SOFTWARE TEAM A Nihon Kohden Company Version: 04	Technical Documentation **SmartLink** (v3.26) Basic UDI: 805750990SMARTLINK3WM **ADMINISTRATION AND CONFIGURATION MANUAL**

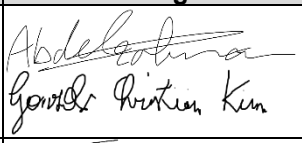
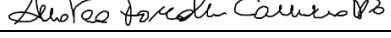
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1. GENERAL INFORMATION

1.1. Manufacturer Contact Details

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1.2. Trademarks

Trademarks, trade names and company names used in this document are for identification purposes only and are the property of their respective owners.

2. DOCUMENT INTENDED PURPOSE AND READERS

This document gives the user the instructions to configure all SmartLink functions.

This document contents are for doctors and system administrators that oversee the SmartLink functions configuration.

3. CLINICAL APPLICATION SPECIALIST QUALIFICATIONS

Clinical Background

Capability to transfer the hospitals requests into the SmartLink system.

SmartLink Training

Clinical Application Specialists without training certificates are not allowed to do any post installation activities on the SmartLink server.

4. SMARTLINK CONFIGURATION - WIZARD CLINICAL

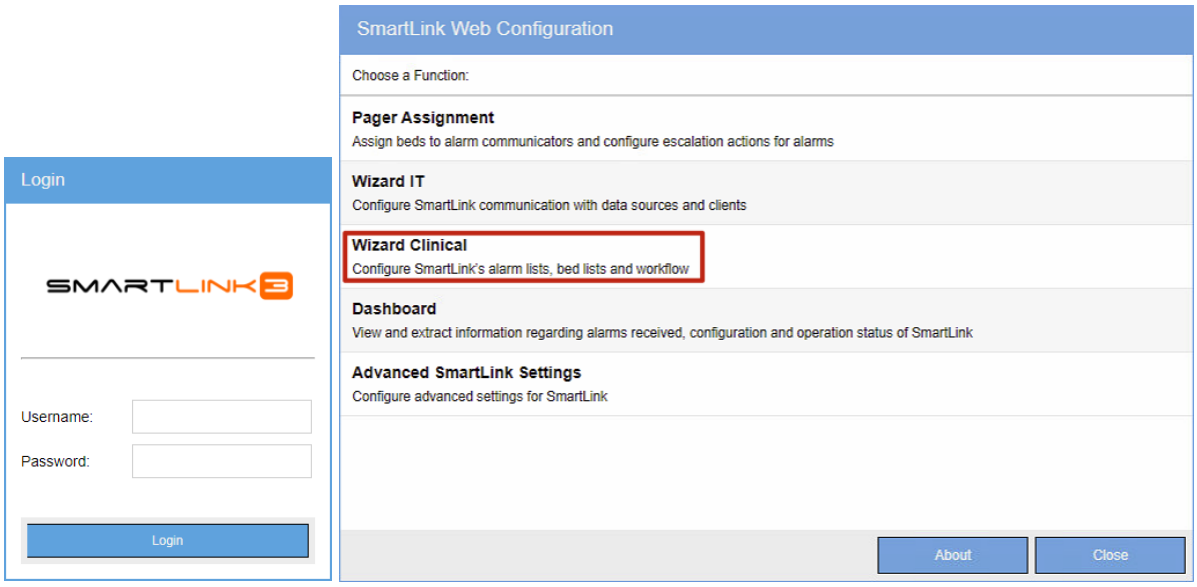
The Wizard Clinical is a tool that allows the Clinical Application Specialist to configure and manage the ward, the alarms list with the escalation rules, and the pager assignment.

To access the Wizard Clinical functions, open Google Chrome and type:

http://**[ServerIP]***:20010/smartlinkwebapp

***** change **[ServerIP]** with the IP address of SmartLink server (e.g., http://192.168.1.1:20010/smartlinkwebapp).

Once you're connected, insert your Username and Password and, on the page that follows, click *Wizard Clinical*.

