 'Shift' key pressed down selects a number of consecutive days.
- Or enter the date in the Date field (also selects the date).

Note: The selected days are displayed with a grey background.

7.2.7 Allocating a day shift

- Right-click with the mouse on the timetable on the service person's line and select the day shift.
- Or click on the service person (and while keeping the Shift key pressed down, to select multiple persons).
Next right-click with the mouse and select the day shift.

NOTE: If a service person is also assigned to a different service group, the timetable in that group will be changed as well. If this is not what you want, you must create a separate service person for each group, with the same call-up number.

7.2.8 Verifying the timetable

- Right-click with the mouse on the service group to be checked.
- Next click on 'Find unallocated time'.
- The timetable date automatically jumps to the first day on which a portion of the day is not assigned to a service person.

7.2.9 Change the timetable's scale

- In the Scale field select the period you wish to see.
- Or keep the Ctrl key pressed down and click on the line above the timetable and drag it.
- Double click on the date bar to display week numbers instead of dates.

7.2.10 Copying

The purpose of the copy function is to easily generate a repeating pattern in the timetable.

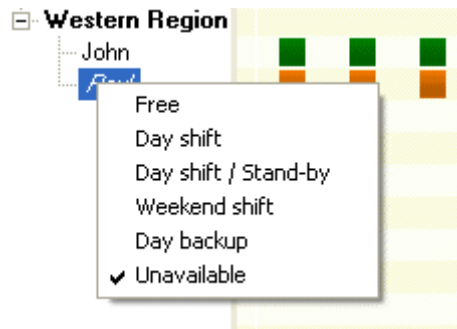
- First, create the repeating pattern (for example a single week).
- Select the days to be copied.
- Click on the service person (and while keeping the Shift key pressed down, select multiple persons).
- Enter how many copies you want.
- The copy interval is automatically entered when the days are selected. This can still be adjusted if desired. For example, by selecting only a Saturday and Sunday and then setting the interval to 7, only the weekend shifts are copied.
- Click on 'Copy'.

7.2.11 Configure print or export settings

- Click on 'Print/Export'.
- A print sample will appear.
- Click on the printer icon to start printing.
- Or click on the diskette icon to save the information as a text file, HTML file or CSV (Excel) file.

7.2.12 Set service technician to unavailable

- Right-click with the mouse on the name of the service technician.
- Select 'Unavailable' from the menu.
- Technicians who are unavailable are not called up.
- The name of an unavailable technician is displayed in italics, the colour of the assigned time changes to the colour that can be set in the Options Window.
- In checking the timetable, technicians who are reported as unavailable are not considered as scheduled.
- The absence of a technician can be reverted by once again clicking on 'Unavailable'.





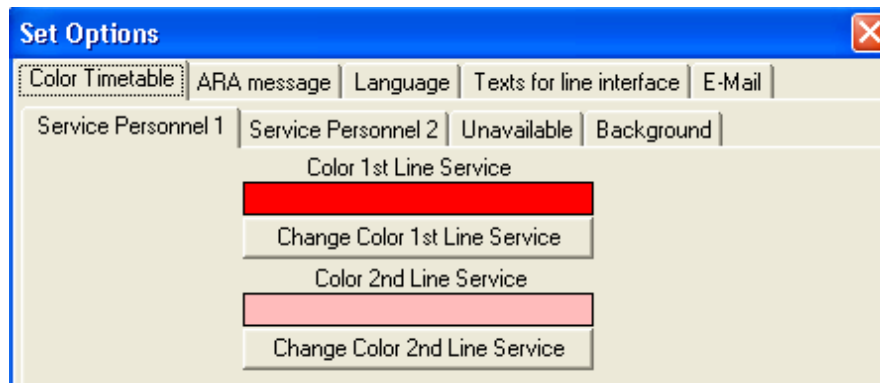
8. Configure Settings

Before ARA can become operational, a number of options must be set.

8.1 Set Timetable Colours

The standard timetable background colours are white with yellow. The scheduled times of the service personnel is displayed in red or green, dark for the 1st line and light for the 2nd line service. These colours can be changed.

Start via 'Set Options..., Color Timetable'



8.1.1 Modifying the colour of scheduled service personnel

- Click on the tab 'Service Personnel 1' (or 2).
- Click on 'Change color 1st Line Service'.
- Select a colour.
- Ditto for 2nd line service.

8.1.2 Modifying colour of service personnel reported unavailable

- Click on the 'Unavailable' tab.
- Click on 'Change color 1st Line Service'.
- Select a colour.
- Ditto for 2nd line service.

8.1.3 Modifying background colour

- Click on the 'Background' tab.
- Click on 'Change background color'.
- Select a colour.
- Ditto for grid lines.

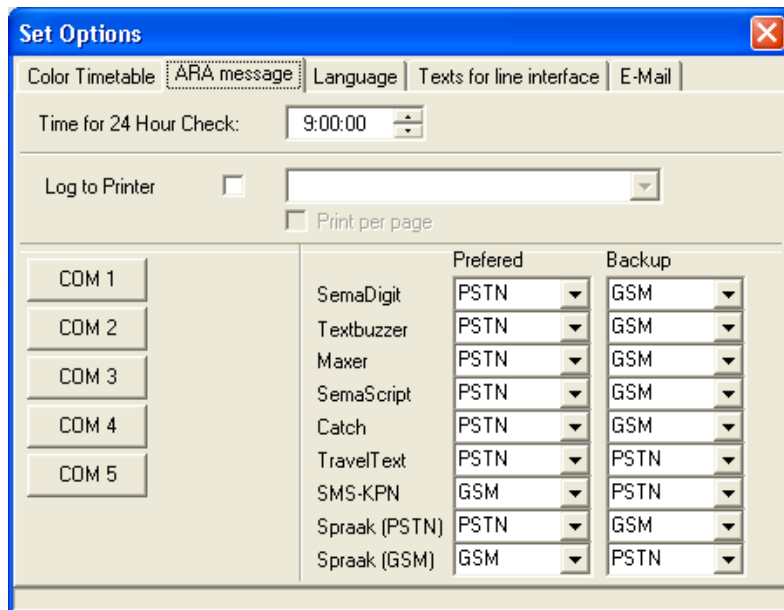
8.2 Configure AraReport

AraReport is the ARA component that contains the actual alarm centre software. This is where all alarms arrive and service personnel is called up. The AraReport settings are configured in this menu.

The time during the day at which it is necessary to verify whether the alarm diallers in the field have sent a 24-hour control alarm must be specified. Be aware that for an alarm dialler that has not issued a control alarm, the 24-hour alarm will be created at this point in time.

It is possible to directly send all the events that ARA enters into the log to a logging printer. If this is desired, this option must be checked off and a printer port must be specified. Make sure that the printer's Windows driver has been installed. If a line printer (e.g., a matrix printer) is used as the log printer, each event will be printed line by line on the printer. For a laser and inkjet printer this happens on a page by page basis. If the 'Print by page' option is checked off, ARA will only print a page once enough lines have been collected to fill up a complete page. The connected line interface is also controlled via AraReport. The settings for this are also configured in this menu.

Start via 'Set Options..., ARA-report'



The 'Set Options' dialog box has several tabs: 'Color Timetable', 'ARA message', 'Language', 'Texts for line interface', and 'E-Mail'. The 'ARA message' tab is active. It contains the following settings:

- Time for 24 Hour Check: 9:00:00
- Log to Printer:
- Print per page:

COM	Device	Preferred	Backup
COM 1	SemaDigit	PSTN	GSM
COM 2	Textbuzzer	PSTN	GSM
COM 3	Maxer	PSTN	GSM
COM 4	SemaScript	PSTN	GSM
COM 5	Catch	PSTN	GSM
	TravelText	PSTN	PSTN
	SMS-KPN	GSM	PSTN
	Spraak (PSTN)	PSTN	GSM
	Spraak (GSM)	GSM	PSTN

8.2.1 Set 24-hour time check

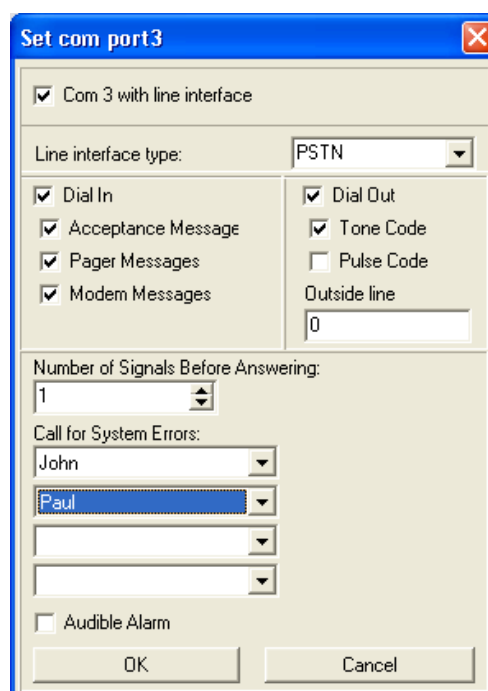
- Enter the time on which the check is to be performed.

8.2.2 Set logging printer

- Check off 'Log to printer'.
 - Select the printer port.
 - Specify whether line (matrix printers) or page (laser and inkjet printers) printing is required.
- Note: Make sure that the Windows driver has been installed.

8.2.3 Set Line Interfaces

- Click on the COM port button to which the line interface is connected.



The 'Set com port3' dialog box has the following settings:

- Com 3 with line interface
- Line interface type: PSTN
- Dial In
 - Acceptance Message
 - Pager Messages
 - Modem Messages
- Dial Out
 - Tone Code
 - Pulse Code
- Outside line: 0
- Number of Signals Before Answering: 1
- Call for System Errors:
 - John
 - Paul
 -
 -
- Audible Alarm

Buttons: OK, Cancel



- Configure the COM port.

Setting	Explanation
COM x with line interface	Specify whether a line interface is connected to the COM port.
Type of alarm dialler	Select the line interface type. There are two possible types: <ul style="list-style-type: none"> • PSTN (analogue) • GSM This setting is used as the preferred dialling-out setting.
Dialling in	Check this off if alarm diallers or service personnel call into the ARA via this line interface to forward an alarm.
Acceptance calls	The line interface receives acceptance codes from service personnel via the built-in voice response system.
SemaDigit pager messages	Older types of alarm diallers that forward their alarm data using the SemiDigit pager protocol can call the ARA.
Modem messages	Alarm diallers that forward their alarm via a modem protocol (incl. ARA protocol, semascript) can call the ARA.
Dialling out	The line interface is used to call up service personnel.
Tone code	Establish the telephone connection using tone code.
Impulse code	Establish the telephone connection using impulse code.
Select outside line	What number is to be dialled for selecting an outside line. Unless it is explicitly specified that the number of a service person is an internal number (see Section 5: Set Service Groups), an outside line will first be selected via this alarm dialler for calling up service personnel.
Number of ringing signals	Specify the number of ringing signals within which the call must be answered.
System errors	Identify the service personnel to be called in the event of system errors (such as network failure, PC failure).
Audible alarm	Output 1 (switching contact) of the line interface is activated for an audible alarm for an operator message. This output can be connected to an external alarm buzzer.

8.2.4 Preferred/backup alarm methods

If the ARA alarm centre has two types of line interfaces (PSTN, GSM), then it is possible to select the preferred and backup line interface for each alarm method.

	Preferred	Backup
SemaDigit	PSTN	GSM
Textbuzzer	PSTN	GSM
Maxer	PSTN	GSM
SemaScript	PSTN	GSM
Catch	PSTN	GSM
TravelText	PSTN	PSTN
SMS-KPN	GSM	PSTN
Spraak (PSTN)	PSTN	GSM
Spraak (GSM)	GSM	PSTN

The benefits of selecting a preferred and backup line interface are as follows:

- Alarms will always get through, even when one of the two telephone networks goes down.
- Provides cost savings by placing calls from GSM to GSM and from PSTN to PSTN.
- Provides cost savings by permitting the ARA alarm centre to call on the basis of a group subscription.
- A GSM interface - in the event of SMS messages - offers higher reliability than forwarding alarms via the analogue SMS switchboard (06 53141414).

The ARA alarm centre will always forward alarms via the preferred network unless all preferred alarm diallers fail. That means that if the ARA alarm centre has access to two GSM and two PSTN line interfaces, both network types must fail before the backup is selected.

An alarm for a service person with a number associated with an internal line, will not be picked up by a backup network. For example:

The alarm method for service person 'Hank (internal service)' is Voice (PSTN) and Hank has an internal telephone number.

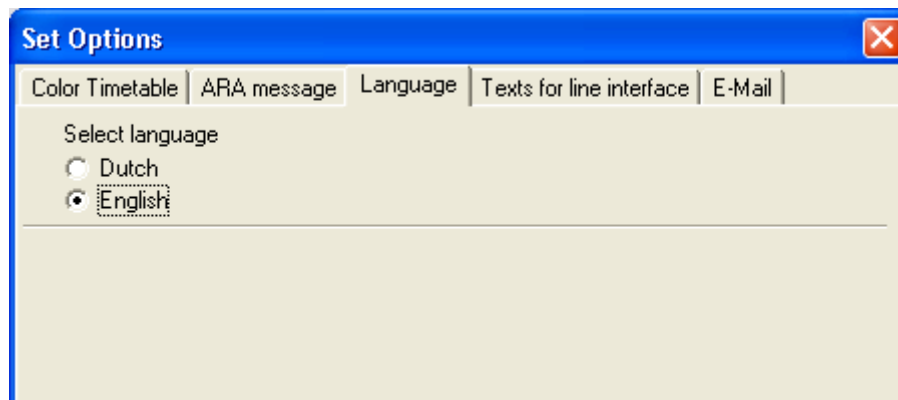
Report To:	Spraak (PSTN)
Call number:	53
Inside line	<input checked="" type="checkbox"/>

Hank's telephone number cannot be dialled via GSM. If the land line (PSTN) fails, any alarms for Hank will remain queued until this line is repaired. It is therefore important to avoid exclusively linking a service person called up via an internal line to critical alarms.

8.3 Set Language

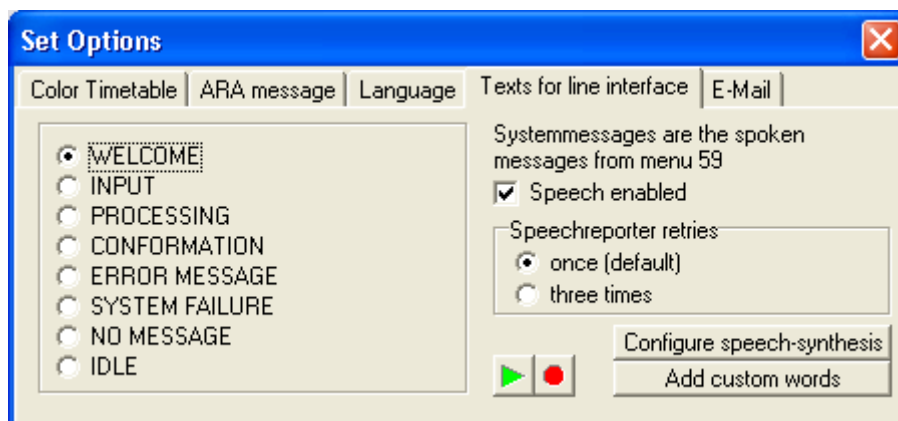
The ARA software package can be used in Dutch as well as English.

Start via 'Set Options..., Language'



8.4 System texts and speech synthesis

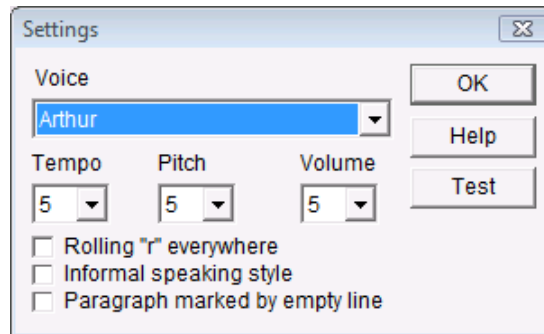
The ARA-pro system comes with a number of standard system texts. If desired, you can record changes to the system texts using a microphone connected to your PC, for example. Click on the red recording button to record text.



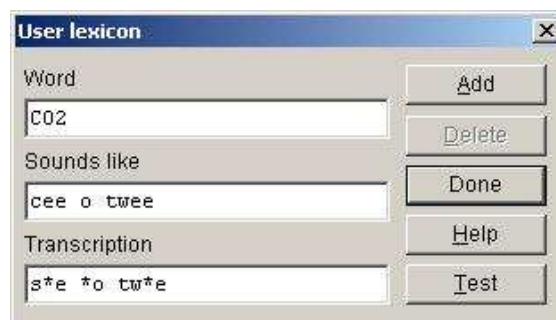
If your system is equipped with **speech synthesis** (AR-SPEECH option), you can configure the settings for this system here. Speech synthesis software can automatically pronounce the location and alarm texts that you typed in. In relation to texts that you record yourself, the benefit is that the changes input are immediately processed and pronounced as such.



The following window will appear for configuring the speech synthesis settings:



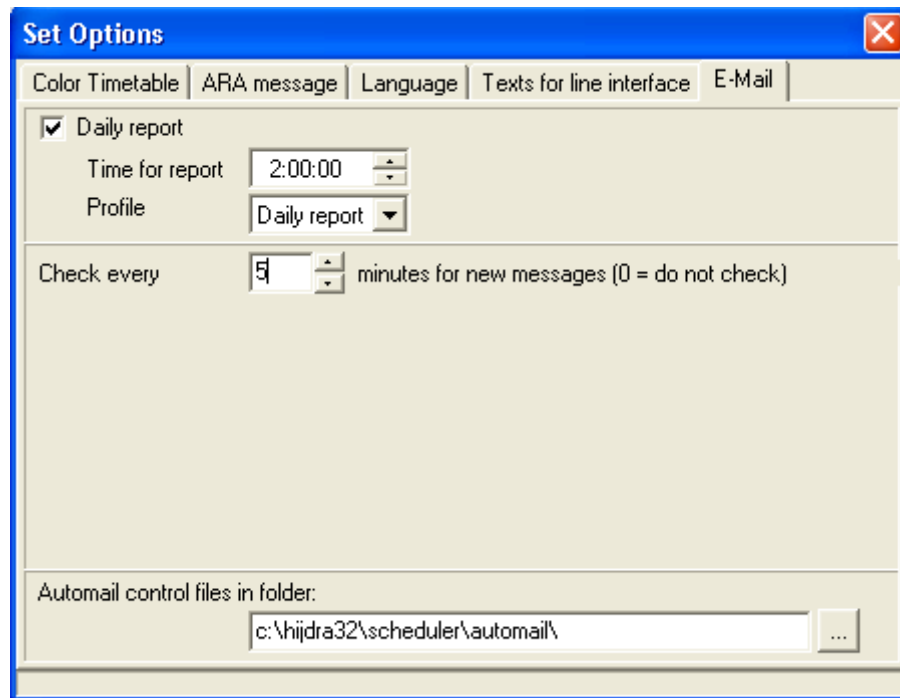
You can also add words here that will be pronounced by the speech synthesiser, for example 'CO2'.



The Help function provides additional information about the settings.

8.5 E-mail

The ARA-pro system can send and receive e-mail messages. Section 13: E-mail reporting and receipt contains additional information on this topic.



The screenshot shows a Windows-style dialog box titled "Set Options" with a close button (X) in the top right corner. The dialog has several tabs: "Color Timetable", "ARA message", "Language", "Texts for line interface", and "E-Mail". The "E-Mail" tab is selected. Inside the dialog, there is a checked checkbox for "Daily report". Below it, there are two fields: "Time for report" with a value of "2:00:00" and a spinner control, and "Profile" with a dropdown menu showing "Daily report". Further down, there is a "Check every" field with a value of "5" and a spinner control, followed by the text "minutes for new messages (0 = do not check)". At the bottom, there is a section labeled "Automail control files in folder:" with a text input field containing the path "c:\hijdra32\scheduler\automail\" and a browse button (three dots).



9. The Log

The ARA log provides a good overview of the alarm history. All events are recorded in this log. This enables you to see when an alarm arose, when service personnel was called up and when they responded, when the alarm was cancelled, etc.

9.1 Example

Datum	Tijd	Volgnr.	Alarm	Operator / Serviceman	Gebeurtenis
2-7-2009	13:48:42	20	Demolocatie.Overstort		Ontvangst alarmmelding
2-7-2009	13:48:42	20	Demolocatie.Overstort		Oproepen 1 serviceman
2-7-2009	13:48:42	20	Demolocatie.Overstort		Operator Melding
2-7-2009	13:49:05	20	Demolocatie.Overstort	O: --	operator melding bevestigd: --
2-7-2009	13:49:39	20	Demolocatie.Overstort	S: Kees	Opgeroepen: Kees
2-7-2009	13:49:39	20	Demolocatie.Overstort	S: Kees	Kees oproep bevestigd
2-7-2009	13:49:39	20	Demolocatie.Overstort		Oproepprocedure beëindigd
2-7-2009	13:49:44	21	Demolocatie.Pompstoring		Ontvangst alarmmelding
2-7-2009	13:49:44	21	Demolocatie.Pompstoring		Oproepen 1 serviceman
2-7-2009	13:49:44	21	Demolocatie.Pompstoring		Operator Melding
2-7-2009	13:50:02	21	Demolocatie.Pompstoring	O: --	operator melding bevestigd: --
2-7-2009	13:50:43	21	Demolocatie.Pompstoring	S: Jan	Jan oproep mislukt
2-7-2009	13:52:20	21	Demolocatie.Pompstoring	S: Kees	Opgeroepen: Kees
2-7-2009	13:52:20	21	Demolocatie.Pompstoring	S: Kees	Kees oproep bevestigd
2-7-2009	13:52:20	21	Demolocatie.Pompstoring		Oproepprocedure beëindigd
2-7-2009	14:16:01	22	Demolocatie.Pompstoring		Ontvangst rustmelding
2-7-2009	14:16:01	22	Demolocatie.Pompstoring	S: Kees	Doormelden rustmelding

The 'Pump failure' alarm is received at 13:49 at the 'Demo Location'. ARA reviews the settings and initiates a call-up procedure and issues an operator message. The standard operator (designated as '--') confirms the alarm at 13:50. The first call-up of a service person fails. Service person Kees finally accepts the call at 13:52. This terminates the call-up procedure. The failure was resolved almost half an hour later at 14:16. This is still confirmed with Kees via a message.

9.2 Operation

Start up via 'File, Log...' or via the 'Log' quick start icon.

