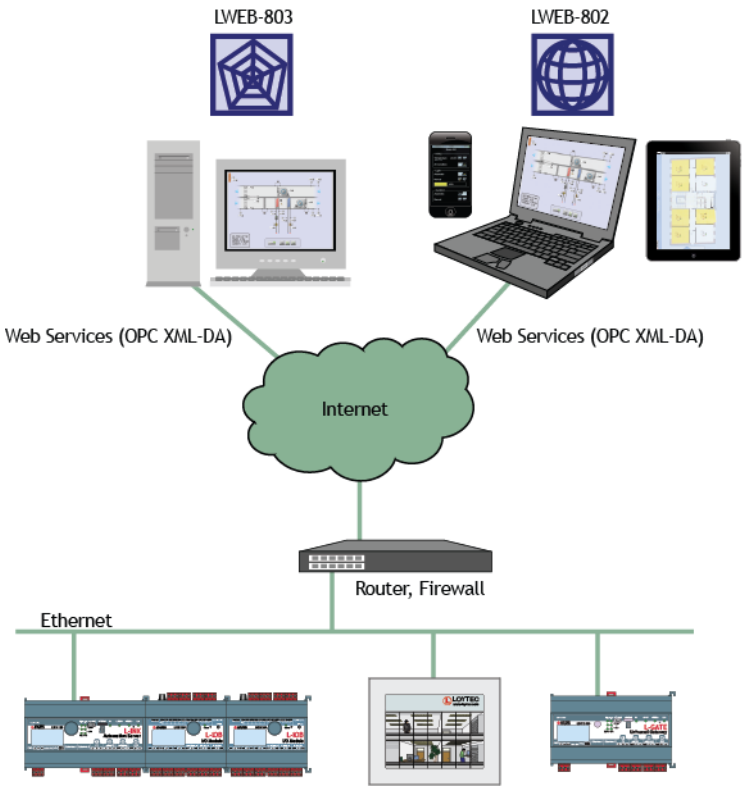
LWEB-802/803/APP

L-WEB™ Distributed Visualization

User Manual

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Contents

1 Introduction 7

1.1 Overview 7

1.2 Scope 9

2 What's New in LWEB-802/803/APP 10

2.1 New in LWEB-802/803/APP 5.2.0 10

2.2 New in LWEB-802/803/APP 5.0.0 10

2.3 New in LWEB-802/803/APP 4.6.0 11

2.4 New in LWEB-802/803 4.4.0 12

2.5 New in LWEB-802/803 3.8.0 13

2.6 New in LWEB-802/803 3.6.0 16

2.7 New in LWEB-802/803 3.4.0 18

2.8 New in LWEB-802/803 3.2.0 19

2.9 New in LWEB-802/803 3.0.0 21

2.10 New in LWEB-802/803 2.5.0 23

2.11 New in LWEB-802/803 2.4.0 25

2.12 New in LWEB-802/803 2.3.0 27

2.13 New in LWEB-802/803 2.2.0 28

2.14 New in LWEB-802/803 2.1.0 30

2.15 New in LWEB-802/803 2.0.0 32

2.16 New in LWEB-802 1.5.0 33

2.17 New in LWEB-800 1.9.0 and LWEB-802 1.4.0 34

3 Quick-Start Guide 36

3.1 Overview 36

3.2 Data Point Configuration 37

3.3 Graphical Design 38

3.4 Download Configuration 44

3.5 Start LWEB-802 Visualization 45

3.6 Install and Start LWEB-803 Visualization 47

4 Network Infrastructure 48

5 LWEB-802 49

5.1 Start LWEB-802 49

5.2 LWEB-802 without Internet Access 50

5.3 Project List 51

5.4 Global Settings 52

5.5 Navigation Menu and System Menu 53

5.6 Project Settings 54

5.7 Error Handling 59
5.8 Statistics 59
5.9 System Log 60
6 LWEB-803 62
6.1 Installation 62
6.2 System Tray Icon 62
6.3 LWEB-803 Visualization Menu 62
6.4 Occupancy Detection 64
6.5 Zoom Levels 64
6.6 Standard View and Frameless View 65
6.7 Kiosk Mode 66
7 LWEB-802/803 Project Solutions 67
7.1 LWEB-802/803 Registers 67
7.2 Occupancy Detection 68
7.3 Link to other LWEB-802/803 projects 69
7.4 Integrating Web-Cams 69
7.5 Accessing LOYTEC devices behind NAT Routers 69
7.6 Reduce Number of OPC Data Points 71
8 LOYTEC Devices 73
9 Troubleshooting 75
9.1 Technical Support 75
10 References 76
11 Revision History 77

Abbreviations

100Base-T	100 Mbps Ethernet network with RJ-45 plug
AST	Alarming, Scheduling, Trending
BACnet	Building Automation and Control Network
CEA-709	Protocol standard for LONWORKS networks
CEA-852	Protocol standard for tunneling CEA-709 packets over IP channels
CN	Control Network
CN/IP	Control Network over IP
CN/IP Channel	Logic IP channel that tunnels CEA-709 packets according to CEA-852
CN/IP packet	IP packet that tunnels one or multiple CEA-709 packet(s)
COV	Change-Of-Value
CSV	Comma-Separated Values
DHCP	Dynamic Host Configuration Protocol, RFC 2131, RFC 2132
DNS	Domain Name Server, RFC 1034
DST	Daylight Saving Time
GMT	Greenwich Mean Time
IP	Internet Protocol
LINX-10X	Synonym for LINX-100 and LINX-101 Automation Server
LINX-20X	Synonym for LINX-200 and LINX-201 Automation Server
MAC	Media Access Control
MS/TP	Master/Slave Token Passing (this is a BACnet data link layer)
NAT	Network Address Translation, see Internet RFC 1631
NV	Network Variable
SNVT	Standard Network Variable Type
SSL	Secure Socket Layer
XML	eXtensible Markup Language

1 Introduction

1.1 Overview

LWEB-802, LWEB-803, and LWEB-APP are graphical user interfaces to operate and monitor building automation systems. LWEB-803 (see Figure 1) is an application for installation on a Windows PC. LWEB-802 (see Figure 2) is a web application running in a web browser. Therefore, LWEB-802 is platform independent. LWEB-APP (see Figure 3) is available for Android and iOS systems and can be downloaded from the Google Play Store and the Apple Store.

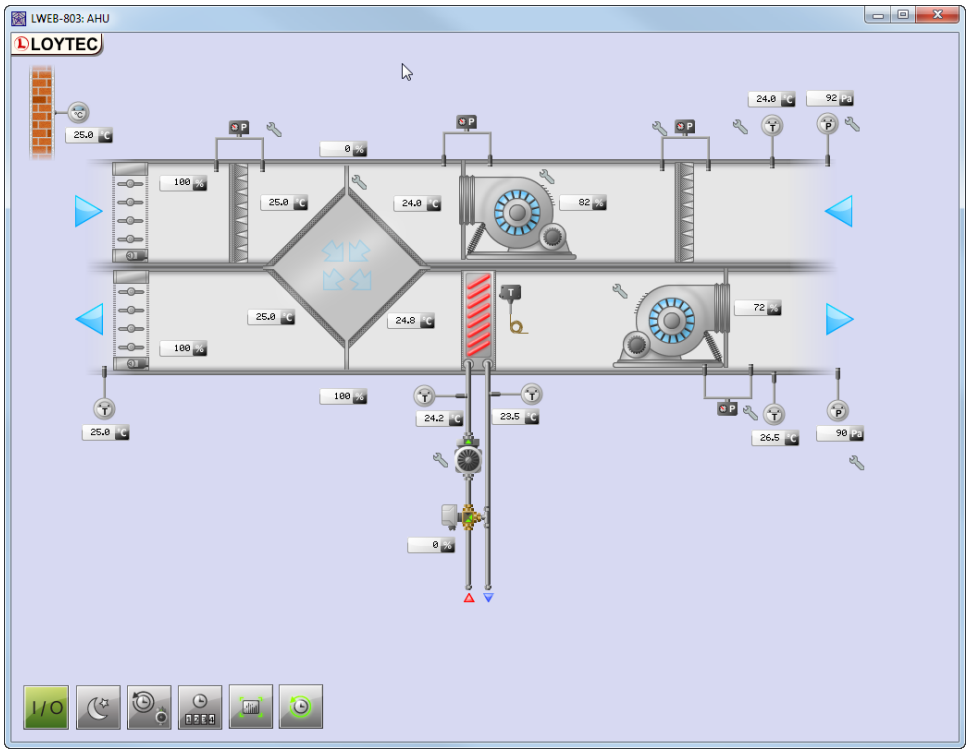


Figure 1: Air handling unit schematics in LWEB-803

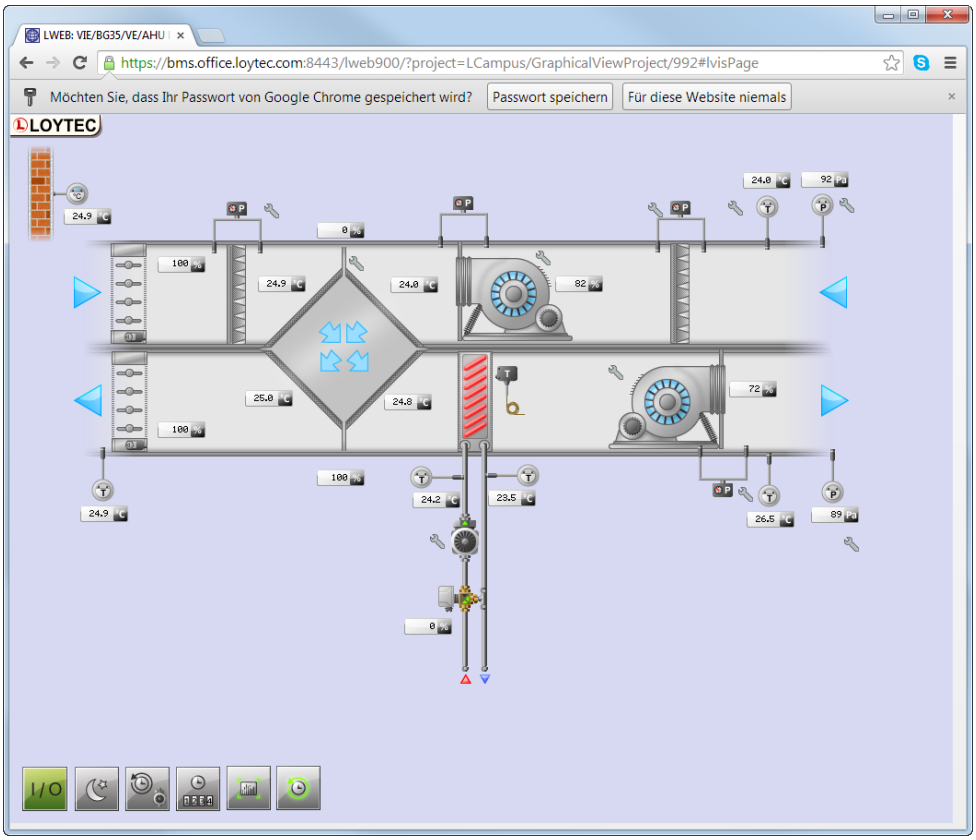


Figure 2: Air handling unit schematics in LWEB-802 using Google Chrome

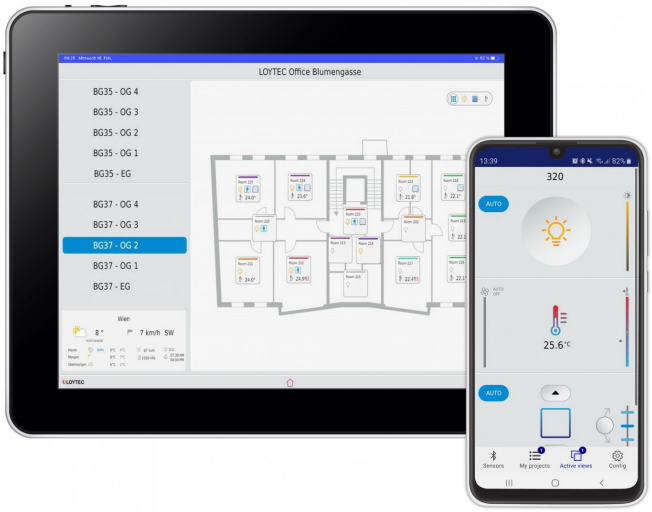


Figure 3: Room control schematics in LWEB-APP

LWEB-802/803APP use the standardized OPC XML-DA Web service to communicate with remote LOYTEC devices. For a list of supported devices, refer to Chapter 8. The use of Web services allows an easy handling and a smooth communication via the intranet or internet – even across firewalls.

The graphical design of the LWEB-802/803/APP user interface consists of pages, which can simply be created by using the L-VIS/L-WEB Configurator software without any expertise in HTML, Java, etc. Dynamic information is shown in the form of numeric values, text, changing icons, bar graphs, analog meters, trend logs, alarm and event lists, or schedule controls.

Common Features:

- Displays customized graphic pages with dynamic content from LOYTEC devices
- Uses Web services (OPC XML-DA) for communication
- Allows links between distributed graphical projects
- Design of graphical projects with the L-VIS Configuration Tool
- Supports different graphical resolutions
- Gives access to automation functions such as Alarming, Scheduling, and Trending (AST™)

LWEB-802 Features:

- Runs in the following web browsers: Google Chrome (recommended), Firefox, Microsoft Edge, Android web browser 4.x, iOS web browser

LWEB-803 Features:

- Display pages in Standard, Frameless, or Kiosk View
- Runs on Windows11, Windows Server 2016, Windows Server 2019, Windows Server 2022, Windows Server 2025.
- Presence detection: LWEB-803 can be used like an occupancy sensor. As long as there is activity on the PC, LWEB-803 can send out updates on a data point.

LWEB-APP Features:

- Runs on Android and iOS systems and can be downloaded from the Google Play Store and the Apple Store
- Supports room control with LOYTEC Bluetooth sensors

1.2 Scope

This document covers the LWEB-802 and LWEB-803 Visualization. It also gives an overview on how to use the L-INX/L-GATE Configurator to create the configuration for a LOYTEC device and the L-VIS/L-WEB Configurator to create an LWEB-802/803 project. A detailed description of LOYTEC devices can be found in [2], a detailed description of the L-VIS/L-WEB Configurator can be found in [1]. The LWEB-900 Server is covered in [3].

2 What's New in LWEB-802/803/APP

2.1 New in LWEB-802/803/APP 5.2.0

This section describes the major changes and new features. For a full list of changes, refer to the Readme file.

Note: *The new features require L-VIS/L-WEB Configurator version 8.6*

New control to display QR codes

LWEB-802/803/APP supports a new control type to display QR codes from either a static text or a string received from a connected string data point. Please refer to the L-VIS User Manual [1] for details.

Dashed outlines for vector controls

Vector controls, like lines, polygons, rectangles, or circles now support dashed outlines. Please refer to the L-VIS User Manual [1] for details.

2.2 New in LWEB-802/803/APP 5.0.0

This section describes the major changes and new features. For a full list of changes, refer to the Readme file.

Web camera support

The application now supports WebRTC camera streams from the LWEB-900 server, enabling real-time video integration. Additionally, webcam image flip and rotation are now supported, allowing users to adjust the camera view as needed.

Update technology framework

LWEB-APP has been migrated to a new user interface framework to enhance performance and maintainability. LWEB-803 now uses WebView2 as its rendering engine, providing improved compatibility and rendering quality. Due to incompatibility with these changes the following features were discontinued:

- Manual OPC update mode
- Design view

Trending Improvements

The trend controls have been improved with enhanced automatic value scaling. Additionally, the display of trend cursors for binary values has been refined to provide multi-state labels if configured.

2.3 New in LWEB-802/803/APP 4.6.0

This section describes the major changes and new features. For a full list of changes, refer to the Readme file.

Note: *The new features require L-VIS/L-WEB Configurator version 8.0*

New iCalendar Schedulers

LOYTEC devices and LWEB-900 support a new scheduler object class that is based on iCalendar events. This scheduler class can be selected as an alternative to the generic scheduler class. It supports extended features such as events that span over midnight or last for several days, flexible recurrence patterns known from Outlook, and booking information. External iCalendar data sources can be imported by using a calendar URL, which allows pulling in data from published Outlook or Google calendars. LWEB-802/803/APP has been extended to display iCalendar schedulers attached to a scheduler control.

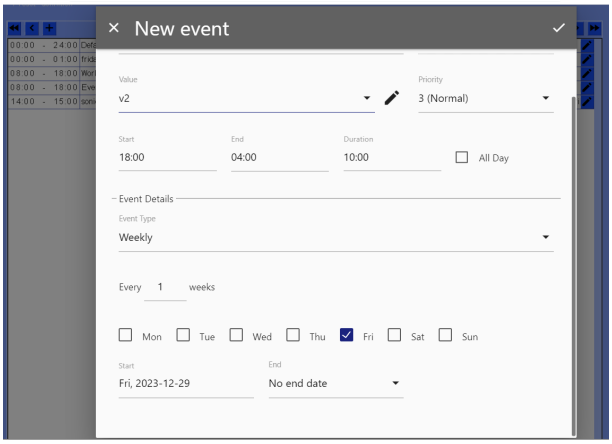


Figure 4: iCalendar Event Spanning Midnight

Operating system support

End of support for Windows Server 2012. Added support for Windows Server 2022.

Support new action option “not equal”

LWEB-802/803/APP supports the new option to execute an action only if a data point value is not equal to a constant.

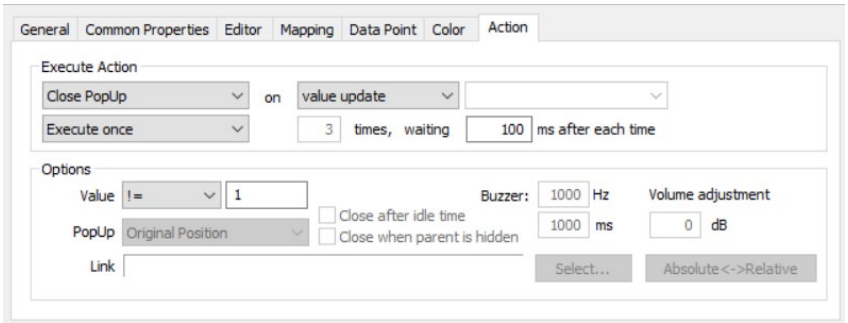


Figure 5: Action Option “not equal”

2.4 New in LWEB-802/803 4.4.0

This section describes the major changes and new features. For a full list of changes, refer to the Readme file.

Note: *The new features require L-VIS/L-WEB Configurator version 7.6*

Band mode for trend charts

Trend controls support a new method to visualize trended data as colored bands, stacked on top of each other. Instead of translating the value into a position on the Y axis, the value is used to control the color of the band using a color mapping table. Please refer to the L-VIS User Manual [1] for details.

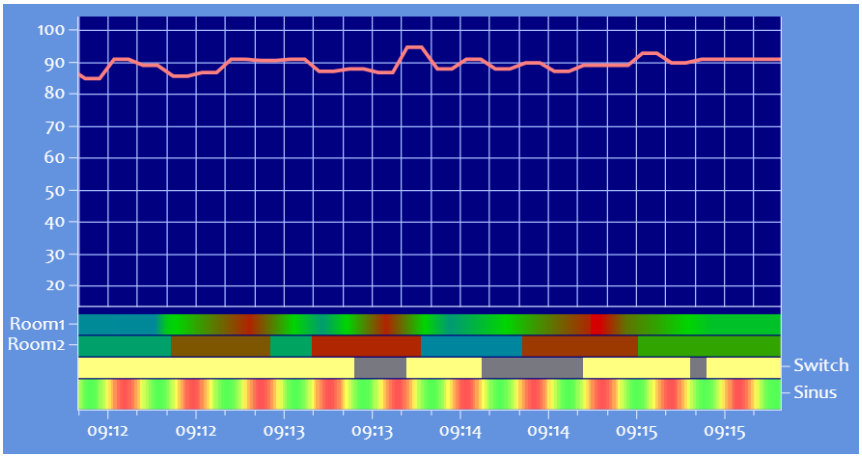


Figure 6: Band mode for trend charts

Improved bar controls

Bar controls got a new option for rounded caps on both ends of the bar, as well as the possibility to apply a gradient fill to the bar container. The width of the bar frame can be adjusted, and new color settings for the axis in side-by-side mode and a separate color for the tick marks allow finer control of the colors used to draw the bar. Please refer to the L-VIS User Manual [1] for details.