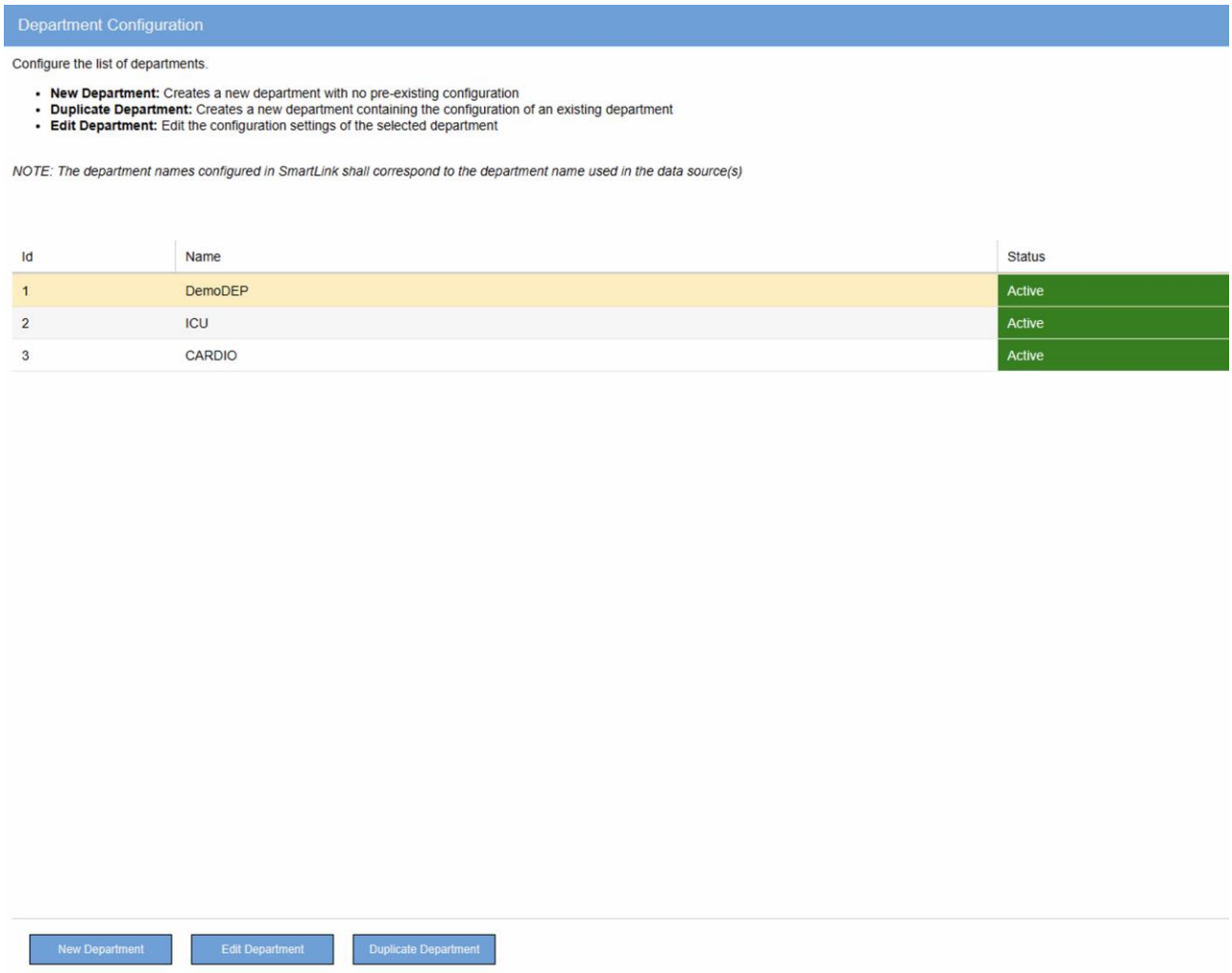


To switch from one section to another, click on the options button in the upper-right corner.



4.1. Department Configuration

This page allows you to configure the hospital wards to be managed:



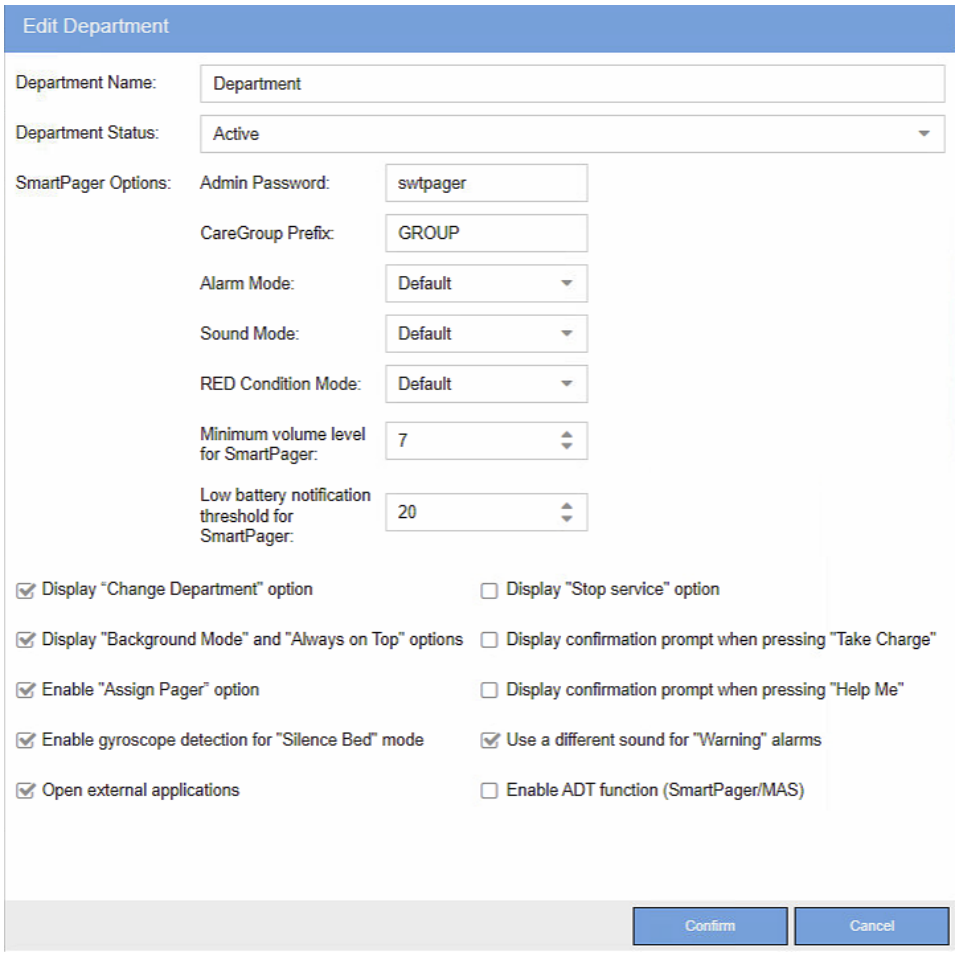
Select the department you would like to edit and click on *Edit Department* to configure said department.