The screenshot shows the 'Inzien logboek' window with the following data in the table:

Datum	Tijd	Volgnr.	Alarm	Operator / Serviceman	Gebeurtenis
2-7-09	13:48:42	20	Demolocatie.Overstort		Ontvangst alarmmelding
2-7-09	13:48:42	20	Demolocatie.Overstort		Oproepen 1 serviceman
2-7-09	13:48:42	20	Demolocatie.Overstort		Operator Melding
2-7-09	13:49:05	20	Demolocatie.Overstort	O: --	operator melding bevestigd: --
2-7-09	13:49:39	20	Demolocatie.Overstort	S: Kees	Opgeroepen: Kees
2-7-09	13:49:39	20	Demolocatie.Overstort	S: Kees	Kees oproep bevestigd
2-7-09	13:49:39	20	Demolocatie.Overstort		Oproepprocedure beëindigd
2-7-09	13:49:44	21	Demolocatie.Pompstoring		Ontvangst alarmmelding
2-7-09	13:49:44	21	Demolocatie.Pompstoring		Oproepen 1 serviceman
2-7-09	13:49:44	21	Demolocatie.Pompstoring		Operator Melding
2-7-09	13:50:02	21	Demolocatie.Pompstoring	O: --	operator melding bevestigd: --
2-7-09	13:50:43	21	Demolocatie.Pompstoring	S: Jan	Jan oproep mislukt
2-7-09	13:52:20	21	Demolocatie.Pompstoring	S: Kees	Opgeroepen: Kees
2-7-09	13:52:20	21	Demolocatie.Pompstoring	S: Kees	Kees oproep bevestigd
2-7-09	13:52:20	21	Demolocatie.Pompstoring		Oproepprocedure beëindigd
2-7-09	14:16:01	22	Demolocatie.Pompstoring		Ontvangst rustmelding
2-7-09	14:16:01	22	Demolocatie.Pompstoring	S: Kees	Doormelden rustmelding
2-7-09	14:16:39	23	Demolocatie.PLC uitgevallen		Ontvangst alarmmelding
2-7-09	14:16:39	23	Demolocatie.PLC uitgevallen		Oproepen 1 serviceman
2-7-09	14:16:39	23	Demolocatie.PLC uitgevallen		Operator Melding
2-7-09	14:16:56	23	Demolocatie.PLC uitgevallen	O: --	operator melding bevestigd: --
2-7-09	14:18:15	24	Demolocatie.Overstort		Ontvangst rustmelding
2-7-09	14:18:15	25	Demolocatie.PLC uitgevallen		Ontvangst rustmelding
2-7-09	14:18:19	23	Demolocatie.PLC uitgevallen	S: Jan	Opgeroepen: Jan

Filter settings: Datum filter: 2-7-2009 to 2-7-2009; Volgnummer filter: 1000 to 9999; Alarm filter: (empty); Toon altijd Ara Locatie- en Alarmnamen: (checked); Exporteren: (button).

Memo: oorzaak: stroomstoring

9.2.1 The Memo field

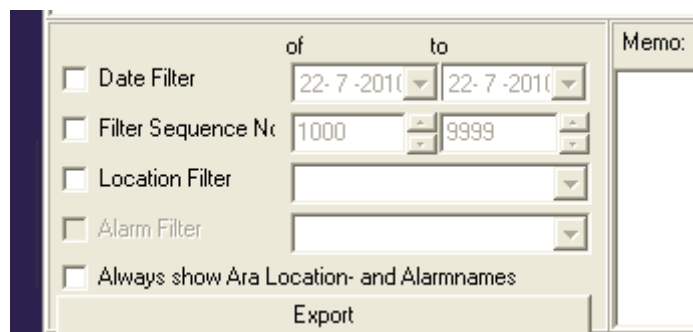
You can use the Memo field to enter comments in support of the information in the log. This way you build up historical information about the alarms.

9.2.2 Filtering log information

The settings for configuring the log filter are shown at the bottom left of the log window. The standard option is for the filter to be switched off, so that you see the entire contents of the log. ARA allows you to filter this information on the basis of the following criteria:

- **Date:** to view alarm information for a specific period.
- **Sequence number:** to track the handling of a specific alarm.
- **Location:** to obtain an overview of the alarms at a specific location.
- **Location alarm:** to obtain an overview of a specific alarm at a specific location.

These filters can be used in combination if desired. For example, to view all of the alarms at 'Demo Location' on 12 September 2003, you would use the following filter:



of to Memo:

Date Filter 22-7-2010 22-7-2010

Filter Sequence No. 1000 9999

Location Filter

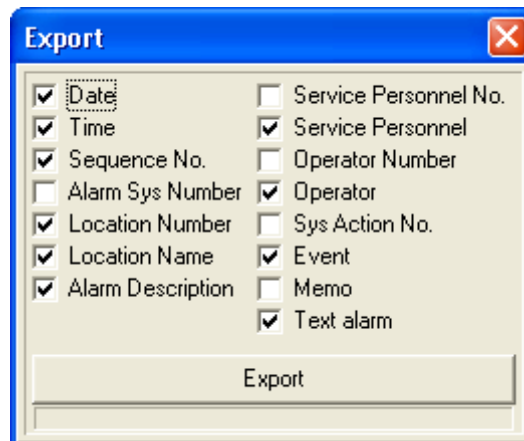
Alarm Filter

Always show Ara Location- and Alarmnames

Export

9.2.3 Exporting

You can use the Export function if you wish to analyse the log data or incorporate it into reports. The Export menu appears by clicking on the Export button at the bottom of the log window.



Export

Date Service Personnel No.

Time Service Personnel

Sequence No. Operator Number

Alarm Sys Number Operator

Location Number Sys Action No.

Location Name Event

Alarm Description Memo

Text alarm

Export

This is where you select the data that is to be included in the export file. After you click on the 'Export' button you are asked to specify the location of the export file. A CSV file (comma delimited) is subsequently generated. You can open this file in almost any spreadsheet application, such as MS Excel.



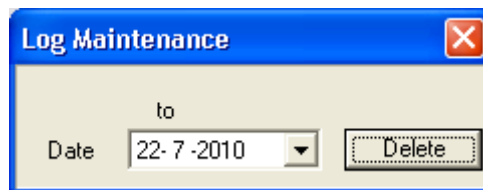
Explanation of export data:

Export data	Explanation
Date/time	Time at which the event occurred.
Sequence number	Sequence number assigned to the alarm on receipt. All events associated with the same alarm are assigned the same sequence number.
Alarm Sys Number	All alarms at different locations are assigned a unique number within ARA, the Alarm Sys Number. Exporting this number may be handy if you want to search on a specific alarm in your spreadsheet.
Location number	The specified location number.
Location name	The specified location name.
Description of alarm	The specified alarm name.
Service person number	A unique number that ARA assigns to each service technician.
Service person	The specified name of the service technician.
Operator number	A unique number that ARA assigns to each operator.
Operator	The specified name of the operator.
Sys Action Number	A unique number for each event. Exporting this number may be handy if you want to search on a specific event in your spreadsheet (e.g., the time at which alarms are received).
Event	Description of an event.
Memo	Memo field text.
Alarm text	(Only if the ARA-TXT option has been set). The text of the alarm received.

9.3 Log Maintenance

Because all ARA events are entered in the log, the log could contain a superabundance of information after a period of time. This could affect the processing speed of the log window. Actions, such as opening, filtering and exporting then take an inordinate amount of time. This is why it is recommended that you regularly clean up the log. This can be done on the basis of fixed periods or at the instigation of ARA.

Start up via 'File, Log Maintenance'.

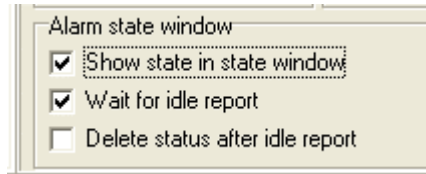


- Enter the date. All data prior to this time will be removed.
- Click on 'Remove'.
- Confirm the warning.
- Specify the name of the archival file (mandatory).
- The data are removed.

Note: When you remove data from the log, you must specify an archival file. This is a CSV file (comma delimited) in which all the removed events are stored. The data in the log is consequently not permanently removed from the system. For example, you can once again retrieve the old data via a spreadsheet application.

10. The alarm state window and the status floor plan

The alarm state window provides you with a current overview of all alarms. In the menu 'Set Locations', you can specify whether a certain alarm should be shown in this state window. Depending on this setting the state window responds as follows:



New alarm arrives



Service personnel is called up.
Alarm state is reporting.



Call up procedure is terminated



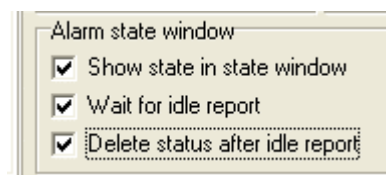
Alarm is still active, ARA waits for idle report
Alarm state is reported



Idle report arrives



Alarm state is idle report



New alarm arrives



Service personnel is called up
Alarm state is reporting



Call up procedure is terminated



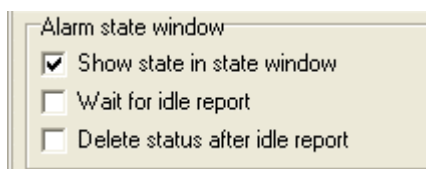
Alarm is still active, ARA waits for idle report
Alarm state is reported



Idle report arrives

(Removed)

Alarm is idle, while 'Remove status after idle report'
has been set



New alarm arrives



Service personnel is called up
Alarm state is reporting



Call up procedure is terminated

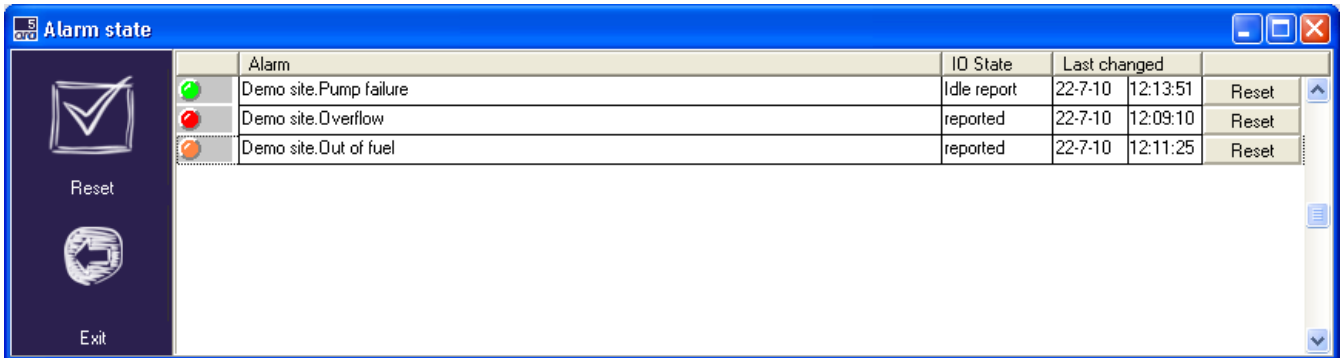


ARA does not expect an idle report and therefore
does not know what the current state of the alarm
is. The line is displayed on the screen to indicate
that the alarm occurred.
Alarm state is reported



10.1 Operation of alarm state window

Start up via 'File, Alarm State' or via the 'Alarm State' quick start icon.



The alarm state window will consistently show the current alarm state.

10.1.1 Reset individual alarm line

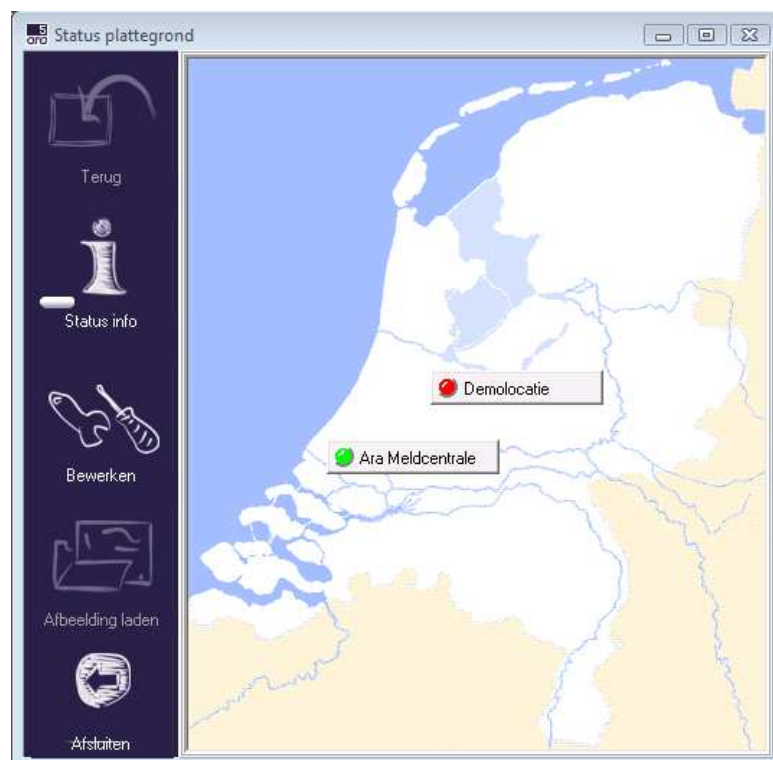
- Click on the 'Reset' button in the alarm line.
- Confirm the warning.

10.1.2 Reset all lines for which the alarm has been handled

- Click on the 'Reset' button at the bottom right of the screen.
- Confirm the warning.
- All lines with the status green or orange are removed from the list.

10.2 Operation of the floor plan

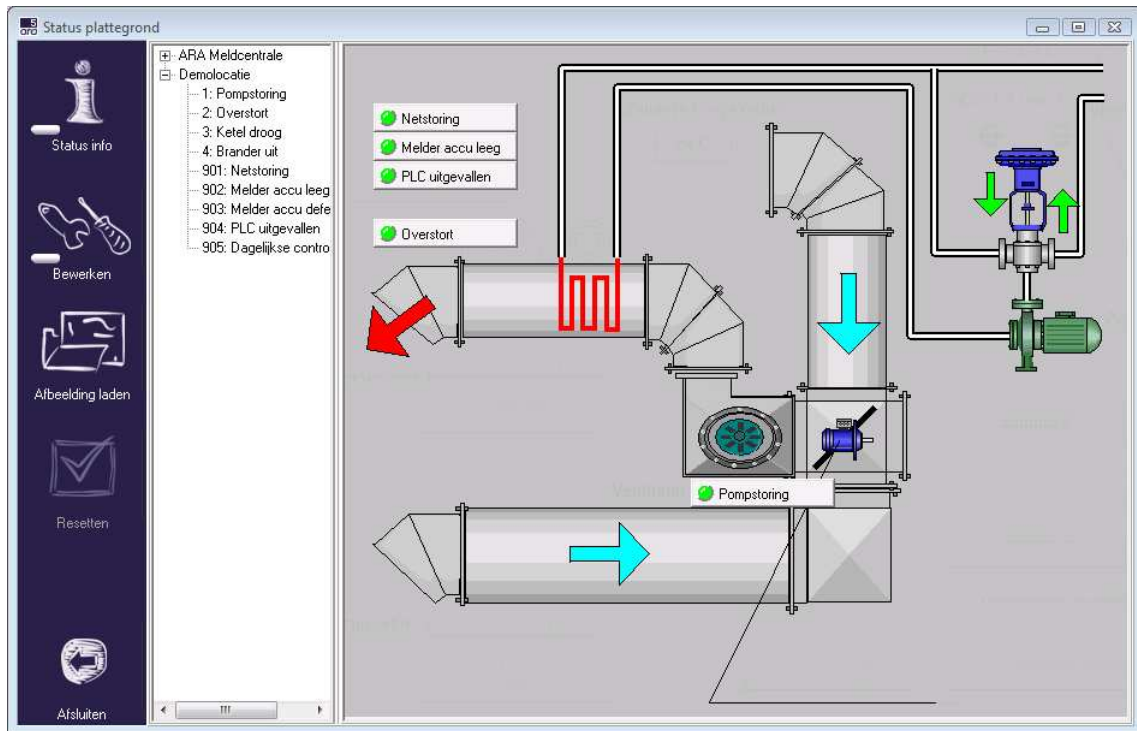
The status of selected alarms can be displayed in a well-organised way on the alarm floor plan.



If the AR-MAPD option is registered, multiple maps can be created that can be managed from within a single main map. If the 'Back' button at the left of the screen is visible and active, a detailed map has been selected. Click on this button to go back to the main map.

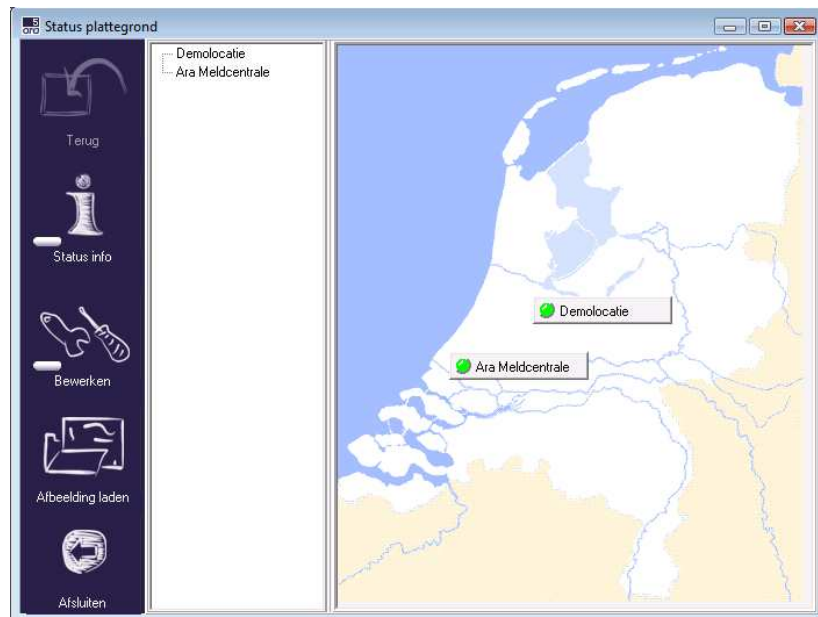
10.2.1 Configuring the floor plan (without detailed maps)

Open the window by selecting the option 'Floor plan' from the 'File' menu.



- Click on the 'Edit' button.
- Click on the 'Load images' button to select a background. This can be a JPG or BMP file.
- The list at the left now contains all of the alarms for which the option 'Show in state window' has been selected in the 'Set Locations' window.
- The alarms can be dragged onto the floor plan with the mouse.
- Once again click on the 'Edit' button to terminate the configure settings process.

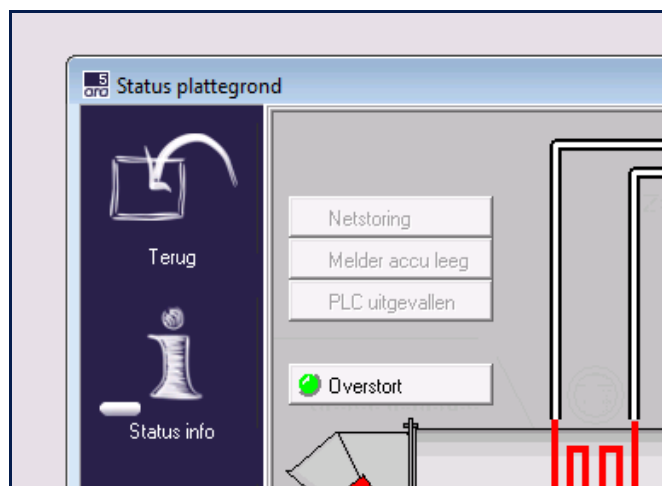
10.2.2 Configuring the floor plan (main map with detailed maps)



- Click on the 'Edit' button.
- Click on the 'Load images' button to select a background. This can be a JPG or BMP file.
- If the main map has been selected, the available detailed maps will now be listed on the left.
- Right-click with the mouse in the list and select 'Add' to add a detailed map.
- Right-click with the mouse on the name of a detailed map to change the name or to remove the entire map.
- The detailed maps can be dragged onto the main map with the mouse.
- Double click on the name of a detailed map in the list in order to open up this map. This map can now be edited as described above.
- Once again click on the 'Edit' button to terminate the configure settings process.

10.2.3 Navigating between main and detailed maps

- If the 'Back' button at the left of the screen is visible and active, this means that a detailed map has been selected. Click on this button to go back to the main map.
- Click on the button on the main map to view the detailed map.
- If the 'Edit' button is depressed, a detailed map can be opened by double clicking on the name of the detailed map on the left part of the screen.



10.2.4 Resetting an individual alarm

- Click on the 'alarm' button.
- Confirm the screen.

10.2.5 Reset all lines that are not listed as part of the alarm

- Click on the 'Reset' button at the right on the bar.
- Confirm the screen.
- All alarms with the status green or orange are switched off.

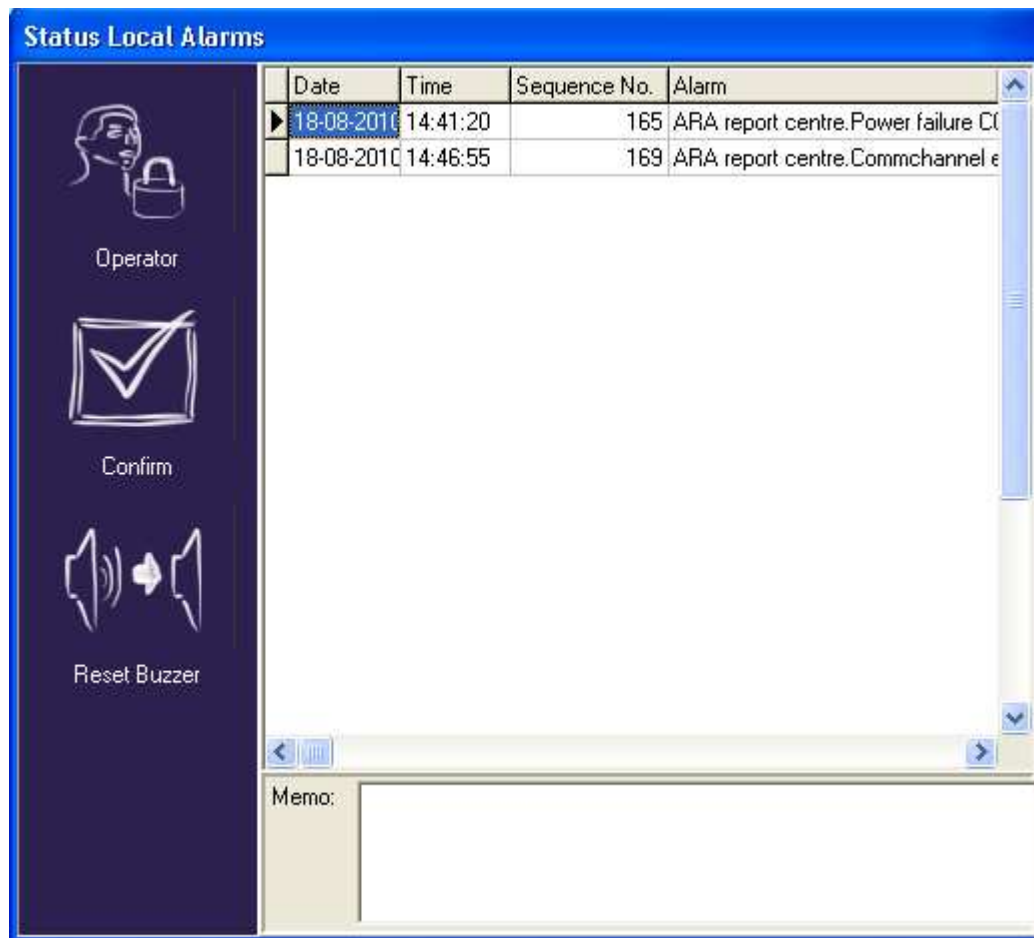


11. The Operator Message

The operator message is a list of the alarms that came in. The message is displayed on the PC on which AraReport is active (in other words, the PC to which the line interface is connected). As soon as an alarm is received for which the operator message to be displayed setting is checked off in 'Set Locations', the operator message window appears. The alarm must then be confirmed by one of the operators. The display as well as the confirmation of an operator message is recorded in the log.