Figure 7: Bar control with rounded caps

2.5 New in LWEB-802/803 3.8.0

This section describes the major changes and new features. For a full list of changes, refer to the Readme file.

New option "Open in same window" for show page actions

The **Show page** action can be used to link to a different LWEB-802/803 project. The option to display the target project in the same window was added (see Figure 8). Please refer to the L-VIS User Manual [1] for details.

Note: *This new feature require L-VIS/L-WEB Configurator version 7.4*

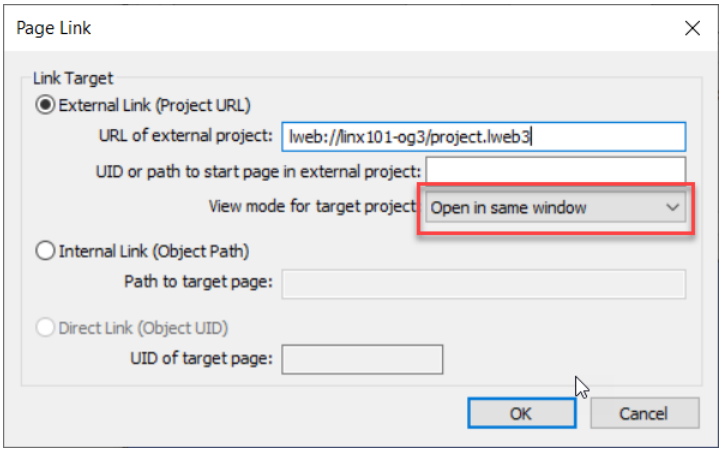


Figure 8: Open in same window

Support custom users for connections to devices

LOYTEC devices starting with firmware version 7.4.0 provide a simple user management to create users and passwords. Users can be assigned roles, such as ‘admin’, ‘operator’ or ‘lweb’ roles. Users having the ‘lweb’ role are limited to using LWEB-802/803 visualization projects only and have no other device operation capabilities.

The Web UI on the device allows creating, deleting and modifying users and assigning roles:

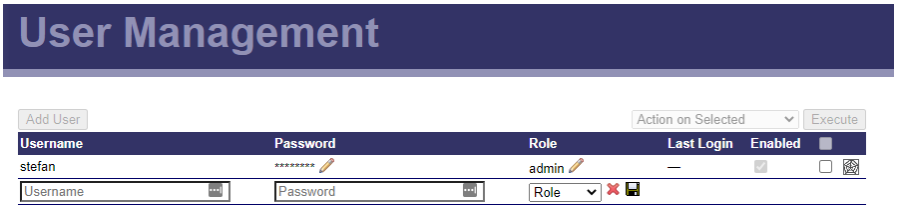


Figure 9: User management on device

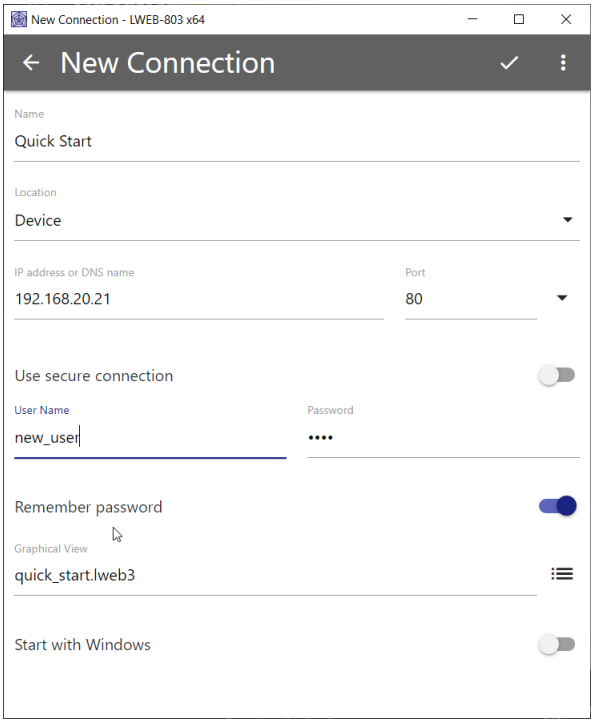


Figure 10: Configure user in LWEB-802/803

Supported Web Browsers

Support for Internet Explorer 11 has ended.

Support import and export of project configuration

A project configuration can be exported in the **Edit connection** dialog. To import the project configuration, create a new connection and select **Import…** from the overflow menu.

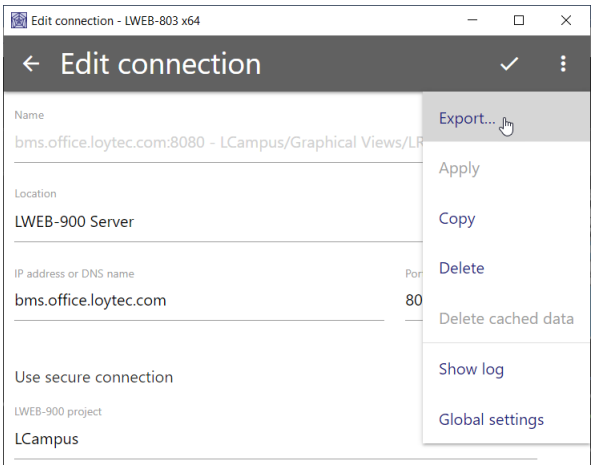


Figure 11: Export project connection

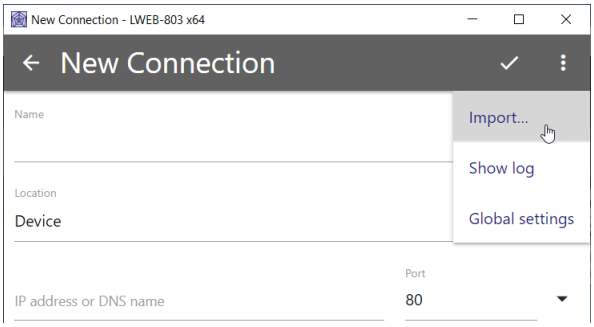


Figure 12: Import project connection

LWEB-900 Web Views

LWEB-803 can now display the LWEB-900 web views (e.g. parameter view, master scheduler view, alarm view).

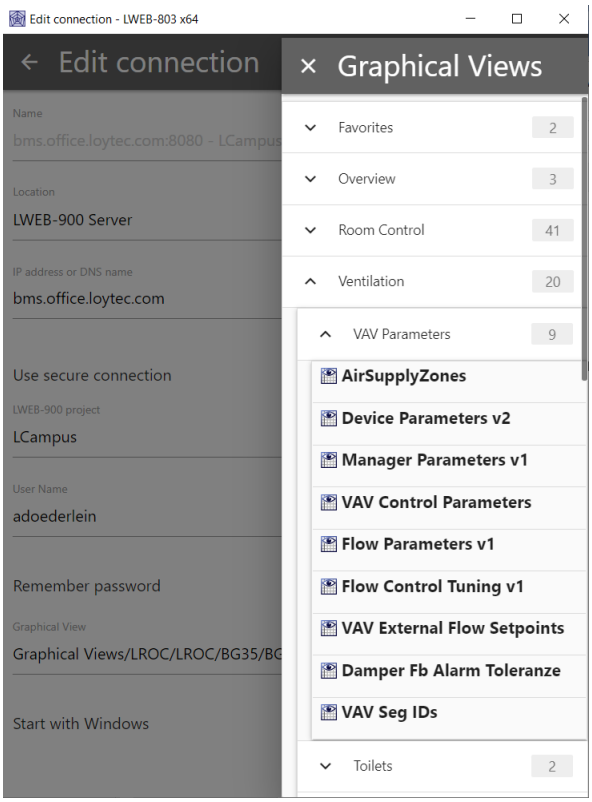


Figure 13: LWEB-900 web views in LWEB-803

2.6 New in LWEB-802/803 3.6.0

This section describes the major changes and new features. For a full list of changes, refer to the Readme file.

Note: *All new features require L-VIS/L-WEB Configurator version 7.2.0*

New Control: Pie Chart

A new type of control was added to generate a pie or donut chart from a number of connected data points. Please refer to the L-VIS User Manual [1] for details.

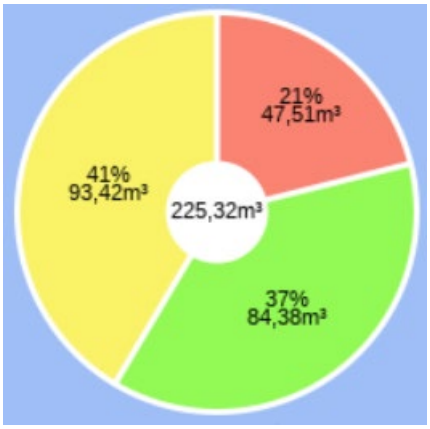


Figure 14: Pie chart

Stacked and Side-By-Side Bar Charts

The bar control was extended to support new display modes, like stacked or side-by-side bars from a number of connected data points, bars with a fixed base of zero, growing up or down depending on the displayed value, as well as bars filled with multiple colors or color gradients based on a color mapping table connected to the data point. Please review the L-VIS User Manual [1] regarding bar controls to learn more about these new features.

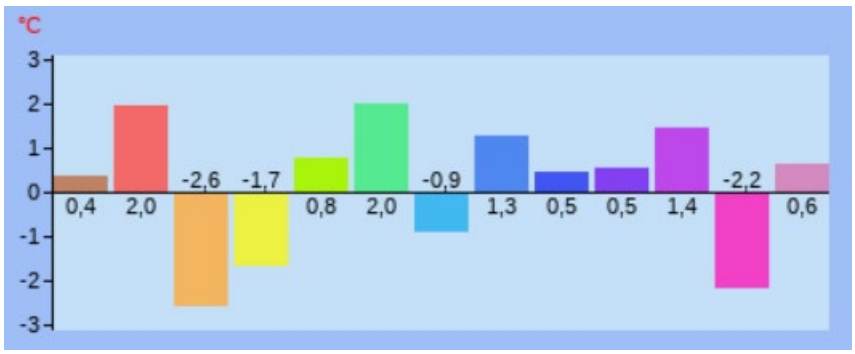


Figure 15: Side-by-side bars

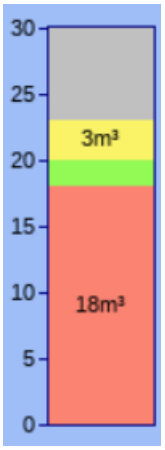


Figure 16: Stacked bars

Auto Line Break

Controls producing text output, like number, date, or text controls, can use a new line break feature to automatically insert additional line breaks as needed to make the content fit the control.

Color Gradient Mapping

Color map objects provide a new gradient mode. In this mode, the given input values are mapped to intermediate colors, calculated from two adjacent colors in the color table instead of mapping to the exact color assigned to the interval corresponding to the input value. This can be used to create smooth color transitions without the need to define a lot of color entries. Please refer to the L-VIS User Manual [1] for details.

New Option for Pop-Up Action

Pop-Up actions connected to controls provide a new option to close, when their parent control is hidden. This is useful to automatically close nested popups when their parent popup is closed, or the parent control becomes invisible due to other reasons.

Action “Show page” can open external web pages

A link to an external web page can be configured in the “Show page” action. LWEB-802 opens this web page in a new tab/window, LWEB-803 shows the page in the default web browser.

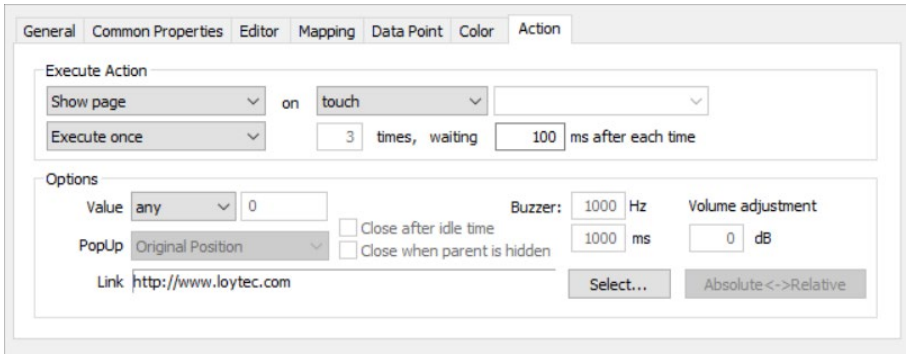


Figure 17: Link to external web page

Disable Autoscale in LWEB-803

A new option has been added to the LWEB-803 project settings to disable Autoscale. Refer to Section 6.5 for details.

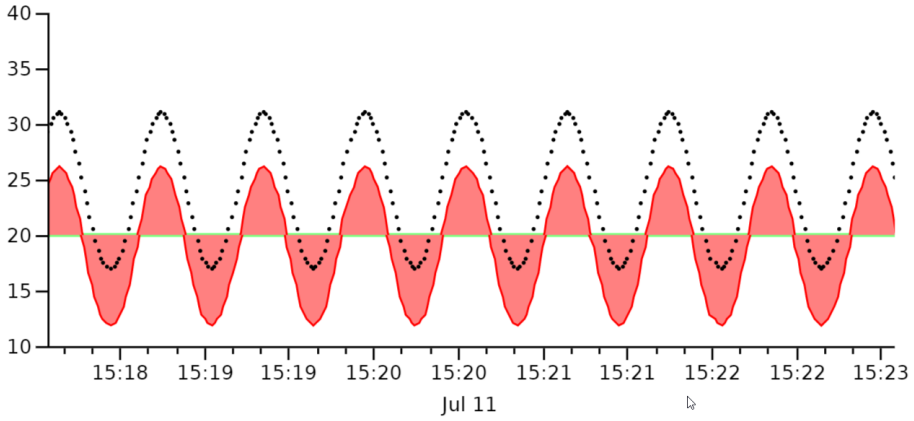
2.7 New in LWEB-802/803 3.4.0

This section describes the major changes and new features. For a full list of changes, refer to the Readme file.

Note: *All new features require L-VIS/L-WEB Configurator version 7.0.0*

Improved Trend Control

LWEB-802/803 3.4.0 adds new features and enhancements to trend controls. Curves can be shifted left and right on the time axis and stacked on top of each other. The area between the curve and its baseline can be filled, display of individual curves can be enabled and disabled during run time, and the trend cursor shows state texts for binary and multistate trends instead of just the numeric value. A new display mode for the time axis provides two lines of labels with automatic selection of label type (year, month, day, or time) and localized date formatting. Please refer to the L-VIS User Manual [1] for details.



Improved Alarm List

Alarm list controls provide new colors for active acknowledged alarms, and alarms that are no longer active but pending acknowledgement. Using the value from a connected analog data point, the entries of the alarm list can be filtered by reporting alarm server, or alarm log data point. Also, actions connected to the control can now use touch and release triggers, usually together with a value condition. These actions can be used to switch to a certain page when the user touches a certain alarm list entry, play a sound, or do other things. Please refer to the L-VIS User Manual [1] for details.

Localized Controls

Localized display of dates and values is now available consistently across all different types of controls. Labels of trend graphs, bars, knobs, or analog meters respect the current locale. Scheduler and alarm list controls, which only provided a limited number of predefined date formats so far, are now able to display date and time according to the current locale.

2.8 New in LWEB-802/803 3.2.0

This section describes the major changes and new features. For a full list of changes, refer to the Readme file.

Support multi-language projects

LWEB-802/803 3.2.0 supports projects designed for multiple languages. The locale can be switched at run time via a system register. Please refer to the L-VIS User Manual [1] to get started with this new feature.

Debug messages

The functionality of the datapoint context menu was extended and has become the debug context menu. It shows detailed information about controls as well as data points (see Figure 18 and Figure 19). In addition, recording of debug messages in the system log can be enabled (Whitelist) or disabled (Blacklist) for the control or data point.

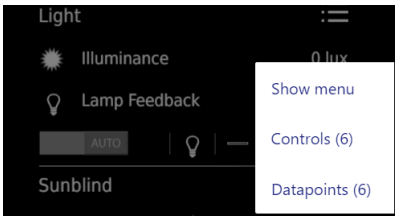


Figure 18: Debug Context Menu

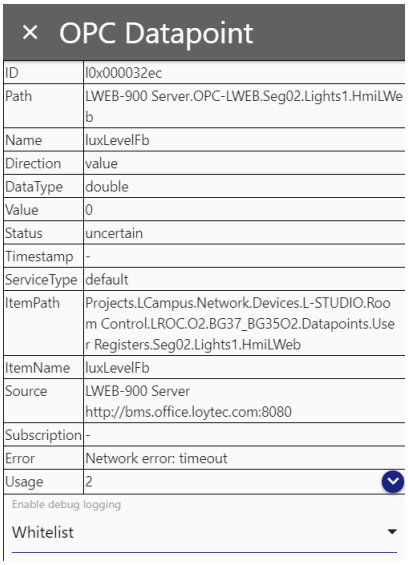


Figure 19: Data Point Details

A configuration dialog was added to the system log (see Figure 20). It specifies which debug messages to record. Refer to Section 5.9 for details.

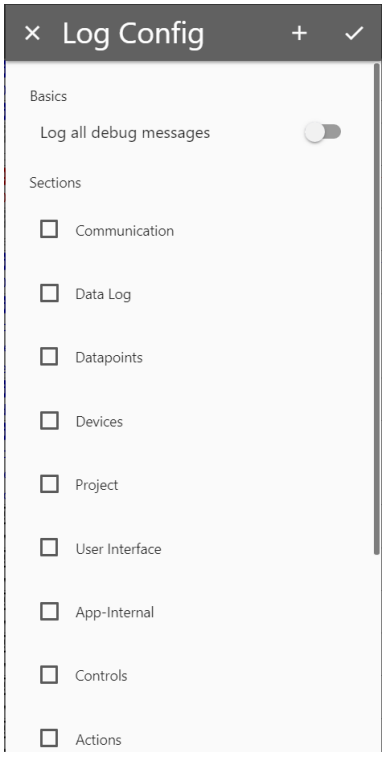


Figure 20: System log configuration

Support LWEB-900 multi-site feature

LWEB-802/803 3.2.0 supports the Multi-Site feature of LWEB-900 3.0. Please refer to the LWEB-900 User Manual [3] for details.

Trending

A number of improvements have been made to the trend control:

- Stop trend lines at offline values
- Implement relative time labels

Various improvements

The selection of the default page in the project settings has been improved. The drop-down list now shows the page hierarchy.

Action for polygons are triggered only when clicking/touching in the actual polygon area instead of the whole control area.

To toggle between zoom level 1x and previous zoom level, use CTRL+0 or double click on the page background.

2.9 New in LWEB-802/803 3.0.0

This section describes the major changes and new features. For a full list of changes, refer to the Readme file.

New user interface based on material design

The user interface of LWEB-802/803 has been reworked and is now based on the material design guidelines.

Optional error notifications

LWEB-802/803 can display error notifications at the bottom of the screen if a write operation to a data point fails or if a device does not respond any more. The following screen shot shows an example. The details of the error are available in the system log.

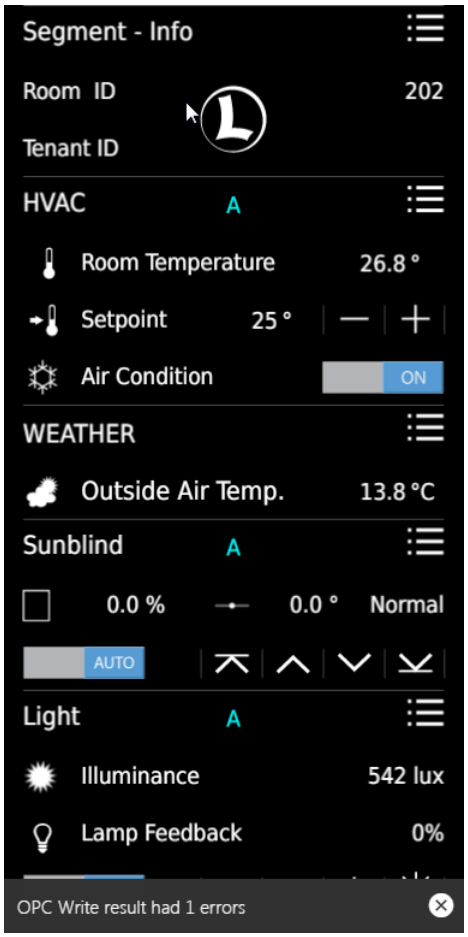


Figure 21: Error Notification Example

Error notification can be enabled in the project settings. It is disabled per default.

