DSI-LON/S

DSI-LON/S
Plug-In V1.06.0000

TRIDONIC.ATCO

Contents

Plug-Ins

Plug-Ins for the Daylight-based Control DSI-LON/S

The DSI-LON/S has numerous parameters that can be conveniently configured from the LNS network management tool with the aid of graphical user interfaces (plug-ins).

General informations

The following pages summarise the available plug-ins and configuration options for the DSI-LON/S LonWorks® Daylight-based Control. The DSI-LON/S itself is documented in a separate specification.

There are four programs containing the plug-ins:

luxCONTROL Node.exe (Version V1.06.0000),

luxCONTROL Key.exe (Version V1.06.0000),

luxCONTROL Sensor.exe (Version V1.06.0000)

luxCONTROL DSI.exe (Version V1.06.0000),

These are installed by running the "Plug-In-Setup DSI-LON.exe". The default installation directory is ...\LonWorks\Apps\luxCONTROL\DSI-

LON\ or ...\programs\luxCONTROL\DSI-LON\ if there is no path for
LonWorks applications.

Note: The LNS object server version 2.0 or above must already be installed
on the system.

Registering the plug-ins

In order for a director application like LonMaker® for Windows© to be able
to run a plug-in for a specific device, this plug-in must have been registered
in the LNS™ database. The plug-in performs this registration itself.

The plug-ins for the DSI-LON/S offer one registration option for registering
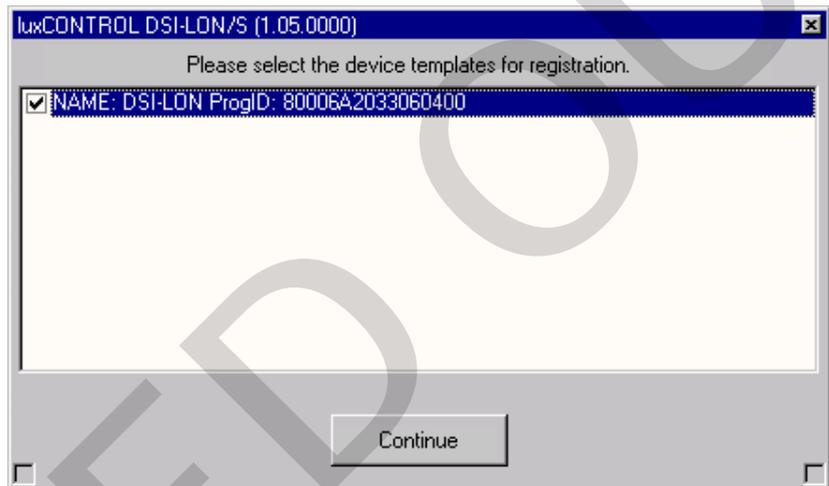one neuron application:

Figure 1: Registration selection

After selecting the device template, the plug-in starts the registration
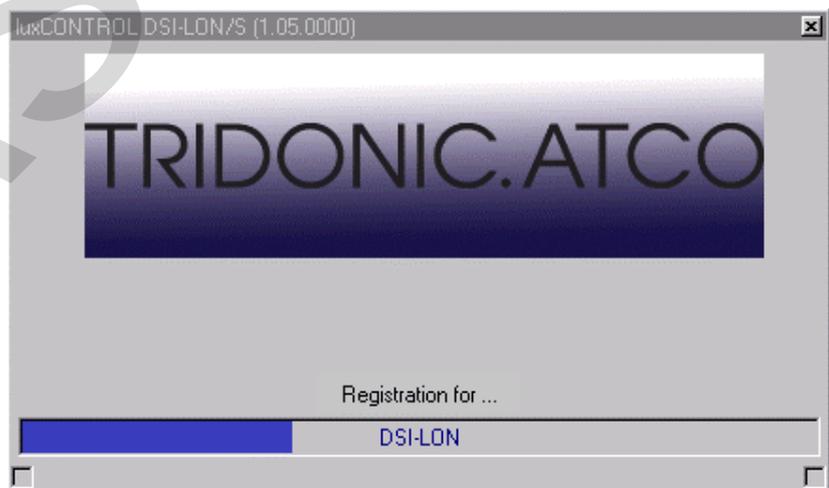process.

Figure 2: Screen showing progress during registration

If a DSI-LON/S device template is already held in the LNS™ database, then this is used by the plug-in. Otherwise a suitable device template is created on the basis of the External Interface File (XIF) supplied.

Ideally this file will be located in the directory ...\LonWorks\Import\luxCONTROL\DSI-LON\. If the XIF is not found there, the plug-in then searches in its own installation directory under ...\Templates\. If it is still not found there, the user is prompted to specify the correct directory.

Running the plug-ins

All four plug-ins can be run in two ways: directly or from a management tool.

Running the plug-ins from a network management tool

This document illustrates how to handle plug-ins using LonMaker® for Windows© from Echelon®.

The programs appear under the following names in a network management tool (see figure 3).

luxCONTROL Node.exe   →   „DSI-LON General"

luxCONTROL DSI.exe   →   „DSI-LON DSI Channel 1" to „DSI-LON DSI Channel 3"