New Department: Creates a new department with no pre-existing configuration

Duplicate Department: Creates a new department containing the configuration of an existing department

Edit Department: Edit the configuration settings of the selected department

Click on *Edit* to modify the departments' options:



Department Name: The name of the department. Department name(s) configured in SmartLink shall correspond to the department name(s) used in the data source(s)

Department Status: The status of the department. Departments can be set as:

- *Not active*: Alarms coming from the department are not forwarded to the alarm communicators
- *Active*: Alarms coming from the department are forwarded to the alarm communicators

Department Name: The name of the deparment. Department name(s) configured in SmartLink shall correspond to the department name(s) used in the data source(s)

Department Status: The status of the department. Departments can be set as:

- *Not active*: Alarms coming from the department are not forwarded to the alarm communicators
- *Active*: Alarms coming from the department are forwarded to the alarm communicators

SmartPager Options:

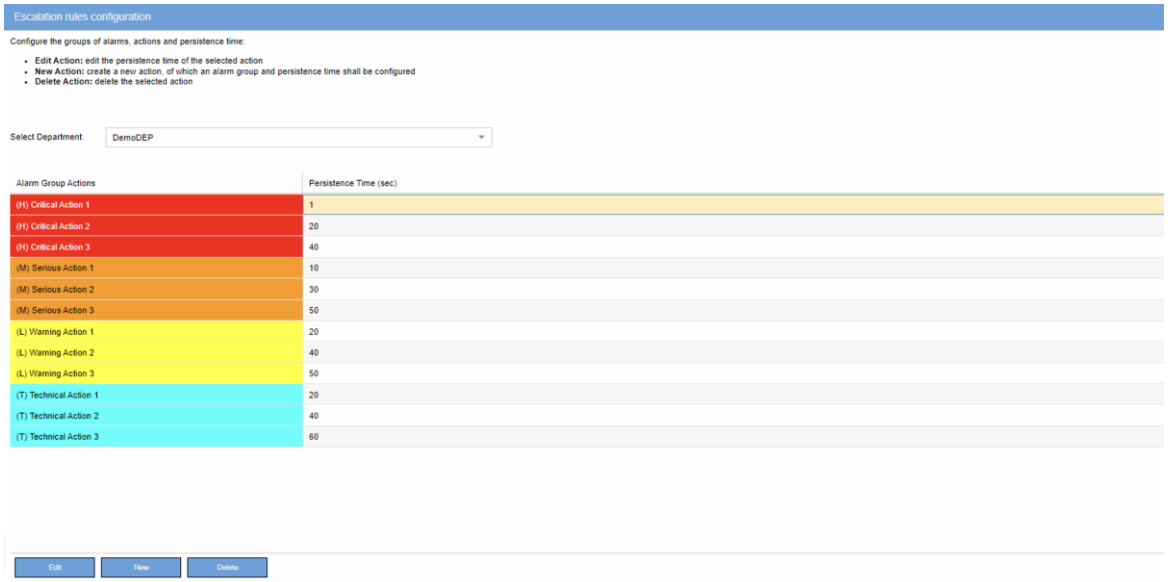
- *Admin password*: The password used to access administration settings on SmartPager
- *Alarm mode*: The mode in which new alarms are displayed on SmartPager. Alarm mode can be set as:
    - *Default*: Newest alarms are displayed on SmartPager on arrival.
    - *Dialog Box*: On alarm arrival, a confirmation prompt to view the new alarm is displayed on SmartPager
- Sound mode: The mode in which alarms are notified acoustically on SmartPager. Sound mode can be set as:
    - *Default*: Alarms are notified acoustically with 4 consecutive beeps
    - *Continuous sound alert*: All alarm groups are notified acoustically with a continuous beeping and vibration
    - *Continuous sound alert for Critical (H) alarms*: Alarms of the Critical (H) group are notified acoustically with a continuous beeping and vibration
    - *Different sounds x alarm groups*: Alarm groups are notified acoustically as follows
        - Alarms of the Critical (H) group are notified acoustically with a continuous triple beeping and continuous vibration
        - Alarms of the Serious (M) group are notified acoustically with a continuous beeping and continuous vibration
        - Alarms of the Warning (L) group are notified acoustically with 4 beeps and continuous vibration
        - Alarms of the Technical (T) group are notified acoustically with 4 beeps and continuous vibration
- *RED condition mode*: The mode in which RED condition is notified on SmartPager. RED condition mode can be set as:

  - *Default*: Disconnection to the server is notified with a red screen and a periodical double beep
  - *Incremental*: Disconnection to the server is notified with a red screen and a double beep

- *Minimum volume level for SmartPager*: The minimum sound level allowed for SmartPager
- *Low battery notification threshold for SmartPager*: The battery level in which SmartPager shall start notifying the user of “Low battery“
- *Display change department button on Smartpager*: The option to display the change department on SmartPager
- *Display “Background Mode“ and “Always on Top“ buttons on SmartPager*: The option to display the “Background Mode” and “Always on Top“ toggle on SmartPager-
- Pager assignment on SmartPager: The option to enable pager assignment directly on SmartPager
- Movement detection for SmartPager during “Silence Bed“ → The option to enable gyroscope movement detection for SmartPager when a bed is silenced
- Open external applications: The option to use an external application to view patient parameters when pressing the “Real Time“ button on SmartPager
- Display Stop Service button: The option to display the “Stop Service“ button on SmartPager
- Request confirmation for "Take charge" on SmartPager: The option to enable a confirmation prompt when pressing the “Take Charge” button on SmartPager
- Request confirmation for “Help me“ on SmartPager: The option to enable a confirmation prompt when pressing the “Help me“ button on SmartPager
- Specific sound for warning alarms: it enables a triple beep sound for warning (L) alarms on the pager.
- Enable ADT function (SmartPager/MAS): it enables the ADT function on the pager.

4.2. Alarm List Configuration

This section allows to configure the alarm list.



To configure the alarm list:

1. **Select the department**
2. **Select the Alarm source**: the alarm source is the one set in the SmartLink license → this has been removed
3. **Search Alarm**: If necessary, alarms can be filtered using the search button

For each alarm it is possible to set:

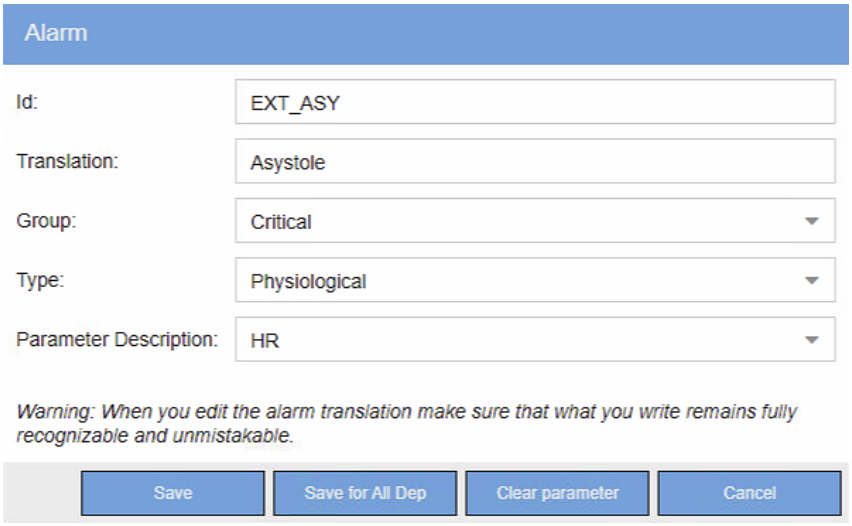
4. **Group**: The severity of the alarm. Alarm groups are the following:
    1. **Critical:** Alarms of the highest priority (H) (RED) - immediate operator response is required
    2. **Serious:** Alarms of medium priority (M) (ORANGE) - prompt operator response is required
    3. **Warning:** Alarms of low priority (L) (YELLOW) - operator awareness is required and future action might be needed

4. **Technical*:*** Alarms of the technical nature (T) (BLUE) - examples of technical alarms can be *SpO2 probe detached*, *Monitor disconnected*, *Communication with Gateway lost*
5. **Not Managed**: Alarms set to not be managed by SmartLink, thus not to be forwarded to alarm communicators
6. **Unknown:** Alarms that have not been registered in the system and require further configuration - the user shall decide whether said alarm must be managed or not

5. **Translation**: The alarm name shown on the alarm communicators
    1. **Type**: The type of the alarm

Download Alarm validation document: Alarm lists shall be exported at the end of the configuration. This document shall be acknowledged and signed by the Health Care Professional(s).

Select an alarm and click “Edit Alarm” to change the Alarm Translation and the Classification Group. You can save the changes for the current department only or for all the departments.