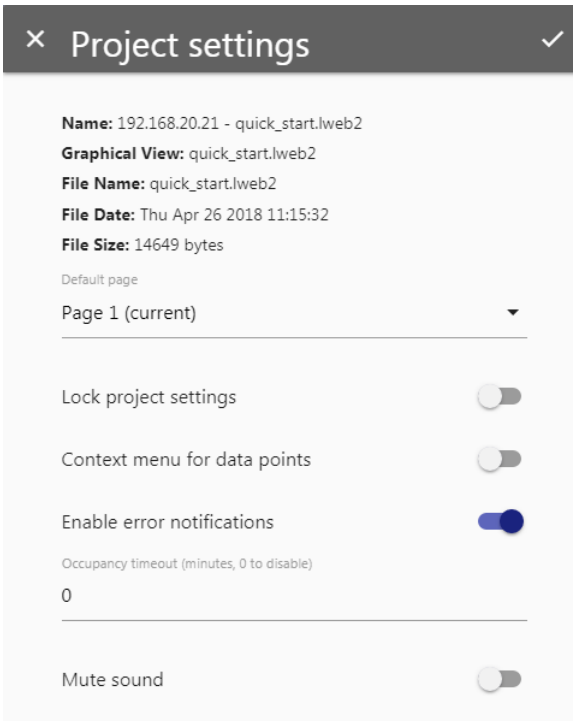


Figure 22: Enable Error Notification

Trend control improvements

A number of improvements have been made to the trend control:

- Display units and multi-state labels in trend cursor
- The trend cursor needs to be activated first with a single click before interaction with the cursor is possible. This change simplifies scrolling a page containing a large trend control.
- Fix for trend cursor for trend controls in popups

Operating system support

Minimum supported Windows Server version is now 2008 R2.

2.10 New in LWEB-802/803 2.5.0

This section describes the major changes and new features. For a full list of changes, refer to the Readme file.

Note: *All new features require L-VIS/L-WEB Configurator version 6.2.0*

Localized date and number controls

LWEB-802/803 version 2.5.0 adds support for localized display of date, time, and numbers. A desired locale, consisting of a language, a region, possibly a preferred script, and a calendar system can be set in the project settings of the L-VIS/L-WEB Configurator and changed later on during run time via a new system register. Depending on the selected region, calendar systems other than Gregorian, like Hebrew, Islamic, Chinese, or Japanese are available to display localized dates.

For number controls, the preferred number system can either be taken from the current locale (default), or a specific number system can be set in the controls properties.

Please refer to the L-VIS User Manual [1] to get started with this new feature.

Extended date control

Apart from localization support, the date control was extended to add more features:

- Local updates: Incoming time stamps from a remote device are only used to synchronize the date control with external time, while the date control itself is updated independently of any data point updates.
- UTC time: This option displays the time stamp without adding the offset of the local time zone before display.
- Analog clock: A new modern style is available for the analog clock.

Improved trend control

The trend control received some improvements, like auto-zoom for the Y-axis, different line-width settings per curve, and solid grid lines.

Knob and Webcam controls

The knob control now supports a new mode of input, where the knob can only be turned incrementally from its current position, to avoid sudden changes of the value. The webcam control was improved to support the latest web browser versions.

Bidirectional data point references

Data point references on controls can now be marked bidirectional, in which case they are used to receive incoming updates for display, as well as write out new values which were entered via the control.

New system registers

Apart from the new system registers to display and set the current project locale, there are new registers to read the current local time and UTC time from date/time structures instead of a single timestamp value.

Statistics

The **Statistics** dialog displays communication statistics from all LOYTEC devices which are currently used in the LWEB-802/803 project (see Figure 23). In LWEB-802/803 version 2.5.0 you can get detailed information about the subscriptions by clicking on the info icon (see Figure 24).

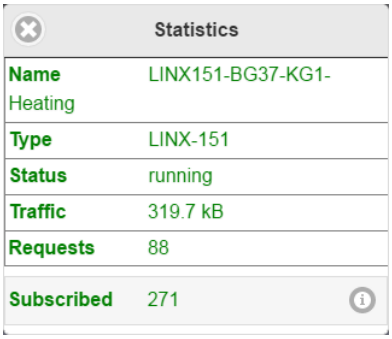


Figure 23: LWEB-802/803 Statistics

Subscriptions

Handle: 100064 (271)

Path	Value	State	Age
User Registers.HC_Floor.Controller.HVheatCurve.outFBstatus.outOutsTemp (gen0x00018734)	25.37726	ok	1s
User Registers.HC_Floor.Controller.HVheatCurve.outFBstatus.inMinSP (gen0x00018728)	20	ok	1s
User Registers.HC_Floor.Controller.HVheatCurve.outFBstatus.inMaxSP (gen0x00018726)	35	ok	1s
User Registers.HC_Floor.Controller.HVheatCurve.outFBstatus.inCurveSlopeFwd (gen0x00018720)	0.8	ok	1s
User Registers.HC_Floor.Controller.HVheatCurve.outFBstatus.inCurveLevel (gen0x0001871f)	3	ok	1s
User Registers.HC_Floor.Controller.HVheatCurve.outFBstatus.inBoilerOffset (gen0x0001871e)	5	ok	1s
User Registers.HC_Floor.Controller.HVheatCurve.outFBstatus.inNightRed (gen0x0001872b)	12	ok	1s
User Registers.HC_Floor.Controller.HVheatCurve.outFBstatus.inNightFrostEnab (gen0x0001872a)	true	ok	1s
User Registers.HC_Floor.Controller.HVheatCurve.outFBstatus.inOt1NightFrost (gen0x0001872c)	-12	ok	1s
User Registers.HC_Floor.Controller.HVheatCurve.outFBstatus.inOt2NightFrost (gen0x0001872d)	-5	ok	1s

Figure 24: LWEB-802/803 Subscriptions

2.11 New in LWEB-802/803 2.4.0

This section describes the major changes and new features. For a full list of changes refer to the Readme file.

Note: *All new features require L-VIS/L-WEB Configurator version 6.1.*

Rotating knob control

A new control to build rotating knobs was added. The following figure shows an example.

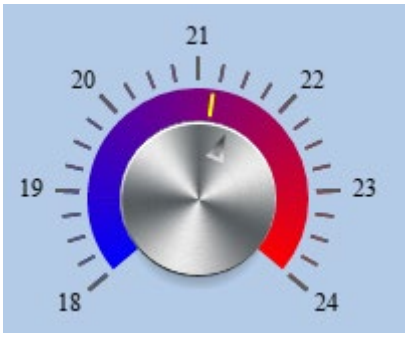


Figure 25: Rotating Knob Control

Show pop-up action

A new action type was added to easily build pop-up windows. Instead of placing a collection on the page and controlling visibility via a trigger, the same folder can now be moved below a pop-up action and visibility will be controlled by the action. In case the

action is connected to a control on the page, the pop-up can be auto-placed near the control triggering the pop-up action.

Option to use client-side fonts

To reduce the size of LWEB-802/803 projects and speed up loading on the client, fonts may now be marked as 'Use installed font'. In this case, the original font data will no longer be embedded in the project. Instead, meta-information is stored for the LWEB-802/803 client to be able to find a suitable pre-installed font on the client machine. If the font is not installed on the client PC or mobile device, the default font of the browser is used. This feature is particularly effective for fonts with a large number of glyphs.

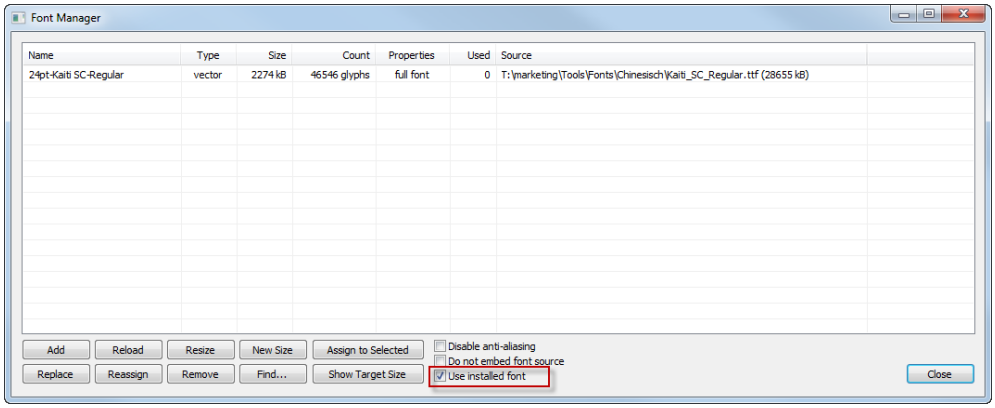


Figure 26: Use Installed Font

Display Engineering Units

The text specifier for number controls can now contain the placeholder ${unit} which is replaced by the engineering unit of the attached data point.

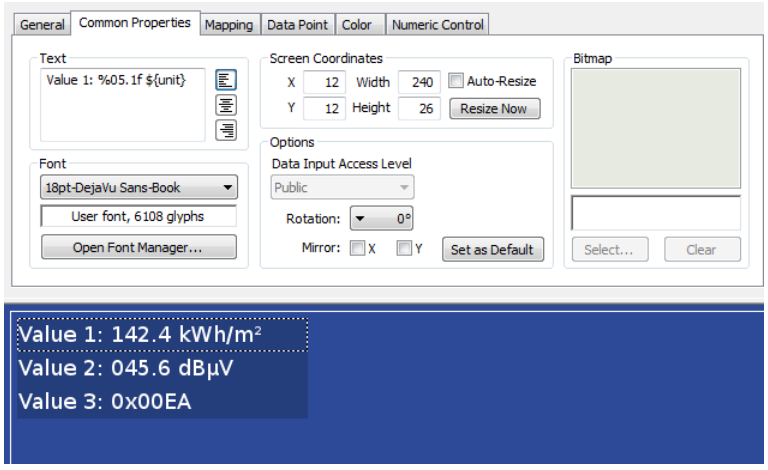


Figure 27: Display Engineering Units

Webcam control

A new control to display live video streams of web cams was added. Due to web browser limitations only certain video stream formats are supported:

- LWEB-803, Google Chrome, Firefox, Android web browser, iOS web browser: Support for MJPEG stream and single images.
- Internet Explorer 10-11, Microsoft Edge: Support for single images only .

2.12 New in LWEB-802/803 2.3.0

This section describes the major changes and new features. For a full list of changes refer to the Readme file.

Operating system support

LWEB-803 supports Windows 10 and LWEB-802 supports Microsoft Edge browser.

Localization

LWEB-802/803 is now available in the following Languages:

- English
- German
- French
- Chinese Traditional
- Chinese Simplified
- Japanese

The language can be changed in the global settings dialog. The new setting takes effect after reloading the application (CTRL+r).

Sound support

LWEB-802/803 now supports playback of sounds and buzzer actions. The sound can be muted in the project settings (see section 5.6).

Support automatic scaling of project

LWEB-802 can scale the graphical view automatically to the display size. This feature can be enabled in the project settings (see section 5.6).

Automatic check for new project version

LWEB-802/803 can automatically check if a new version of the project is available. This check is performed once every hour. If a new version is detected, it is reloaded automatically. This feature can be enabled in the project settings (see section 5.6).

Scheduler control improvements

A number of improvements have been made to the scheduler control:

- The use interface to configure presets, events, and calendar patterns has been improved.
- The short and long press behaviour on free areas of the scheduler control now matches the behavior of the L-VIS device.
- The ISO and US date flags are now taken into account when editing events.

Alarm list control

If a “on value update” action is attached to an alarm list control, the action is now triggered only if a new alarm occurs and not if the state of an existing alarm changes.

Math objects as input data points

LWEB-802/803 now supports math objects in all places where input data points can be used, including cascaded math objects. This saves on internal registers for calculation results and keeps the project simple, because the formula is located at the exact place where its result is being used. It is no longer necessary to locate the math object, identify the register used for the calculation result and searching for the place where this register is finally used as input.

Wrap around in push button mode

LWEB-802/803 now supports the new wrap around option for bitmap controls:

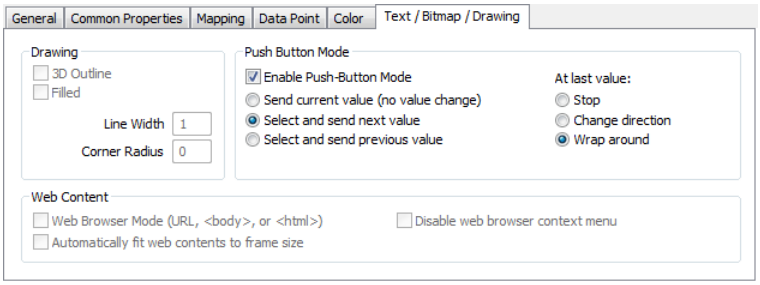


Figure 28: Wrap Around Option

Improve load time

To improve the load time of graphical views, an application cache and a project cache have been implemented. The parsing of the project file has been improved.

Protect kiosk mode with PIN code

Entering and leaving kiosk mode can be protected with a PIN code (see section 6.7).

Data point context menu

For devices with no mouse input, the data point context menu can now be opened using a long press.

2.13 New in LWEB-802/803 2.2.0

This section describes the major changes and new features. For a full list of changes refer to the Readme file.

Lock position

A new option to lock the position of the main window was added to the display options of LWEB-803. This feature is useful to prevent accidentally moving the LWEB-803 window.

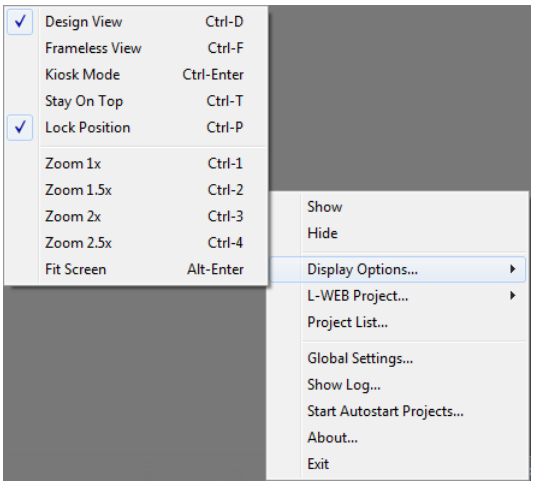


Figure 29: Lock Position

Select graphical view from LWEB-900 project

LWEB-803 can display graphical views from an LWEB-900 server. The dialog to select the graphical view was improved to shows the tree structure of the LWEB-900 project.

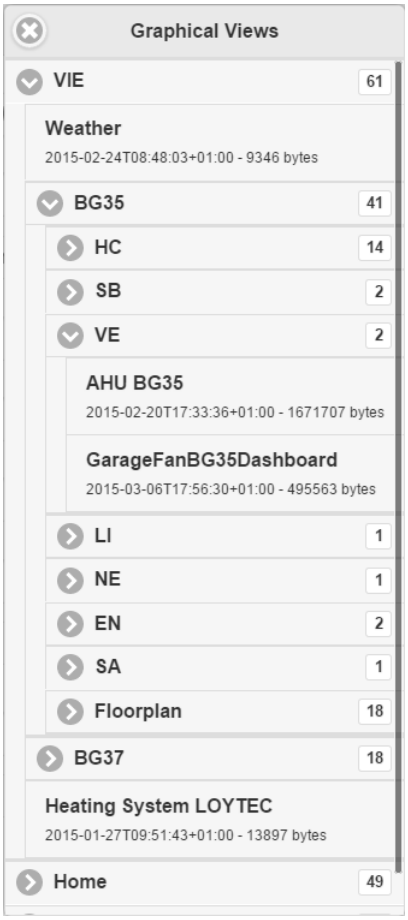


Figure 30: Select LWEB-900 Graphical View

Math objects as input data points

L-Vis math objects can now be used in all places where input data points can be used, including cascaded math objects. This saves on internal registers for calculation results and

keeps the project simple, because the formula is located at the exact place where its result is being used. It is no longer necessary to locate the math object, identify the register used for the calculation result and searching for the place where this register is finally used as input.

Supported Operation Systems and Web Browsers

Support for Windows Server 2003 and Internet Explorer 9 was discontinued.

2.14 New in LWEB-802/803 2.1.0

This section describes the major changes and new features. For a full list of changes refer to the Readme file.

System menu

The system menu gives access to the LWEB-802/803 settings and statistics (see Figure 31). This menu can be opened by clicking on the last entry in the navigation menu. Refer to section 5.5 for details.

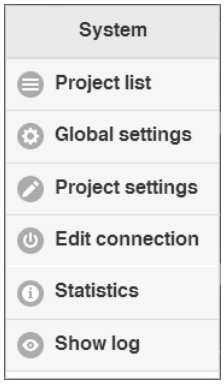


Figure 31: LWEB-802/803 System Menu

View data point details

This new feature needs to be enabled in the project settings (see Figure 32). To view data point details, click with your right mouse button on a control. A context menu is displayed listing the attached data points (see Figure 33). Select the name of the data point for which you want to inspect the properties as shown in Figure 34.

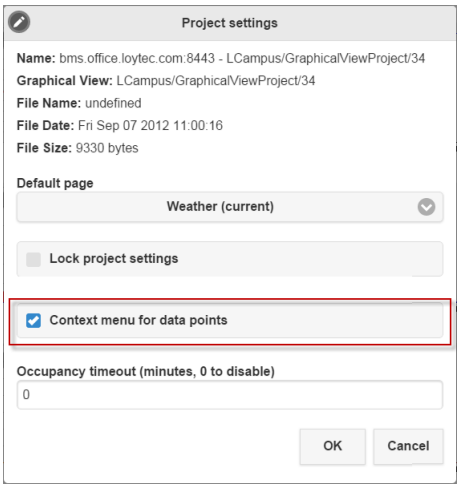


Figure 32: Enable Context Menu for Data Points

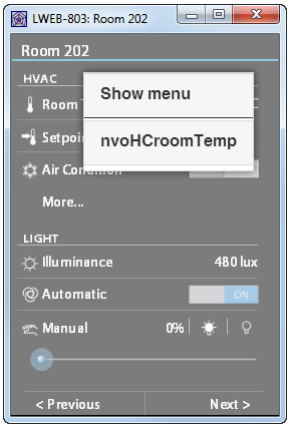
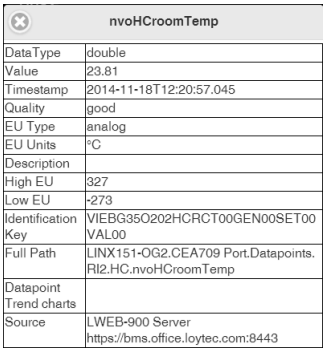


Figure 33: Graphical View Context Menu



DataType	double
Value	23.81
Timestamp	2014-11-18T12:20:57.045
Quality	good
EU Type	analog
EU Units	°C
Description	
High EU	327
Low EU	-273
Identification Key	VIEBG35O202HCRCT00GEN00SET00 VAL00
Full Path	LINX151-OG2.CEA709 Port.Datapoints. RI2.HC.nvoHCroomTemp
Datapoint Trend charts	
Source	LWEB-900 Server https://bms.office.loytec.com:8443

Figure 34: Data Point Properties

Keypad

The L-VIS/L-WEB Configurator allows defining button size and system colors (see Figure 35). The new LWEB-802/803 version uses those settings when displaying a keypad.

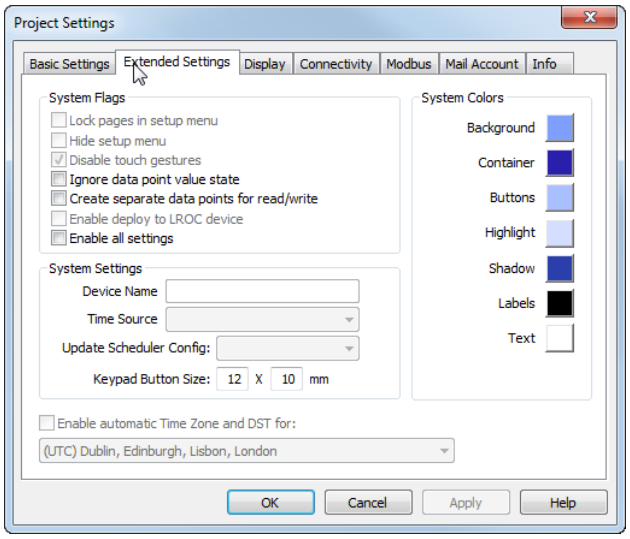


Figure 35: Project Settings in L-VIS/L-WEB Configurator

2.15 New in LWEB-802/803 2.0.0

This section describes the major changes and new features. For a full list of changes refer to the Readme file.