luxCONTROL Key.exe   →   „DSI-LON Switches"
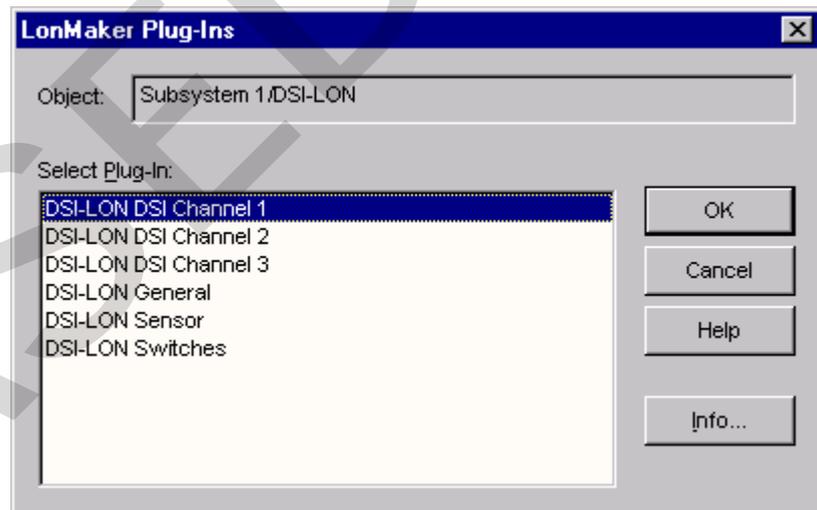
luxCONTROL Sensor.exe →   „DSI-LON Sensor"

Figure 3: Running the plug-ins from LonMaker® for Windows©

Running the plug-ins directly

The plug-ins can also be run directly without a network management tool, by opening the corresponding exe files directly.

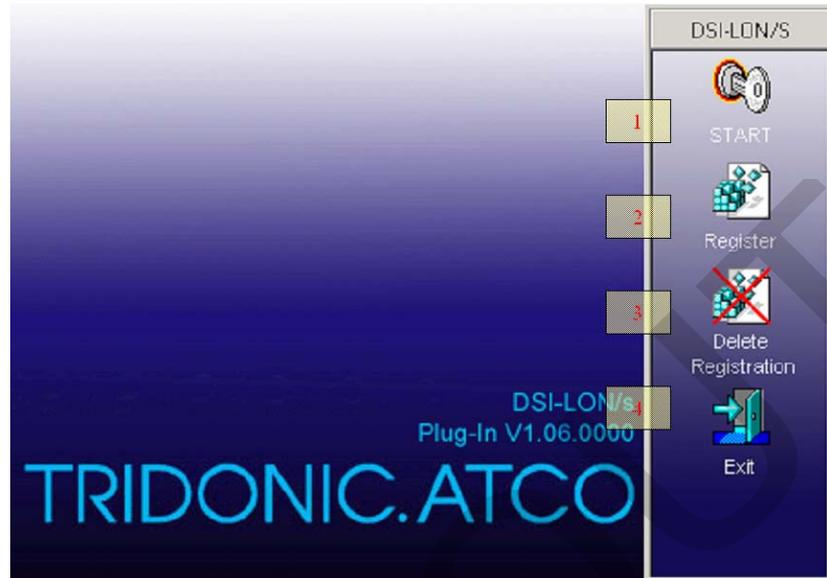The following scenario is run through for this start-up option.

Start

Figure 4: Start-up screen

The four buttons have the following functions:

1. Continues plug-in start-up

2. Performs registration of the plug-in in the Windows registry.

Comment: Also performed during installation by the setup program.

3. Removes the plug-in registration from the Windows registry.

Comment: The plug-in then no longer appears in a director application for registration.

Only the entries for the Echelon LNS™ plug-in API are removed.

4. Closes the plug-in

Note: The buttons are hidden when running the plug-in from a network management tool.

Network selection

The network (project) is then selected using this dialog box which contains the DSI-LON/S to be configured.
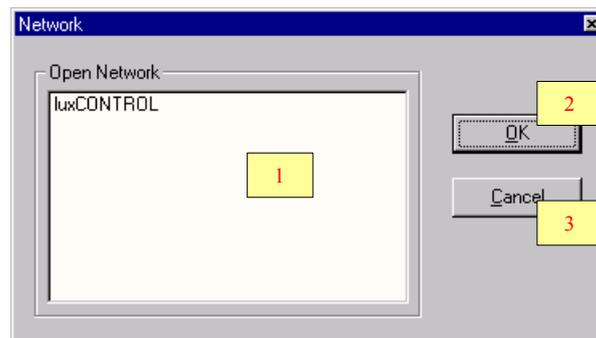

Figure 5: Network selection

1. List of networks

2. Confirms selection

Comment: or double-click on the network

3. Closes the plug-in

Subsystem selection

The subsystem is selected in this window. If the subsystem "All" is chosen, then all the devices in the whole network are displayed in the next window (see DSI-LON/S selection).
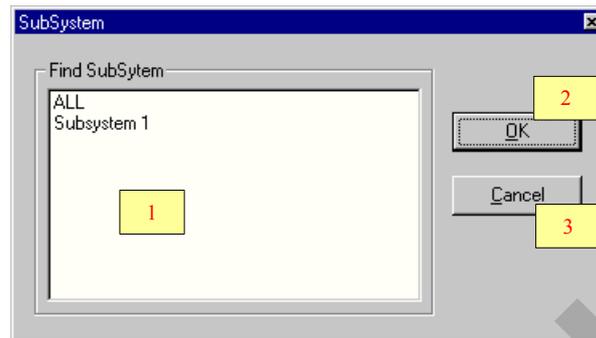

Figure 6: Subsystem selection

1. List of subsystems

2. Confirms selection

Note: or double-click on the subsytem

3. Closes the plug-in

Note: Where "All" has been selected and the devices have the same name, the first device is automatically used. In addition, no subsystems are displayed below the selected subsystem.

DSI-LON/S selection

The device to be configured is selected here.