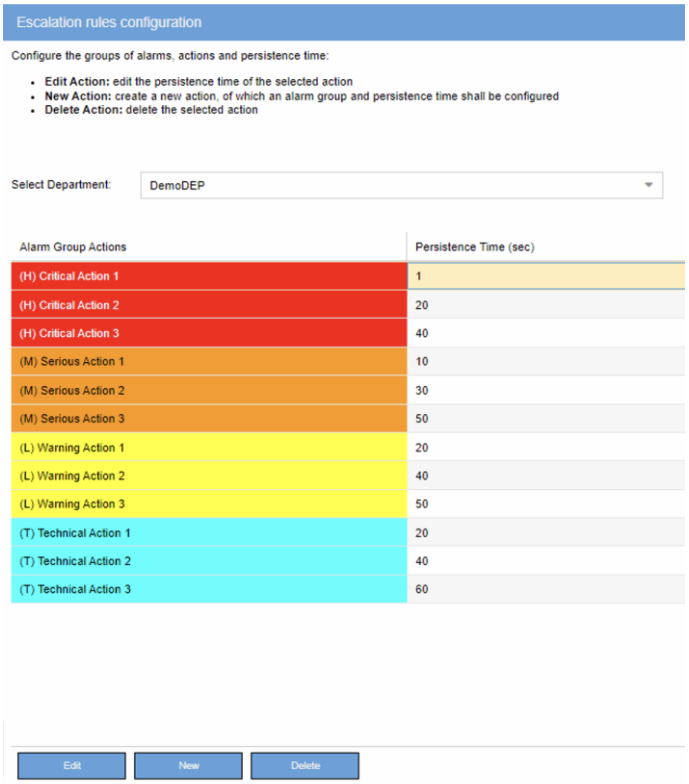


“*Download alarms validation document*” allows you to download the edited list of alarms so that for each department it is possible to test it.

NOTE: the alarms shown are the active alarms. To activate an alarm that is “*Not managed*” click “*ALL*” in “*Alarm source*”.

4.3. Escalation Rules Configuration

The Escalation Rules section allows to configure and activate the escalation rules for every group of alarms.



It is possible to manage a maximum of six escalation rules for each alarm group.

To configure the escalation rules, select the Department, then:

- To edit an action, select the action and click Edit. It is possible to change only the persistence time.
- To add an action, click New, select the group, and set the persistence time. The action number is automatically assigned from the server and cannot be changed.
- To delete an action, select the action and click Delete. You must start from the last action to delete an action (e.g., if you have “Critical Action 1” and “Critical Action 2”, to delete Action 1 you must first delete Action 2).

The *Persistence time* is the time an alarm shall elapse before performing the escalation actions.

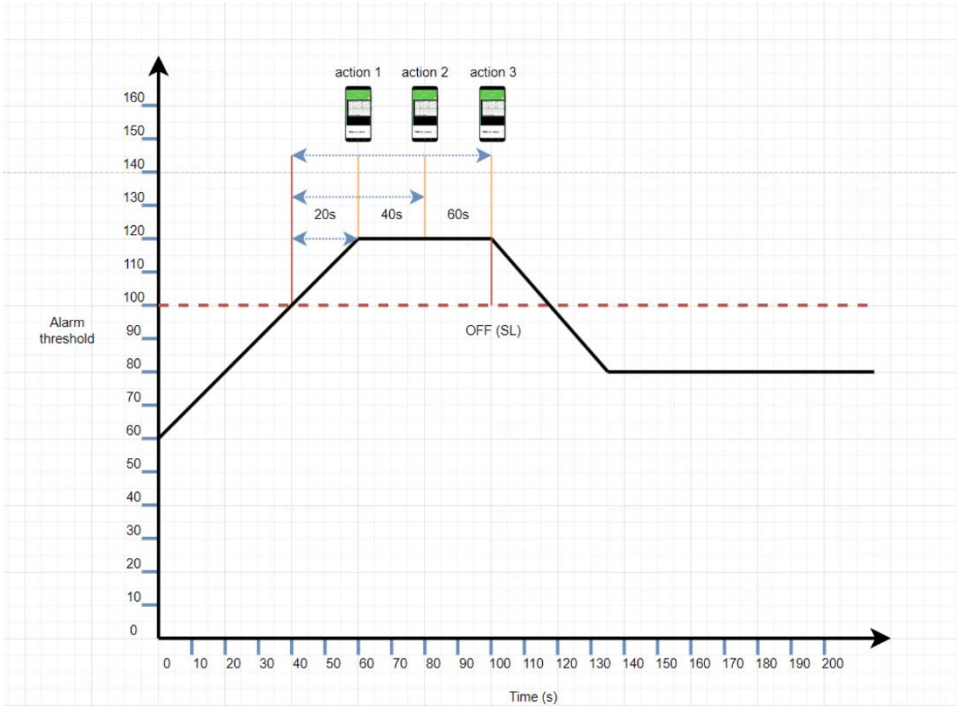
Example scenario:

Alarm type: Serious (M)

Alarm action 1 → 20s

Alarm action 2 → 40s

Alarm action 3 → 60s



Result:

When a Serious (M) alarm occurs, the alarm will be first transmitted to the alarm communicators after 20 seconds.

If the alarm condition has not been resolved, and the operator has not taken the alarm in charge, it will be transmitted to the alarm communicators a second time at 40 seconds (starting from the alarm occurred on the device).