LWEB-803 replaces LWEB-800

LWEB-803 has been developed as a desktop version of the LWEB-802 web application and is based on the same source code. This has the advantage that the behavior of both versions of the visualizations is identical and new features can be implemented faster.

Currently not all LWEB-800 features are supported in LWEB-802/803. The following features are not yet supported:

- Data log control
- Sound support
- Scheduler control: Only the extended UI mode is supported.

Show trend buttons after click in trend control

If the navigation buttons of a trend control are disabled in the L-VIS Configurator (see Figure 36), the buttons will be displayed only after clicking into the control (see Figure 37 and Figure 38) and the cursor is active.

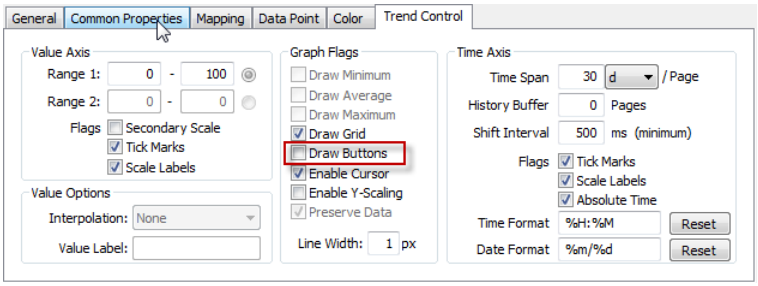


Figure 36: Disable Trend Control Buttons

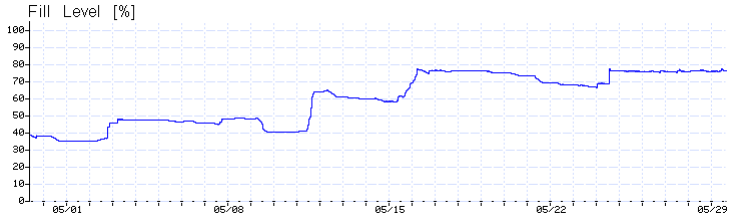


Figure 37: Trend Control without Buttons

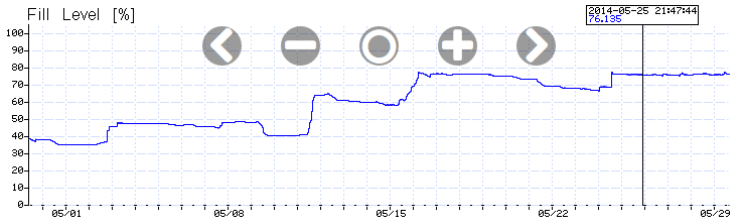


Figure 38: Navigation Buttons appear when clicking into Trend Control

Frameless view

In addition to standard view and design view, LWEB-803 now supports also frameless view. In frameless view no title bar is displayed. In contrast to design view, the background is not made transparent.

Support mouse and touch events at the same time

Some presentation PCs support user input both via mouse and via touch screen. Previous versions ignored touch events if a mouse was present. The current LWEB-802/803 responds to both types of events.

Random function in math objects

LWEB-802/803 supports the new random function “rand()” in math objects.

2.16 New in LWEB-802 1.5.0

This section describes the major changes and new features. For a full list of changes refer to the Readme file.

Analog meter control

LWEB-802 now supports the analog meter control. This control displays a numeric value by a needle moving over a scale, similar to the way a traditional moving-coil ammeter works. Refer to L-VIS User Manual [1] for details.

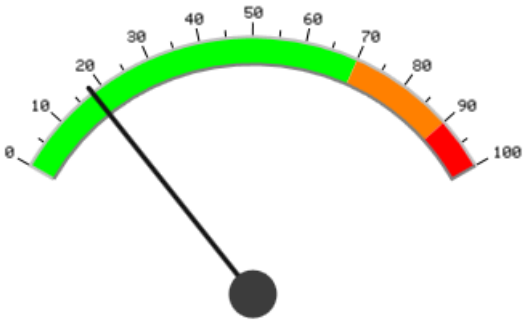


Figure 39: Analog Meter Control

Access specific LWEB-802 version

The latest version of the LWEB-802 web application can be accessed using the following URL:

http://www.loytec.com/lweb802/

If you want to access a specific version of the LWEB-802 web application, add the version number to the end of the URL. In this way you can fix the LWEB-802 version after you have tested your project. For example, to access version 1.4.0, use the following URL:

http://www.loytec.com/lweb802/1.4.0/

True Color Support for MNG Images

Animated MNG images are now displayed in true color instead of with the VGA palette. This feature requires that your LWEB-800/802 project has been saved with the latest version of the L-VIS Configurator.

2.17 New in LWEB-800 1.9.0 and LWEB-802 1.4.0

This section describes the major changes and new features. For a full list of changes refer to the Readme file.

Trend graph improvements:

A number of improvements have been made to the trend control:

- Support a secondary y-axis
- Dynamic scaling of y-axis
- Support limit lines: It is now possible to display the current value of a data point in the trend chart. For the current value of the data point a horizontal line is drawn across the entire graph. This feature can be used to add limit lines to the trend graph.
- Support configuration of line width for trend curves
- Display data point labels in trend log cursor
- Support scaling of trend data
- Improve trend zooming: If cursor is active, zoom relative to current cursor position else relative to center.

- Support linear interpolation for trend log charts

Figure 40 shows an example of a trend log control. On the primary y-axis the room temperature (red) and the temperature setpoint (yellow) are displayed. The heating valve (green) is displayed on the secondary y-axis. Linear interpolation is used to display the room temperature; no interpolation is used for the temperature setpoint and the heating valve. A limit line (white) is displayed at 17°C.

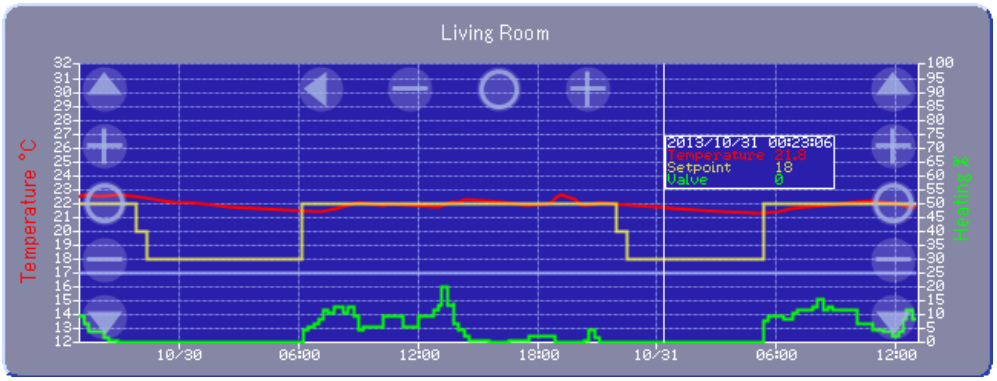


Figure 40: Trend Log Example

IE10 support

LWEB-802 now supports Internet Explorer 10.

Windows 8 support

LWEB-800 now supports Windows 8.

Improve zoom functionality for mobile devices

In LWEB-802 the zoom functionality has been reworked for mobile devices: The zoom operation no longer affects the size of system menus. Zoom and scroll operations no longer interfere with touch events on controls.

MNG support

LWEB-800 supports animated MNG (Multiple Image Network Graphics) images already for some time. Now LWEB-802 can also display animated MNG images. In LWEB-802 MNG images are rendered using the VGA palette instead of true color.

Vector fonts

LWEB-802 supports vector fonts since version 1.3.0. Now LWEB-800 can also display vector fonts.

Occupancy Detection

The occupancy detection of LWEB-800 can now be enabled/disabled for each LWEB-800/802 project separately. Refer to section 7.2 for details.

3 Quick-Start Guide

This Chapter gives step-by-step instructions on how to configure a LOYTEC device and how to use LWEB-802 as well as LWEB-803 by means of a simple example project.

3.1 Overview

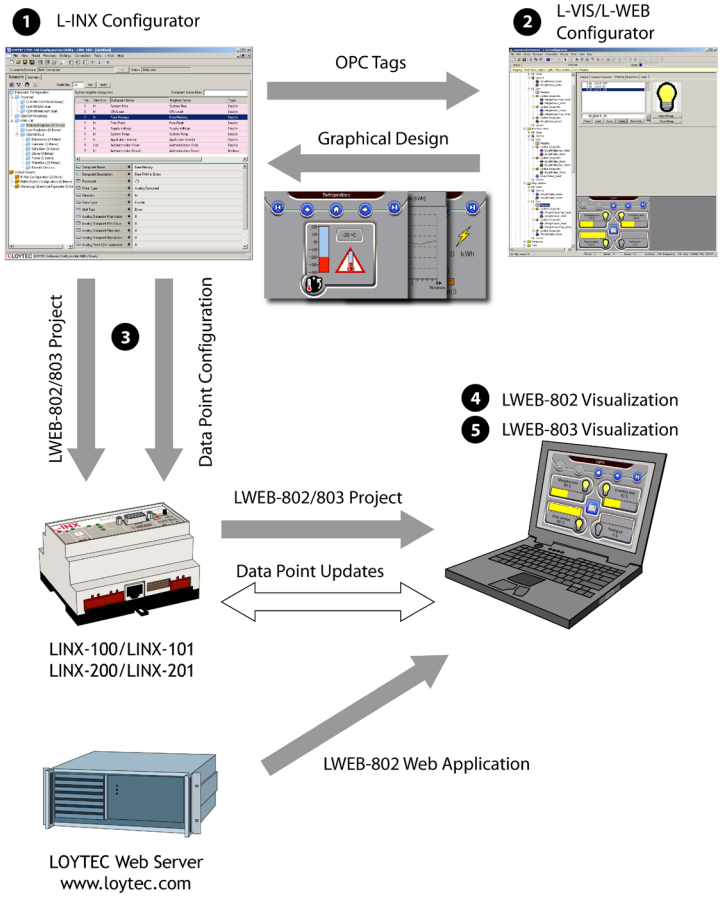


Figure 41: LWEB-802/803 Configuration Steps

Before an LWEB-802/803 project can be designed the following actions have to be performed:

- Install the LOYTEC device and configure the IP address. Refer to the LOYTEC Device User Manual [2].

- Install the L-INX/L-GATE Configurator from the setup.exe. This file can be downloaded from www.loytec.com. Refer to the LOYTEC Device User Manual [2].

- Install the L-VIS/L-WEB Configurator from the setup.exe. This file can be downloaded from www.loytec.com. Refer to L-VIS User Manual [1]

Figure 41 shows an overview of the basic configuration steps of the quick-start guide:

1) Start L-INX/L-GATE Configurator and create the data point configuration. This step defines the OPC tags which represent data points in the CEA-709 or BACnet network. The OPC tags can be read or written from the LWEB-802/803 application.

2) Start the L-VIS/L-WEB Configurator out of the L-INX/L-GATE Configurator and create graphical user pages. These pages contain graphical representations of the OPC tags created in step 1.

3) Download the data point configuration and the LWEB-802/803 project to the LOYTEC device.

4) Start LWEB-802 in a web browser and display the LWEB-802/803 project.

5) Download the LWEB-803 application from the LOYTEC homepage and install it. Start LWEB-803 and display the same LWEB-802/803 project as in LWEB-802

These basic configuration steps will be described in the next sections by means of a simple example project.

3.2 Data Point Configuration

This quick start tutorial will create a user register and a trend log:

User Register

Select the **User Registers** folder in the tree view, then right click in the data point view and select **New Datapoint…**

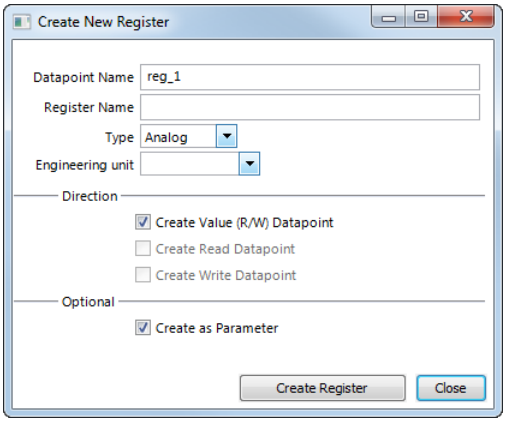


Figure 42: Create new Register

Press the **Create Register** button to generate the data point reg_1.

Trend Log

Select the **Trend** folder in the tree view, then right click in the data point view and select **New Trend…**. Fill out the dialog box as shown in Figure 43. To attach a data point to the trend log, press the **Add…** button and select the **reg_1** register which was created previously.

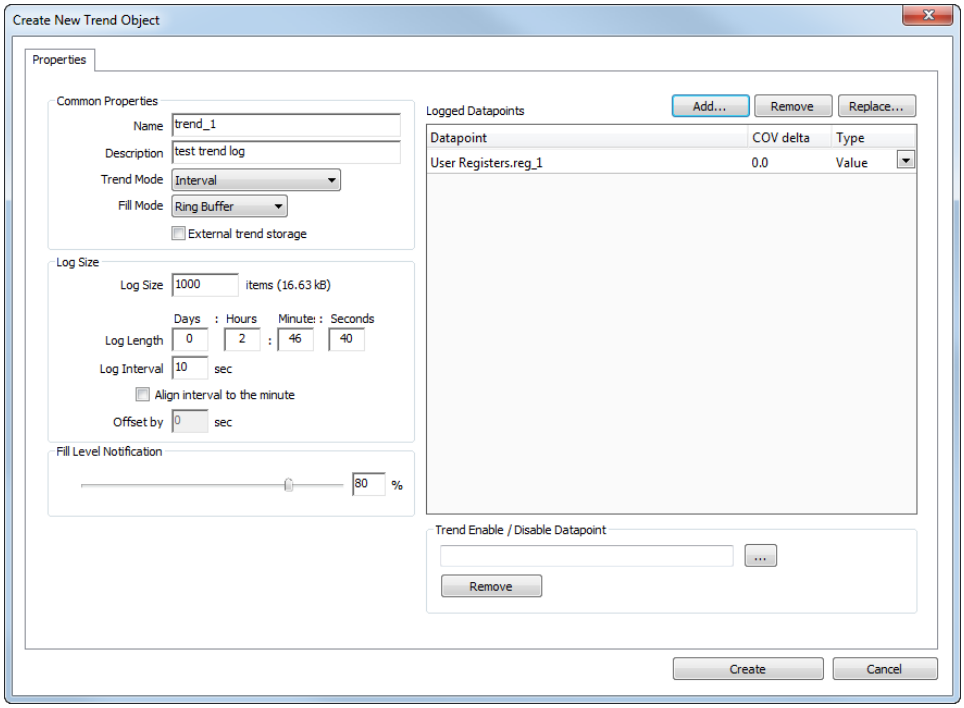


Figure 43: Create New Trend Object

3.3 Graphical Design

The next step is to create an LWEB-802/803 project and to design two simple test pages: The first page will contain a number control to change the **reg_1** data point and a trend control which displays the register. The second page will contain a browser control to display the LOYTEC web site.

Create a new LWEB-802/803 Project

Change to the **L-WEB Projects** tab and click on the **Add New…** button. Make sure that the file type is set to **lweb2**. Enter a name for the project and click on the **Create and Design Graphics** button (see Figure 44). The L-VIS/L-WEB Configurator opens in a new window.

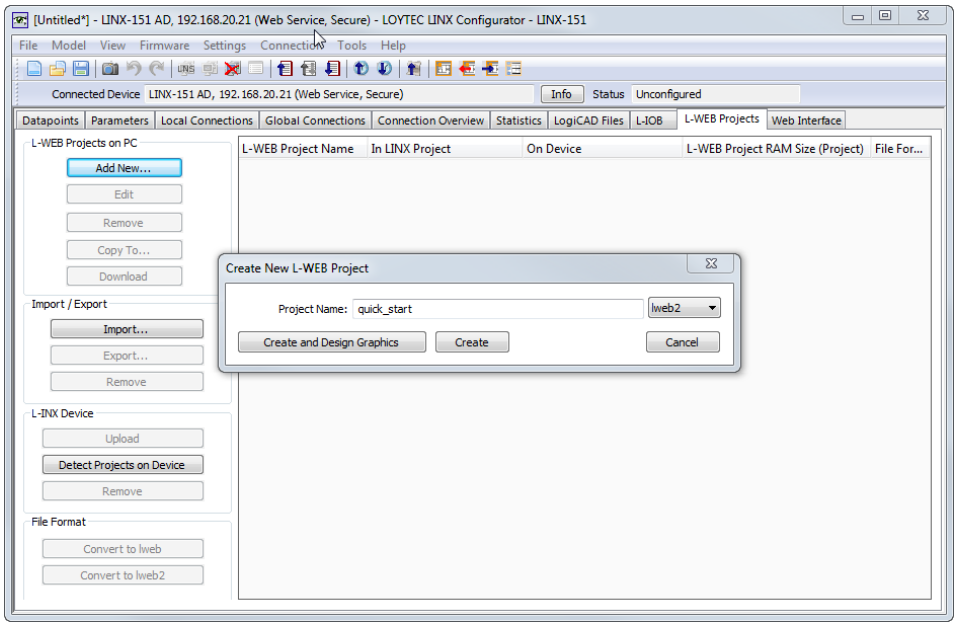


Figure 44: Create new LWEB-802/803 Project

Project Settings

The size of the LWEB-802/803 Visualization display can be changed in the menu **File → Project Settings…** on the **Display** tab as shown in Figure 45.

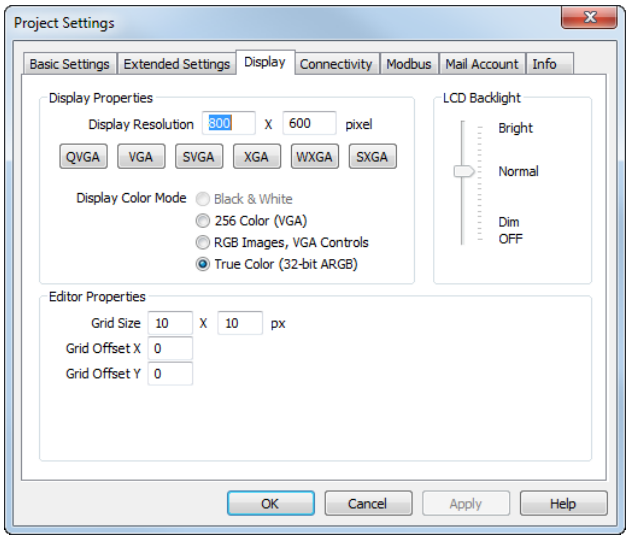


Figure 45: Project Settings, Display Tab

The communication parameters can be changed on the **Connectivity** tab as shown in Figure 46. For projects with many data points it is recommended to increase the Pollcycle.

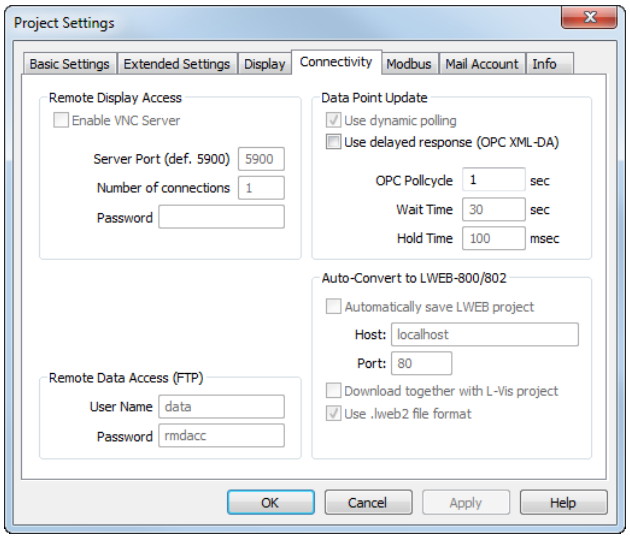


Figure 46: Project Setting, Connectivity Tab

Create menu item and pages

The empty project shows the root menu with no entries (menu items). First, add a menu item to the root menu. To do this, right click on the root menu object in the tree view and select **Add Item** from the context menu. A new **menu item** is created and connected to the menu object. Next, add a page to the menu item. This page will be displayed when the user selects the menu item from the root menu. Open the context menu of the menu item (right click on the item in the tree view) and select **Add Page.**

In order to see **Page 1** of **Menu Item 1** right after the device starts, make this page the projects default page. Open the context menu of **Page 1** in the tree view and select **Set as Default**. Add a second page to **Menu Item 1**. The tree view should now look like shown in Figure 47.