Figure 7: Device selection

1. List of devices

2. Confirms selection

Note: or double-click on the device

3. Closes the plug-in

4. Back to subsystem selection

The dialog window for the plug-in for the 3 DSI channels (luxCONTROL DSI.exe) appears as follows:
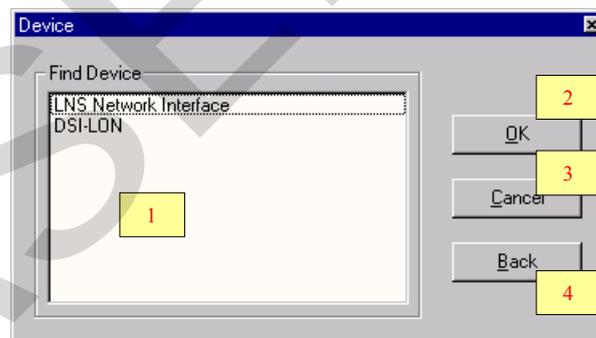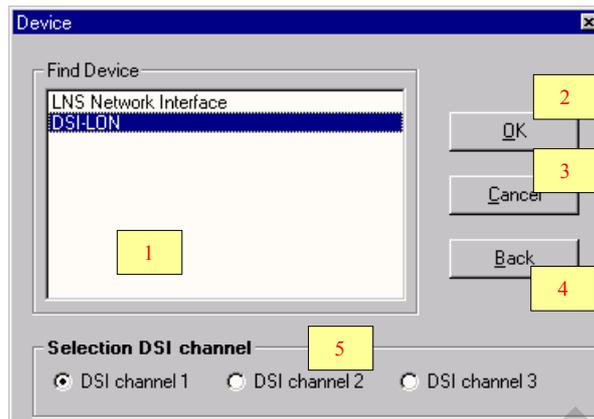
Figure 8: Device selection

1. List of devices

2. Confirms selection

Note: or double-click on the device

3. Closes the plug-in

4. Back to subsystem selection

5. DSI channel selection

Data source selection

Since it is also possible to change certain configuration parameters for the DSI-LON/S manually, directly at the device (e.g. recording system points), the user must specify the data source when the plug-in is started (see figure 9: Data source selection). The node or the LNS™ database are the data source options.

This prompt only appears if the LNS™ system is in OnNet mode (management mode) and communication between the plug-in and the DSI-LON/S is possible.
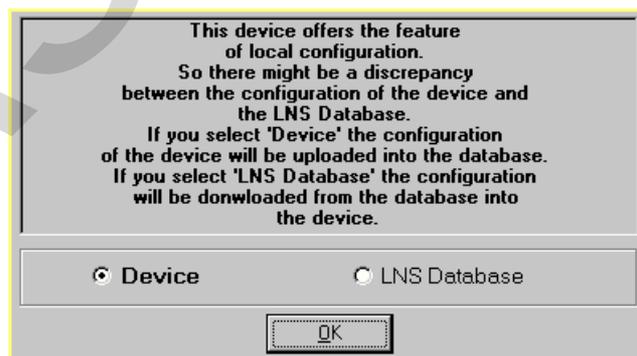

Figure 9: Data source selection

Individual plug-in specifications

luxCONTROL Node

The plug-in for general configuration of the DSI-LON/S has the following configuration options.
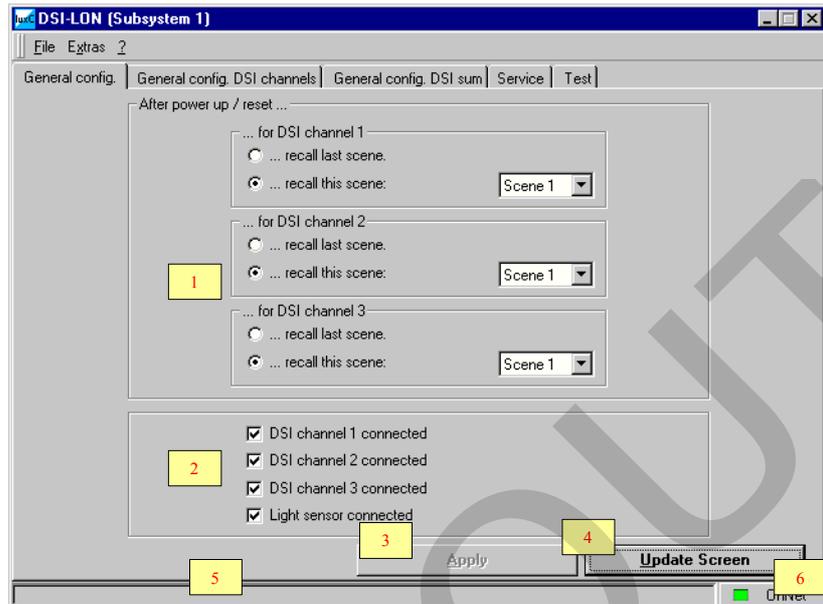
General configuration

Figure 10: General configuration

1. After power up / reset…

Comment: Value range: last scene or scene 1 to 20, and 255

2. Connection of possible modules

3. Adopts settings

Comment: Only enabled if any changes have been made.

In OnNet mode, the configuration is saved in the database and the node.
In OffNet mode, the configuration is only saved in the database, and then saved in the node when next in OnNet mode.