If the alarm condition has not been resolved, and the operator has not taken the alarm in charge, it will be transmitted to the alarm communicators a third time at 60 seconds (starting from the time the alarm occurred on the device).

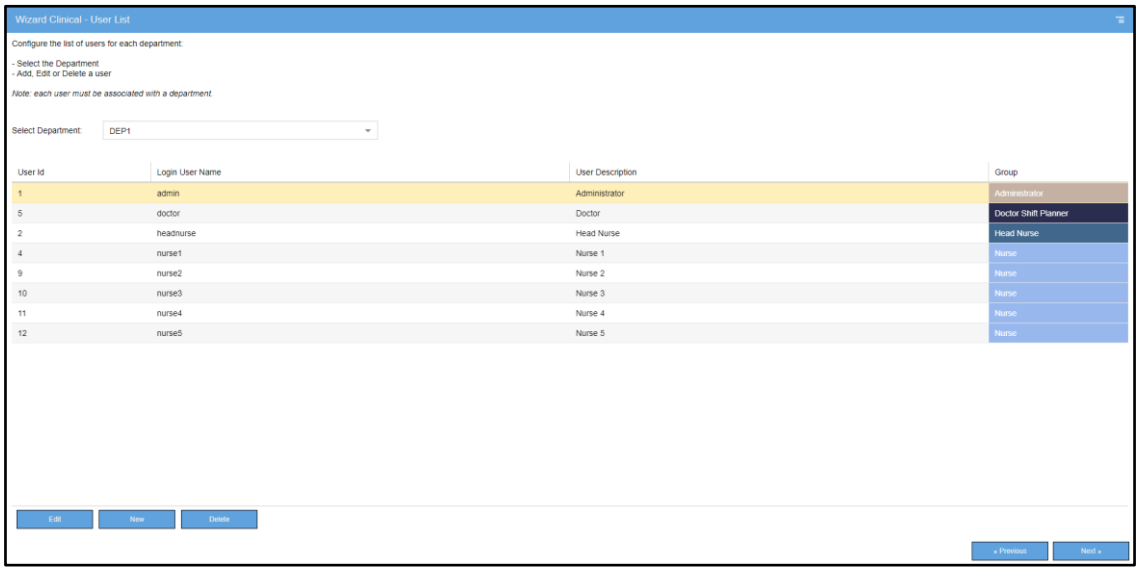
NOTE

Starting from SmartLink Rev 3.26.2, alarms that are still active on the bedside devices past the last configured action, are resent and shall follow the entire escalation steps from the beginning.

Alarms that haven't been resolved on the device, are automatically set to "OFF" after configurable amount of time has elapsed, set by default to 300 seconds.

4.4. User List Configuration

This section allows to add, configure, and delete the departments' users.



First, select the department you want to manage.

If you want to add a user, click Add and insert:

- Login username
- Login Password / Confirm Password
- User description (this is the username that will appear on the pager)
- Select the group:
  - Nurse: is the final user of the pager
  - Head Nurse: oversees the pager assignment at the beginning of the shift.
  - Doctor / Shift planner: oversees the pager assignment set-up.
  - Administrator: is the user with full privileges (NOTE: The Administrator user cannot be modified)

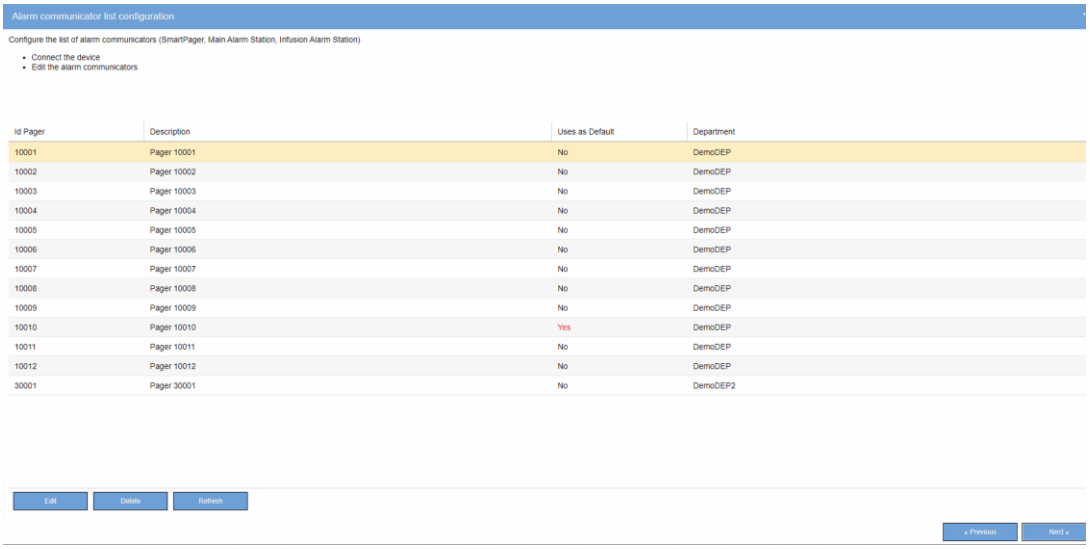
Once you have created a user, click Save.