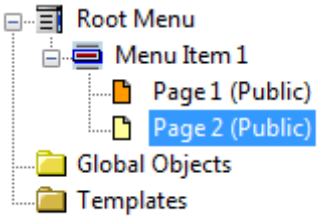


Figure 47: Tree view after creating menu item with pages

Create page navigation

To be able to navigate from **Page 1** to **Page 2**, we add a bitmap control and attach a **Next page** action. Right-click on the **Page 1** object in the tree view and choose **Add Bitmap** from the context menu. On the **Common Properties** tab (see Figure 48), press the **Select…** button and choose an appropriate bitmap from the LOYTEC icon library (C:\Program Files\LOYTEC\L-Vis Configuration\Icon Library\Grafix\Icons).

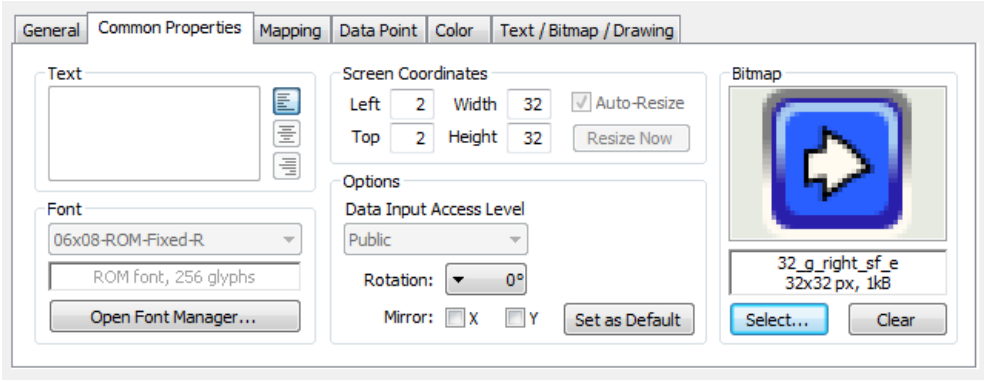


Figure 48: Common properties tab of a bitmap control

To attach an action to the bitmap control, select **Add Action** from the controls context menu in the tree view. On the **Action** tab, select the **Next page** action as shown in Figure 49.

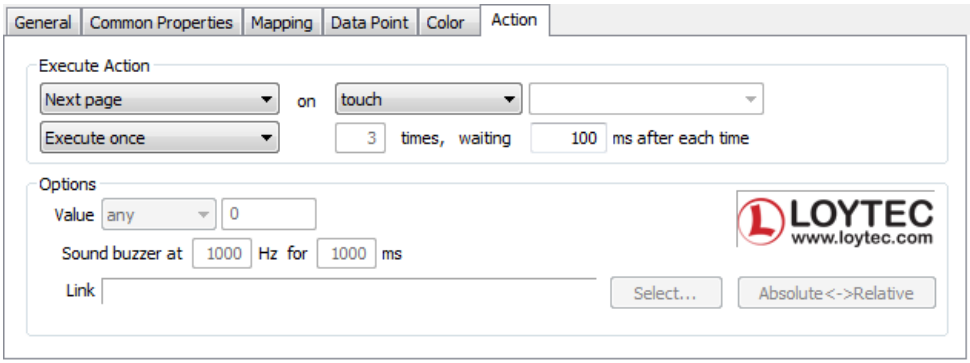


Figure 49: Action tab

To be able to navigate from **Page 2** back to **Page 1**, add a bitmap control to **Page 2** with the action **Prev page**. The tree view should now look like shown in Figure 50.

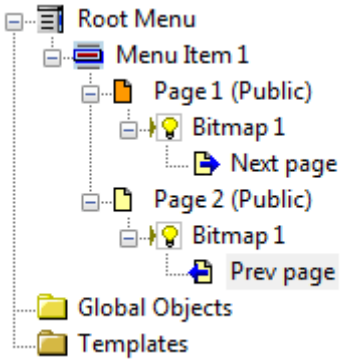


Figure 50: Tree view after creating page navigation

Create number control

The next step is placing a number control on **Page 1** to be able to change the value of **reg_1**. To create the number controls, right-click on the page object in the tree view and choose **Add Control → Number** from the context menu. To connect the **reg_1** data point to the number control, select **Add Data Point…** from the controls context menu. A dialog will appear which is used to manage and select data points. Select the folder **User**

Registers from the tree view at the left of the dialog. Select **reg_1** and press **Select**. To be able to change the value of the data point it is necessary to change the direction from input to output. Therefore, activate the checkbox **Reverse direction** as shown in Figure 51.

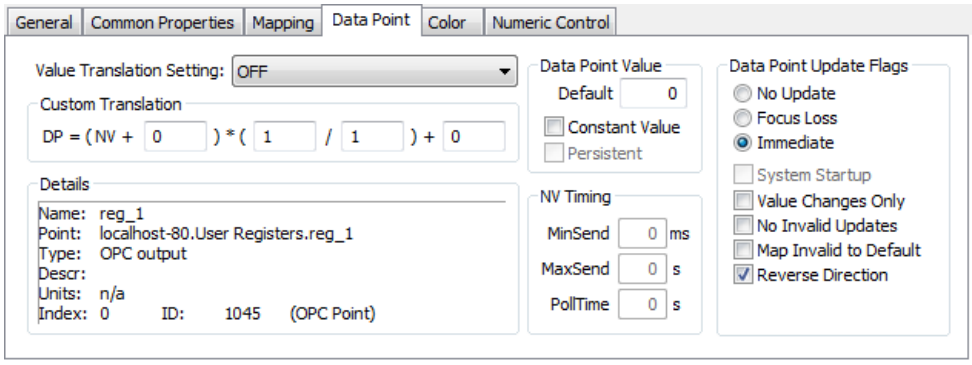


Figure 51: Reverse direction of a data point

Create trend control

To create the trend controls, right-click on the page object in the tree view and choose **Add Control → Trend** from the context menu. To connect a data point to the trend control, select **Add Data Point…** from the controls context menu. A dialog will appear which is used to manage and select data points. Select the folder **Trend** from the tree view at the left of the dialog. There should be one element **trend_1** and a plus symbol in front of it. Click on the plus symbol to show the data points attached to the trend control. Select **reg_1** and press **Select**.

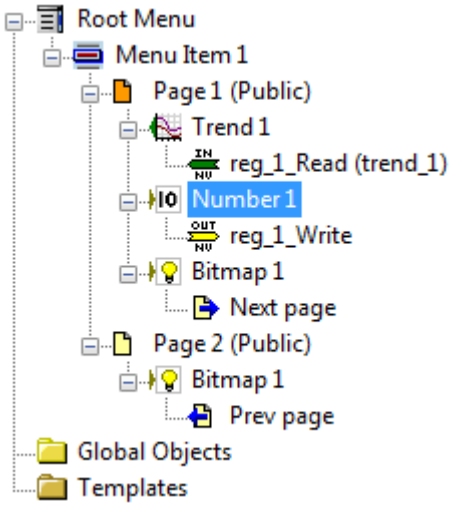


Figure 52: Tree view after creating number control and trend control

Now position the controls on your page so that they do not overlap each other. Grab and drag them with the mouse. To resize the controls with the mouse, move the pointer to the lower right corner of the controls area in which the value is displayed: Disregarding any decorations around the value area, like the scale of the trend control. Then grab the control at the lower right corner of the container area.

Your preview window should now look similar to Figure 53.

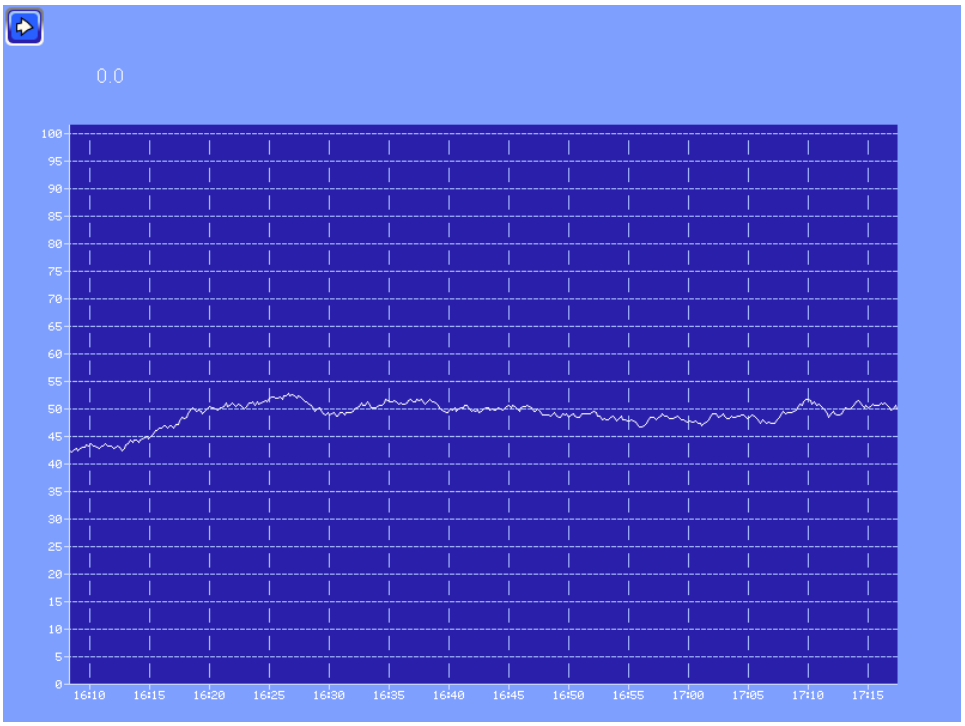


Figure 53: Preview of first page

Create browser control

Now we will add a browser control to the second page. A browser control is a special form of a text control. To create a browser control, right-click on the page object in the tree view and choose **Add Control → Text** from the context menu. Enter www.loytec.com in the **Text** input field on the **Common Properties** tab. Deselect **Auto-Resize** and resize the control so that it uses the space below the **Prev page** button. On the **Text/Bitmap/Drawing** tab select the **Web Browser Mode (URL, <body>, or <html>).**

Your preview window should now look similar to Figure 54.

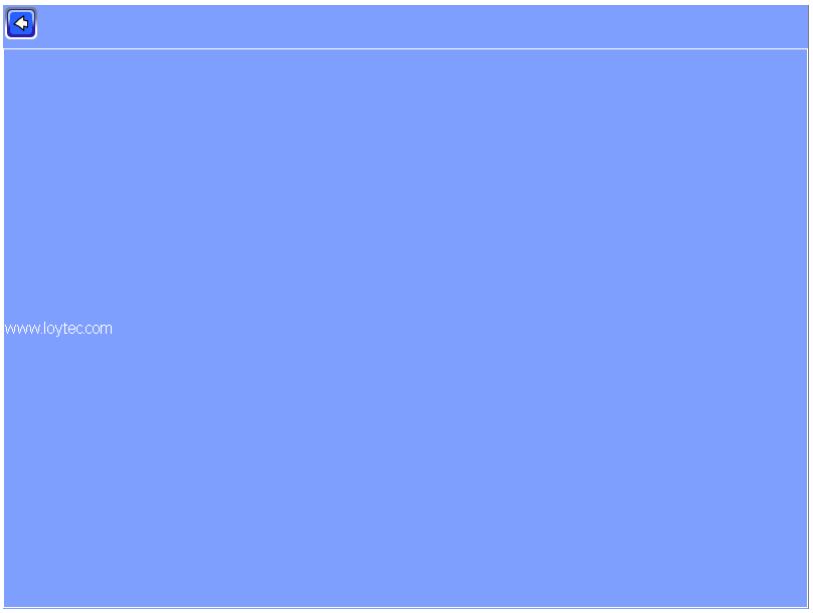


Figure 54: Preview of second page

Close the L-VIS/L-WEB Configurator tool and select **Yes** in the displayed dialog to update the design with the current project.

3.4 Download Configuration

Back to the L-INX/L-GATE Configurator, the **L-WEB Projects** tab looks as shown in Figure 55. The LWEB-802/803 project **quick_start** is stored in the L-INX project but not yet downloaded to the device.

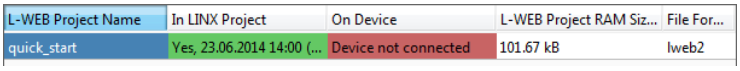


Figure 55: LWEB-802/803 Project tab with quick_start project not on device

To download the data point configuration and the LWEB-802/803 project we first need to connect to the device. For this example we will connect as shown in Figure 56.



Figure 56: Connect to LOYTEC device

Download the data point configuration as shown in Figure 57.

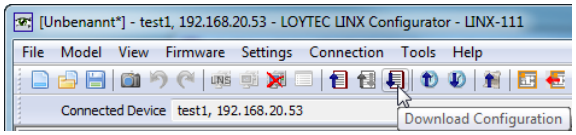


Figure 57: Download data point configuration

Per default the **Download Configuration** button also downloads the LWEB-802/803 project. If you have set up your L-INX/L-GATE Configurator to download LWEB-802/803 project separately, press the **Download** button as shown in Figure 58.

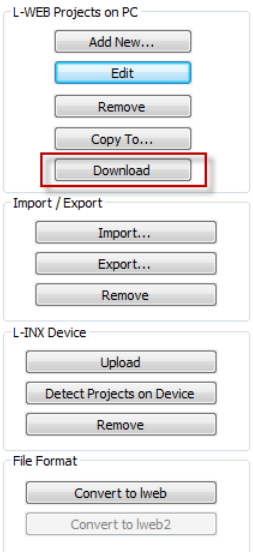


Figure 58: Download LWEB-802/803 project

The **L-WEB Projects** tab now looks as shown in Figure 59.

L-WEB Project Name	In LINX Project	On Device	L-WEB Project RAM S...	File For...
quick_start	Yes, 23.06.2014 14:03 (1...	Yes, 23.06.2014 14:03 (1...	101.67 kB	lweb2

Figure 59: LWEB-802/803 project tab with quick_start project on device

3.5 Start LWEB-802 Visualization

To start the LWEB-802/803 project in a web browser, go to go to the L-WEB page on the LOYTEC device and click on the LWEB-802 icon beside the project (see Figure 60).

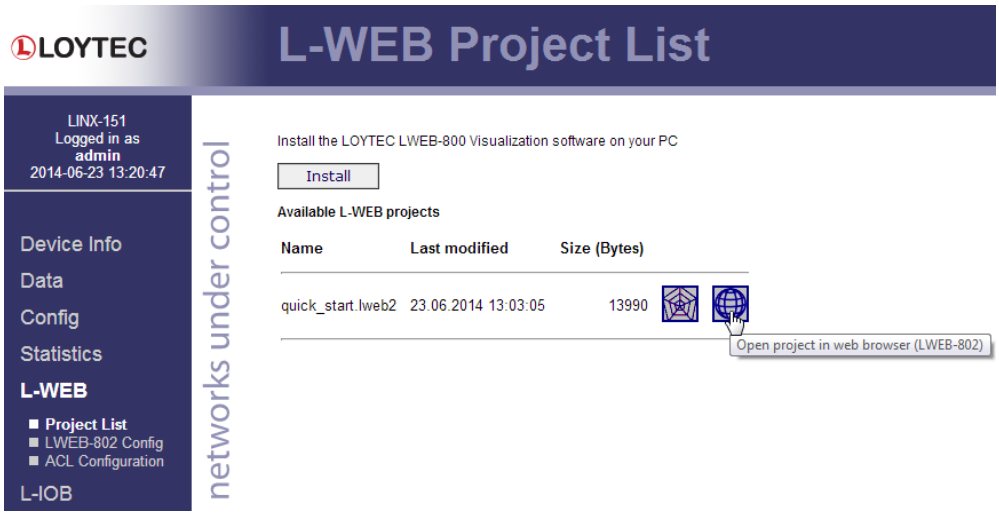


Figure 60: Start LWEB-802 from device web UI

To start the LWEB-802/803 project in the web broser (LWEB-802) you need access to the LOYTEC web server. If you do not have internet access, you can copy the LWEB-802 web application to your local network (refer to section 5.2).

The first page of the project is shown in Figure 61. If you change the value of **reg_1_Write**, the trend control will be updated.

Figure 62 shows the second page of the project. In the quick start demo project we used the LOYTEC website as an example for the browser control. However, the browser control is mainly intended to integrate web cams into an LWEB-802/803 project.

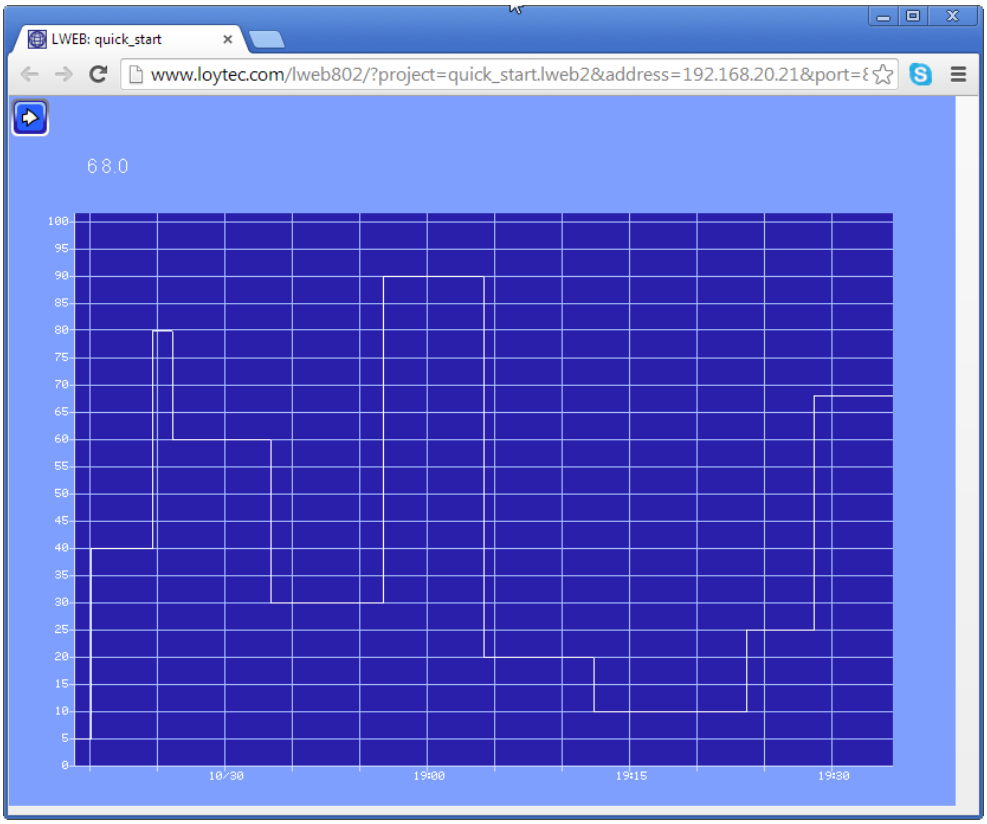


Figure 61: Quick Start Project, First Page

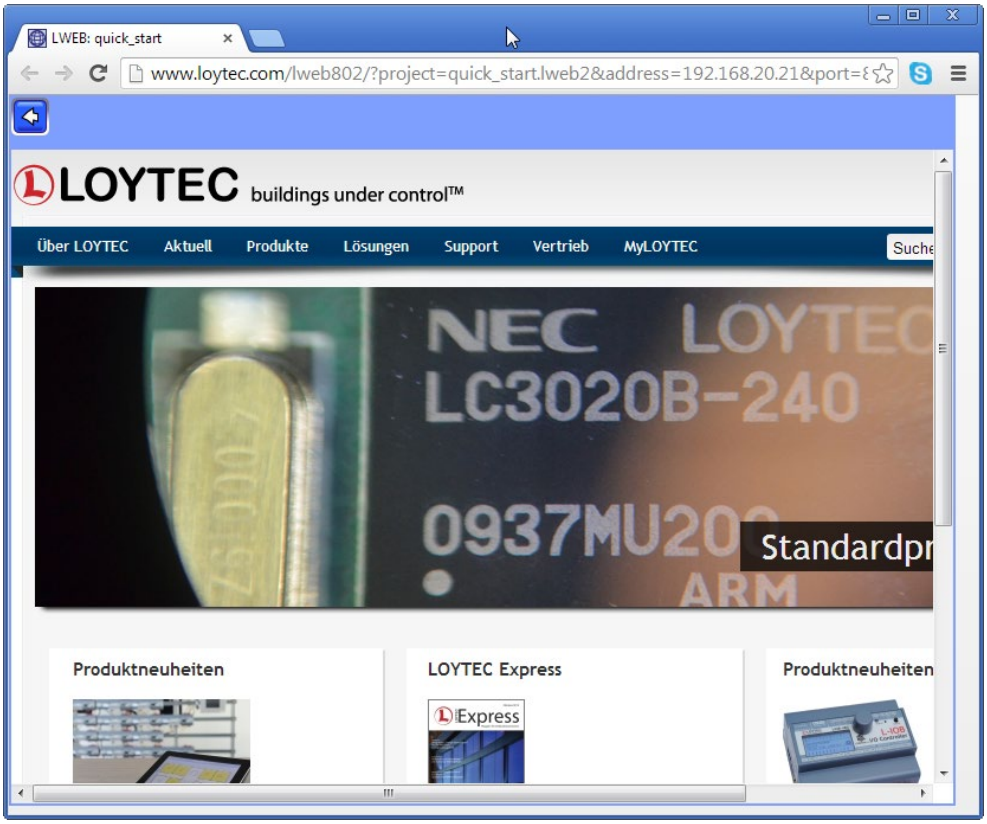


Figure 62: Quick Start Project, Second Page

3.6 Install and Start LWEB-803 Visualization

The LWEB-803 software can be downloaded from the LOYTEC Web site http://www.loytec.com. To install the LWEB-803 software on your PC, run the setup program and follow the instructions of the installation wizard.