11.1 Operation

The operator message window is started up automatically when an alarm, for which the operator message to be displayed setting is checked off in 'Set Locations', is received.



The window containing the operator message will always be displayed on top of any other Windows screen. This way you cannot miss an alarm when you use your PC for other purposes. The audible signal, if any, can be turned off with the 'Reset Buzzer' button. Click on an alarm line, followed by the 'Confirm' button to confirm the line. Only once all alarms have been confirmed, will the 'Close' button appear. The operator message window will then disappear.

Note: When the operator window appears, the standard operator is always logged in. If this operator does not have the authority to confirm alarms or to rest the audible signal, the relevant buttons will not be visible. Only once the login is under the proper operator name will the buttons reappear.

12. Set Alarm Diallers at Location

To report an alarm to ARA, the alarm dialler at the location must be configured as follows:

12.1 Modalarm-T(R)

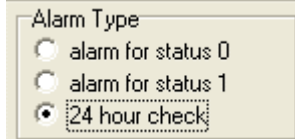
The Adesys Modalarm-T alarm dialler is equipped with a special ARA alarm protocol. This protocol makes it possible to send multiple alarms with a single dialling action. All alarm information is automatically forwarded. This alarm dialler should be configured as follows:

REPORT TO:	ALARM CENTRE
RECEIVER	ARA
DIALLING NUMBER:	(ARA alarm centre number)
LOCATION CODE:	(location code)
ACCEPTANCE	BY ALARM CENTRE
WAIT IF FAILED ATTEMPT:	02 MIN

The setting 'Wait if failed attempt' ensures that if the ARA alarm centre is busy, there are no blockages. The time is dependent on the expected level of activity at the ARA alarm centre and the number of line interfaces.

The alarm numbers that must be set for ARA are as follows:

- 01 Alarm channel 1
- 02 Alarm channel 2
- etc. (depending on the type of alarm dialler)
- 901 Network failure
- 902 Battery empty
- 903 Battery defective
- 904 Watchdog error
- 905 24-hour alarm, set as follows:



The screenshot shows a window titled "Alarm Type" with three radio button options: "alarm for status 0", "alarm for status 1", and "24 hour check". The "24 hour check" option is selected and highlighted with a dashed border.

For additional settings, read the alarm dialler's user manual.



12.2 Octalarm-IP

The Octalarm-IP alarm dialler, provided it has system version 2.6.0 or higher, is equipped with a special ARA alarm protocol. The option 'ARA' can be selected in the Octalarm-IP's *telephone directory* under alarm receivers. This protocol makes it possible to send multiple alarms with a single dialling action. All alarm information is automatically forwarded. Set the following options for the relevant alarm receiver in the *telephone directory*:

Report to:	Send message
Type of message	ARA
Location number:	(location code)
Line interface telephone number:	(ARA alarm centre number)

The alarm numbers that must be set for ARA are as follows:

- 01 Alarm channel 1
- 02 Alarm channel 2
- etc. (depending on the number of contact inputs)
- 901 Network failure
- 902 Battery empty
- 903 Battery defective
- 904 Watchdog error
- 905 24-hour alarm, set as follows:

Alarm Type

alarm for status 0

alarm for status 1

24 hour check

- 906 PSTN defective
- 907 PSTN no network
- 908 GSM defective
- 909 GSM no network
- 910 Sensor bus defective
- 911 ACC not available

For additional settings, read the alarm dialler's user manual.

12.3 Alarm dialler suitable for reporting to SemaScript

12.3.1 General

Alarm diallers that can call a SemaScript can also be used for reporting to ARA. This also applies to the older Adesys generation of alarm diallers, such as the Modalarm-1200 series, for example. These alarm diallers must be programmed with the dial-up number of the ARA alarm centre. The alarm message sent must include the location code and the alarm. The message is structured as follows:

```
<location><alarm><stat>      Location = location code
                               Alarm = alarm number
                               Stat = input status: 0 or 1
```

The message may include additional text as necessary, for example for reporting directly to a text pager. The following examples all issue Location 1244, Alarm 7, Status Active.

- <1244><07><1>
- <1244> Borstsloot pump 7 <7> in fail state<1>
- Borstsloot pump failure<1244><7><01>

12.3.2 Octalarm-T

Specific settings for the Octalarm-T:

```
Type of pager:      (alpha)numeric
Pager model:       (alpha) SemaScript
Pager switchboard no.: 017412345 (number of line interface)
Pager number:     0665123456 (fictitious number)
Reset:           by alarm centre, wait if failed attempt: 01 min.
```

The alarm texts must then still be entered in Menu 55 of the Octalarm-T according to the following protocol:

```
<LLLL><II><S>
```

Where LLLL is the location code, II is the input and S is the status. Because the Octalarm does not have any recovery alarms, the status is always 1.

Suppose the location code is 0100, then the texts to be entered are as follows:

```
Alarm 1: <0100><01><1>
Alarm 2: <0100><02><1>
Alarm 3: <0100><03><1>
Alarm 4: <0100><04><1>
Alarm 5: <0100><05><1>
Alarm 6: <0100><06><1>
Alarm 7: <0100><07><1>
Alarm 8: <0100><08><1>
Network failure: <0100><09><1>
Battery defective: <0100><10><1>
```



12.4 Alarm dialler suitable for reporting to Semadigit

ARA can also receive alarms from Semadigit alarm diallers. The Semadigit message in that case must be structured as follows:

LLLLAASxx

LLLL = location code

AA = alarm number

S = input status: 0 or 1

xx = any additions, these codes are generated by ARA.

13. E-mail reporting and receipt

13.1 Operation

ARA-pro can send and receive e-mail messages:

- Send an e-mail report for each alarm.
- Send an e-mail report each day.
- Receiving alarm messages by e-mail.

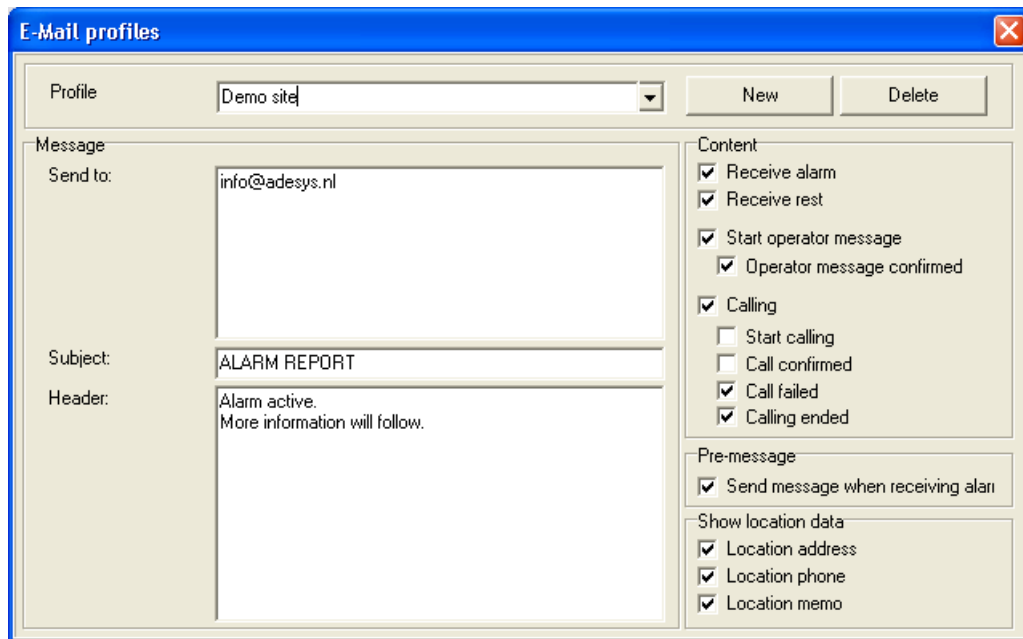
13.1.1 Sending

The messages sent are for reporting purposes, not for alarm notification purposes.

13.1.2 Profiles

Profiles are defined for sending messages. A profile contains a description of the data to be included in a message, as well as the e-mail addresses to which the message should be sent.

The content of the message consists of a header (potentially supplemented with the relevant alarm's location details) and a number of log entries. Open the 'Settings' menu and select the 'E-mail' option for this purpose.



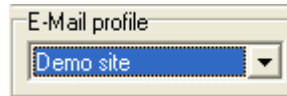
- Click on 'New' to create a new profile.
- Click on 'Remove' to remove the selected profile.
- Select a profile from the list for editing.

Setting	Explanation
Send to	One or more e-mail addresses.
Subject	The text that is entered into the subject line of the message.
Header	The text entered into the e-mail message, preceding the alarm messages.
Content	The log entries that are sent.
Pre-message	The e-mail message is normally sent after the call-up procedure has been completed. If 'Pre-message' is selected, a message is also sent by ARA upon receipt of the alarm. This setting is not applicable if the profile is used for the purpose of providing a daily report.
Show location data	The selected data is added to the header of the message.



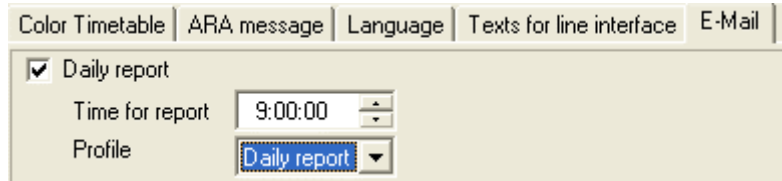
13.1.3 Message by alarm

In the 'Set Locations' window the profile to be used for each alarm can be specified. Select '—' not to send any messages here.



13.1.4 Daily message

The 'Set Options' window is used to set the time and profile for the daily report.

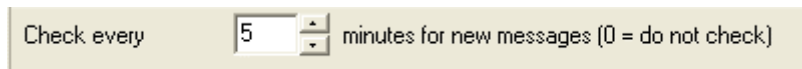


13.2 Received

ARA at regular interval checks to see if there are any alarm messages in a mailbox. These alarm messages must be structured as follows:

- The subject line of the message contains the alarm message.
- The subject line of the message begins with the text 'ARA E-MAIL' followed by an alarm message in SemaScript format.
For example: ARA E-MAIL <1244>Borststoot 7 <7>in fail state<1>
- The additional content of the messages is generated.
- The message is processed from there as an alarm arriving via the line interface.

The setting for retrieving messages is configured in the 'Set Options' window:



13.3 AutoMail

The AutoMail application looks after the e-mail communications. This application is automatically started up by AraReport and is visible on the task bar alongside AraReport and AraPort.



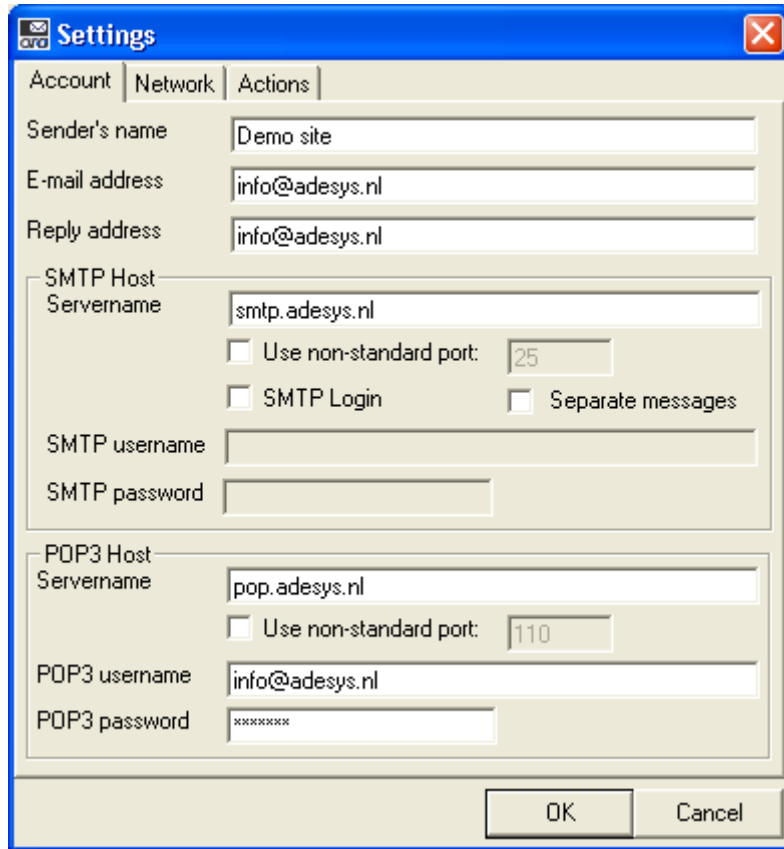
The sending and receiving settings for e-mail servers must be maintained in AutoMail.

- Double click on the icon on the task bar.
- If the icon is not present: start AutoMail via Start > Programs > Ara > AutoMail.



- Click on the right-most icon on the task bar ('Edit Properties') to open the settings window.

13.3.1 E-mail servers

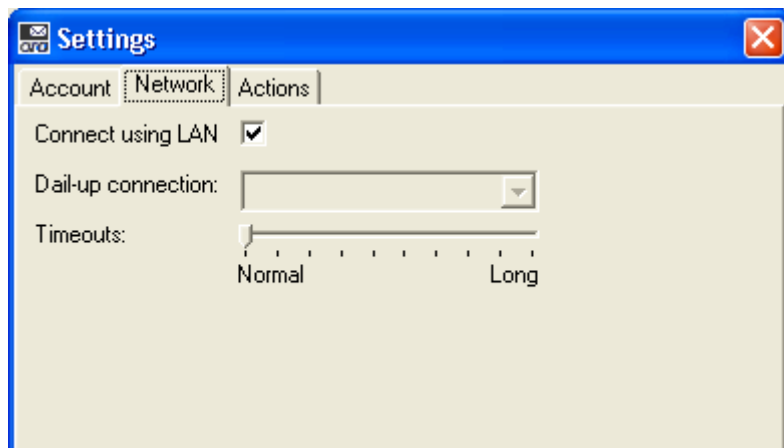


The screenshot shows the 'Settings' dialog box with the 'Account' tab selected. The fields are as follows:

- Sender's name: Demo site
- E-mail address: info@adesys.nl
- Reply address: info@adesys.nl
- SMTP Host: smtp.adesys.nl
- Use non-standard port: (25)
- SMTP Login:
- Separate messages:
- SMTP username: [empty]
- SMTP password: [empty]
- POP3 Host: pop.adesys.nl
- Use non-standard port: (110)
- POP3 username: info@adesys.nl
- POP3 password: [masked]

Enter the information for the POP and SMTP server to be used.

13.3.2 Network



The screenshot shows the 'Settings' dialog box with the 'Network' tab selected. The options are as follows:

- Connect using LAN:
- Dail-up connection: [dropdown menu]
- Timeouts: [slider bar from Normal to Long]

If a dial-up connection is used, clear the 'Connect using LAN' option and select the dial-up connection to be used. In all other instances the 'Connect using LAN' option must be checked off.

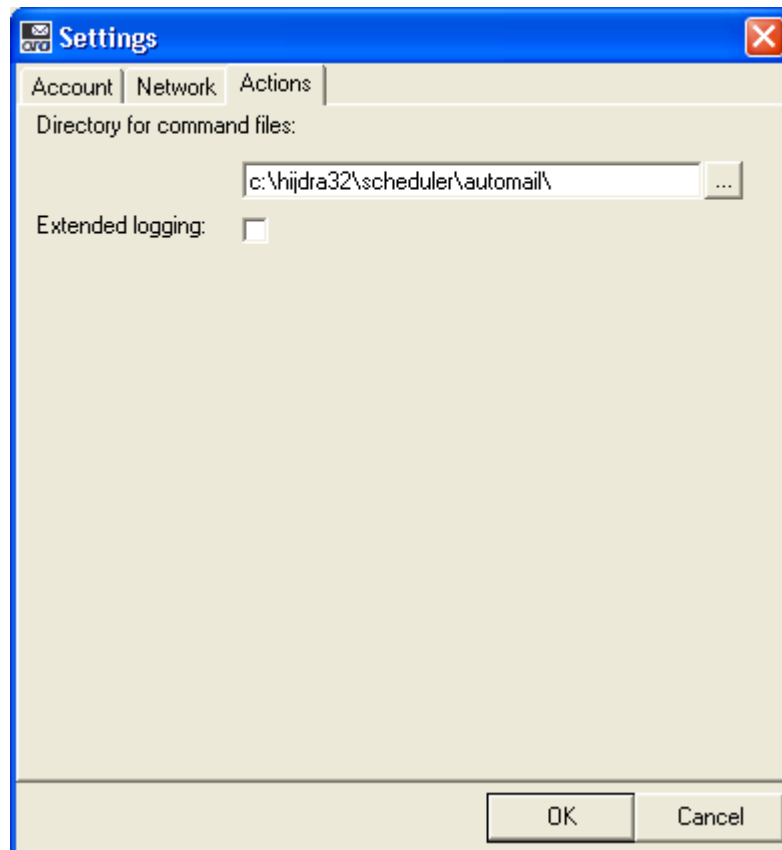
If the connection is very slow, it may be useful to move the 'Timeouts' bar to the right.



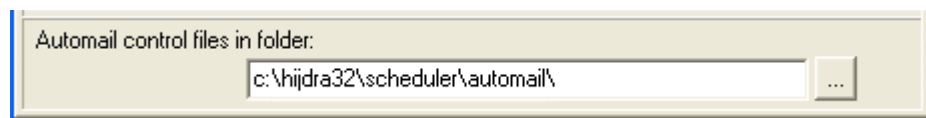
13.3.3 Communication between ARA and AutoMail

Communication between ARA and AutoMail is effected via control files. Normally there is no need to change any of the settings for this purpose, however, in the event that it is not possible to establish an internet connection on the ARA PC, AutoMail can be installed on another PC connected to the ARA PC via the network. In that case, the settings in ARA as well as AutoMail must be configured to identify the directory that contains the control files. Make sure that the settings in both instances are the same.

AutoMail:



ARA:



14. Error Messages and Solutions, Recommendations

This section provides additional information concerning any system faults and error messages within the ARA-pro system. In addition, this section describes how a PC can be securely controlled remotely and how a backup can be created.

14.1 ARA Alarm Centre (Location 9999)

ARA-pro can generate its own alarms. These alarms are part of Location 9999 (ARA Alarm Centre).

1: COM channel error

Communication error for one of the line interfaces. Potential causes:

- Serial cable to the line interface pulled loose.
- Defective line interface.
- Defective COM port.
- Problem with the COM port drivers or other PC software.

Try a different COM port or restart the PC.

This alarm occurs in various situations, such as when certain USB > RS232 converters are used. Adesys recommends Sitecom's converters.

2: Watchdog error

This error message is no longer used.

3: Printer error

Error in printing to the log printer. Check the printer.

4: Hard drive almost full

Hard drive almost full. Check the available space on the PC's hard drive.

This error message is generated by Windows. Because Windows sometimes generates this error message erroneously, the hard drive is checked in a different way starting with Version **5.1.14.0**. There should therefore no longer be any false error messages starting with this version.

5: OI Watchdog Timeout

Watchdog for the DDE or IP link. Communication with an external application, such as AraLocal, ARA-PO, ARA-TCR or an in-house developed application, was dropped. Potential causes:

- Application was intentionally/unintentionally closed.
- Application crashed or hangs.
- Firewall blocks communication.
- Conflict with other PC software.
- Network problems (if the application runs on another PC).

Check the application or restart the PC.

6: Impossible to forward urgent alarm

If there is an urgent alarm while no one has been scheduled, it should in theory be impossible for that alarm to dial out. In that case System Error 6 for Location 9999 becomes active. The message in that case is: impossible to forward urgent alarm.

This specific alarm must also be linked to a service group and that group must in turn be scheduled. If this is neglected, ARA uses the following setting:

- The alarm is always treated as urgent, independent of the original setting;
- 1st line service personnel is called up first;
- If this does not produce the desired result, 2nd line personnel is called up as well;
- If this also does not produce the desired result, the rest of the group (except persons reported as unavailable) are called up, even if they are not scheduled;
- If still too few people have been called up, then the emergency numbers of the line interfaces (see Section 8.2.3) are called up, insofar as there is no overlap with the rest.

7: E-mail communication failed

Error message received from AutoMail. The e-mail was not sent. Check the network or the e-mail server.



8: IP client system error (starting with Version 5.1.6)

Can be used by an IP client, such as ARA-PO for example. In case of ARA-PO, this error message appears when communications with the Priva Office server has been dropped.

9: IP client setting error (starting with Version 5.1.6)

Can be used by an IP client, such as ARA-PO for example. In case of ARA-PO, this error message appears when a Priva Office location has not been, or has been erroneously, connected to an ARA alarm. This alarm also becomes active, if for example, a Dupline master module fails and no alarm has been connected to it (Alarm 99, see Other Faults).

10: Maximum call-up time exceeded (starting with Version 5.1.14.0)

Starting with version 5.1.14.0, alarms can remain in the buffer memory for a maximum of 1 week. If an alarm still not stopped reporting at that point in time, it is removed and System Error 10 is activated. This could happen, for example, when a non-urgent alarm is waiting for a 1st line service, while only a 2nd line service has been scheduled.

11-19: OI Watchdog X Timeout (starting with version 5.1.16.0)

Several IP connections can be monitored at the same time. Indeed, it is possible for multiple tools to be used simultaneously, such as, for example ARA-PO and, from another PC, AraLocal. Aside from Alarm 5 (OI Watchdog Timeout), nine additional alarms are available for this purpose.

Alarm 5 monitors the standard watchdog (WD 0), which is generally used by ARALocal.

If multiple connections are monitored, each connection must be given its own watchdog. Alarm 11 in that case belongs to Watchdog 1 (WD 1), Alarm 12 to Watchdog 2 (WD 2), etc.

81-90: Telephone line error COM X (starting with Version 5.1.19.0)

The status of the telephone line can be queried for line interfaces with Version 3.61 or higher. This makes it possible to switch over to the backup interface if the preferred interface is switched off. These faults can also be dialled out via the backup interface.