If you want to edit a user, select the user, and click Edit. From here you can also reset a user's password.

If you want to delete a user, select the user, and click Delete.

4.5. Alarm Communicator List Configuration

This section allows configuring and managing the connectors list.



There are three different connector types:

- Main Alarm Station
- Infusion Alarm Station
- SmartPager

The list of pagers is automatically populated when a pager is connected to the system.

The connectors list info is:

- ID pager: this is the identification code of the device
- Description: this is the description of the device
- User as Default: if it is set to Yes, it means that this device is used to manage the alarms coming from unknown or unmanaged beds.
- Department: this is the department associated with the device

When you add a new connector, click Refresh to reload the list of connectors.

To delete a connector, select the connector and click “Delete”.

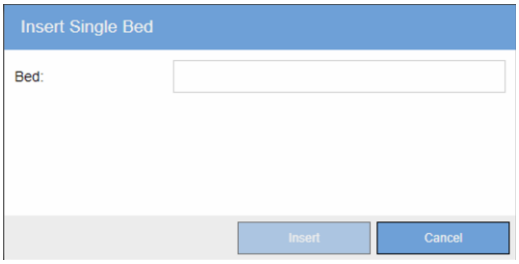
4.6. Bed List Configuration

This section allows the configuration of the beds.

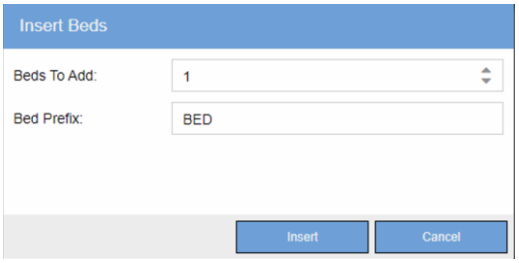
In order to do so:

- Select the department.
- Select the bed, then click:
    i. "*Delete*" to delete the selected bed from the bed’s list.
    ii. "*Edit* " to modify the name of the bed.
- Click "Refresh" to refresh the bed’s list.
- Click on *“Insert Single Bed”* to create only one bed.
    i. Bed: Insert the name of the bed that you want to create.
    ii. Click on “*Insert*” to create the bed.

NOTE: bed names shall not contain spaces when creating a bed from the bed list configuration, nor shall be used in the source devices (e.g. monitors)



- Click on *Insert Beds* to create new beds
    i. Beds to add: Choose the number of beds to create
    ii. Beds Prefix: Choose the prefix description of the beds
    iii. Click on “*Insert”* to create the beds



4.7. Shifts Configuration

This section allows configuring the shifts for each department; each shift contains its own Pager Assignment configuration.

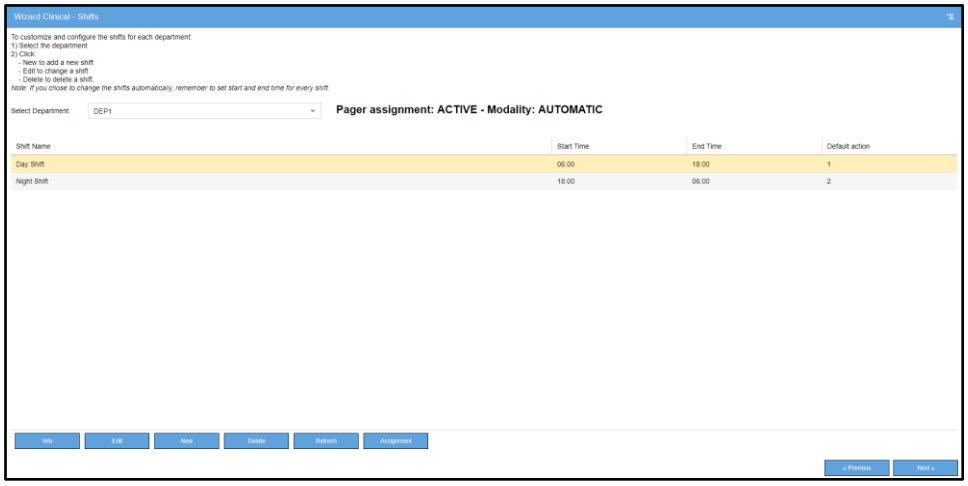
- Automatic shift: Automatically changes the shift and its Pager Assignment configuration based on the hours set in the configuration.
- Manual shift: With the manual shift you can manually enable a shift and its Pager Assignment configuration.
- For each shift, a Default Action can be configured
    - Pagers to which at least one bed is assigned in the set Default Action will act as Default Pagers
    - Default Action is set to 0 by default, meaning that all connected pagers will receive alarms generated from unassigned beds or beds to which the pagers of destination are not connected.
- Pager Assignment can be disabled. By doing so, all alarms will be forwarded to all Pagers for every escalation action configured

To create a new shift, click *New* and insert the shift code, name, start and end time (only for the Automatic shift)

NOTE: Clicking on Assignment you can change the shift from Automatic to Manual and vice-versa.