4. Displays current configuration

5. Status display

6. Displays OnNet or OffNet mode
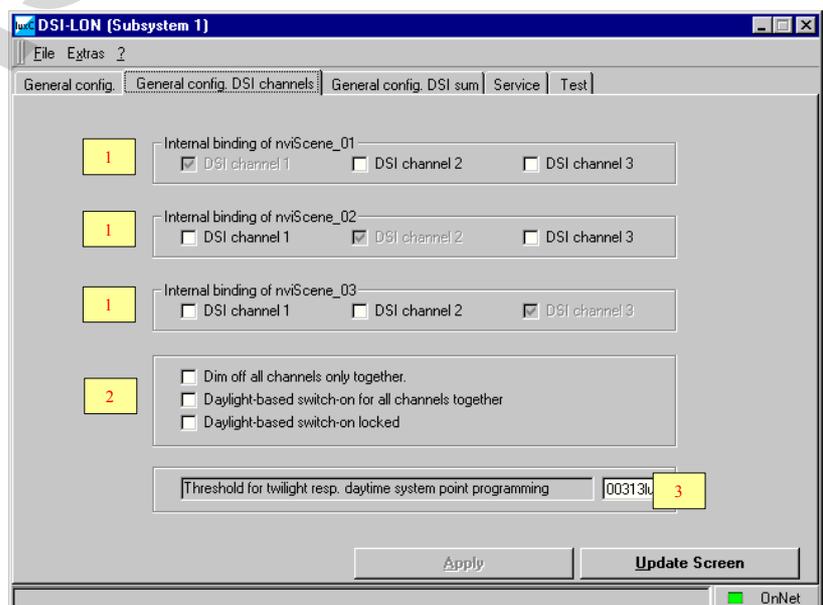
General configuration of DSI channels

Figure 11: General configuration of DSI channels

1. Internal binding of nviScene_01 to 03

Description: Should a scene call for one channel apply to the other channels, too?

2. Dim off all channels only together.

Description: Should the DSI channels only be dimmed off synchronously?

Comment: Relates to both daylight-based and manual dimming down

2. Daylight-based switch-on for all channels together

Description: Should the daylight-based control dim up all the other DSI channels once one channel has hit the threshold for daylight-based dim-on?

2. Daylight-based switch-on locked

Description: Should it be possible to dim up DSI channels under daylight-based control after the lighting has previously been dimmed down?

Comment: "after the lighting has previously been dimmed down" relates to both daylight-based and manual dimming down

3. Threshold for twilight resp. daytime system point programming

Description: Below which sensor reading should a system point be saved as a twilight system point during programming?

Comment: Value range: 0...65535lux; does not apply to system point programming performed with the button array on the device housing

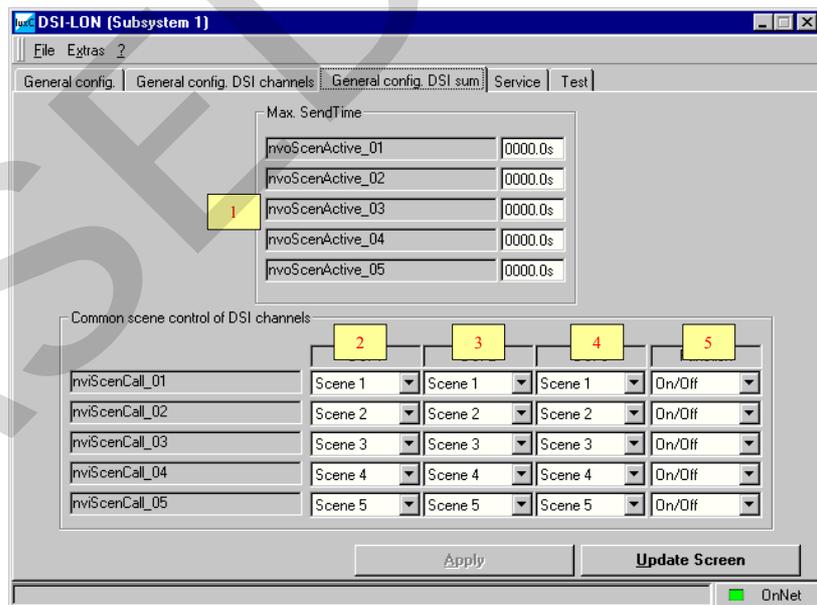*General configuration of the DSI sum*

Figure 12: General configuration of the DSi sum

1. Max. SendTime nvoScenActive_01 to 05

Comment: Value range: 0.0s to 6535.4s

2. –4. Common scene control of DSI channels

Comment: Value range: --, scene 1 to 20, and 255; -- means not included when scene run

5. Function of the corresponding network variables

Comment: Value range: On/Off; On only

Service

The settings in the "Service" tab are only used for internal purposes and are therefore password protected.
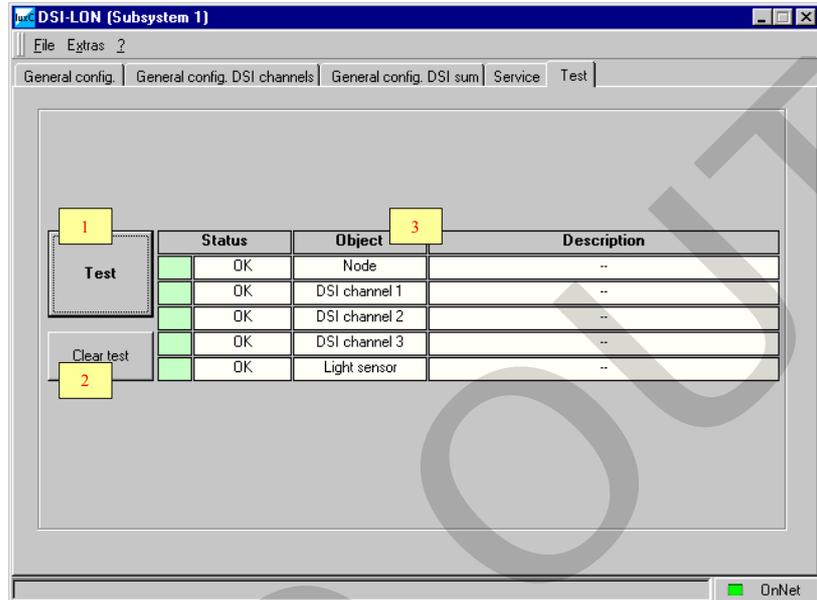
Testing the node

Figure 13: Testing

1. Starts test

Comment: The test takes about 3s.

2. Deletes test result

3. Test result

luxCONTROL DSI

The plug-in for specific configuration of a DSI channel in the DSI-LON/S has the following configuration options.