91-100: COM X mains power supply fault (starting with Version 5.1.19.0)

The status of the mains power supply can be queried for line interfaces with Version 3.61 or higher. This status can be used to dial out a mains power supply fault.

101-110: COM X empty battery (starting with Version 5.1.19.0)

The status of the internal battery can be queried for line interfaces with Version 3.61 or higher. This enables an alarm to be generated as soon as the battery of a line interface is empty.

111-120: COM X defective battery (starting with Version 5.1.19.0)

The status of the internal battery can be queried for line interfaces with Version 3.61 or higher. This enables an alarm to be generated as soon as the battery of a line interface becomes defective.

14.2 ARA system error

Under normal circumstances ARA sends a watchdog command to the line interface every minute. This way the interface knows that ARA is still active. When these commands are no longer transmitted, the interface will send an 'ARA System Error' after nine minutes. This message can be sent via voice or text depending on the settings. If this message is received, the ARA system must be checked immediately. The error could be caused by any of a number of problems: PC problems, ARA application problems or problems with the serial connection between the PC and the line interface.

14.3 Other Faults

Dupline master module defective

The Dupline master modules can be monitored by connecting Alarm 99 to Input Module A at the location which is linked to AraLocal. This alarm can be activated for several reasons:

- Defective master module;
- Serial cable pulled loose;
- Problem with the COM port.

If multiple modules experience a fault at the same time, it may be assumed that there is something wrong with the RS232/485 converter, the COM port or the serial cable.

Nudam input module defective

The Nudam input modules can be monitored by connecting Alarm 99 to the linked locations. This alarm is then activated if there is something wrong with the module. If this alarm goes off it is recommended that the module and the wiring be inspected.

Sound card not detected

Certain sound cards are not properly detected by ARA. This is often the case for mother boards with an onboard sound card. Sometimes it is helpful to install older, or rather newer, drivers. If this does not remedy the problem, one option is to disable the on-board sound card and install an external sound card.

False alarms issued by the Dupline bus

Every Dupline master module must have its own power supply. This power supply may not be simultaneously used for the I/O modules. Any false alarms must be checked.

ARA is flooded with a large number of alarms

When a Nudam or Dupline bus is used it is possible that the ARA becomes flooded with alarms, for example due to a disruption of the power supply. ARA normally would then call up each alarm one at a time, but it is also possible to reset all alarms all at once. This is done by selecting AraReport (double click on the AraReport icon at the bottom right) and then select 'Reset All Alarms' under 'Active Alarms'.

AraControl seems to be hanging

There are PCs that do not show certain pop-up screens in the foreground. For example, when a location, an alarm or a service technician is removed, a dialogue window should normally be displayed in the foreground that requests confirmation: 'OK' or 'Cancel'.

For these PCs, the message is out of reach of the mouse in the background, which makes it appear as if AraControl is hanging. To circumvent this, it is also possible to make the selection with the keyboard, instead of the mouse: the Enter key to select 'OK' (confirm) and the Esc key to select 'Cancel'.

Database Errors

Although the utmost care has been devoted to developing robust ARA-pro software, it is impossible to preclude external influences from disrupting the operation of the software. For example, a power failure or improperly shutting down the PC can cause the database files to become corrupt.

If AraReport during start-up detects that something was not properly shut down during prior use, the database will be automatically verified. This verification process can also be manually executed:

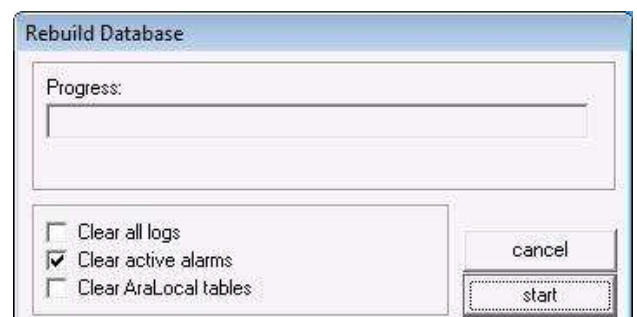
Close all ARA programs:

- AraReport (looks after the shutdown of AraPort and AutoMail);
- AraLocal;
- AraControl;
- AraWebview (shut down the website in IIS).

Go to Start > Programs > ARA > Repair Database. The following options can be selected as part of this process:

- Clear all logs: the log is cleared; **no** data is exported;
- Clear active alarms: active alarms are interrupted.
- Clear AraLocal tables: the tables with AraLocal settings are cleared. Note: the settings of all linked modules are lost as a result.

Click on 'Start' to start the verification process.





14.4 Remote control of the ARA-pro PC

The PC on which ARA-pro runs can be remotely controlled. This can be accomplished in various ways:

- AraWebview: ARA can be partially remotely controlled via the intranet using a browser. Only the log and the status screen can be viewed.
- By installing AraControl on various PCs on the intranet. A disadvantage of this is that only one user can be simultaneously active.
- Remote Control Tools: various tools are available to remotely control the PC, such as Microsoft's Remote Desktop (RDP), VNC, PC Anywhere, LogMeIn, TeamViewer, CrossLoop, etc, etc.

Although Remote Desktop (RDP) is a standard option on an XP Professional machine, there are a number of risks associated with its use. This is because RDP by default also takes over the sound card as a result of which speech is broadcast on the remote PC. This is sometimes not properly restored when the connection is broken, after which there is no longer any voice for alarm call-ups. In addition, there is a risk that a user clicks on 'Cancel' rather than on 'Break connection'. This even causes ARA to be completely shut down.

In summary: it is possible to remotely control ARA PC using RDP, however, there are significant risks associated with this. These risks are reduced with programs such as VNC or CrossLoop, because these programs protect against the risks described above.

14.5 Creating a database backup

When ARA operates satisfactorily, it is recommended that you back up the database.

Go to C:\PROGRAM FILES\ARA\DATA and copy all independent files to a safe area.

Should anything ever happen to the PC, the DATA directory must be copied to the same location on the new PC. The copied files must then be copied to that directory, except for the files 'Secure.DB' and 'Secure.MB'. ARA must then be reinstalled.

ARA will now start up with a demo license and must therefore be registered by Adesys as quickly as possible. The Fluency speech synthesiser only works with the registered version. Be sure to take this into consideration when ARA operates on the basis of a demo license.

If AraReport is shut down immediately after start-up and issues a message about 'software security', it is possible that the two secure files have nevertheless been replaced.

14.6 Windows Settings

Should the situation arise in which all of the attempted actions failed to remedy the situation, restarting the PC may still resolve the problems, because if things are working properly, ARA will be automatically started up when the PC starts up. If there is anything wrong with the database, this will be automatically recovered. Under these conditions it is important that the PC can automatically continue to reboot without having to wait for a login and a password. It is recommended that you test this. In addition, it is important to test that the PC automatically starts up when power is restored after a power failure. This is because not every PC does this.

It is strongly recommended that you do **NOT** set the Windows 'automatic update' to 'automatic', because the PC is then regularly restarted after each new update. It is better to allow these updates to download, but to then allow the user to install them in a controlled way.

You must also ensure that the PC cannot enter standby or hibernation status. Check the power settings under the power options for this purpose. The hard drive may also never be shut down.

The use of virus scanners or firewalls can also adversely affect the operation of ARA. It is recommended that the DATA folder be skipped as part of the scanning process. If that is not possible, it is recommended that this type of program be switched off.

14.7 Backup Power Supplies

It may be necessary to link the ARA-PC to an Uninterruptible Power Supply (UPS) to protect against power failures. The line interface can run for some time on its backup battery, so this is not immediately necessary in this case.

Of course any telephone switch must also continue to operate in the event of a power failure, otherwise ARA cannot process its call-ups.

14.8 Software Updates

Problems detected in ARA-pro are solved through means of software updates. The latest software updates can be downloaded from the Adesys website:

ARA4: <http://www.adesys.nl/ara4>

ARA5: <http://www.adesys.nl/ara5>

For questions about ARA-PO, ARA-TCR or AraWebview updates you can contact our helpdesk during office hours: 0174-296389 or via helpdesk@adesys.nl

15. AraLocal, I/O bus systems

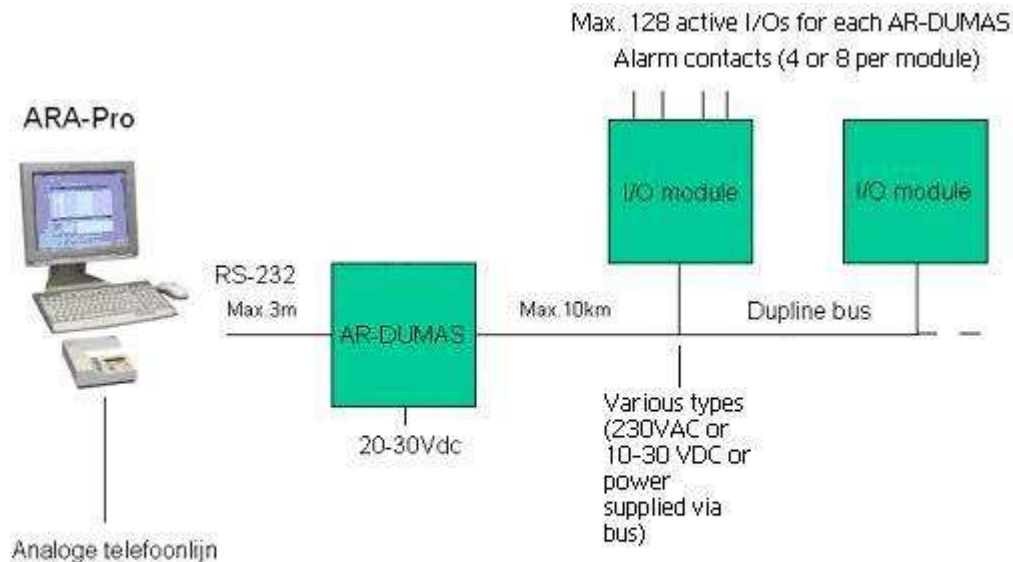
15.1 Dupline

Dupline is a remote I/O system. It can be combined with the Adesys ARA-pro alarm server. Alarm contacts are linked to the Adesys ARA-pro alarm server PC via Dupline. The Dupline software module is required within ARA-pro.

The I/O system in most cases consists of the following components:

- Master module Type AR-DUCOM (Dupline data sheet G 3496 0005);
- Power supply for master module Type AR-TRA24101;
- An RS232/RS485 converter (only if multiple master modules are used);
- Digital input modules for connecting alarm contacts Type AR-DU8/230 (230 VAC) or AR-DU8/24 (24 VAC) (Dupline data sheet G 3420 5501);
- Programming unit Type AR-DUPROG (Dupline data sheet GAP1605).

With a single master module: (can process a maximum of 128 inputs)



The modules are linked via a 2-wire bus cable. If modules are used that are supplied with power via a bus, the bus cable has three wires. This cable is not subject to any special requirements. The core's diameter is dependent on the maximum cable length. The following guideline can be used:

- Up to 3 km: core diameter of 0.8 mm²
- Up to 6 km: core diameter of 1.0 mm²
- Up to 10 km: core diameter of 1.5 mm²

This can also be 2 or 3 wires in a multi-core cable, since the bus is insensitive to failures caused by interference. Dupline offers the option of using star cabling. This minimises the cable length required for connecting modules. When multiple master modules are used (large systems with more than 128 inputs), they are connected using an RS485 bus cable. The maximum length of this cable is 1,200 metres. The preference is for these modules to be placed closely together.

The master module is in the proximity of the ARA PC and is supplied with power by the AR-TRA24101. 230 VAC and 24 VAC versions are available for the input modules.

Monitoring the Dupline system with ARA-pro:

Alarm contacts should preferably be installed as breaker contacts (Normally Closed = NC). If this is not possible, it is recommended that one of the inputs of the relevant modules is equipped with a bridging wire. This permits the operation of the module within the ARA-pro system to be monitored.

15.1.1 I/O Modules

Adesys supplies two different types of I/O modules:

AR-DU8-D1: 8-channel input module. Open printed circuit board (PCB) version with clamp for DIN rail mounting. 10-30 VDC power supply.

AR-DU8-D2: 8-channel input module. Closed version for DIN rail mounting. 230 VAC power supply.

AR-DU8-D1 (Open PCB version, 10-30 VDC power supply)

This module operates with a 2-wire or a 3-wire system.

2-Wire System

I/O modules must be provided with a local power supply (24 VDC).

These power supplies must be galvanically isolated from the earth return, because the earth will otherwise be connected to the Dupline bus (AR-TRA24101).

The wiring between the various modules in this case therefore consists of D+ and D- (Dupline bus).

3-Wire System

The I/O modules are supplied with power by a master module.

This solution is only suitable for situations in which the length of the Dupline bus does not exceed a few hundred metres.

The wiring between the various modules in this case therefore consists of POWER (power supply), D+ and D- (Dupline bus).

AR-DU8-D1 properties:

- Easy to assemble;
- No IP degree of protection;
- Cable length of a maximum of 3 metres to a contact input;
- Cheaper than the **AR-DU8-D2**.

AR-DU8-D2 (Closed version, 230 VAC power supply)

This module operates with a 2-wire system.

I/O modules must be provided with a local power supply (230 VAC).

The wiring between the various modules in this case therefore consists of D+ and D- (Dupline bus).

AR-DU8-D2 properties:

- Independent of a DC power supply;
- The inputs, Dupline bus and power supply are galvanically isolated internally;
- Easy to assemble;
- Robust industrial implementation;
- IP20 degree of protection;
- Cable length of a maximum of 25 metres to a contact input;
- Due its higher lack of sensitivity to interference it is more suitable for an environment with a high degree of electrical pollution.

15.1.2 Master Modules

Master modules (Item no. AR-DUMAS) must always have a separate power supply because the various buses will otherwise be connected together via the power supply.





A maximum of eight inputs can be used for each I/O module. And 16 I/O modules can be connected to 1 master module.

This way a single master module can forward a maximum of 128 alarms to ARA.

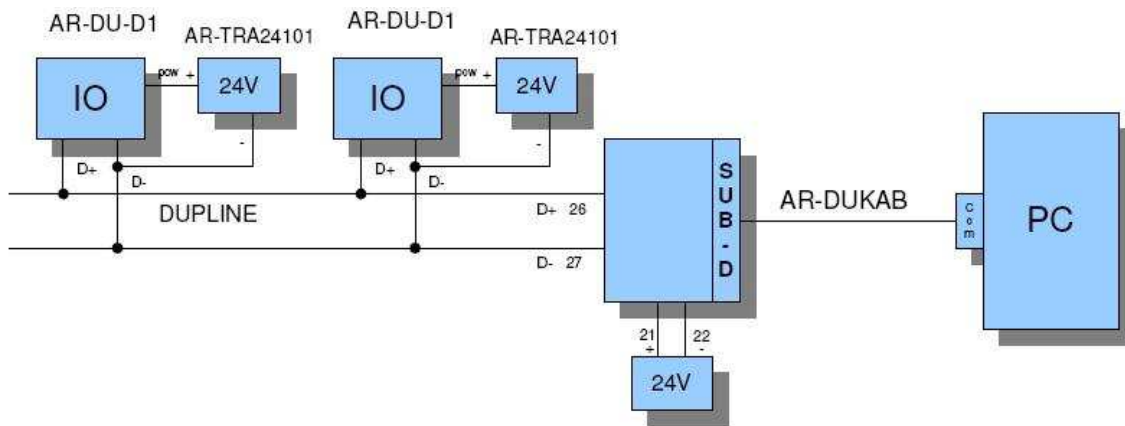
This means that multiple master modules must be used if a greater number of alarms is required.

The method of connecting the master modules to the ARA system depends on the number of master modules:

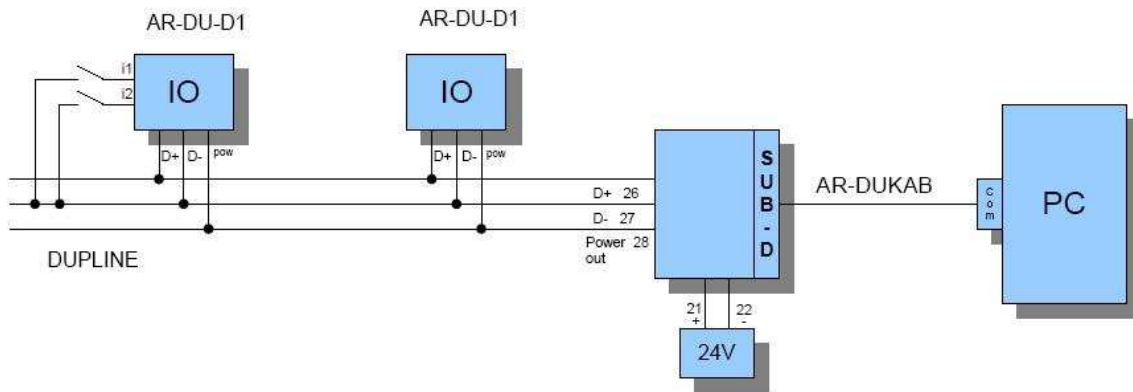
Single Master Module

If only 1 master module is used, it can be directly connected to the PC. Adesys can supply the cable for this: Item no. AR-DUKAB. For the sake of clarity: this is **not** a standard serial cable.

Example of configuration for 1 master module: 2-wire

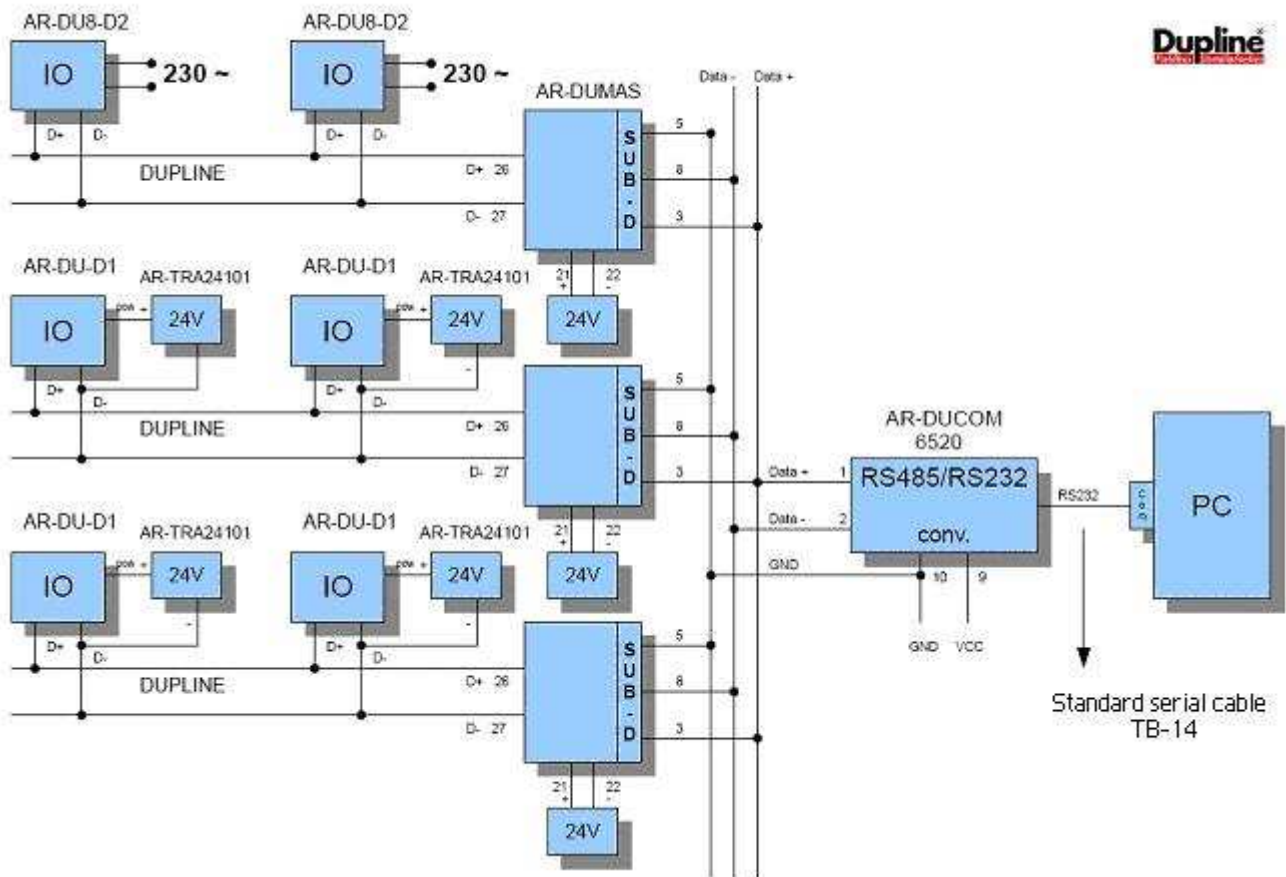


Example of configuration for 1 master module: 3-wire



Multiple Master Modules

If multiple master modules are used, the master modules must be connected together using a RS485 bus. Adesys does not supply a standard cable for this purpose since this situation is unique for each client. In this instance, the installer must solder 2 wires to a sub-D connector (9-pole male) him/herself for the purpose of connecting the master modules. This RS485 bus is connected to an RS485/RS232 converter (Item no. AR-DUCOM). The converter in turn can be connected to the PC using a standard serial cable.



Dip switch settings

In a configuration involving multiple master modules, each master module must be provided with its own address. The first four switches can be used to provide a master switch with its own address. This means that you do not need switch 5 and 6 and these must remain switched off.

The table below displays the addressing for modules 1-16.