After installing the software you have to add your LWEB-802/803 project to the project list. Click on the entry **New project…** to open the **New Connection** dialog (see Figure 63). In the drop-down box **Location** select **Device**. Enter the IP address and port of your device. The default password for LOYTEC devices is '**operator**'. The operator password can be changed on the Web UI of the device as shown in Figure 64.

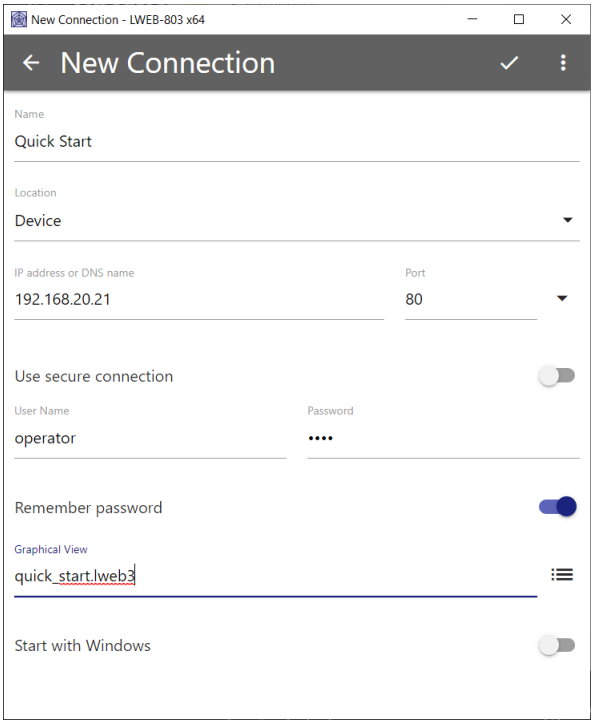


Figure 63: LWEB-803 Visualization, New project



Figure 64: Change "operator" password

4 Network Infrastructure

Figure 65 shows a typical network infrastructure in a building. The LWEB-802/803 Visualization software is installed on the office PCs and used for room control. The office PCs access the office IP network. The LOYTEC devices and the LWEB-900 server reside in the building management network. In order that LWEB-802/803 can access the devices on the building management network, a router is required.

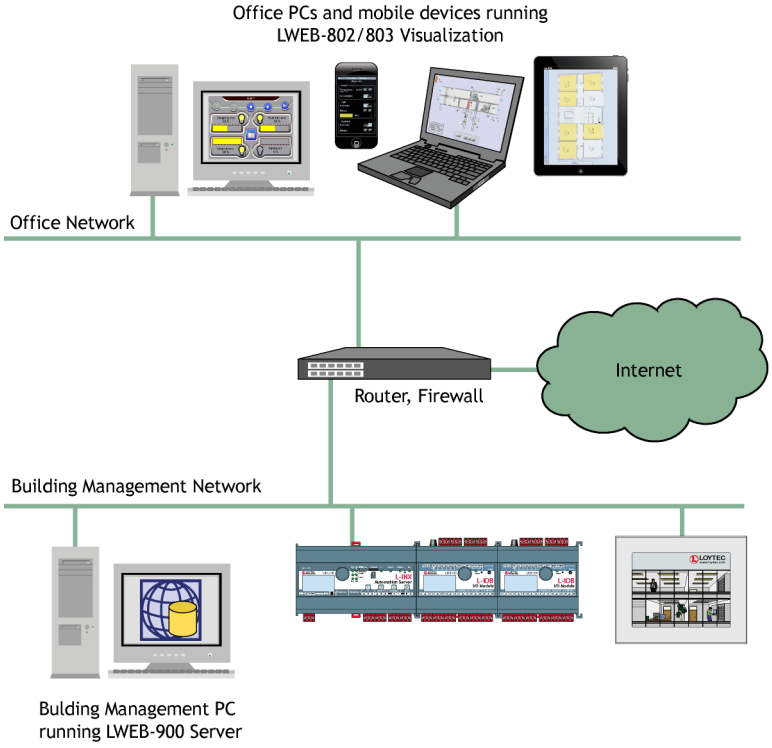


Figure 65: Typical Network Infrastructure

The LWEB-802 web application can be loaded from different locations (LOYTEC Homepage, LOYTEC device, LWEB-900 server). If HTTPS is used to load the LWEB-802 web application, all the following communication needs to use HTTPS also: The project has to be loaded using HTTPS and the OPC XML-DA communication needs to use HTTPS.

5 LWEB-802

5.1 Start LWEB-802

The current version of the LWEB-802 web application can be accessed using the following URL:

http://www.loytec.com/lweb802/

If you want to access a specific version of the LWEB-802 web application, add the version number to the URL. In this way you can fix the LWEB-802 version after you have tested your project. For example, to access version 2.6.1, use the following URL:

http://www.loytec.com/lweb802/2.6.1/

LWEB-802 displays a list of available LWEB-802/803 projects. When starting LWEB-802 for the first time this list is empty. Projects can be added by clicking on **New projects** (see section 5.3)

Alternatively, an LWEB-802/803 project can be started directly from the Web UI of a device as shown in Figure 66.

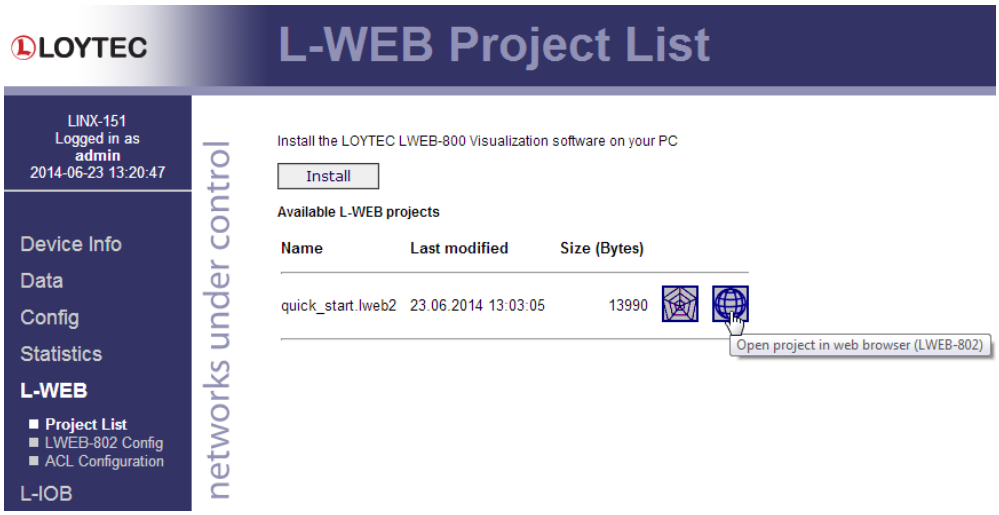


Figure 66: Start LWEB-802 from device web UI

LWEB-802 is an HTML5 application. Therefore, Java Script needs to be enabled in the web browser. LWEB-802 uses web services (OPC XML-DA) to exchange real-time data with LOYTEC device. Per default port 80 is used.

5.2 LWEB-802 without Internet Access

If no Internet access is available, the LWEB-802 web application has to be hosted by a local web server. Some LOYTEC devices (refer to Chapter 8) can act as local web server:

Pre-installed LWEB-802 application on LOYTEC device

On the device Web UI go **to L-WEB → LWEB-802 Config** and select **Pre-installed on device** as **LWEB-802 Location**.

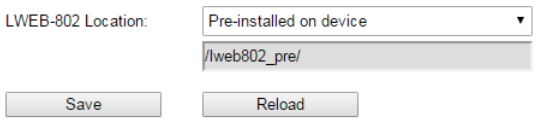


Figure 67: Pre-installed LWEB-802

You can access the preinstalled version of LWEB-802 using the following URL:

`http://<device ip address>/lweb802_pre/`

User-installed LWEB-802 application on LOYTEC device

Go to the LOYTEC homepage (www.loytec.com) and select **Support → Download**. Select the LWEB-802 product and download the application zip archive.

On the device Web UI go **to L-WEB → LWEB-802 Config** and select **User-installed** as **LWEB-802 Location**. Press on the **Browse** button to select the LWEB-802 zip archive (see Figure 68).

You can access the user-installed version of LWEB-802 using the following URL:

`http://<device ip address>/lweb802 /`

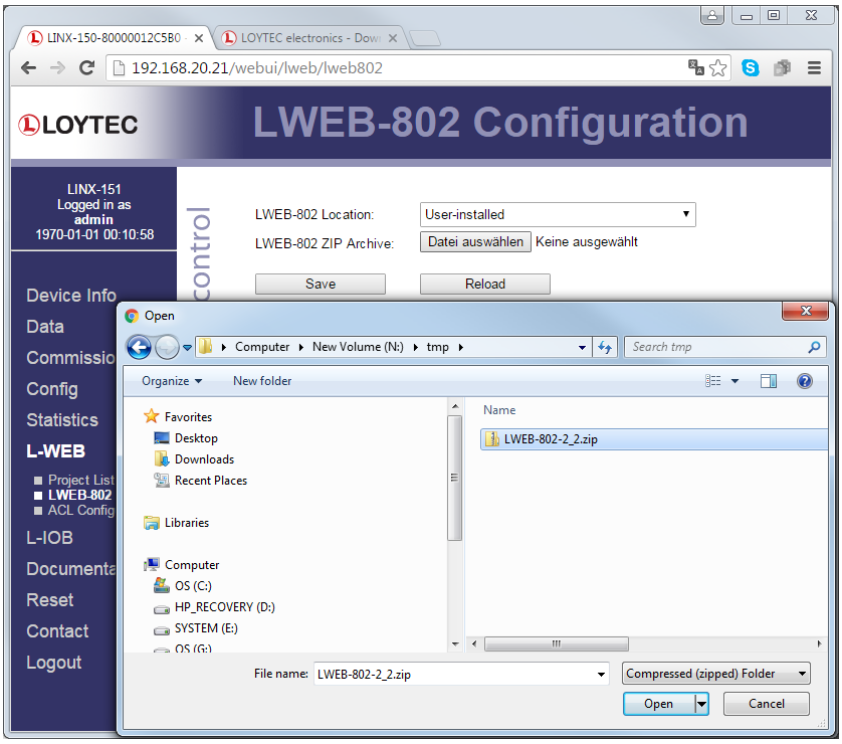


Figure 68: Transfer LWEB-802 application to LOYTEC device

5.3 Project List

The project list is a convenient way to access LWEB-802/803 projects (see Figure 69).

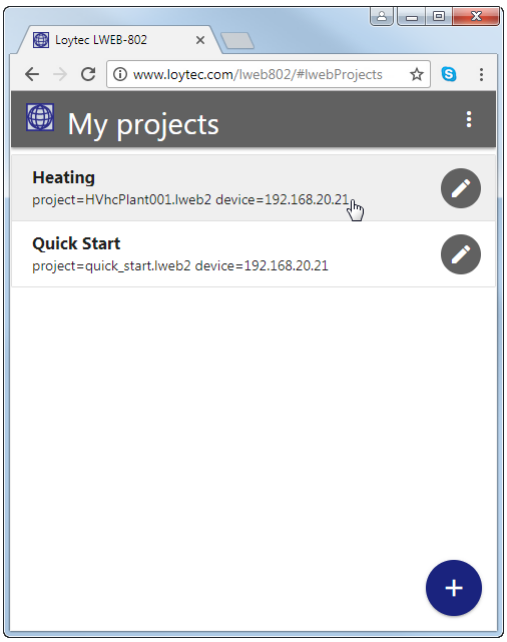


Figure 69: LWEB-802/803 project list

The project list offers the following functionality:

- **Display project**: Click on the name of an LWEB-802/803 project in the list to start the project.

- **Add new project**: Click on the plus icon to add a new project, The **New Connection** dialog is opened (see Figure 70).
- **Edit project**: To edit an existing project, click on the edit icon beside the name. The edit dialog allows changing the connection settings or deleting the project.
- **Global settings**: The global application settings are available via the menu icon in the tool bar. For detailed information about the global settings refer to section 5.4.

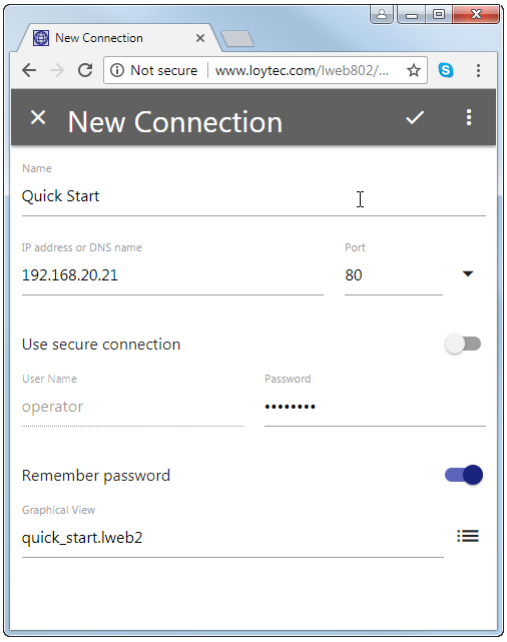


Figure 70: LWEB-802 new/edit connection

5.4 Global Settings

Global settings contain all settings which apply to all LWEB-802/803

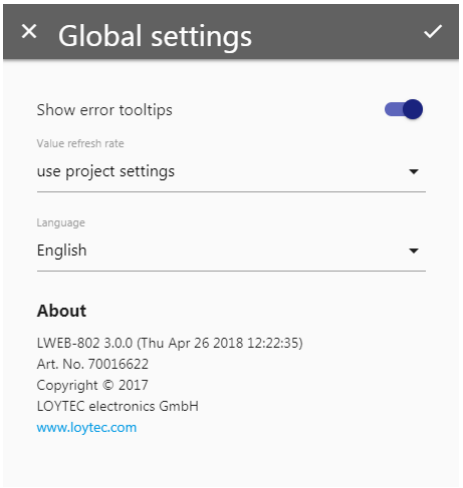


Figure 71: LWEB-802/803 global settings

The **Global settings** dialog as shown in Figure 71 contains the following settings:

- **Show error tooltips**: If this checkbox is set a tooltip is displayed showing the OPC error when hovering over a grayed-out control. See also section 5.7.

- **Value refresh rate**: This setting defines how often data point values are updated in LWEB-802. The default setting is **use project settings**.

- **Language**: This drop down box allows changing the display language. The new setting takes effect after reloading the application (CTRL+r).

5.5 Navigation Menu and System Menu

The navigation menu is opened by one of the following actions in the main window:

- Left click and hold: The left click and hold operation opens the navigation menu after the time configured in the L-VIS/L-WEB Configurator. Please note that for correct operation, the left click and hold action should be executed on a free spot on the display. If the area of an input control is clicked, the control enters input mode and all further input is processed by the control.

- Right click: A right click has the same effect as a left click and hold operation. It is not available on touch displays.

Figure 72 shows an example of the LWEB-802/803 navigation menu.



Figure 72: LWEB-802/803 navigation menu

The navigation menu displays the menu items which were defined in the L-VIS/L-WEB configurator and the “System” entry to open the LWEB02/803 system menu shown in Figure 73.

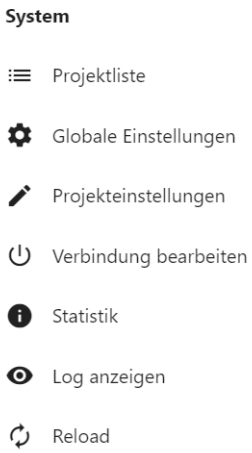


Figure 73: LWEB-802/803 System Menu

The system menu give access to the following LWEB-802/803 functionality:

- Project list: Refer to section 5.3.
- Global settings: Refer to section5.4.
- Project settings: Refer to section 5.6.
- Edit connection: Edit the connection parameters.
- Statistics: Refer to section 5.8.
- Show log: Refer to section 5.9.
- Reload LWEB-802/803 application and project

5.6 Project Settings

This dialog contains all project specific settings.

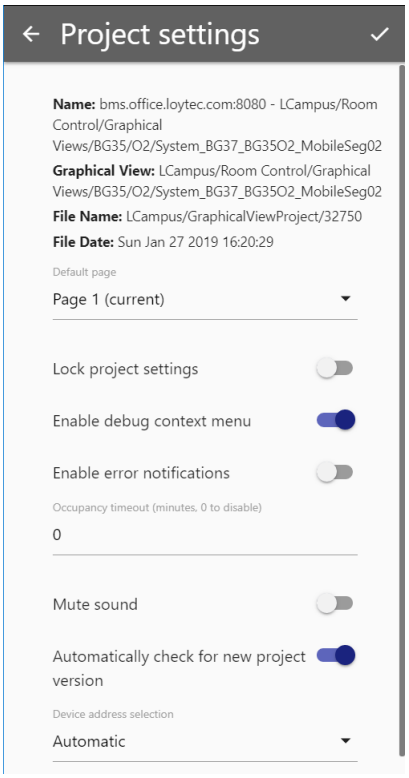


Figure 74: LWEB-802/803 project settings

- **Default page**: If the LWEB-802/803 project file contains multiple pages the default page which is displayed when starting LWEB-802/803 Visualization can be selected from this drop-down list.

- **Lock project settings**: If this checkbox is enabled, LWEB-802/803 will request a PIN code before opening the project settings dialog. In addition no menu entries will be displayed in the navigation menu. This feature can be used for example to setup a project with multiple pages where each page controls an office room. The default page for each user is set to the room in which he is located and then the menu is disabled. This way each user can control only the own room.

  The PIN codes can be configured in the L-VIS/L-WEB Configurator using the menu **File → Project Settings** (see Figure 75). Press the Button **Setup Pin Codes…** to open the **Access Codes** Dialog and set the PIN code for Level 15 (see Figure 76).