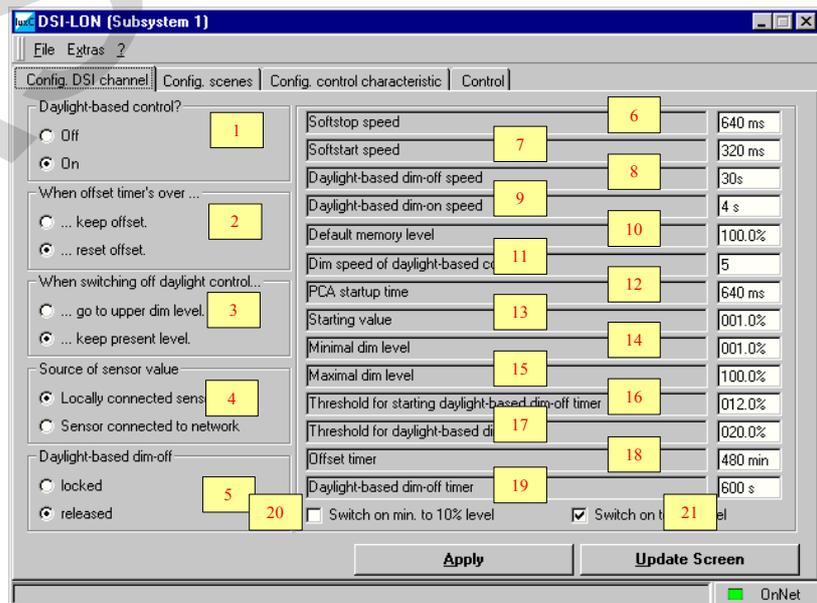*DSI channel configuration*

Figure 14: configuration DSI channel

1. Daylight-based control?

Description: Should the DSI channels be controlled daylight-based?

Comment: Value range: see figure 14

2. When offset timer's over ...

Description: Should the manually set offset for characteristics be reset after the offset timer period has elapsed (No. 18)?

Comment: Value range: see figure 14

3. When switching off daylight control...

Description: What should happen when daylight-based control is disabled (Auto/Man switch changed from Auto to Man)?

Comment: Value range: see figure 14

4. Source of sensor value

Description: What sensor should the daylight-based control system work with?

Comment: Value range: see figure 14

5. Daylight-based dim-off

Description: Should it be possible to dim off the DSI channels under daylight-based control?

Comment: Value range: see figure 14

6. Softstop speed

Description: At what speed should the lighting be switched off?

Comment: Value range: 0ms to 2550ms; should not be changed

7. Softstart speed

Description: When switching on in manual mode, at what speed should the light be increased from the starting value (no. 13) to the target value (memory value) following the electronic ballast PCA startup time (no. 12)?

Comment: Value range: 0ms to 2550ms; should not be changed

8. Daylight-based dim-off speed

Description: At what speed should the light be dimmed off under daylight-based control?

Comment: Value range: 0s to 60s

9. Daylight-based dim-on speed

Description: At what speed should the light level be increased under daylight-based control?

Comment: Value range: 0s to 60s

10. Default memory level

Description: Target value when switching on in manual mode if memory function (no. 21) not enabled

Comment: Value range: minimal to maximal dim level

11. Dim speed of daylight-based control

Description: At what speed should daylight-based changes in the control settings be made?

Comment: Value range: 1 to 20

12. PCA startup time

Description: How long after switch-on should the starting value be output?

Comment: Value range: 0ms to 2550ms; should not be changed

13. Starting value

Description: At what value should the softstart begin?
Comment: Value range: minimal to maximal dim level, step size: 0.5%;.should not be changed

14. Minimal dim level

Description: What value should not be gone below when reducing the light level?

Comment: Value range: 1.0% to maximal dim level, step size: 0,5%

15. Maximal dim level

Description: What value should not be exceeded when increasing the light level?

Comment: Value range: minimal dim level up to 100.0%, step size: 0.5%

16. Threshold for starting daylight-based dim-off timer

Description: At what control setting should the timer for daylight-based dimming off (no. 19) start?

Comment: Value range: minimal dim level up to switch-on threshold, step size: 0.5%

17. Threshold for daylight-based dim-on

Description: What value must the daylight-based control setting exceed for the light to be dimmed on?

Comment: Value range: Switch-off threshold to maximal dim level, step size: 0.5%

18. Offset timer

Description: After how long should the manually set offset be reset? (in combination with no. 2)

Comment: Value range: 4min to 1020min

19. Daylight-based dim-off timer

Description: How long must the level lie below the switch-off threshold (no. 16) for daylight-dependent dimming down to off be performed?

Comment: Value range: 15s to 3840s

20. Switch on min. to 10% level

Description: When operating with lamp control gear with a 10% start

Comment: Value range: see figure 14

21. Switch on to last level

Description: When switching on using the local T>/T< buttons, should the lights switch on to the last level set before switching off?

Comment: Value range: see figure 14
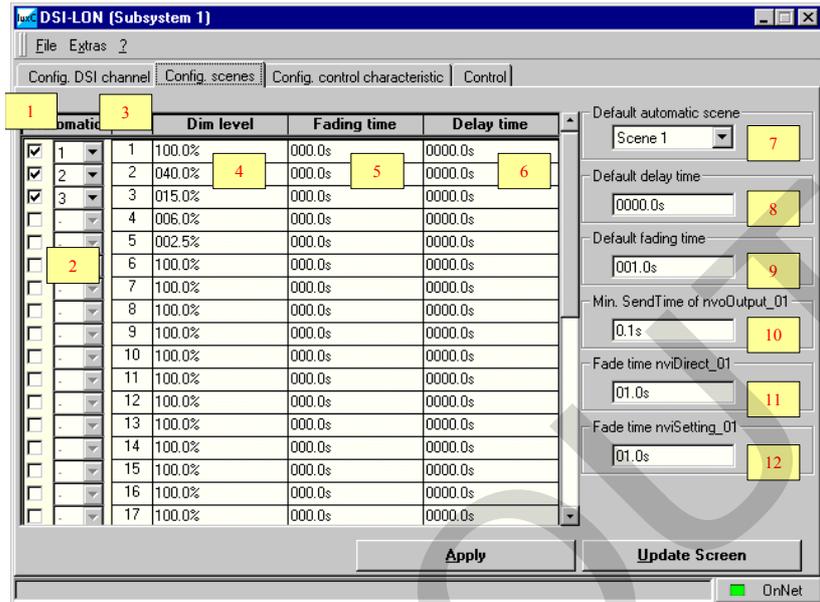
Configuration of scenes