Device no.	Switch: 1	Switch: 2	Switch: 3	Switch: 4
01	0	0	0	1
02	0	0	1	0
03	0	0	1	1
04	0	1	0	0
05	0	1	0	1
06	0	1	1	0
07	0	1	1	1
08	1	0	0	0
09	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1
16	0	0	0	0

15.2 AraLocal

15.2.1 Software Installation

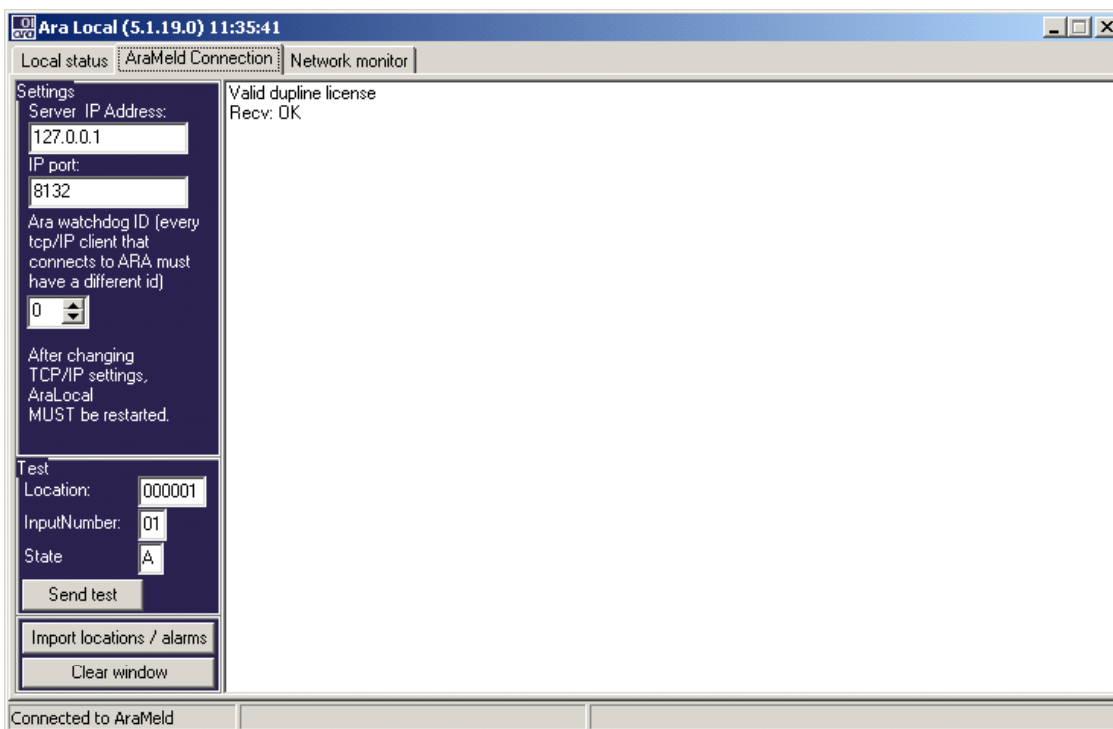
- Install ARA using the CD.
- During installation check off 'AraLocal'.

Automatic start-up

If AraLocal is to be started up automatically when Windows starts up, it is **not** desirable for AraLocal to be placed in the Start menu's 'Startup' folder. Conflicts can occur when AraReport and AraLocal are started up at the same time.

Activate the 'Start AraLocal' option in AraReport to start up AraLocal as soon as AraReport has started up.

15.2.2 Settings for the TCP/IP Link with AraReport



- AraReport must be started up in order to send alarms. If the Windows firewall is active, AraLocal, AraReport and AraPort must be specified as exceptions here.
- The IP address and IP port defaults are 127.0.0.1 and 8132. These values do not have to be changed.
- Click on the 'Send test' button to verify whether the communication link is working. The alarms transmitted and the responses received from AraReport appear on the right hand side of the screen.

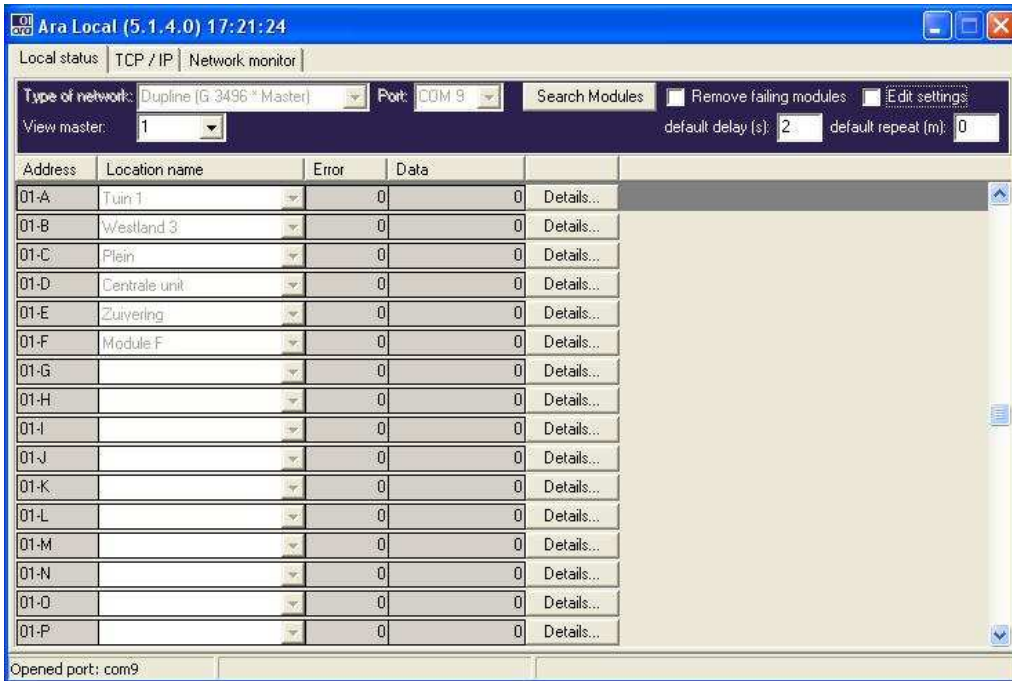
15.2.3 Configuring the Local Network

- For changing the settings check off the 'Edit settings' box. While the settings are being changed, there is no communication with the Nudam or Dupline network.
- Select the proper type of network;
- Select the proper COM port;
- Uncheck the 'Edit settings' box.
- Click on the 'Search modules' button to deactivate this button. Wait until the button once again becomes activated.
- Communication with the modules can be tracked on the 'Network monitor' tab. The serial communications are displayed here if Nudam is used, while the incoming events of the driver are displayed in the case of Dupline.



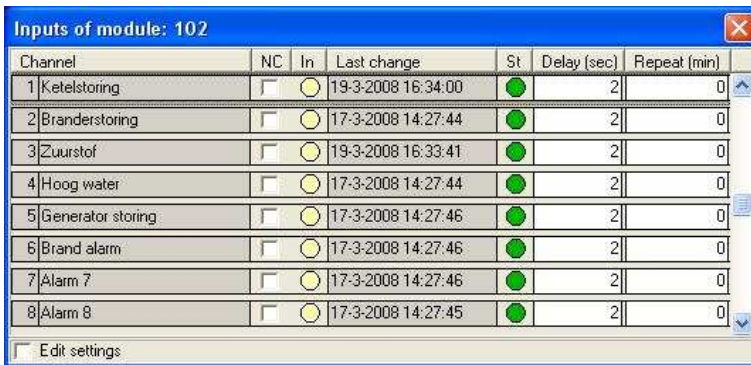
15.2.4 Dupline

Main menu:



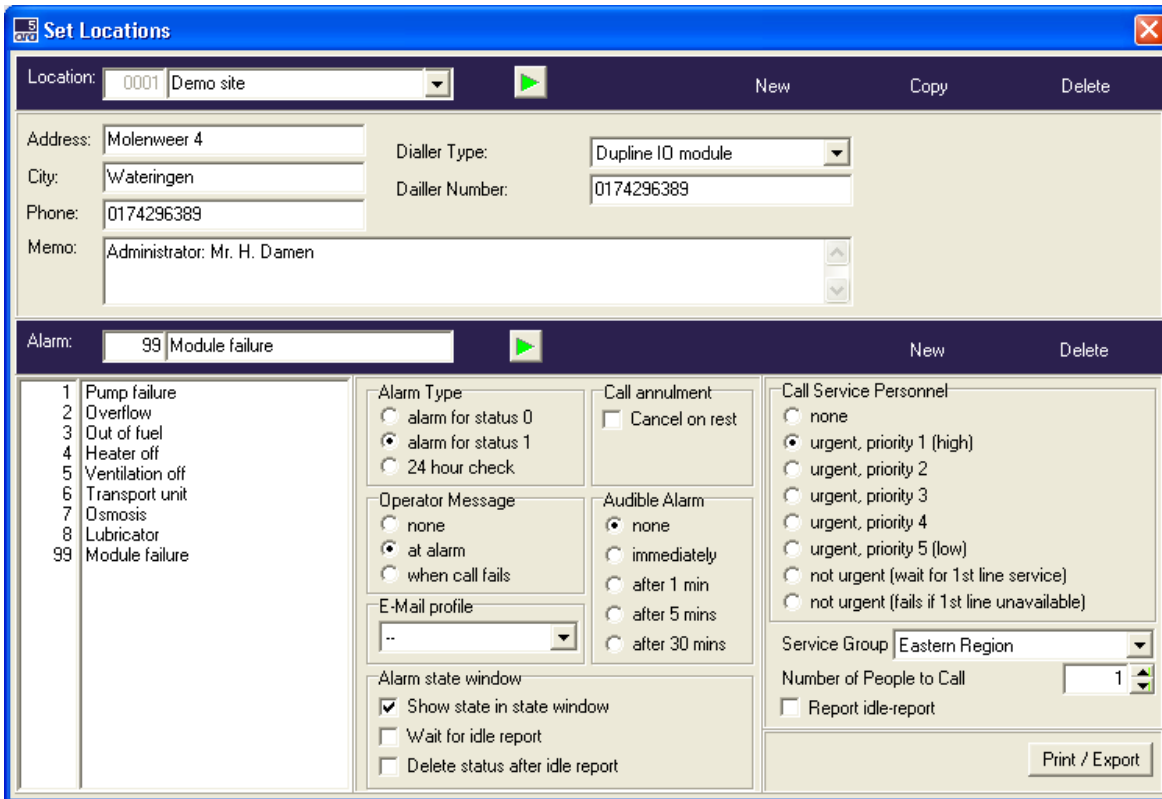
- Each line in the matrix (A-P) is completed for each master module. A location can be linked to each line.
- Select the master module using the drop-down list at the top of the screen.

Detailed menu (for each line):



- The detailed menu opens up by clicking on the 'Details...' button of a line.
- The 8 contacts of the relevant matrix line are displayed. The following settings can be configured for each line:
 - NC: Normally closed (alarm for status 0)
 - Alarm reporting delay in seconds: a change in status is only reported after the alarm has been active for at least the specified time. (The 'In' column displays the status of the input, the 'St' column displays the status of the alarm).
 - Repeat (min): The alarm continues to be repeated after the specified number of minutes, as long as the input remains active. (0 means do not repeat).

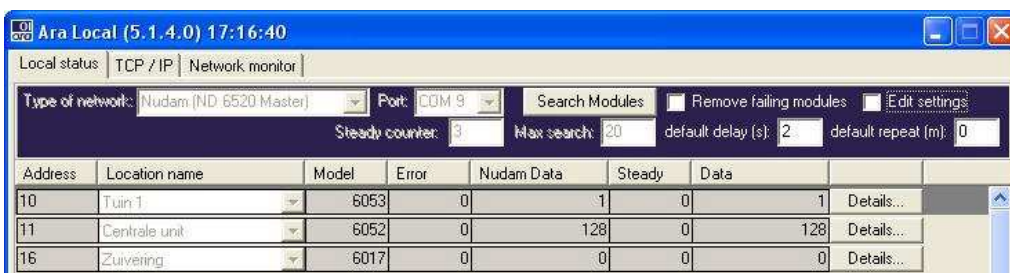
Configuring ARA:



- Alarms 1-8 for the associated ARA location must be completed in AraReport.
- In addition, alarm 99 must be completed for Line A. This alarm is activated when communications with the relevant master module is dropped.

15.2.5 Nudam

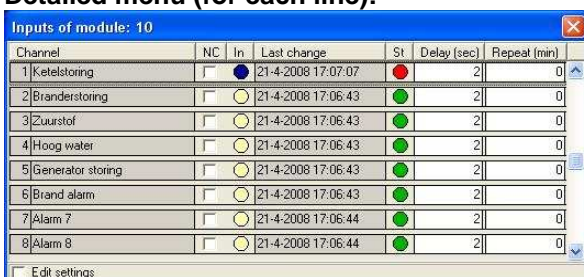
Main menu:



Address	Location name	Model	Error	Nudam Data	Steady	Data	
10	Tuin 1	6053	0	1	0	1	Details...
11	Centrale unit	6052	0	128	0	128	Details...
16	Zuivering	6017	0	0	0	0	Details...

- A line is completed for each input module. A location can be linked to each line.
- Three types of input modules are supported: 6017 (8 analogue inputs), 6052 (8 contact inputs), 6053 (16 contact inputs).

Detailed menu (for each line):



Channel	NC	In	Last change	St	Delay (sec)	Repeat (min)
1 Ketelstoring	<input type="checkbox"/>	<input checked="" type="checkbox"/>	21-4-2008 17:07:07	●	2	0
2 Branderstoring	<input type="checkbox"/>	<input type="checkbox"/>	21-4-2008 17:06:43	●	2	0
3 Zuurstof	<input type="checkbox"/>	<input type="checkbox"/>	21-4-2008 17:06:43	●	2	0
4 Hoog water	<input type="checkbox"/>	<input type="checkbox"/>	21-4-2008 17:06:43	●	2	0
5 Generator storing	<input type="checkbox"/>	<input type="checkbox"/>	21-4-2008 17:06:43	●	2	0
6 Brand alarm	<input type="checkbox"/>	<input type="checkbox"/>	21-4-2008 17:06:43	●	2	0
7 Alarm 7	<input type="checkbox"/>	<input type="checkbox"/>	21-4-2008 17:06:44	●	2	0
8 Alarm 8	<input type="checkbox"/>	<input type="checkbox"/>	21-4-2008 17:06:44	●	2	0



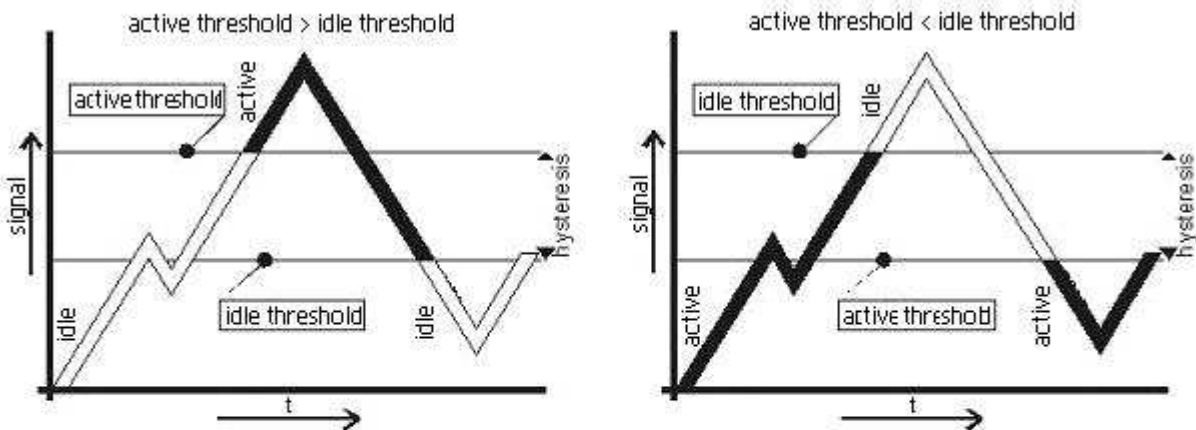
- The detailed menu opens up by clicking on the 'Details...' button of a line.
- The matrix lines for the 8 (or 16) inputs of the relevant module are displayed. The following settings can be configured for each line:
 - NC: Normally closed (alarm for status 0)
 - Alarm reporting delay in seconds: a change in status is only reported after the alarm is active for at least this number of seconds. (The 'In' column displays the status of the input, the 'St' column displays the status of the alarm).
 - Repeat (min): The alarm continues to be repeated after the specified number of minutes, as long as the input remains active. (0 means do not repeat).

The analogue module (6017) furthermore has the following settings:

Inputs of module: 16													
Channel	NC	In	Last change	St	Delay (sec)	Repeat (min)	Input Range	Output value	Alarm value	Value	Unit		
1 Ketelstoring	<input type="checkbox"/>	<input type="radio"/>	21-4-2008 17:06:47	●	2	0	0 20	0 20	0 20	0 20		0.00	
2 Branderstoring	<input type="checkbox"/>	<input type="radio"/>	21-4-2008 17:06:47	●	2	0	0 20	0 20	0 20	0 20		0.00	
3 Zuurstof	<input type="checkbox"/>	<input type="radio"/>	21-4-2008 17:06:47	●	2	0	0 20	0 20	0 20	0 20		0.00	
4 Hoog water	<input type="checkbox"/>	<input type="radio"/>	21-4-2008 17:06:47	●	2	0	0 20	0 20	0 20	0 20		0.00	
5 Generator storing	<input type="checkbox"/>	<input type="radio"/>	21-4-2008 17:06:47	●	2	0	0 20	0 20	0 20	0 20		0.00	
6 Brand alarm	<input type="checkbox"/>	<input type="radio"/>	21-4-2008 17:06:47	●	2	0	0 20	0 20	0 20	0 20		0.00	
7 Alarm 7	<input type="checkbox"/>	<input type="radio"/>	21-4-2008 17:06:47	●	2	0	0 20	0 20	0 20	0 20		0.00	
8 Alarm 8	<input type="checkbox"/>	<input type="radio"/>	21-4-2008 17:06:47	●	2	0	0 20	0 20	0 20	0 20		0.00	

Edit settings **Datcollection on hold ...**

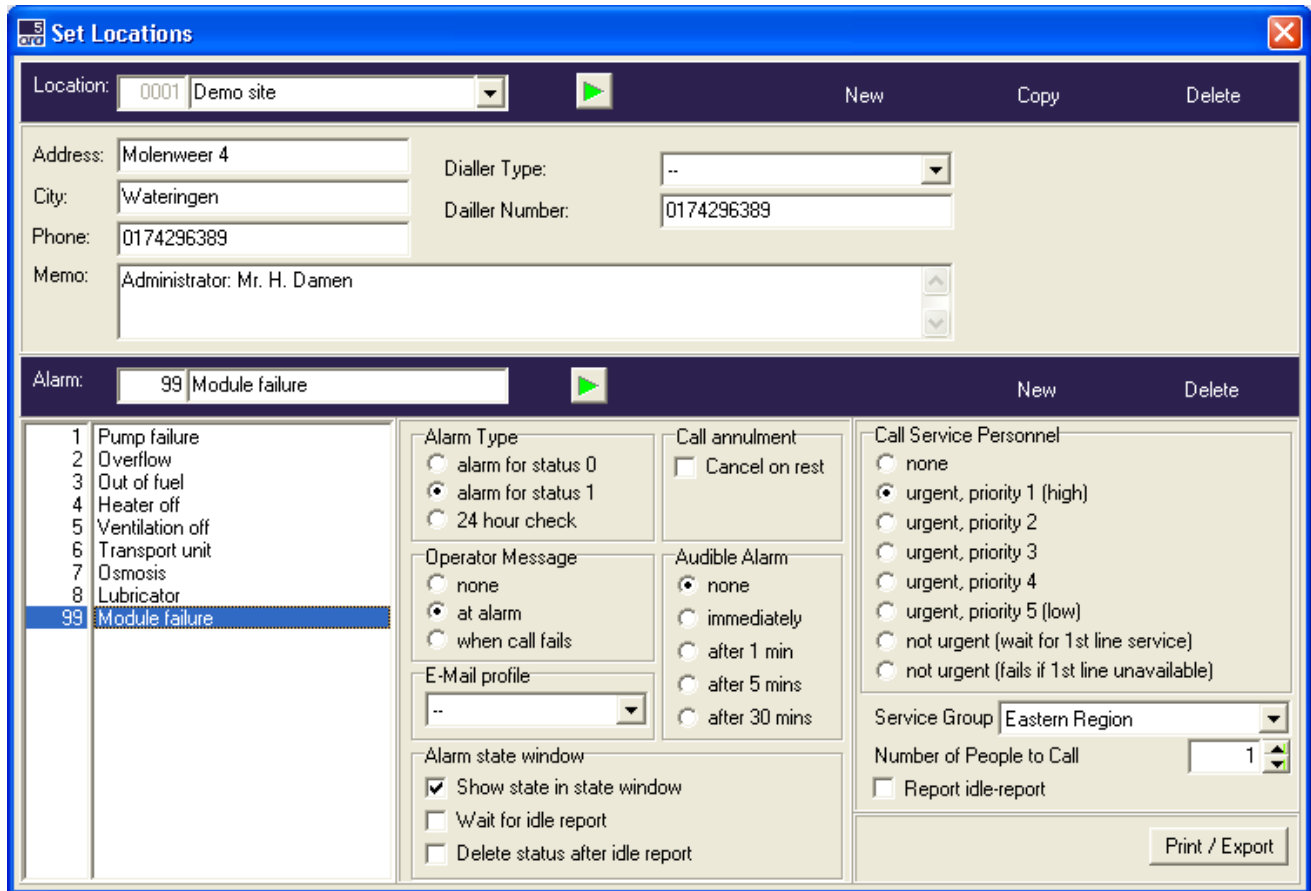
- Input Range: lower and upper limit of the measured value (for example, 4 and 20). This is the value issued by the module.
- Output Range: lower and upper limit of the displayed value. The measured value is converted to the displayed value on the basis of these two figures.
- Alarm Value: lower and upper limit of the **displayed** value for the alarm. Issuing an alarm works the same way as an alarm issued via the analogue inputs of a Modalarm-T8 alarm dialler.



- Unit: Measurement unit (only for information)

Configuring ARA:

- The following alarms must be completed in AraReport for the ARA locations associated with each line.



The screenshot shows the 'Set Locations' window with the following configuration:

Location: 0001 Demo site

Address: Molenweer 4
City: Wateringen
Phone: 0174296389
Memo: Administrator: Mr. H. Damen

Dialler Type: --
Dailer Number: 0174296389

Alarm: 99 Module failure

1	Pump failure
2	Overflow
3	Out of fuel
4	Heater off
5	Ventilation off
6	Transport unit
7	Osmosis
8	Lubricator
99	Module failure

Alarm Type:
 alarm for status 0
 alarm for status 1
 24 hour check

Operator Message:
 none
 at alarm
 when call fails

E-Mail profile: --

Alarm state window:
 Show state in state window
 Wait for idle report
 Delete status after idle report

Call annulment:
 Cancel on rest

Audible Alarm:
 none
 immediately
 after 1 min
 after 5 mins
 after 30 mins

Call Service Personnel:
 none
 urgent, priority 1 (high)
 urgent, priority 2
 urgent, priority 3
 urgent, priority 4
 urgent, priority 5 (low)
 not urgent (wait for 1st line service)
 not urgent (fails if 1st line unavailable)

Service Group: Eastern Region
Number of People to Call: 1
 Report idle-report

Print / Export

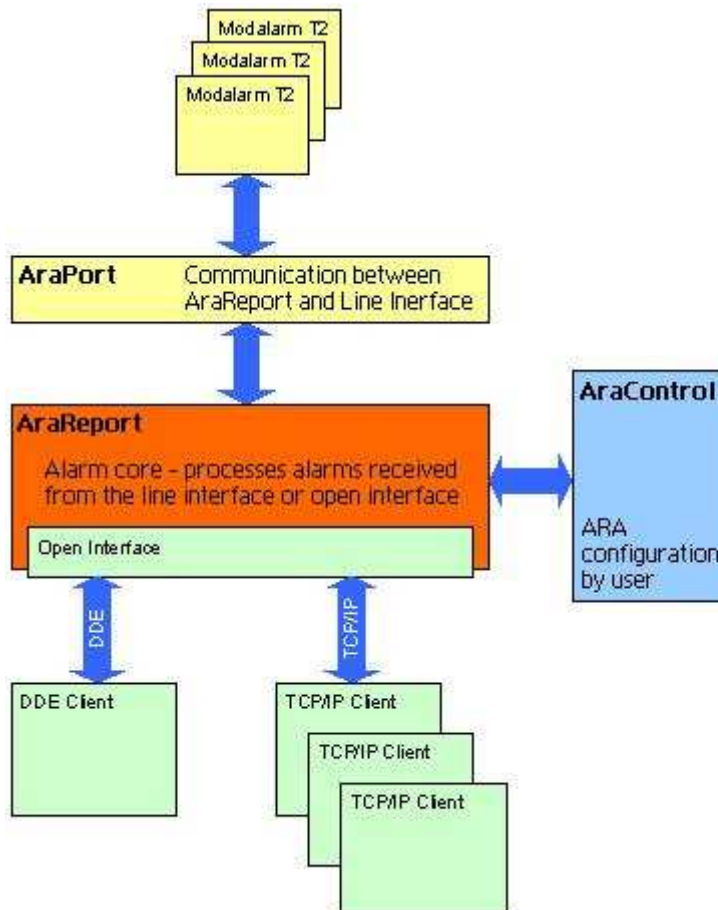
- Alarms 1-8 (1-16 for type 6053 input modules) must be completed;
- Alarm 16 must also be defined for an analogue module (6017): in the event of a measurement error (a measured value that falls outside the configured Input Range), an alarm is activated;
- Alarm 99: this alarm is activated when communications with the input module is dropped.