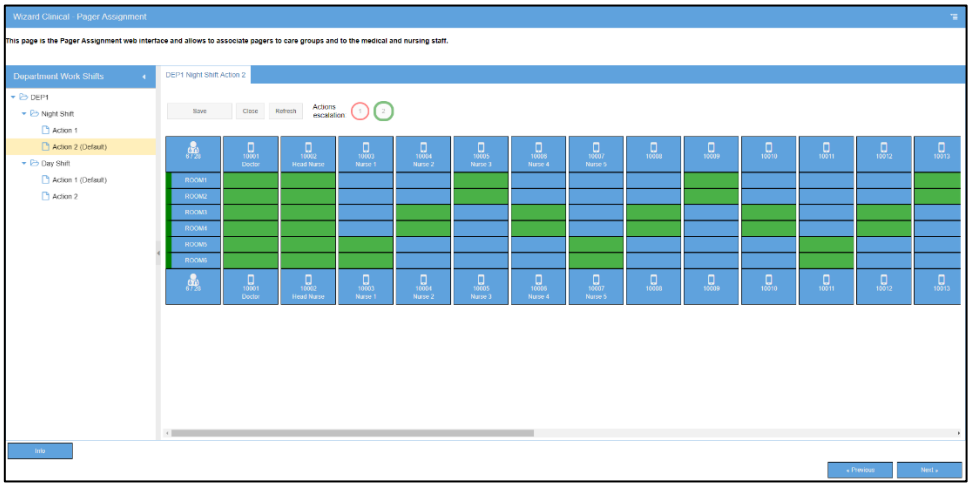
Click *Edit* to modify a shift and click *Delete* to delete it.

Click *Refresh* to refresh the shifts list.



4.8. Pager Assignment Configuration

This section is the Pager Assignment web interface and allows to associate alarm communicators to the medical and nursing staff.



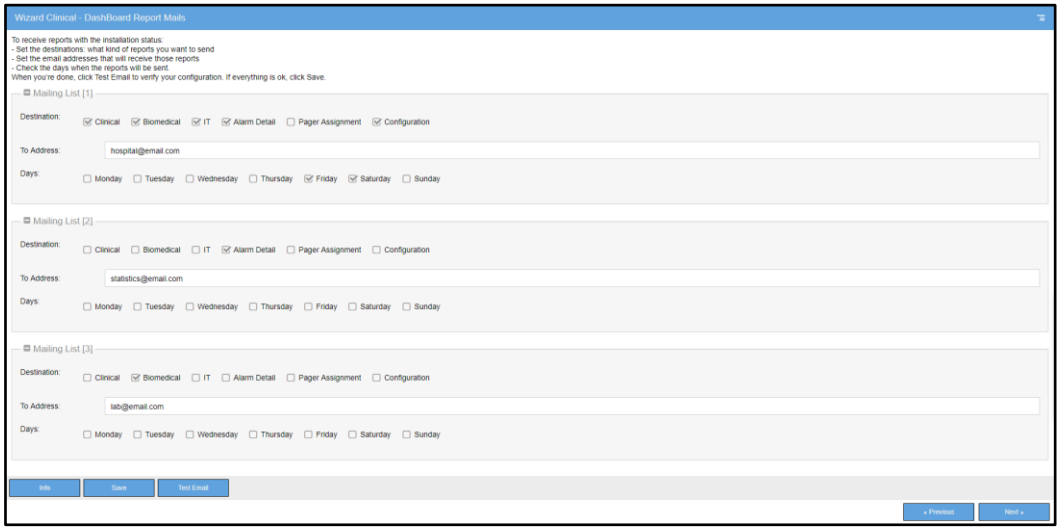
For each department you can associate:

- The pagers to the care groups,
- The users to the pagers.

For information regarding the *Pager Assignment* and *Pager Assignment on pager*, refer to the following manual: *SL – User Manual v01*.

4.9. Wizard Email Report Configuration

In this section, it is possible to set who will receive the Dashboard reports and which ones.



The Dashboard Report allows to receive Reports about the installation in excel format. There are different kinds of reports that can be generated:

- Clinical report: a report that contains data for clinical usage
- Biomedical report: a report that contains data for biomedical purposes
- IT report: a report that contains data for IT purposes
- Alarm Details report: a report that contains alarm data
- Pager Assignment report: a report that contains information about the Pager Assignment
- Configuration report: a report that contains all the information and data about the configuration

To receive the reports, the following settings must be configured:

- the type of reports to generate
- the list of email addresses to which reports will be sent
- the days in which reports will be sent

It is possible to send a sample email through the “Test Email“ button

4.10. Logout

From the options menu, you can log out from the current session to change the user.



4.11. SmartLink Clinical Configuration Summary

This is the last Wizard Clinical section. From here:

- Click "Installation summary" to download the overview of the installation configuration for a specific department, to check that the configuration is correct.
- Click "Backup / Log" to download the configuration database, the alarms pager database and SmartLink logs.