Figure 15: configuration of scenes

1. Specifies automatic characteristic

Value range: See figure 16, up to 3 scenes possible

2. Selection of automatic characteristic

Value range: - and 1 to 3

3. Scene number

Value range: Scene 1 to 20, and 255

4. Dim level for scene

Value range: 0.0% to 100.0%, step size: 0.5%

5. Fading time for scene

Value range: 0.0s to 6535.4s

6. Delay time for scene

Value range: 0.0s to 6535.4s

7. Default automatic scene

Value range: Scene 1 to 20, and 255

8. Default delay time

Value range: 0.0s to 6535.4s

9. Default fading time

Value range: 0.0s to 6535.4s

10. Min. SendTime of nvoOutput0X

Value range: 0.1s to 2.0s; min. time that must elapse between sending two signals

11. Fade time nviDirect_0X

Value range: 0.0s to 6535.4s

12. Fade time nviSetting_0X

Value range: 0.0s to 6535.4s

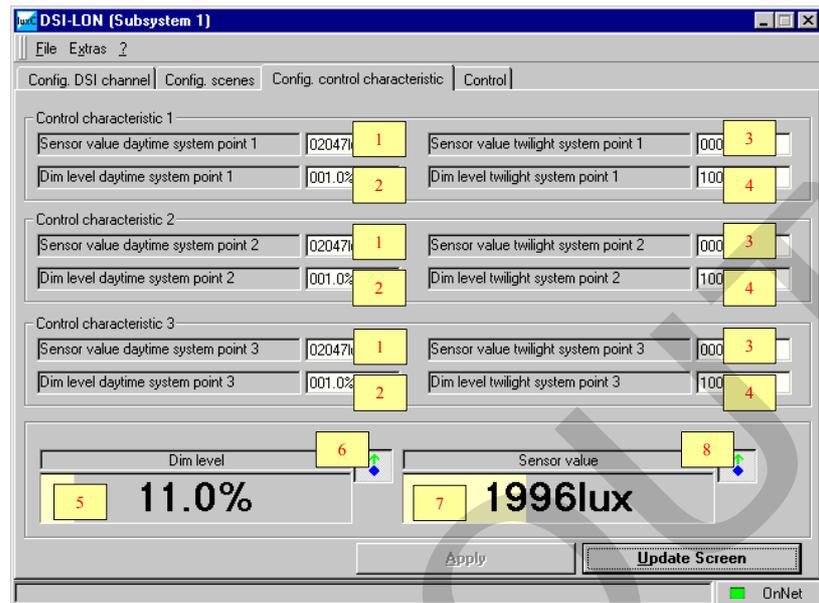***Configuration of control characteristics***