16. Open Interface Link via DDE or TCP/IP

16.1 Introduction

The ARA system consists of a number of elements that communicate together in various ways. AraReport forms the heart of the system. AraReport is supported by AraPort for communication with one or more line interfaces (Modalarm T2) and by AraControl for communications with system users and administrators.



In addition, other applications (clients) can connect with AraReport via the Open Interface Protocol. This enables clients:

- To forward alarms to AraReport;
- To forward messages for watchdog monitoring to AraReport;
- To receive alarms from AraReport;
- To receive log messages from AraReport;
- To receive idle reports from AraReport.

In earlier ARA versions it was only possible to connect clients via DDE. Starting with version 5 it also possible to use TCP/IP for the exchange of messages.

The Open Interface Link provides various software options. At least one of the expansion modules listed below must be activated for this purpose.

You can verify the options that are activated in AraControl via the menu 'Help, Program info, System info'. 'Open interface =' is followed by a summary of the registration codes of the activated modules. The following list displays the relevant modules for ARA with Open Interface Link:

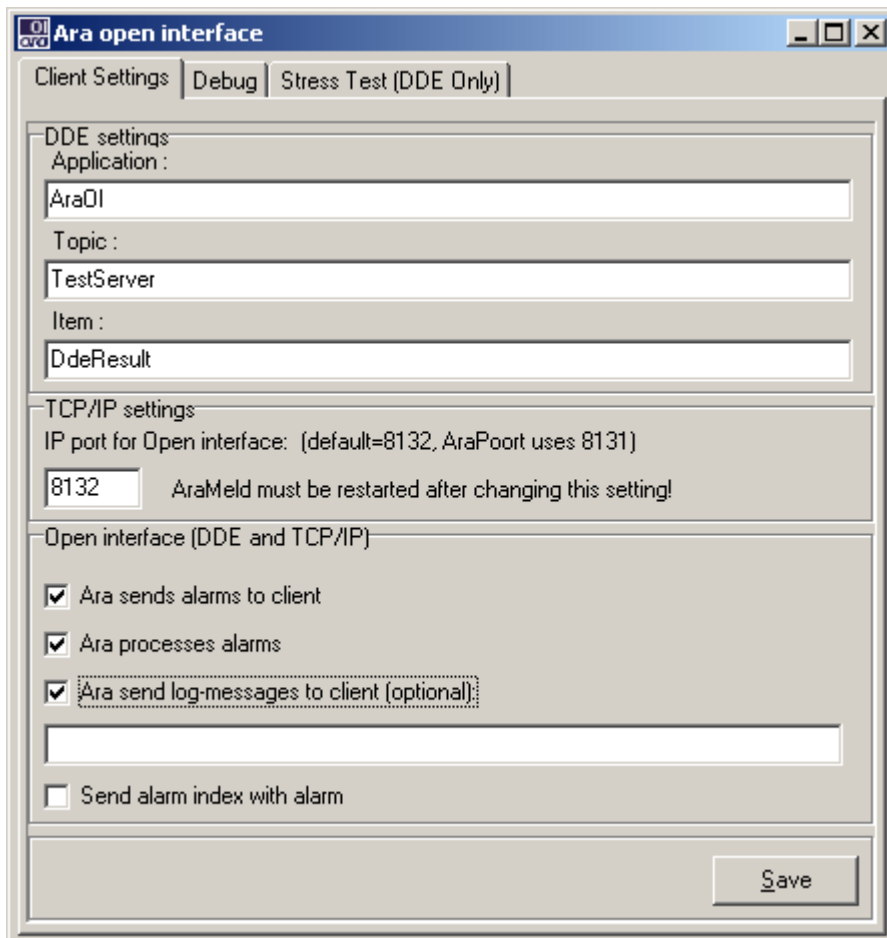
Ordering Code	Description	Registration codes
AR-REST	Software expansion module for forwarding interim recovery messages (message forwarded to called up service technician indicating that the failure has been restored).	OI=RM
AR-DDE	Software expansion module for DDE link with other software or SCADA.	OI=DDE
AR-DDEWD	Software expansion module for DDE link with other software or SCADA, incl. monitoring of DDE link.	OI=DDE,WD
AR-IP	Software expansion module for IP link with other software or SCADA.	OI=IP
AR-IPWD	Software expansion module for IP link with other software or SCADA, incl. monitoring of IP link (alarm in case of failure).	OI=IP,WD
AR-TXT	Software expansion module for variable alarm text processing through means of importing alarm texts from SCADA via a DDE or IP link.	OI=DDE,TEXT OI=IP,TEXT
AR-TM	Log messages received via Open Interface	OI=DDE,LM OI=IP,LM

16.2 Configuring Settings

16.2.1 Configuring Settings via ARA Open Interface Tool

Start up the Ara Open Interface (AraOI.exe) program. You are given the option of installing this program during installation.

- Click on 'Client Settings'.





- Check off '**Ara processes alarms**' if AraReport is to process incoming alarms via the Open Interface.
- Check off '**Ara sends alarms to client**' if AraReport is to forward the alarms received, for example via a line interface, to the Open Interface Link.
- Check off '**sends log-messages to client**' to activate alarm follow up via the Open Interface. Set the filter in the text field below, if necessary (see Section 3.3).

NOTE: These settings only become active after AraReport has been restarted!

16.3 Protocol

16.3.1 Configure Settings via Open Interface

The options that can be set using AraOI can also be forwarded to AraReport with the aid of the Open Interface Link. The settings are permanently stored. It is not necessary to restart AraReport.

The commands are sent to AraReport via:

- DDE execute to service: AraReport, topic: ServExtern (see Section 16.7)
- TCP/IP, transmission of commands as text to the configured TCP port (see Section 16.8)

The following commands are supported:

[ARA SETDDE APP <appname>]	name of the application that processes these ARA alarms
[ARA SETDDE TOPIC <topicname>]	topic
[ARA SETDDE ITEM <itemname>]	item
[ARA SETDDE SENDS <0/1>]	ARA sends alarms to client (0=off 1=on)
[ARA SETDDE PROCS <0/1>]	ARA processes alarms (0=off 1=on)
[ARA SETDDE LOGS <0/1>]	ARA sends log messages (0=off 1=on)
[ARA SETDDE LBITEMS <items>]	items to be forwarded (comma delimited).

Examples:

[ARA SETDDE APP AraOi]	ARA sends messages to the application AraOI.
[ARA SETDDE LOGS 1]	transmission of log messages on.
[ARA SETDDE LBITEMS 10,11]	filter log messages: only sys action codes 10 and 11.
[ARA SETDDE LBITEMS]	deactivate filter: forward everything.

16.3.2 Transmitting Alarms

DDE:

A DDE connection must be established with the following properties:

```
service:    AraReport
topic:      ServExtern
```

A command can be sent to AraReport with the aid of DDE Execute (items are not used here).

TCP/IP:

The client application establishes a connection with Port 8132 (if a different port was configured via AraOI, then that port number must be used). After the port has been opened, a command can be sent to AraReport.

Note: in particular when a connection is established from another computer, the firewall must allow this.

With TCP/IP it is possible to establish contact between multiple clients and AraReport at the same time. In addition, it is possible to use DDE and TCP/IP at the same time.

If AraReport is configured to send messages to the clients, then this happens at the same time to all connected clients.

If the DDE or TCP/IP connection has been established, the alarm can be transmitted:

The command (string) must have the following format:

```
[ARA RCVALARM 02,////,aa,s,w,text]
////:  location code (four positions, numeric).
aa:    alarm code (two positions, numeric).
s:     status: A=alarm, T=alarm with text message (only if the AR-TXT option is active), R=at rest (idle)
        message
w:     status value (0 or 1: input open or closed)
```

AraReport determines which action in the field s must be undertaken. This field is only included for information.

```
text:  alarm text
```



Confirmation

A confirmation is sent to all connected TCP/IP clients and via DDE to the program specified in 'Client Settings'.

The return message may contain the following values:

OK <no.>	the alarm is accepted and will be processed. Provided it is activated, the alarm's sequence number in the log is returned.
NAK	unknown alarm (the location code/alarm code combination has not been set in AraControl).
ERROR	There is an error in the protocol or non-supported options are being used (for example, use of text alarms, while this option is not registered).

16.3.3 Operation without AR-TXT

The alarm sent to ARA must include the location code and the alarm number. ARA will look these up in the database and confirm them with 'OK'. ARA then initiates the call-up procedure. If an idle status is transmitted, ARA will record this in the log and may transmit an idle message.

If AR-TXT is **not** used, the alarms that are forwarded to ARA-pro will have the following format:

<location><alarm><status>.

For example: <0001> <01><1>

The texts associated with these codes are then entered into ARA-pro. The texts entered into ARA-pro are dialled out to the service group linked to them.

16.3.4 Operation with AR-TXT

The AR-TXT module is generally used when alarms generated by PLCs or process controllers are forwarded to ARA-pro. *The location names and alarm texts present in the PLC can then be forwarded to ARA.* The advantage is that the alarm texts then no longer need to be entered into ARA-pro.

If AR-TXT is **not** used, the alarms that are forwarded to ARA-pro will have the following format:

<location><alarm><status>.

For example: <0001> <01><1>

The texts associated with these codes are then entered into ARA-pro. The texts entered into ARA-pro are dialled out to the service group linked to them.

If the AR-TXT module on the other hand **is** activated, an alarm with the status <T>, instead of <0> or <1> can be forwarded.

An alarm message then would have the following format, for example:

<location><alarm><T> message text.

Example: <0001> <01><T> Pumping station 24, high water level

When the locations are defined in ARA a link is created between an alarm and the service group to be called up. ARA now looks up the location and the alarm in the database. The location code and the alarm code are now however only used for determining the alarm's urgency and for selecting the service group to be called up for this alarm. The call-up procedure for this service group is now initiated.

The alarm text to the service person is no longer retrieved from the ARA database, but is copied from the alarm text of the incoming message. *Note: the text string sent from the PLC must contain the location name as well as the alarm text.*

The number of different service groups required and the urgency levels for the relevant location now determine the number of alarm codes for that location to be created in ARA-pro.

In summary: if with the AR-TXT option active, the alarm '<0001> <01><T> Pumping station 24, high water level' is sent from the PLC to the ARA, a call-up will be sent to the service group that within ARA-pro is linked to alarm 01 at location 0001. The alarm text issued to service personnel is then as follows: Pumping station 24, high water level.

Consideration must be given from the PLC perspective as to which alarms must be forwarded to which service groups, so that the correct alarm code is sent along.

The ARA log records the location, alarm code and the texts sent along.

Example: '<0001> <01><T> Pumping station 24, high water level' is recorded in the log as <0001> <01><T> Pumping station 24, high water level.

It is now possible to initiate multiple call-up procedures with the same location and alarm number, but with different texts.

If an *idle report* for a text alarm is sent from the PLC, this must be taken into account. ARA uses the text field to link the idle report to the proper alarm. In other words: the message text of an idle report must exactly match the message text of the alarm. The difference is in the status field. This becomes an <R> instead of a <T>.

In case of the above example, the idle message therefore becomes:

<0001><01><R> Pumping station 24, high water level.

16.4 Alarm Follow-up via Open Interface

The following conditions must be met to effect alarm follow-up via Open Interface:

- The DDE and TM modules must be registered (see Section 16.2);
- The 'Ara sends log messages to client' option must be activated (see Sections 16.2 and 16.3.1)

16.4.1 Operation

If alarm follow-up has been activated, ARA will forward all alarms (potentially filtered) in the log via DDE. This enables the application to precisely maintain the reporting status of an alarm. ARA system alarms can also be forwarded this way.

Each log message is provided with a sequence number. As soon as an alarm is forwarded to ARA, this number is assigned. This is communicated to the application via the OK message after the alarm has been forwarded. The same sequence number is always used for following up on a specific alarm. This makes it possible to maintain a record of the follow-up of each alarm.

Note that ARA system alarms are given their own sequence number. The application is not aware of this number.



16.4.2 Message Filter

There are various types of log messages. These are summarised in the table below.

If all messages are to be forwarded, the filter can be left blank. If only a limited number of messages is to be forwarded, the filter must be set. Specify the codes for this purpose, delimited by a comma (,).

For example: 11,12,15,16

Messages for all successful and failed call-ups, and for the start-up and shutdown of AraReport are forwarded.

Code	Description
1	Operator message confirmed
2	Operator message
4	Service person called up
5	Call-up confirmed
6	Alarm received
7	Idle report received
8	24-hour alarm received
9	Call-up not confirmed
10	Insufficient number of people called up
11	Call up procedure terminated
12	Call-up failed
15	AraReport will be shut down
16	AraReport started up
21	COM channel started up
22	Start check of 24 hour alarms received
23	Forward idle report
24	Alarm interrupted by AraReport
25	Initiate service person call-up
26	No call-ups

16.4.3 The Log Message

ARA sends the following message to the application:

```
[ARA LOGSTAT sss,dd-mm-jjjj,uu:mm:ss,vvvv,lill,aa,<l>,<a>,<s/o>,<g>,<t>]
sss          system action code (3 positions) (see table above)
dd-mm-yy    date
hh:mm:ss    time
vvvv        sequence number (this number also followed the first return message) (4 positions)
lill        location code (4 positions)
aa          alarm code (2 positions)
<l>         location name (unspecified length, delimited by quotes ("))
<a>         alarm name (unspecified length, delimited by quotes ("))
<s/o>       name of service person or operator (unspecified length, delimited by quotes ("))
<g>         description of event (unspecified length, delimited by quotes ("))
<t>         free format text, max. 80 positions, delimited by quotes (")
```

For example:

```
[ARA LOGSTAT 001,13-08-2004,16:16:25,0748,0001,01,"Building 029","Steam boiler failure","O:
manager","operator message confirmed: manager",""]
```

16.5 Open Interface Watchdog

If the AR-DDEW or AR-IPW software options have been registered, it is possible to allow AraReport to control the application that sends alarms to AraReport via Open Interface. This is effected by sending the following message:

```
[ARA WD xx]
xx:    timeout in minutes.
```

As soon as this command is executed, a timer is started up that waits for the next watchdog message. If this message does not arrive within the specified timeout, an alarm will be generated. Location 9999 (Ara Alarm Centre), Alarm 5 (DDE watchdog error).

The return message can contain the following values:

OK	The message is accepted, the watchdog will be started up.
NAK	The timeout value specified is invalid.
ERROR	There is an error in the protocol or the watchdog option has not been registered.

16.6 Reception of Alarms

Alarm messages from alarm diallers in the field that are received via the line interface can be forwarded to the application via DDE. The application can process this information.

If the 'ARA processes alarm' option has been activated, ARA will also initiate the alarm procedure. If this option is not active, then ARA does not do anything at all with this alarm. The alarm procedure is only initiated once the application sends an alarm via DDE or TCP/IP. This allows more elaborate alarming criteria to be specified.



16.7 Implementation of DDE Link

Visual Basic (VBA) Example

The example below describes how an alarm can be sent to AraReport with the aid of VBA (Excel).

To test this:

- Start Excel.
- Click on the menu 'Extra, Macro, Macro's...'.
• Enter the name of the new macro: TestDDE.
- Click on 'Create'. Visual Basic now starts up.
- Cut and paste the code below into Excel Visual Basic.
- Execute the macro by clicking on F5.

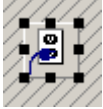
Note: The instructions above may vary depending on the Excel version used.

```
Sub TestDDE()  
  'send an Alarm to AraReport (example)  
  Dim lDDEChannel As Long  
  
  'open DDE connection: Service ARA-meld, Topic ServExtern  
  
  lDDEChannel = DDEInitiate("AraMeld", "ServExtern")  
  
  'send the alarm to AraReport as a DDE Macro  
  'location: 22  
  'alarm: 1  
  'Status: A (alarm)  
  'value: 1 (for information)  
  'Text: text (nothing happens with this because the status is not T)  
  
  DDEExecute lDDEChannel, "[ARA RCVALARM 02,0022,1,A,1,Text]"  
  
  'Close connection with AraReport  
  
  DDETerminate lDDEChannel  
  
End Sub
```

16.8 Implementation of TCP/IP Link

Example (Delphi):

- Create a form and drag a TClientSocket component onto it:



- assign the name csAraReport to this component.
- Add a button to the form and enter the following code into the onClick event:

```
form1.csAraReport.Port := 8031 ;  
form1.csAraReport.Host := 127.0.0.1;  
form1.csAraReport.Active := true;  
form1.csAraReport.Socket.sendText('[ARA RCVALARM 02,0022,1,A,1,Text]'+#13);
```

- Compile and start the application.
- Start AraReport
- Click on the button to execute the code.



17. AraPO (link with a Priva Office server)

17.1 Introduction

The possibilities of forwarding an alarm activated within an Intégro computer are currently limited. The Intégro only has three alarm bells. For large market gardeners, where several persons are responsible for different operating processes, these three alarm bells provide too little information.

17.2 Installation

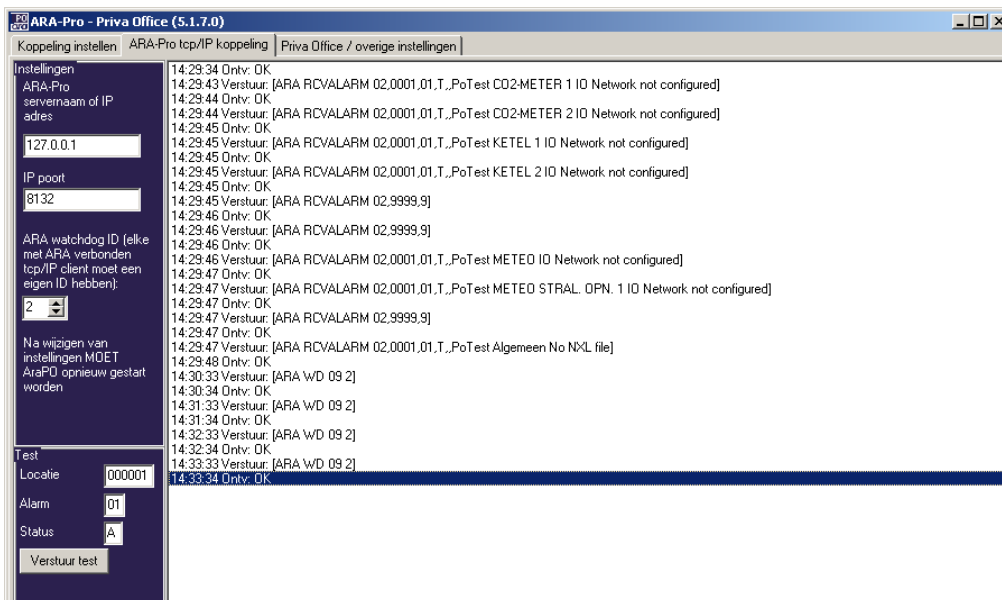
17.2.1 Configuring the Link with AraReport

AraPO communicates with AraReport, the heart of ARA-pro, via the TCP/IP protocol.

If AraPO and AraReport are installed on different machines, communication will in most cases be blocked by the firewall. The firewall must be set up such that AraPO.exe and AraMeld.exe can communicate with each other via Port 8132 (if this port number has been changed, use the changed port number).

Note: in some cases the communication between both programs can also be blocked even if they are installed on the same machine. In that case also check the firewall's settings.

The communication settings can be updated under the 'ARA-pro TCP/IP Link' tab.



17.2.1.1 Address and Port Number

- Enter the IP address of the PC on which AraReport has been installed. The name of the relevant PC may be used here as well. If both programs are installed on the same PC enter 127.0.0.1 here.
- The port number is 8132. If this conflicts with other applications on the network, this can be changed here. If AraReport has been installed on another PC, the port number for AraReport must be changed on that PC as well. Use the AraOI program for this purpose.

17.2.1.2 Watchdog

- AraPO sends a sign of life to AraReport every minute. If AraReport detects that this watchdog message no longer arrives, AraReport will issue an alarm.
- Because multiple clients (such as AraPO or AraLocal) can be linked to AraReport, it is necessary for the origin of the watchdog messages to be known. Each client must be assigned a Watchdog ID for this purpose. This ID must therefore be set to a different value (0-9) for each client. If multiple clients use the same ID, AraReport will issue a watchdog alarm.

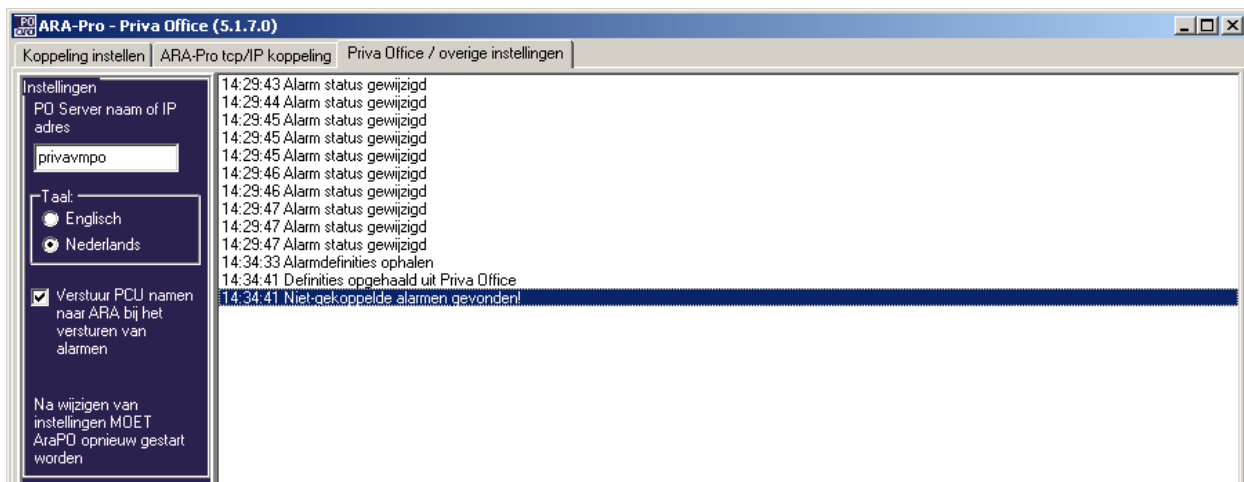
17.2.1.3 Testing

- To test communication with AraReport, click on the 'Send test' button. A location code, alarm code and status can be entered into the input fields above this. Enter 009999, 1 and A, respectively, into these fields. Review the right hand side of the screen:
The text:
send: [ARA RCVALARM 02,009999,1,A]
appears.
If all is well, the following text will appear on the next line:
rec'd: [OK]
If this is not the case, there can be two reasons for this:
- It is impossible to establish TCP/IP communication with AraReport.
- The ARA-pro license does not permit communication.