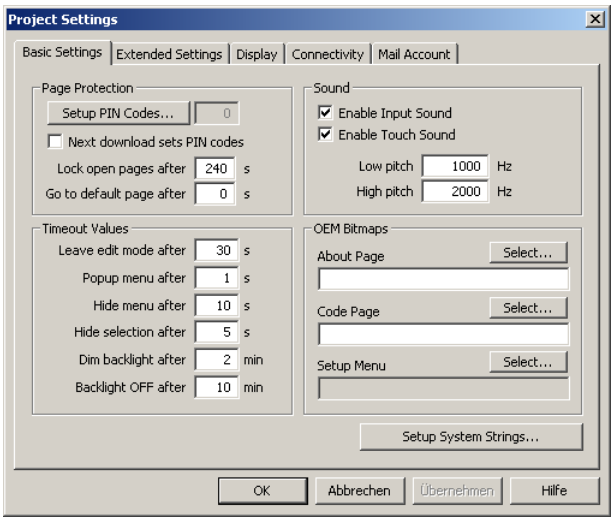


Figure 75: L-VIS/L-WEB Configurator, Project Settings

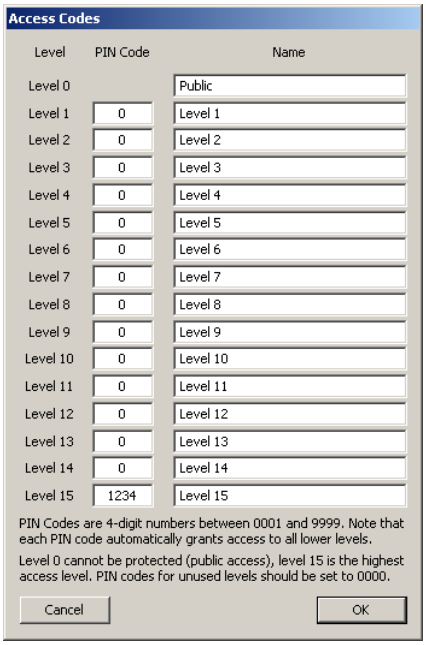


Figure 76: L-VIS/L-WEB Configurator, Access Codes

- **Enable debug context menu:** If this checkbox is enabled, you can click with your right mouse button on a control to view details. On devices without mouse input, a long press can be used on passive controls. A context menu is displayed listing the controls and attached data points (see Figure 77). Select the name of the control or data point for which you want to inspect the properties as shown in Figure 78. Recording of debug messages in the system log can be enabled (Whitelist) or disabled (Blacklist) for the control or data point (see Section 5.9).

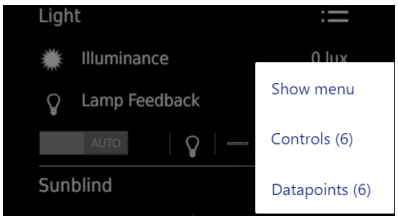


Figure 77: Debug Context Menu

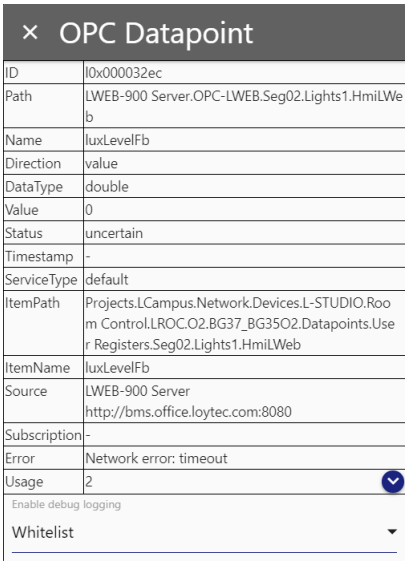


Figure 78: Data Point Details

Enable error notifications: LWEB-802/803 can display error notifications at the bottom of the screen if a write operation to a data point fails or if a device does not respond any more. The following screen shot shows an example. The details of the error are available in the system log.

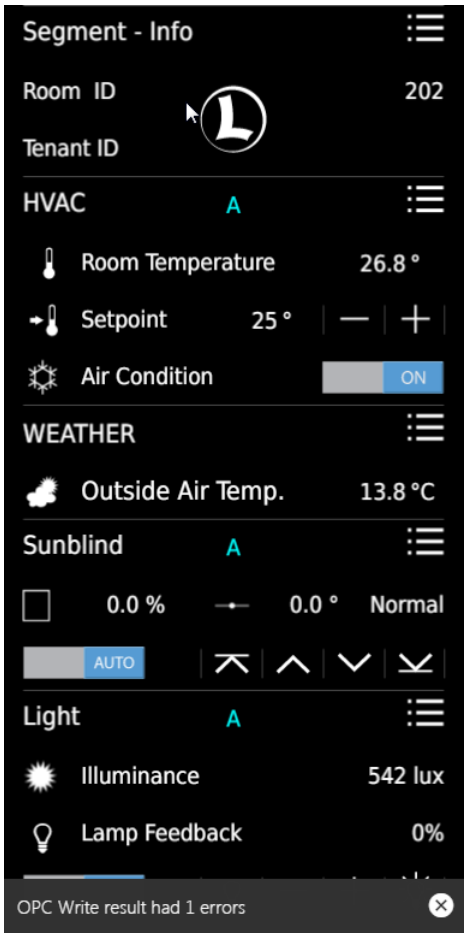


Figure 79: Error Notification Example

- **Occupancy timeout:** Refer to section 6.4 for details.
- **Mute sound:** This option allows disabling sound output for the project.
- **Automatically check for new project version:** If this option is enabled, LWEB-802/803 automatically checks in the background if a new version of the project is available. This check is done once every hour. If a new version is detected, it is reloaded automatically
- **Autoscale:** This option is only available in LWEB-802. The user can always change the zoom level manually using pinch-zoom or CTRL + mouse wheel. The autoscale operation is performed for each project load, orientation change, or resize event. The drop down box contains the following settings:
  - **None:** No autoscale is performed and the zoom level is persistent.
  - **Fit in Window:** The graphical view is scaled to completely fit into the browser window.
  - **Cover Window:** The graphical view is scaled to fit either the width or the height of the browser window so that the whole browser window is covered.
  - **Fit Width:** The graphical view is scaled to fit the width of the browser window.

- **Fit Height:** The graphical view is scaled to fit the height of the browser window.

5.7 Error Handling

If a control does not receive data from the LOYTEC device the control will be grayed out. If tooltips for error messages are enabled the OPC error message will be displayed when hovering over the control as shown in Figure 80.

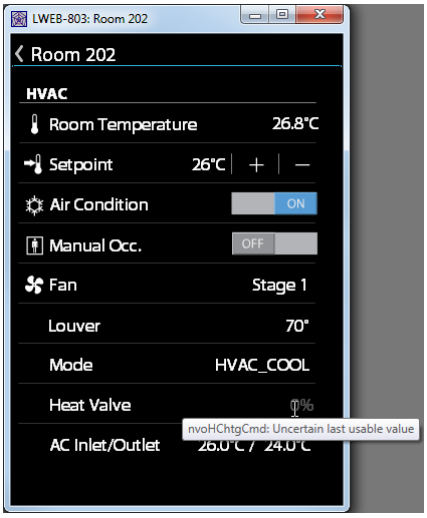


Figure 80: Tooltip to report error

Furthermore, error notifications can be enabled in the project settings. In this case, a message is displayed at the bottom of the screen if a write operation to a data point fails or if a device does not respond any more.

5.8 Statistics

The **Statistics** dialog displays communication statistics from all LOYTEC devices which are currently used in the LWEB-802/803 project (see Figure 81). To get detailed information about the subscriptions, click on the info icon (see Figure 82).

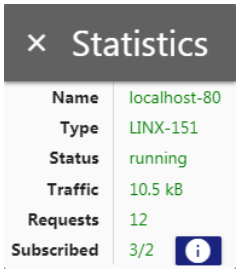


Figure 81: LWEB-802/803 Statistics

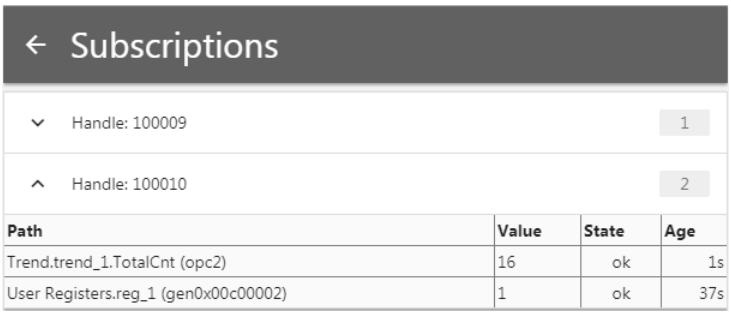


Figure 82: LWEB-802/803 Subscriptions

5.9 System Log

The system log records all LWEB-802/803 activities. When reporting a LWEB-802/803 problem to LOYTEC, it is recommended to save the system log and attach it to the e-mail describing the problem. This will speed-up problem analysis.



Figure 83: LWEB-802/803 system log

The menu of the system log allows to configure, clear, and save the log. The configuration dialog is displayed in Figure 84 and consists of the following areas:

- **Log all debug messages**
- **Sections**: Enable debug messages only for certain sections by activating the corresponding checkbox.
- **Item debug logging**: This list contains data points and controls for which debugging is enabled (Whitelist) or disabled (Blacklist). If you know the ID of the item, you can add it using the “plus” button in the menu else you can add items via the debug context menu (refer to section 5.6).

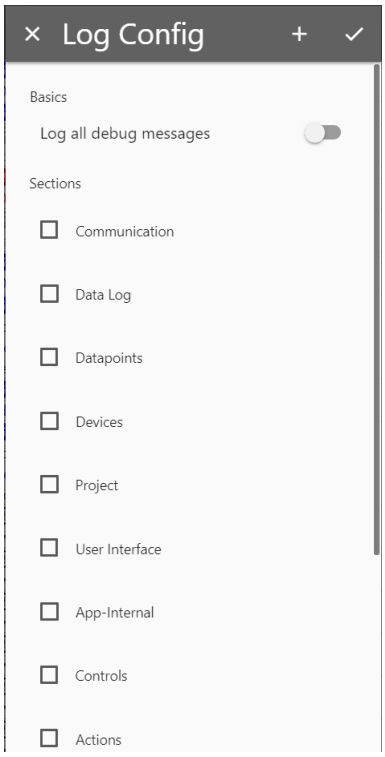


Figure 84: System log configuration

6 LWEB-803

LWEB-803 is the desktop version of LWEB-802. It offers the following additional features:

- System tray icon
- Start automatically when Windows is started
- Standard, Frameless view
- Kiosk mode

6.1 Installation

The LWEB-803 software can be downloaded from the LOYTEC Web site http://www.loytec.com. To install the LWEB-803 software on your PC, run the setup program and follow the instructions of the installation wizard.

6.2 System Tray Icon

When LWEB-803 Visualization is running, a system tray icon  is displayed. When hovering the cursor over the icon, the project name is displayed.

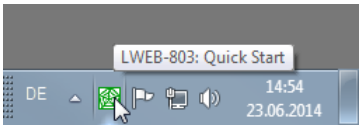


Figure 85: LWEB-803 System Tray Icon

Right clicking on the system tray icon brings up the LWEB-803 Visualization menu.

6.3 LWEB-803 Visualization Menu

To open the LWEB-803 Visualization menu, right-click on the system tray icon or on the title bar of the LWEB-803 main window.

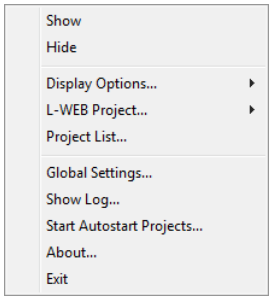


Figure 86: Context menu of system try icon

The LWEB-803 Visualization menu is shown in Figure 86. The menu contains the following entries:

- **Show:** Show the LWEB-803 Visualization main window.
- **Hide:** Hide the LWEB-803 Visualization main window.
- **Display Options:** These options affect the display of the main window:
  - **Frameless View:** In frameless view the main window will be displayed without a title bar. See also section 6.6.
  - **Kiosk Mode [Ctrl+Enter]:** In kiosk mode, the user can only access the LWEB-803 main window but not the Windows desktop or other applications. When LWEB-803 is switched into kiosk mode, the main window comes to the front and covers the whole screen. Shortcuts to access other applications (e.g. Alt+Tab) are blocked. Use the key combination Ctrl+Enter to leave kiosk mode. See section 6.7 for details.
  - **Stay On Top:** If the LWEB-803 main window is displayed, display it on top of all other windows.
  - **Lock Position:** Do not allow to move the LWEB-803 main window.
  - **Zoom:** Select the zoom level of the main window.
- **L-WEB Project:**
  - **Goto Default Page:** In the **Project Settings** dialog, a default page can be configured (see section 5.6). When **Goto Default Page** is selected, the LWEB-803 main window will display the configured default page.
  - **Reload Project:** Reloads the current LWEB-802/803 project from the LOYTEC device. Use this option after you have downloaded a new project to the device.
  - **Project Settings:** Configure the LWEB-802/803 projects. Refer to section 5.6 for a detailed description.
  - **Statistics:** Displays a window showing statistics for communication with LOYTEC devices and LWEB-900 Server. Refer to section 5.8 for a detailed description.
  - **Edit Connections**: Edit connection settings.
  - **Create Desktop Shortcut:** Create a shortcut on the desktop which will start the LWEB-803 Visualization with the configured parameters.

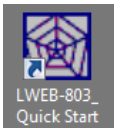


Figure 87: LWEB-803 Shortcut

  - **Start Project with Windows:** If this option is selected, the LWEB-803 Visualization will start the selected project automatically when the PC is started.

- **Global Settings:** Configure the LWEB-803 Visualization application. Refer to section 5.4 for a detailed description.
- **Show Log:** Displays log messages (see section 5.9).
- **Start Autostart Projects:** Start all projects for which **Start Project with Windows** is active
- **About:** Display LWEB-803 version
- **Exit:** Exit LWEB-803 Visualization.

6.4 Occupancy Detection

LWEB-803 has an internal system data point called **PC Active**. If enabled, this data point is 1 as long as there is activity (mouse movement or key press) on the PC. **PC Active** changes from 1 to 0, if there has been no activity on the PC for longer than the time configured in the LWEB-803 project settings (see Figure 88). If occupancy detection is disabled the **PC Active** data point has the constant value 0. In LWEB-802 the system data point **PC Active** is 1 as long as there is activity inside the browser window. LWEB-802 cannot detect activity outside the browser window.

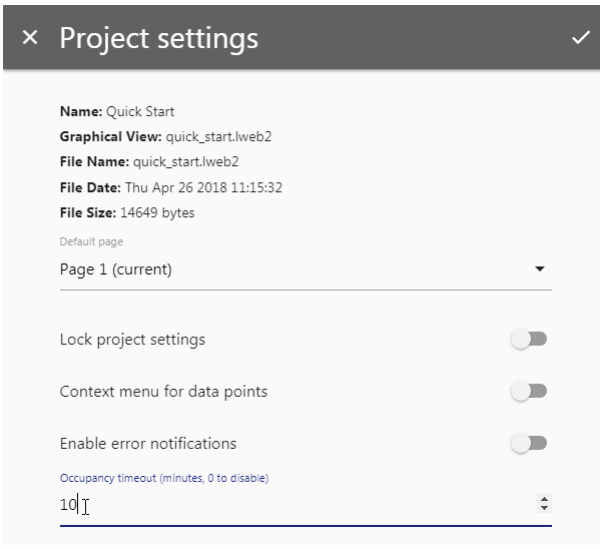


Figure 88: Occupancy Detection

6.5 Zoom Levels

The LWEB-803 Visualization main window can be resized by dragging the corners of the window. If the **Autoscale** option in the project settings is set to **Fit in Window**, the project automatically scales with the window size and the aspect ratio of the window is fixed. If the **Autoscale** option is set to **None**, the project can be scaled manually using CTRL+mouse wheel and the view can be panned using SHIFT+drag.

Furthermore, the window can be resized using one of the different zoom levels in the **Display Options** menu of the system tray context menu or by using the following keyboard shortcuts:

Shortcut	Description
ALT+ENTER	Maximize LWEB-803
CRTL+1	Zoom level 1x
CRTL+2	Zoom level 1.5x
CRTL+3	Zoom level 2x
CRTL+4	Zoom level 2.5x
SHIFT+mouse wheel	Change window size
CTRL+mouse wheel	Change zoom level (only available if **Autoscale** mode is **None**)
SHIFT+drag	Pan view (only available if **Autoscale** mode is **None**)
CTRL+0 or double click on page background	Toggle between zoom level 1x and previous zoom level

6.6 Standard View and Frameless View

There are two display options: Standard View and Frameless View. The same project is shown with Standard View in Figure 89 and with Frameless View in Figure 90. In Frameless View no title bar is displayed.

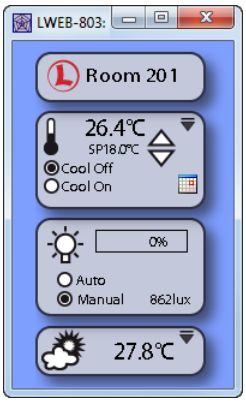


Figure 89: Standard View

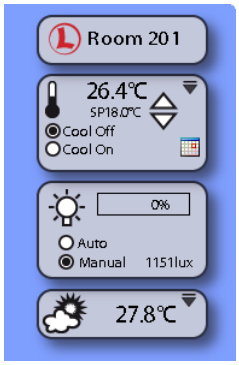


Figure 90: Frameless View

The display mode can be changed via the context menu of the LWEB-803 system tray icon or by using the following keyboard shortcuts:

Shortcut	Description
CRTL+F	Toggle Frameless View on/off

6.7 Kiosk Mode

In Kiosk Mode the user can only access the LWEB-803 main window but not the Windows desktop or other applications. When LWEB-803 is switched into kiosk mode, the main window comes to the front and covers the whole screen. Kiosk mode can be entered from any zoom level. The part of the screen which is not covered by the project will be filled with the page color.

In Kiosk mode the following shortcuts to access other applications are blocked:

- Alt+Tab, Shift+Alt+Tab
- Alt+Esc, Shift+Alt+Esc
- Ctrl+Esc

Use the key combination Ctrl+Enter to leave kiosk mode. To prevent unauthorized users from leaving kiosk mode a PIN code can be configured. The PIN codes can be set in the L-VIS/L-WEB Configurator using the menu **File → Project Settings** (see Figure 75). Press the Button **Setup Pin Codes…** to open the **Access Codes** Dialog and set the PIN code for Level 15 (see Figure 76).

If LWEB-803 should start automatically in Kiosk Mode when the PC boots, select the option **Start Project with Windows** and then activate the Kiosk Mode.

7 LWEB-802/803 Project Solutions

LWEB-802/803 projects are created using the L-VIS/L-WEB Configurator. A detailed description of the L-VIS/L-WEB Configurator can be found in the L-VIS User Manual [1]. However there are a few solutions special to LWEB-802/803 which will be covered in this chapter.

7.1 LWEB-802/803 Registers

It is possible to create LWEB-802/803 registers in the L-VIS/L-WEB Configurator (see Figure 91). Those registers are local to the LWEB-802/803 instance. Each instance of LWEB-802/803 will have its one value. This is different from a data point on a LOYTEC device, where each LWEB-802/803 instance will see the same value. Local registers are sometimes used to store information which is related to the user interface (e.g. the current displayed page ID).

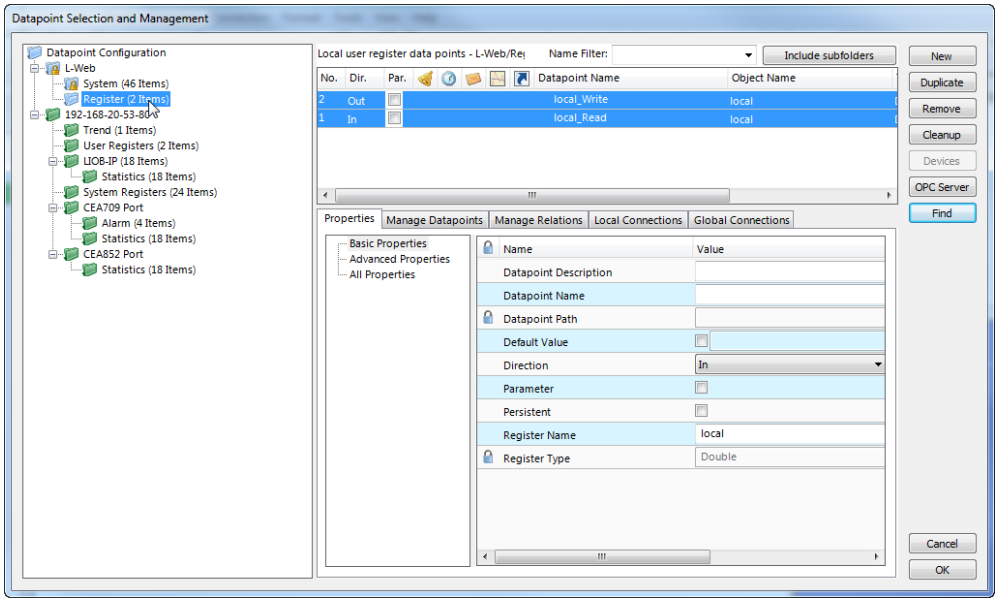


Figure 91: Local LWEB-802/803 register

It is also possible to create math objects in the L-VIS/L-WEB Configurator. Be aware, that these math objects will be executed for each LWEB-802/803 instance. Therefore local math objects should be used only together with local LWEB-802/803 registers. In all other cases, create the math object on the LOYTEC device.