Figure 16: configuration of control characteristics

1. Sensor value for daytime system point for characteristic in question

Comment: Value range: 0lux to 65535lux

2. Dim level for daytime system point for characteristic in question

Comment: Value range: 0.0% to 100.0%; step size: 0.5%

3. Sensor value for twilight system point for characteristic in question

Comment: Value range: 0lux to 65535lux

4. Dim level for twilight system point for characteristic in question

Comment: Value range: 0.0% to 100.0%; step size: 0.5%

5. Current dim level

6. Enables monitoring of the dim level

Comment: only in OnLine mode

7. Current sensor value

8. Enables monitoring of the sensor reading
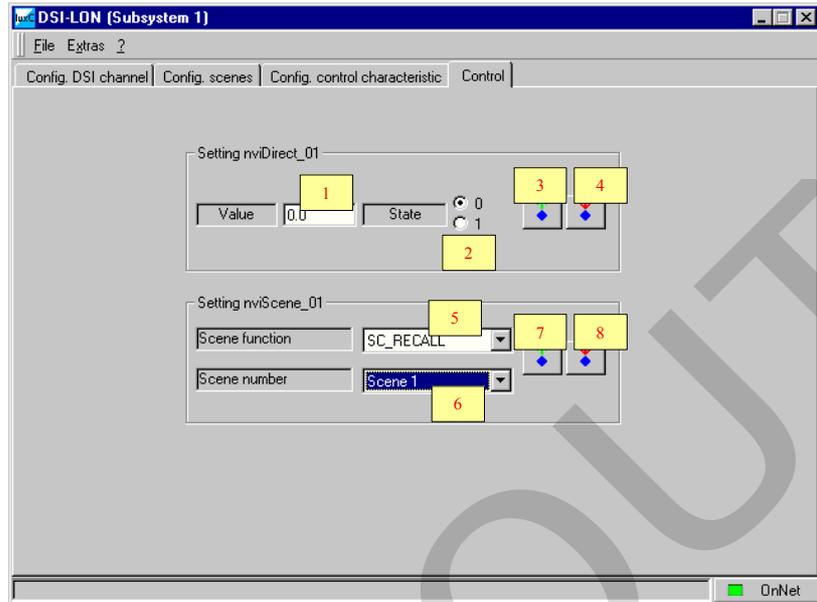
Comment: only in OnLine mode

Control

Figure 17: control

1. Value of nviDirect_0X

Comment: 0.0% to 100.0%

2. Status of nviDirect_0X

Comment: See figure 17

3. Reads the current value of nviDirect_0X

4. Writes the set value for nviDirect_0X

5. Scene function for nviScene_0X

Comment: See SNVT master list

6. Scene number for nviScene_0X

Comment: Scene 1 to 20, and 255

7. Reads the current value of nviScene_0X

8. Writes the set value for nviScene_0X

luxCONTROL Sensor   This plug-in is used for configuring the internal and external sensors via the LonWorks network..
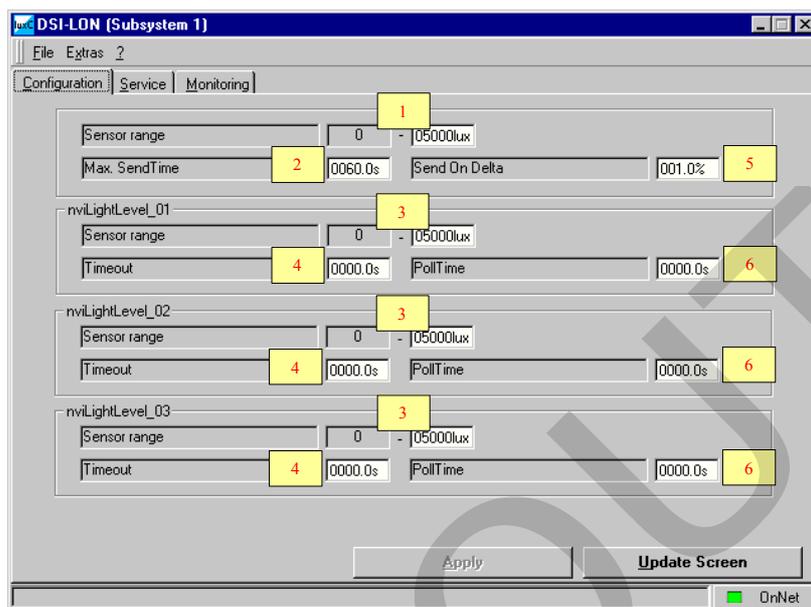
Configuration of the light sensor

Figure 18: Configuration of the light sensor

1. Resolution range of the internal sensor

Value range: 0lux to 65535lux

2. Max. SendTime

Value range: 0.0s to 6553.4s

Comment: Time after which a sensor reading must be sent to the network

3. Resolution range of the sensor reading from nviLightLevel_0X

Value range: 0lux to 65535lux

4. Timeout for nviLightLevel_0X

Value range: 0.0s to 6553.4s

Comment: Period within which the network variables must be updated, otherwise the value is assumed to be zero

5. Send On Delta of nvoLSI_Value

Value range: 0.0% to 100.0%
Comment: Percentage change in reading that forces a sensor reading to be sent; step size: 0.5%

6. Poll rate

Value range: 0.0s to 6553.4s

Comment: Time interval for active polling of sensor reading

Service

The settings in the "Service" tab are only used for internal purposes and are therefore password protected.
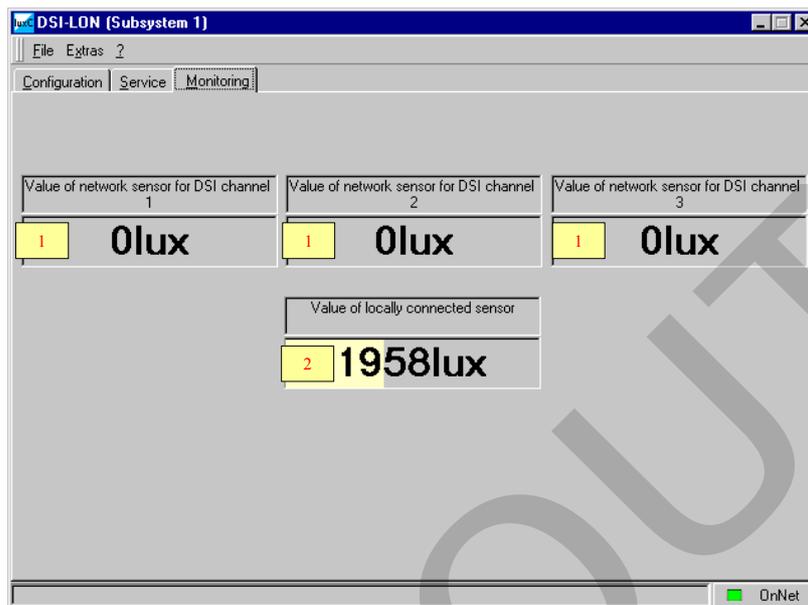
Monitoring the sensor values

Figure 19: Monitoring

1. Value of nviLightLevel_0X

2. Value of nvoLSI_Value

luxCONTROL Key

Configuration of the switches

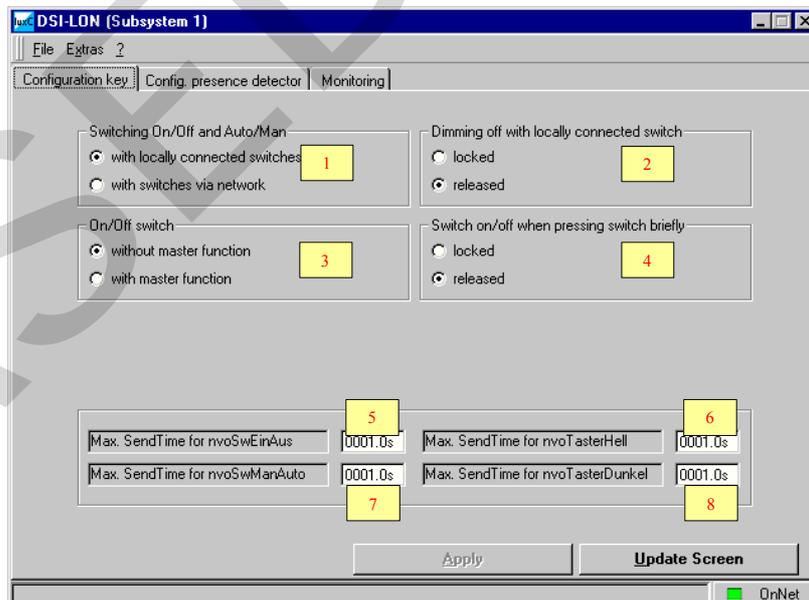This plug-in is used for configuring the switches and the occupancy sensor.