After changing the abovementioned settings, AraPO must be shut down and restarted to activate the changes.

17.2.2 Configuring Link with Priva Office Server

Communication with Priva Office is also via TCP/IP. Here too it is possible for a firewall to block communications. The communication settings can be updated under the 'Priva Office/other settings' tab.



17.2.2.1 Address

- Enter the IP address (or the server name) of the Priva Office server. If AraPO and the Priva Office server are installed on the same machine, enter 127.0.0.1.

17.2.2.2 Alarm Text

- If Priva Office alarms are forwarded to Ara-pro, the following data is always included:
 - Priva Office/Intégro location: description of the measurement or control unit where the alarm occurred (for example: DEP 1 MEASUREMENT UNIT)
 - Description of the alarm (for example: Defective window controls).
- In addition, it is possible to include the name of the Intégro. If only one Intégro has been connected, adding its name would not provide a great deal of additional information. In other cases it would.
This setting can be created by turning the check mark for 'Send PCU names to ARA' on or off.
- If use is made of speech synthesis within ARA, the punctuation marks in the alarm text may result in poorly spoken texts. By activating the check mark for 'Remove punctuation marks from alarm texts', the most common punctuation marks will be removed from the text, before it is sent to ARA.



17.2.2.3 Testing

The tab 'Configure link', contains the 'Refresh Priva Office definitions' (the left-most button in the illustration below).

PCU	Locatie	Alarm
PoTest	AUT.M&V	--
PoTest	AUT.M&V M&V-VENT	--

Click on this button and the screen will be populated shortly thereafter. If this is not the case, there can be two reasons for this:

- Communications with the Priva Office server is blocked. (The server name is incorrect; a firewall is blocking communications).
- Priva Office's alarm export module has not been activated.

After changing the abovementioned settings, AraPO must be shut down and restarted to activate the changes.

17.2.3 Other Settings

17.2.3.1 Language

The user interface can be displayed in Dutch or English. Select the desired language under the 'Priva Office/other settings' tab.

After switching to the desired language, AraPO must be shut down and restarted to activate the change.

17.2.4 Location of Files

If AraPO is installed on the same machine as AraReport, a folder will be created in addition to the folder where the ARA database is located.

For example:

```
Ara Data:      c:\program files\ara\data
AraPO:        c:\program files\ara\POdata
```

If AraPO is installed on a machine without any ARA database, the data is stored in the folder *c:\ara\POdata*. If necessary, this folder can be modified in the PO.ini file. This file is located in the same folder that contains AraPO.exe as well. Normally speaking this is *c:\program files\ara*.

This folder can be copied in its entirety during the backup procedure.

In addition a log is kept: AraPO.log. This file is located in the 'Data' folder.

17.2.5 Testing outside AraPO

There is a simple way of testing whether the Priva Office web service is available while troubleshooting problems:

First open Microsoft Internet Explorer (or another web browser).

- Step 1: Test the web service from the Priva Office server.
 - Enter the following text into the Address Bar:
http://127.0.0.1:8080/office/alarm/alarmserverconfig
 - Press <enter>. A list with locations and alarm definitions must appear in a few seconds.

- Step 2: Test the web service from the machine on which AraPO has been installed.
 - Enter the following text into the Address Bar:
http://POServerName:8080/office/alarm/alarmserverconfig
Replace POServerName with the computer name (or the IP address) of the Priva Office server.
 - Press <enter>. A list with locations and alarm definitions must appear in a few seconds.

17.3 Configuring the Link

When the communication settings between the Priva Office server and AraReport have been configured (and function properly), the link can be configured.

Alarms that occur in the different Priva Office locations can be linked to the ARA alarms.

In view of the large number of possible combinations of Intégro/Priva Office location and alarm text, it is not possible to establish a 1:1 relationship with ARA-pro for all of them here. This is why a simplification was introduced whereby all alarms of an Intégro/Priva Office location are linked to a single alarm definition in Ara. Exceptions are possible for specific combinations of Intégro/Priva Office location and alarm text.

Note: The AraPO program uses two types of locations: ARA-pro locations and Priva Office locations. These are described below.

17.3.1 ARApr Locations and Alarms

17.3.1.1 Importing/Exporting

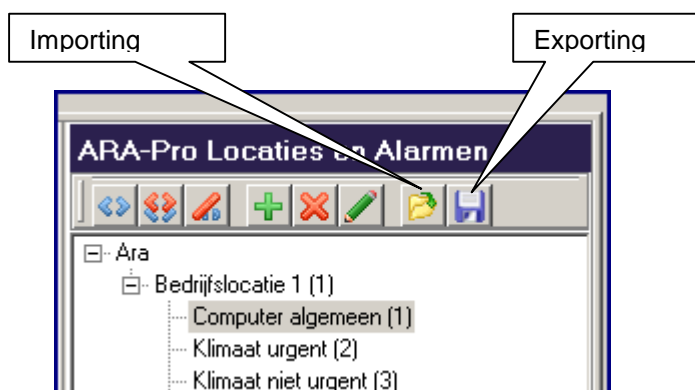
To prevent locations and alarms from having to be entered twice for ARA-pro, AraControl and AraPO both include a facility for importing and exporting the list with location and alarm names.

The following data can be exchanged:

- Location number
- Location name
- Alarm number
- Alarm name

During the import, a check is performed for each location and alarm to determine whether the number already exists.

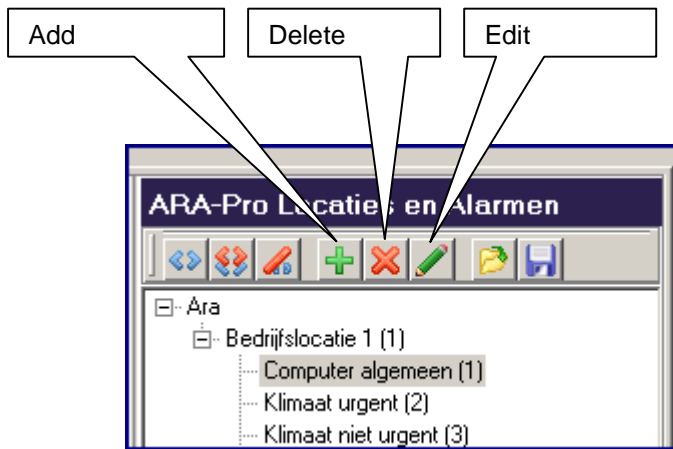
- If no: a new alarm or location is created with the specified name.
- If so: the name is overwritten with the name in the imported file.



If AraControl and AraPO are installed on the same computer, the import and export files are automatically stored in the same folder.



17.3.1.2 Manual Maintenance



Adding a location:

- First click on 'Ara', the top line in the list.
- click on 'Add'.

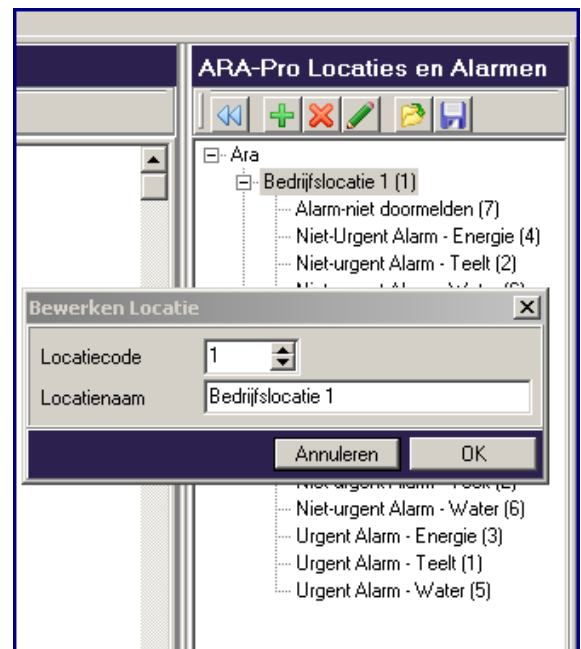


Adding an alarm:

- First click on the location to which the alarm is to be added.
- Click on 'Add'.
- The 'Group delay' field is only used if the alarm is used as a group alarm.

Changing a location:

- Click on the relevant location.
- Click on 'Edit'.
- The number and the name of the location can now be changed.





Changing an alarm:

- Click on the relevant alarm.
- Click on 'Edit'.
- The number and the name of the alarm can now be changed.

Delete:

- Select an alarm. Click on the delete button: the alarm is removed from the list.
- Select a location. Click on the delete button: the location is deleted, including the alarms linked to it.



17.3.2 Priva Office Locations

A list of all Priva Office locations, supplemented by the specified exceptions, is displayed on the left of the screen:

PCU	Locatie	Alarm	ARA Alarm	Groep
ASTest2	WATSYS 4 SCHOONWATER 4	--	0001 - 08	
ASTest2	WATSYS 4 SILO 1	--	0001 - 08	
ASTest2	WATSYS 4 SILO 2	--	0001 - 08	
ASTest2	WATSYS 4 SILO 3	--	0001 - 08	
ASTest2	WATSYS 4 SILO 4	--	0001 - 08	
ASTest2	WATSYS 4 SYST.POMP 1	--	0001 - 08	
ASTest2	WATSYS 4 SYST.POMP 2	--	0001 - 03	0001 - 09
ASTest2	WATSYS 5	--	0001 - 03	0001 - 09
ASTest2	WATSYS 5 MENGPOMP	--	0001 - 03	0001 - 09
ASTest2	WATSYS 5 ONTSMETTER	--	0001 - 03	0001 - 09
ASTest2	WATSYS 5 SCHOONWATER 1	--	0001 - 03	0001 - 09
ASTest2	WATSYS 5 SCHOONWATER 2	--	0001 - 03	0001 - 09
ASTest2	WATSYS 5 SCHOONWATER 3	--	0001 - 03	0001 - 09
ASTest2	WATSYS 5 SCHOONWATER 4	--	0001 - 03	0001 - 09
ASTest2	WATSYS 5 SILO 1	--	0001 - 03	0001 - 09
ASTest2	WATSYS 5 SILO 2	--	0001 - 08	
ASTest2	WATSYS 5 SILO 3	--	0001 - 08	
ASTest2	WATSYS 5 SILO 4	--	0001 - 08	
ASTest2	WATSYS 5 SYST.POMP 1	--	0001 - 08	
ASTest2	WATSYS 5 SYST.POMP 2	--	0001 - 08	
ASTest2	WK	--	0001 - 08	
ASTest2	WK TRAP 1	--	0001 - 08	
ASTest2	WK TRAP 2	--	0001 - 08	
ASTest2	WK Voorw1	--	0001 - 08	
ASTest2	WK Voorw2	--	0001 - 08	

Filter: PCU Locatie Alarm ARA Alarm Groep

astest2

Verberg uitzonderingen
 Toon niet-gekoppelde alarmen

Geen Licentie

ARA-Pro Locaties en Alarmen

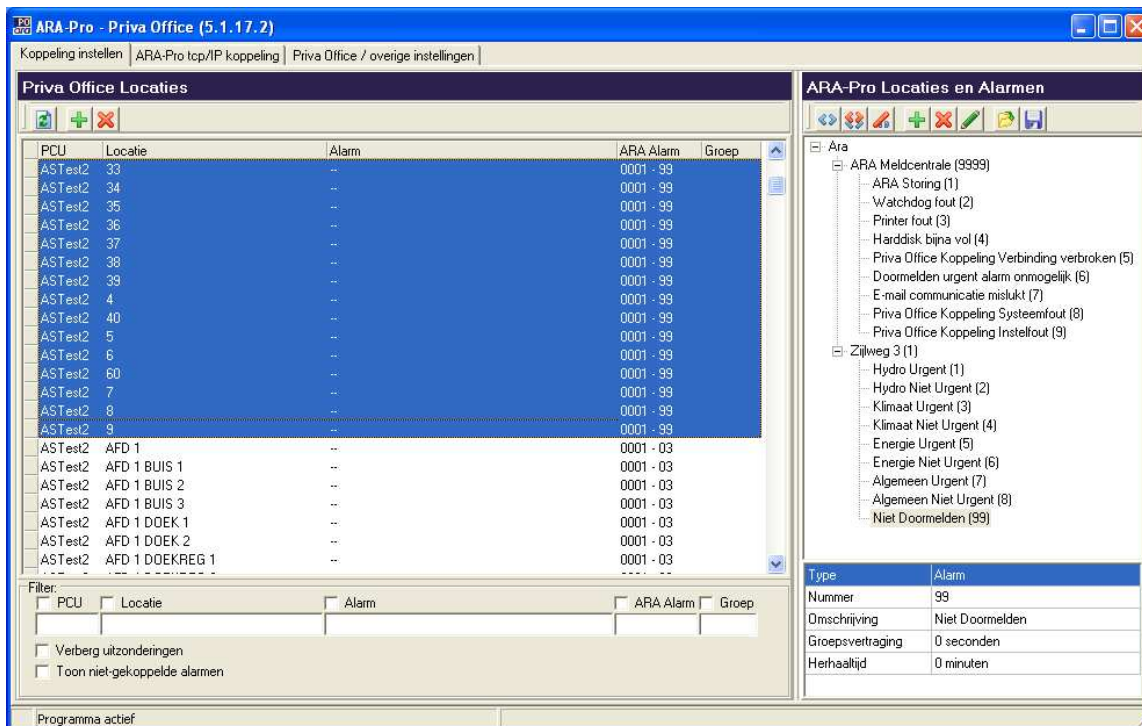
- Ara
 - Bedrijfslocatie 1 (1)
 - Computer algemeen (1)
 - Klimaat urgent (2)
 - Klimaat niet urgent (3)
 - Hydro urgent (4)
 - Hydro niet urgent (5)
 - Energie urgent (6)
 - Energie niet urgent (7)
 - Niet doormelden (8)
 - Test Groepsalarm urgent (RSM) (9)

Type	Alarm
Nummer	3
Omschrijving	Klimaat niet urgent
Groepsvertraging	0 seconden

The list contains five columns:

- PCU: the name of the Intégro
- Location: the location name within the Intégro or Priva Office
- Alarm: number and name of an alarm definition (only for exceptions)
- ARA Alarm: the ARA alarm linked to this line (location code and alarm code)
- Group: the ARA alarm linked to this line for group alarms.

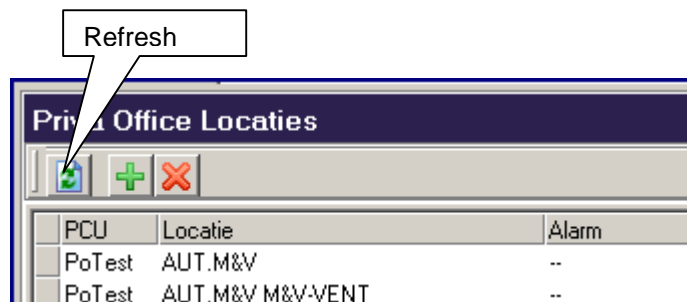
When AraPO is started up for the first time, a number of exceptions will already have been configured (see Exceptions).



All Priva Office locations must be linked to an ARA alarm. There are a number of non-relevant Priva Office locations that cannot be alarmed. These are characterised by a number without text. These locations can be linked to the 'Do not forward' ARA alarm.

Other Priva Office locations whose meaning is not clear can be linked to an urgent ARA alarm. If during operations it turns out that the alarm is not all that urgent, it can be linked to another ARA alarm.

Refresh



By clicking on the 'Refresh' button, the definitions (location and alarm definitions) are retrieved from Priva Office. This can take a little while.

This action is also executed automatically a few times each day.

Filtering

To simplify the allocation of ARA alarms to locations and exceptions, it is possible to hide parts of the list with the aid of a filter.

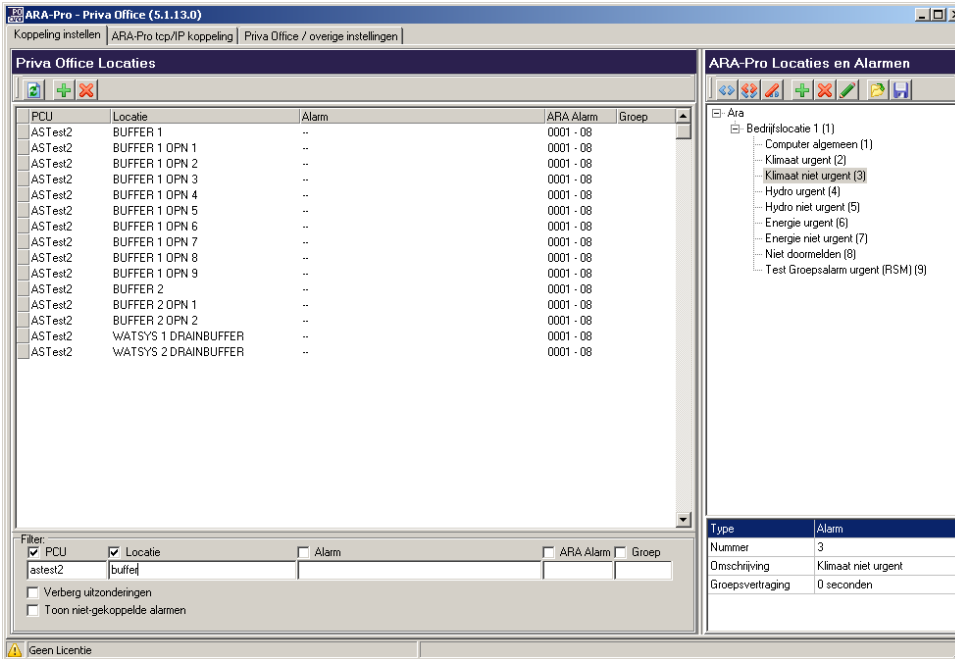


Simple Filter

By entering text into the input fields below the first three columns, only those lines are displayed in which the text in the input field occurs within the relevant column.

The filter is case insensitive.

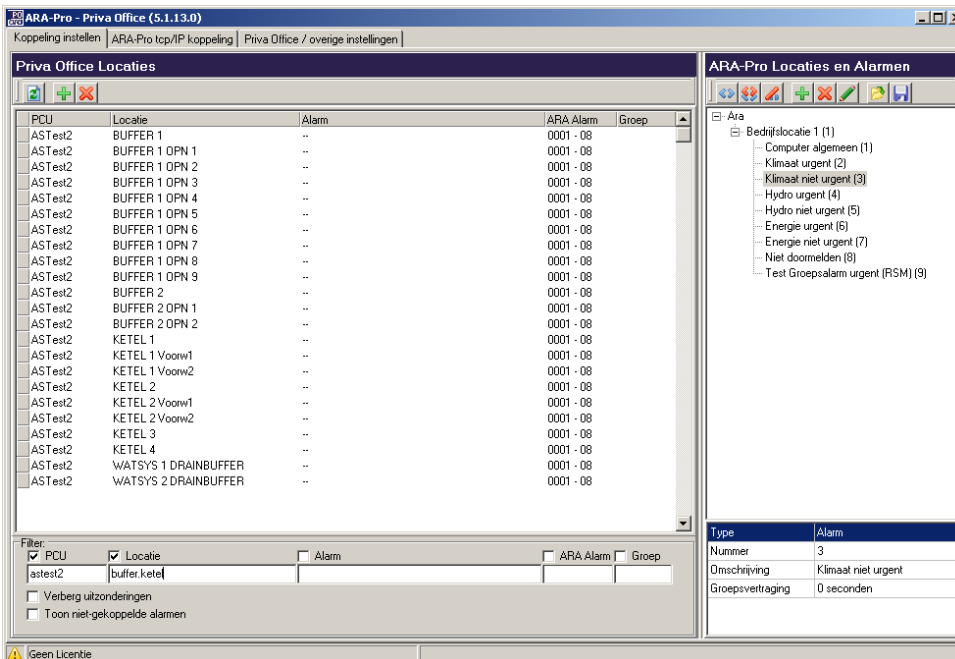
Remove the option check mark to deactivate the filter.



Combined Filter

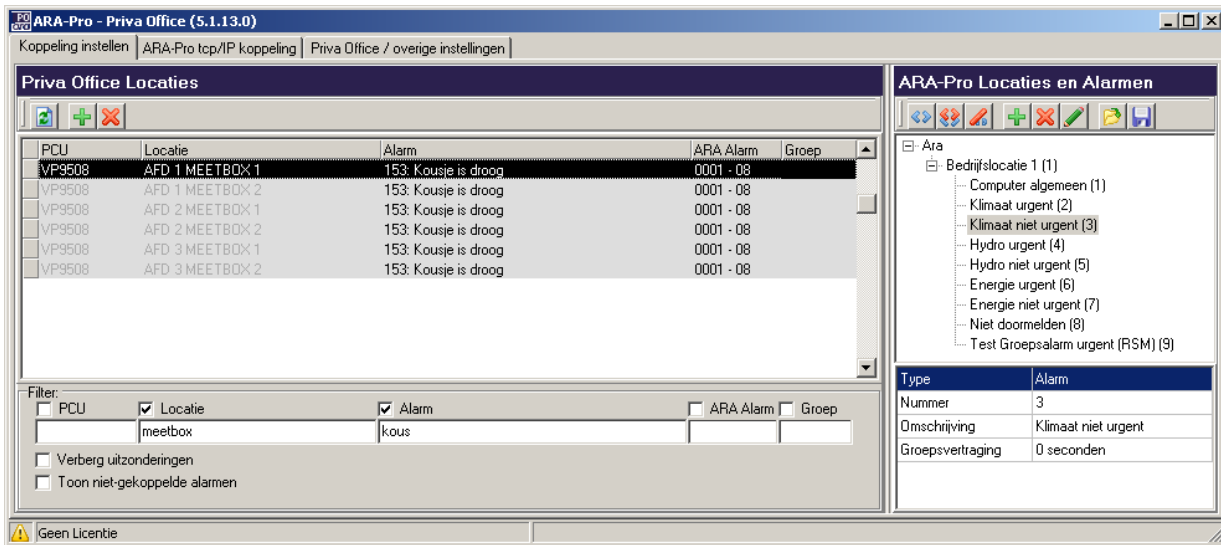
By entering two filter terms separated by a full stop (.), the selection can be expanded.