7.2 Occupancy Detection

LWEB-803 has an internal system data point called **PC Active**. If enabled, this data point is 1 as long as there is activity (mouse movement or key press) on the PC. **PC Active** changes from 1 to 0, if there has been no activity on the PC for longer than the time configured in the LWEB-803 project settings (see Figure 92). If the state does not change, the **PC Active** data point is updated once every minute with the same value. If occupancy detection is disabled the **PC Active** data point has the constant value 0.

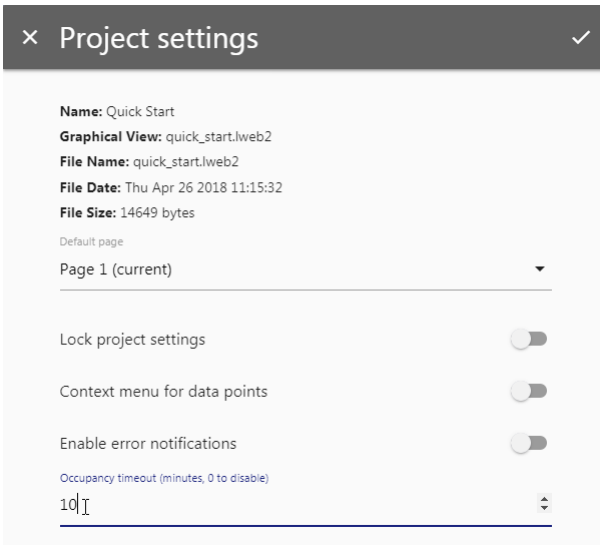


Figure 92: Configuration for LWEB-803 (In)Activity Detection

Figure 93 shows how the **PC Activity** system data point can be used to periodically update a data point on the LOYTEC device as long as there is activity on the PC. The **PC Active** data point and an output data point are attached to a data point connector. Deactivate the ckeckbox “Value Changes Only” for both data points to receive periodic updates.

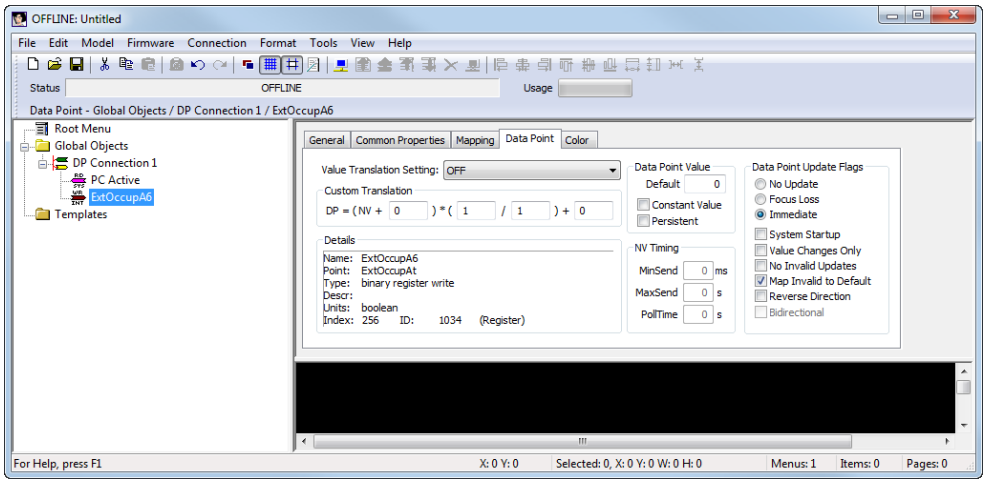


Figure 93: LWEB-803 project with activity detection

7.3 Link to other LWEB-802/803 projects

The **Show page** action can be used to link to a different LWEB-802/803 project (see Figure 94). Press the **Select…** button and enter the URL to an LWEB-802/803 project in the following format:

lweb://<IP Address>:<Port>/<LWEB-802/803 project file name>

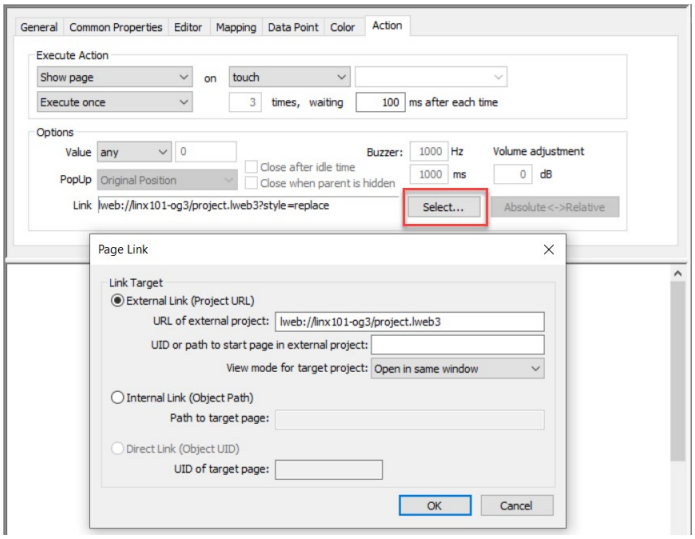


Figure 94: Link to a different LWEB-802/803 project

7.4 Integrating Web-Cams

Live video streams can be integrated in an LWEB-802/803 project by using the web cam control. Due to web browser limitations, only certain video stream formats are supported:

- LWEB-803, Google Chrome, Firefox, Android web browser, iOS web browser: Support for MJPEG stream and single images.
- Internet Explorer 11, Microsoft Edge: Support for single images only

7.5 Accessing LOYTEC devices behind NAT Routers

If your LOYTEC devices are located behind a NAT router, you need to configure port forwarding on your router. Each router will be slightly different, but the general approach is similar:

1) From your local network, open the web UI of the router by entering the IP address in your web browser's URL box.
2) Look for the port forwarding section and configure the following information:
   - Protocol: TCP
   - External Port: Port used to access the LOYTEC device from external network
   - IP Address: IP address of your LOYTEC device

- Internal Port: HTTP port of your LOYTEC device (default: 80)

3) Check if you can access the web UI of your LOYTEC device from the external network using the IP address of the router and the external port configured in the port forwarding (http://<IP address of router>:<external port>/)

Next you have to add the information of how to access the device from the external network to your LWEB-802/803 project:

1) In the L-VIS Configurator open the data point dialog as shown in Figure 95 and press on the **OPC Server** button.

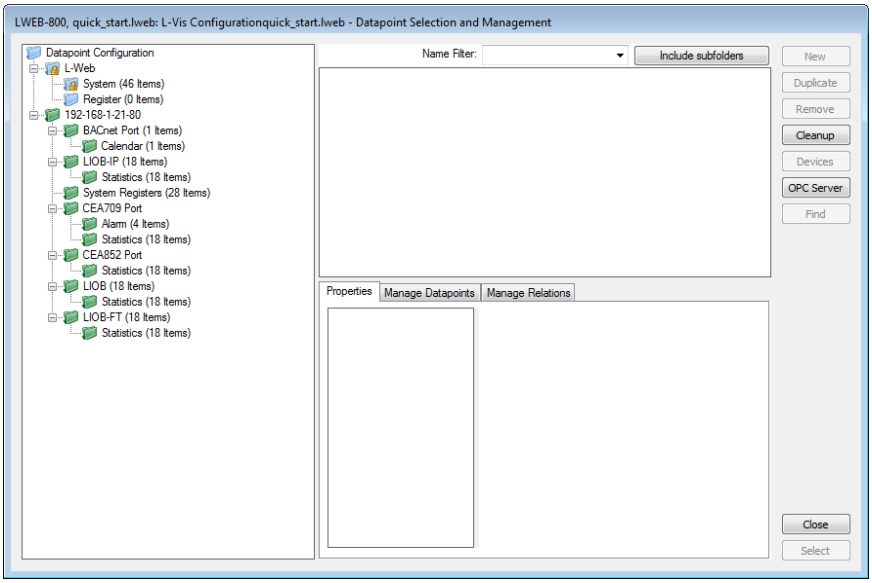


Figure 95: Data Point Dialog

2) In the input field **Public Address**, enter the IP address or hostname of your router and in the **Public Port** enter the external port which you configured in the port forwarding (see Figure 96).

   An alternative way to configure the IP address of the LOYTEC device is shown in Figure 97. The value 'localhost' in the input field **Local Address** is a placeholder which will be replaced by LWEB-802/803 with the IP address of the device from which the project was loaded. This works only if the device from which the project was loaded also contains the data points which are referenced by the project. This is usually the case if you use only a single device in the LWEB-802/803 project.

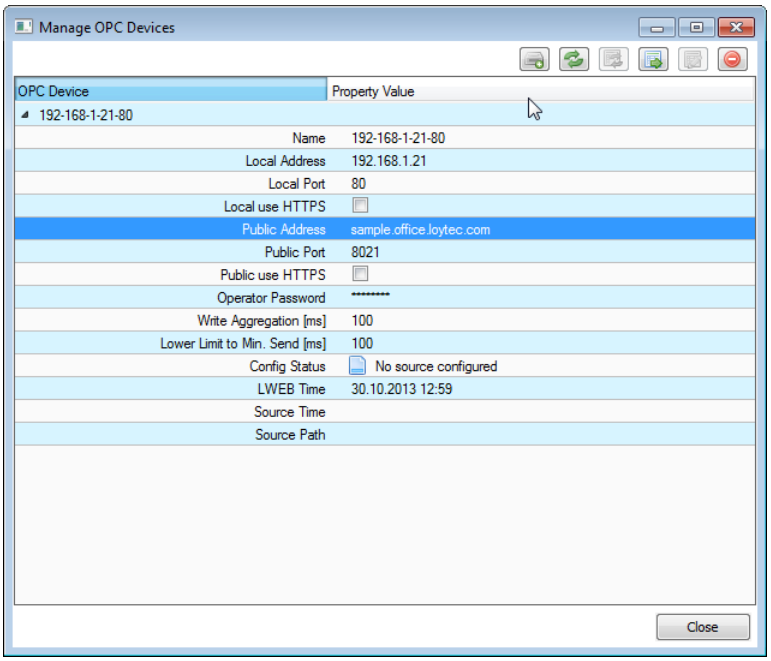


Figure 96: Manage OPC Device, Configure Public Address and Port

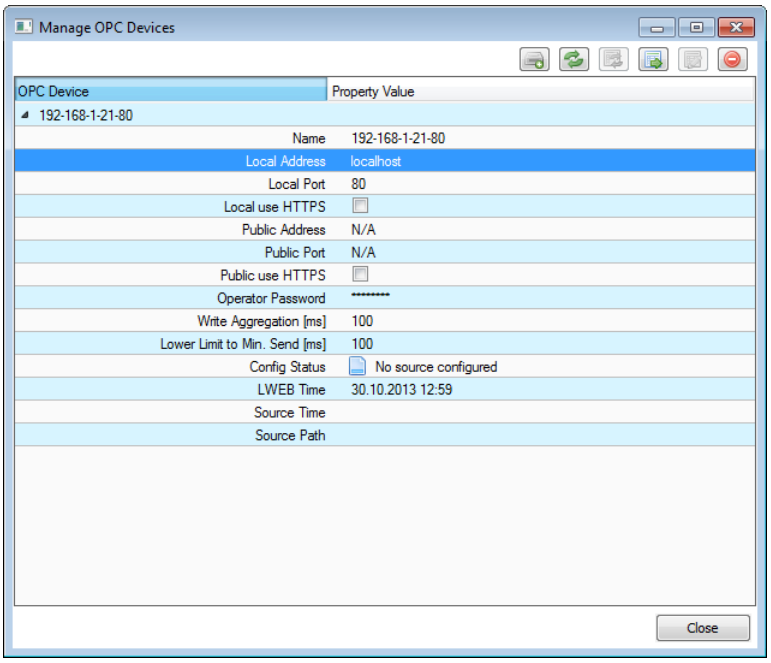


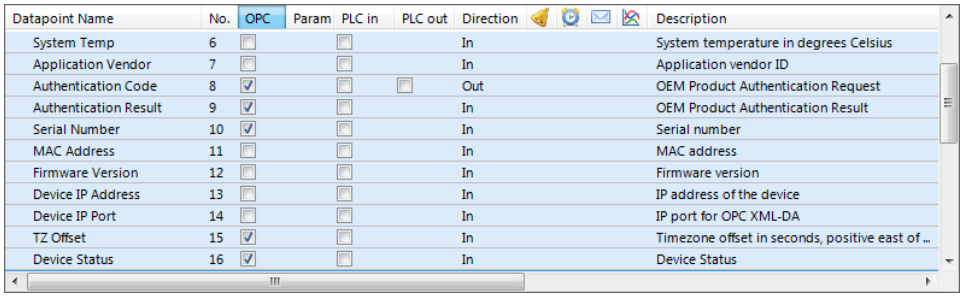
Figure 97: Manage OPC Device, Configure ‘localhost’ as Local Address

3) Download the modified project to the device.

7.6 Reduce Number of OPC Data Points

Per default all data points created in the L-INX Configurator are exposed via OPC. However, each LOYTEC device has a maximum number of supported OPC data points. If you run into this limit, you can reduce the number of OPC data points by deactivation the OPC checkbox for data points which you do not need to visualize. The following system registers are used internally by LWEB-802/803 and the corresponding OPC checkbox must not be removed (see Figure 98).

- Serial Number/Device Serial
- Device Status
- Authentication Code
- Authentication Result
- TZ Offset



Datapoint Name	No.	OPC	Param	PLC in	PLC out	Direction	Description
System Temp	6	☐		☐		In	System temperature in degrees Celsius
Application Vendor	7	☐		☐		In	Application vendor ID
Authentication Code	8	☑		☐	☐	Out	OEM Product Authentication Request
Authentication Result	9	☑		☐		In	OEM Product Authentication Result
Serial Number	10	☑		☐		In	Serial number
MAC Address	11	☐		☐		In	MAC address
Firmware Version	12	☐		☐		In	Firmware version
Device IP Address	13	☐		☐		In	IP address of the device
Device IP Port	14	☐		☐		In	IP port for OPC XML-DA
TZ Offset	15	☑		☐		In	Timezone offset in seconds, positive east of ...
Device Status	16	☑		☐		In	Device Status

Figure 98: OPC Checkbox

8 LOYTEC Devices

The following table lists all LOYTEC device supported by LWEB-802/803 and their features.

Device	Max OPC Tags	Store LWEB-802/803 projects	Host LWEB-802 application (Web Server)
LINX-100/101	2000	Yes	No
LINX-102/103	2000	Yes	Yes
LINX-200/201	2000	Yes	No
LINX-202/203	2000	Yes	Yes
LINX-110/111	500	Yes	No
LINX-112/113	2000	Yes	Yes
LINX-210/211	500	Yes	No
LINX-212/213	2000	Yes	Yes
LINX-215	5000	Yes	Yes
LINX-12x	10000	Yes	Yes
LINX-22x	10000	Yes	Yes
LINX-15x	10000	Yes	Yes
LROC-10x	10000	Yes	Yes
LROC-40x	10000	Yes	Yes
LGATE-900	500	No	No
LGATE-902	2000	Yes	Yes
LGATE-95x	5000	Yes	Yes
LVIS-3E100	No explicit limit[1]	Yes[2]	No
LVIS-100-RE	No explicit limit[1]	Yes[2]	No
LVIS-ME200	No explicit limit[1]	Yes[2]	No
LVIS-3E11x	No explicit limit[1]	Yes[2]	Yes
LVIS-ME21x	No explicit limit[1]	Yes[2]	Yes
LVIS-3ME7	No explicit limit[1]	Yes[2]	Yes
LVIS-3ME12	No explicit limit[1]	Yes[2]	Yes
LVIS-3ME15	No explicit limit[1]	Yes[2]	Yes
LPAD-7	No explicit limit[1]	Yes[2]	Yes
LIOB-48x	300	Yes	No
LIOB-580..584	300	Yes	No
LIOB-585	5000	Yes	Yes
LIOB-586	1000	Yes	Yes
LIOB-587/588/589	5000	Yes	Yes
LIOB-59x	5000	Yes	Yes
LIOB-55x	100	No	No
LIOB-AIRx	10000	Yes	Yes
LDALI-3E10x-U	10000	Yes	Yes
LDALI-ME20x-U	10000	Yes	Yes
LDALI-PLCx	10000	Yes	Yes

1) The number of OPC tags is defined by the L-VIS configuration

2) The L-VIS project can be automatically converted to an LWEB-802/803 project and stored on the device. No additional LWEB-802/803 projects can be stored on the device.

9 Troubleshooting

9.1 Technical Support

LOYTEC offers free telephone and e-mail support for our LWEB-802 and LWEB-803 products. If none of the above descriptions solves your specific problem please contact us at the following address:

Delta Intelligent Building Technologies (Europe) GmbH
Blumengasse 35
A-1170 Vienna
Austria / Europe

e-mail : ***support@loytec.com***
web : ***https://www.loytec.com***
tel : ***+43/1/4020805-100***

or

Delta Intelligent Building Technologies (Canada) Inc.
17850 56 Ave
Surrey, BC V3S 1C7
CANADA

email : ***support@loytec-americas.com***
web : ***https://www.loytec.com***
tel : ***+1 800.335.8221***

10

10 References

[1] L-VIS User Manual, LOYTEC electronics GmbH, Document № 88068530, June 2026.

[2] LOYTEC Device User Manual, LOYTEC electronics GmbH, Document № 88086513, July 2025.

[3] LWEB-900 User Manual, LOYTEC electronics GmbH, Document № 88081512, March 2026.

11 Revision History

Date	Version	Author	Description
2008-08-22	1.0	AD	Initial revision V1.0
2008-11-13	1.1	AD	Moved description of LWEB-801 into a separate document Updated manual for LWEB-800 release 1.1.0
2009-03-31	1.2	AD	Updated manual for LWEB-800 release 1.2.0 Complete rework
2009-10-09	1.3	AD	LWEB-801 Data Logger was renamed into LWEB-801 Server Added section 5.2 about the window specific settings
2011-11-15	1.4	RB	Windows mobile not supported anymore Some minor adjustments according to comments
2012-06-27	1.8	AD	Updates for LWEB-800 version 1.8.0 and LWEB-802 1.0.0
2012-07-18	1.8.1	AD	Fixed error in device capability list in Chapter 8
2012-10-29	1.9	AD	Update for LWEB-802 version 1.1.0: LWEB-802 now supports trend log controls.
2013-02-22	1.10	AD	Update for LWEB-802 version 1.2.0: LWEB-802 now supports scheduler controls.
2013-05-31	1.11	AD	Update for LWEB-802 version 1.3.0: LWEB-802 now supports alarm controls.
2013-10-28	1.12	AD	Update for LWEB-800 version 1.9.0 Update for LWEB-802 version 1.4.0
2014-02-26	1.13	AD	Update for LWEB-802 version 1.5.0
2014-06-24	2.0	AD	Initial version for LWEB-803 2.0
2014-11-21	2.1	AD	Update for LWEB-802/803 version 2.1.0
2015-03-19	2.2	AD	Update for LWEB-802/803 version 2.2.0
2016-02-24	2.3	AD	Update for LWEB-802/803 version 2.3.0
2016-11-30	2.4	AD	Update for LWEB-802/803 version 2.4.0
2017-08-23	2.5	AD	Update for LWEB-802/803 version 2.5.0
2018-04-26	3.0	AD	Update for LWEB-802/803 version 3.0.0
2019-03-25	3.2	AD	Update for LWEB-802/803 version 3.2.0
2019-07-11	3.4	AD	Update for LWEB-802/803 version 3.4.0
2020-04-07	3.6	AD	Update for LWEB-802/803 version 3.6.0
2021-06-29	3.8	AD	Update for LWEB-802/803 version 3.8.0
2022-04-20	4.4	AD	Update for LWEB-802/803 version 4.4.0
2023-04-13	4.6	AD	Update for LWEB-802/803 version 4.6.0
2025-11-11	5.0	AD	Update for LWEB 802/803 version 5.0.0
2026-09-14	5.2	AD	Update for LWEB 802/803 version 5.2.0