Figure 20: configuration key

1. Switching On/Off and Auto/Man

Value range: See figure 20

2. Dimming off with locally connected switch

Description: Should it be possible to dim off with the directly connected T>/T< switch?

Value range: See figure 20

3. On/Off switch with/without master function

Description: Should T>/T< control be disabled when the On/Off switch is set to "Off"?

Value range: See figure 20

4. Switch on/off when pressing switch briefly

Description: Should it be possible to switch on/off by flick of T>/T< switch?

Value range: See figure 20

5. Max. SendTime (repeat time) for nvoSWEinAus

Description: Time after which the sensor value must be sent to the network

Value range: 0.0s to 6553.4s

6. Max. SendTime (repeat time) for nvoTasterHell

Value range: 0.0s to 6553.4s

7. Max. SendTime (repeat time) for nvoSWManAuto

Value range: 0.0s to 6553.4s

8. Repeat time for nvoTasterDunkel

Value range: 0.0s to 6553.4s
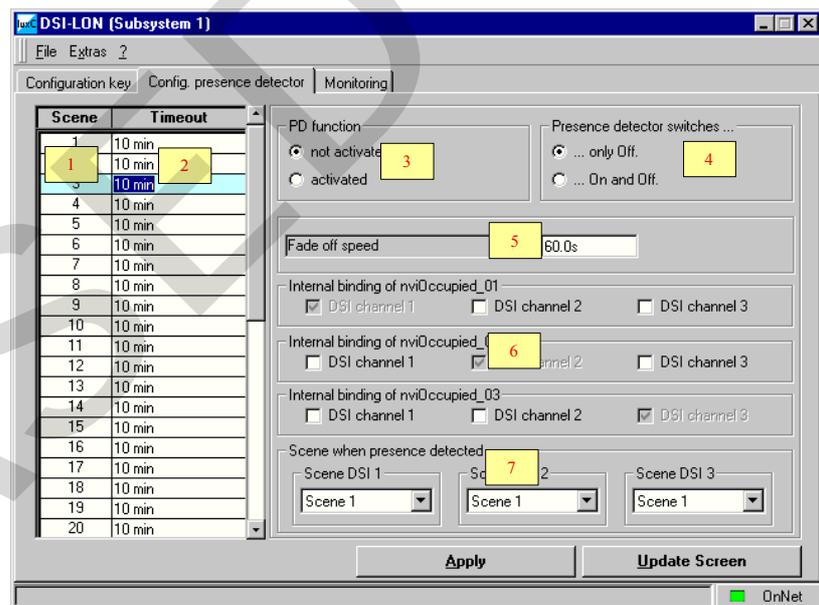
Configuration of the occupancy function

Figure 21: configuration of the occupancy detector

1. Scene number

Value range: Scene 1 to 20, and 255

2. Timeout for scene in question

Value range: 0min to 255min

3. PD function

Value range: See figure 21

4. Presence detector switches ...

Value range: See figure 21

5. Fade off speed

Value range: 0.0s to 60.0s

6. Internal binding for nviOccupied_0X

Value range: DSI channel 1 to 3

7. Scene when presence detected (for scene DSI 1 to 3)

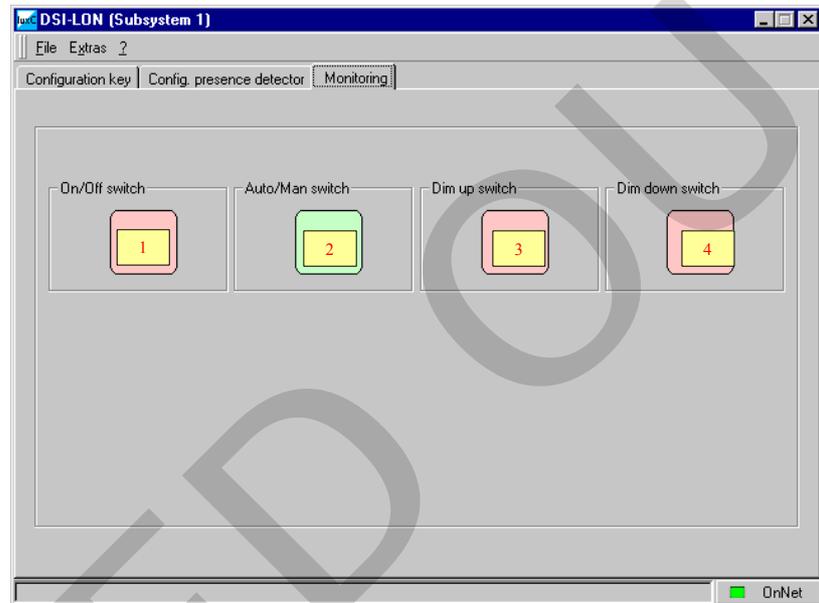Value range: Scene 1 to 20, and 255

Monitoring the switches

Figure 22: Monitoring

1. Status of nvoSwEinAus

Comment: Bright red → status "not pressed"

Bright green → status "pressed"

2. Status of nvoManAuto

Comment: Bright red → status "not pressed"

Bright green → status "pressed"

3. Status of nvoTasterHell

Comment: Bright red → status "not pressed"

Bright green → status "pressed"

4. Status of nvoTasterDunkel

Comment: Bright red → status "not pressed"

Bright green → status "pressed"