All lines in which one of the text segments (before and after the full stop) occurs in the relevant column is now displayed.



Multiple Columns

If a filter is entered in multiple columns, only those lines that meet all of these conditions are displayed.



Special Filters

- By checking off 'Hide exceptions', all exceptions are hidden.
- By checking off 'Display orphans', only those alarms for which no ARA alarm has been set are displayed.

Selecting a Line

A line can be selected by clicking on it. Multiple lines can be selected in one of the following ways:

Selecting all lines

- Select a single line.
- Press the CTRL and A keys simultaneously.

Selecting a large number of consecutive lines

- Select the first line.
- Look for the last line.
- Press the Shift key and click on the last line.

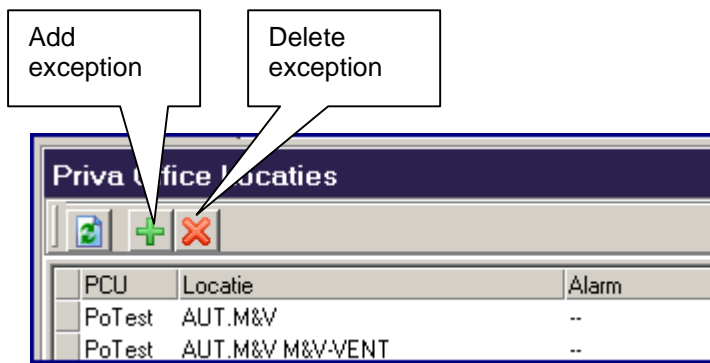
Selecting a number of consecutive lines

- Select the first line.
- Click on the first line and keep the mouse button pressed down.
- Move the mouse to the last line and release the mouse button.

Add Exceptions

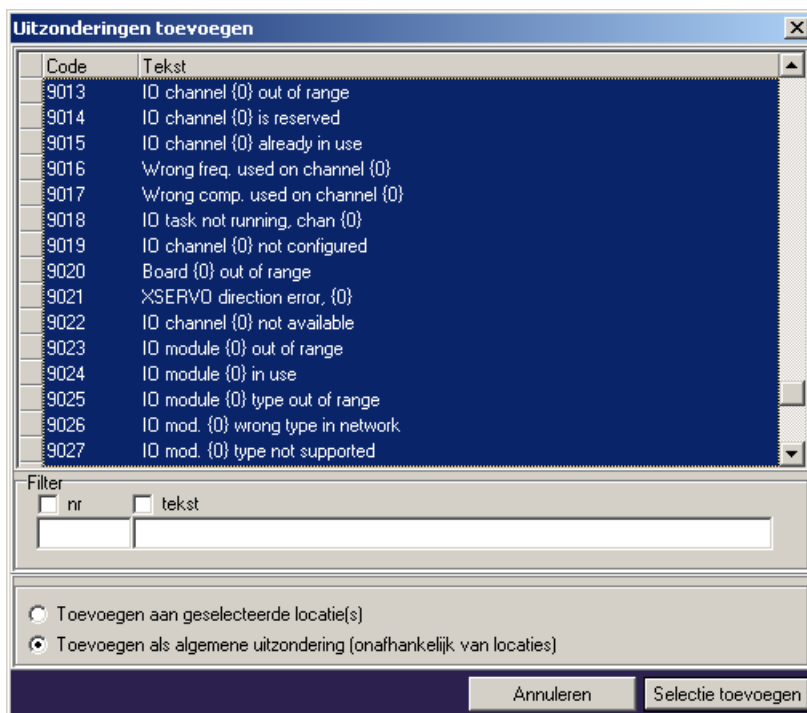
All alarms for a certain location are in principle reported to a single alarm in ARA. Two possible exceptions can be made to this, however.

- General Exceptions
If an alarm has been specified as a general exception, then the alarms of this type - regardless of their location - are always reported to the same ARA alarm.
- Exceptions by Location
If an alarm has been specified as an exception for a location, then the alarm is forwarded to an ARA alarm that deviates from the ARA alarm specified for the relevant location.



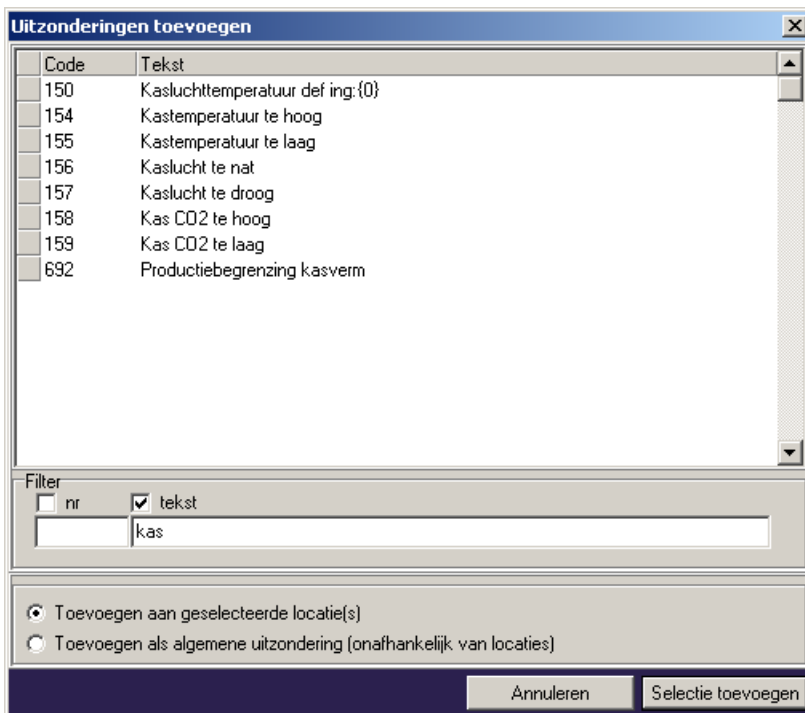
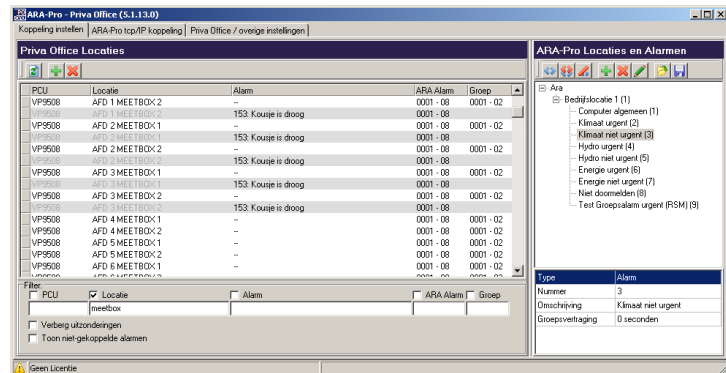
Add General Exceptions:

- Click on the 'Add exception' button.
- Alarms can be selected from the menu that is now displayed in the same way as in the main menu.
- Select the 'Add as general exception' option.
- Click on the 'Add selection' button. The alarms will be added to the main menu.



Add Exceptions by Location:

- Select one or more locations to which an exception is to be added.
- Click on the 'Add exception' button.
- Select the desired alarms.
- Select the 'Add to selected location(s)' option.
- Click on the 'Add selection' button. The alarms will be added to the selected locations on the main menu.



Selecting Exceptions

Below are a few tips for selecting exceptions from the main menu. These can come in handy for removing exceptions or allocating alarms to exceptions.

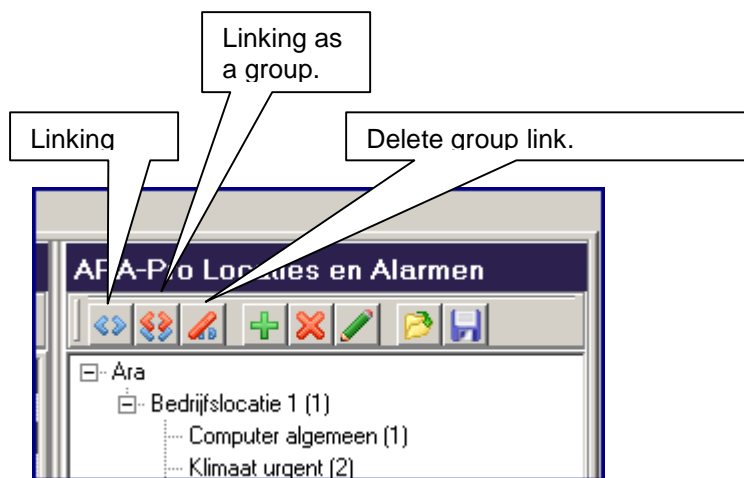
Deleting exceptions for multiple locations:

- Select the lines to be deleted, including the location lines positioned between them.
- Click on the 'Delete' button. All selected exceptions will be deleted. The not selected exceptions continue to be displayed.

Use of the Filter

- Set up a filter in the third column. Something is entered here only for exceptions.
- Tip: enter a colon (:), this punctuation mark is part of all exceptions.

Linking



The lines in the left part of the screen (Locations and Exceptions) must be linked to ARA alarms:

- Select one or more lines.
- Select an ARA alarm in the left part of the screen.
- Click on the 'Link' button.
- The selected ARA alarm will now appear in the fourth column of the selected lines (this can sometimes take a few seconds, depending on the size of the selection).

Lines that are not linked are outlined in red. This clarifies which lines must still be completed.

Group Alarms

The 'Link as group' button is used to link an alarm as a group alarm. The alarm is then placed in the fifth column. This link can once again be removed using the 'Delete group link'.

See Section 17.4 for a further explanation of group alarms.

17.4 Operating Mode

A number of tasks is performed automatically when the program is started up. These tasks are not only limited to forwarding alarms. System errors are also detected and forwarded.

17.4.1.1 Retrieve Definitions

A few minutes after the program has been started up, the list with locations and alarm definitions is retrieved from Priva Office. The user can also do this by clicking on the 'Refresh' button.

After the first time, this action is repeated daily.

17.4.1.2 Retrieve Alarms

The list with current alarms is retrieved from Priva Office every 10 seconds. The following steps are executed next:

- For each new alarm in the list, an alarm message is sent to ARA.
- For each alarm that previously occurred in the list, but is no longer there, an idle message is sent to ARA.

The following three conditions are used to determine the ARA alarm to which the message is sent:

- If the alarm definition occurs on the list of general exceptions, the alarm or idle message is sent to the ARA alarm specified here.
- If the alarm definition occurs on the list of exceptions for the relevant location, the alarm or idle message is sent to the alarm specified here.
- The alarm or idle message is sent to the alarm specified for the relevant location.

17.4.1.3 Group Alarms

A series of alarms often arrives in which one alarm is the consequence of another alarm. It is possible to group alarms, so that calm can be restored. At the same time, each alarm is still recorded in ARA's log.

If a group alarm has been configured for a Priva Office alarm, it will be processed as follows:

1. A message for the configured ARA alarm will be forwarded (entered in fourth column).
 - The text of the alarm in this case will be preceded by the text 'Pre-message'.
 - If in AraControl, under the relevant alarm, the option 'None' is selected for 'Call up service personnel', the alarm is entered in the log, but no one is called up.
2. After the configured waiting time set for the group alarm, it is forwarded to ARA.

If in the interim no other alarms arose with the same group alarm, a message is sent to ARA with the alarm text of the original alarm (without the text 'Pre-message').

If in the interim other alarms with the same group alarm did arise, a message is sent to ARA without any text. This means that the alarm text set in AraControl will be used as the message text.

The delay for the group alarm starts with the first alarm that is received. This means that the subsequent alarms do not cause further delays in forwarding the alarm.

17.4.2 Reporting Problems

To prevent that alarms are not being reported - for any reason whatsoever - a number of safety nets has been built in that are designed to ensure that the alarm proceeds in all cases, or at the very least that a signal goes out indicating that there is a problem.



17.4.2.1 Communication Errors

If for some reason it is no longer possible to communicate with the Priva Office server, this is reported to ARA.

Possible problems include network failures. A 9999-08 alarm is sent in this case (Location 9999: ARA Alarm Centre).

When the Priva Office server becomes heavily charged, it may happen that it does not respond fast enough. To prevent every minor failure from immediately producing an alarm, a message is only forwarded to ARA once communications has been disrupted for more than 5 minutes.

17.4.2.2 Configuration Errors

Two possible errors can arise while AraPO is being configured:

1. There are lines to which no alarm has been linked:
 - after the definitions are retrieved, a check is performed to determine if there are still any lines without an assigned alarm. This could occur for example due to a change in the Priva Office configuration.
 - When an alarm is forwarded, the fact that the relevant line is without assignment is detected.
2. When the alarm is forwarded to ARA, it rejects the alarm:
 - the lists with locations and alarms in AraPO and AraControl do not appear to be in sync.

A 9999-09 alarm is sent in these cases (Location 9999: ARA Alarm Centre).

17.4.3 Watchdog

AraPO sends a sign of life to AraReport every minute. If AraReport detects that this watchdog message no longer arrives, AraReport will issue an alarm. This happens after 9 minutes.

Because multiple clients (such as AraPO or AraLocal) can be linked to AraReport, it is necessary for the origin of the watchdog messages to be known. Each client must be assigned a Watchdog ID for this purpose. This ID must therefore be set to a different value (0-9) for each client. If multiple clients use the same ID, AraReport will issue a watchdog alarm.

18. AraWebview

18.1 Installation

The AraWeb interface can be used to view the log and the alarm state window.

Different users can be created each of whom can be given access to the data related to his/her own locations only.

No special knowledge is required for the use of the web pages. To install the application requires some knowledge of the use of a Windows (IIS) web server.

System Requirements:

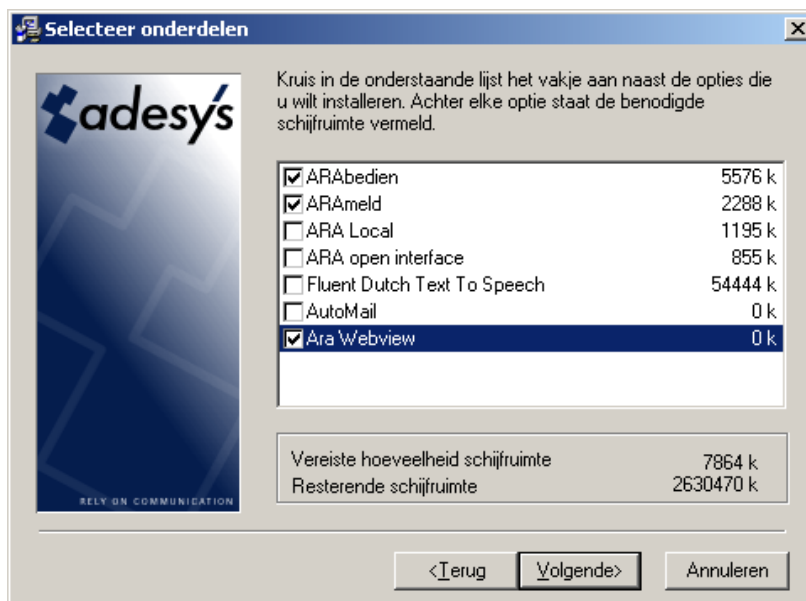
- Windows XP Professional or Windows Vista Professional.
- IIS (Windows Web Server software) must be installed.

Installation:

AraWebview must be installed on the same PC as AraReport. AraWebview is installed by checking off the 'AraWebview' option during the installation of ARA.

Select components

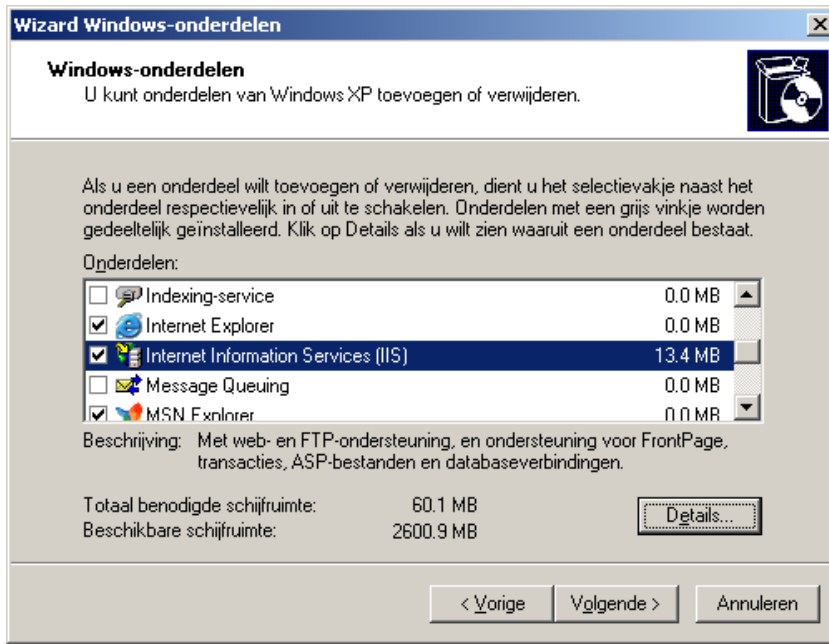
Check off the boxes for the options that you would like to install. The required disk space for each option is listed to the right of each option.



If necessary, the 'ODBC .Net Data Provider' is installed during the installation. This is the database driver that enables the AraWebview pages to access the ARA database for viewing. If this happens, follow the instructions on the screen by clicking a number of times on 'Next' and finally on 'Finish'.

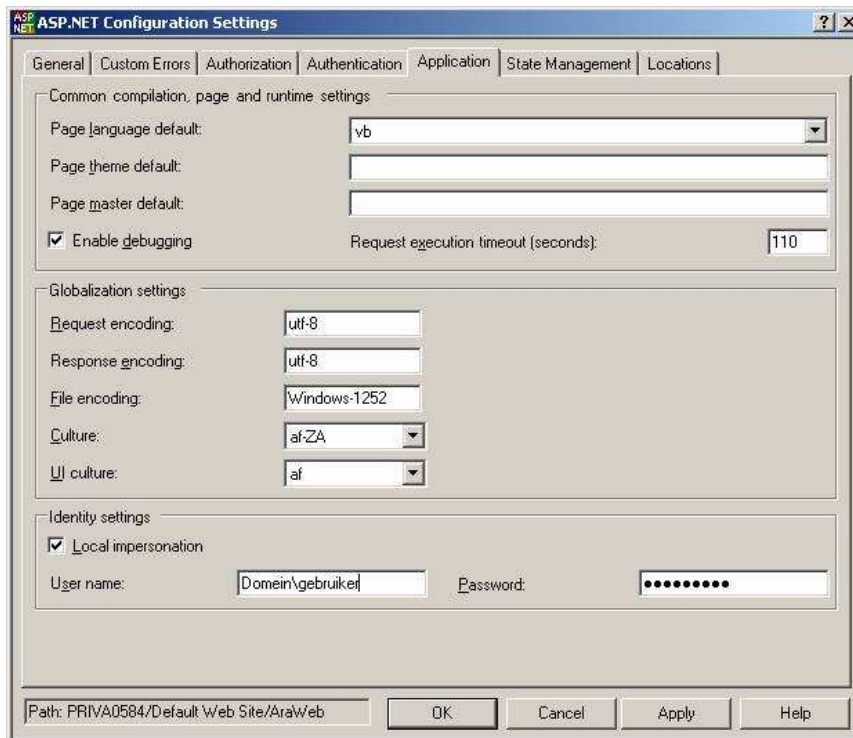
If the installation detects that IIS has not been installed, then the AraWebview installation is not performed. The remaining components will still be installed.

IIS can be installed in the 'Software' window of the Windows configuration screen. Click on the 'Add or remove Windows components' button. The following window will now appear:



After the installation is complete a number of settings must still be configured.

- Provide the AraWebview application with access rights to use the database:
 - Open the configuration window for the ASP.NET application:



- Open this window from the IIS configuration window: (Configuration window > System administration > Internet Information Services (this latter part may vary well vary)).
- Click the tree structure (Websites -> Standard website) on the left to expand it.
- Right-click with the mouse on 'AraWeb' and click on 'Properties'.
- Click on the 'ASP.NET' tab and click on 'Edit configuration'.
- Click on the 'Application' tab in the window that is now displayed.
- The above screen is now displayed.

- In the lower part of the window:
 - Turn Local impersonation on.
 - Enter the user name and password used to start up the computer (in case a domain is used, also enter the domain name; see example).
- AraWebview is now ready for use. Windows Vista requires one additional step, however:
 - Due to Windows Vista's security requirements, the last step of the installation can only be performed with Administrator rights.
 - Open a command prompt (Start > Programs > Office Accessories > Command Prompt) by right-clicking it with the mouse and then selecting 'Execute as Administrator'.
 - Execute the file 'c:\program files\ara\setup_iis.vbs' from the command prompt.



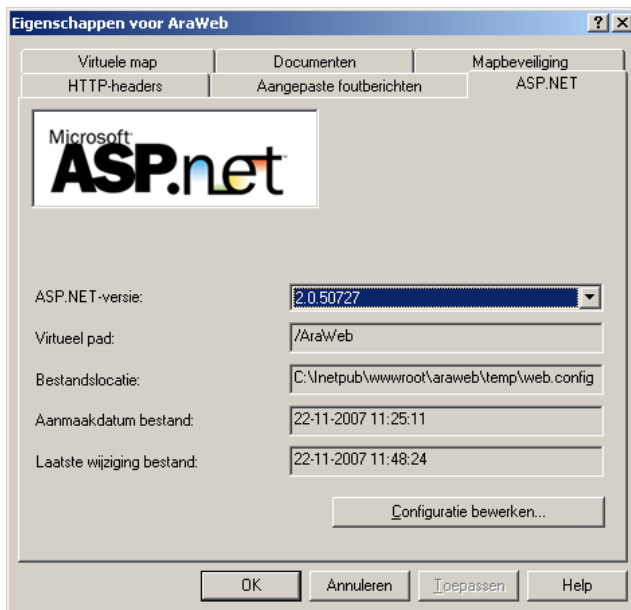
18.1.1 Using the Application

The web pages can be accessed via the URL `http://pc-name/araweb` (pc-name must be replaced by the name of the PC on the network).

The main user can log in with the user name 'admin' and the password 'admin'. Only the main user can create users and assign rights to these users.

The main user's user name and password can be changed via IIS.

- Open this window from the IIS configuration window: (Configuration window > System administration > Internet Information Services (this latter part may vary)).
- Click the tree structure (Websites -> Standard website) on the left to expand it.
- First open the properties window of the virtual 'AraWeb' folder and then go to the 'asp.net' tab.



- Next click on the 'Edit configuration' button. The main user's user name and password are listed on the lines 'SuperUser' and 'SuperUserPass' respectively.

